



# Annual Report on the Japanese Economy and Public Finance 2020

(Report by Minister of State for Economic and Fiscal Policy)

—COVID-19 crisis provides last chance to  
reform Japan's economy—

Summary

November 2020

Cabinet Office, Government of Japan

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# Key points of the Annual Report

- ❑ In the Japanese economy, domestic and external demand is rebounding after a great downslide under the COVID-19 pandemic. However, the rebound is moderate, with downside pressure on employment remaining high. While measures are taken to prevent COVID-19 infection, economic activities must be promoted further. In this respect, it is important to raise productivity through digitalization.
- ❑ Initiatives to prevent infection are accelerating changes of conventional work styles, providing a chance to revise workers' personal time allocation and spread flexible work styles. It is necessary to revise management systems of work time and employment to support such moves.
- ❑ Since 2013, women's employment has greatly increased. The next challenge is to encourage women to remain employed. In addition to the expansion of childcare facilities, the reform of men's work styles is important for balancing women's employment with childbirth.
- ❑ Both the government and private sectors are required to accelerate digitalization to resolve structural labor shortages and promote anti-infection measures (non-contact technologies). For achieving innovation, human resources that concentrate in the IT industry should spread to non-IT sectors including governments.

This material has been tentatively prepared to explain the Annual Report on the Japanese Economy and Public Finance. For quotations and other purposes, please refer to the text of the Annual Report on the Japanese Economy and Public Finance.

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# Chapter 1 Section 1: Japanese Economic Trends under Pandemic — Macro Trends

- The COVID-19 pandemic forced real GDP to sharply contract in Japan, the United States and Europe in the April-June quarter (Figure 1). The GDP contraction was steeper and more rapid than under the global financial crisis (Figure 2). Particularly, a remarkable decrease was seen in private consumption that was artificially suppressed by voluntary restraints and business shutdown. Exports posted a substantial decline close to a plunge seen at the time of the global financial crisis as an external shock.
- A monthly economic sentiment indicator plunged and rallied as rapidly as seen just after the Great East Japan Earthquake, but the plunge was deeper.

Figure 1 Real GDP Growth Rate

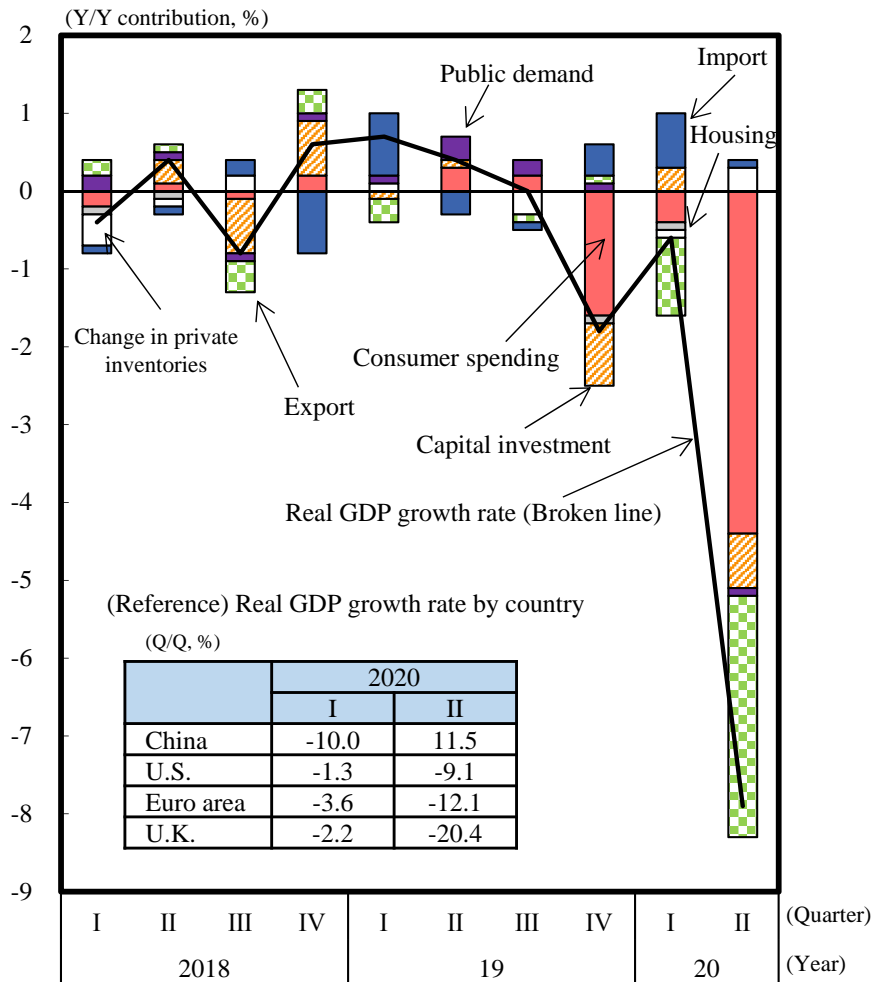
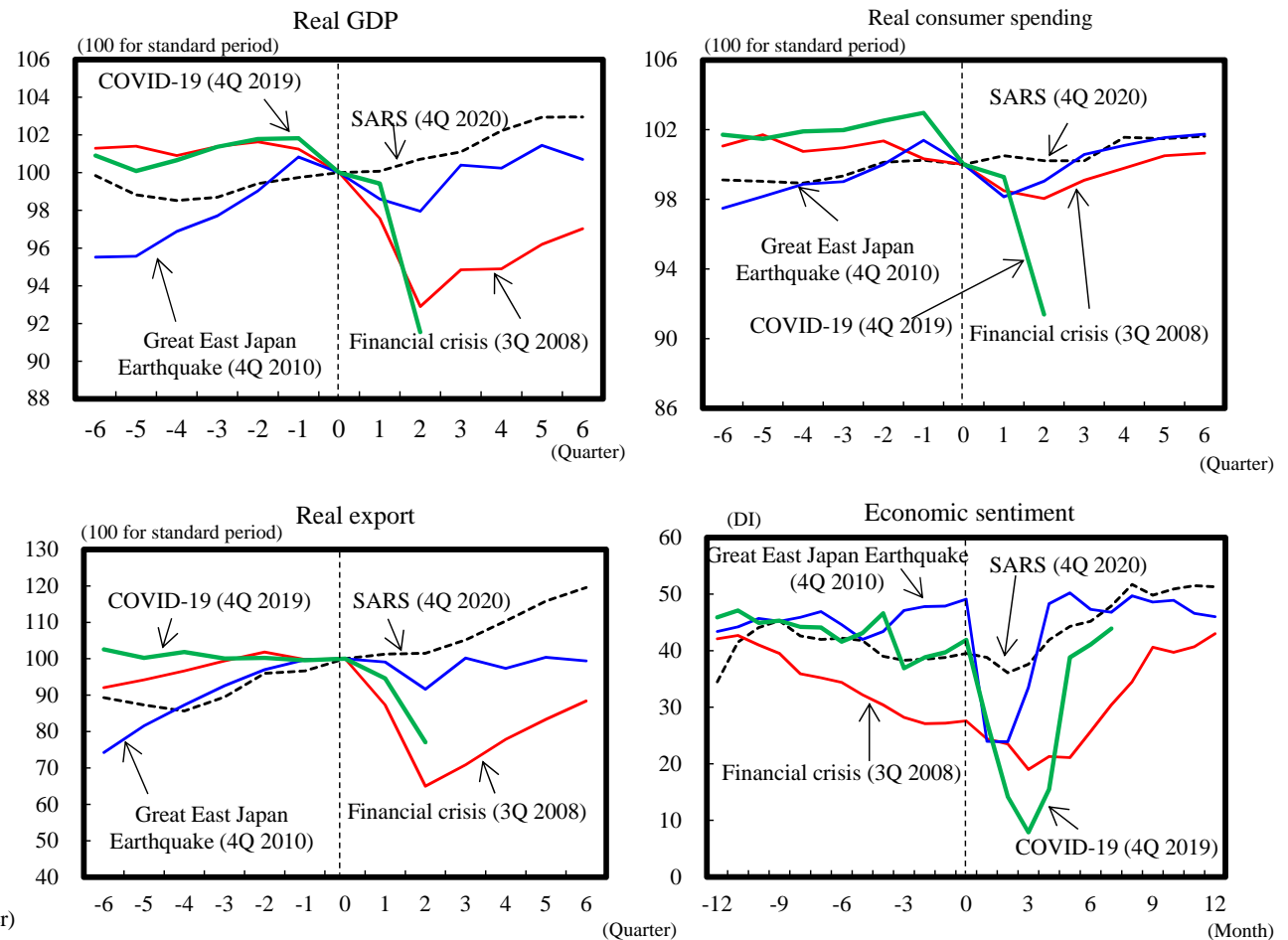


Figure 2 Economic fluctuations before and after crisis



(Sources)

Figure 1: Compiled based on System of National Accounts, Cabinet Office. Figure 2: Compiled based on Economic Watchers Survey and System of National Accounts, Cabinet Office. In brackets are standard months (quarters) for indicators, which are set based on times when shock events and their effects emerged.

# Chapter 1 Section 1: Japanese Economic Trends under Pandemic

## — Relationship between Voluntary Restraints on Outings and the Number of Infections

- We tried to check whether there is any statistical cause-and-effect relationship between changes in the Google mobility index (restaurants, cafes, shopping centers, theme parks, museums, libraries, film theaters and other retail or recreation facilities) indicating outing rates and in the number of new COVID-19 infections (Figure 3). A significant relationship was seen between changes in the number of new infections and in the outing rate only in the first period. No cause-and-effect relationship was seen in the second period (Figure 4).
- The cumulative COVID-19 death rate based on population since early 2020 is limited to around 1.2 or a few percent of European and U.S. levels (Figure 5).

