In search of post-QQE monetary policy for Japan

Tomo Kinoshita
Chief Economist
Nomura Securities Co.
tomo.kinoshita@nomura.com

Nov 2015

Connecting Markets East & West

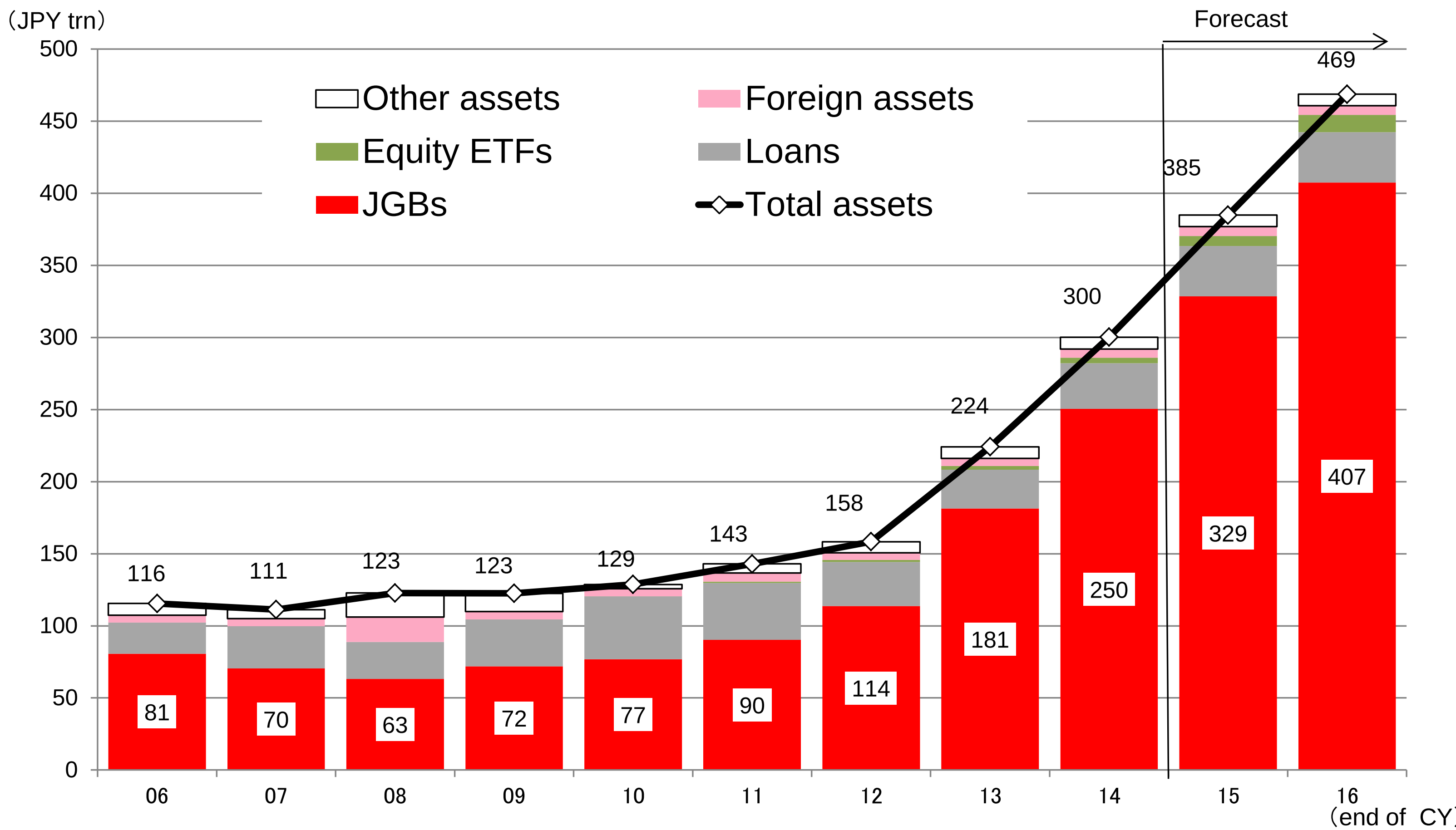
See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

Any authors named on this report are research analysts unless otherwise indicated.

Quantitative and Qualitative Monetary Easing (QQE)

NOMURA

Projection of the BOJ's balance sheet



Source: Nomura, BOJ

Short-term monetary policy outlook -1

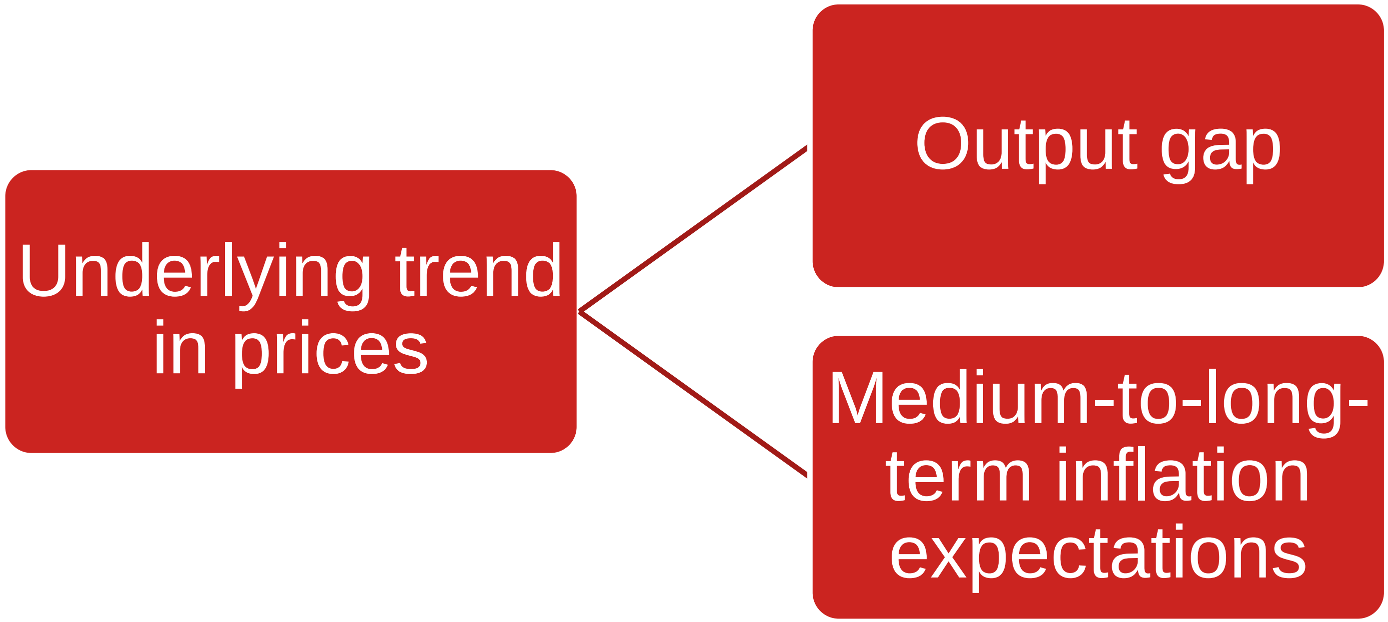
Annual asset purchase program under the BOJ's QQE policy

