



# **Corporate Cash Retention Behavior in Japan**

**— Avoiding a repeat of the low growth after Abenomics —**

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# Summary

- ◆ Despite the continued economic expansion since Abenomics, the government's goals of economic growth above 2% and 2% inflation have not been realized. While various factors can be considered, the major factor is that Japanese companies continued to hoard the value added they created as cash and deposits instead of sufficiently passing on to wage payments and capital investment.
- ◆ Why have Japanese companies resorted to holding cash even during periods of economic expansion? We can point to their memories of the severe cash crunch during the past economic crisis and their low growth expectations in Japan.
- ◆ In order to avoid a repeat of the low growth that has followed Abenomics, companies will need to allocate their accumulated cash and deposits to capital and human investment that will lead to growth. In terms of capital investment, it is particularly important to focus on creative R&D investment to create completely new products and services, and software investment to realize labor-saving and efficiency.

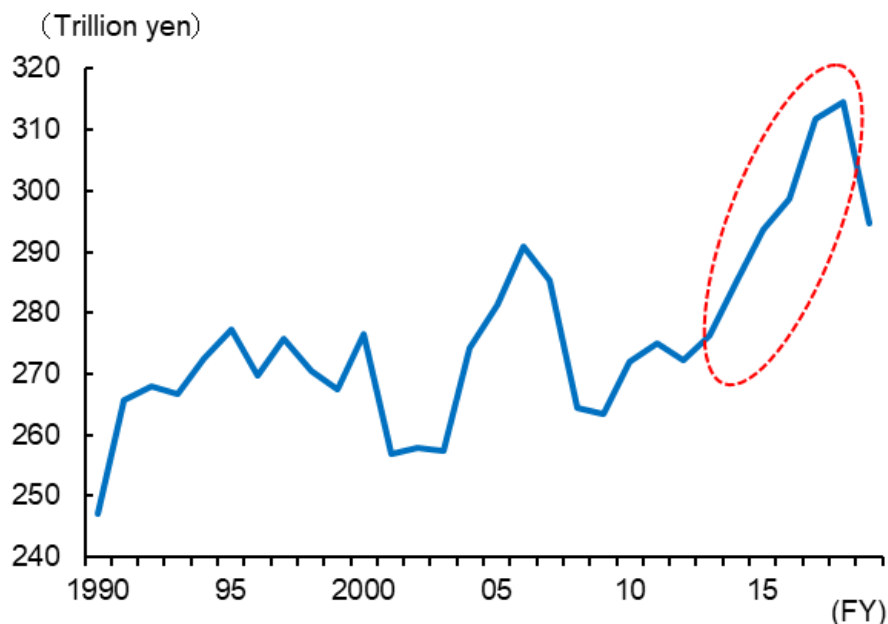
# Summary

- ◆ Japan's R&D investment has been biased toward quality-improving R&D investment that pursues improvements in existing products, which is likely to lead to reduced investment under a declining population. In the future, it will be important to allocate resources to creative R&D investment, which is less susceptible to population fluctuations, and for this purpose, the development of start-up companies is essential. On the other hand, in order to increase the number of human resources who can devote themselves to creative R&D, it is also necessary to aggressively invest in software and leave simple and routine tasks to "machines."
- ◆ To encourage this trend, it is necessary to support start-up companies that focus on creative R&D investment by improving the environment for entrepreneurship and fund-raising, as well as to promote labor market reforms, such as a shift from membership-based to job-based employment and the development of a mid-career hiring market, in order to encourage software investment. It is also important for the government and the Bank of Japan to strengthen their function of providing "insurance" for companies by promising to provide strong financial support in the event of macro shocks, as they did under the COVID-19 disaster.

# 1. Introduction

- Japanese companies succeeded in increasing value added from FY 2013 to FY 2018.
- It was the first time since the collapse of the Heisei bubble that the value added continued to exceed the fixed cost.

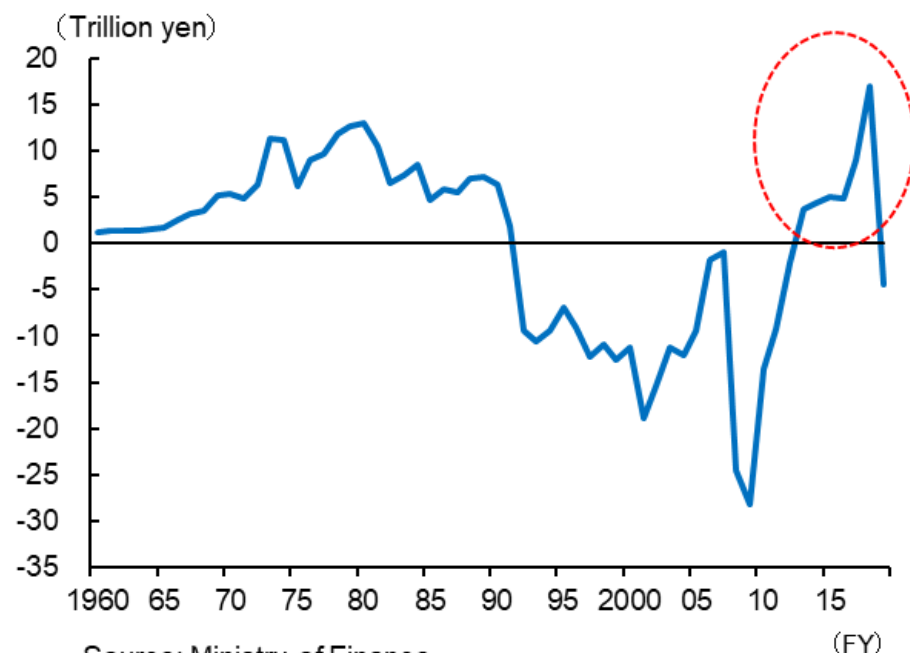
**Nominal Value Added of Japanese Companies**



Source: Ministry of Finance

Note: Value added = labor costs + interest expenses, etc. + rents on movable and immovable property + taxes and dues + net operating income. All industries of all sizes except for financial and insurance industries.

**Value Added – Fixed Cost**



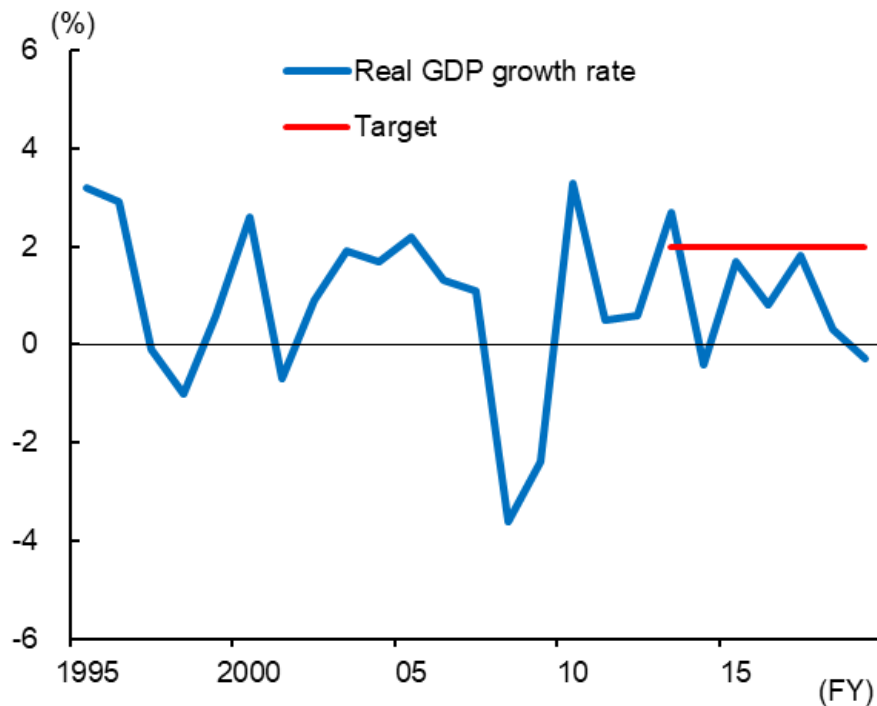
Source: Ministry of Finance

Note: Fixed cost = labor costs + depreciation + net non-operating expenses + SG&A expenses excluding labor costs and depreciation. All sizes and all industries except for financial and insurance industries.

