

BOJ's QQE with Yield Curve Control

“Coping with Macroeconomic Vulnerabilities and Spillovers”

jointly organized by
the University of Tokyo and
the IMF Regional Office for Asia and the Pacific

November 7-8, 2016

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Bank of Japan

"Comprehensive Assessment"

Effects of Monetary Easing and Factors That Have Hampered Achieving 2 Percent Price Stability Target

- ✓ QQE has brought about improvements in economic activity and prices mainly through the decline in real interest rates.
 - ➔ Japan's economy is no longer in deflation.

- ✓ Factors That Have Hampered Achieving 2%
 - ➔ Headwinds that have lowered the observed inflation rate:
 - (a) the decline in crude oil prices
 - (b) the weakness in demand following the consumption tax hike in April 2014
 - (c) the slowdown in emerging economies and volatile global financial markets
 - ➔ Inflation expectations weakened amid the decline in the observed inflation rate, reflecting the fact that inflation expectations formation in Japan is largely adaptive.

Effects and Impact of the Negative Interest Rate

- ✓ The negative interest rate policy in combination with JGB purchases has pushed down not only short-term but also long-term interest rates substantially.

- ✓ The decline in JGB yields has translated into a decline in lending rates as well as interest rates on corporate bonds and CP.
 - ➔ However, the decline in lending rates has been brought about by reducing financial institutions' lending margins.

- ✓ Lower rates of return on insurance and pension products may cause a negative impact on economic activity by leading to a deterioration in people's sentiment.

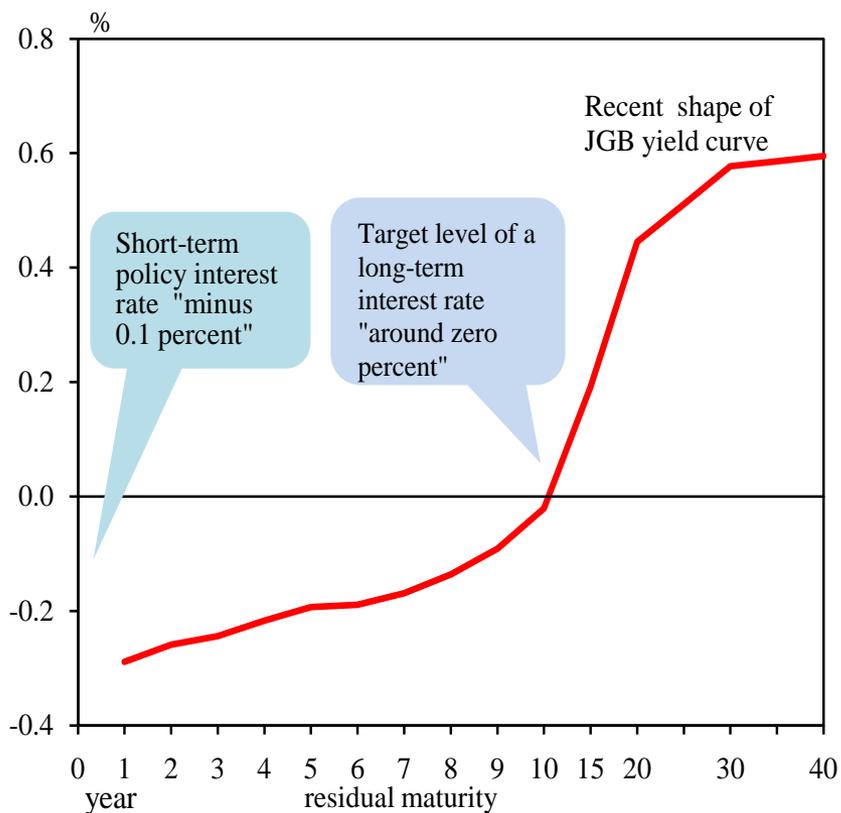
 **The Bank decided to introduce a new framework for strengthening monetary easing.**

"QQE with Yield Curve Control"

The Bank judged it appropriate to adopt a new policy framework that **enables the Bank to make more flexible adjustments** according to developments in economic activity and prices as well as financial conditions and that **enhances the sustainability of monetary easing**.

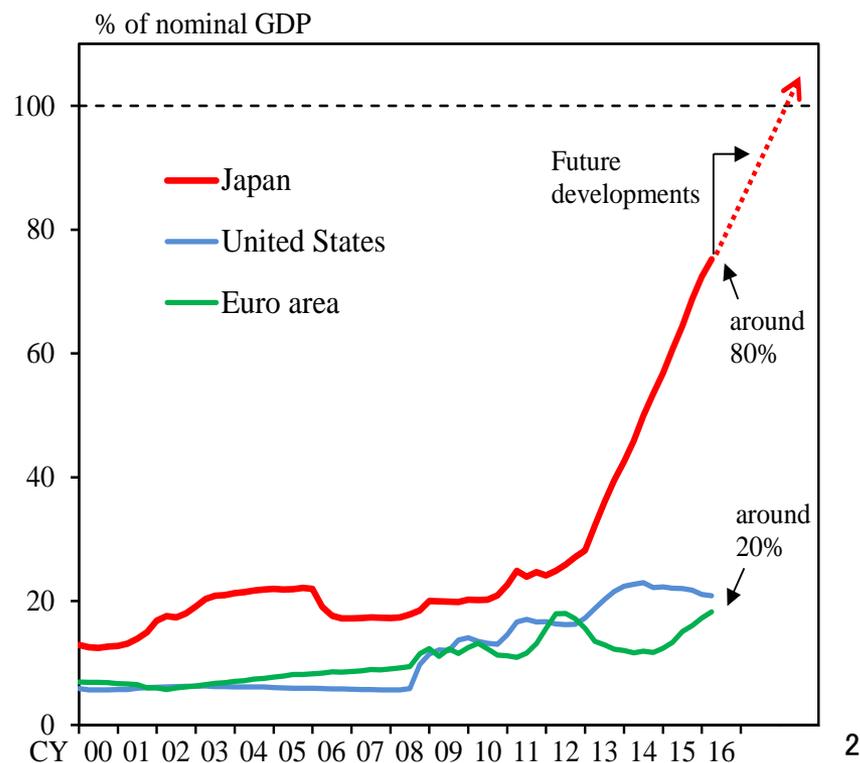
1. Yield Curve Control

The Bank will **encourage the formation of the most appropriate yield curve** with a view to **maintaining the momentum** toward achieving the price stability target of 2 percent.



