

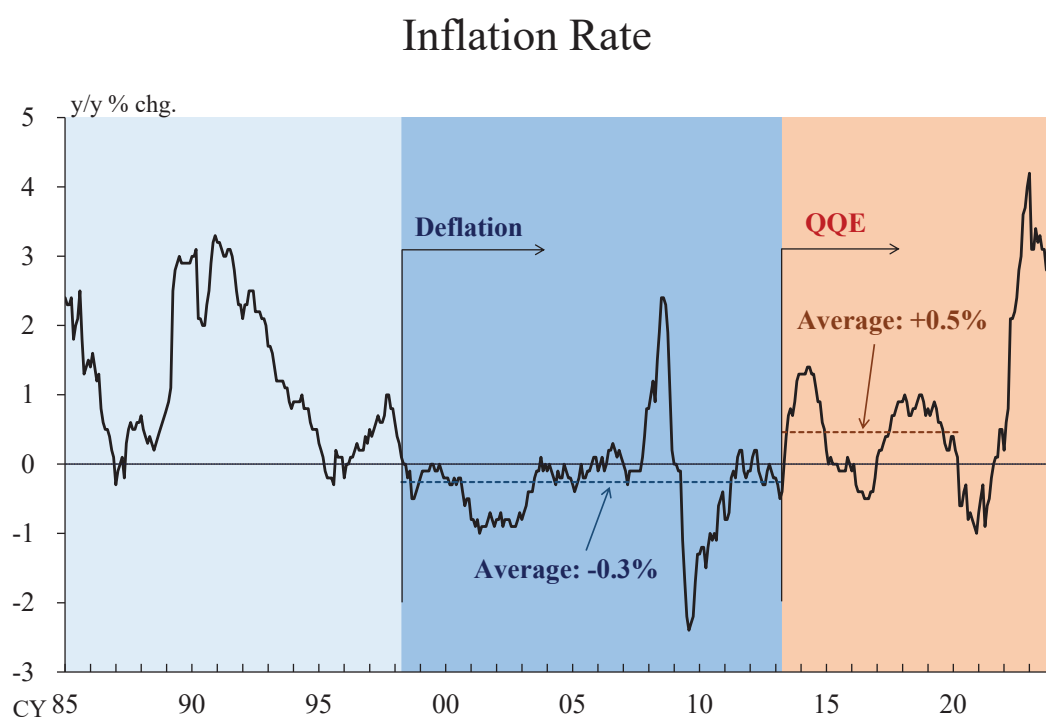
# Price Dynamics in Japan over the Past 25 Years

*Keynote Speech at the 2024 BOJ-IMES Conference  
Hosted by the Institute for Monetary and Economic Studies, Bank of Japan*

**UCHIDA Shinichi**

*Deputy Governor of the Bank of Japan*

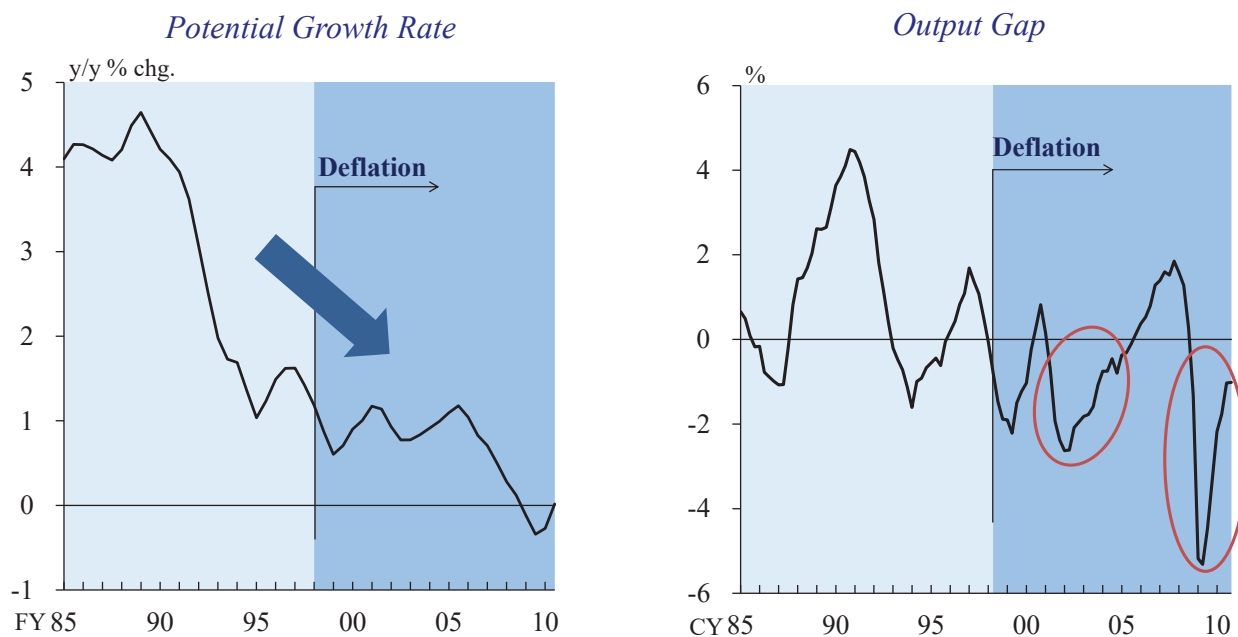
Chart 1



Note: Figures are the CPI for all items less fresh food, excluding the effects of the consumption tax hikes, etc.

Source: Ministry of Internal Affairs and Communications.

## Potential Growth Rate and Output Gap until 2010

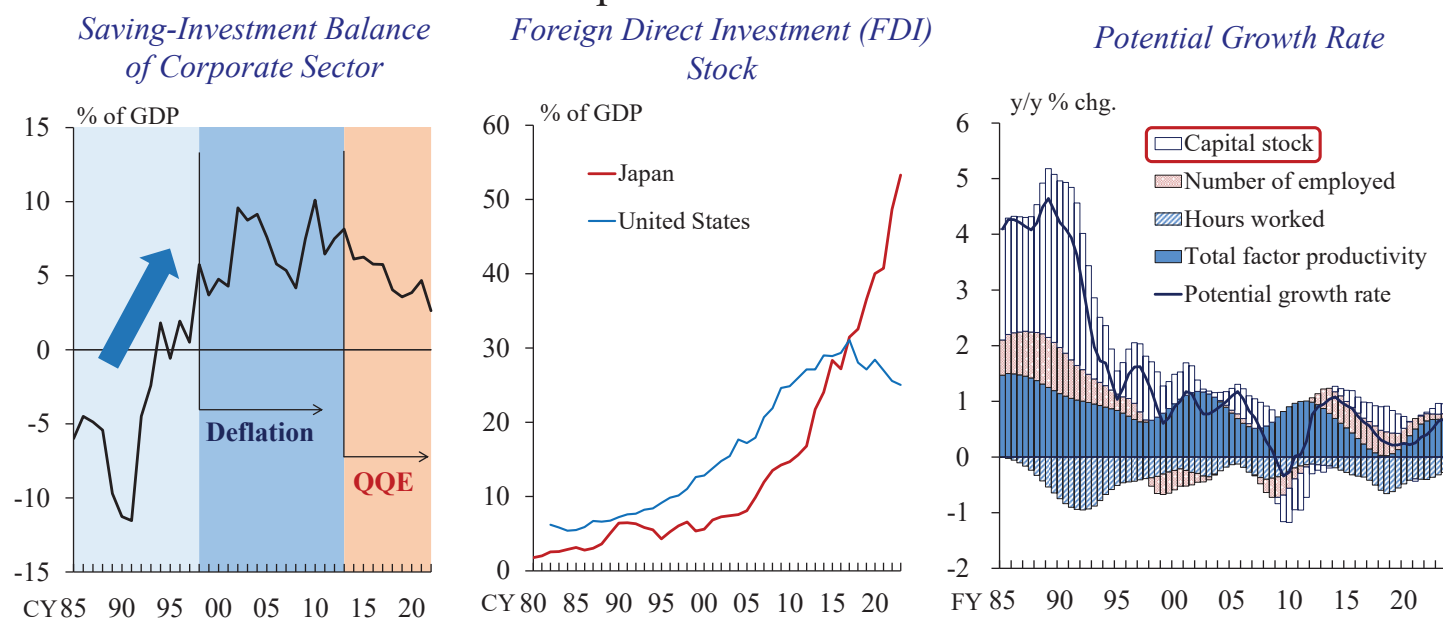


Note: Figures are staff estimates.