Figure 3 Japan's number of COVID-19 infections and Google Mobility (retail and recreation)

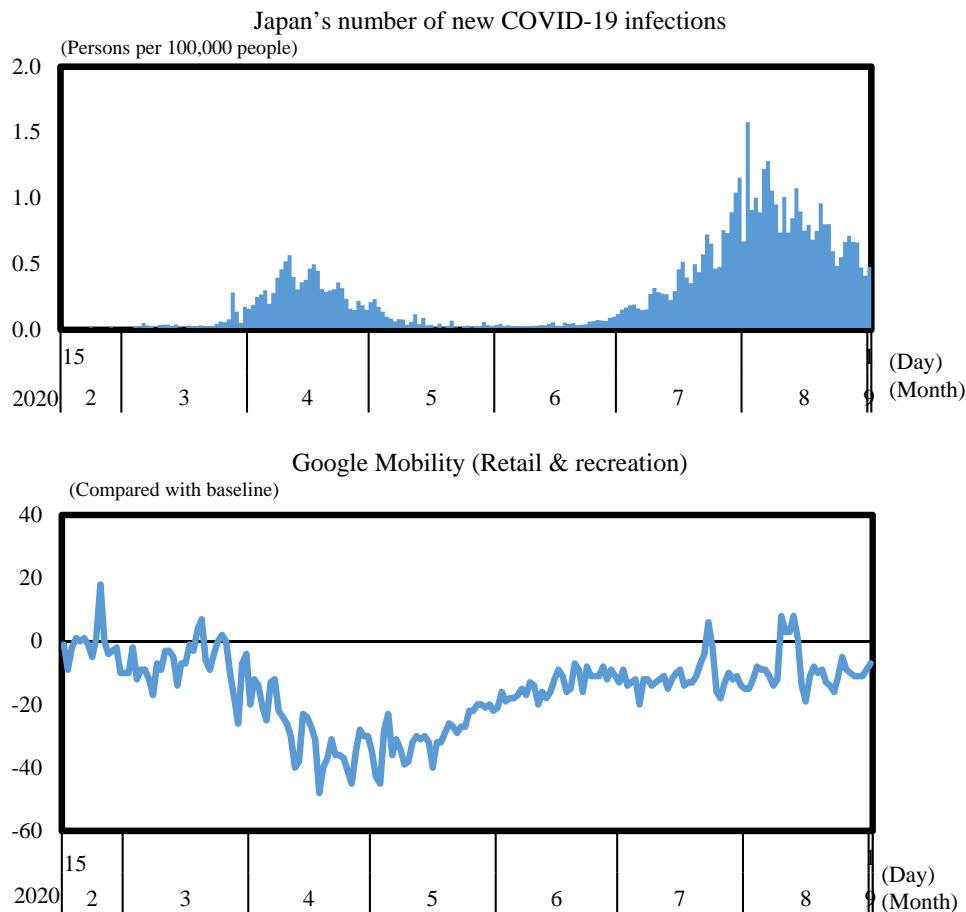


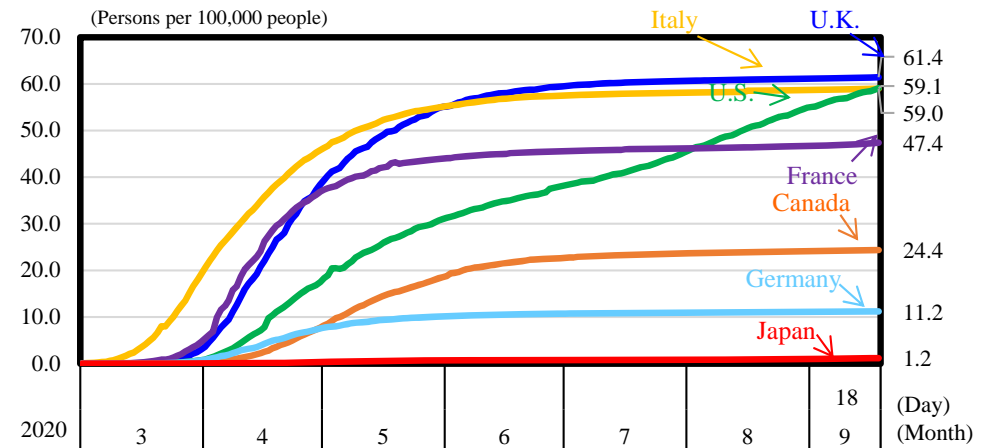
Figure 4 Relationship between the number of new COVID-19 infections and Google Mobility (retail and recreation)

1st period: February 15-May 31	Granger causality
Outing rate change $\Rightarrow$ Change in the number of infections	×
Change in the number of infections $\Rightarrow$ Outing rate change	○ (minus)

2nd period: June 1-September 1	Granger causality
Outing rate change $\Rightarrow$ Change in the number of infections	×
Change in the number of infections $\Rightarrow$ Outing rate change	×

Figure 5 Cumulative COVID-19 death rate (the number of deaths per 100,000 persons) data in Europe and North America, and Japan



(Sources)

Figure 3: Compiled based on Ministry of Health, Labour and Welfare (MHLW) and COVID-19 Community Mobility Reports, Google. The number of infected people represents the number of new infections per 100,000 persons. Google mobility represents a percentage of the baseline that is a median value for a specific weekday over five weeks between January 3 and February 6, 2020. The survey covered retail and recreation facilities (restaurants, cafes, shopping centers, theme parks, museums, libraries, film theaters, etc.). Figure 4: compiled based on Isotani (2020). The Granger causality test checks if the accuracy of using data set A to predict data set B increases. An increase in the accuracy indicates a causality between data sets A and B. If the accuracy remains unchanged, there may be no causality. Figure 5: Compiled based on Coronavirus Disease (COVID-2019) Situation Reports, WHO, and World Population Prospects 2019, United Nations. As of September 18, 2020

# Chapter 1 Section 2: Wage and Price Trends and Fiscal and Monetary Policies — Deflation Risks and Cash Flow Responses

- Year-on-year employment changes include a remarkable decline in parttime jobs (Figure 6).
- Corporate sales prices are projected to decline in one year, indicating that attention should be paid to downward pressure on prices (Figure 7).
- Financial institutions' lending attitude as seen by corporate borrowers is far more accommodative than at the time of the global financial crisis (Figure 8). In fact, bank loans for working capital score double-digit growth (Figure 9).

Figure 6 Year-on-year changes in employment by type of employment

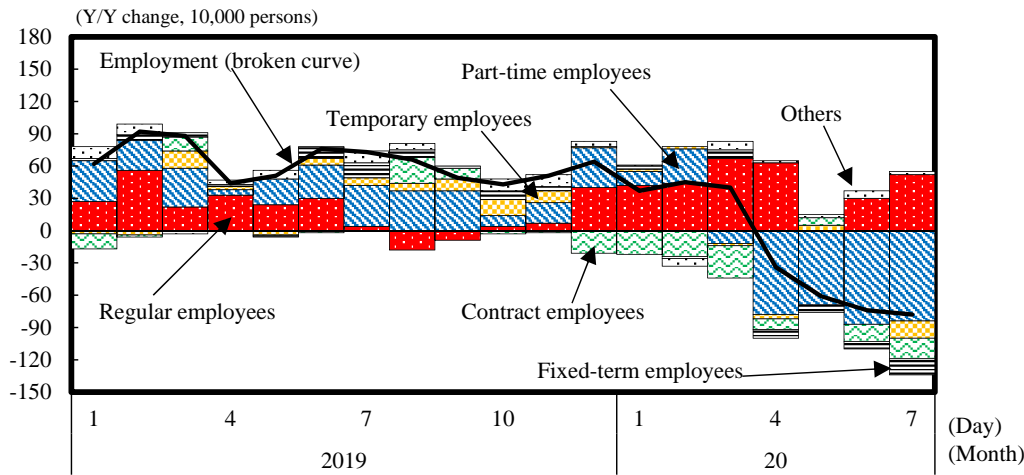


Figure 8 Lending attitude DI

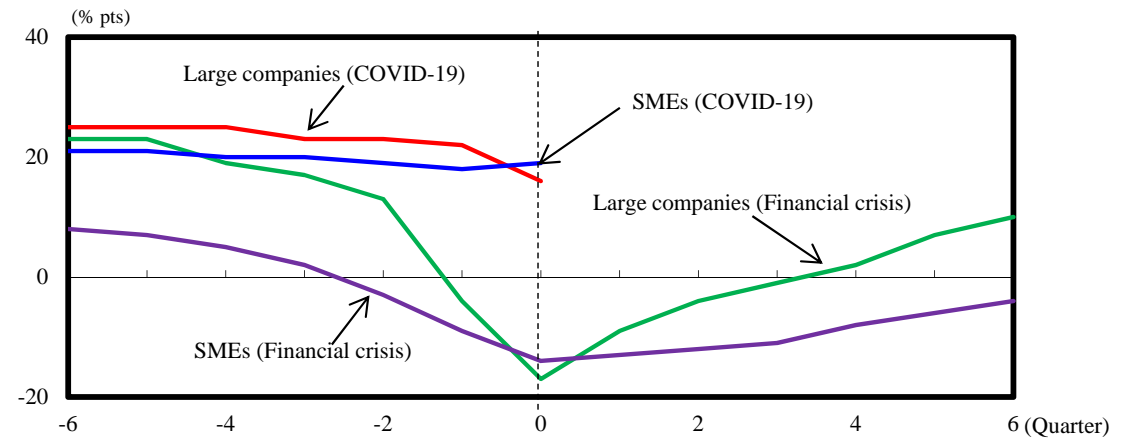


Figure 7 Projected Sales Prices

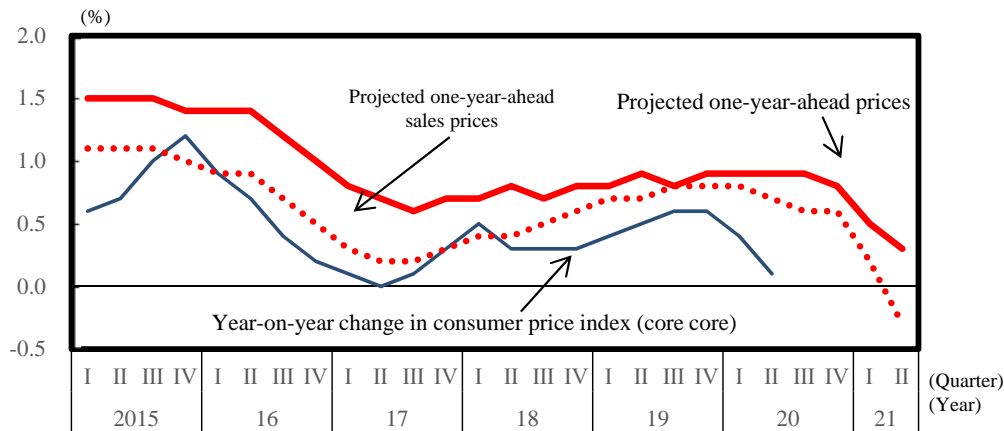
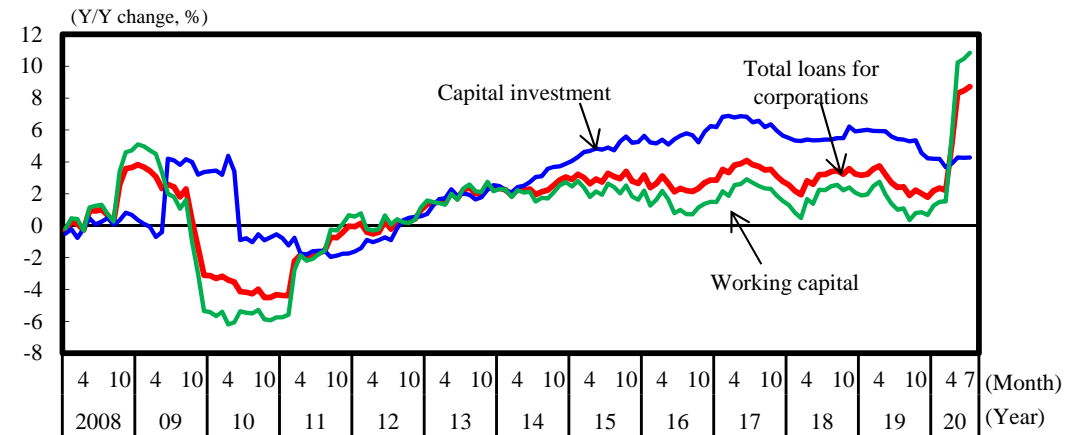


Figure 9 Bank loans by purpose



(Sources)

Figure 6: Compiled based on Labor Force Survey, Ministry of Internal Affairs and Communications (MIC). Figure 7: Compiled based on Real Export Price Index and Short-term Economic Survey of Enterprises in Japan, Bank of Japan (BOJ) and Consumer Price Index, MIC. Figure 8: Compiled based on Real Export Price Index and Short-term Economic Survey of Enterprises in Japan, BOJ. On the horizontal scale, the baseline period is the second quarter of 2020 for COVID-19 and the first quarter of 2009 for the Lehman Shock (global financial crisis). Figure 9: Compiled based on Deposits, Vault Cash, and Loans and Bills Discounted, BOJ.