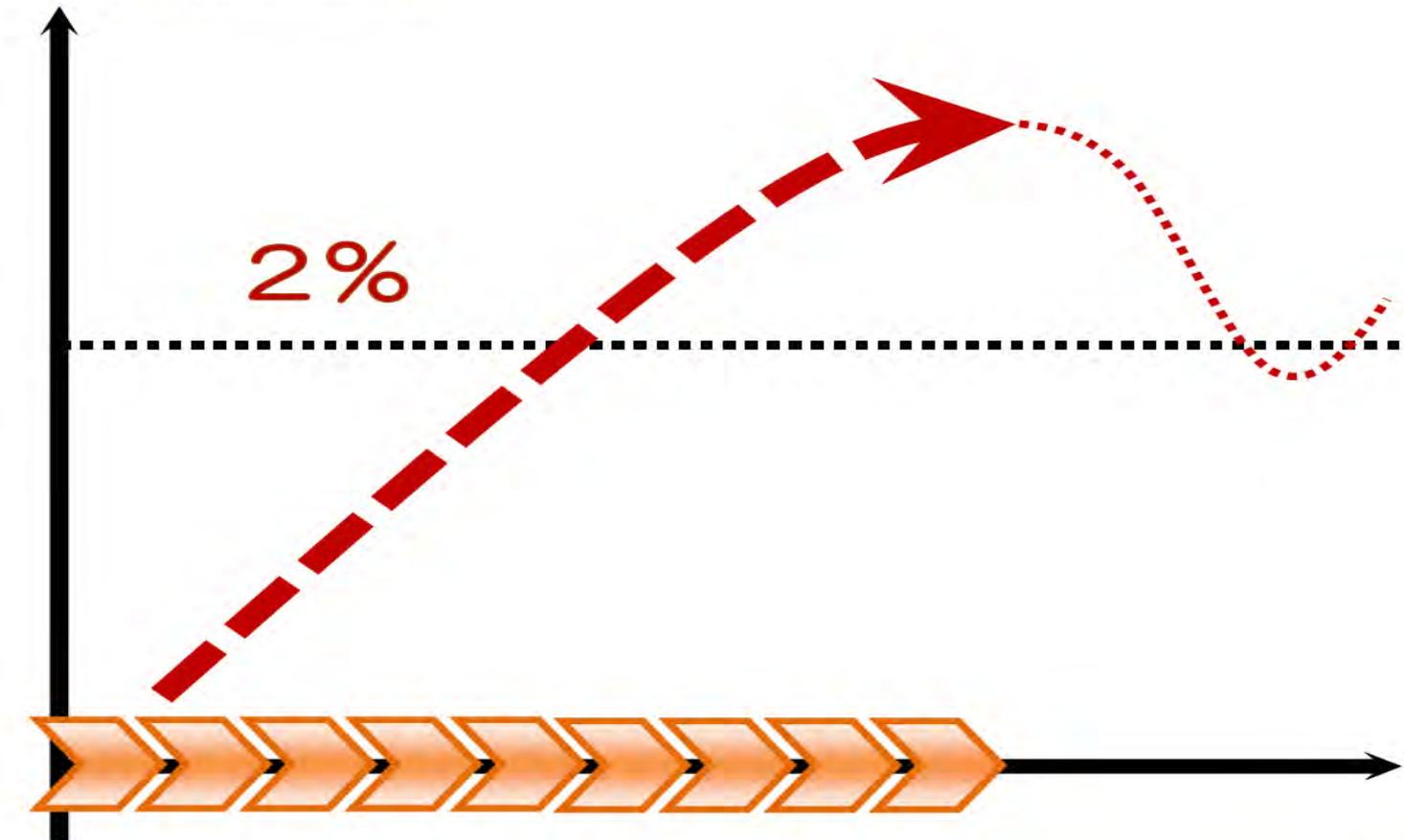
2. Inflation-overshooting Commitment

The Bank will **continue expanding the monetary base** until the year-on-year rate of increase in the **observed CPI (all items less fresh food) exceeds the price stability target of 2 percent and stays above the target in a stable manner**.



Inflation-overshooting Commitment

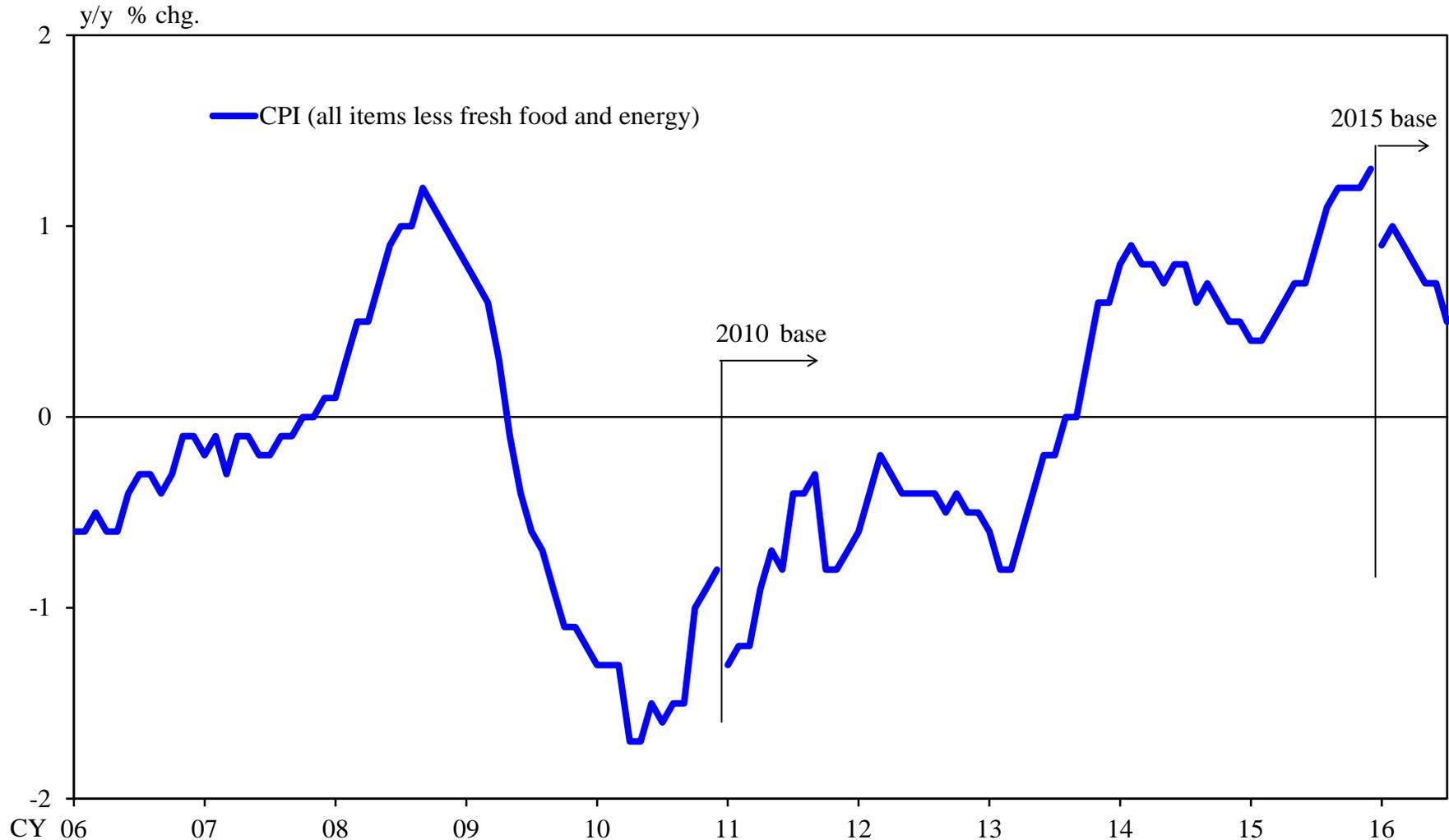
CPI inflation



Expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds and stays above 2 percent