Source: Bank of Japan.

## Corporate Investment

Foreign Direct Investment (FDI) Stock

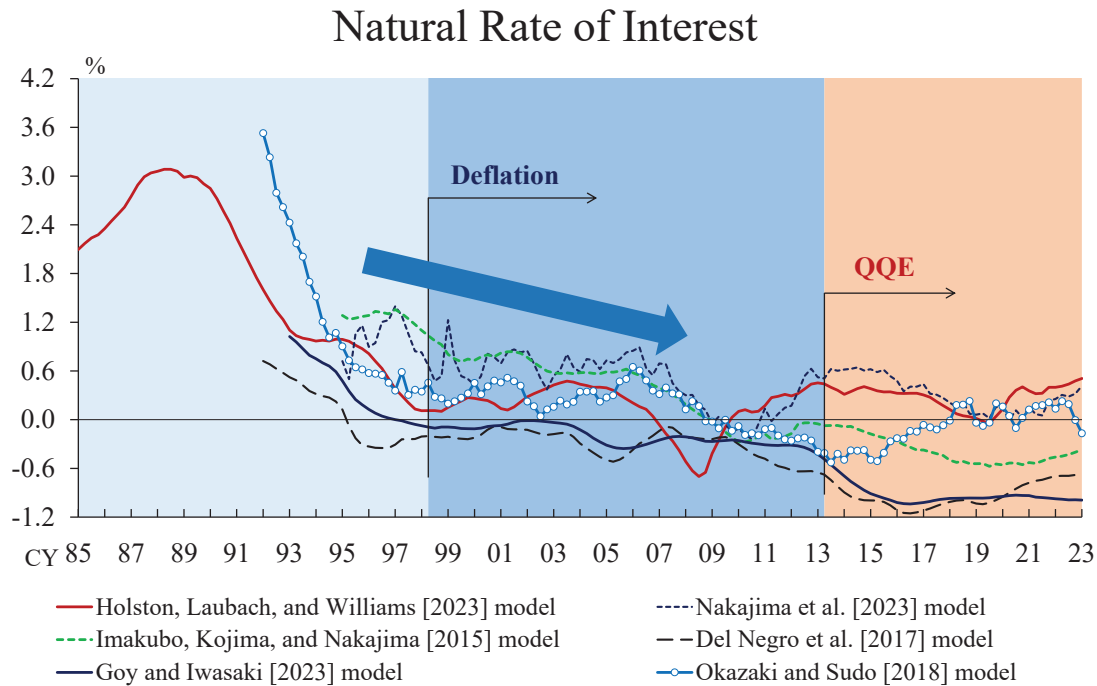


Note: Figures before 1994 are based on the 1993SNA.

Note: Figures are staff estimates.

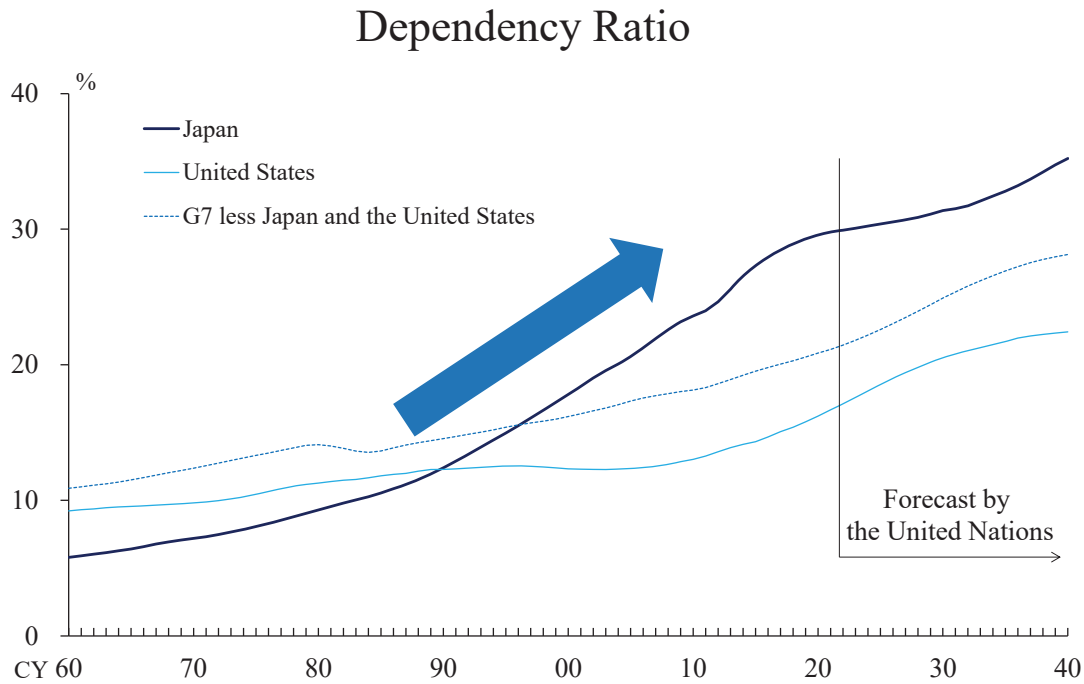
Sources: Cabinet Office; Bureau of Economic Analysis; International Monetary Fund; United Nations Conference on Trade and Development; Bank of Japan.

Chart 4



Note: The estimates are based on staff calculations using the models proposed in the different papers.  
 Sources: Bank of Japan; Ministry of Finance; Ministry of Health, Labour and Welfare; Cabinet Office; Ministry of Internal Affairs and Communications; Bloomberg; Consensus Economics Inc., "Consensus Forecasts."

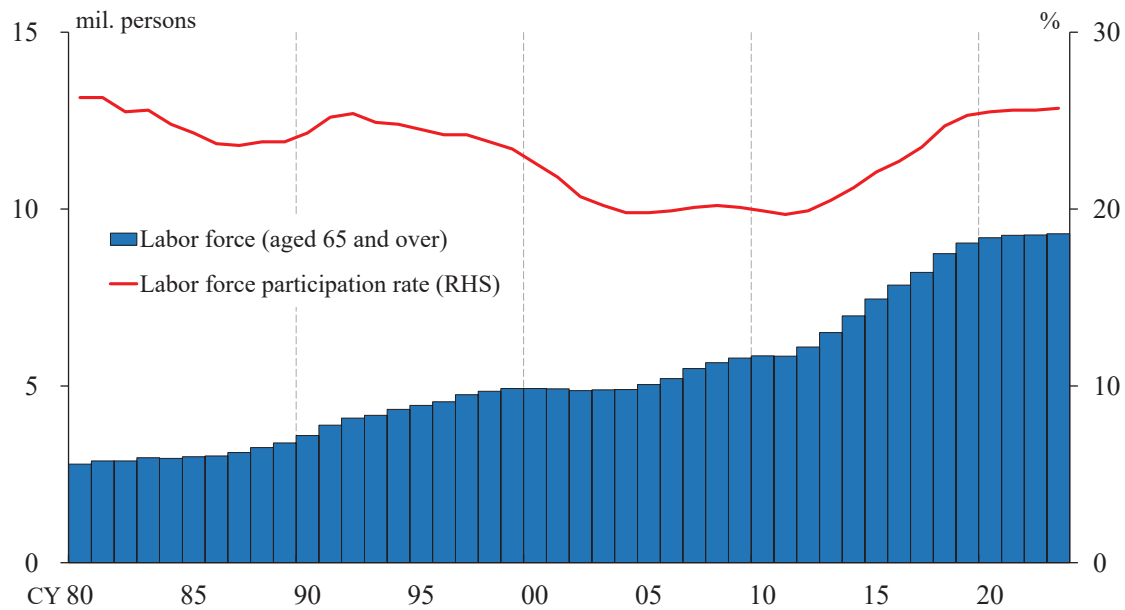
Chart 5



Note: Dependency ratio is the ratio of the population aged 65 and over to the total population. Figures from 2022 onward are estimates by the United Nations.  
 Source: United Nations.