# Chapter 1 Section 3: COVID-19 Pandemic's Economic Impacts and Verification of Current Economic Cycle

## — Characteristics of Cycle since 2013

- The current economic expansion since 2013 has been supported by a virtuous cycle of domestic employment, income, consumption, production and employment increases (Figure 10). During the expansion, employment has substantially increased among women and elderly people even amid a population decline (Figures 11 and 12). Average growth in real employment compensation is 1.2%, higher than in the recent past (Figure 13). As a result, macro income growth has been brought about in a manner to expand domestic demand, making it difficult for external demand weakness to affect overall economic growth.

Figure 10 Economic cycle regarding households

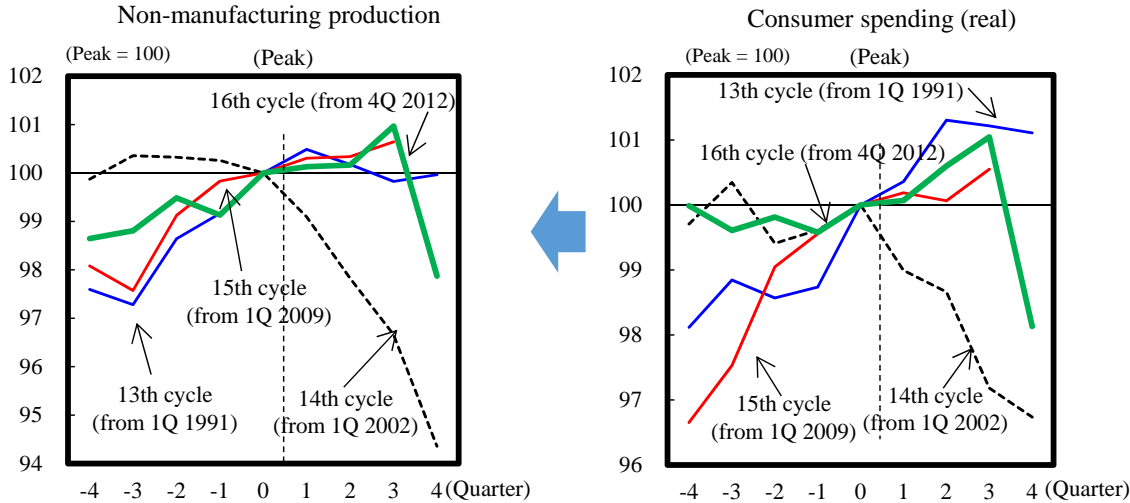


Figure 11 Changing number of women employees (aged between 15 and 64) by industry

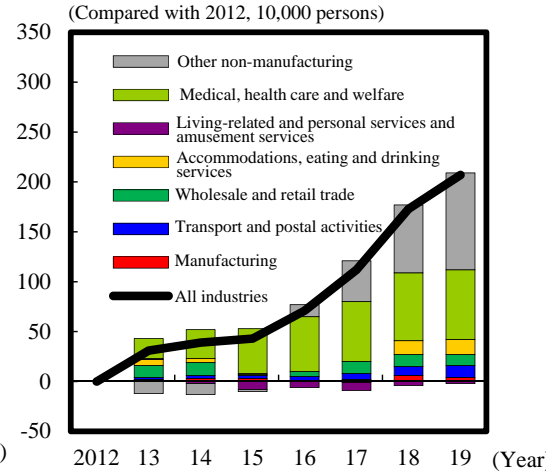
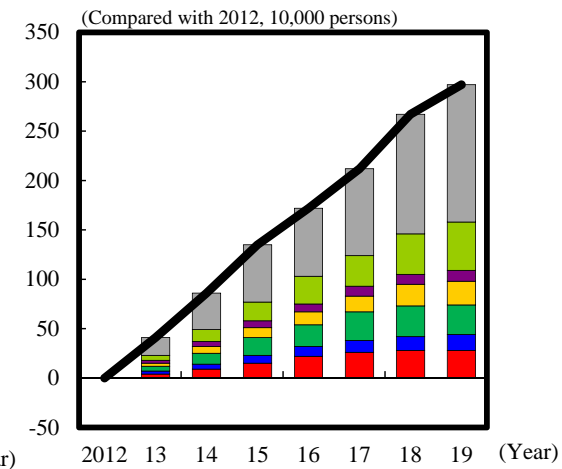
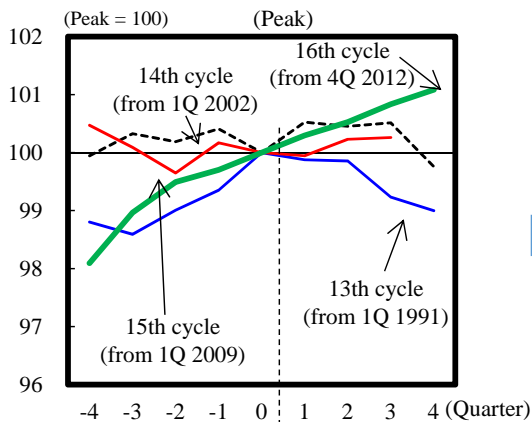


Figure 12 Changing number of elderly male and female employees (aged 65 or more) by industry



Number of employees



Employment compensation (real)

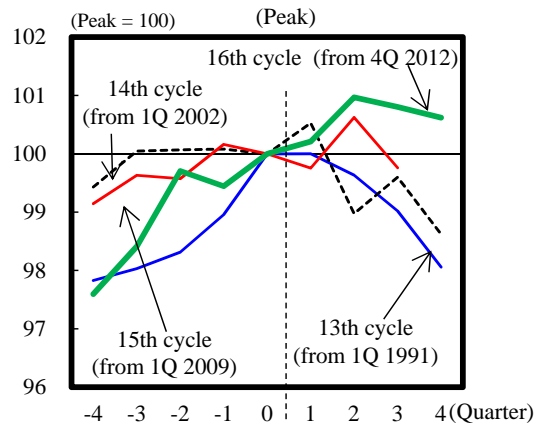
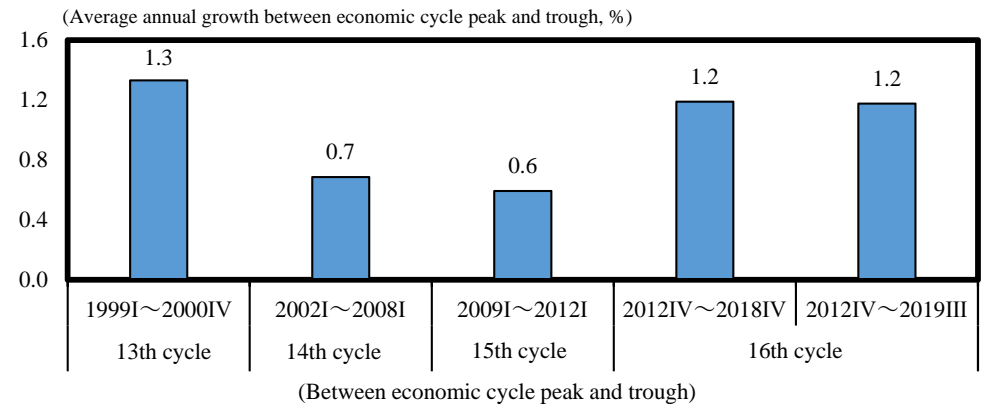


Figure 13 Real employment compensation growth



(Sources)

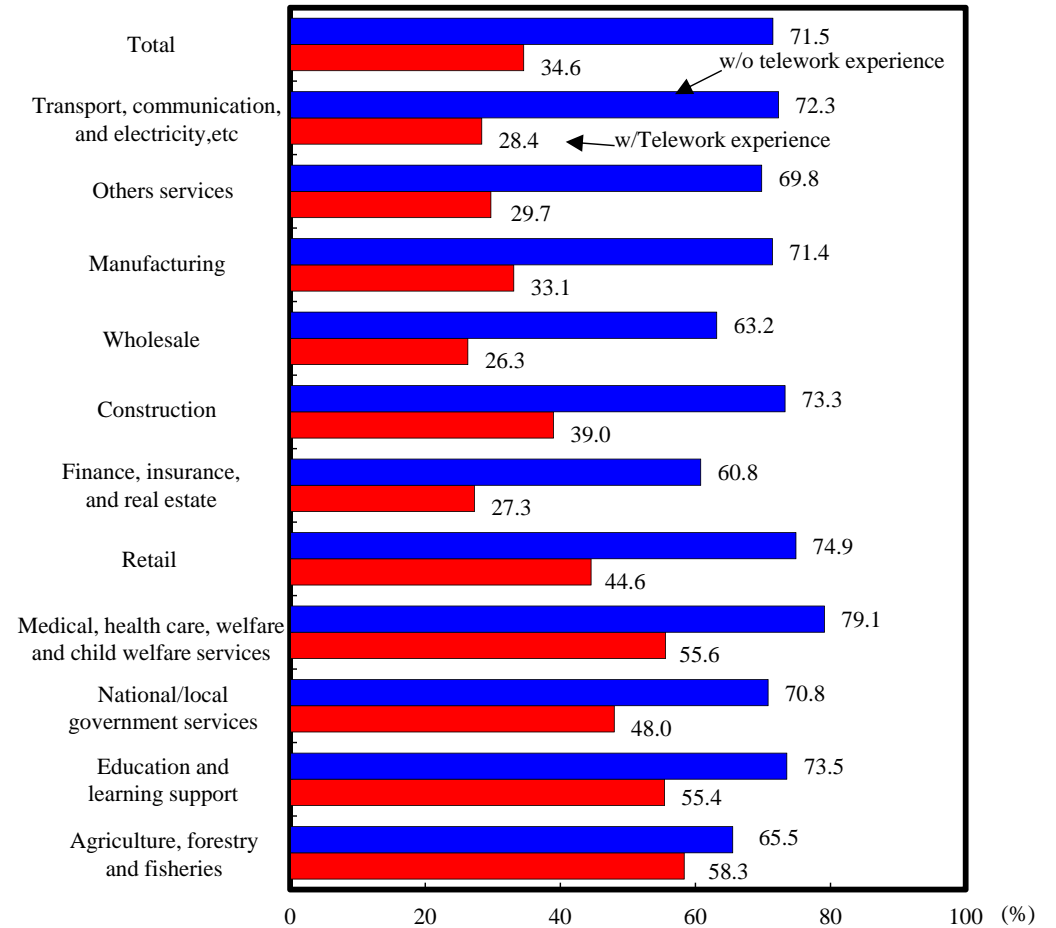
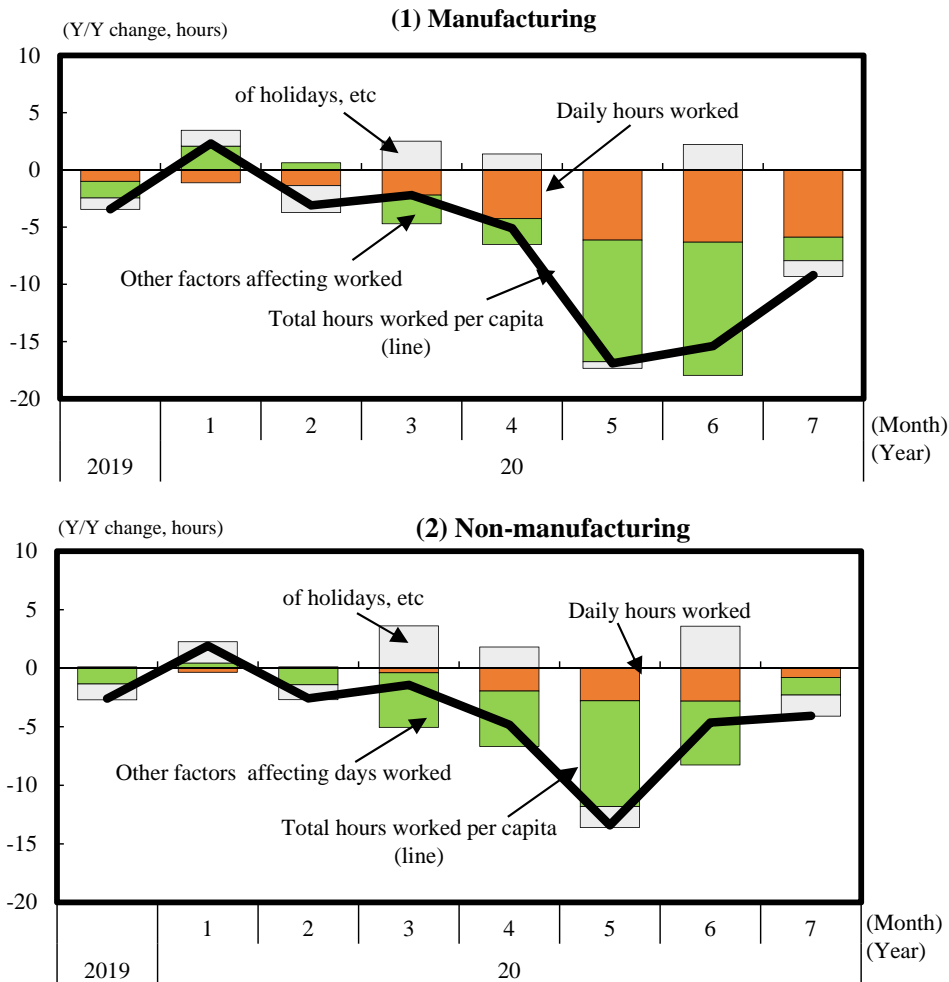
Figure 10: Compiled based on System of National Accounts, Cabinet Office, Labor Force Survey, MIC, and Indices of Tertiary Industry Activity, Ministry of Economy, Trade and Industry (METI). The indices (quarterly data) are based on 100 for the peak of each economic cycle. Each cycle's peak and subsequent trough are as follows: For the 13th cycle, the peak came in the fourth quarter of 2000 and the trough in the first quarter of 2002. For the 14th cycle, the peak came in the first quarter of 2008 and the trough in the first quarter of 2009. For the 15th cycle, the peak came in the first quarter of 2012 and the trough in the fourth quarter of 2012. For the 16th cycle, the peak came in the fourth quarter of 2018 (tentative). Figures 11 and 12: Compiled based on Labor Force Survey, MIC. Figure 13: Compiled based on System of National Accounts, Cabinet Office.

