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Bank of Japan

**Has Japan's Economy Changed?:
Challenges and Prospects**

Speech at the Japan Society in New York

(New York, October 3)

Masazumi Wakatabe

Deputy Governor of the Bank of Japan

Introduction

It is a great honor to have the opportunity to speak to you here at the distinguished Japan Society.

Has Japan's economy changed? My answer is both yes and no. The economy has been changing in a positive manner, but the change is far from over. I would like to talk about changes in Japan's economy and its challenges from a somewhat longer-term perspective.

"Because Japan has experienced decades-long stagnation, today's society is a very difficult place to live for you." This comes from a children's educational comic book published in August 2013.¹ This phrase reflects the general mood back then, when the economy was under prolonged stagnation.

About 30 years have passed since the early 1990s, when the asset price bubble collapsed in Japan. Looking back, this 30-year period can be roughly divided into three separate decades. In the first decade, aggregate demand fell after the collapse of the bubble economy, the so-called "three excesses" of corporate debt, production capacity, and employment materialized, and attention was drawn to the nonperforming loan problem of financial institutions. In the following decade, although the disposal of nonperforming loans proceeded on course, the economic growth rate remained low. Also, deflation became a problem, with the annual CPI inflation rate staying in negative territory. These two decades are sometimes called Japan's "lost two decades." And the last decade is the period from the early 2010s up to the present.

As there has been lively discussion on why Japan's economy remained stagnant for such a long time as the "lost two decades" after the collapse of the bubble economy, I will not go into detail.² Instead, as an introduction, I would like to discuss Japan's declining and aging

¹ Miyazoe Ikuo and Taira Takahisa, *Shōgakukan-ban gakushū manga 2 Nishida Kitaro: Sekai ni eikyō o ataeta nihonjin hatsu no tetsugakusha*, comp. Nishida Kitaro Museum of Philosophy (Tokyo: Shogakukan Inc., 2013), p.15.

² For my view, see Masazumi Wakatabe, *Japan's Great Stagnation and Abenomics: Lessons for the World* (New York: Palgrave Macmillan, 2015).

population, which is considered to be not only one of the factors behind the "lost two decades" but also highly likely to continue. Japan's economy has faced the structural problem of a decline in working-age population since the mid-1990s. The total population started to decline in the 2010s, but the working-age population aged 15-64, which is the major source of labor supply, already began to decrease in the mid-1990s (Chart 1). In other words, since the mid-1990s, Japan has remained in a period of so-called demographic onus, where the working-age population declines at a faster pace than that of the total population. This stands in contrast to the United States, where both the total population and the working-age population have continued to increase consistently. The decline in the working-age population has been pointed to as one of the reasons behind the stagnant economic activity in Japan's "lost two decades." In fact, when we decompose Japan's potential growth rate into the number of employed persons, hours worked, capital stock, and total factor productivity (TFP), we can find that the number of employed persons contributed negatively from the late 1990s through the late 2000s (Chart 2).³ The decline in the working-age population is considered to lie behind this development.

That said, I believe the negative effects on the economy of a declining and aging population have been rather exaggerated. First of all, as Chart 2 shows, the contribution of the number of employed persons is not so significant; capital stock and TFP contribute more to the potential growth rate. Historically speaking, throughout the post-WWII era, an increase in capital stock and TFP has contributed more than a change in labor input to a rise in the economic growth rate. Also, international comparisons show no evidence that a declining and aging population leads to a decline in per capita growth rate.⁴ In addition, there are a number of transmission mechanisms through which a declining and aging population can affect the economy (Chart 3). Admittedly, a decline in the working-age population could exert downward pressure on economic growth, since the labor supply will decrease.

³ The potential growth rate here and the output gap, which will be discussed later in the speech, are based on estimates made by the Bank of Japan. The estimation results should be interpreted with a certain latitude.

⁴ Using OECD data from 1970 through 2011, one study shows that there is no correlation between per capita GDP growth rate and population growth rate. See Hatta Tatsuo and Nippon Institute for Research Advancement, eds., *Chihō sōsei no tame no kōzō kaikaku: Dokuji no yūisei o ikasu senryaku o* (Tokyo: Jiji Press Ltd., 2018), p.7.

Furthermore, investment may be reduced as firms and individuals expect continuous depopulation and slower economic growth accordingly. However, the impact of the decline in working-age population on the economy will not necessarily be negative. For example, in response to the decline, those who used to be outside the labor market may start working and their potential may be unlocked. If this happens, the positive impact on the economy can offset the negative impact. Also, firms may promote innovation and increase labor-saving investment in such areas as information and communication technology as well as artificial intelligence (AI) in order to make more effective use of scarce labor. If such developments improve the overall productivity, the economy can continue growing, even in the face of the structural problem of a declining and aging population.

What has actually happened in Japan's economy in recent years? The economy was in a period of prolonged deflation in the second half of the "lost two decades," that is, from the late 1990s through the early 2010s (Chart 4). The output gap remained in negative territory for a long period, and the CPI continued to decline at an annual pace of around 0.4 percent on average. However, Japan's economy has improved significantly since the early 2010s, when the Bank of Japan introduced quantitative and qualitative monetary easing (QQE), which differs considerably from the past policy frameworks.⁵ The output gap has improved for the past few years, taking hold in positive territory. The economy is no longer in deflation in the sense of a sustained decline in the CPI. Thus, you can see that Japan's economic activity and prices have improved clearly, although the declining and aging population has continued to weigh on the economy in a structural manner.

In the next part of this speech, let me describe the positive changes in Japan's economy, by comparing the present situation with the "lost two decades" or under deflation. I sometimes feel that many people do not necessarily have an accurate picture of the current state of Japan's economy since they have a deeply-entrenched negative image of the bubble burst and deflation as well as the current declining and aging population. Thus, I will elaborate on the positive changes in Japan's economy, in the hope that you will better understand the

⁵ Masazumi Wakatabe, "Japan's Economy and Monetary Policy," speech at a meeting with business leaders in Aomori, June 27, 2019, http://www.boj.or.jp/en/announcements/press/koen_2019/ko190627a.htm/.

current situation. On that basis, I will also talk about the challenges. I personally think that economic growth and price stability can be achieved even given the structural problem of a declining and aging population. That said, it is true that there are many challenges to be tackled beforehand. I would like to share my opinions on these challenges, which should be addressed with a view to ensuring further strength in Japan's economy.

I. Achievements and Changes

I would like to talk about what kind of positive changes have taken place in Japan's economy, by comparing the situation now with the "lost two decades" or under deflation.

A. Improvement in People's Lives

First, let us take a look at changes in household income as a whole (Chart 5). Nominal disposable income did not increase for a long time following the late 1990s. During this period, real disposable income, adjusted for inflation, increased moderately because prices continued to decline somewhat. However, households could not feel the increase in their income as nominal disposable income did not increase. Since the mid-2010s, there has been a notable change, as disposable income has increased clearly in both nominal and real terms.

How have people perceived this change (Chart 6)? In a public opinion survey, people were asked how satisfied they are with their current lives. The proportion of respondents answering that they were satisfied declined clearly from the late 1990s, to a level below that in the 1980s. However, it has increased notably since the early 2010s, and recently registered a record high. This improvement in people's satisfaction with their lives is likely due to an increase in their income stemming from economic improvement. In fact, in the same public opinion survey, the proportion of respondents answering satisfied with their income also rose significantly.

To see how far economic improvement has spread to households, I would like to look at the poverty rate (Chart 7). The poverty rate for all households has peaked out in recent years, although it was previously on an uptrend. In particular, the child poverty rate has started to decline. Of course, there is room for improvement regarding the problem of poverty, but it

is suggested that the improvement in financial conditions for a wide range of households is already happening gradually.

B. Changes in Labor Market Conditions

What lies behind the improvement in people's satisfaction with their lives? The answer is changes in labor market conditions (Chart 8). The unemployment rate has declined recently to around half the level of the deflationary period. Since the working-age population has continued to decline in Japan, some may suspect that this is just due to a decline in labor supply. You can see in this chart, however, that the improvement in the employment situation since the early 2010s has been accompanied by an increase in the number of employed persons. This implies that the recent tightening of labor market conditions is mainly due to an increase in labor demand, not a decline in labor supply. This improvement in the employment situation has brought about an increase in household income, with the number of employed persons increasing and wages rising moderately.

Why has the number of employed persons been increasing despite the declining working-age population? The answer is a significant increase in labor participation by women and seniors. Chart 9 shows developments in the number of labor force participants and the labor force participation rates for working-age men and women as well as seniors aged 65 and over. The labor force participation rate for each group is defined as the ratio of labor force participants to the respective population. In the past few years, the labor force participation rate of working-age men has increased somewhat while being at a high level. Meanwhile, the number of labor force participants among this group has been decreasing, along with the decline in the overall working-age population. In contrast, the labor force participation rate of working-age women has been rising consistently. Through 2012, the number of labor force participants among this group decreased as the impact of the decline in the overall working-age population was large. Since 2013, however, the number has started to increase as labor participation by women has accelerated further. As for seniors, the number of labor force participants increased for a while after the mid-2000s along with a rise in the elderly population, even without a rise in their labor force participation rate. Since 2013, the number has been increasing at a faster pace, as seniors have become more active in participating in the labor market. As we have just seen, labor participation by

women and seniors has increased considerably, and this is a significant change observed in the labor market since the early 2010s.

