

Overcoming Deflation: Japan's Experience and Challenges Ahead

*Speech at the 2019 Michel Camdessus Central Banking Lecture,
International Monetary Fund*

July 22, 2019

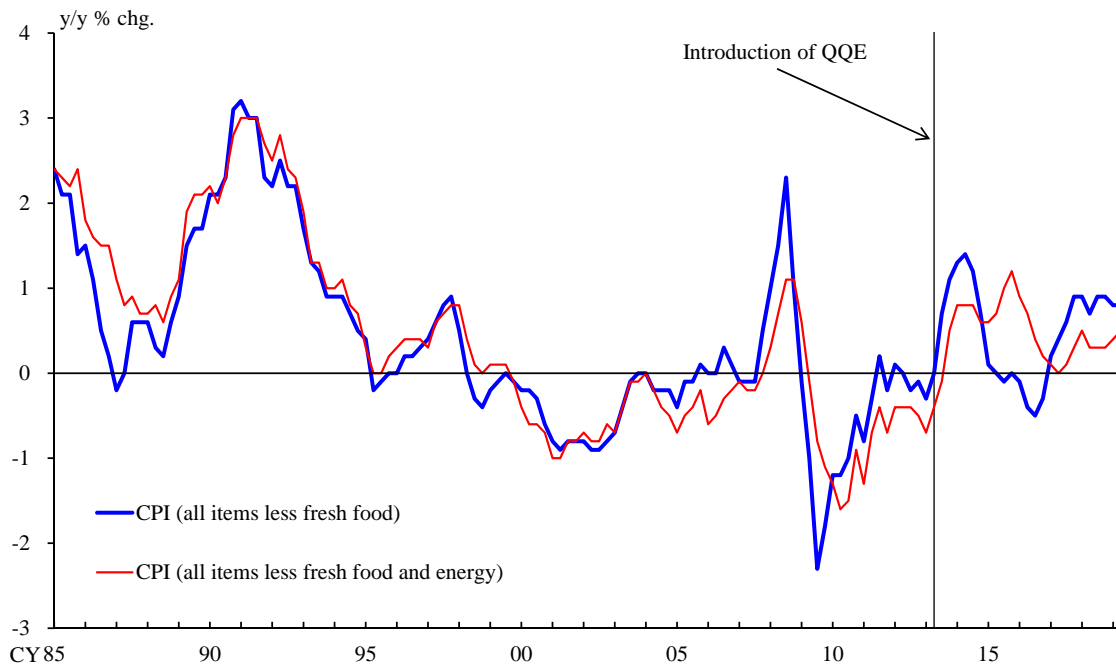
Haruhiko Kuroda
Governor of the Bank of Japan

Introduction

- I. Chronic Deflation, and Quantitative and Qualitative Monetary Easing (QQE)
- II. Lessons Learned from Japan's Experience and Challenges Ahead