# Chapter 2 Section 1: Work and Life Environments Affected by COVID-19 Pandemic and Transformation of Work Styles

- Total working hours decreased due to a fall in daily working hours including such as overtime hours and a drop in May and June, in the number of working days including shutdown. From June, a year-on-year decline narrowed due to business reopening (Figure 14).
- Telework spread simultaneously. A survey indicated that those who have never experienced telework tend to view their jobs as not subject to telework. The experience of telework seems to affect the responses, although the magnitude differs by industry, inferring that telework has the potential to be increased further (Figure 15).

Figure 14 Contributions of work days and daily change of hours worked

Figure 15 Share of respondents viewing jobs as not subject to telework (by industry)



(Sources) Figure 14: Compiled based on Monthly Labour Survey, MHLW. Figure 15: Compiled based on a survey on the change in life consciousness and behaviors under the COVID-19 pandemic, Cabinet Office



# Chapter 2 Section 2: Progress in Work Style Reform — Management of Work Hours and Equal Pay for Equal Work

- According to our firm survey, the most frequently implemented initiatives to encourage employees to take paid holiday and to hold down overtime work are periodical announcement and thorough management, respectively (Figures 16 and 17). Among initiatives to promote the principle of equal pay for equal work, clarification of job duties was implemented by 50% of large enterprises subjected to the principle from the current fiscal year and the revision of wage and other benefits by 30-40% of them (Figure 18). A part of the implementation results was seen in a hike of special cash earnings pay for parttime workers, reflecting the increase of the summer payment rate for them (Figure 19).

Figure 16 Implementation of initiatives to promote paid holidays

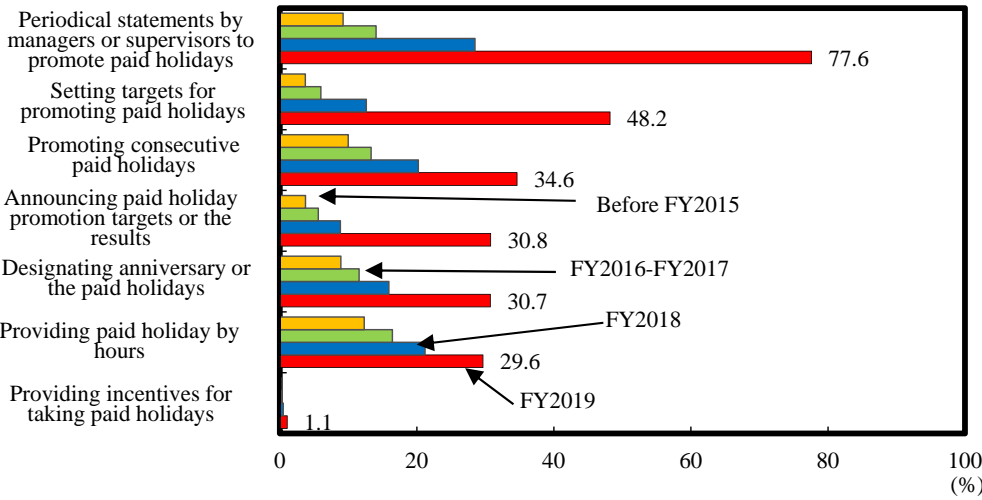


Figure 17 Implementation of initiatives to hold down overtime work

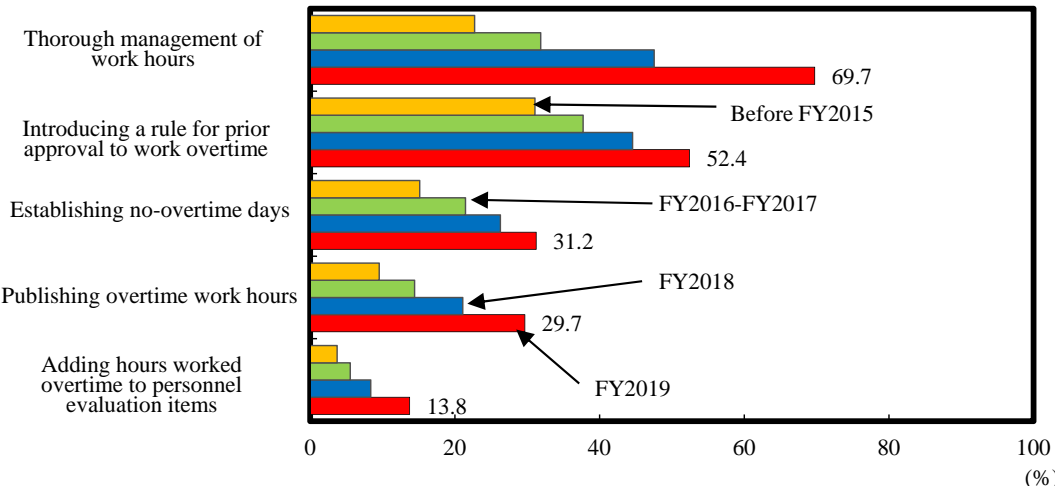


Figure 18 Corporate initiatives for equal pay for equal work (large enterprises)

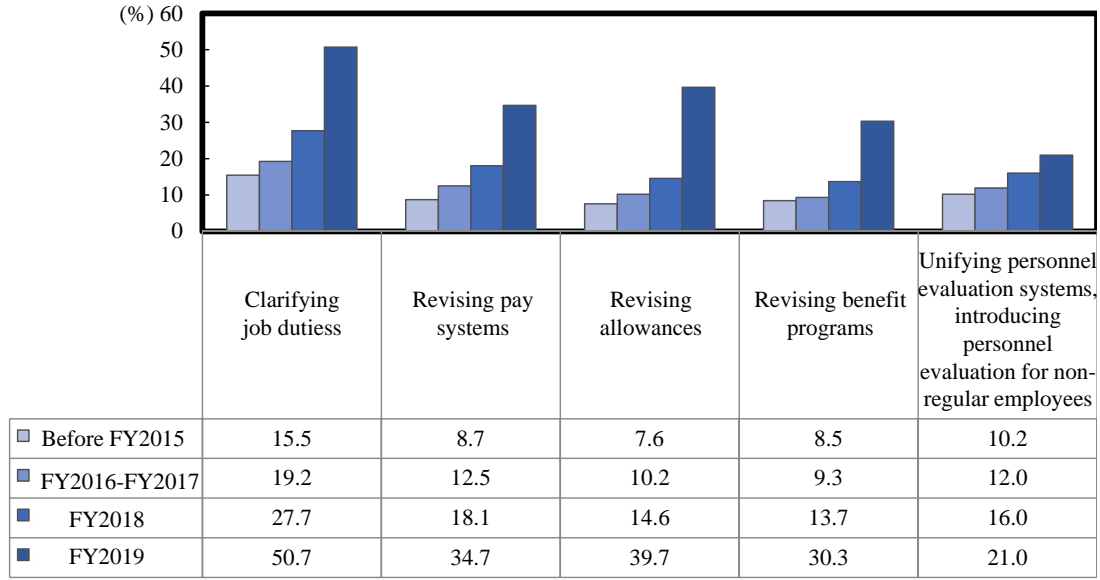
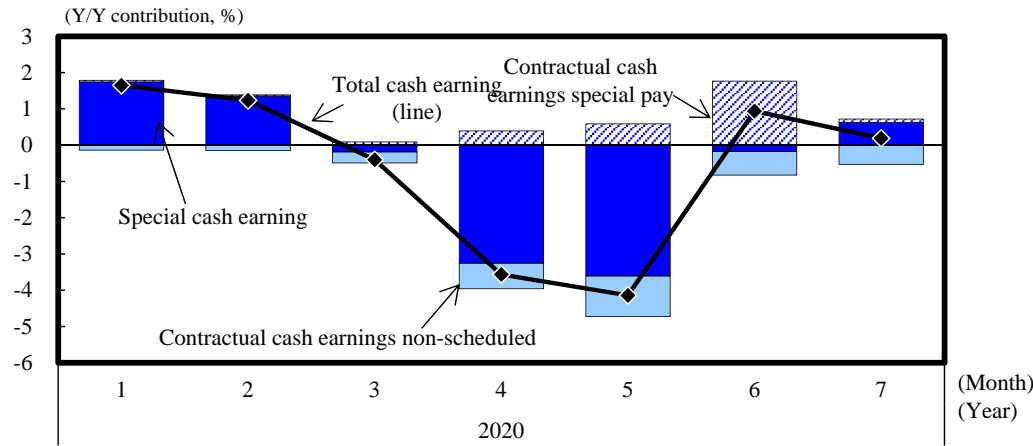


Figure 19 Breakdown of cash pays for part-time employees



Figures 16, 17 and 18: Compiled based on a firm survey on work style reform initiatives in FY2019, Cabinet Office. Figure 19: Compiled based on Monthly Labour Survey, MHLW.