Developments in Consumer Prices

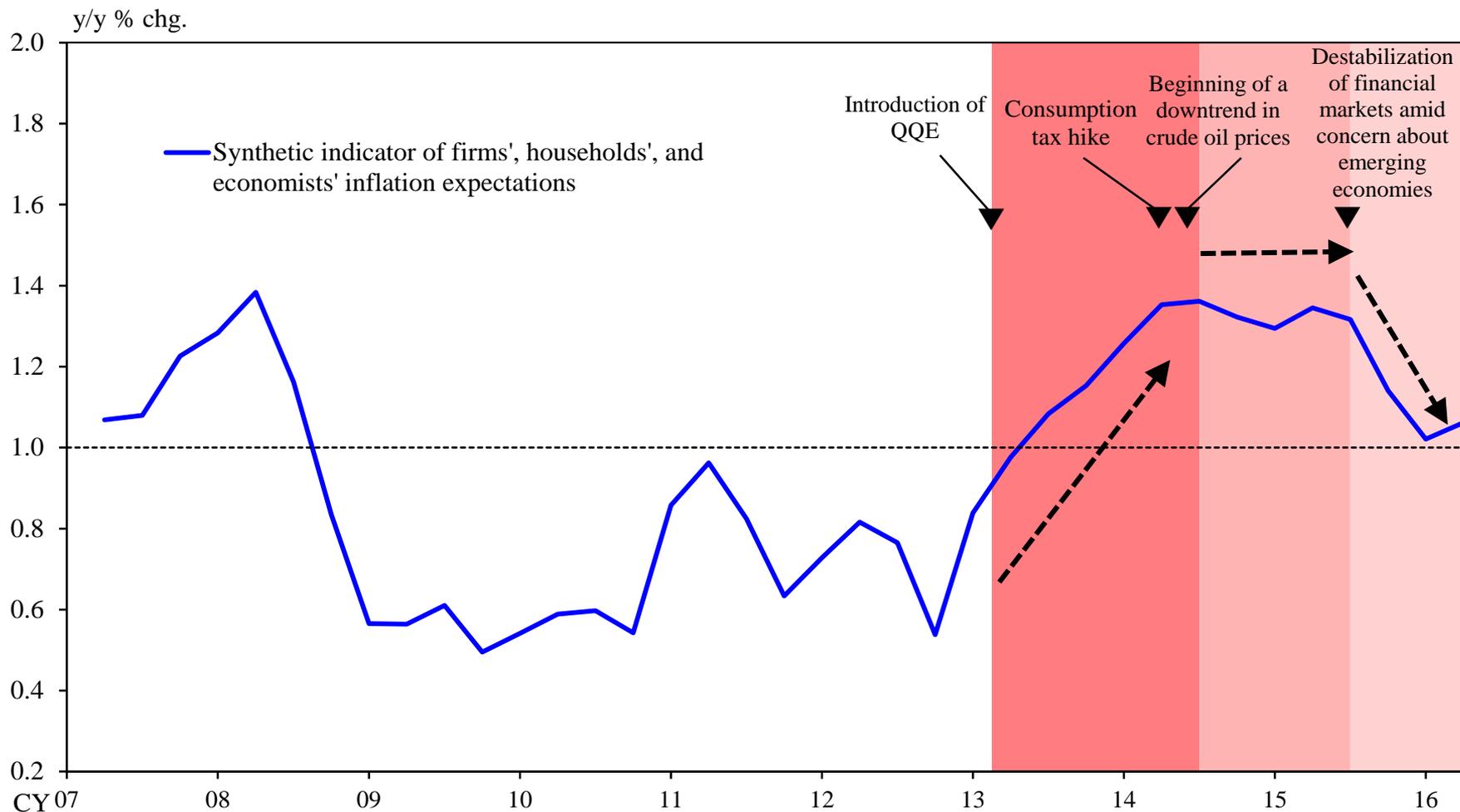
-- Japan's economy is no longer in deflation --



Note: Figures for the CPI (all items less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan, and are adjusted to exclude the estimated effects of changes in the consumption tax rate.

Source: Ministry of Internal Affairs and Communications.

Factors that Have Hampered Achieving 2 Percent Inflation -1



- Notes: 1. Inflation expectations of firms, households, and economists are represented by the *Tankan*, the "Opinion Survey," and the "Consensus Forecasts," respectively.
2. Semiannual data from the "Consensus Forecasts" up through 2014/Q2 are linearly interpolated. "Opinion Survey" figures exclude inflation expectations by respondents whose annual inflation expectations were +5% percent or greater and -5% percent or smaller. The output prices DI in the *Tankan* represents the difference between the share of firms that raised prices in the preceding three months and the share of firms that lowered prices.