	QQE1	QQE2	QQE3 (Nomura's forecast)
Starting month	Apr. 2013	Oct. 2014	Apr. 2016
Long-term JGBs	JPY50trn	JPY80trn	JPY80trn
Equity ETFs	JPY1trn	JPY3trn	JPY6trn
JREITS	JPY30bn	JPY90bn	--

Source: BOJ, Nomura

Short-term monetary policy outlook -2

Key issues under the QQE policy

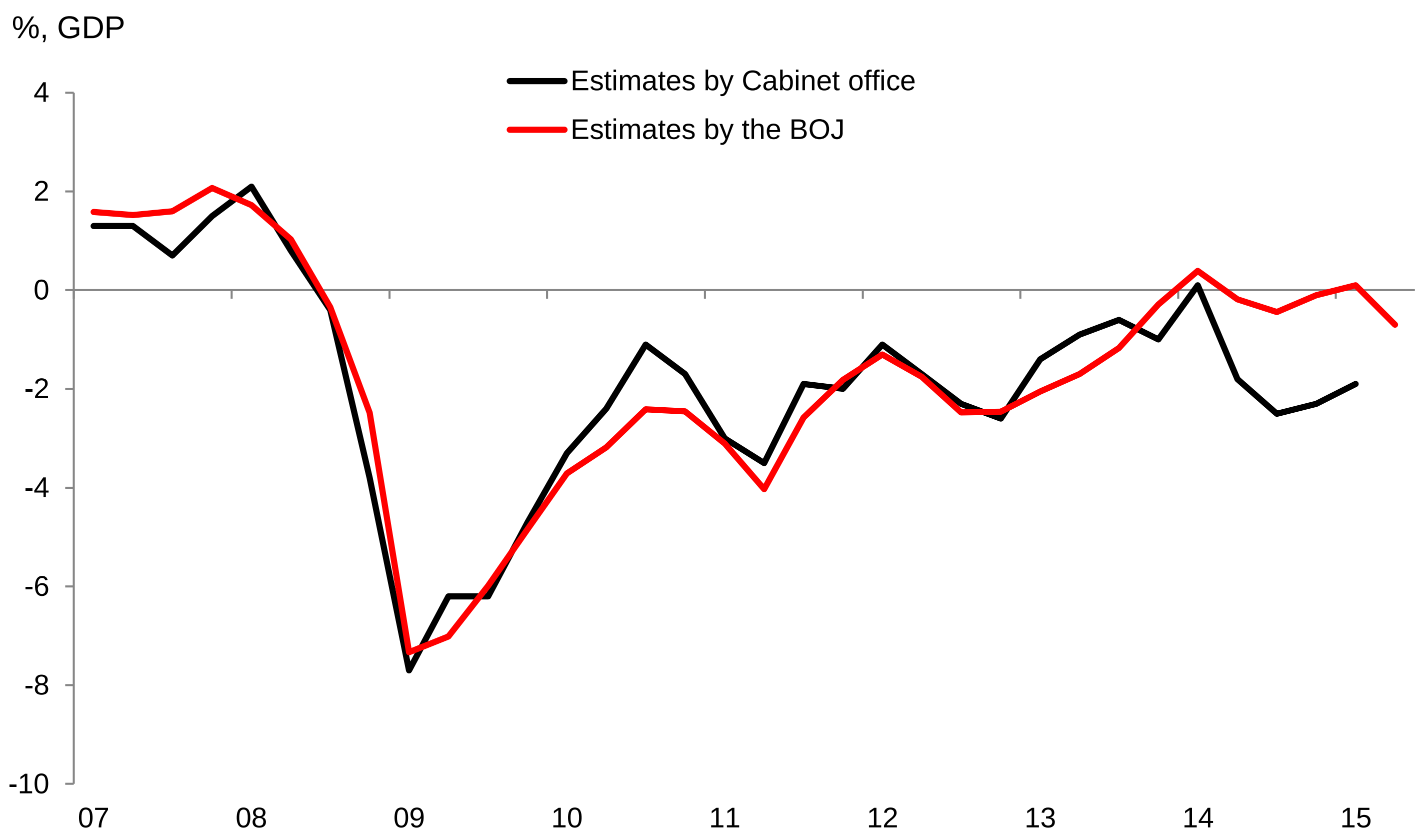


Source: BOJ, Nomura

Short-term monetary policy outlook -3

- Output gap is likely to improve over time

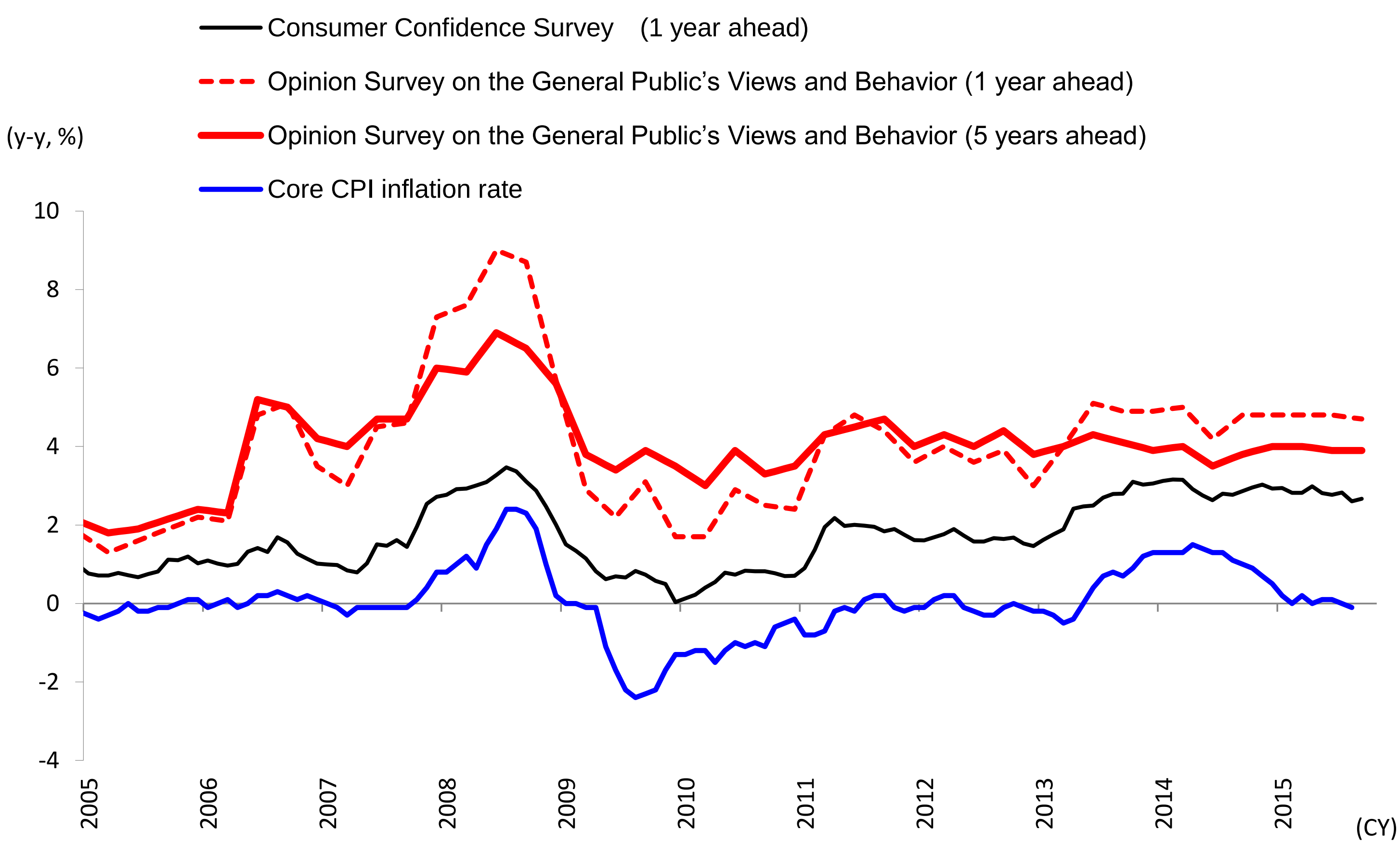
Output gap as measured by the BOJ and the Cabinet Office



Source: BOJ, Cabinet Office, Nomura

➢ Inflation expectations stay at relatively high level despite lower actual inflation

Inflation expectations as surveyed by BOJ etc. and actual inflation

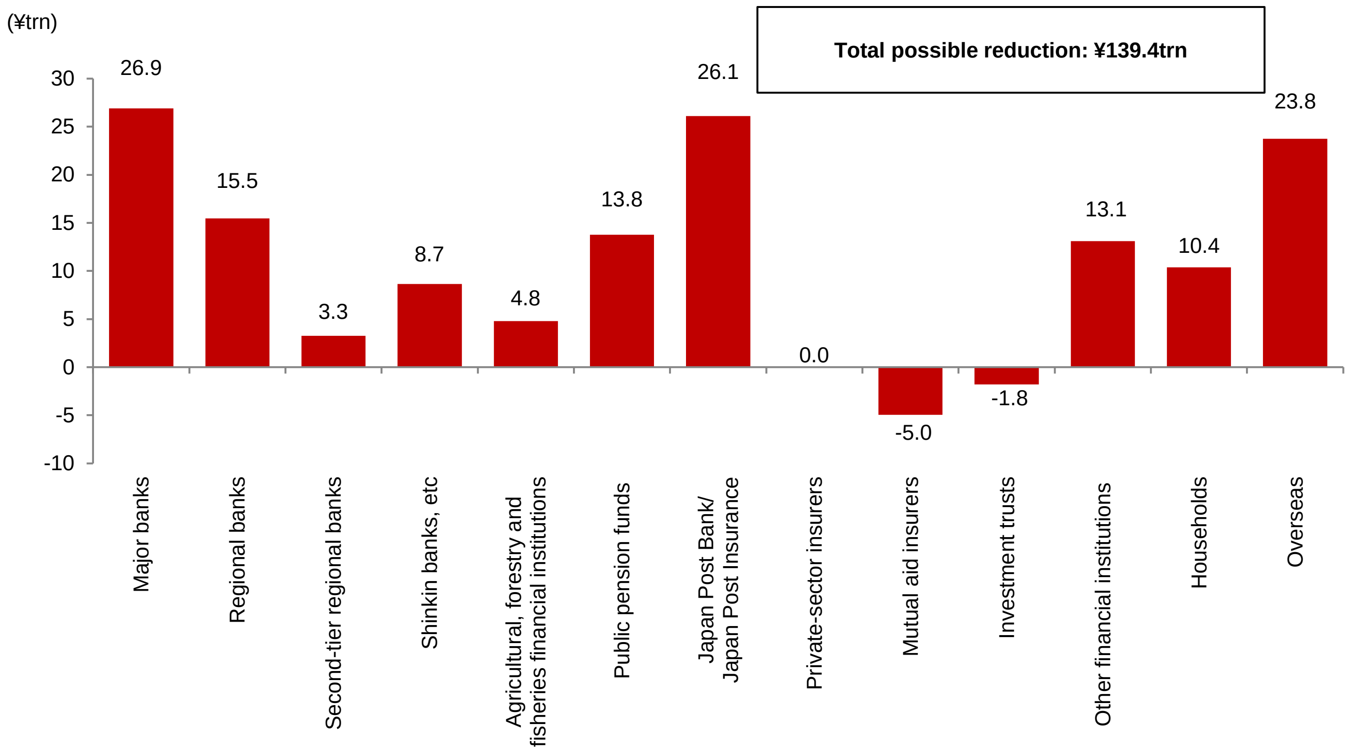


Source: BOJ, Cabinet Office, Nomura

Short-term monetary policy outlook -5

NOMURA

Estimated possible reduction in long-term JGB holdings by major investors in FY15–17



Supply of JGBs that the BOJ can purchase over FY15-17

= JPY139.4trn + JPY84trn

= JPY223.4trn

Note: We assumed that the government issues JPY84trn JGBs on a net basis during FY15-17. (28 × 3 = 84)

Note: Positive figures indicate sales, negative figures indicate purchases. See the appendix on pp 9–10 for details of the assumption on which these estimates are based.
Source: Nomura

Estimation of potential reductions in long-term JGB holdings by financial institutions (total for FY15–17)

(1) Major banks, regional banks, second-tier regional banks
Our calculation is based on the following relationship:
Potential reduction in long-term JGB holdings = long-term JGB holdings – long-term JGB collateral demand
Our estimate of long-term JGB holdings as of March 2015 is extrapolated from JGB holdings included in financial statements for the period ended March 2014 and refers to JGB holdings data included in Assets and Liabilities of Domestically Licensed Banks (Banking Accounts) published by the BOJ. We assume 80% of JGB holdings are long-term JGBs. Our estimation of long-term JGB collateral demand at end-March 2014 assumes 70% of securities held as collateral, based on data disclosed by banks, are JGBs and that of that amount, 80% are long-term JGBs.
Major banks refers to Bank of Tokyo-Mitsubishi UFJ, Mizuho Bank, Sumitomo Mitsui Banking, Resona Bank, Saitama Resona Bank, Shinsei Bank, and Aozora Bank. Some take that view that regional banks and second-tier regional banks are not willing to sell JGBs. However, about ¥25trn of their JGB holdings as of March 2014 are maturing in less than three years. If they are unwilling to reinvest after these JGBs mature, their JGB holdings will decline.