## Chapter 2 Section 3: Estimating Effects of Work Style Reform

- We have analyzed work style reform initiatives' effects on work hours, productivity, recruitment and so on.
  - Employees in the companies that have set targets for promoting paid holidays took more paid holidays and worked less than those in the companies that have not done so.
  - Companies that have implemented the publication of overtime work hours among initiatives to hold down overtime work feature less overtime work hours, shorter work hours for regular employees, and longer work hours for non-regular employees than those that have not done so. The concentration of overtime work for regular employees might have been eased to promote the leveling of overtime work (Figure 20).
- Companies that have introduced personnel evaluation for non-regular employees among initiatives to promote equal pay for equal work have employed more women and elderly workers than those that have not done so (Figure 21).

Figure 20 Effects of paid holiday promotion and overtime work reduction initiatives on employment and productivity

Initiatives/Effects	Number of paid holidays	Hours worked (regular employees)	Hours worked (non-regular employees)	Total factor productivity (TFP)	Turnover rate	Accession rate	Mid-career employment rate	Share of women in regular employees	Share of women in supervisors	Share of the elderly in employees
Setting targets for promoting paid holidays	↑	↓	—	—	—	↑	↓	—	—	—
Publishing overtime work hours	↓	↓	↑	—	—	—	—	—	↑	—

Figure 21 Effects of corporate initiatives for equal pay for equal work on employment and productivity

Initiatives/Effects	Hours worked (regular employees)	Hours worked (non-regular employees)	Total factor productivity (TFP)	Turnover rate	Accession rate	Share of non-regular employees	Mid-career employment rate	Share of women in regular employees	Share of women in supervisors	Share of elderly in employees
Unifying personnel evaluation systems or personnel evaluation for non-regular employees	—	↓	—	—	—	—	↑	↑	↑	↑

(Sources)

Figures 20 and 21: Compiled based on a firm survey on work style reform initiatives in 2019, Cabinet Office. Results of a difference-in-differences analysis with the propensity score matching. Arrows represent significant estimation results at the 1%, 5%, or 10% level. Insignificant results are represented by —.

# Chapter 3 Section 1: Current Status and Challenges Regarding Women's Employment and Childcare

## — International and Domestic Comparison of Labor Force Participation Rate

- Women's labor force participation rate in Japan has accelerated an increase since 2013 (Figure 22). The rate for women with children below the age of 6 is 10 (France) to 16 (U.K.) percentage points lower than that for those without such children. The gap in Japan in 2018 was estimated at 14 points, similar to levels in countries selected for comparison (Figure 23).
- Women's labor force participation rate has been growing in all regions in Japan, though with rate levels differing by region (Figure 24). Interregional gaps in women's labor force participation rate are attributable primarily to gaps for women with children. This is remarkable for women aged 30 or more (Figure 25).

Figure 22 Women's labor force participation rates in selected countries

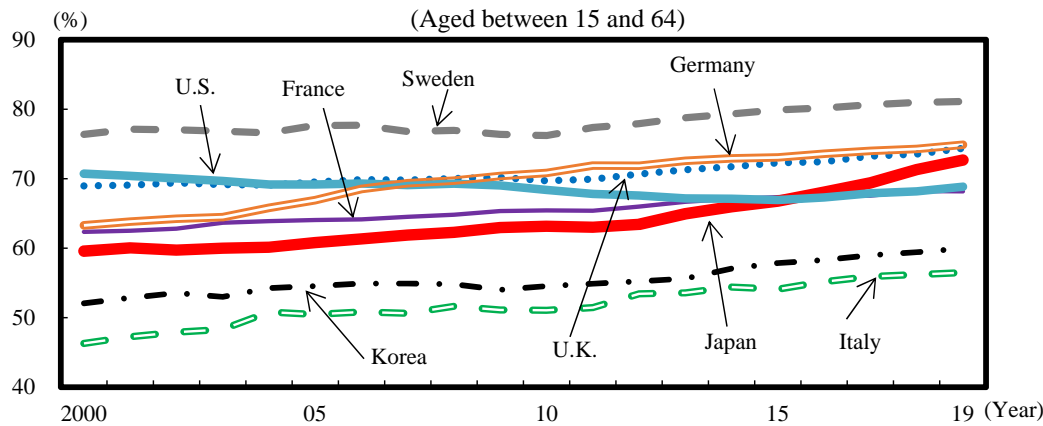


Figure 24 Women's employment rates by region in Japan

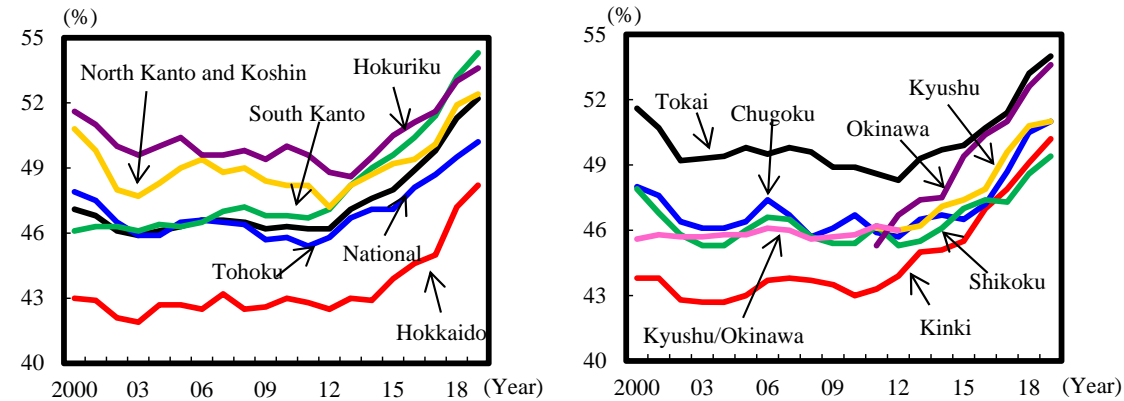


Figure 23 Employment rate for married women with and without children in selected countries

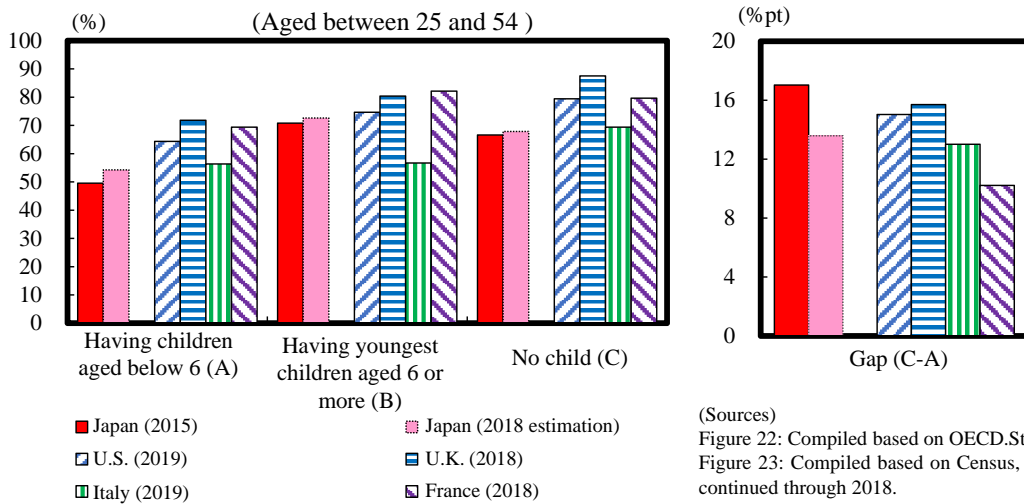
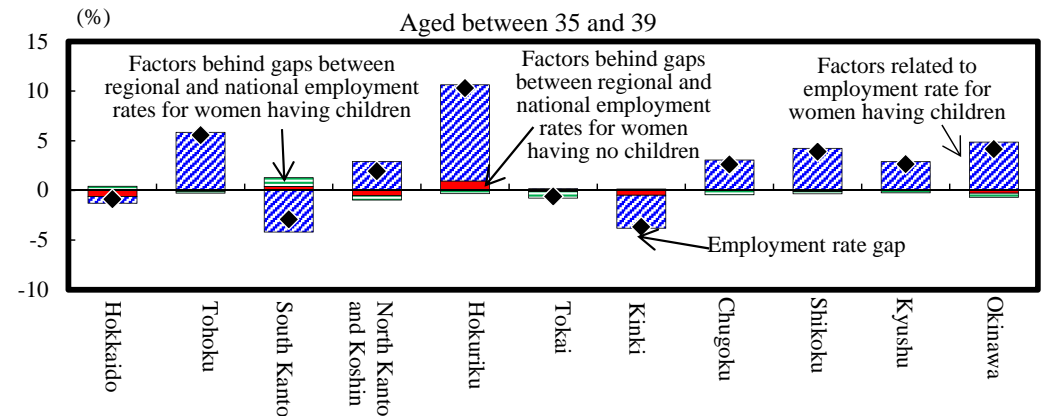


Figure 25 Factors behind gaps between regional women employment rates and the national average (2015)



(Sources)

Figure 22: Compiled based on OECD.Stat.

Figure 23: Compiled based on Census, MIC, and ILO.Stat. The estimate for Japan in 2018 is based on an assumption that the growth pace (2.5%) in the 2010-2015 period continued through 2018.

Figures 24 and 25: Compiled based on Census and Labor Force Survey, MIC.

# Chapter 3 Section 1: Current Status and Challenges Regarding Women's Employment and Childcare — Effects of Childcare Support

- Childcare center capacity has been substantially expanded to allow women to work whether they live with families, leading to a downtrend in the number of small children waiting for childcare center vacancies to open for them (Figure 26). At the same time, the childcare leave system has increasingly been utilized, bringing about a rise in the number of those receiving childcare leave benefits (Figure 27). However, childcare leave users' share of men is extremely low (Figure 28).
- A challenge is to maintain the birthrate at a certain level while encouraging women to continue working. Although the total fertility rate has been slackening in other countries as well (Figure 29), countries and regions with higher labor force participation rates for women tend to have higher total fertility rates (Figure 30). Earlier studies indicate that working has been balanced with childbirth as environments have been developed to make it easier for women to work and bear children. Women's labor force participation does not affect birthrates.