Chart 6

## Labor Force Participation of Seniors

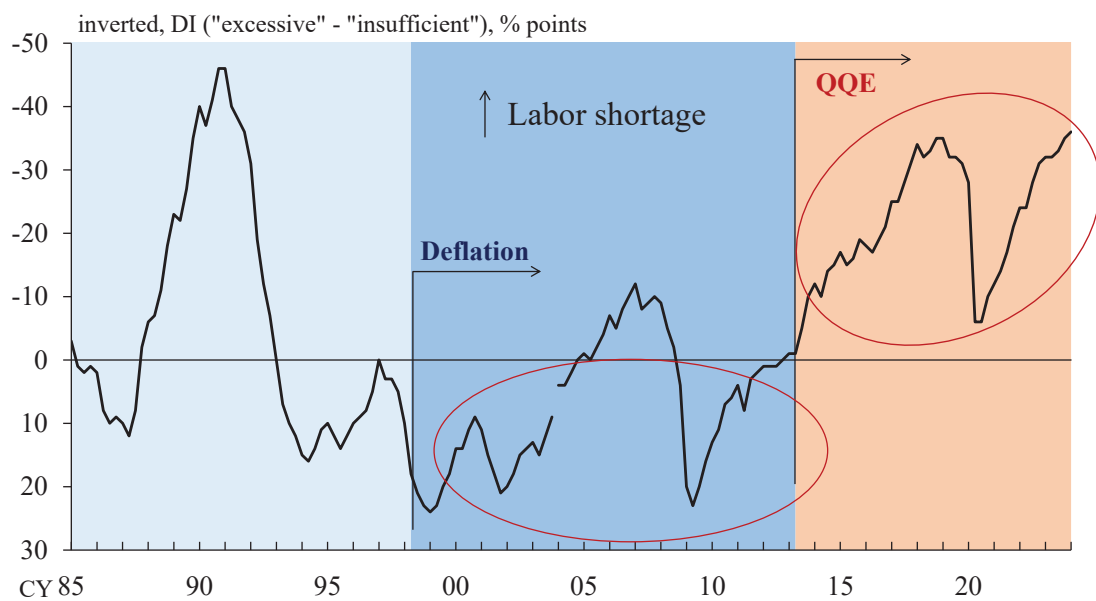


Source: Ministry of Internal Affairs and Communications.

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Chart 7

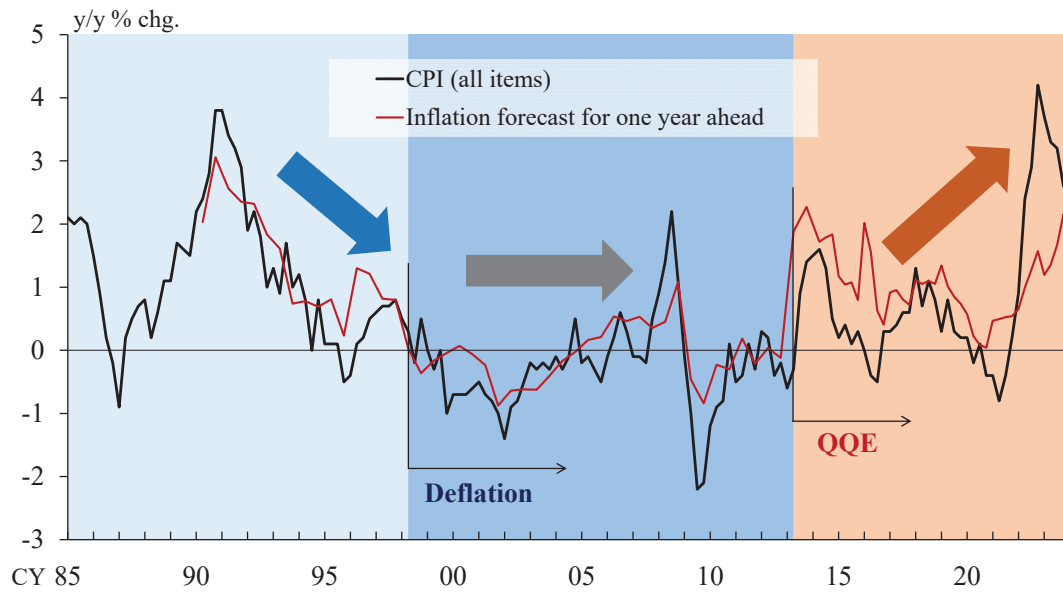
## Employment Conditions felt by Companies



Note: Based on the Tankan. All enterprises and industries. There is a discontinuity in the data for December 2003 due to a change in the survey framework.  
Source: Bank of Japan.

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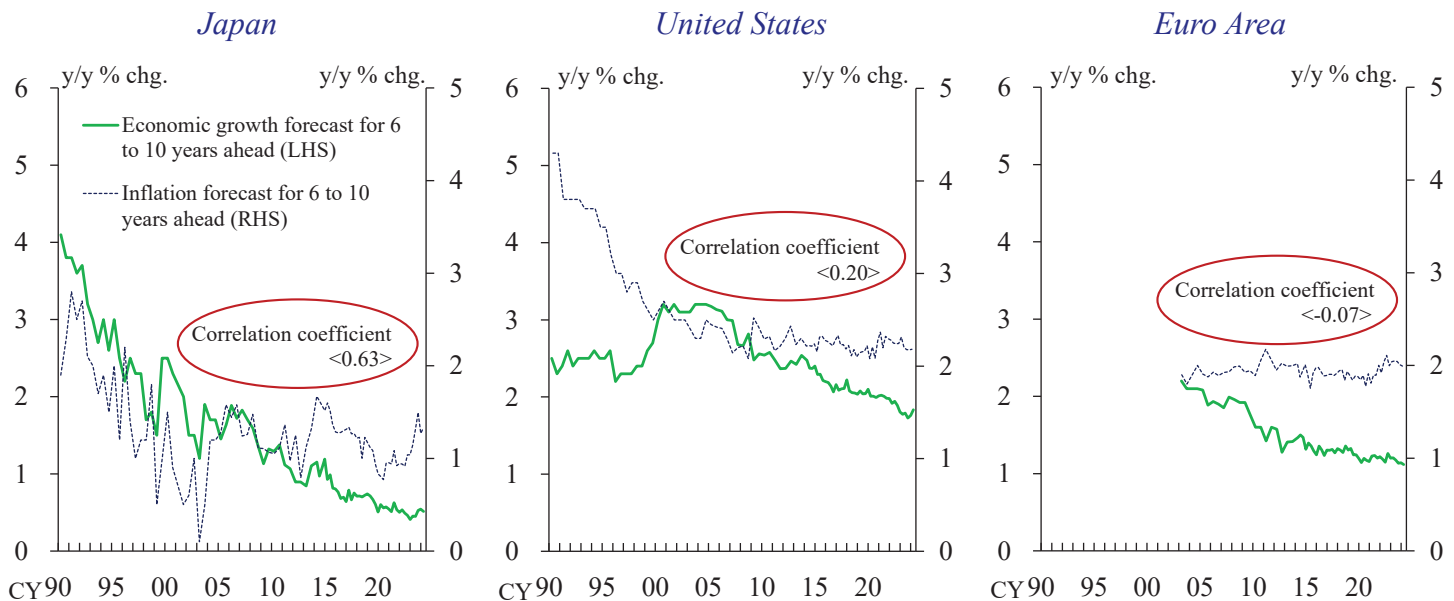
## Actual and Expected Inflation Rates



Note: "Consensus Forecasts" was conducted twice a year until 2013, three times a year in 2014, and four times a year from 2015 onward. The CPI figures are staff estimates and exclude the effects of the consumption tax hikes, policies concerning the provision of free education, and travel subsidy programs.