# 1. Introduction

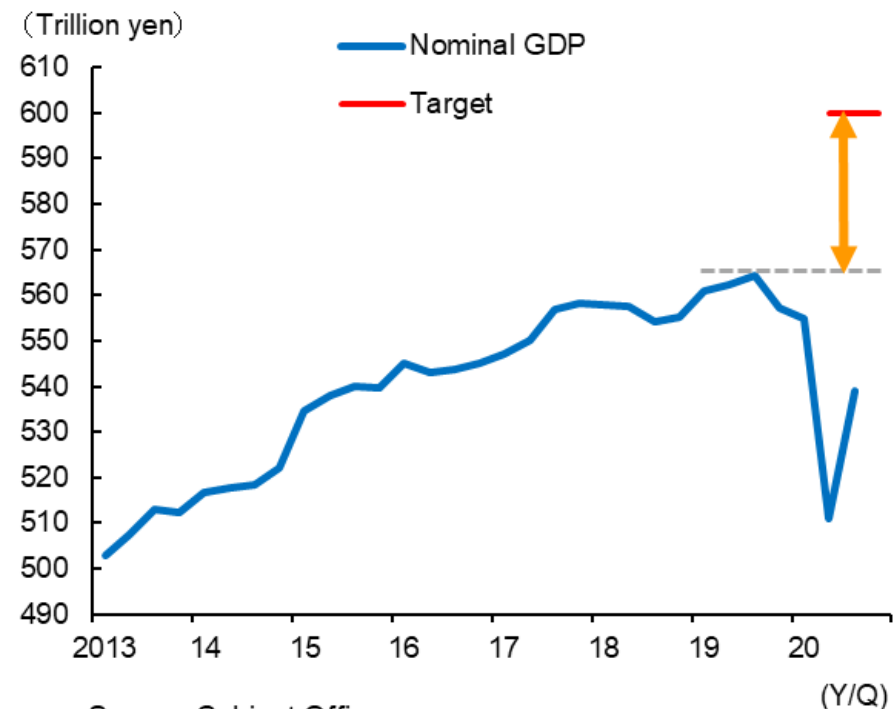
- However, the “virtuous cycle of the economy” that the government had hoped for was not realized. The real GDP growth rate has been below the initial target of around 2%, and the level of nominal GDP has fallen far short of the target of 600 trillion yen around fiscal 2020.

**Real GDP Growth Rate and 2% Target**



Source: Cabinet Office

**Nominal GDP and 600 Trillion Yen Target**

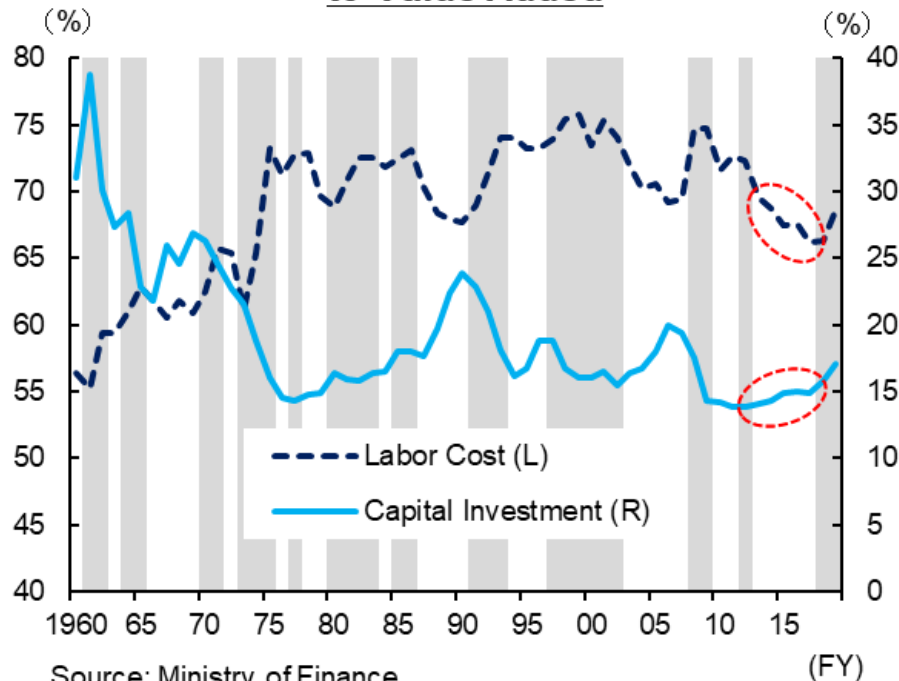


Source: Cabinet Office  
Note: Seasonally adjusted.

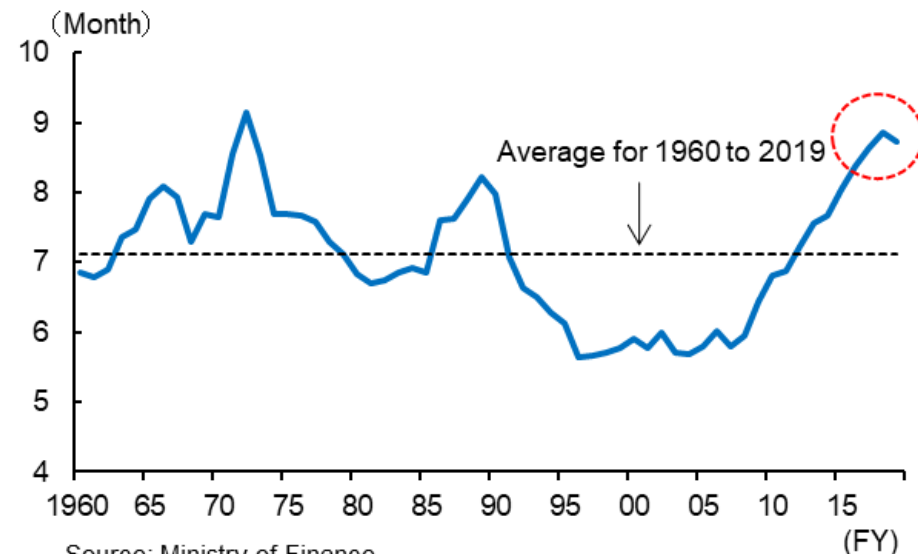
# 1. Introduction

- The main reason is that companies have been hoarding the value added they have created as cash and deposits instead of using it for investment. In fact, the ratio of cash and deposits to fixed costs has been rising above the historical average since fiscal 2012, reaching a record high in fiscal 2018.

**Ratio of Labor Cost and Capital Investment to Value Added**



**Ratio of Cash and Deposits to Fixed Cost**



# 1. Introduction

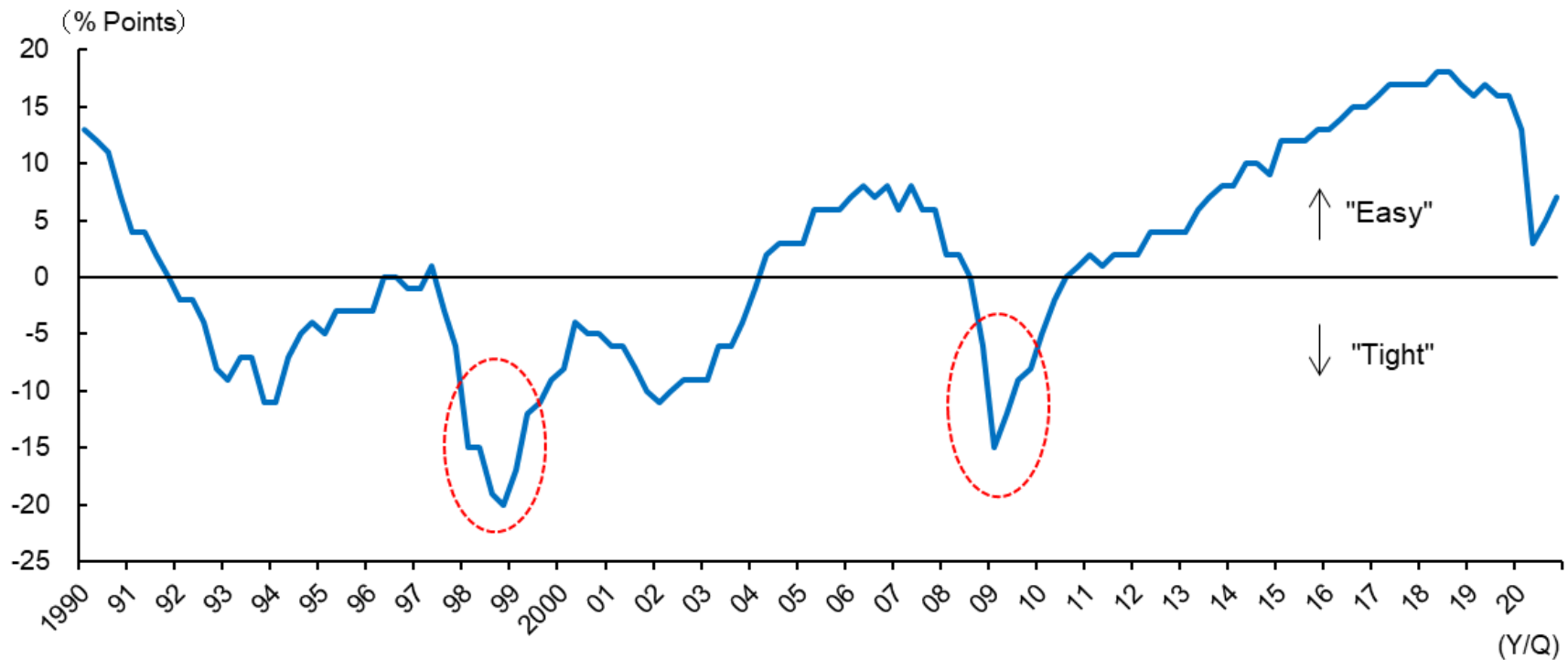
- Japan's population is expected to decline further.
- Under these circumstances, Japan must raise its potential growth rate in order to better cope with the growing burden of social security and increase its resilience to macroeconomic shocks.
- For this purpose, it is necessary for companies to stop cash hoarding activities and to aggressively invest in human resources and equipment.
- So what has driven companies to cash hoarding? What kind of investment will companies need to make in the future? What policies should be implemented to encourage such investments?