Figure 26 Number of small children waiting for childcare center vacancies and childcare center capacity (national total)

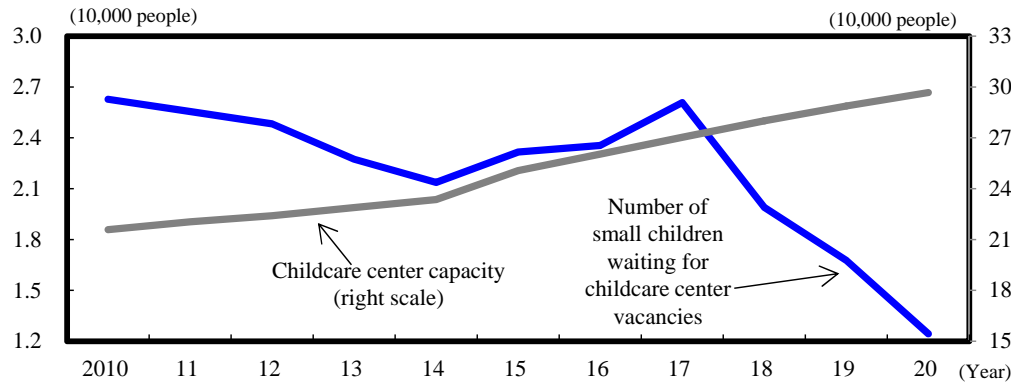


Figure 27 Changes in the number of childcare leave benefit receivers

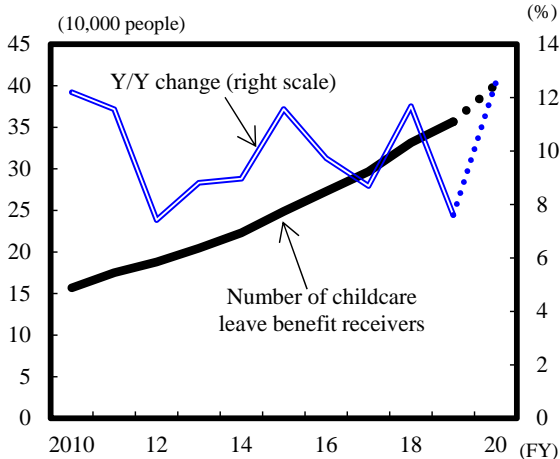


Figure 28 Changes in shares for male and female childcare leavers

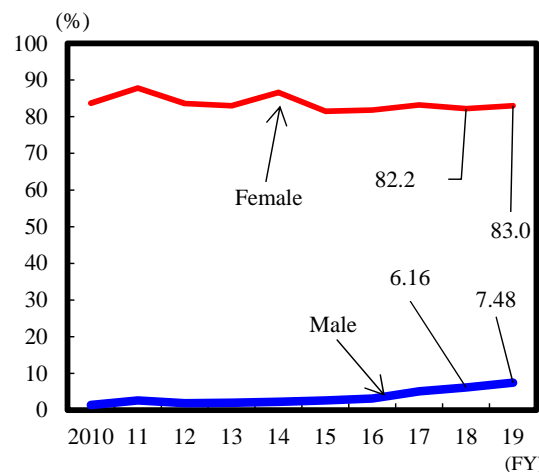


Figure 29 Total fertility rate trends by country

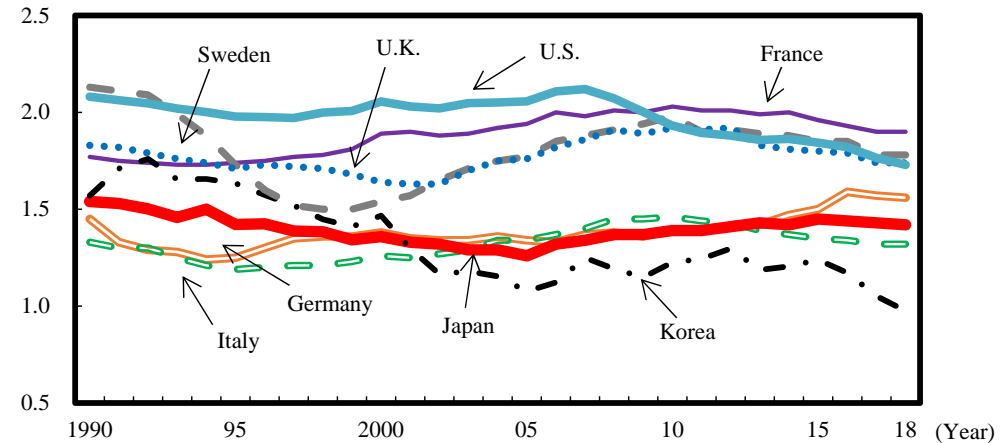


Figure 30 Relationship between total fertility rate and women's employment rate (OECD countries, 2006, 2009, 2012, 2015, 2018)

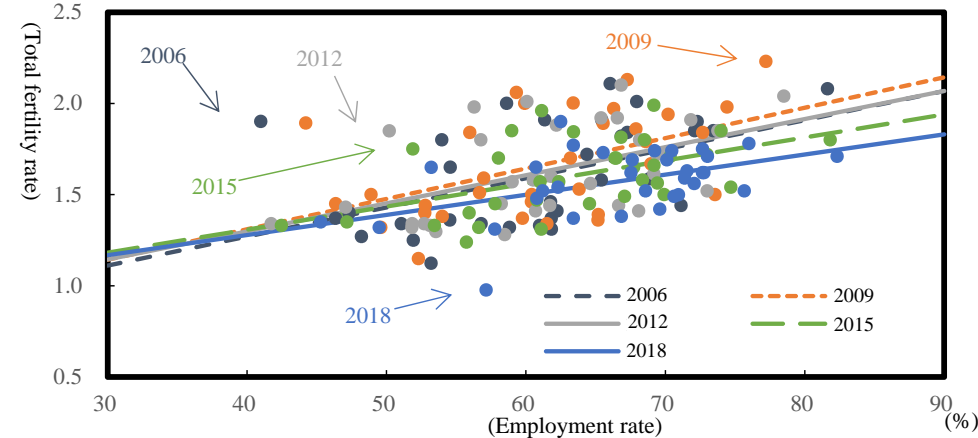
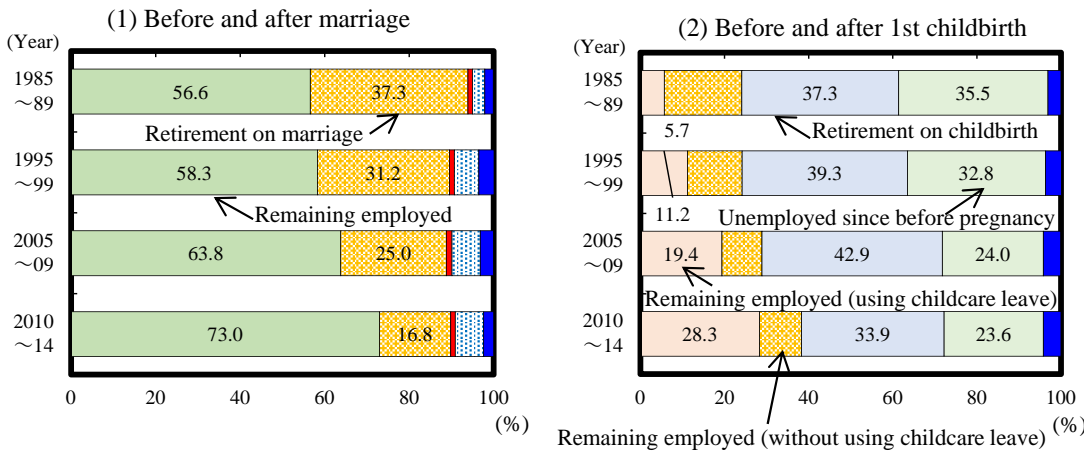


Figure 26: Compiled based on Census, Employment Status Survey, and Population Estimates, MIC, and a report on childcare center conditions, MHLW. Figure 27: Compiled based on Monthly/Annual Reports on Employment Insurance Services, MHLW. Data for FY2020 are estimates based on results between April and July. Figure 28: Compiled based on Monthly Labour Survey, MHLW. Figure 29: Compiled based on World Bank. Figure 30: Compiled based on World Bank, and OECD.Stat.

Chapter 3 Section 2: Status and Challenges Regarding Women’s Continued Employment, Marriage, and Childbirth  
 — Key Points and Challenges Regarding Continued Employment

- Marriage and childbirth represent turning points for working women. The number of women who retired upon marriage has followed a downtrend. However, 30% of working women choose to retire when bearing their first child. The rate for women to remain employed even after childbirth is far higher for regular employees than for part-time and temporary employees (Figure 31). The government should support initiatives for non-regular employees to acquire regular employee status at their request, diffuse childcare leave among non-regular employees, and improve their treatment.
- Earlier studies point out that the promotion of husbands’ housework and childcare would be positive for second and later childbirths (Figure 32). During the current COVID-19 pandemic, changes have been seen in how to share housework and childcare roles between husbands and wives. The number of households citing an increase in husbands’ roles accounted for more than 25% of the total household survey coverage. This trend should be encouraged (Figure 33).

Figure 31 Wives’ employment changes



(3) By job title before 1st pregnancy

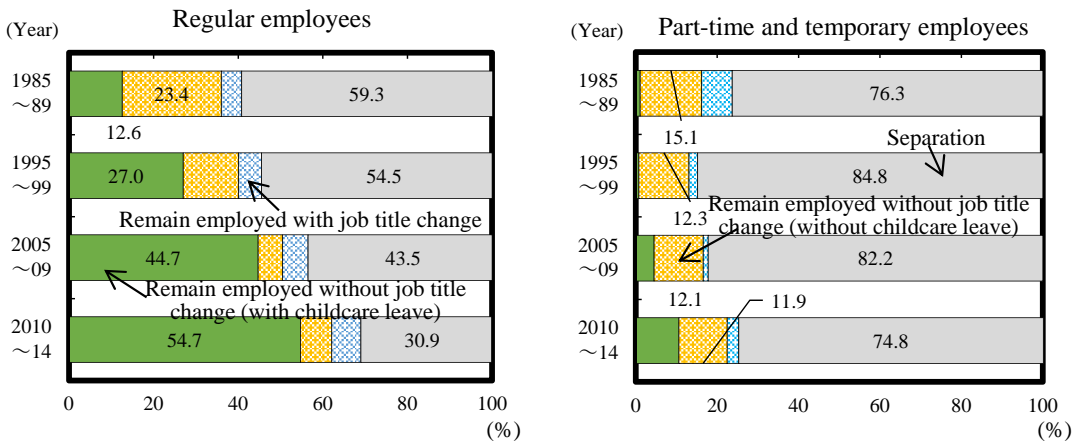


Figure 32 2nd and later childbirths by hours for husbands’ holiday housework and childcare in past 13 years (2015)

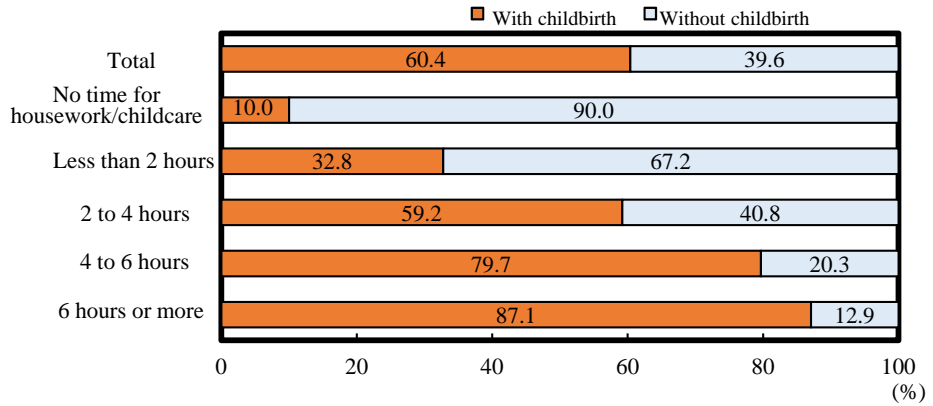
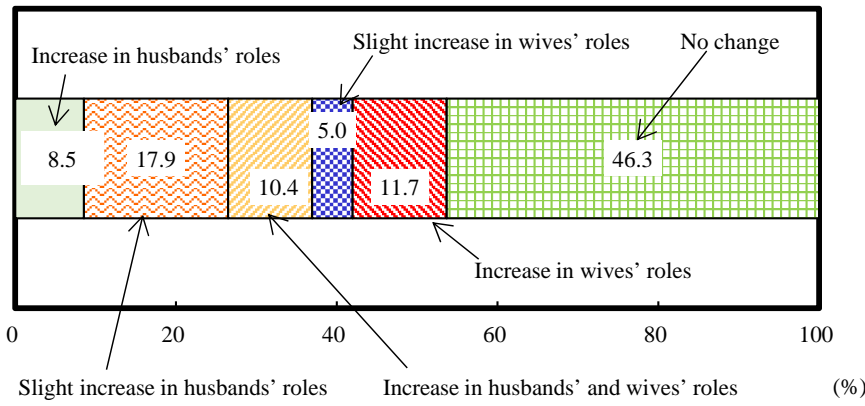


Figure 33 Changes in how to share housework and childcare roles between wives and husbands under COVID-19 (2020)



(Sources) Figure 31: Compiled based on Japanese National Fertility Survey, National Institute of Population and Social Security Research. Figure 32: Compiled based on the 14th Longitudinal Survey of Adults in the 21st Century (2002 Cohort), MHLW. Figure 33: Compiled based on a survey on the change in life consciousness and behaviors under the COVID-19 pandemic, Cabinet Office.