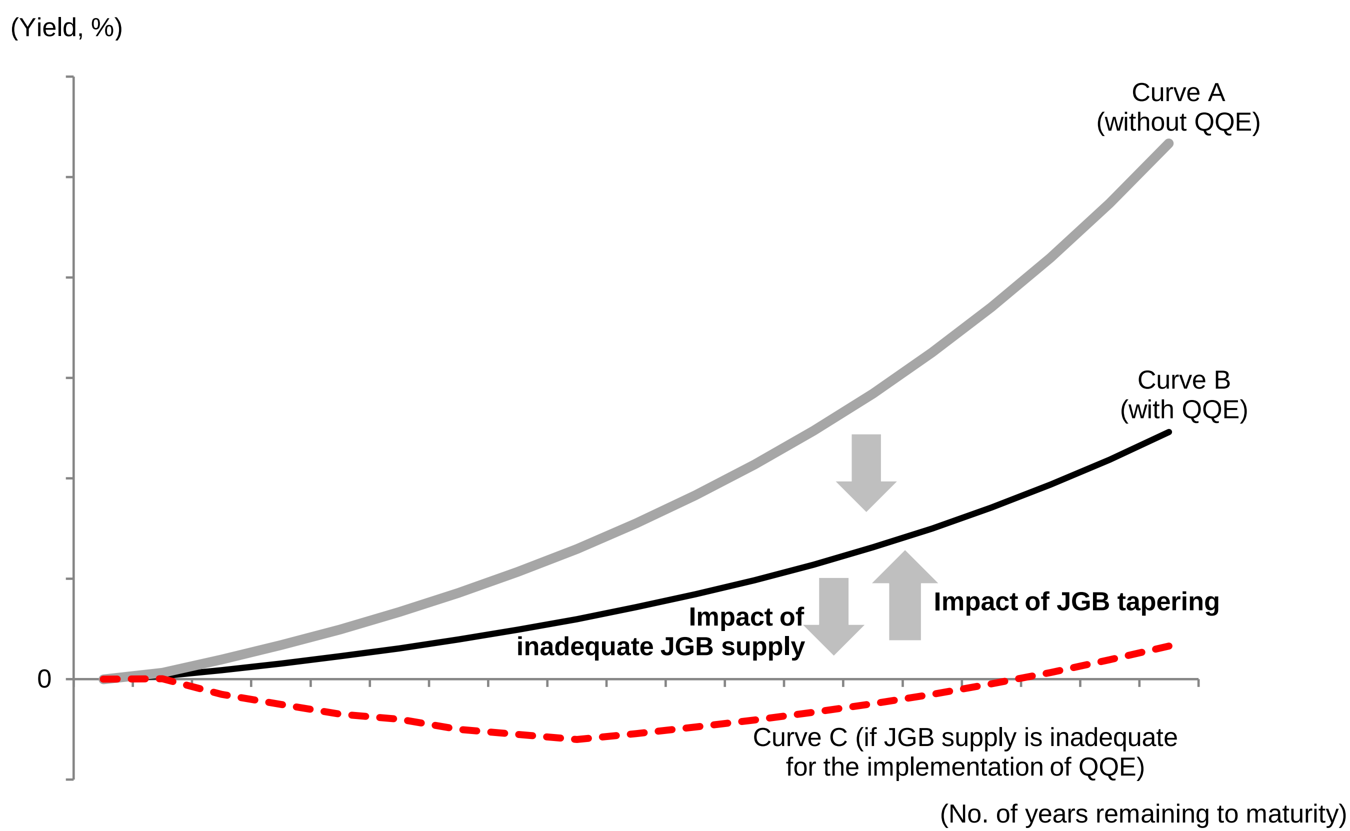
(2) Public pensions funds
Public pension funds refers to the GPIF and three mutual aid associations (Federation of National Public Service Personnel Mutual Aid Associations, the Pension Fund Association for Local Government Officials, and the Promotion and Mutual Aid Corporation for Private Schools of Japan). Our calculation is based on the following relationship:
Potential reduction in long-term JGB holdings = domestic bond holdings – securities holdings x domestic bond allocation target
In estimating March 2015 domestic bond holdings, for the GPIF, we extrapolated from December 2014 figures based on changes in domestic bond holdings in 2014 Q4. For the three mutual aid associations, we extrapolated through December 2014 from March 2014 figures, based on changes in asset prices. We further extrapolated from our estimate for December 2014 based on changes in 2014 Q4. Securities holdings data are based on December 2014 figures. The allocation target for domestic bond holdings at the GPIF is the 35% target for the basic portfolio.

(3) Japan Post Bank and Japan Post Insurance
Our calculation is based on the following relationship:
Potential reduction in long-term JGB holdings = JGB holdings – securities holdings x JGB allocation target
Our estimates for JGB holdings in March 2015 are extrapolated from JGB holdings as of December 2014, as disclosed in earnings results, based on changes in the JGB balance in 2014 Q4. Securities holdings are based on December 2014 figures. The JGB target allocation we use for Japan Post Bank is 59%, the average for major city banks at end-March 2014, and that we use for Japan Post Insurance is 47%, the average for four major private-sector life insurance companies as of end-March 2014. The major city banks are Bank of Tokyo-Mitsubishi UFJ, Mizuho Bank, Sumitomo Mitsui Banking, Resona Bank, and Saitama Resona Bank. The four major private-sector life insurance companies are Nippon Life Insurance, Dai-ichi Life Insurance, Sumitomo Life Insurance, and Meiji Yasuda Life Insurance.