## 2. Reasons for continuing to hold cash:

### (1) Cash accumulation for self-insurance

- One of the factors that drove companies to hoard cash was their memories of the severe financial conditions of the economic crisis. In fact, in past crisis phases (e.g. 2008, 1997), companies were forced to operate in severe conditions because they were unable to obtain sufficient cash management support from financial institutions.

Financial Position DI

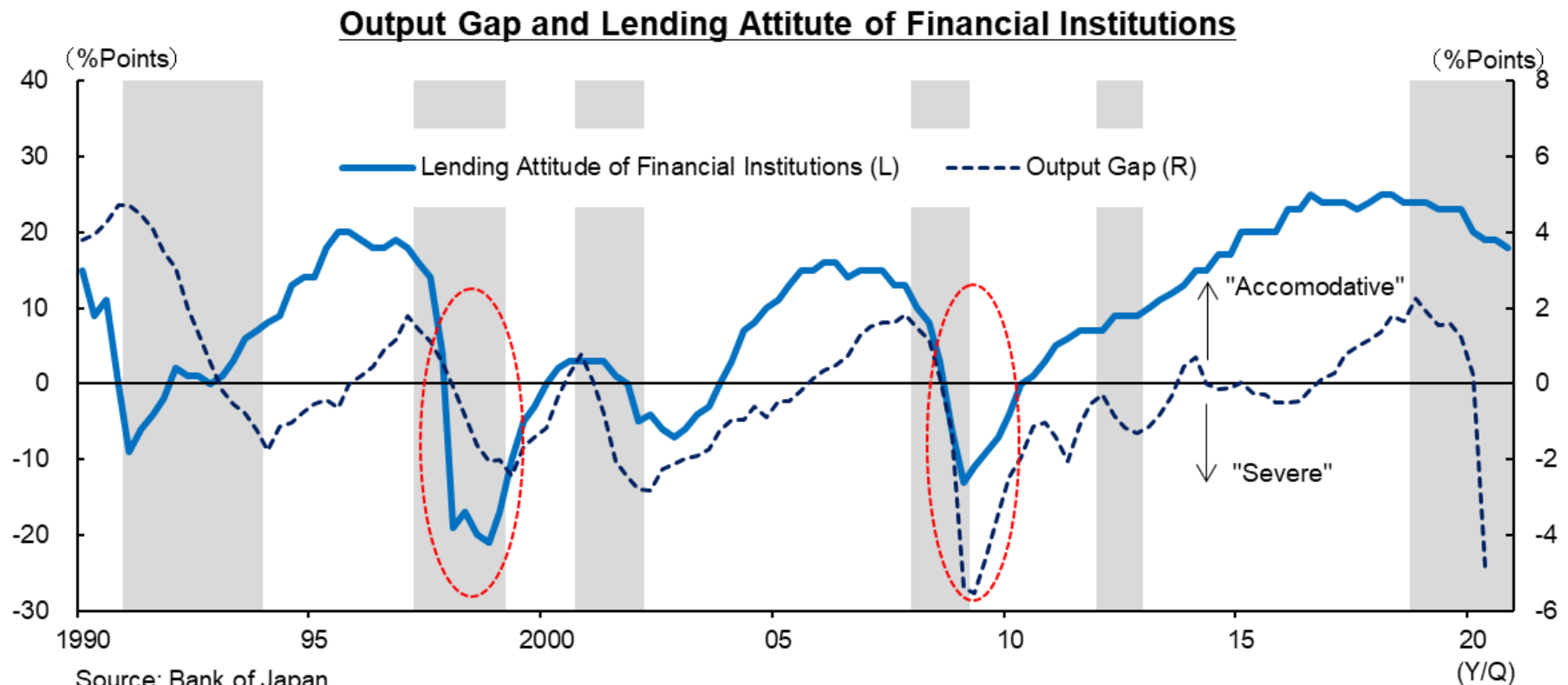


Source: Bank of Japan  
Note: All sizes and all industries.

## 2. Reasons for continuing to hold cash:

### (1) Cash accumulation for self-insurance

- Financial institutions' stance on lending to companies is greatly influenced by the policy stance of the government / the Bank of Japan. In fact, financial institutions tightened their lending stance against the backdrop of delays in the disposal of nonperforming loans in the 1990s and restrictive financial support measures in 2008.

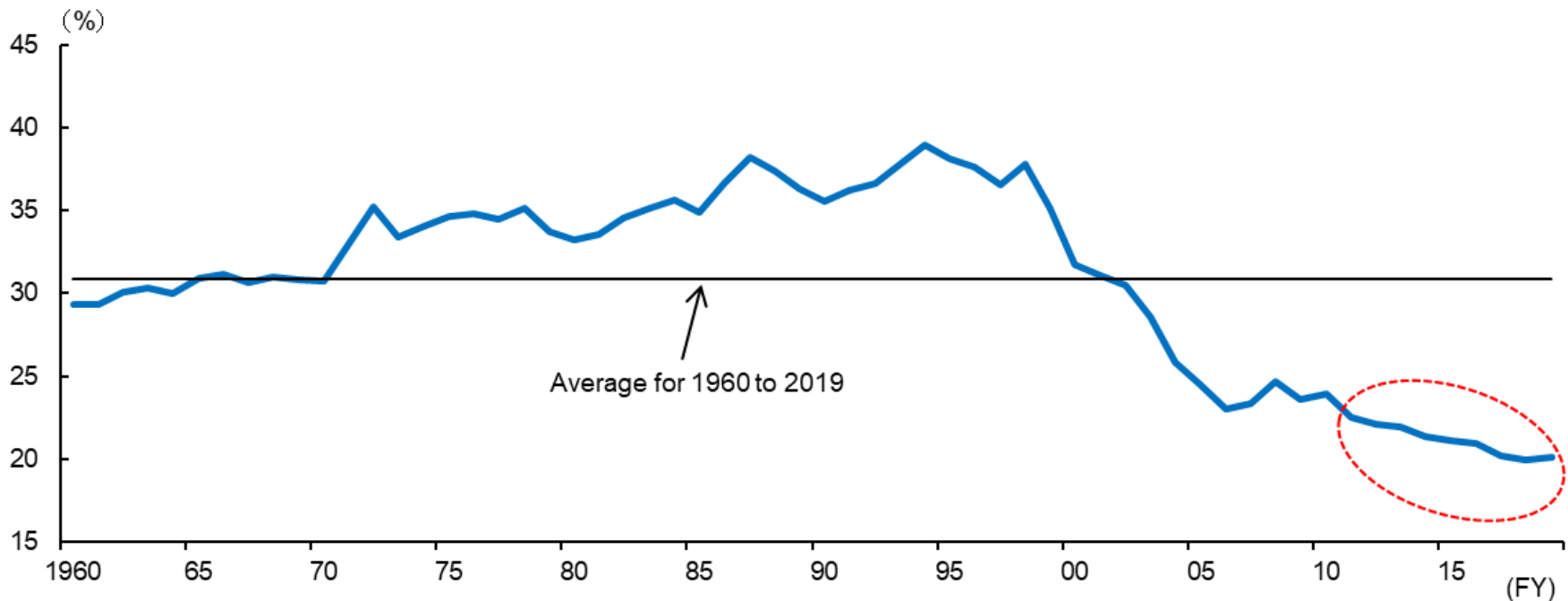


## 2. Reasons for continuing to hold cash:

### (1) Cash accumulation for self-insurance

- As a result, companies are well aware that during an economic crisis it is difficult to obtain loans from financial institutions and to rely on policy support from the government / the Bank of Japan. Therefore, even during the economic expansion phase, they curbed their spending and borrowing and increased their cash and deposits and retained earnings to prepare for the next crisis.