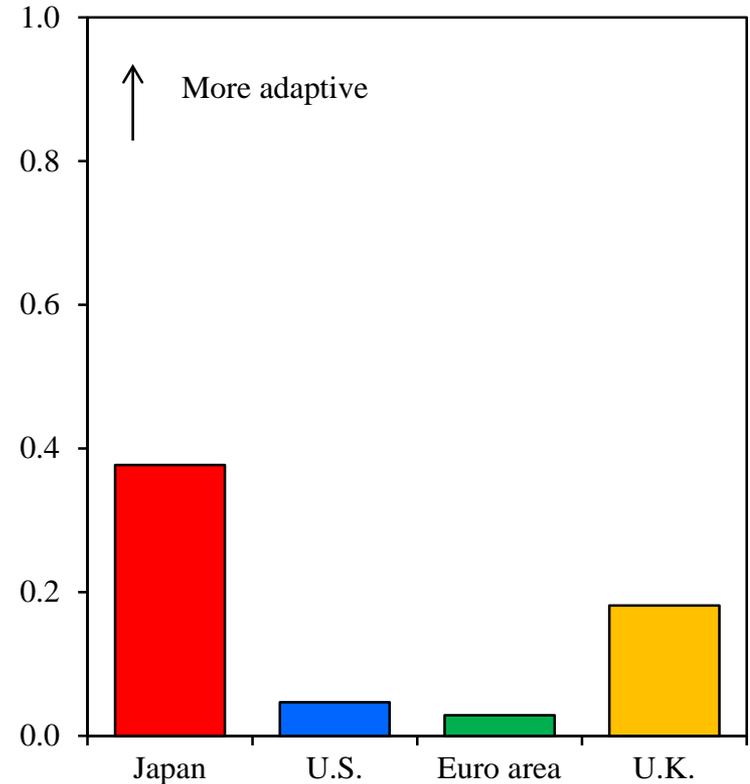
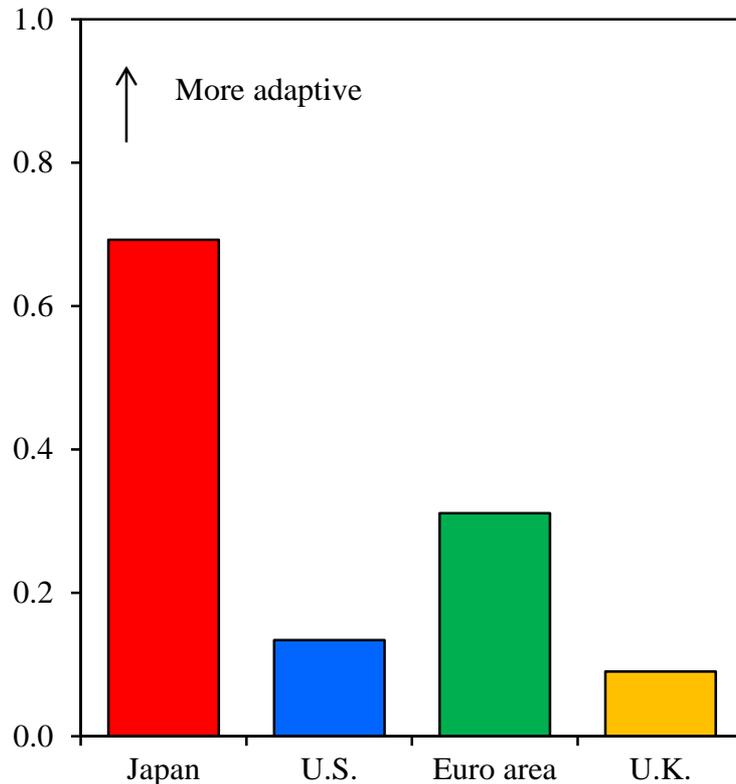
Sources: Consensus Economics Inc., "Consensus Forecasts"; Bank of Japan.

Factors that Have Hampered Achieving 2 Percent Inflation -2

-- Adaptive component of inflation expectations formation --

Contribution of Observed Inflation to 1-Year-Ahead Inflation Expectations

Contribution of Observed Inflation to 6-10 Years Ahead Inflation Expectations



Notes: 1. The estimation periods are as follows: 2000/Q1-2016/Q3 for Japan and the United States; 2003/Q2-2016/Q3 for the euro area; and 2005/Q1-2016/Q3 for the United Kingdom.

2. The observed inflation rate and inflation expectations in Japan are adjusted to exclude the estimated effects of changes in the consumption tax rate.

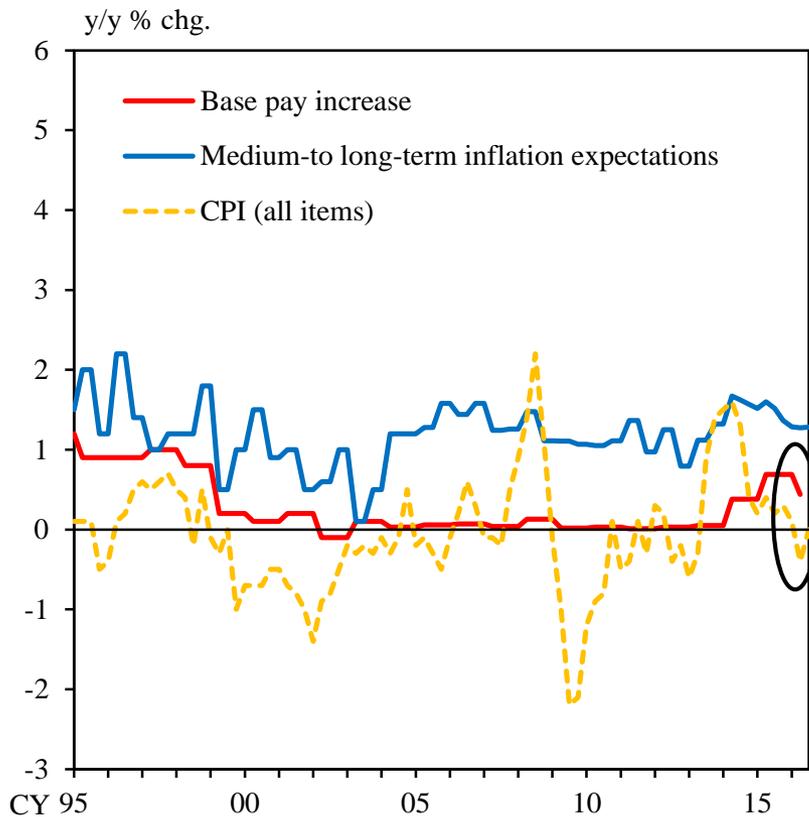
3. The observed inflation rates used in the estimation are CPI (all items).