- Even before the spread of the infectious disease, the EC (electronic commerce) market has been growing at an annual rate of about 8% (Figure 34). The EC penetration rate in Japan, which was about 40% at the onset of the current crisis, has been increasing significantly. It will reach the level achieved in the United States and Europe (80%) in a year if the current growth rate continues (Figure 35). The EC has been used by households headed by young and middle-aged persons in the past, but the contribution of households headed by middle-aged and older persons has increased significantly after the spread of the infectious disease (Figure 36). Although the EC growth among such households reflected spending not only by householders but also by other household members, elderly people sensitive to the infectious disease have made a shift to EC consumption, contributing to EC growth in July.

Figure 34 The scale of the EC market in Japan (BtoC market)

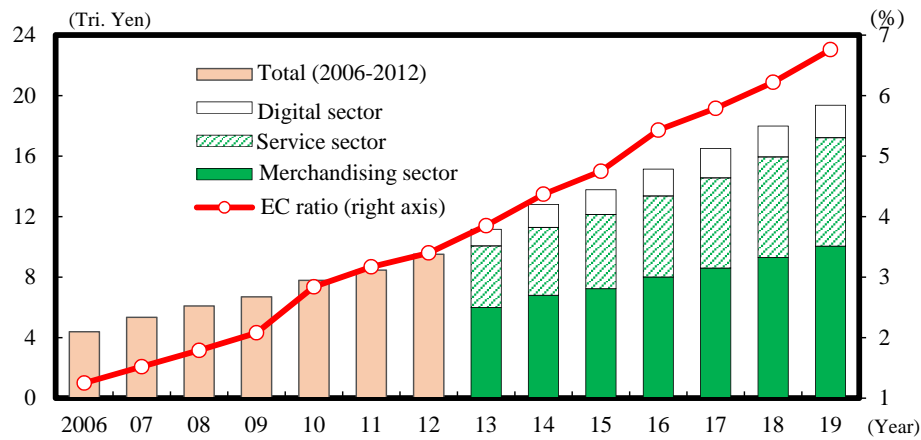


Figure 35 Future estimation of EC penetration rate in Japan

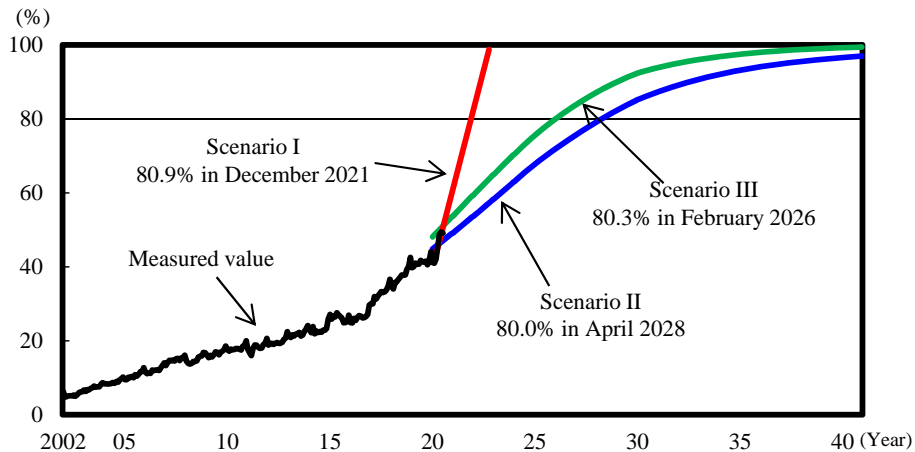
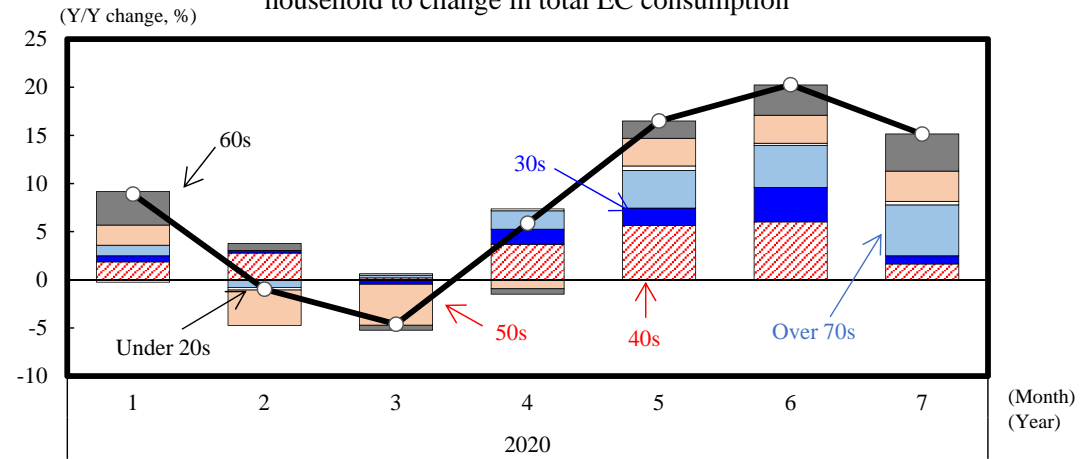


Figure 36 Contribution of households by age of head of household to change in total EC consumption



(Reference) Ratio of households by age of head of household and EC spending in the Survey of Household Economy (Average Jan.–Jul. 2020)

	Under 20s	30s	40s	50s	60s	Over 70s
Percentage of Household (%)	0.7	7.2	16.6	19.2	25.2	31.1
Amount of Spending on EC (yen)	18,137	23,211	22,385	20,714	13,681	6,661

(Sources) Figure 34: Compiled based on E-Commerce Market Survey, METI. Figure 35: Compiled based on Survey of Household Economy, MIC, and Population & Household Projection, National Institute of Population and Social Security Research. Estimates were made by five-year age bracket through linear regression for Scenario I and through the logistic curve ( $y=K/(1+b \times e^{-cx})$ ) ( $K=100$ ) for Scenarios II and III and multiplied by future age bracket shares based on the future estimated number of households to calculate the estimates. Figure 36: Compiled based on Survey of Household Economy, MIC.

Chapter 4 Section 2: IT Investment for the “New Normal” and its Challenges — Current State of Investment

- The need to invest in IT to save labor input has been pointed out in the context of structural labor shortages. Although they have been increasing, intangible assets including software remain at a lower level than those in other developed countries (Figures 37 and 38).
- According to the firm survey by the Cabinet Office, more than 60% of large companies have not yet invested in labor-saving measures in the production sites or sales points. While labor-saving investments in the back-office are relatively advanced, many small and medium-sized companies have not done so yet. Just under 60% of all companies have yet to do so, leaving a great margin for expansion in the future (Figure 39).

Figure 37 Investment in intangible assets in the private sector (stock)