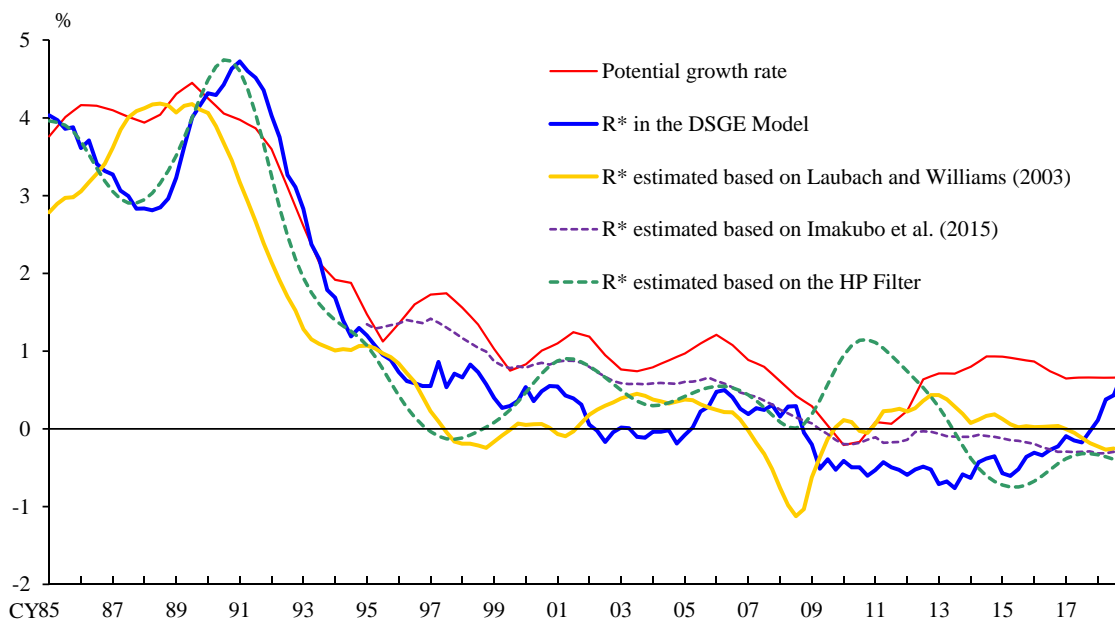
Conclusion

Consumer Prices



Note: Figures are adjusted for changes in the consumption tax rate.
Source: Ministry of Internal Affairs and Communications.

Natural Rate of Interest



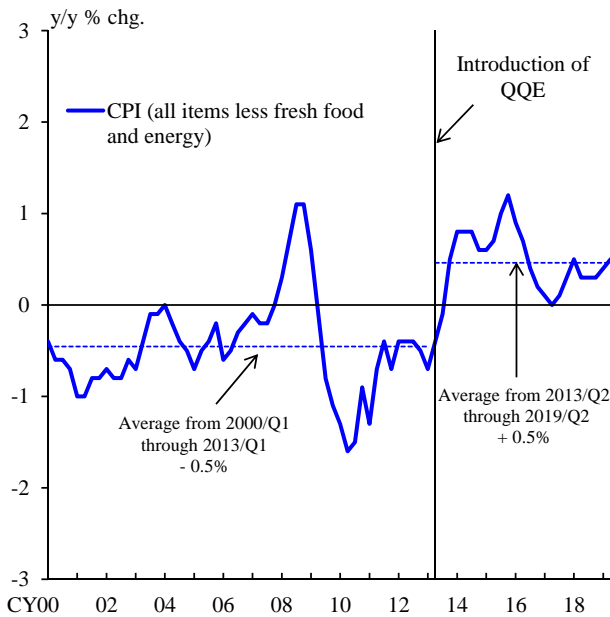
Notes: 1. Figures for the potential growth rate are based on staff estimations.

2. For details of the methodologies used in this chart, see Nao Sudo, Yosuke Okazaki, and Yasutaka Takizuka, "Determinants of the Natural Rate of Interest in Japan: Approaches Based on a DSGE Model and OG Model," *Bank of Japan Research Laboratory Series*, no.18-E-1, 2018.

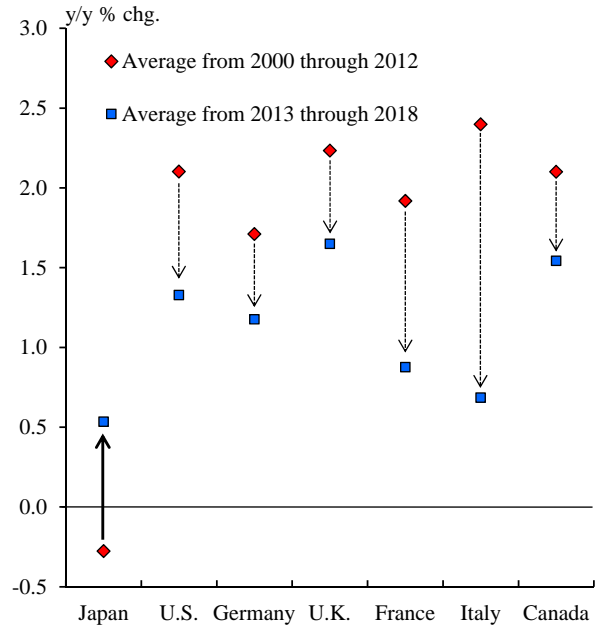
Sources: Consensus Economics Inc., "Consensus Forecasts"; Bank of Japan.