(4) Private-sector insurance companies
We assume potential sales of long-term JGBs come to zero. Because life insurance companies, which dictate what happens at private-sector insurance companies, need to make investments in line with relatively high assumed investment yields, we think they have little incentive to sell JGBs with high coupon rates or buy JGBs with low coupon rates.
(5) Overseas

Our calculation is based on the following relationship:
Potential reduction in long-term JGB holdings = long-term JGB holdings / 2
We estimated long-term JGB holdings as of March 2015 and assumed this amount could be reduced by half. Our estimate for March 2015 is extrapolated from BOJ Flow of Funds data for long-term JGBs in September 2014, based on flow in FY14 H1. Overseas investors have actively bought JGBs as the gap between overseas and Japanese interest rates has narrowed in conjunction with declines in interest rates around the world, but with the interest rate gap ready to expand, we assume overseas investors will actively sell JGBs.
(6) Shinkin banks, etc, agricultural, forestry, and fisheries financial institutions, mutual aid insurers, investment trusts, other financial institutions, households
Our calculation is based on the following relationship,
Potential reduction in long-term JGB holdings = flow in FY14 H1 x 2 x 3
We assume the annualized flow of long-term JGBs in FY14 H1, taken from the BOJ's Flow of Funds statistics, will continue for three years. However, net sales of long-term JGBs by dealers/brokers, which are included in other financial institutions, came to ¥2.4trn in FY14 H1, which we think is unsustainable. We assume that dealer/broker long-term JGB holdings will stay above ¥9.4trn, which is the lowest level they have been at over the past 10 years.

The impact of QQE and a shortage of JGB supply on the yield curve



Source : Nomura

Short-term monetary policy outlook -7

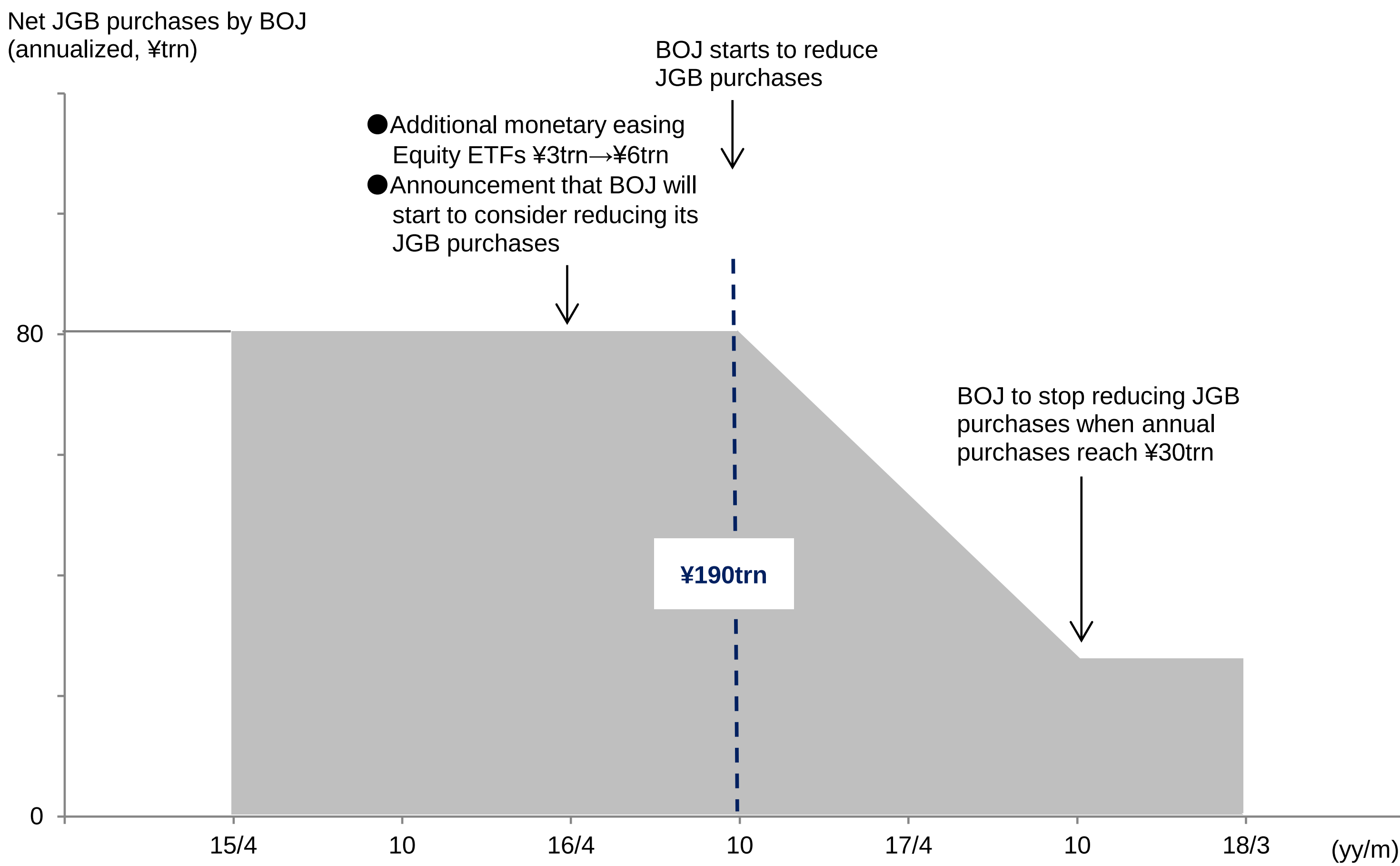
Changing our monetary policy forecasts

April 2016	• BOJ to announce additional monetary easing. We expect measures to include an increase in the BOJ's purchases of risk assets, with for example a doubling in the annual value of its equity ETF purchases from their current level of ¥3trn to 6trn. • We expect the BOJ to announce at the same time that it will consider reducing the value of its JGB purchases. • In addition, the BOJ might at the same time announce forward guidance in the form of a statement that it plans to maintain interest rates at 0% over the long term
Summer 2016 (after Upper House election)	• BOJ to announce officially the timing at which it plans to start reducing its JGB purchases, along with details of its tapering program
October 2016	• BOJ to start reducing its JGB purchases. It will then decide to reduce its JGB purchases further at subsequent Policy Board meetings
October 2017	• BOJ to stop reducing its JGB purchases once they have fallen to ¥30trn a year
March 2018	• End of term of office for BOJ Governor Haruhiko Kuroda