**Ratio of Financial Institution Debt to Total Assets of Japanese Companies**



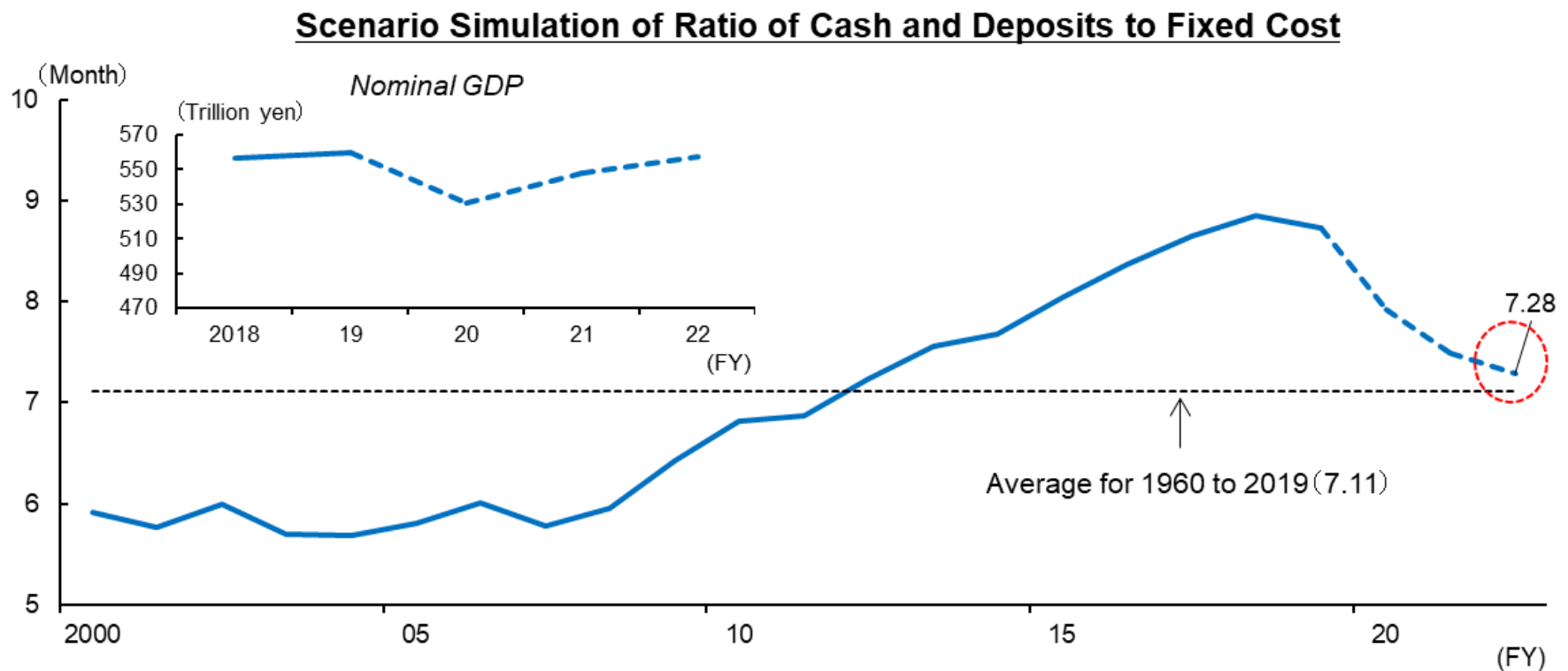
Source: Ministry of Finance

Note: All sizes and all industries except for financial and insurance industries.

## 2. Reasons for continuing to hold cash:

### (1) Cash accumulation for self-insurance

- The accumulated cash and deposits functioned effectively as a buffer against the recent COVID-19 disaster. Under the standard outlook scenario, the simulation results show that the cash and deposits/fixed costs ratio will remain above the historical average even after the COVID-19 disaster.



Source: Author's calculation based on Cabinet Office, Ministry of Finance, and Japan Center for Economic Research.

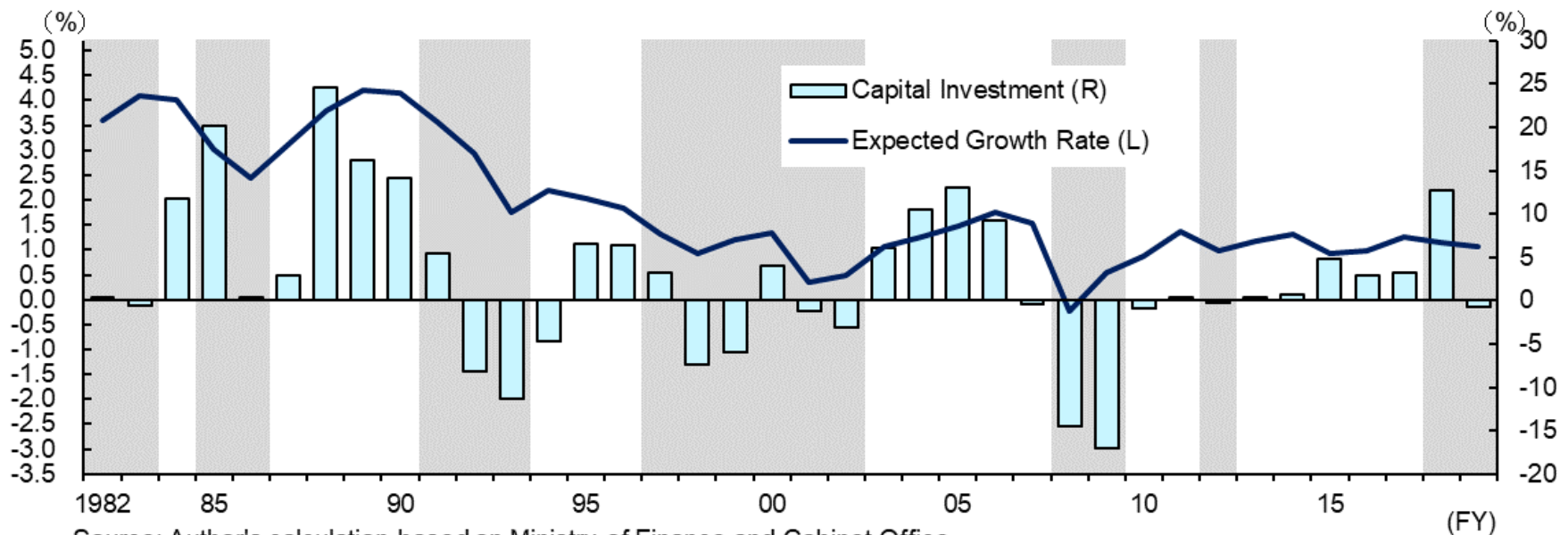
Note: Assumptions for calculation: Fixed cost will remain unchanged from FY2019. Change in cash and deposits is calculated as value added - Fixed cost.

## 2. Reasons for continuing to hold cash:

### (2) Companies' low growth expectation

- Another factor that has driven companies to hold onto cash is their low growth expectations. If the market is expected to shrink in the future, it is natural for companies to refrain from investing even if the economy is currently doing well.
- Indeed, according to a corporate survey, capital investment has slowed down along with the sluggish expected growth rate.

**Expected Growth Rate and Capital Investment of Large Companies**



Source: Author's calculation based on Ministry of Finance and Cabinet Office

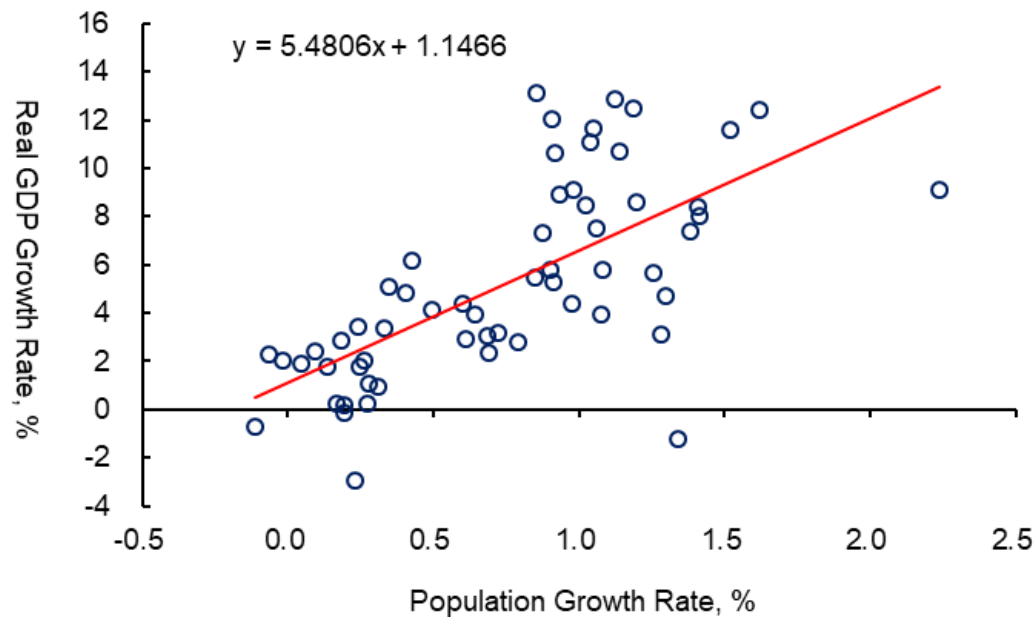
Note: Expected growth rate is the real growth rate of industry demand (forecast for the next three years). Capital investment is the growth rate of capital investment, including land investment, minus the growth rate of the capital investment deflator. The survey targets listed companies for the expected growth rate and companies with capital of 1 billion yen or more for capital investment. Shadow is recession phase.

## 2. Reasons for continuing to hold cash:

### (2) Companies' low growth expectation

- Thus, expectations for future growth have a major impact on corporate capital investment. In Japan, there is a strong positive correlation between the population growth rate and the expected growth rate (Expected growth rate matches real GDP growth rate in medium- to long-term economies where price rigidity is not assumed). Based on this empirical evidence, many corporate executives expect the domestic market to shrink due to a declining population.

**Relationship between Population and GDP in Japan**



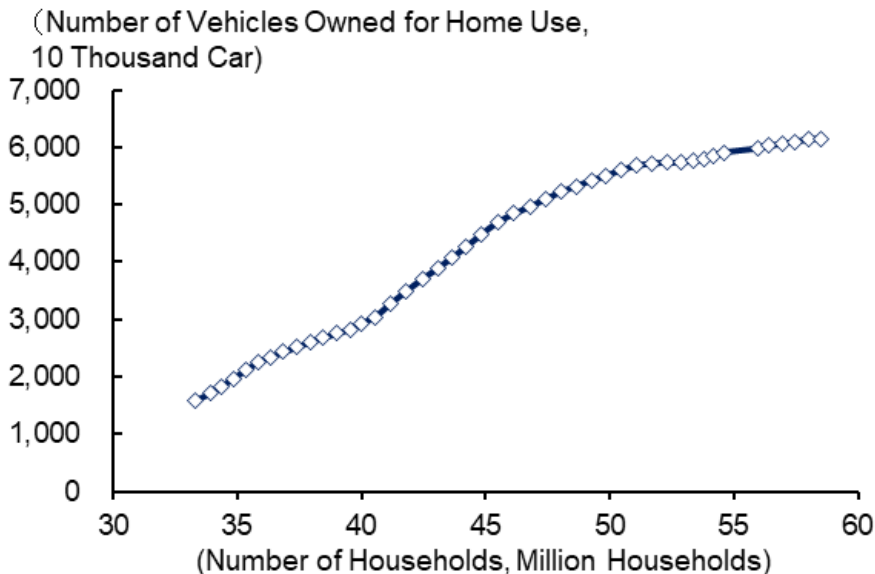
Source: Angus Maddison  
Note: 1950-2008.