Sources: Ministry of Internal Affairs and Communications; Consensus Economics Inc., "Consensus Forecasts."

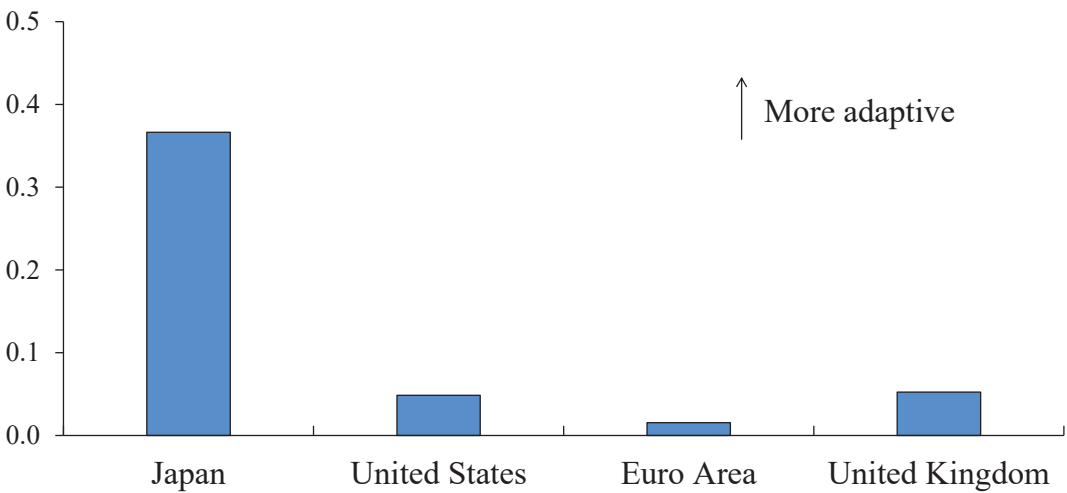
## Medium- to Long-Term Expected Growth Rates and Expected Inflation Rates



Note: "Consensus Forecasts" was conducted twice a year until 2013, three times a year in 2014, and four times a year from 2015 onward. Correlation coefficients are calculated using data for CY 1990-2024 for Japan and the United States and CY 2003-2024 for the euro area.

Source: Consensus Economics Inc., "Consensus Forecasts."

Degree of Adaptiveness in Inflation Expectations

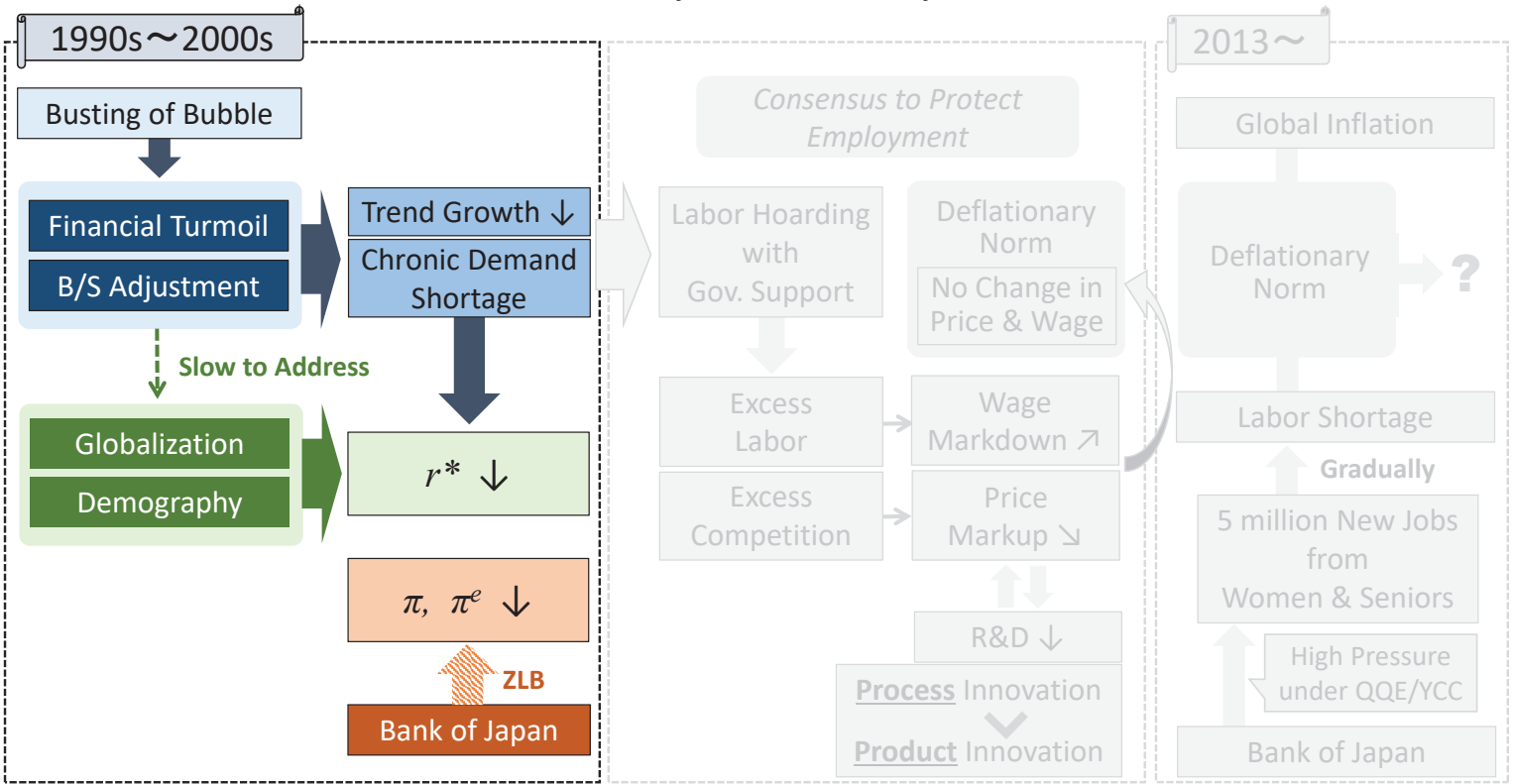


Notes: 1. This figures show the contribution of observed inflation to inflation expectations 6-10 years ahead using the following equation:  
Inflation expectations 6-10 years ahead (%) =  $\theta \times$  Observed headline inflation rate (lagged 1 quarter, %) +  $(1 - \theta) \times$  Central bank price stability target (2%)  
2. The estimation periods are as follows: 2000/Q1-2024/Q1 for Japan and the United States; 2003/Q2-2024/Q1 for the euro area; and 2005/Q1-2024/Q1 for the United Kingdom.