QQE and Price Developments

Japan's Consumer Prices



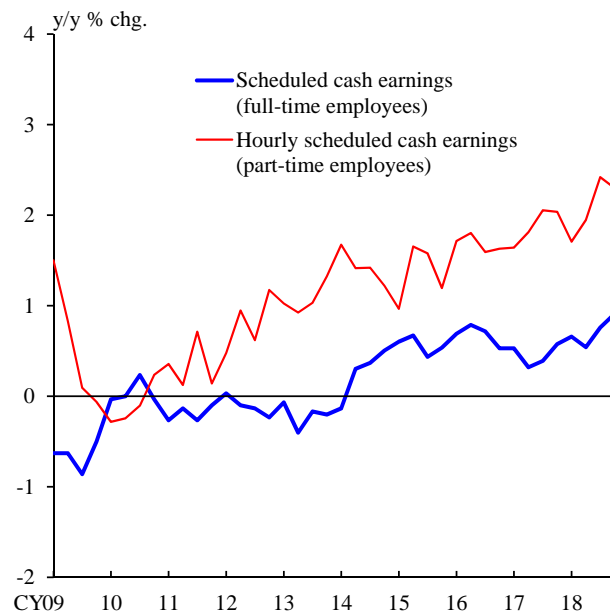
Price Developments in G7 Countries



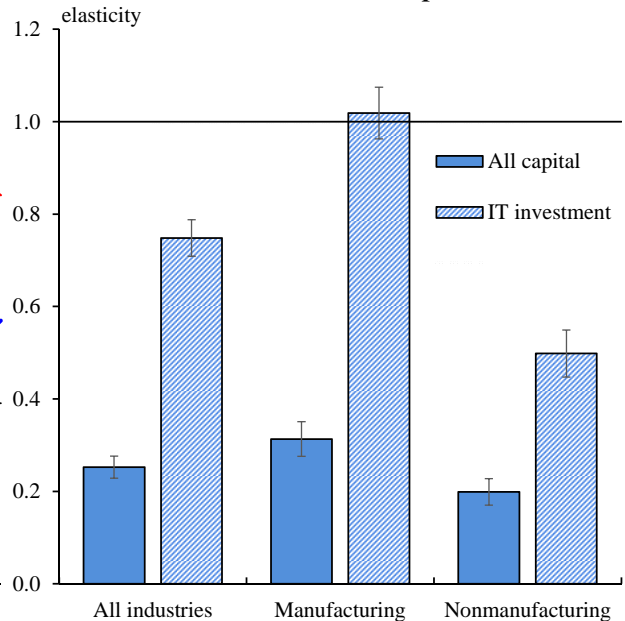
Notes: 1. Figures for Japan are adjusted for changes in the consumption tax rate.
 2. In the right chart, figures for Japan, U.K., and Canada are the CPI; those for U.S. are the PCE deflator; and those for the euro area countries are the HICP.
 Sources: Ministry of Internal Affairs and Communications; Haver.

Mechanism of Constraint on ULC

Wages of Full-Time and Part-Time Employees



Elasticity of Substitution between Labor and Capital



Notes: 1. In the left chart, Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February. Figures from 2013/Q1 are based on corrected figures adjusted for establishments in Tokyo with 500 or more employees. Figures from 2016/Q1 are based on continuing observations following the sample revisions of the "Monthly Labour Survey."
 2. In the right chart, the impacts of changes in the ratio of capital cost to real wages on the capital-labor ratio are estimated by the data classified by type of industries. The estimation period is 1995-2017. Industry fixed effects are considered. The error bands indicate ± 1 standard deviation.
 Sources: Ministry of Health, Labour and Welfare; Ministry of Finance; Cabinet Office; Bloomberg; Bank of Japan.