What then has prompted more women and seniors to enter the labor market in Japan? In the case of women, I first need to explain the past situation of their labor participation (Chart 10). Looking at the labor force participation rate of women by age group, the so-called M-shaped curve was evident in the late 1990s, as the rate was lower at the life stage of childbirth and child-rearing. This is because, when working women in Japan reached this life stage, there was a strong tendency to give up continuing to work and leave the labor market. Recently, however, it can be said that women at this life stage continue to participate in the labor market, and therefore the curve is generally no longer M-shaped. For almost all age groups, women's labor force participation rates in Japan now exceed those in the United States. In Japan, women's labor participation has been encouraged by a rise in labor demand due to economic improvement as well as by enhancement of the surrounding environment through various measures taken by both the public and corporate sectors so that women can balance child-rearing and a career. In fact, local governments have increased the provision of nursery facilities, and firms have actively set up childcare centers at their workplace in an effort to avoid losing female employees who are raising children. More firms have offered further support for parental leave and introduced teleworking systems to allow employees to work at home without the burden of commuting. Thanks to these initiatives, fewer women now leave the labor market to raise children.

Next, Chart 11 shows changes in the number of labor force participants among seniors, broken down into smaller age groups. You can see that labor participation has increased not only for those aged 65-69 but also for those aged 70 and over. This increase may be partly due to financial reasons such as the incremental rise in the pension age, but that alone is not a sufficient reason. As people get older, they tend to work for non-economic reasons, such as to find fulfillment in life or to make a social contribution. From another perspective, the slowing of physical aging seems to help seniors to continue working (Chart 12). Compared with a decade ago, for example, they have become physically younger by about 5 years based on their walking speed, and by about 10 years based on their number of teeth. These changes in physical ability mean that it is not unnatural for people to continue working in

their 70s, even though a decade ago it was regarded as natural that they retire at the age of 65.⁶

In Japan, where the working-age population has been decreasing, an increase in labor participation by women and seniors is welcome in terms of accelerating economic growth. However, their labor force participation rates cannot exceed 100 percent. What we need to do now is to improve the productivity of the overall economy. I will come back to this later.

C. Changes in Firms' Behavior

Thus far we have looked at changes in the household sector, focusing on labor market conditions. Signs of change have also been seen in the corporate sector.

Firms have proactively responded to labor shortages. Amid tight labor market conditions, firms have increased labor-saving investment to save human resources and have used capital as a substitute. In Japan's manufacturing sector, there has been active labor-saving investment. Based on the tough experience of surges in crude oil prices during two oil crises in the 1970s, manufacturers have taken initiatives since the 1980s to cut costs and streamline production processes, for example, by introducing production robots. In the face of globalization, large manufacturing firms exposed to severe competition, in particular, have continued to make such efforts. By contrast, in the nonmanufacturing sector, where many industries are labor-intensive, firms seemed less enthusiastic about undertaking labor-saving investment. This is partly because they were able to take advantage of a stable supply of low-wage workers, such as part-timers, and did not face such fierce global competition. However, reflecting the recent tight labor market conditions, labor-intensive nonmanufacturers have begun working toward saving labor (Chart 13). Since the early 2010s, labor-intensive industries such as "construction," "retailing," and "accommodations, eating and drinking services" have been actively making labor-saving investment, as you

⁶ Toshitaka Sekine, "Does Demography Really Matter?," presentation at the G20 Symposium titled "For a Better Future: Demographic Changes and Macroeconomic Challenges," January 17, 2019, https://www.g20fukuoka2019.mof.go.jp/ja/meetings/pdf/S1-1_Toshitaka%20Sekine.pdf.

A study in the United States shows that the average age of the founders of the top 0.1 percent fastest-growing start-up firms is 45. See Pierre Azoulay et al., "Age and High-Growth Entrepreneurship," *NBER Working Paper*, no.24489, 2018.

can see from the clear increase in their software investment. For example, even at small restaurants in Japan, you can find tablet computers at your table allowing you to order just by tapping. This kind of system helps restaurants to save labor in taking orders from customers and improve efficiency in sales management. Construction sites, which have also faced labor shortages, have been adopting new technologies. One example is the introduction of survey systems using drones. Another is the use of AI to analyze accumulated information to complement operations which used to rely largely on skilled workers' experience. The clear rise in labor productivity since the early 2010s appears to reflect these initiatives by firms, enabled by remarkable technological progress in recent years.

The changes that I have just outlined may be seen as a passive response to labor tightening, but you can find more proactive initiatives (Chart 14). There has been a steady increase in the number of mergers and acquisitions (M&As) made by Japanese firms, although their total value has fluctuated considerably due to some large-scale M&As. Moreover, although the firms' entry rate was low during the "lost two decades," it seems that there have been signs of a rise recently, albeit at a lower level than that of the United States. I think that the expansion of such initiatives can be seen as a positive change for Japanese firms, which used to be considered cautious about taking risks after the collapse of the bubble economy.

II. Challenges Ahead

So far, I have talked about the positive changes in Japan's economy after the "lost two decades." Its growth potential, however, needs to be further enhanced. Moreover, we are still only halfway toward achieving the Bank of Japan's price stability target of 2 percent. I think that there are still many challenges to be addressed in raising Japan's growth potential. In the remaining part of my speech, I would like to focus on the challenges toward raising productivity in Japan's economy amid a declining and aging population. In order to improve productivity, it is necessary to invest in human resources so that more and more people can enhance their knowledge and skills. It is also important to create and maintain an "open" economic and social system that encourages people to make the best use of their abilities.

A. Expected Changes in the Corporate Sector

As I mentioned earlier, firms' efforts to raise labor productivity by, for example, making labor-saving investment have spread not only to the manufacturing sector but also to the nonmanufacturing sector. However, even if labor productivity rises, there is no guarantee that the overall productivity of the economy, including capital productivity, will increase. Let us consider the case where capital, such as robots, substitutes for labor. If this is a mere substitution of one unit of labor with one unit of capital and the value added remains the same, the overall productivity will not change substantially because labor productivity will rise while capital productivity declines.

In fact, developments in TFP of various production factors, including the effective use of capital, have differed from developments in labor productivity growth, which has increased significantly (Chart 15). TFP growth has been relatively high in the IT-producing sector, such as for manufacturers of electronic parts and electrical machinery. In contrast, growth has been sluggish in the IT-using sector, which includes most of the nonmanufacturing industries with a high ratio of software investment to overall investment, such as "information and communications," "transport and postal services," as well as "wholesale and retail trade." While the deceleration in TFP growth has become a common concern among advanced economies, TFP growth has remained low in Japan's IT-using sector since the 2000s. Among the many hypotheses proposed to explain this low growth, I would like to focus on the stance of Japanese firms toward the use of IT.

According to a survey asking Japanese firms why they have increased their IT-related budget, many answered that it was to improve business efficiency and cut costs. This is in contrast with U.S. firms, which have incorporated new technologies to encourage innovative initiatives such as developing products and services. Although an increasing number of Japanese firms have recently started to try new technologies, not many seem to have made them work for successful innovation. New technologies, such as AI and the Internet of Things (IoT), continue to make rapid progress. I hope that Japanese firms will adopt these technologies not only to cut costs and streamline production processes, which they are good at, but also make more active use of them to enhance the value added through innovation.

B. Expected Changes in the Household Sector: Further Active Participation by Women and the Young

Then, what changes are expected in the household sector with a view to improving productivity? As I pointed out earlier, the increased labor participation by women and seniors is a very positive development for Japan's economy, given the decline in the working-age population. The next step is to fully unlock people's potential. In the following, I would like to focus on the challenges toward encouraging a greater contribution by women and the young.

Let me start with the issue of unlocking women's potential. I would like to first look at developments in the income levels of men and women over their lifetime (Chart 16). We can see that women's income level clearly falls behind men's as they get older. One possible reason is that, in the past, the university enrollment rate of women was relatively low compared to that of men. Another reason is that women may have less chance to develop their job skills, since they tend to give up continuing to work in order to raise children.⁷ With regard to women's job skills, I would like to show an analysis of the gap in literacy between men and women (Chart 17). Across countries, there is no significant gender gap in the levels of literacy. As for the frequency of skill use in the workplace, however, the gender gap is more evident in Japan than in other countries. In Japan, women use their literacy at work much less frequently than men, suggesting that women are less likely to be assigned highly-skilled tasks.⁸

As these observations imply, I think that women's potential has not yet been fully unlocked in Japan (Chart 18). For example, while the proportion of women to total employed persons is comparable to that of other countries, the proportion of women in managerial positions is clearly lower. In addition, surveys on the underutilization of labor show that many women wish to increase their working hours, particularly middle-aged women who have completed

⁷ Lorraine Dearden and Nobuko Nagase, "Getting Student Loans Right in Japan: Problems and Possible Solutions," *Discussion Paper Series A* of the Institute of Economic Research at Hitotsubashi University, no.668, 2017.

⁸ Daiji Kawaguchi and Takahiro Toriyabe, "Parental Leaves and Female Skill Utilization: Evidence from PIAAC," *RIETI Discussion Paper Series*, no.18-E-003, 2018.

the early stages of child-rearing. There seems to be quite a few women who want to return to a full-time job after child-rearing but are unable to do so.

Given the declining and aging population in Japan, it is essential that women not only enter the labor market but use their abilities to the fullest extent. Is Japan heading in this direction (Chart 19)? With regard to the educational environment before becoming employed, 30 years ago the percentage of women enrolled in a four-year university was only about half of that of men, but in recent years it has risen to a level comparable to that of men. Thus, as for pre-employment education, it can be said that the gender gap has been generally eliminated. In addition, although the employment rate for women tended to be lower than that for men, it has recently exceeded that for men. Moreover, an increasing number of firms have been providing learning opportunities for women during their parental leave so that they can maintain and improve their skills. There has also been an increase in firms' initiatives to share work-related information with women on parental leave so that they can catch up more easily when they return to work. As these examples show, it seems that an environment is being created to encourage women to make full use of their abilities. Of course, there are still many women who have completed their child-rearing but have given up on rejoining the labor market. It is also important to provide these women with recurrent education to enable them to improve their skills and take positions requiring high skills when they re-enter the labor market.