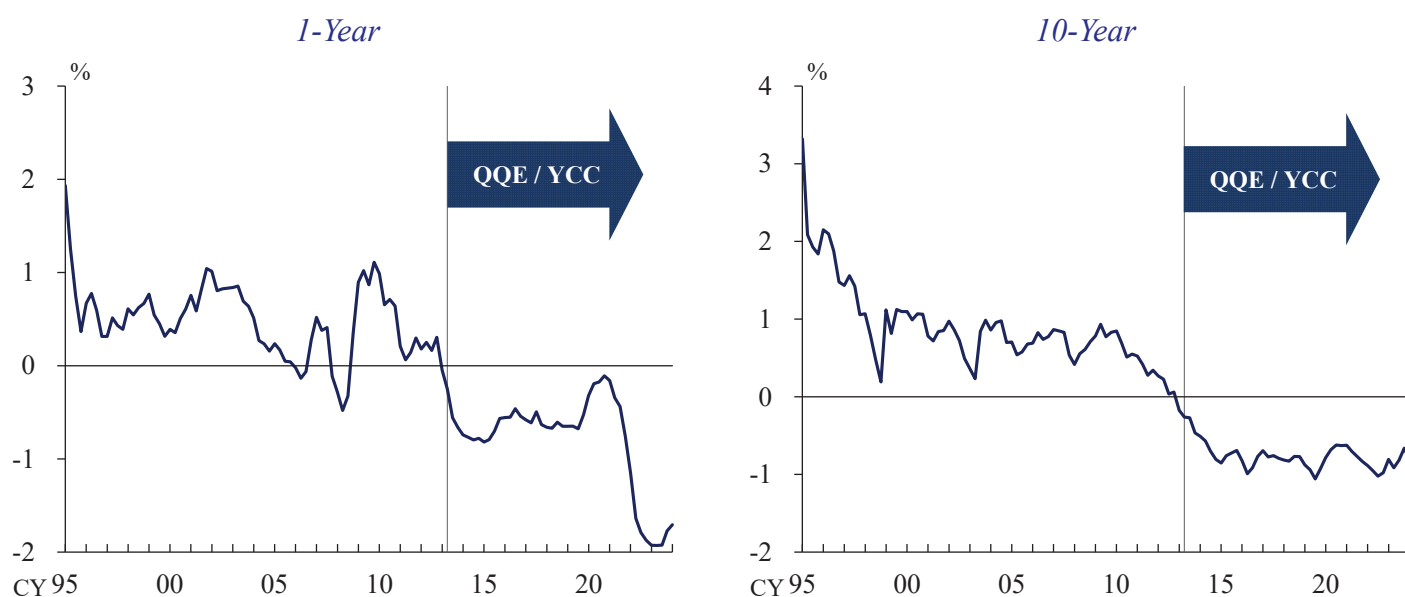
Sources: Consensus Economics Inc., "Consensus Forecasts"; Ministry of Internal Affairs and Communications; Bureau of Labor Statistics; Eurostat; Office for National Statistics.

Summary of This Story

Chart 11



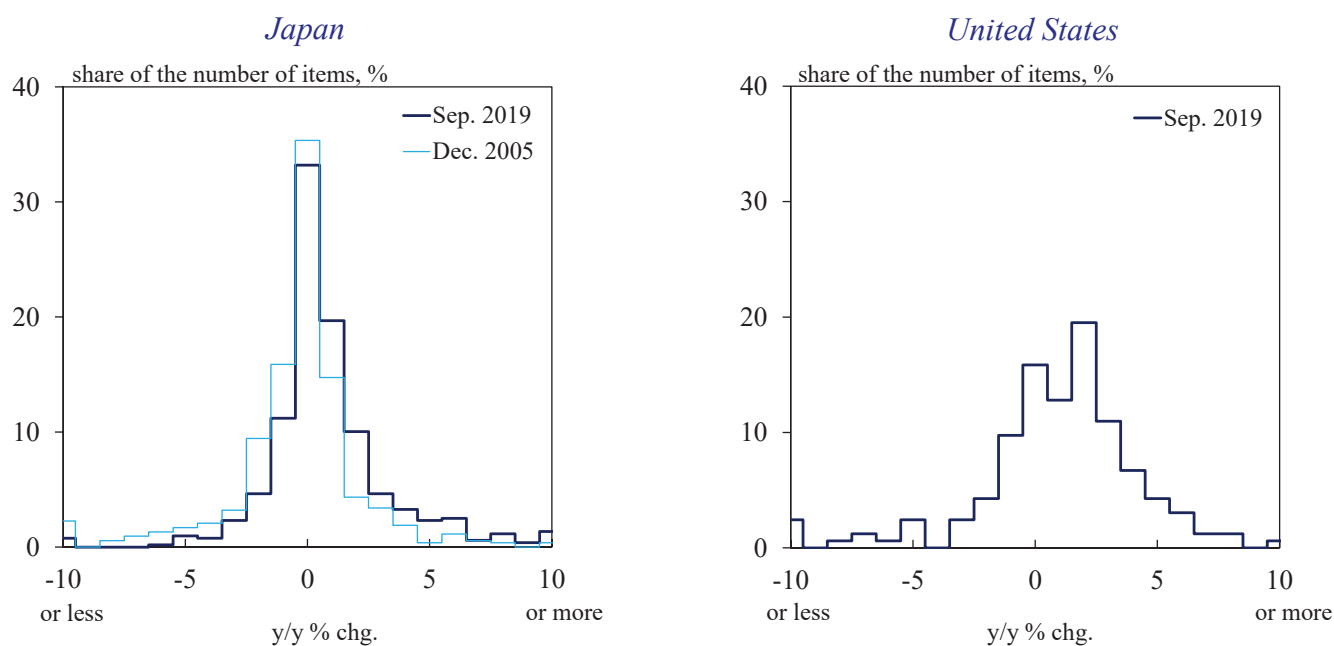
## Real Interest Rates



Note: Figures for real interest rates for each maturity are calculated as government bond yields minus the composite index of inflation expectations (staff estimates) for the corresponding maturity.

Sources: Bank of Japan; QUICK, "QUICK Monthly Market Survey <Bonds>"; Consensus Economics Inc., "Consensus Forecasts"; Bloomberg.

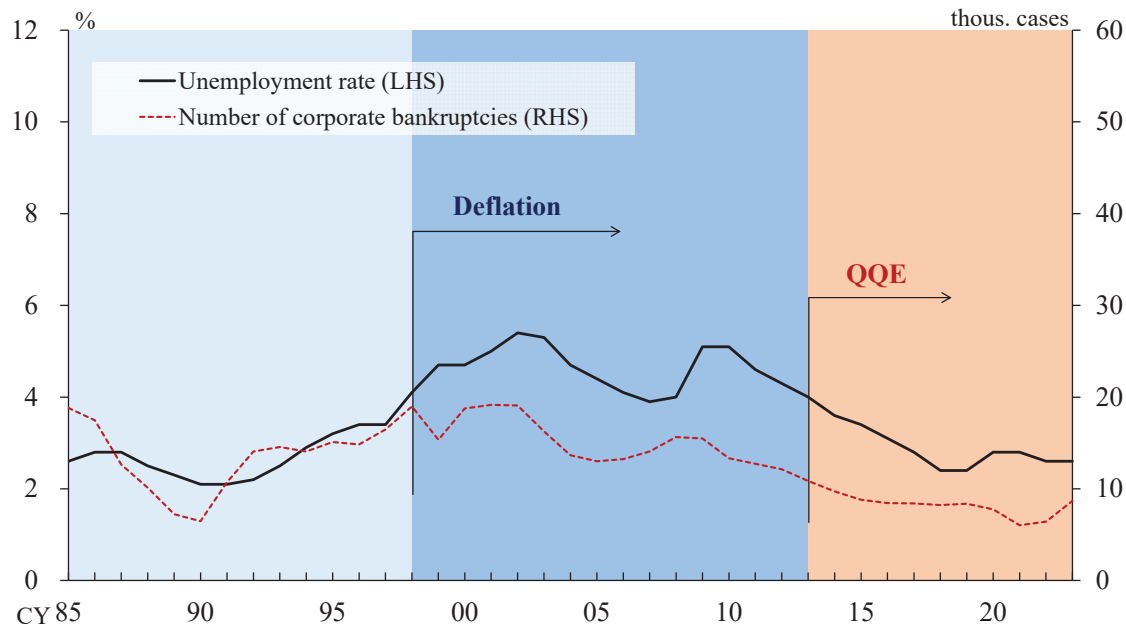
## Price Change Distribution (CPI)



Note: Figures for Japan are for the CPI (less fresh food and energy). Those for the United States are for the CPI (less energy).