Source : Nomura

Short-term monetary policy outlook -8

Anticipated schedule of JGB purchases by the BOJ

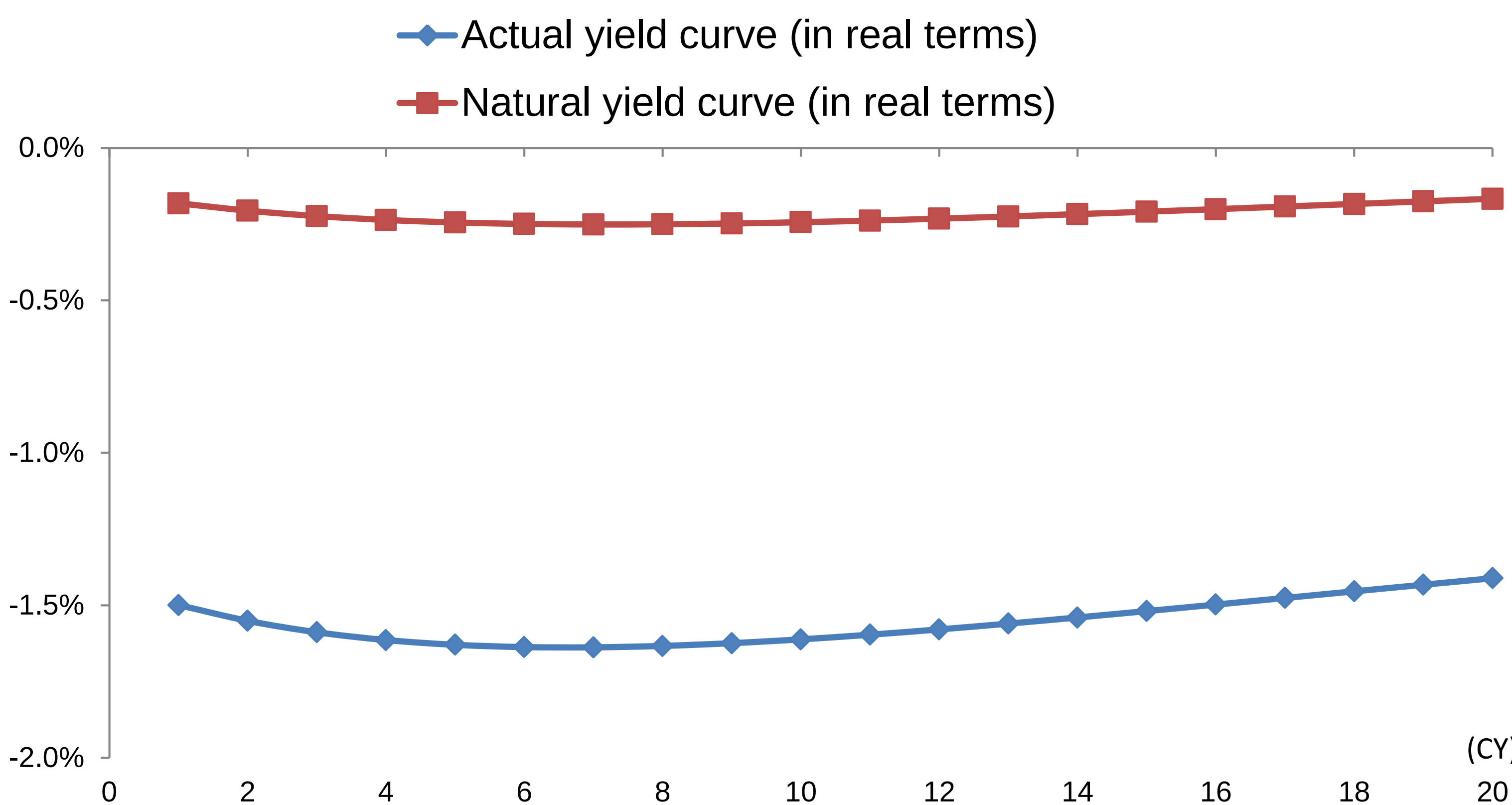


Source : Nomura

Where does the effects from the QQE come from?

➢ The effectiveness of QQE appears to come from its impact to lower real yield curve

Natural and actual yield curves at the moment



Source: "The natural yield curve: its concept and measurement" Bank of Japan Working Paper Series, June 2015

How to set the targeted yield curve?

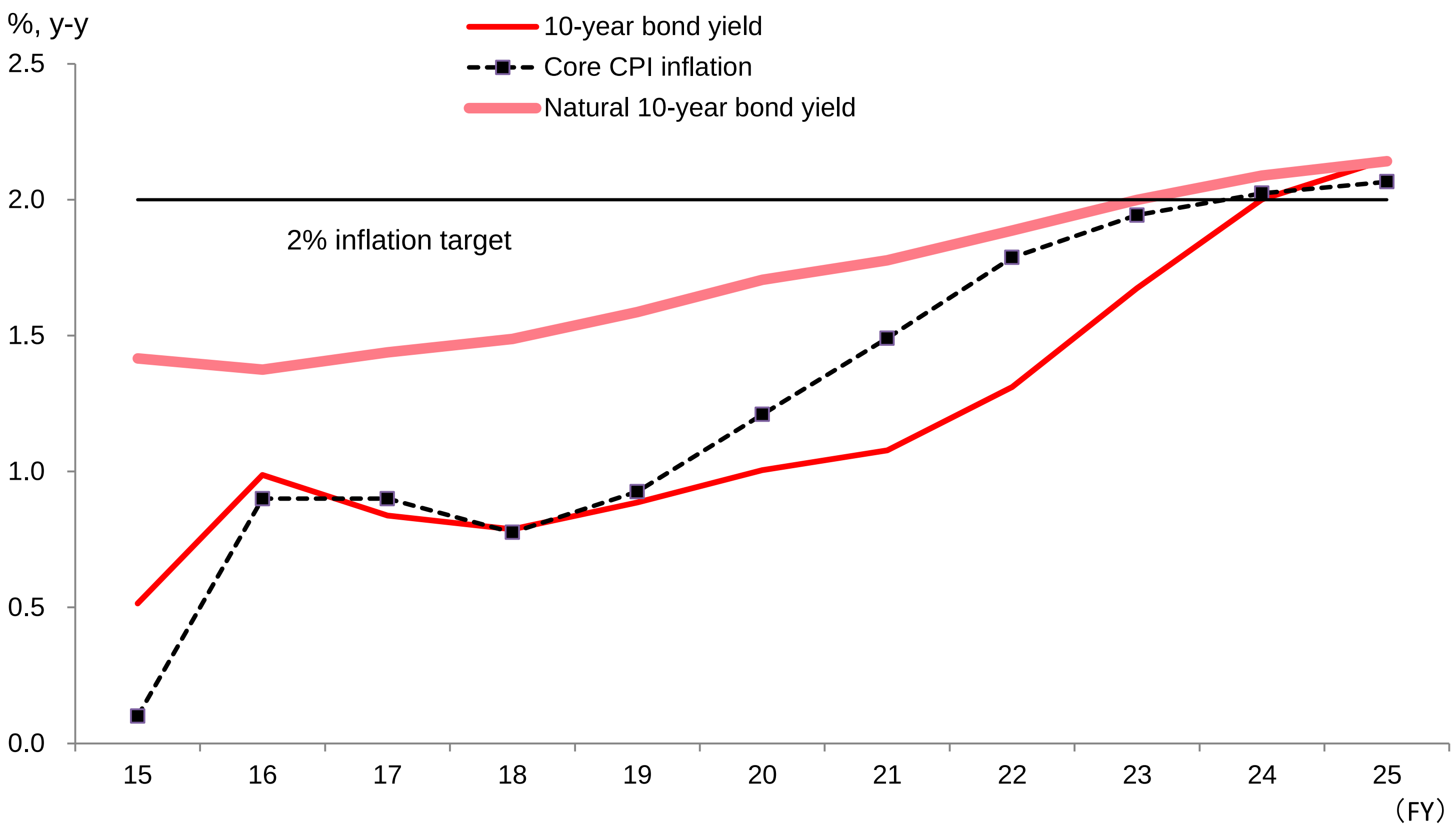
- Potential determinants of targeted yield curve