Next, I would like to move on to the young. From a long-term perspective, education is extremely important in improving productivity. Macroeconomic productivity benefits from creating an environment that enables children to become better educated regardless of their economic conditions by, for example, providing free education.

Given the globalization of corporate activities, education is also key to developing internationally competent talent. On this point, I would like to show you some data regarding the number of Japanese students studying abroad (Chart 20). The percentage of Japanese students enrolled in foreign schools peaked out in the 2000s. However, the number of students studying abroad for shorter periods while enrolled at Japanese universities has continued to increase. This data can be viewed in a number of ways, but I think the fact that

an increasing number of young people in Japan have experienced studying abroad, even if only for a short time, can be seen as the first step in fostering more skilled individuals ready for a globalized world.

However, there is still room for improvement in Japan with regard to enrollment in graduate schools. The proportion of female graduates at Ph.D. level is 31 percent for Japan, the lowest among the OECD countries, where the average is 47 percent.⁹

Let me briefly talk about Japan's financial sector in relation to the asset building of households. Japan's household financial assets have increased steadily, reaching 1,860 trillion yen at the end of June 2019. In this situation, there have been changes in both the household and financial sectors. Households' investment in financial assets other than deposits has been gradually observed. The financial industry is one of the industries that have been affected by the structural factor of a declining and aging population amid the economic improvement. However, it has also seen steady progress in globalization and technological innovation. Japanese financial institutions are increasingly extending their overseas operations and making alliances with a wide variety of businesses, including so-called FinTech firms, to offer new services to customers.

Conclusion

Today, I have talked about the positive changes in Japan's economy and future challenges from a somewhat longer-term perspective. Hopefully you have gained the impression that Japan's economy has continued to grow after the "lost two decades." Women and seniors' labor participation as well as firms' initiatives to increase labor-saving investment have offset the negative impact of the declining population. However, the declining and aging population will continue to weigh on Japan's economy. For the economy to continue growing under such circumstances, it is essential to further increase productivity. Japan still has untapped potential and room to reform and improve in many fields. Once we unlock our potential to the fullest extent, we can overcome the challenges.

⁹ OECD, "Country Note: Japan" in *Education at a Glance 2019: OECD Indicators*, 2019, https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_JPN.pdf.

Let me conclude my speech by sharing my thoughts on the links between monetary policy and the enhancement of economic growth potential, as well as the role of central banks. Economic growth potential is supposed to be enhanced mainly by changes in the behavior of private entities with the support of the government's growth policy. Meanwhile, the Bank of Japan's monetary policy aims at achieving the price stability target of 2 percent, and there are synergy effects between the efforts of various economic entities and the Bank's monetary policy. The expected growth rate of Japan's economy is likely to rise as private firms actively undertake investment in capital and human resources as well as innovation. It is also likely to rise as the government establishes a business environment that encourages such investment and makes beneficial public spending, including on education and the promotion of science and technology. As the expected growth rate rises, firms' investment and households' consumption will be encouraged further, thereby ensuring the path toward achieving the price stability target of 2 percent.

At the same time, I think that monetary easing itself can in turn contribute to enhancing the growth potential in some ways.¹⁰ One way is that, as monetary easing has made clear the problems of labor shortages and supply constraints resulting from demand increase, it has consequently highlighted the issue of Japan's growth potential that lies behind these problems. Although a decline in the growth potential has long been recognized as a challenge of Japan's economy, it was not seen as an immediate issue when the economy faced deficient demand. It was not until labor shortages and supply constraints materialized due to the increase in demand that people actually started to take concrete action toward enhancing the growth potential and increasing the economy's supply capacity. People acquire skills through their daily work, thereby raising their productivity. In particular, whether or not young people have opportunities to enhance their skills at work affects their future careers, as well as the productivity of the overall economy. It is vital that the younger generation is provided diverse and stable job opportunities. A decline in the long-term unemployment rate also increases the economy's productivity, since skills could be lost as unemployment becomes prolonged. Widespread improvements in the labor market are

¹⁰ Masazumi Wakatabe, "Japan's Economy and Monetary Policy," speech at a meeting with business leaders in Niigata, December 5, 2018, http://www.boj.or.jp/en/announcements/press/koen_2018/ko181205a.htm/.

likely to raise the growth potential of Japan's economy.

Another possible contribution of monetary easing is to encourage firms to become more active. With the experience of prolonged deflation, Japanese firms have been cautious about taking risks and have remained persistently prudent toward business investment and wage increases. I believe that, if our monetary policy improves overall economic activity, it will encourage firms to change their behavior premised on deflation and take positive initiatives toward making active investment and raising productivity further.¹¹

Japan has experienced stagnation and deflation for a long time. The Bank of Japan aims at achieving price stability, thereby contributing to the sound development of the national economy. From now on, when a children's book is written, I would prefer not to see a phrase such as "it is a very difficult place to live because there has been a decades-long stagnation."

Thank you for your attention.

¹¹ There are arguments that the stabilization of the macroeconomy in the short term affects economic growth in the long term. For details, see Bank of Japan, Research and Statistics Department, "Minutes of the 7th Joint Conference Organized by the University of Tokyo Center for Advanced Research in Finance and the Bank of Japan's Research and Statistics Department: New Developments in Macroeconomic Analysis: Interaction between Business Cycles and Economic Growth," *BOJ Reports and Research Papers*, 2018, http://www.boj.or.jp/research/brp/ron_2018/ron180330a.htm/ (available only in Japanese); and Souhei Kaihatsu et al., "Interaction between Business Cycles and Economic Growth," *Bank of Japan Working Paper Series*, no.18-E-12, 2018, http://www.boj.or.jp/en/research/wps_rev/wps_2018/wp18e12.htm/.

Has Japan's Economy Changed?: Challenges and Prospects

Speech at the Japan Society in New York

October 3, 2019

Masazumi Wakatabe

Deputy Governor of the Bank of Japan

Outline

Introduction

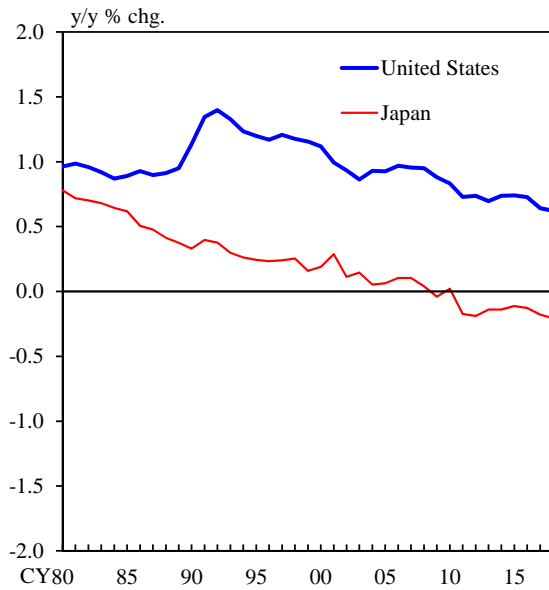
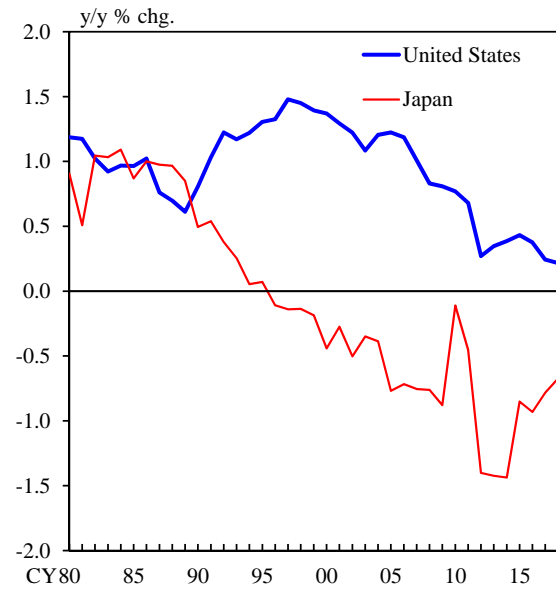
I. Achievements and Changes

II. Challenges Ahead

Conclusion

Demographics

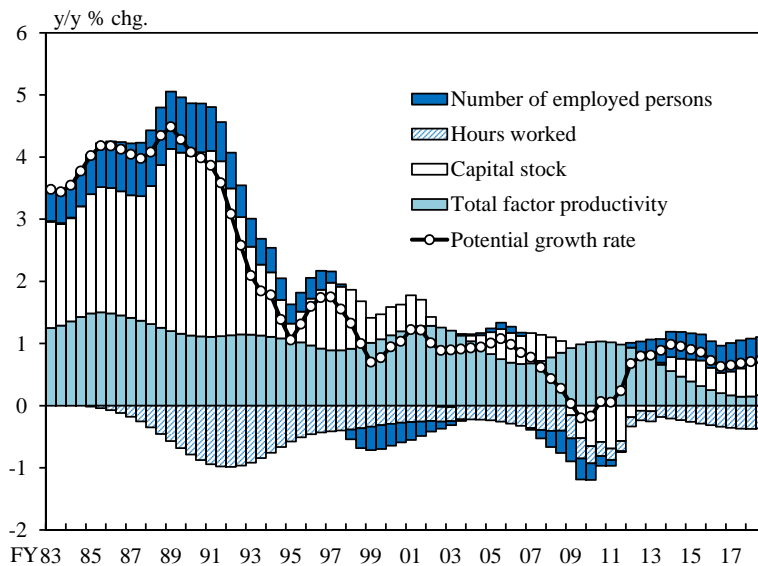
Total Population

Working-Age Population
(Aged 15-64)

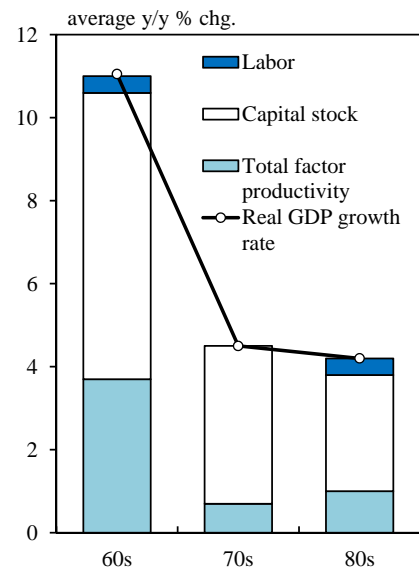
Source: OECD.