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

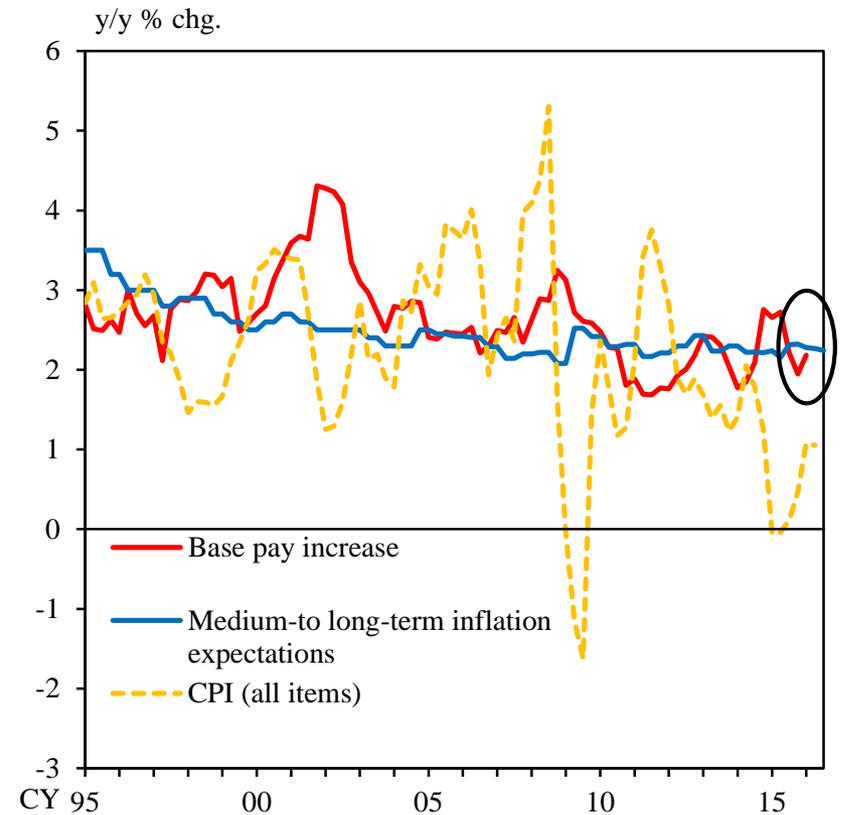
Inflation Expectations and Wages

Base pay Increase, Observed Inflation Rates, and Inflation Expectations

< *Japan* >



< *United States* >



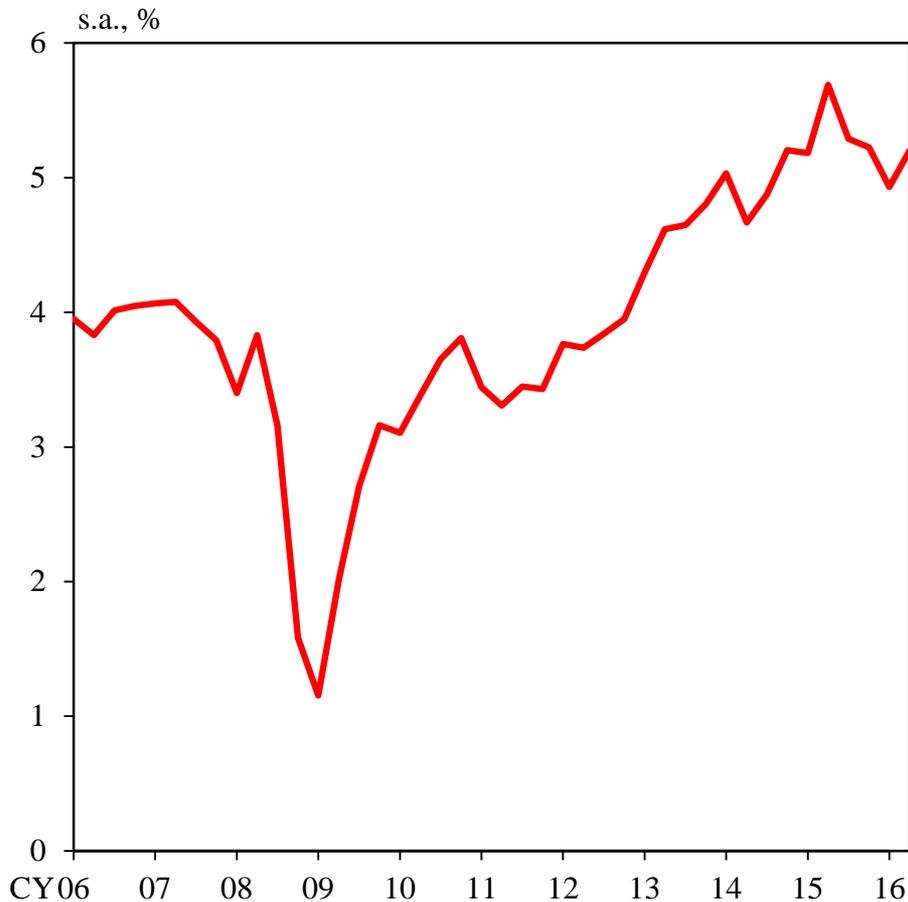
Note: Figures for the CPI (all items) in Japan are adjusted to exclude the estimated effects of changes in the consumption tax rate.

Sources: Central Labour Relations Commission; Japanese Trade Union Confederation (Rengo);

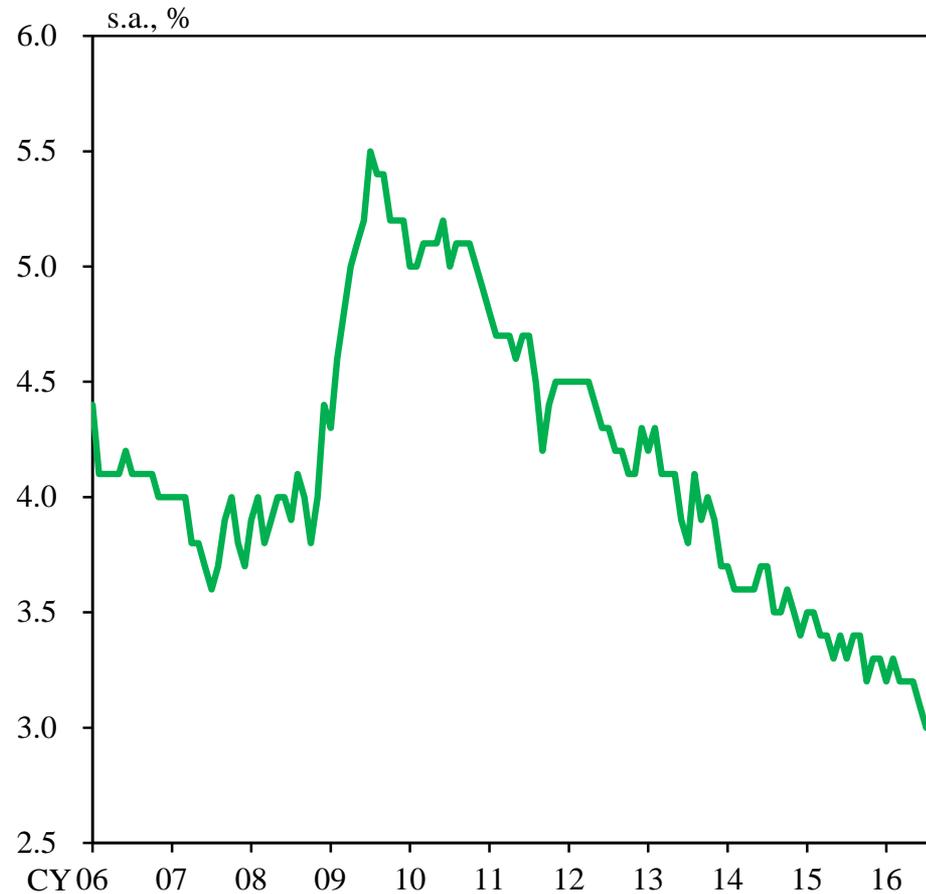
Ministry of Internal Affairs and Communications; BLS; CBO; Consensus Economics Inc., "Consensus Forecasts."