  - inflation
  - Inflation expectations
  - Output gap
  - Potential growth rate
  - Global interest rates

Medium-term path of long-term bond yield

NOMURA

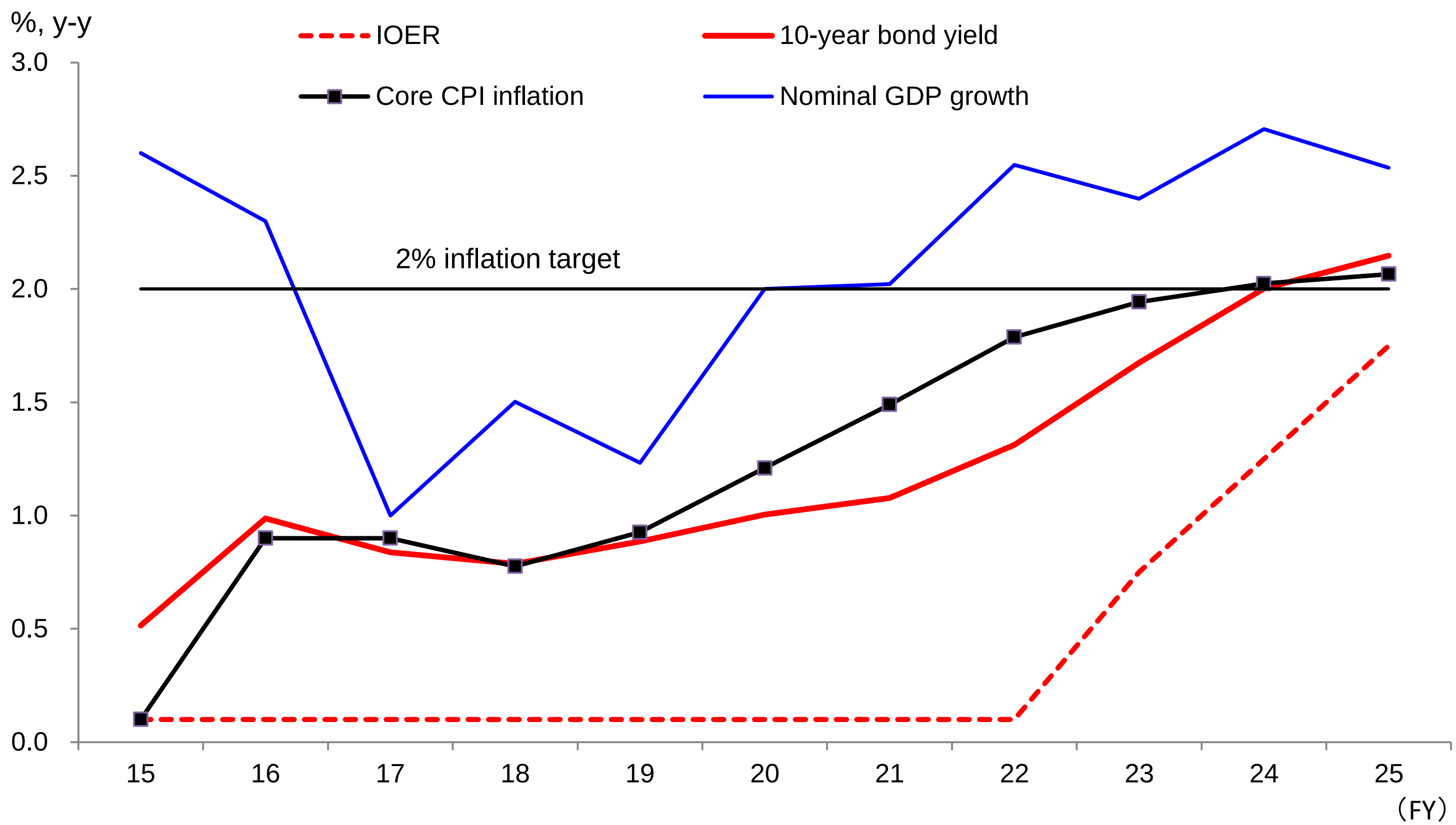
Natural and actual 10-year bond yield



Note: Preliminary figures.
Source : Nomura

Medium-term picture of the Japanese economy

Nomura's medium-term outlook for inflation, growth and interest rate



Note: Preliminary figures.
Source : Nomura, BOJ

A big question: How should BOJ set the policy framework?

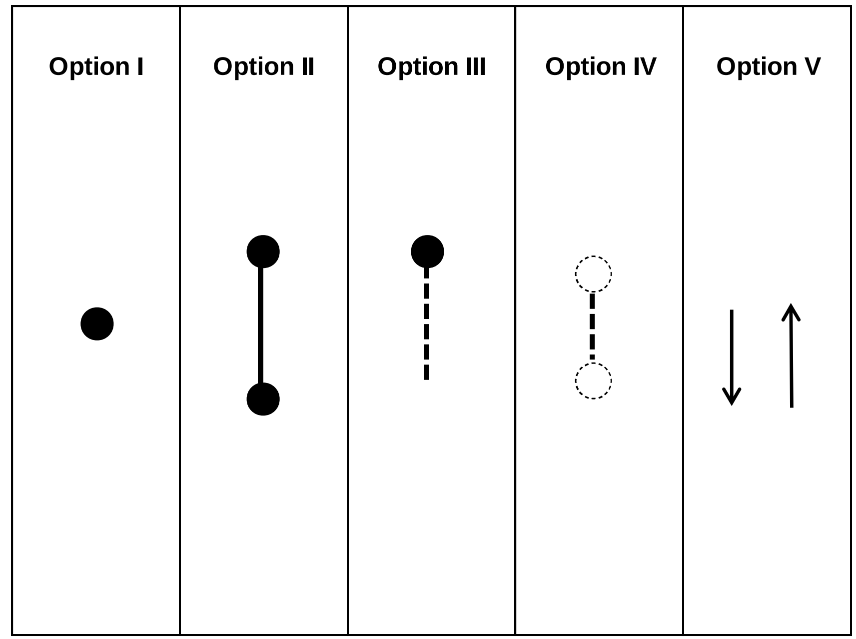
Option I
Target long-term interest rates (announce a nominal, specific level)