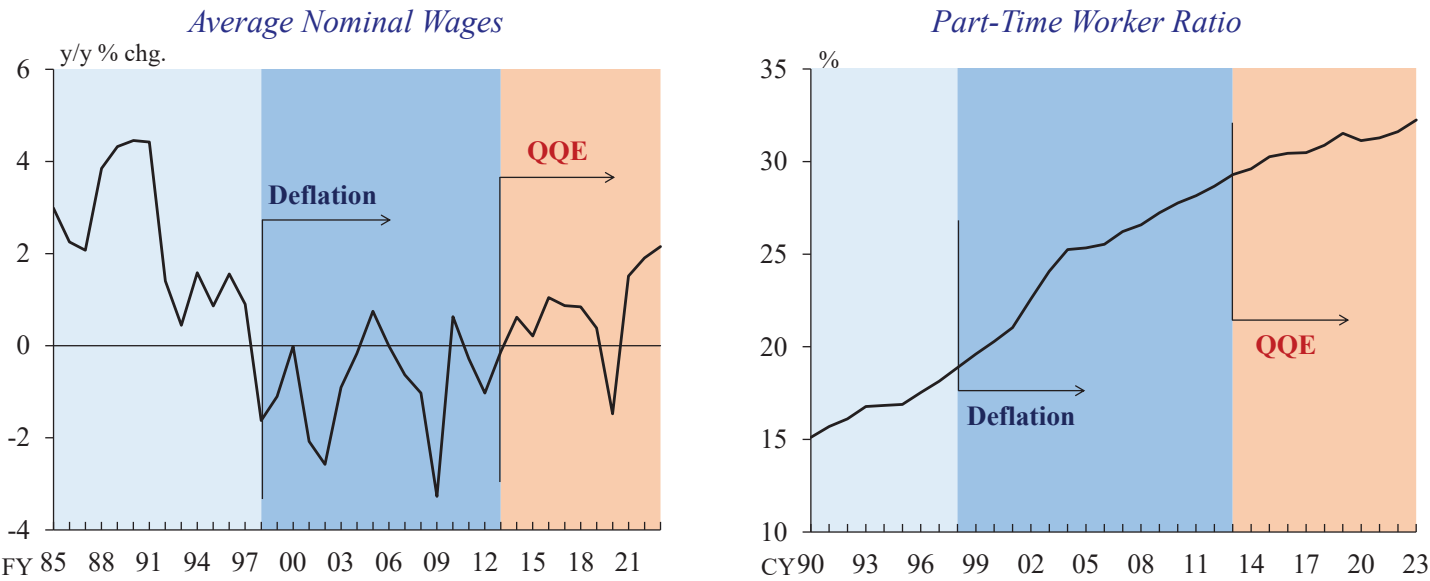
Sources: Ministry of Internal Affairs and Communications; Bureau of Labor Statistics.

# Unemployment and Bankruptcy



Sources: Ministry of Internal Affairs and Communications; Tokyo Shoko Research, Ltd.

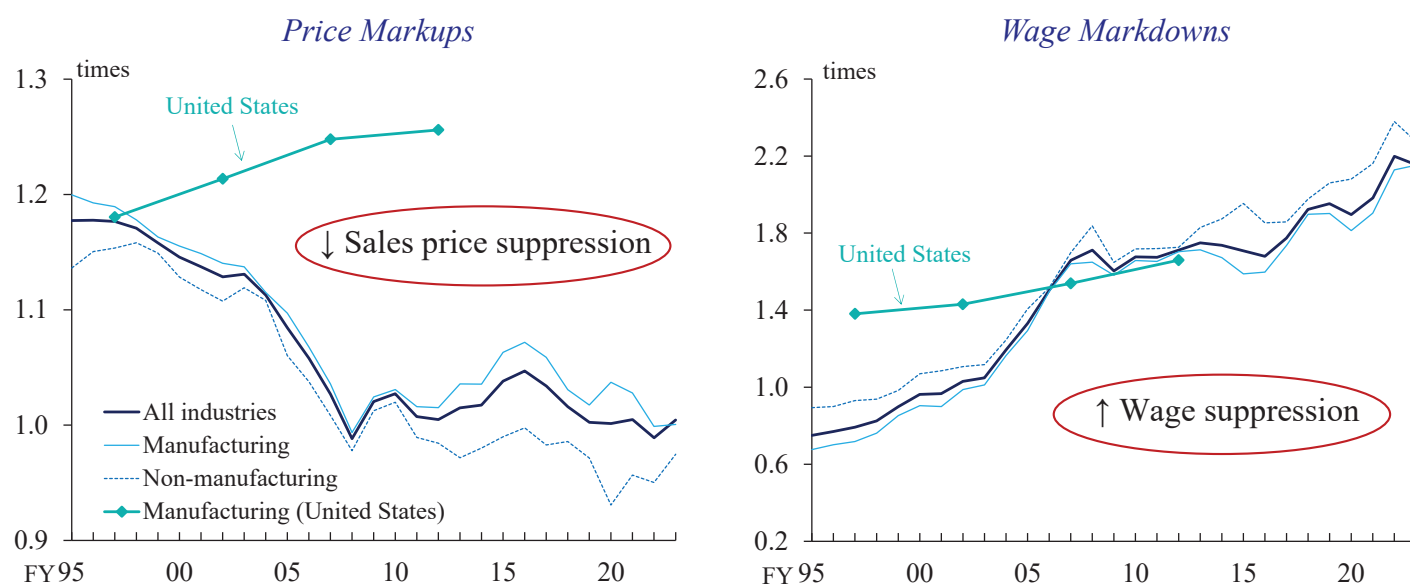
# Average Nominal Wages and Part-Time Worker Ratio



Note: In the left-hand chart, figures indicate total cash earnings (Monthly Labour Survey) for establishments with 30 or more employees until FY 1990 and those with 5 or more employees from FY 1991 onward. Those from FY 2016 onward are based on continuing observations following the sample revisions of the Monthly Labour Survey and the figure for FY 2023 is that from April 2023 to February 2024.

Source: Ministry of Health, Labour and Welfare.

## Price Markups and Wage Markdowns

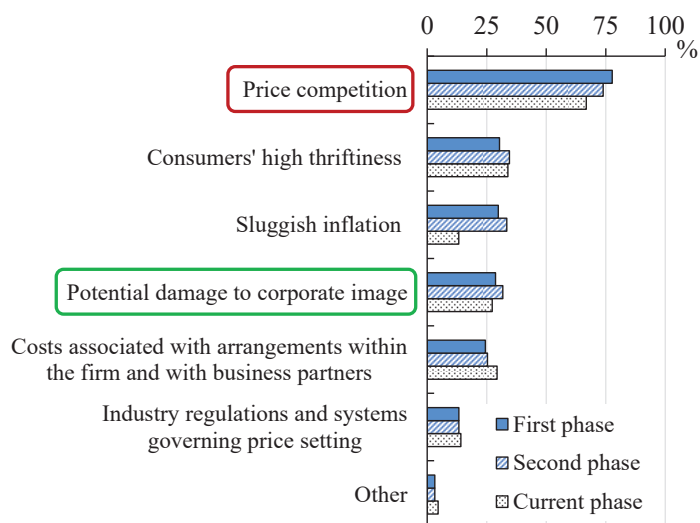


Note: Price markups and wage markdowns are estimated based on the method of Aoki, Hogen, and Takatomi [2023] using individual firm data from the Development Bank of Japan's "Corporate Financial Databank." Calculations for the U.S. manufacturing sector are based on the results of Yeh et al. [2022]. Figures for FY 2023 are from April to December 2023.