Corporate Profits and Labor Market Conditions

Ratio of Current Profits to Sales



Unemployment Rate

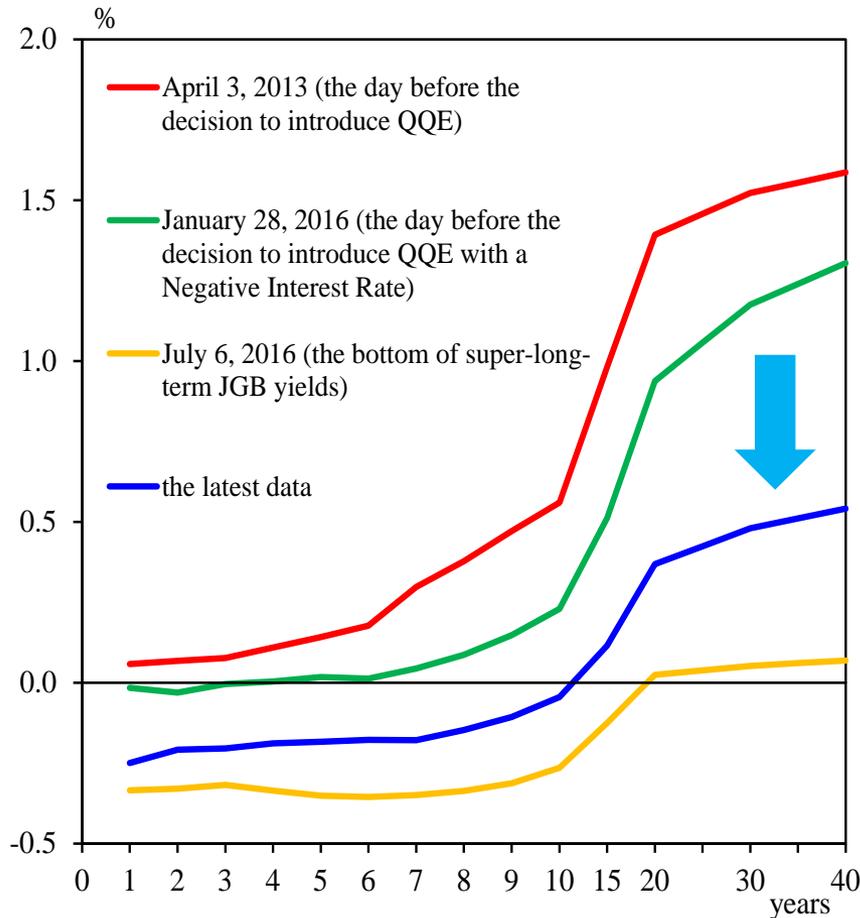


Note: Figures for the ratio of current profits to sales exclude "Finance and Insurance."

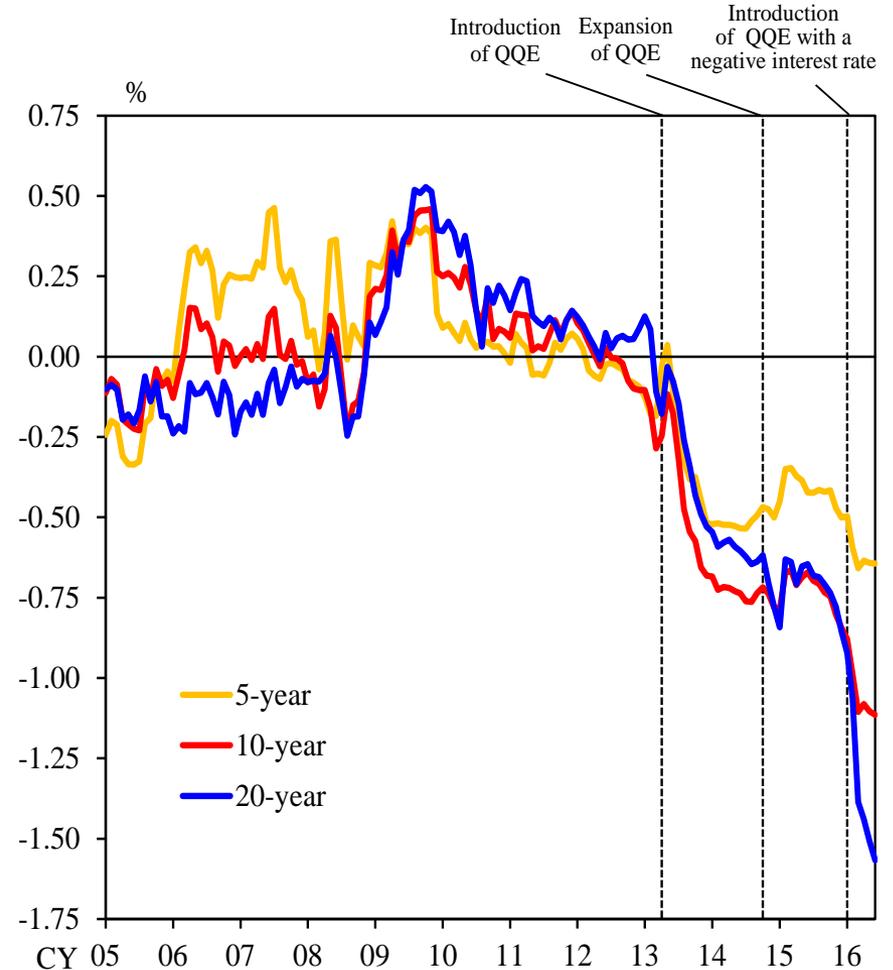
Sources: Ministry of Finance; Ministry of Internal Affairs and Communications.

Impact of Monetary Easing on Long-Term Interest Rates

Changes in the JGB Yield Curve



Estimated Effects of Monetary Easing on JGB Yields of Different Maturities



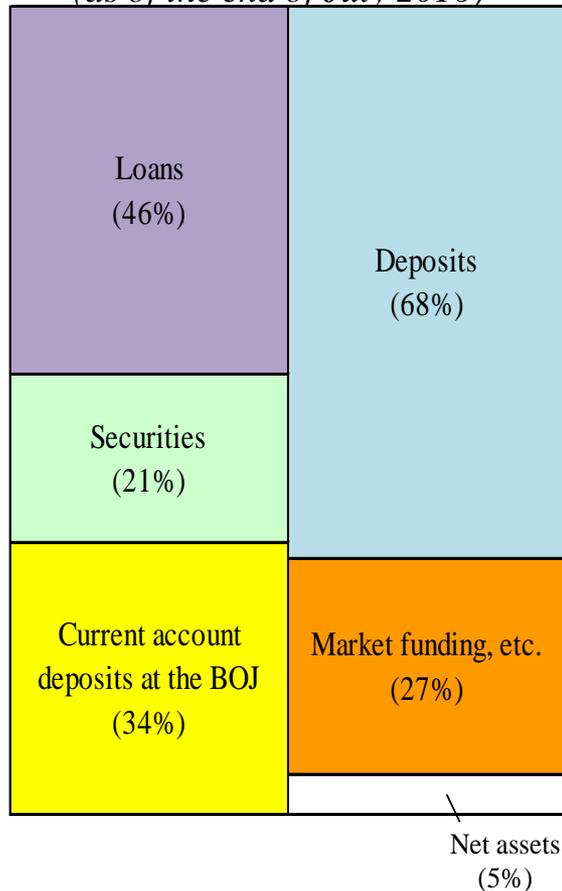
Note: Figures for the estimated effects of monetary easing show the residuals obtained in a panel regression of JGB yields (for 5 years, 10 years and 20 years) on 10-year U.S. Treasury yields, the year-on-year percentage change in the CPI (all items less fresh food), and the active job openings-to-applicants ratio. The estimation period is from January 1997 to March 2013. The data end in June 2016.