## 2. Reasons for continuing to hold cash:

### (2) Companies' low growth expectation

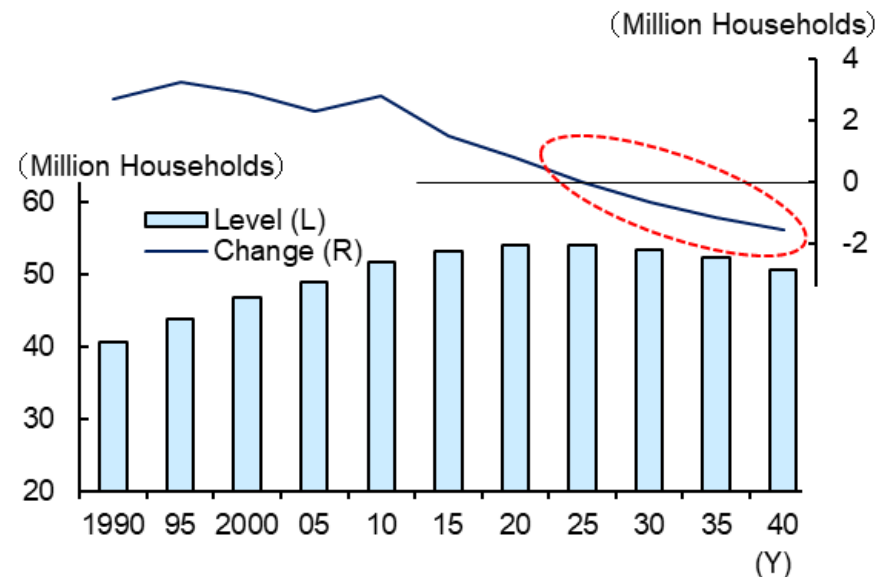
- Personal consumption is particularly sensitive to the number of households. For example, the impact is significant for durable consumer goods, for which the number of units held per household is generally fixed.
- Under these circumstances, the number of households in Japan is expected to decline in the future, and there is a high risk that the growth expectations of corporate executives will decline further.

**Number of Households and Number of Private Passenger Cars Owned**



Source: Automobile inspection & Registration information association

**Outlook for the Number of General Households**



Source: National Institute of Population and Social Security Research and Ministry of Internal Affairs and Communications

Note: Figures for 2020 and beyond are estimates.

## 2. Reasons for continuing to hold cash:

### (2) Companies' low growth expectation

- In Japan, not only investments in structures and machinery that contribute to increasing production capacity but also R&D investments for the development of products and services are likely to be affected by trends in the number of households.
- R&D investments can theoretically be categorized into **creative R&D investments** to create new products and services and **quality-enhancing R&D investments** to improve the quality of existing products and services.
- **Quality-enhancing R&D investment** is sensitive to the number of households. This is because even if a high-quality product is developed, it will not be profitable until households replace similar low-quality products that they already own.
- On the other hand, **creative R&D investment** is less susceptible to the number of households, because new products that have never existed before will neither replace or complement existing products.

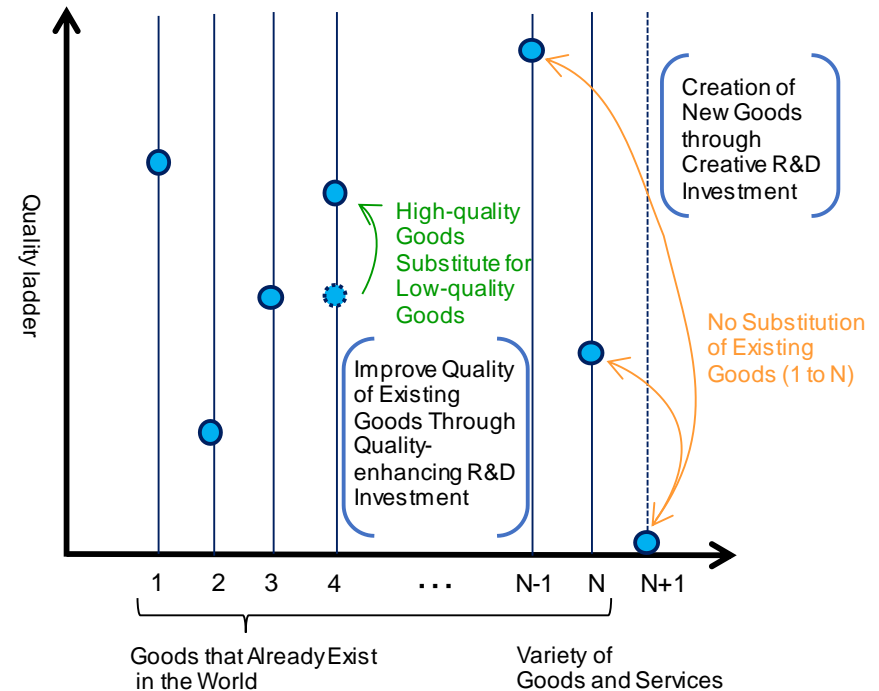
# 3. What kind of capital investment will become more important in a declining population? (1) Creative R&D investment

## Two Types of R&D Investments

*Characteristics of Creative and Quality-enhancing R&D*

	Creative R&D	Quality-enhancing R&D
Effect on TFP	+	+
	Rising due to New Product Launches	Increase due to Improvement in Quality of Existing Products
Impact on Existing Products	0	-
	Neither Substitute Nor Complement Older Products.	Exterminate Existing Products of Low Quality
Main Players	Non-industry Leaders	Industry Leaders

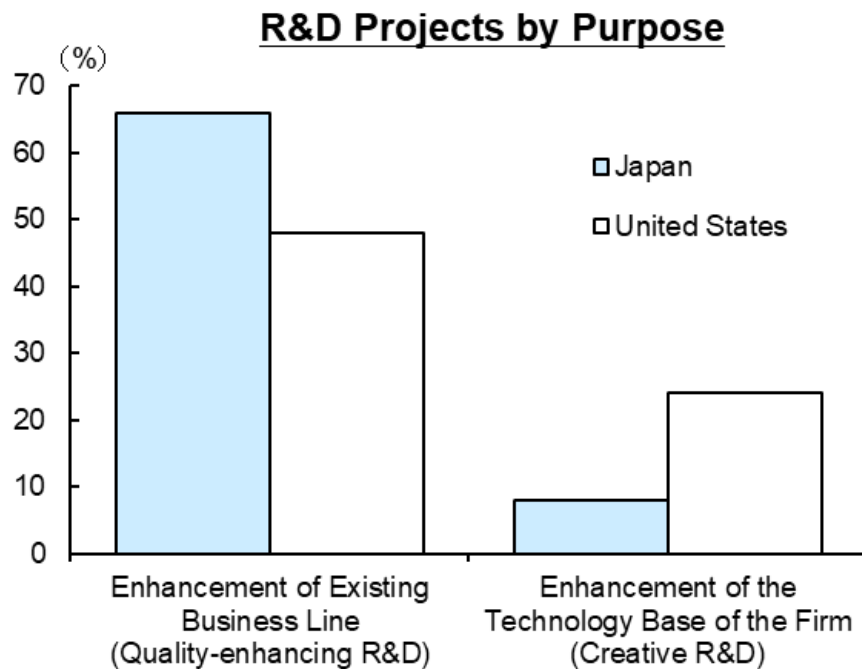
*Conceptual Diagram of Creative and Quality-enhancing R&D*



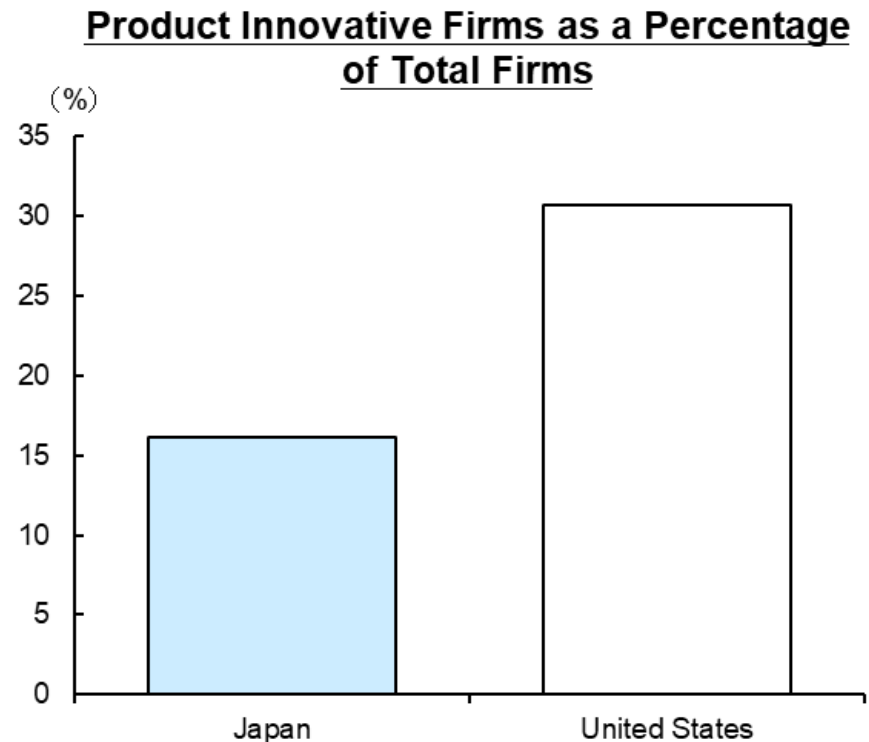
Source: Barro and Sala-i-Martin (2003) *Economic Growth*, second edition. The MIT Press.