Potential Growth Rate

Recent Developments



Developments in the 60s-80s

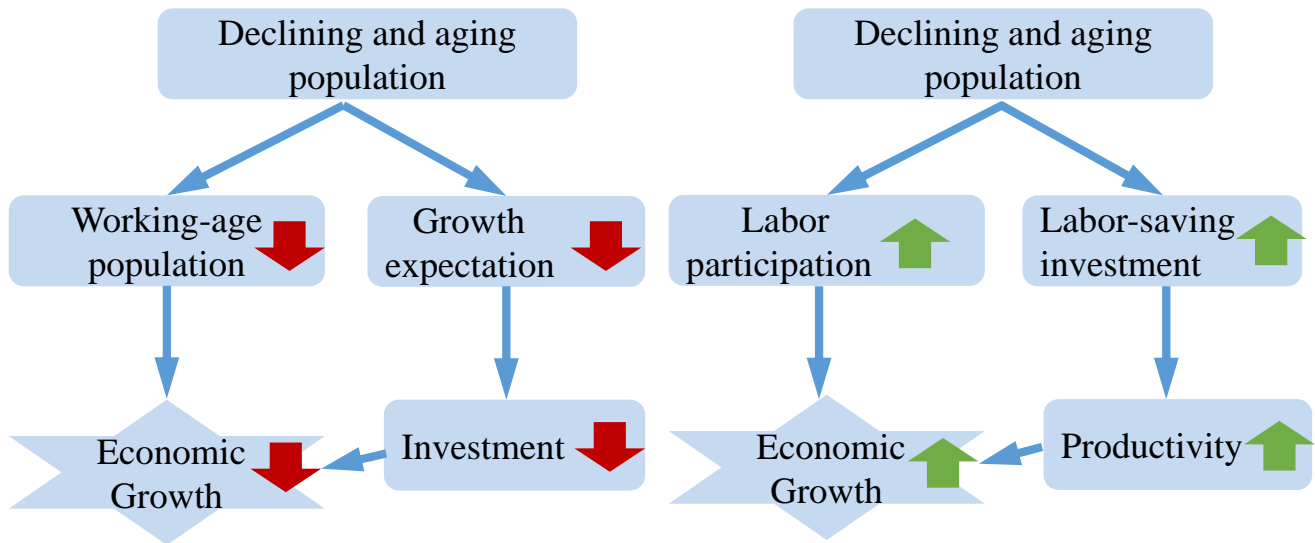


Notes: 1. In the left chart, figures are based on BOJ staff estimates.

2. In the right chart, figures are from the "White Paper on International Economy and Trade 1998."

Sources: Ministry of International Trade and Industry; Bank of Japan.

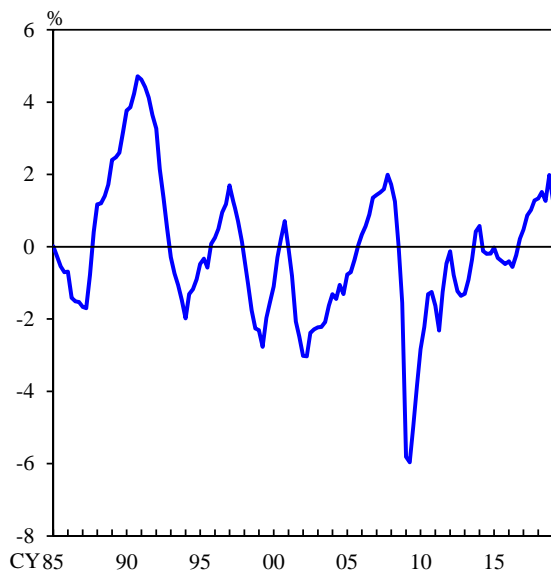
Possible Transmission Mechanisms



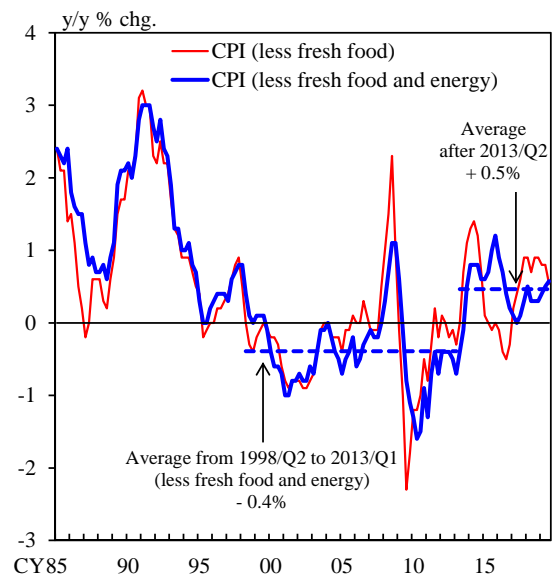
Note: See Carlos Carvalho, Andrea Ferrero, and Fernanda Nechio, "Demographics and Real Interest Rates: Inspecting the Mechanism," *Federal Reserve Bank of San Francisco Working Paper* 2016-05; Nao Sudo and Yasutaka Takizuka, "Population Aging and the Real Interest Rate in the Last and Next 50 Years: A Tale Told by an Overlapping Generations Model," *Bank of Japan Working Paper Series*, no.18-E-1, 2018; and Haruhiko Kuroda, "Demographic Changes and Challenges for Financial Sector," remarks at the Paris EUROPLACE Financial Forum in Tokyo, 2018.

Improvements in Japan's Economy

Output Gap



Consumer Prices

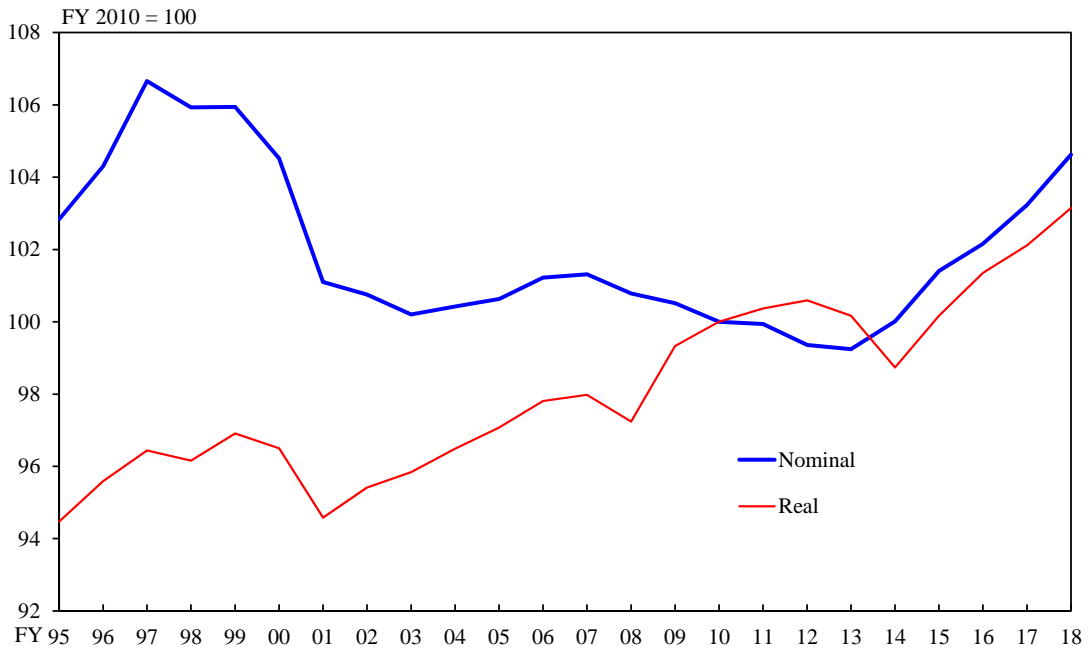


Notes: 1. In the left chart, the output gap is based on BOJ staff estimates.