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

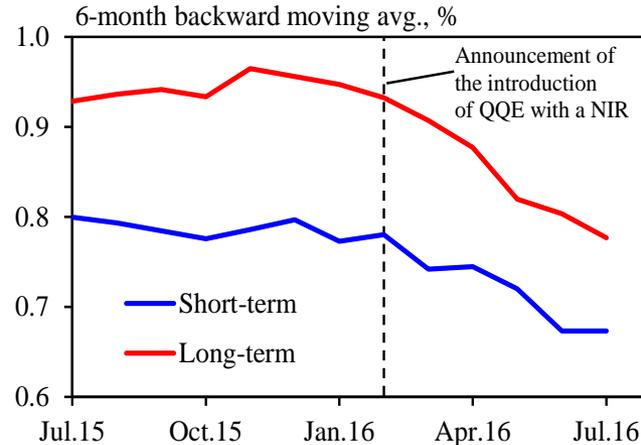
Impact of the Negative Interest Rate on Financial Institutions

Breakdown of Domestically Licensed Banks' Domestic Branches' Assets and Liabilities

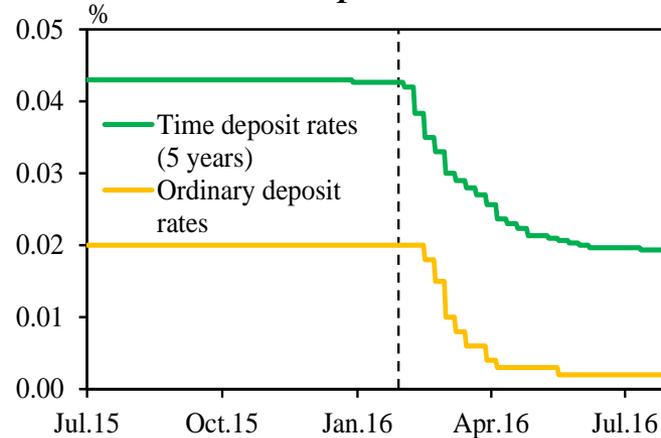
(as of the end of July 2016)



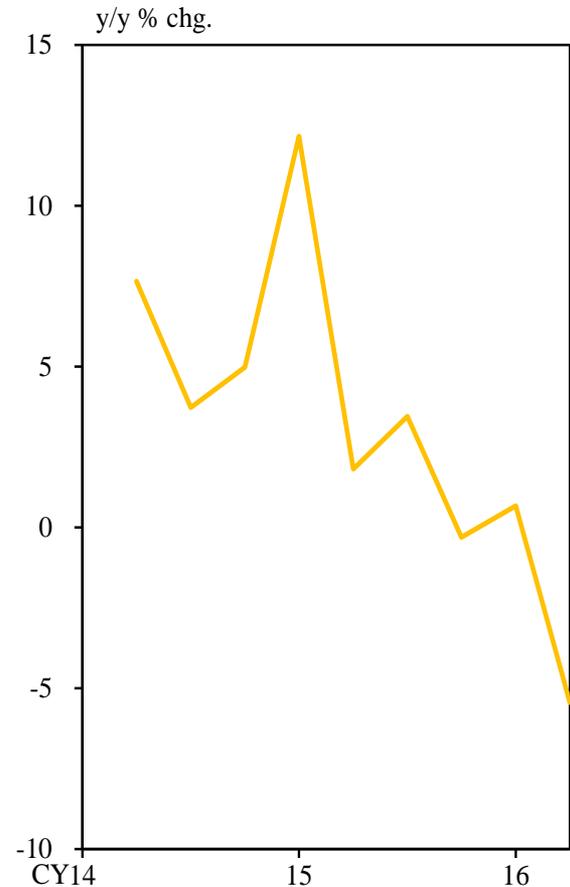
Bank Lending Rates



Bank Deposit Rates



Premium Income of Life Insurance Companies



Notes: 1. Figures for banks' assets and liabilities exclude the Japan Post Bank.

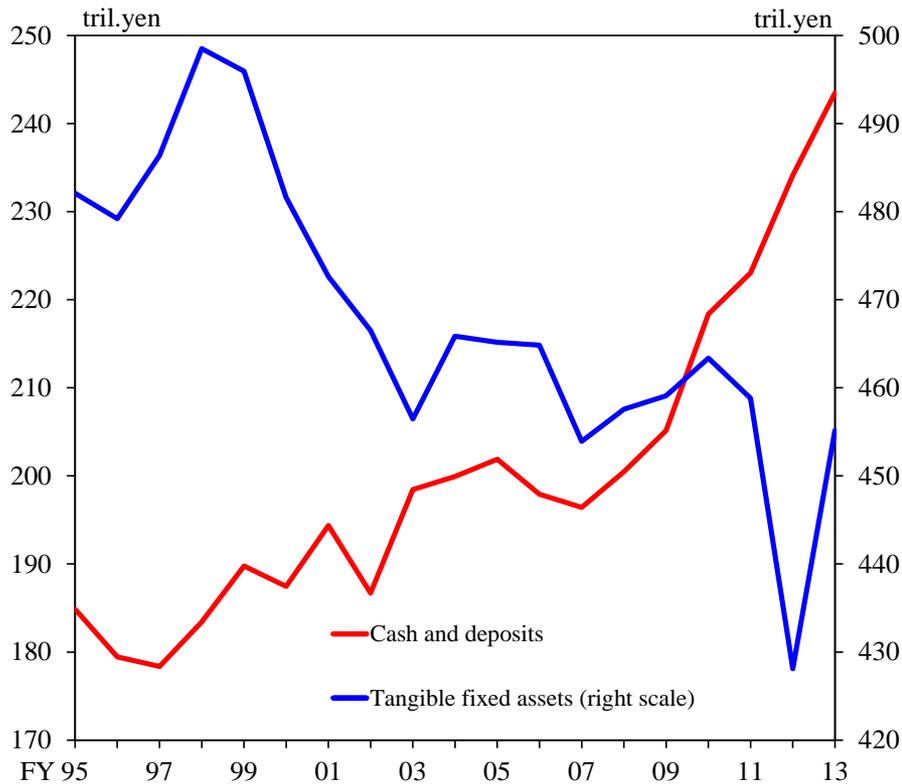
2. Figures for bank lending rates are average contract interest rates on new loans and discounts.

Source: Bank of Japan; The Life Insurance Association of Japan.