### 3. What kind of capital investment will become more important in a declining population? (1) Creative R&D investment

- Japan's R&D investment is biased toward **quality-enhancing R&D investment**. Compared to the U.S., **creative R&D investment** is less than half. As a result, overall R&D investment is susceptible to the number of households, and there are fewer companies that have been able to realize innovations that provide original new products and services in Japan than in the U.S.



Source: Nagaoka and Walsh (2009) "The R&D Process in the U.S. and Japan: Major findings from the RIETI-Georgia Tech inventor survey." RIETI Discussion Paper Series 09-E-010.  
Note: ( ) is the author's interpretation.

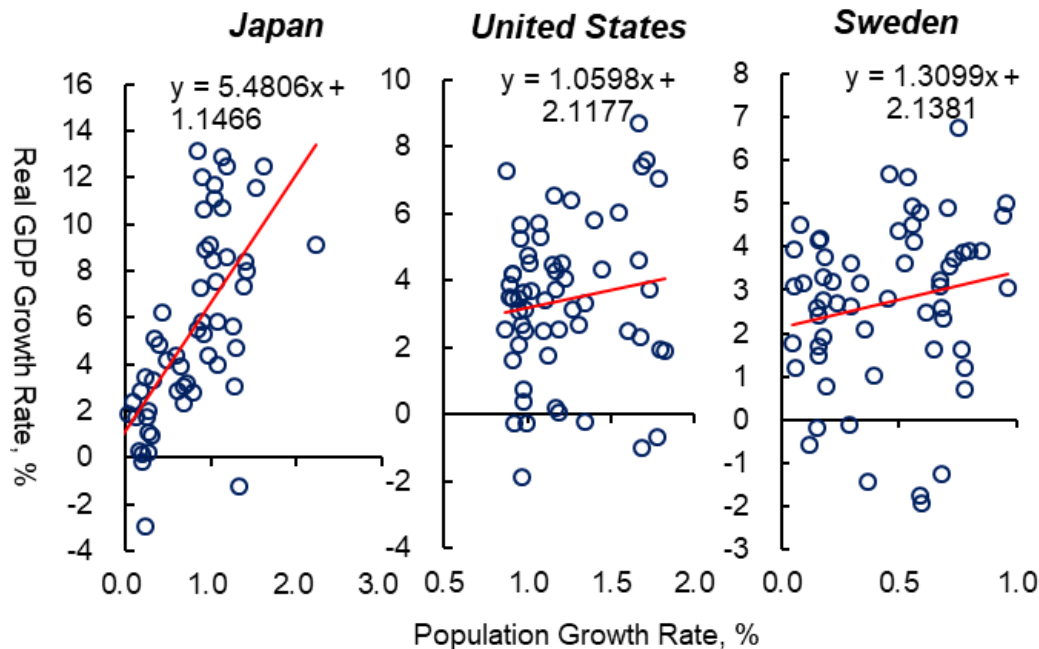


Source: OECD  
Note: 2019 Survey.

### 3. What kind of capital investment will become more important in a declining population? (1) Creative R&D investment

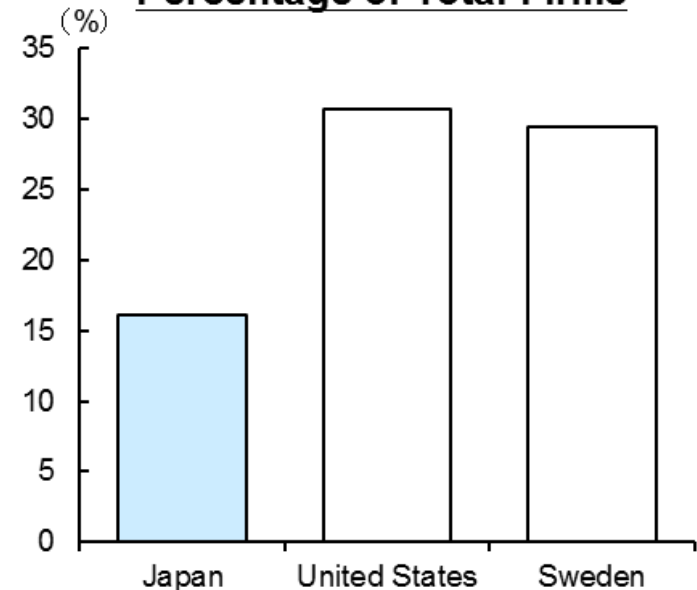
- In contrast, **creative R&D investments** are less likely to be affected by population decline. For example, the United States and Sweden have been able to expand their domestic markets without being significantly affected by population growth rates. → This may be attributed to their ability to create original new products and services by aggressively investing in **creative R&D investments**.

**Relationship between Population and GDP**



Source: Angus Maddison  
Note: 1950-2008.

**Product Innovative Firms as a Percentage of Total Firms**



Source: OECD  
Note: 2019 Survey.

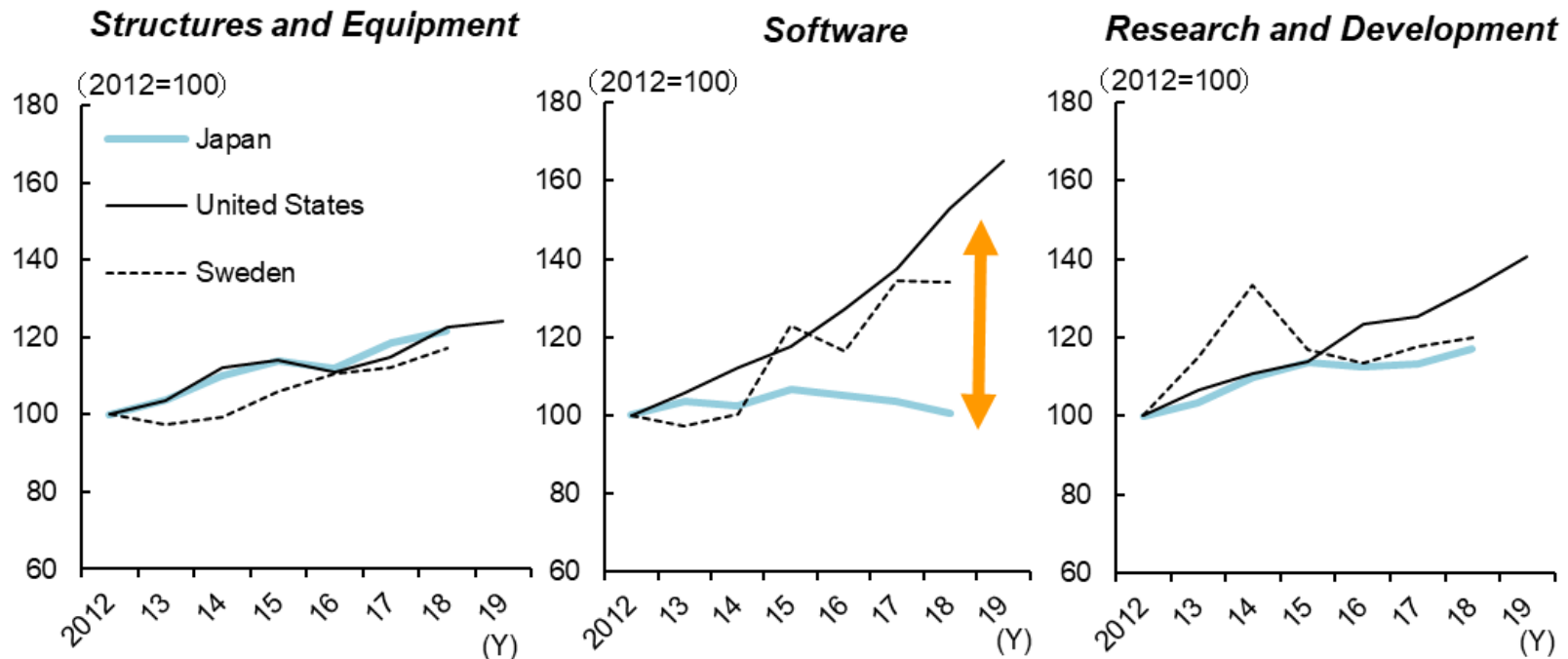
### 3. What kind of capital investment will become more important in a declining population? (1) Creative R&D investment

- In light of the above, it is not advisable to specialize in **quality-enhancing R&D investment** under a declining population, as investment efficiency deteriorates.
- For this reason, it is necessary for companies to allocate their earnings and accumulated cash and deposits to **creative R&D investments**.
- At the same time, it is important to expand the number of people engaged in **creative R&D investment**.
- However, it is difficult to increase the number of people engaged in **creative R&D** in Japan, which is suffering from a labor shortage.
- Therefore, it is necessary to reduce simple and routine tasks as much as possible to reduce the mental and physical burden on workers so that more people can spend more time on **creative R&D**.