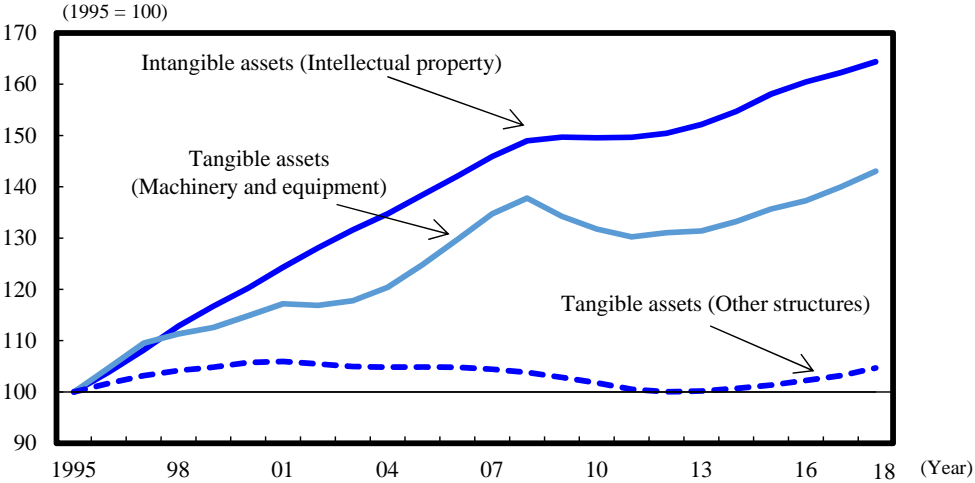


Figure 39 Start of labor-saving investment initiatives

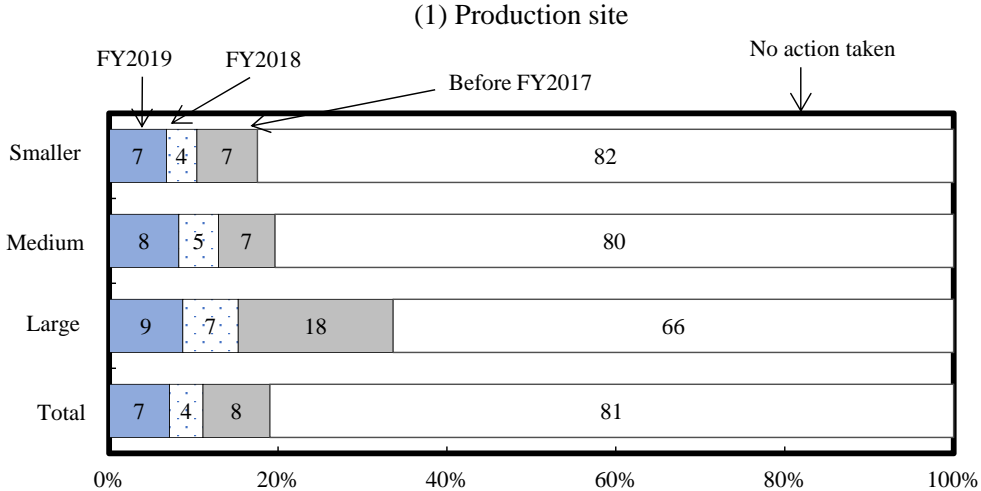
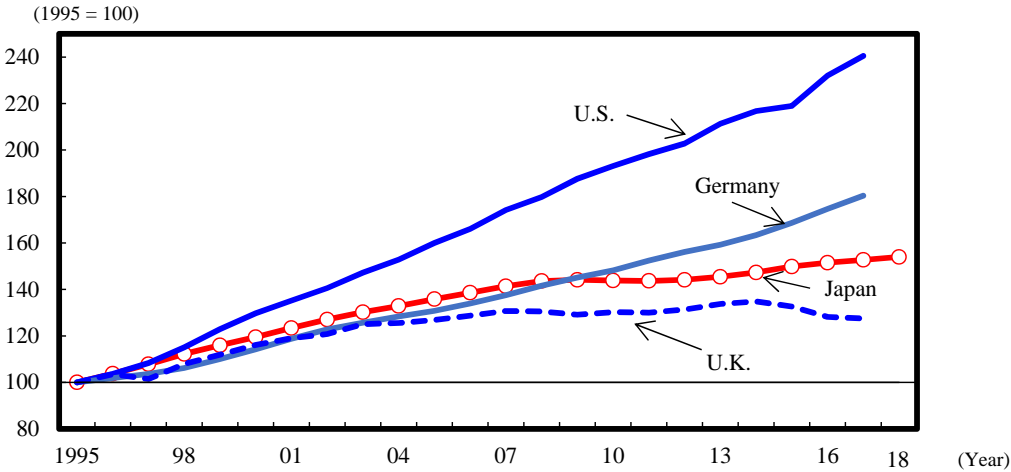
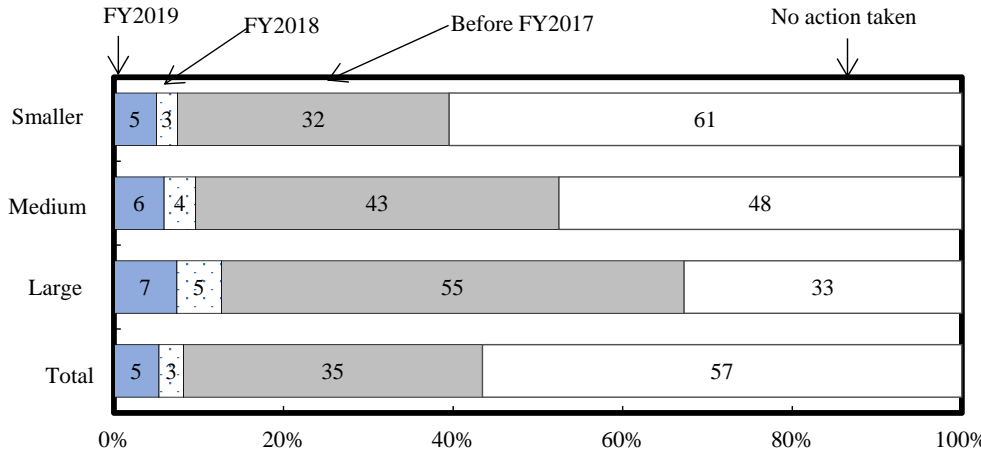


Figure 38 Comparison of intangible asset investments by country (stock)



(2) Back-office

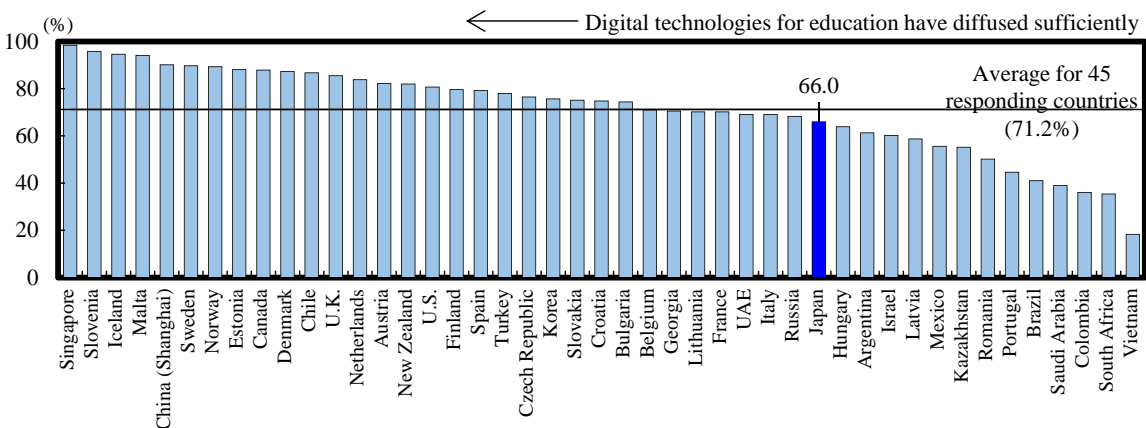


(Sources) Figure 37: Compiled based on Annual Report on National Accounts, Cabinet Office. Figure 38: Compiled based on EU KLEMS. Figure 39: Compiled based on a firm survey on work style reform initiatives, Cabinet Office (February 2020).

- Infectious diseases have revealed a shortage of IT investment and a delay in the adoption of IT in education and public administration. Indeed, Japan ranks 32nd out of 45 countries in terms of the use of IT in education, and the lowest out of 30 countries in terms of administration according to the OECD survey (Figure 40).
- Further, skilled IT workers in Japan are concentrated in the IT industry (over 73%) compared to the case in the U.S. (35%). The relative number of skilled IT workers in other industries, especially in the public sector, is 13 times higher in the U.S. (10.7%) than in Japan (0.8%) (Figure 41). In order to achieve the “new normal,” it is necessary to catch up with the adoption of IT by reallocation of human resources as well as boosting investment and human resource development.

Figure 40 IT development for education and administration

(1) IT development at schools (2018)



(2) Development of online administrative procedures (2018)

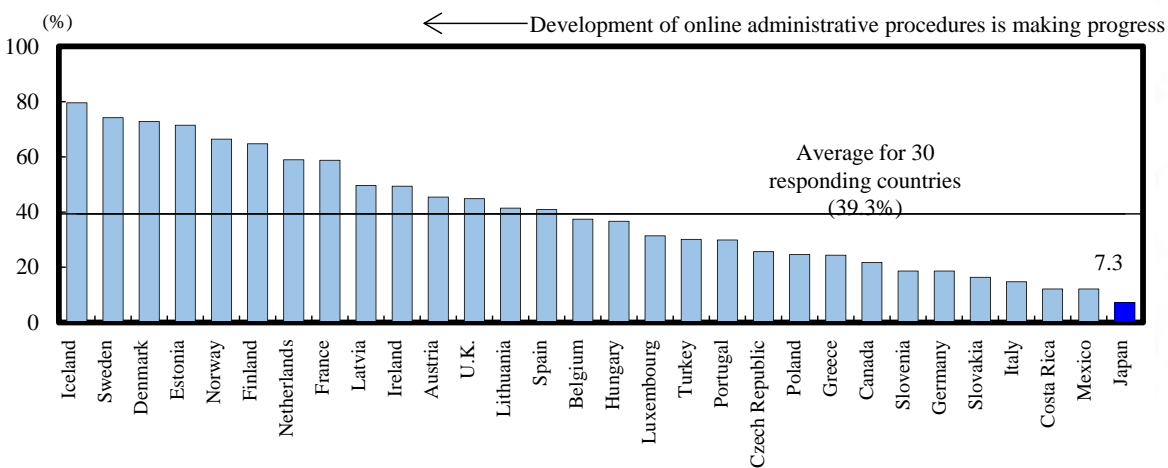
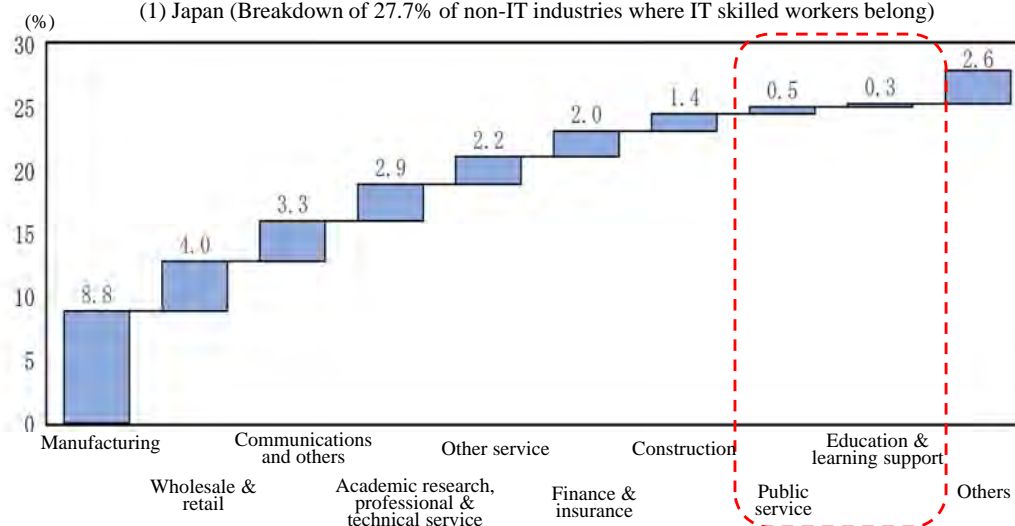
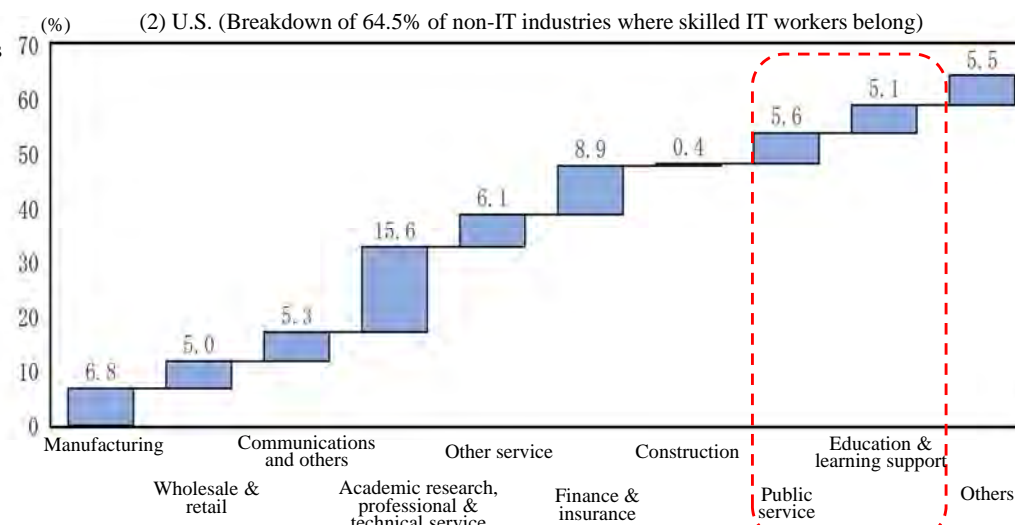


Figure 41 Breakdown of non-IT industries where skilled IT workers belong

(1) Japan (Breakdown of 27.7% of non-IT industries where IT skilled workers belong)



(2) U.S. (Breakdown of 64.5% of non-IT industries where skilled IT workers belong)



(Sources) Figure 40: Compiled based on OECD.stat.

Figure 41: Compiled based on Census 2015, MIC, Labor Force Survey, MHLW, and Bureau of Labor Statistics, U.S. Department of Labor. Estimates are based on the 2019 census for the United States and the 2015 census for Japan.