Equilibrium in Deflation

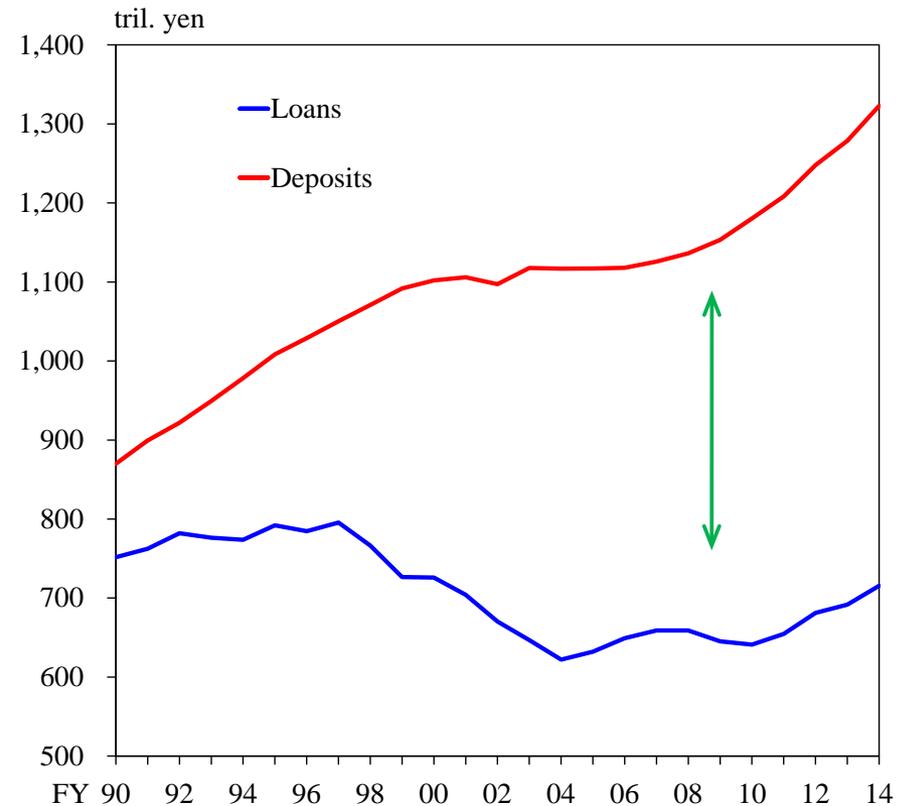
<Business Firms>

Cash and Deposits and Fixed Assets



<Banks>

Amount Outstanding of Loans and Deposits

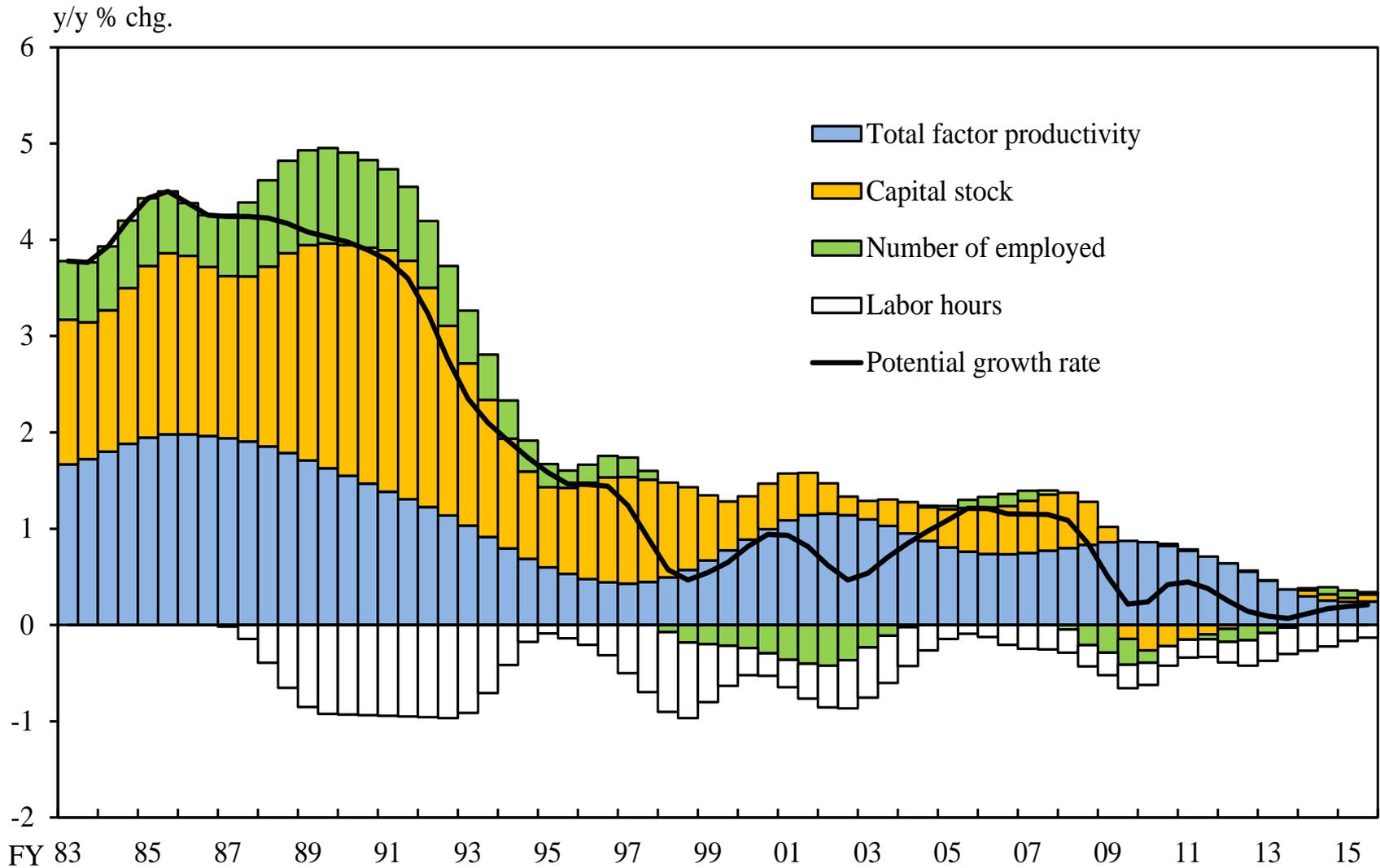


Note: Figures for the amount outstanding of cash and deposits are based on nonfinancial corporations in the "Flow of Funds."

Figures for tangible fixed assets are based on all industries and enterprises excluding finance and insurance in the "Financial Statements Statistics of Corporations by Industry, Annually."

Sources: Bank of Japan; Ministry of Finance.

Potential Growth Rate



Note: The potential growth rate is estimated by the Research and Statistics Department, Bank of Japan.

Sources: Cabinet Office; Bank of Japan; Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry; Research Institute of Economy, Trade and Industry.

Possible Options for Additional Easing

The Bank will take **additional easing measures** if judged necessary with a view to **maintaining the momentum** toward achieving the price target of 2 percent.

Possible options for additional easing:

- (1) Cut the short-term policy interest rate
- (2) Cut the target level of a long-term interest rate
- (3) Expand asset purchases
- (4) If the situation warrants it, an acceleration of expansion of the monetary base may also be an option.