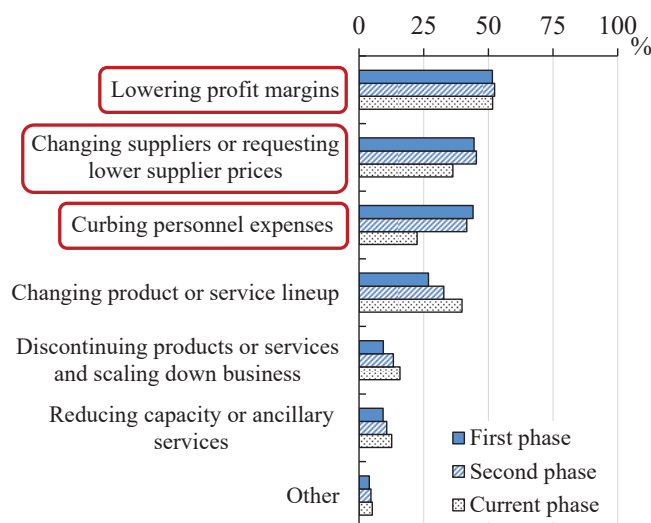
Sources: Cabinet Office; Development Bank of Japan; Ministry of Finance; Research Institute of Economy, Trade and Industry (RIETI); Yeh et al. [2022].

## Large-Scale Survey on the Corporate Sector (1)

### Reasons why raising prices was difficult



### Addressing cost increases

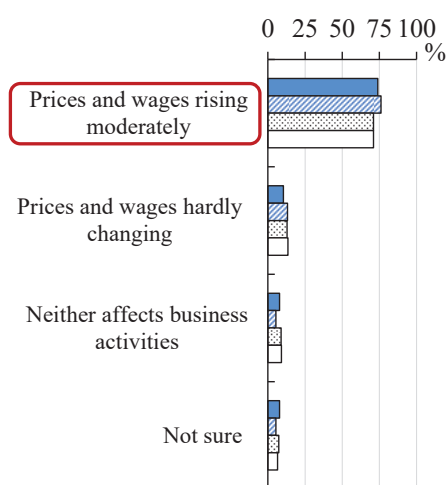


Note: Firms were asked to respond to the questions by dividing the past 25 years since the mid-1990s into three phases, which comprise (1) the "first" phase, defined as the period from the mid-1990s to the 2000s, (2) the "second" phase, defined as the 2010s, and (3) the "current" phase, defined as the period over the past one year.

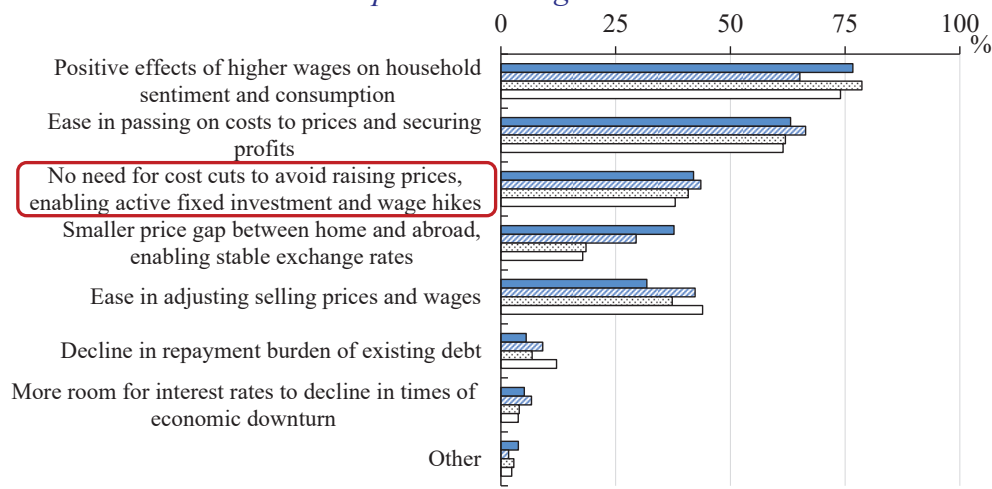
Source: Bank of Japan.

## Large-Scale Survey on the Corporate Sector (2)

*Preferable state of prices and wages for business activities*



*Reasons for preferring a moderate rise in prices and wages*



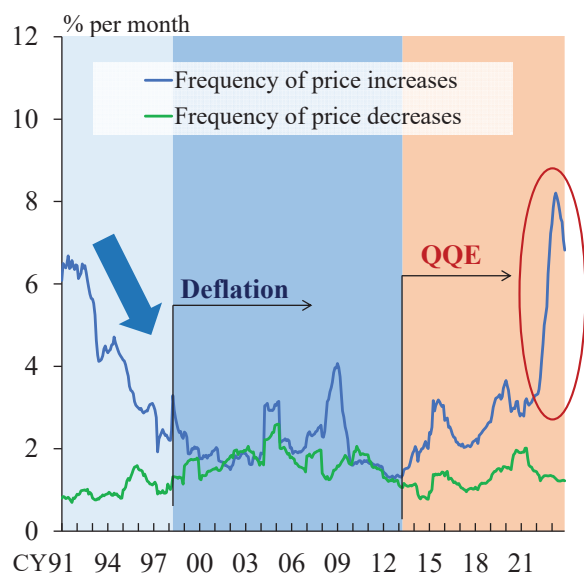
■ Manufacturing (large and medium-sized firms)  
 ■ Manufacturing (small and micro firms)  
 ■ Nonmanufacturing (large and medium-sized firms)

■ Manufacturing (small and micro firms)  
 ■ Nonmanufacturing (small and micro firms)

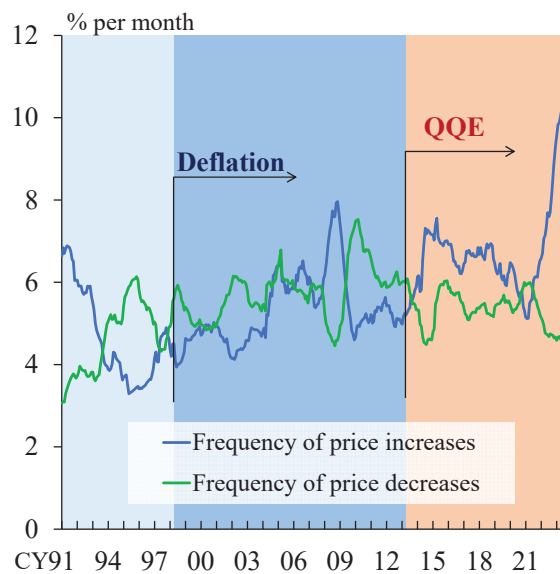
Note: In the right-hand chart, figures are the ratios among firms which responded "prices and wages rising moderately" as a preferable state in the left-hand chart.  
 Source: Bank of Japan.