### 3. What kind of capital investment will become more important in a declining population? (2) Software investment

- For this purpose, it is important to substitute simple and routine tasks with AI, robots, and other software. This is what **software investment** is a necessary condition for **creative R&D investment**.
- However, the reality is that Japan's **software investment** has hardly increased compared to other countries.

#### International Comparison of Capital Investment




Source: Author's calculation based on Cabinet Office, Bureau of Economic Analysis, and Statistics Sweden.

### 3. What kind of capital investment will become more important in a declining population? (2) Software investment

- One of the factors preventing companies from investing more aggressively in software is Japan's strict restrictions on layoffs. If it is difficult to lay off redundant workers, the profit improvement effect of software investment will be small. On the other hand, in the U.S. and Sweden, the effect of software investment is significant because companies can lay off redundant workers caused by changes in the economic environment.

#### Comparison of dismissal regulations in Japan, the United States, and Sweden

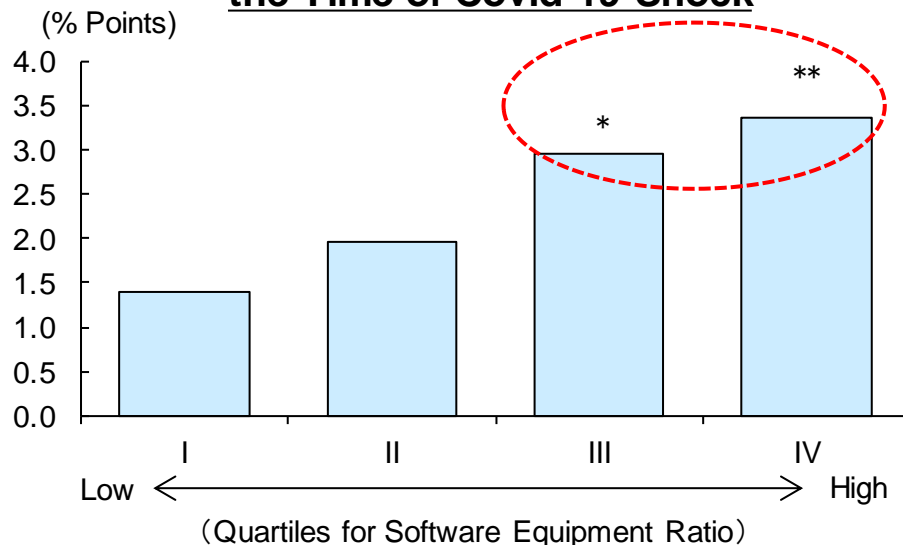
	Japan	United States	Sweden
Liquidation dismissal (when the reason for dismissal is due to business reasons)	<p><u>If the dismissal is not deemed to be reasonable in terms of socially accepted ideas, the dismissal will be invalid (Article 16 of the Labor Contracts Act).</u></p>  <p>Even if there is a surplus of regular employees, they can only be dismissed after sufficient efforts have been made to avoid dismissal, such as reassignment.</p>	<p>In principle, an employer can fire a full-time employee at any time without cause. (employment at-will principles)</p>	<p>“Objective reasons” are required. However, “shortage of work” falls under this category.</p>

Sources: OECD (2019) OECD EPL Database, update 2019 United States, Sweden., Mizumachi (2002) “The Law of Employment Adjustment: Why Do We Need Dismissal Regulations?” (in Japanese) Nihon rōdō kenkyū zasshi.510., and Ouchi(2013) *Dismissal Reform: The Future of Japanese Style Employment*.(in Japanese) Chuo-keizai-sha.

### 3. What kind of capital investment will become more important in a declining population? (2) Software investment

- In addition to the efficiency-enhancing and labor-saving effects of **software investment**, the COVID-19 disaster also revealed the hidden benefits of diversifying sales channels and increasing work flexibility. Indeed, a comparison within the same industry shows that companies with a higher software equipment ratio are able to support sales.

**Software Equipment Ratio and Sales at the Time of Covid-19 Shock**



Source: Author's calculation based on SPEEDA.

Note: Coefficients of the intersection term between the within-industry quartile dummy and the Covid-19 dummy (a dummy variable that is set to one for the period January-March 2020 and zero for the rest of the year) on the software equipment ratio as of the end of FY2018. Listed companies are included. \*\* and \* indicate significantly different from zero at the significance level of less than 5% and 10%, respectively. See the footnote on the right for details.

**Estimation Result**

Dependent variable: Sales (logarithmic value)	
IV Quartile Dummy×Covid-19 Dummy	0.0335 ** (0.0107)
III Quartile Dummy×Covid-19 Dummy	0.0296 * (0.0122)
II Quartile Dummy×Covid-19 Dummy	0.0195 (0.0137)
I Quartile Dummy×Covid-19 Dummy	0.0139 (0.0111)
Seasonal Dummy	✓
Industry Dummy	✓
Time Dummy	✓
Industry×Time Dummy	✓

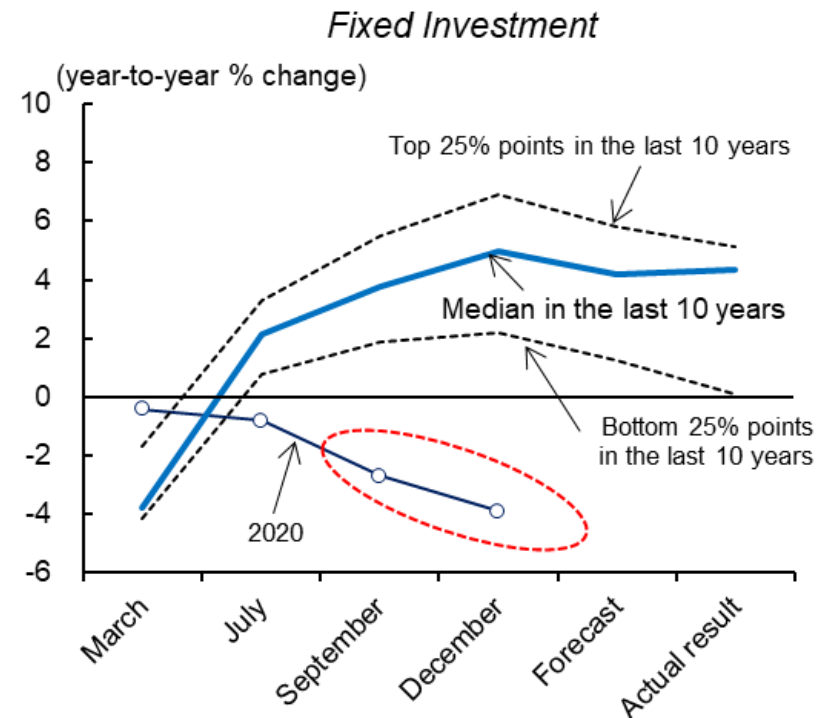
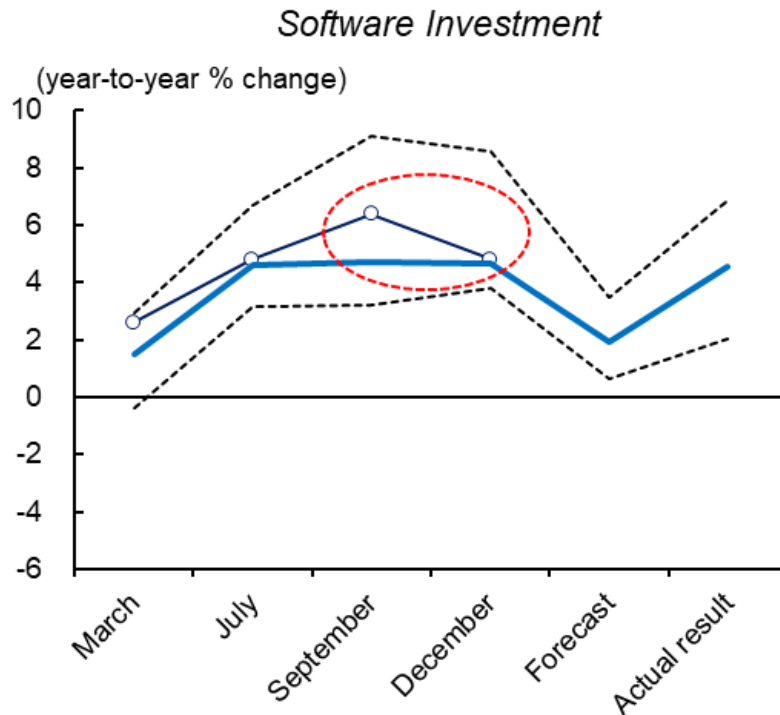
Source: Author's calculation based on SPEEDA

Note: Figures in parentheses are standard errors considering the correlation of error terms among industries (clusters). The number of clusters is 81. \*\* and \* indicate different from zero at the significance level of less than 5% and 10%, respectively. The software equipment ratio was defined as "(intangible fixed assets - goodwill) / number of employees at the end of the period". The number of companies is 3,768, and the estimation period is from April-June 2019 to April-June 2020. The number of samples is 17,520. Quartile dummies are dummy variables created for each quartile within an industry regarding the software equipment rate as of the end of FY2018. Covid-19 dummy is a dummy variable that is set to one for the January-March 2020 period and zero for all other periods.