2. In the right chart, figures are adjusted for changes in the consumption tax rate.

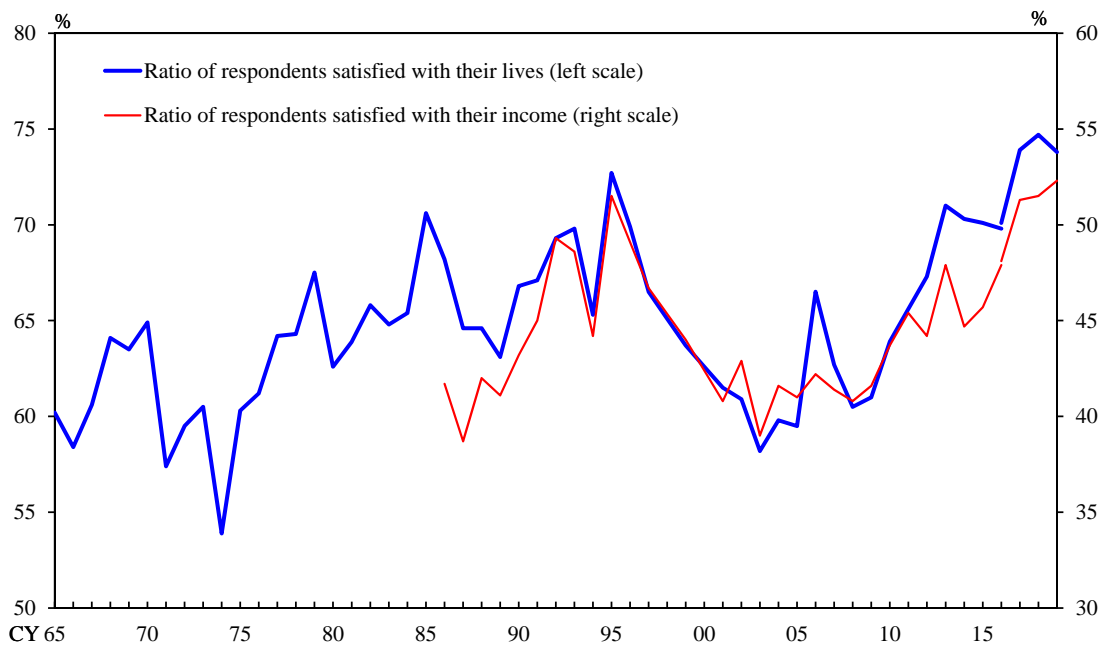
Sources: Bank of Japan; Ministry of Internal Affairs and Communications.

Increase in Disposable Income



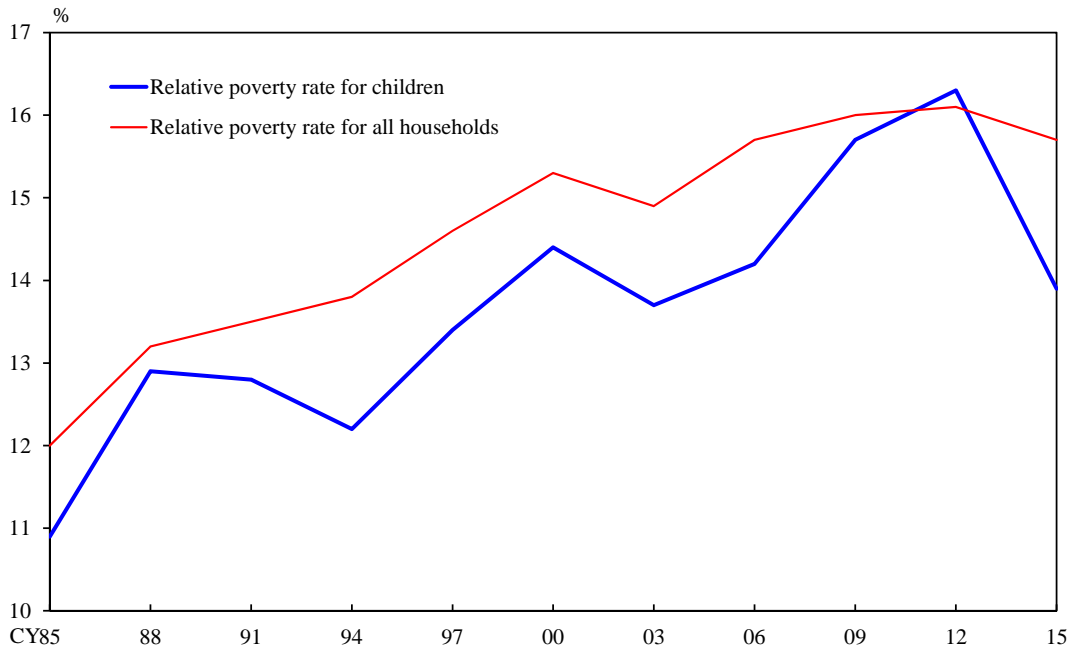
Source: Cabinet Office.

Levels of Satisfaction with Life



Note: There is a discontinuity in the data for the 2016 survey due to a change in respondents' age coverage. (The old series covers those aged 20 and over, while new series covers those aged 18 and over.)
 Source: Cabinet Office.

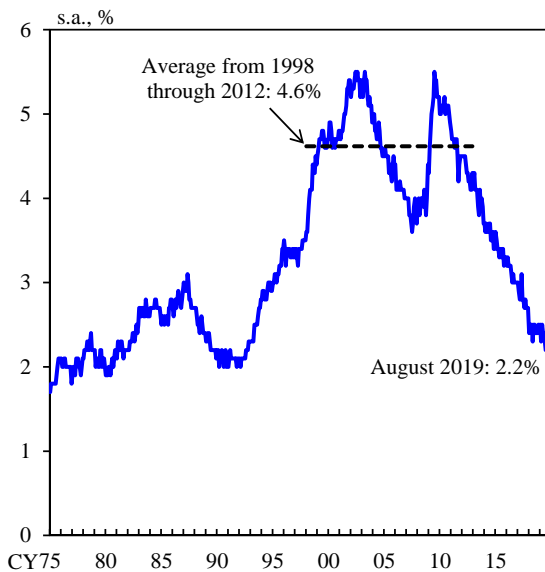
Poverty Rate



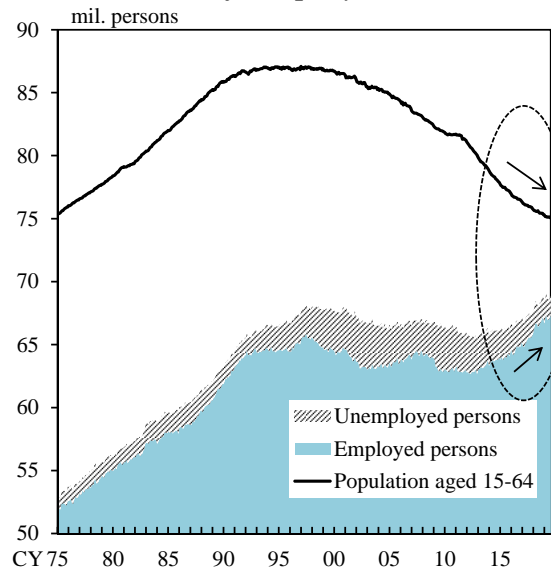
Note: The relative poverty rate is defined as the proportion of people with an equivalent disposable income (i.e., disposable income per household divided by the square root of the number of household members) below the poverty line, which corresponds to half the median of equivalent disposable income. The relative poverty rate for children is defined as the proportion of children (aged 17 and under) below the poverty line.
 Source: Ministry of Health, Labour and Welfare.

Recent Labor Market Conditions

Unemployment Rate

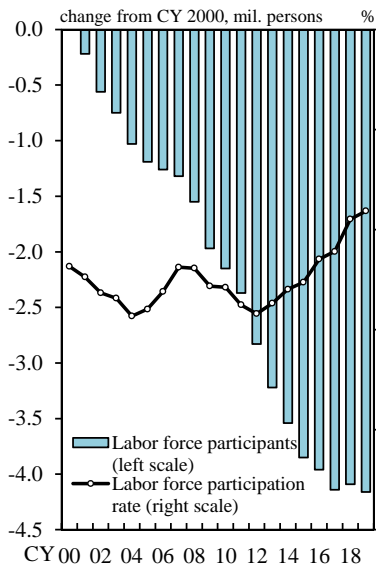


Working-Age Population and Number of Employed Persons

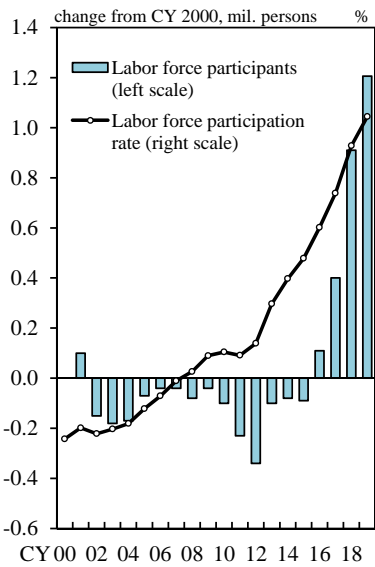


Breakdown of Changes in Labor Force Participants

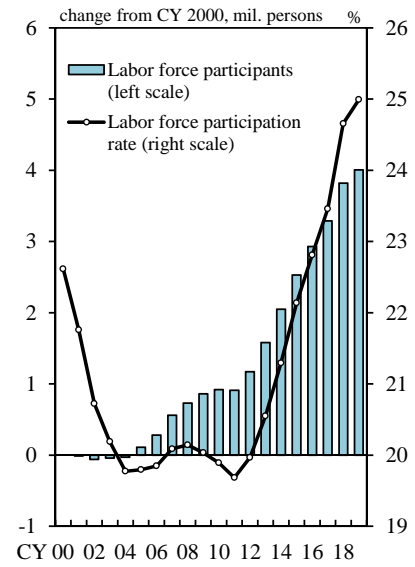
Men (Aged 15-64)