## Frequency of Price Changes

*Services*



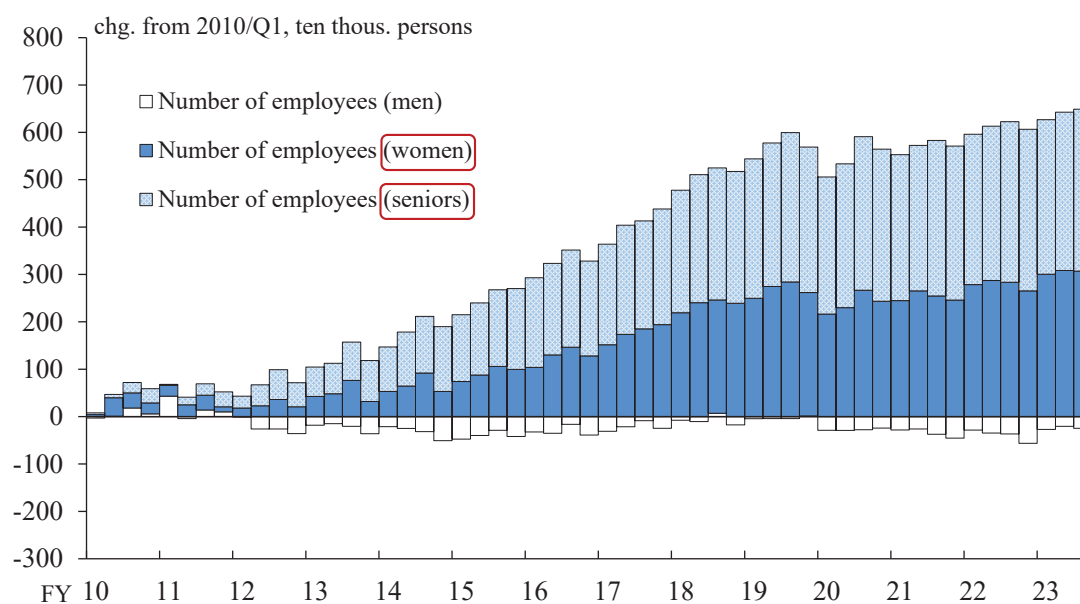
*Goods*



Note: Figures are the share of prices (based on the average for each item and city) that changed from the previous month (12-month backward moving average).  
 Data excludes fresh food, electricity, manufactured and piped gas, water charges, housing rent, periods of consumption tax hikes, and temporary price changes mainly due to special sales.

Source: Ministry of Internal Affairs and Communications.

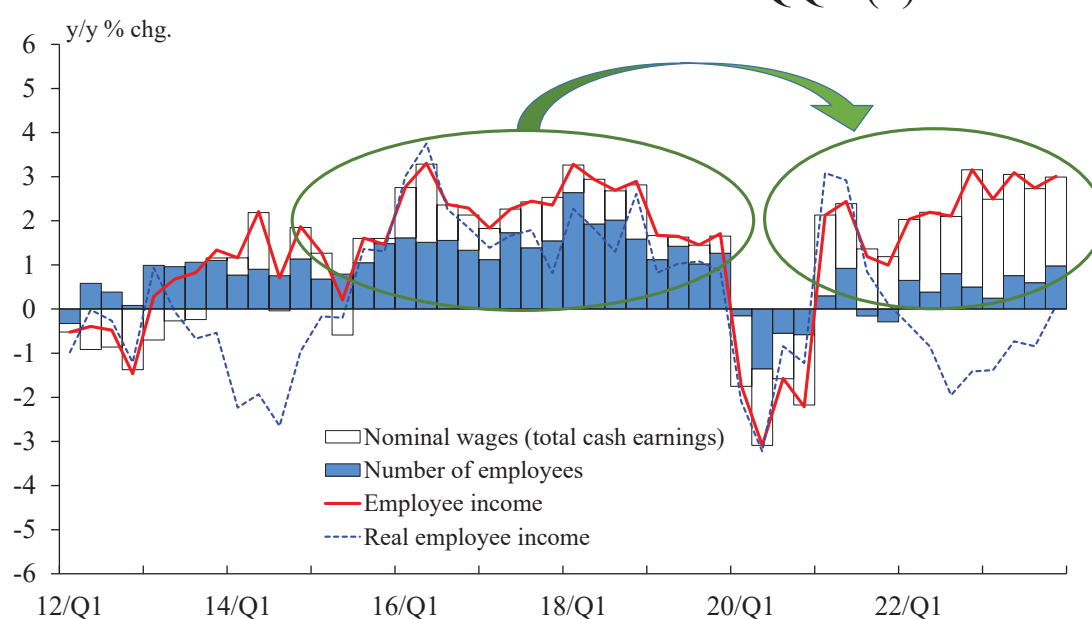
## Labor Market since the Start of QQE (1)



Note: Figures for women and men are for employees aged between 15 and 64, while those for seniors are for employees aged 65 and over.

Source: Ministry of Internal Affairs and Communications.

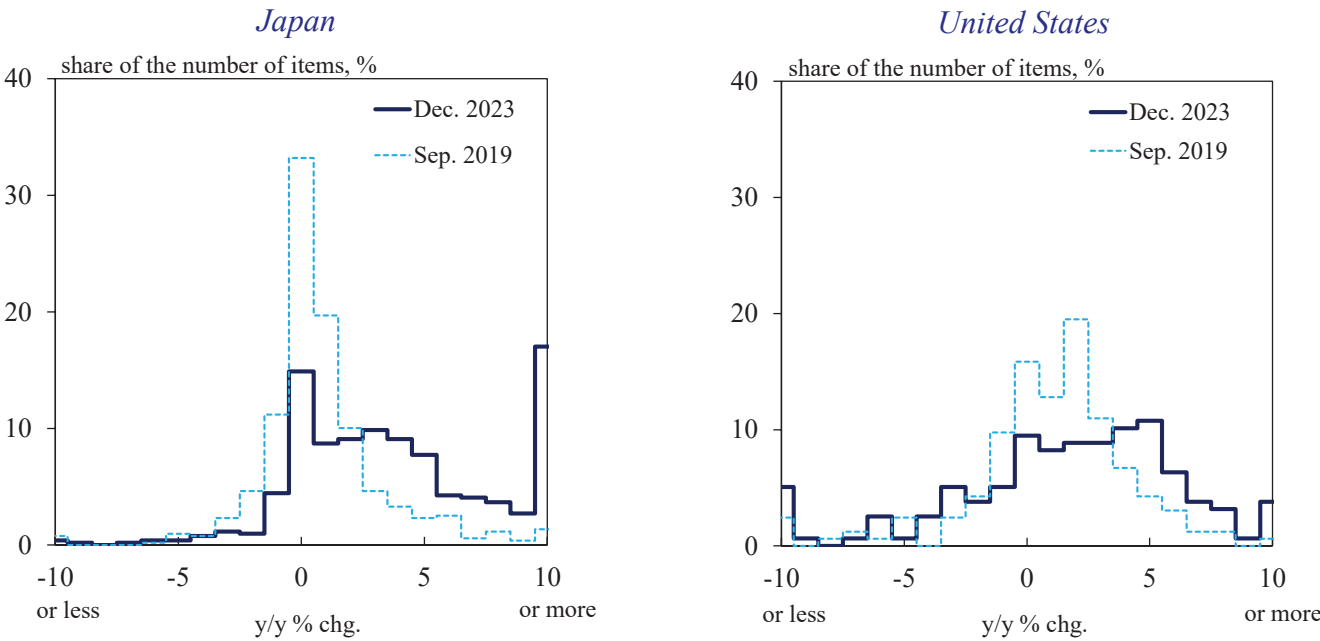
## Labor Market since the Start of QQE (2)



Note: In the chart, Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February. Employee income = Nominal wages (Monthly Labour Survey) × Number of employees (Labour Force Survey). Figures from 2016/Q1 onward are based on continuing observations following the sample revisions of the Monthly Labour Survey. Those for real employee income are based on staff calculations using the CPI (less imputed rent).

Sources: Ministry of Health, Labour and Welfare; Ministry of Internal Affairs and Communications.

Price Change Distribution (CPI)



Note: Figures for Japan are for the CPI (less fresh food and energy). Those for the United States are for the CPI (less energy).  
Sources: Ministry of Internal Affairs and Communications; Bureau of Labor Statistics.

Summary of This Story: Overall View