Forward Guidance for Policy Rates

BOJ's Forward Guidance

July 2018

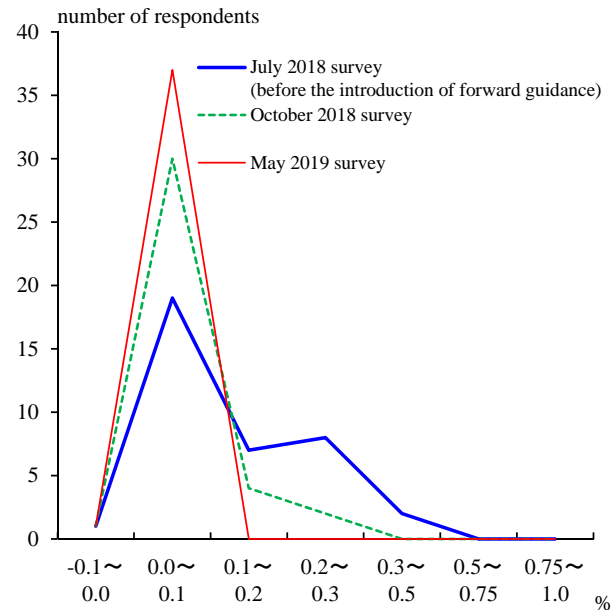
"The Bank intends to maintain the current extremely low levels of short- and long-term interest rates for an extended period of time, taking into account uncertainties regarding economic activity and prices including the effects of the consumption tax hike scheduled to take place in October 2019."



April 2019

"The Bank intends to maintain the current extremely low levels of short- and long-term interest rates for an extended period of time, at least through around spring 2020, taking into account uncertainties regarding economic activity and prices including developments in overseas economies and the effects of the scheduled consumption tax hike."

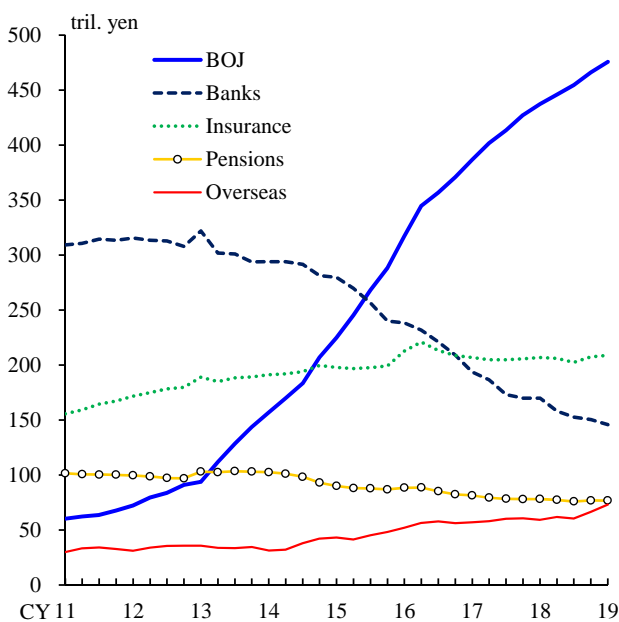
Forecasts for the Target Level of the Long-Term Interest Rate at End-2019



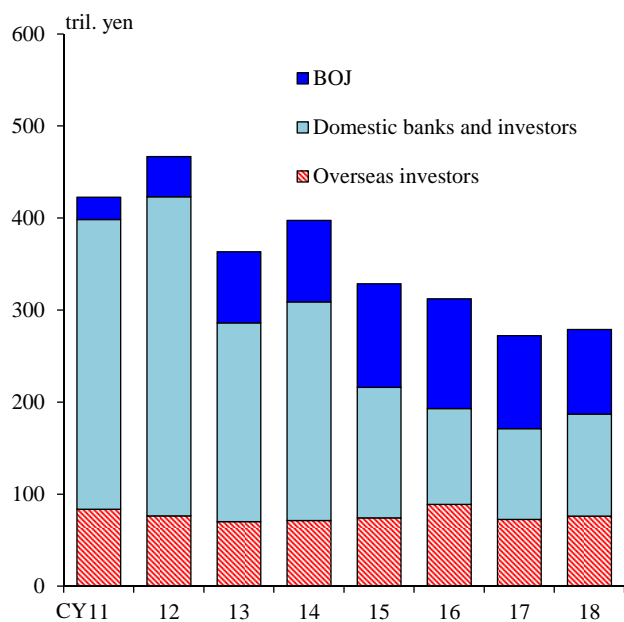
Source: JCER, "ESP Forecast."