### 3. What kind of capital investment will become more important in a declining population? (2) Software investment

- Thus, software investment is not only a means of reducing labor costs, but also a means of securing sales. From this experience, companies plan to maintain **software investment** at the same level as in previous years, even during the COVID-19 disaster, while restraining investment in structures and machinery.

#### Annual Projections of Equipment Investment



Source: Bank of Japan  
Note: All sizes.

## 4. Required policies

- Companies should aggressively invest in creative R&D and software in Japan.
- What policies should the government / the Bank of Japan implement to encourage companies to break away from their cash retention behavior and become more active in R&D and software investment?



- ❑ Support for start-up companies that focus on creative R&D investment
- ❑ Labor market reforms to encourage software investment
- ❑ Providing "insurance" against macro shocks

## 4. Required policies:

### (1) Support for Startups Focusing on Creative R&D Investment

- Unlike **quality-enhancing R&D investment**, **creative R&D investment** is in some respects difficult to generate from the framework of existing companies. Therefore, it is essential to develop start-up companies that focus on **creative R&D investment** through the following reforms:
  - ❑ The government should facilitate entrepreneurship by simplifying administrative procedures for starting a business. Especially, it should lower start-up costs through the Social Security and Tax Number System and the digitization of government administration.
  - ❑ Expand opportunities for people who want to start their own businesses to easily learn the necessary skills (e.g. management, finance). Currently, the percentage of people who have access to training for entrepreneurship is only 24% in Japan, compared to the OECD average of 48%.

## 4. Required policies:

### (1) Support for Startups Focusing on Creative R&D Investment

*Reforms needed (continued):*

- ❑ Regulatory reform without sanctuary: Strong resistance to regulatory reform may arise mainly from large corporations, which are the leaders of the industry, but it is necessary to promote discussion from the standpoint of startups.
- ❑ Improve the fund-raising environment for start-up companies: Venture capital in Japan is small. It is necessary to improve the environment for raising risk money quickly so that the ideas of entrepreneurs can take shape.

## 4. Required policies:

### (2) Labor market reforms to encourage software investment

- The features of software (e.g. diversification of sales channels and the flexibility of work), revealed by the COVID-19 disaster → may ease the reluctance of Japanese companies to invest in software.
- However, unless the labor-saving and efficiency-enhancing functions of the software are also well utilized, the investment effect cannot be fully realized.
- Prerequisite for deregulation of layoffs → formation of an efficient and inclusive external labor market
  - Surplus workers created by labor-saving can always relearn the skills they need and immediately take up the highest-performing jobs.
- Therefore, the following three points are necessary:
  1. Shifting membership-based to job-based employment → significantly reduce uncertainty about job content and compensation after changing jobs.
  2. Improving vocational education and training:
    - ❑ Expanding the scope of public vocational education and training to low- and middle-income people of all ages
    - ❑ Creating an environment where people can relearn new skills while working
  3. Strengthen matching between job seekers and job offers: For each occupation, it is necessary to promote the "visualization" of jobs, tasks, wage levels + vocational education institutions where job qualifications and skills can be acquired.

## 4. Required policies:

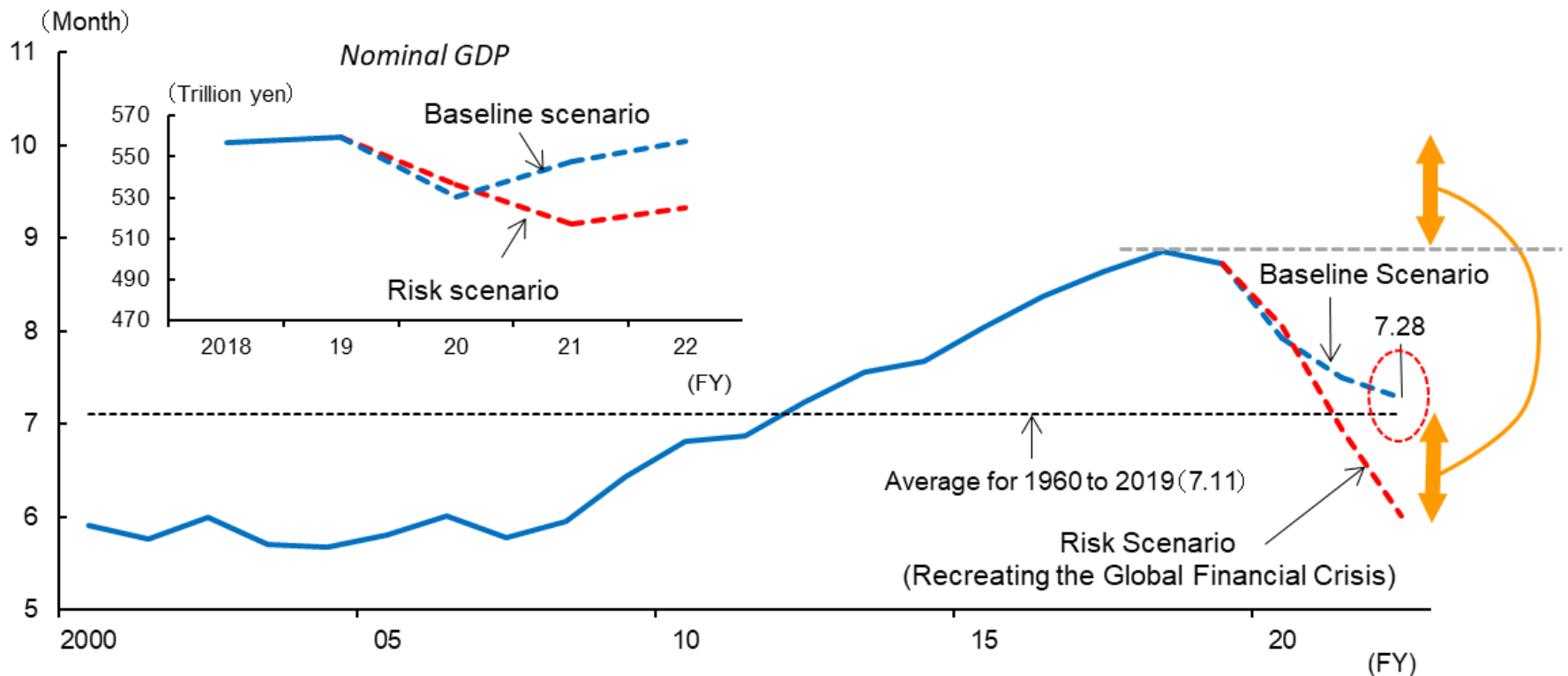
### (3) Providing "insurance" against macro shocks

- In order for Japanese companies to avoid having to accumulate cash and deposits and prepare for macroeconomic shocks on an individual basis, it is necessary for the government and the Bank of Japan to make a clear commitment to provide funding support that guarantees the continuation of a company's business over a reasonable period of time in the event of a future large macroeconomic shock (e.g. when macroeconomic sales are expected to decline by more than 3% from the previous year due to shock originating from overseas, etc.).
- If companies can trust this promise, they will not have to be overly concerned about their cash flow during a crisis and will be more willing to invest in human resources and equipment for growth during an economic expansion.
- However, if such a promise is not made, firms are likely to continue to store cash as a backup motive even if value added turns to an upward trend after the COVID-19 pandemic ends. For example, if firms try to overcome another macroeconomic shock similar to the global financial crisis on their own, they may continue to store cash until the ratio of cash and deposits to fixed costs exceeds at least 10 months.

## 4. Required policies:

### (3) Providing "insurance" against macro shocks

#### Scenario Simulation of Ratio of Cash and Deposits to Fixed Cost



Source: Author's calculation based on Cabinet Office, Ministry of Finance, and Japan Center for Economic Research.

Note: Assumptions for calculation: Fixed cost will remain unchanged from FY2019. Change in cash and deposits is calculated as value added - Fixed cost.

# Conclusion

- Raising Japan's potential growth rate to increase its resilience to macro shocks and the growing burden of social security caused by the declining birthrate, aging society, and declining population is the most important issue after COVID-19.
- However, even with all the macroeconomic policies that have been implemented since Abenomics, companies have curbed spending on human resources and capital investment, holding onto cash due to memories of the severe cash crunch during the past economic crisis and low growth expectations. As a result, the potential growth rate (especially TFP) has been slowing down.
- As raising the potential growth rate will be driven by the active investment activities of the private sector and the effective use of labor, the government and the Bank of Japan need to create an environment in which Japanese companies can make effective use of their cash and deposits by the following policies:
  - 1) Support for start-up companies focusing on creative R&D investment
  - 2) Labor market reforms that encourage software investment
  - 3) Provision of “insurance” for macro economic shocks

**This is a English version of “マクロ統計から考える企業のキャッシュ保蔵行動ーアベノミクス以降の低成長を繰り返さないためにー” in JRI Research Focus (The original version is available at <https://www.jri.co.jp/MediaLibrary/file/report/researchreport/pdf/12385.pdf>)**

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