Women (Aged 15-64)



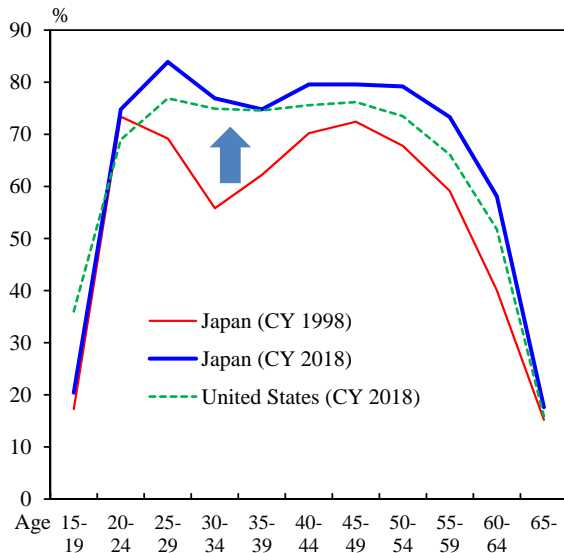
Seniors (Aged 65 and over)



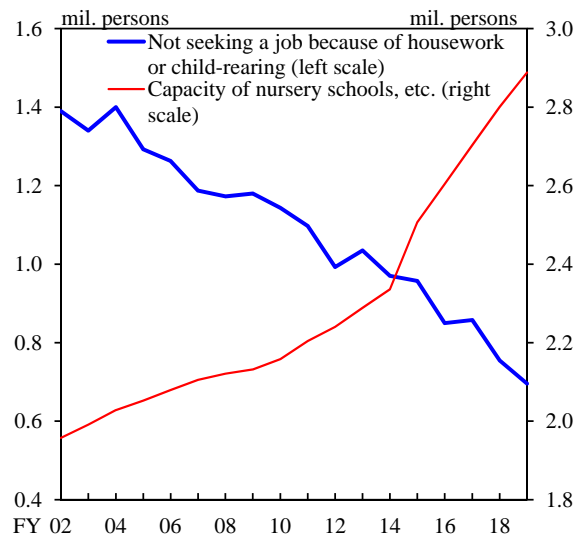
Note: Figures for 2019 are January-July averages on a seasonally adjusted basis.
Source: Ministry of Internal Affairs and Communications.

Labor Force Participation by Women

Women's Labor Force Participation Rate by Age



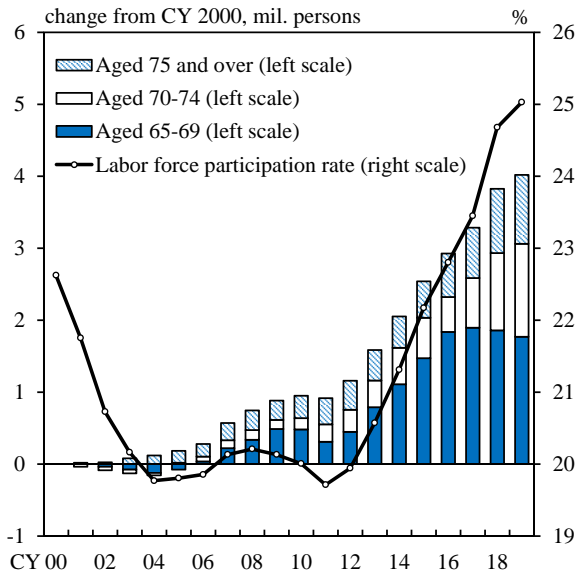
Women Wishing to Work and Capacity of Nursery Schools



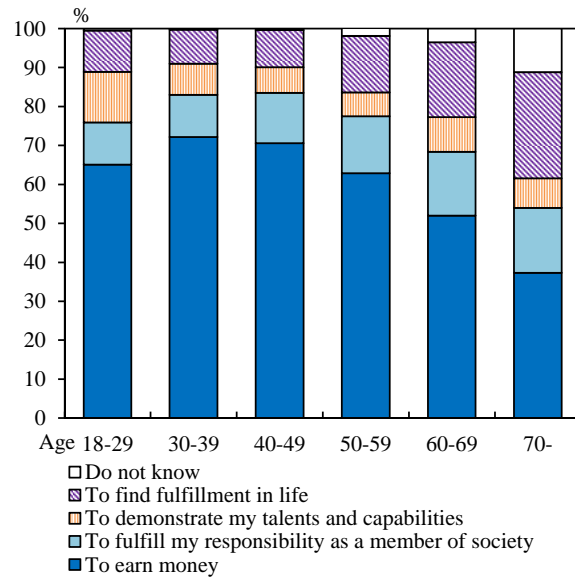
Notes: 1. In the left chart, the figure for those aged 15-19 in the United States is that for those aged 16-19.
2. In the right chart, figures for those "not seeking a job because of housework or child-rearing" for fiscal 2019 are for 2019/Q2 on a seasonally adjusted basis. There were revisions to the question (from "because of housework or child-rearing" to "because of childbirth or child-rearing") in 2013/Q1, and to the definition of "women not seeking a job" in 2018/Q1.
Sources: Ministry of Internal Affairs and Communications; ILO; Ministry of Health, Labour and Welfare.

Labor Force Participation by Seniors

Labor Force Participants among Seniors



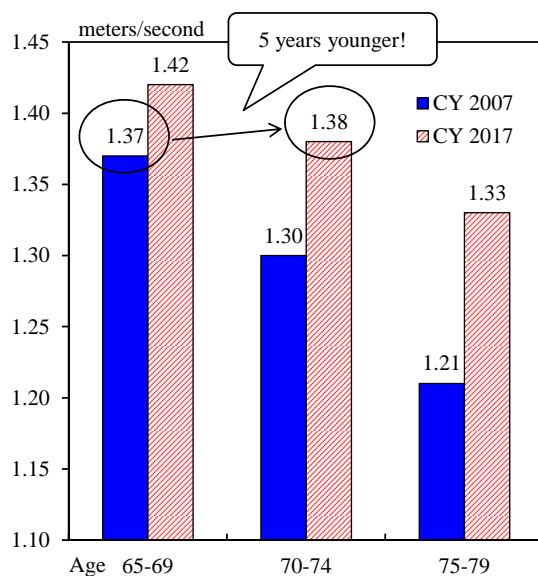
Reasons for Working (2019)



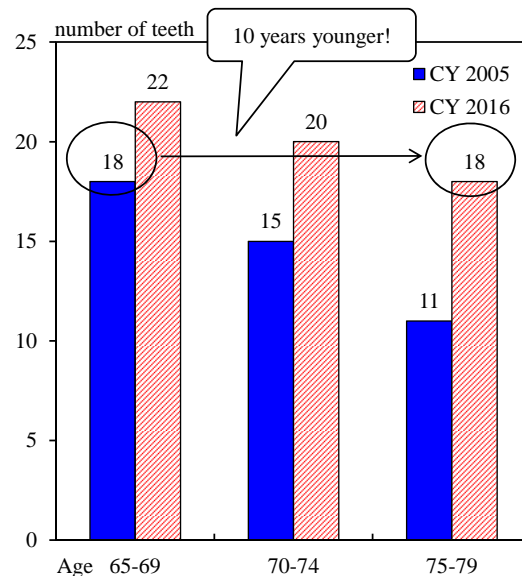
Note: In the left chart, figures for 2019 are January-July averages on a seasonally adjusted basis.
Sources: Ministry of Internal Affairs and Communications; Cabinet Office.

Evidence of Slowdown in Physical Aging

Average Walking Speed



Average Number of Teeth



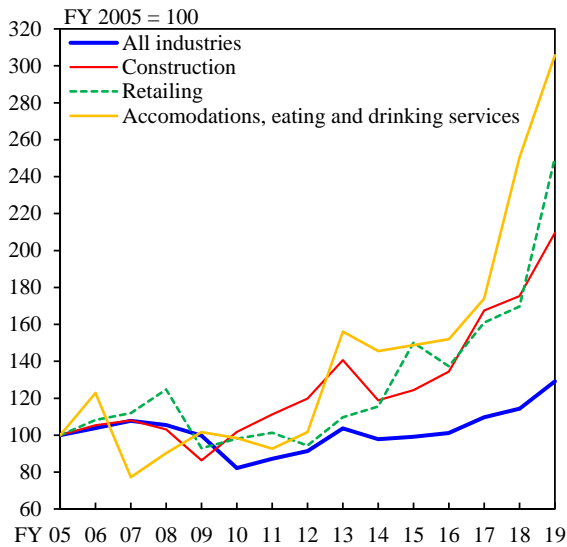
Notes: 1. See Toshitaka Sekine, "Does Demography Really Matter?," presentation at the G20 Symposium titled "For a Better Future: Demographic Changes and Macroeconomic Challenges," 2019.

2. In the left chart, average walking speed is the arithmetic average of men's and women's walking speeds.

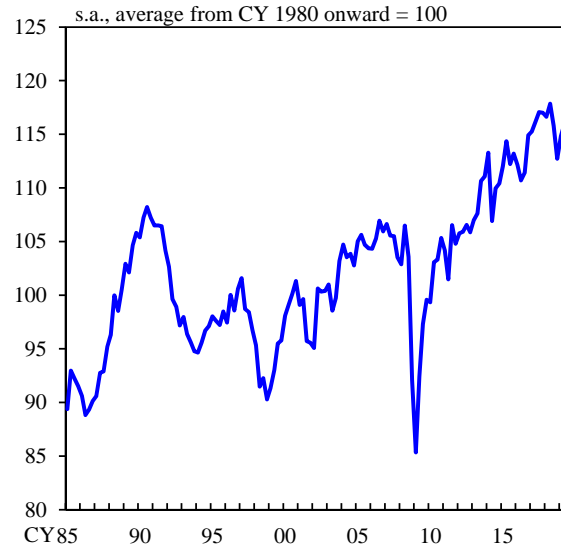
Sources: National Center for Geriatrics and Gerontology; Ministry of Health, Labour and Welfare.