Structure of the JGB Market

Amount of Holdings by Sector (Stock Basis)



Transaction Volume by Sector (Flow Basis)



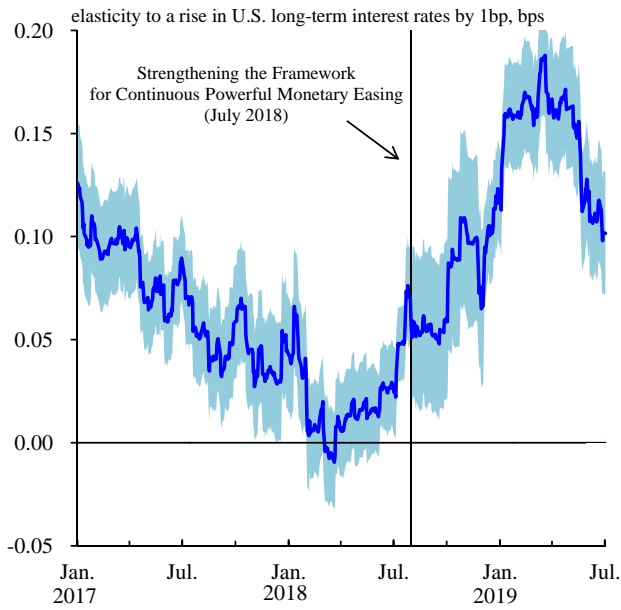
Notes: 1. JGBs exclude T-Bills.

2. In the right chart, figures basically indicate the amount of JGBs sold by dealers, excluding inter-dealer transactions. Note that figures for "BOJ" indicate the total amount of JGBs purchased by the BOJ, including those from entities other than dealers.

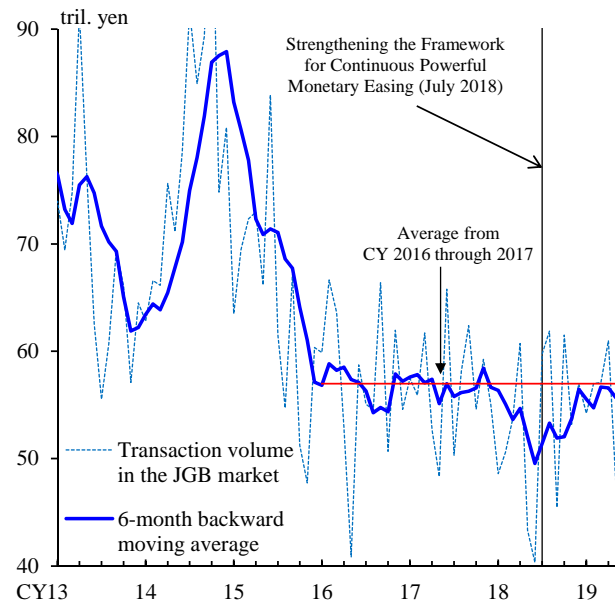
Sources: JSDA; Bank of Japan.

Functioning of the JGB Market

JGB Yield Elasticity to U.S. Long-Term Interest Rates



Developments in the JGB Transaction Volume



Notes: 1. In the left chart, figures are slopes in a simple regression model (90-day backward rolling regression) in which the dependent variable is daily changes of 10-year JGB yields and the explanatory variable is daily changes of 10-year U.S. Treasury yields (one-period lag). Shaded areas indicate ± 1 standard error bands.

2. In the right chart, the transaction volume is the gross amount purchased by banks, investors, and bond dealers. JGBs exclude T-Bills.

Sources: Bloomberg; JSDA.