Labor-Saving Investment

Increase in Software Investment in Labor-Intensive Industries



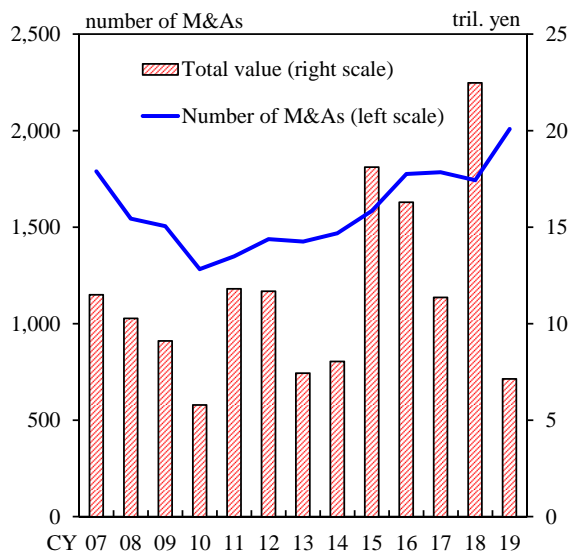
Rise in Labor Productivity



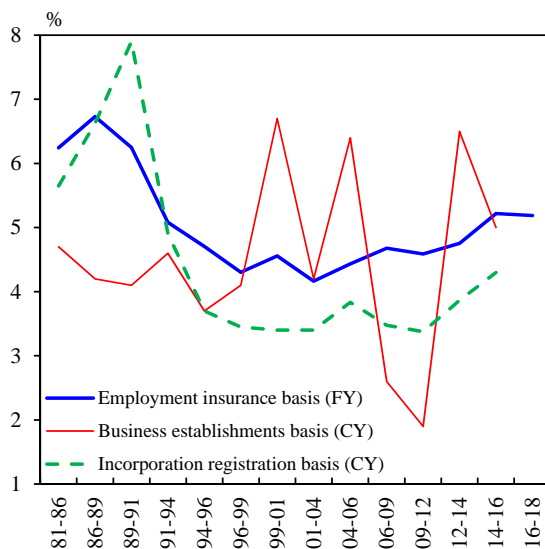
Notes: 1. In the left chart, figures for software investment for fiscal 2019 are based on the investment plans in the June 2019 survey.
 2. In the right chart, labor productivity = (operating profits + personnel expenses + depreciation expenses) / number of workers / GDP deflator
 Sources: Ministry of Finance; Cabinet Office; Bank of Japan.

Firms' Positive Initiatives

Number of M&As



Firms' Entry Rate



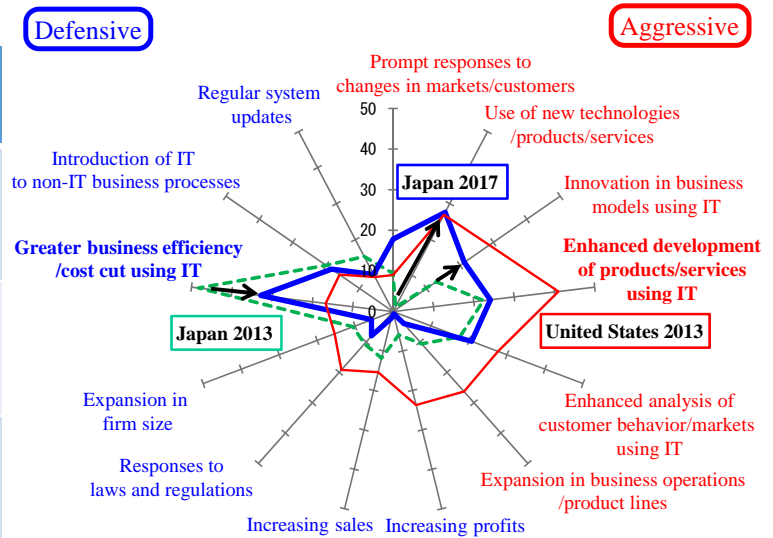
Notes: 1. In the left chart, figures include only M&As in which Japanese firms are acquirers. Figures for the first half of 2019 are actual while those for the second half are estimated assuming that the year-on-year growth rates are the same as those for the first half.
 2. In the right chart, for figures based on employment insurance, entry rate = number of business establishments newly covered by employment insurance / number of business establishments covered by employment insurance at the end of previous fiscal year × 100. For figures based on business establishments, entry rate = number of newly established business establishments / number of existing business establishments at the beginning of the year. For figures based on incorporation registration, entry rate = number of incorporation registrations / number of firms in previous year × 100. To allow for comparison, period averages of figures based on employment insurance and incorporation registration are calculated in line with those based on business establishments, which is least frequently surveyed.
 Sources: Bloomberg; The Small and Medium Enterprise Agency; Ministry of Health, Labour and Welfare; Ministry of Internal Affairs and Communications; Ministry of Justice; National Tax Agency.

Toward Productivity Enhancement: IT Utilization

TFP Growth Rates of IT-Producing Sector and IT-Using Sector

	annualized average growth rate, %			
	1995-2000	2001-2005	2006-2010	2011-2017
All sectors	1.0	1.1	-0.2	0.9
IT-producing sector	8.4	9.0	7.7	3.9
IT-using sector	1.3	1.5	-0.6	0.5

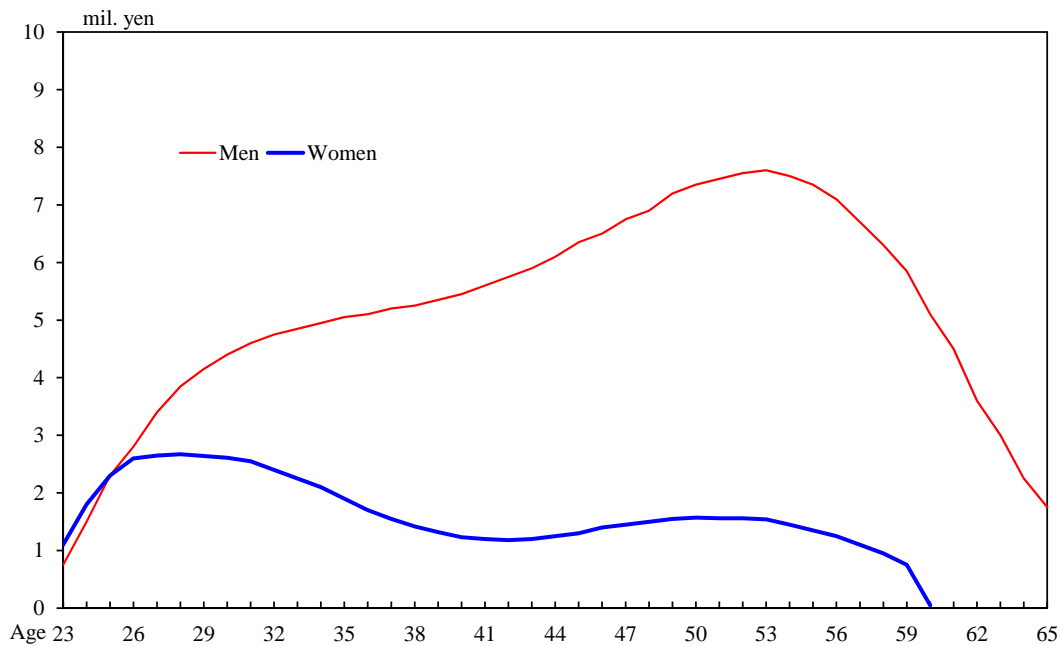
Reasons for IT Investment



Notes: 1. In the left chart, TFP is measured by using SNA data classified by economic activity in the "Annual Report on National Accounts." IT-producing sector is composed of electronic components and devices; electrical machinery, equipment and supplies; and information and communication electronics equipment. IT-using sector is composed of 9 industries in which the ratio of software investment to GDP is relatively high: information and communications; transport and postal services; wholesale and retail trade; accommodation and food service activities; professional, scientific and technical activities; electricity, gas and water supply and waste management service; chemicals; textile products; other manufacturing.
 2. In the right chart, figures are based on the 2017 JEITA/IDC Japan survey.
 Sources: Cabinet Office; JEITA.

Gender Gaps in Income

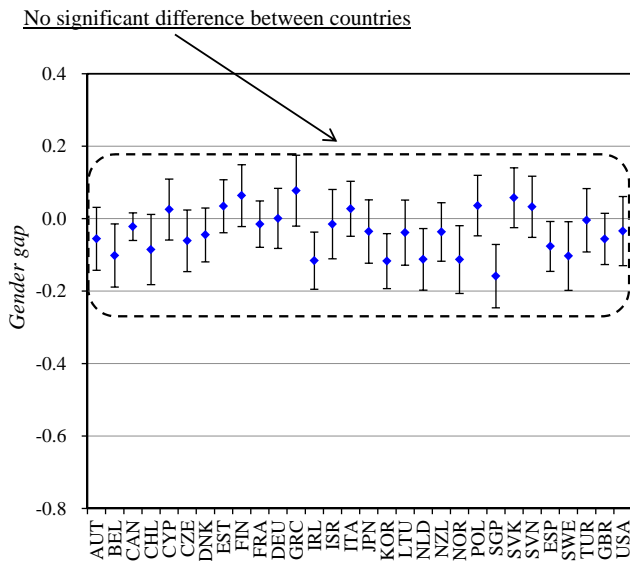
Annual Income (Middle-Class)



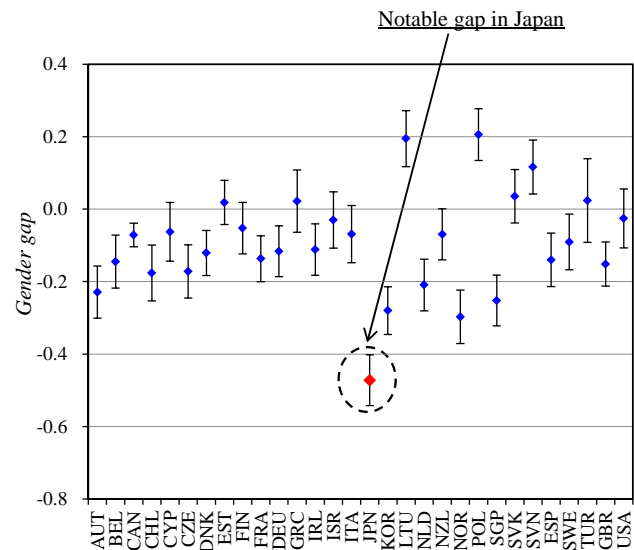
Source: Lorraine Dearden and Nobuko Nagase, "Getting Student Loans Right in Japan: Problems and Possible Solutions," Discussion Paper Series A of the Institute of Economic Research at Hitotsubashi University, no.668, 2017.

Gender Gaps in Skills and Skill Use

Literacy



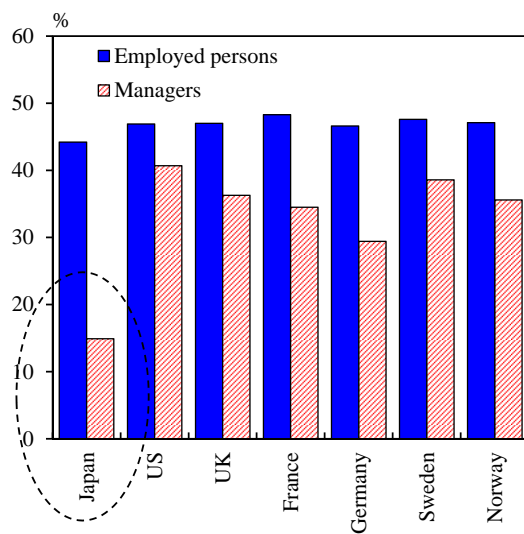
Literacy Skill Use



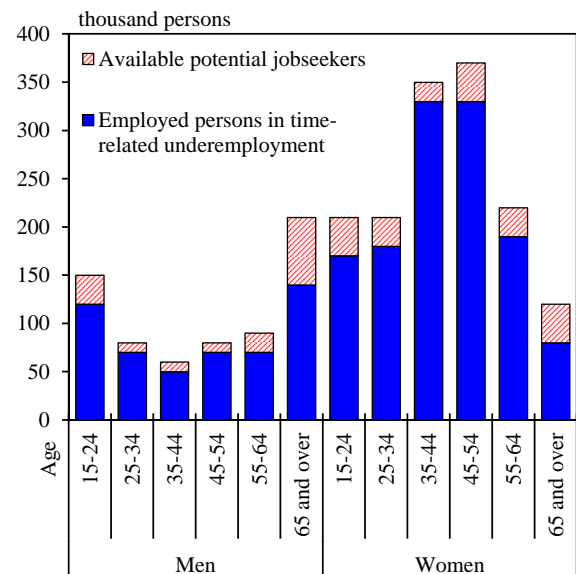
Note: Figures show unconditional gender gaps in skills and skill use. Each point represents the gender gap, and the bars indicate its 95% confidence interval.
 Source: Daiji Kawaguchi and Takahiro Toriyabe, "Parental Leaves and Female Skill Utilization: Evidence from PIAAC," *RIETI Discussion Paper Series*, no. 18-E-003, 2018.

Labor Underutilization

Proportion of Employed Women and Women in Managerial Positions (2018)



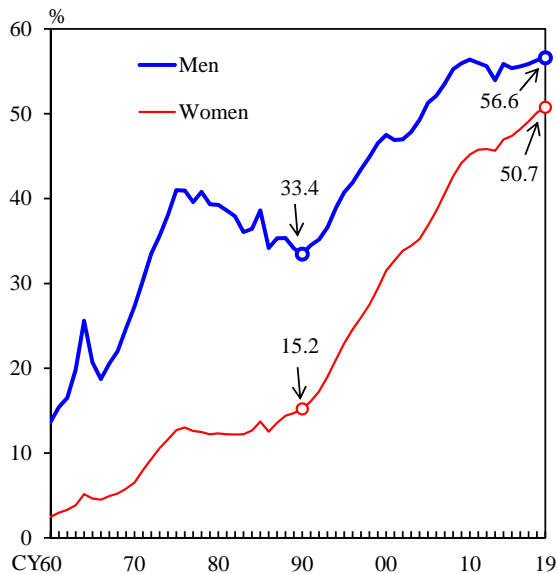
Labor Underutilization by Gender and Age (2019/Q2)



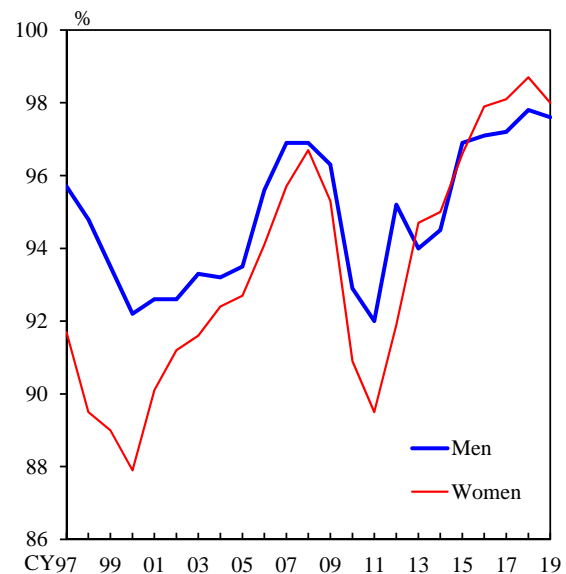
Notes: 1. In the left chart, the definition of "managers" varies across countries. In Japan, managers include corporate executives, managerial personnel equivalent to or above section chief, and managerial government officers.
 2. In the right chart, "employed persons in time-related underemployment" means employed persons with weekly working hours of less than 35 hours who are wishing and able to work additional hours. "Available potential jobseekers" means those who have not been seeking a job within one month, but who are wishing and ready to work if work is available.
 Sources: Ministry of Internal Affairs and Communications; ILO.

Enrollment Rate and Employment Rate

University Enrollment Rate



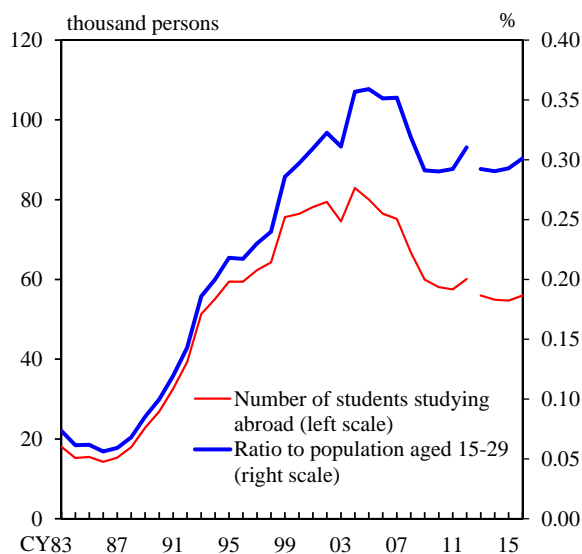
Employment Rate for University and High School Graduates



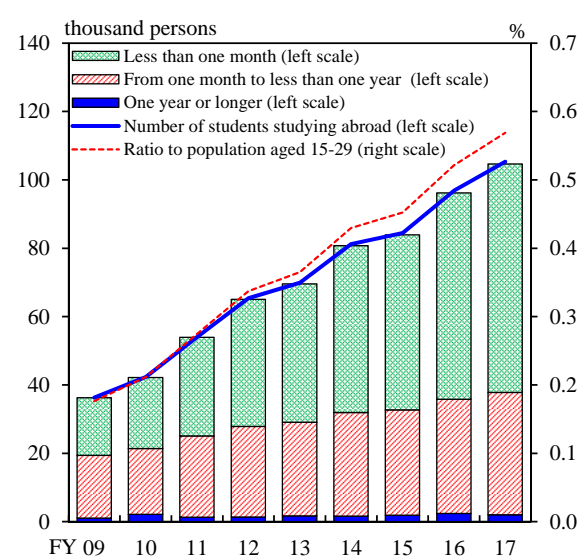
Sources: Ministry of Education, Culture, Sports, Science and Technology; Ministry of Health, Labour and Welfare.

Globalization of Human Resources

Japanese Students in Higher Education Abroad



Japanese Students Studying Abroad Temporarily



Note: In the left chart, there is a discontinuity in the data for the 2013 survey due to a change in the definition of "students studying abroad."

Sources: Ministry of Education, Culture, Sports, Science and Technology; OECD; UNESCO; Institute of International Education; Japan Student Services Organization, etc.