Option II
Target a long-term interest rate range (announce a nominal, specific range)

Option III
Cap long-term interest rates (announce a nominal, specific level as the ceiling interest rate)

Option IV
Target a nominal, long-term interest rate range without indicating a specific level (policymakers assume but do not announce a specific range level; instead they announce only directions as to the range's breadth and central value)

Option V
Announce a direction toward easing or tightening over the entire yield curve



Option I :

Target long-term interest rates (announce a nominal, specific level)

Pros:

Easy to understand and to show BOJ's commitment to the market

Cons:

(1) this option tends to encourage large-scale capital inflows and outflows,
(2) it also tends to encourage speculative attacks on the target interest rate level,
(3) it would hamper the flexibility of policy conduct,
(4) it probably requires the Ministry of Finance’s consent in its funding operations

Other points:

The BOJ needs to monitor and intervene in the JGB market (including cash, future and derivatives markets) as necessary under all options

Option II:

Target a long-term interest rate range (announce a nominal, specific range)

Option III:

Cap long-term interest rates (announce a nominal, specific level as the ceiling interest rate)

Pros:
Same as in Option I

Cons:
Same as in Option I

Other points:
(For Option III only) In case of monetary tightening, the BOJ sets a interest rate floor instead of a cap

Option IV:

Target a nominal, long-term interest rate range without indicating a specific level (policymakers assume but do not announce a specific range level; instead they announce only directions as to the range's breadth and central value)

Pros:
BOJ may be able to stage surprise effects in the market if the polcy change involves ssubstantial increase in the size of asset purchase

Cons:
This is not necessarily an easy-to-understand option

Other points:
This framework is similar to Singapore's FX policy which adopts NEER-based targeting policy
It is possible to announce a rough pace of purchase

Option V:

Announce a direction toward easing or tightening over the entire yield curve

Pros:

BOJ may be able to stage surprise effects in the market if the policy change involves substantial increase in the size of asset purchase

Cons:

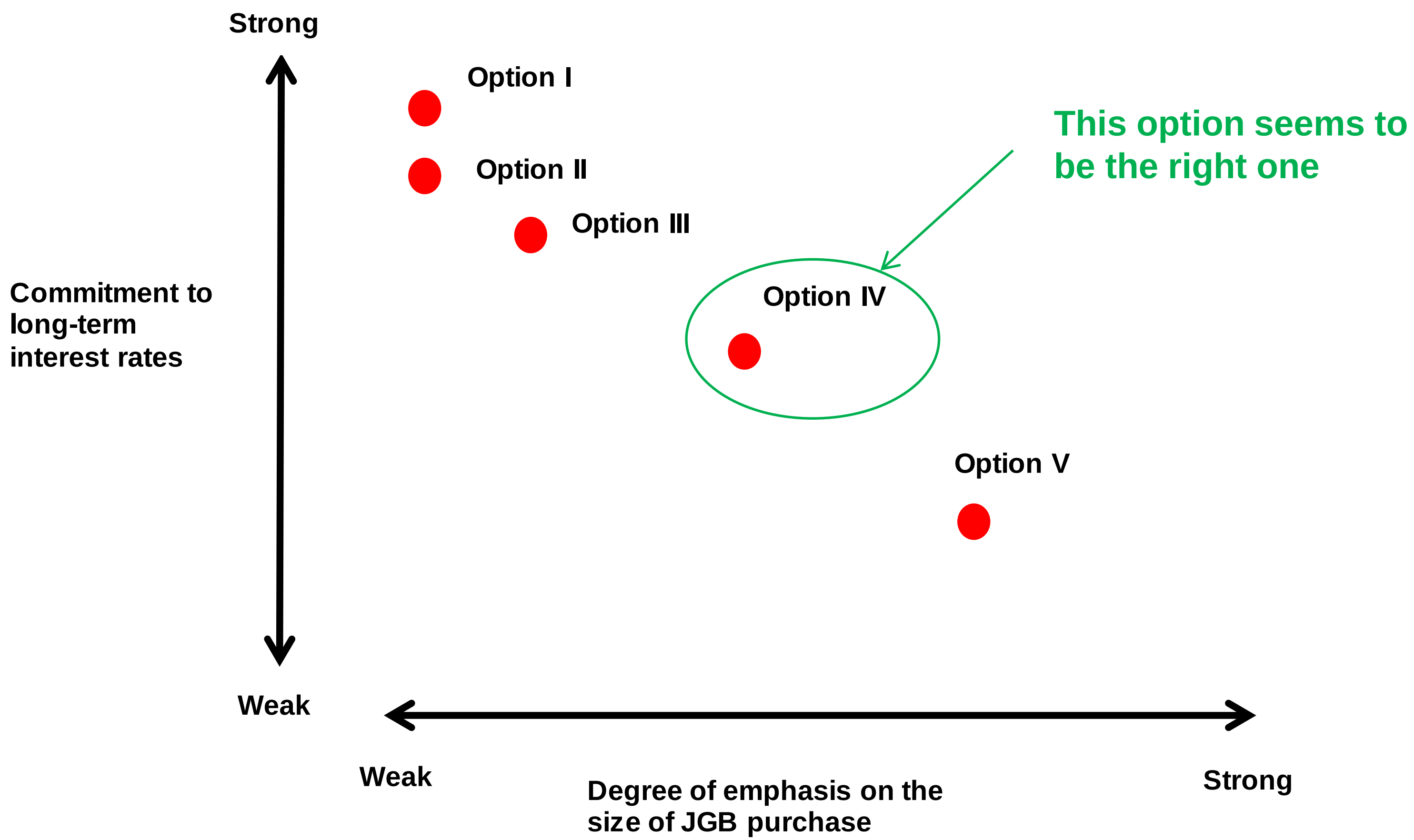
(1) Commitment towards policy easing may not be presented as clearly as in the QQE policy, (2) It is quite difficult to raise the pace of JGB purchase given the JGB scarcity problem

Other points:

It is probably necessary to announce a rough pace of purchase to show commitment

De facto yield curve targeting is the answer?

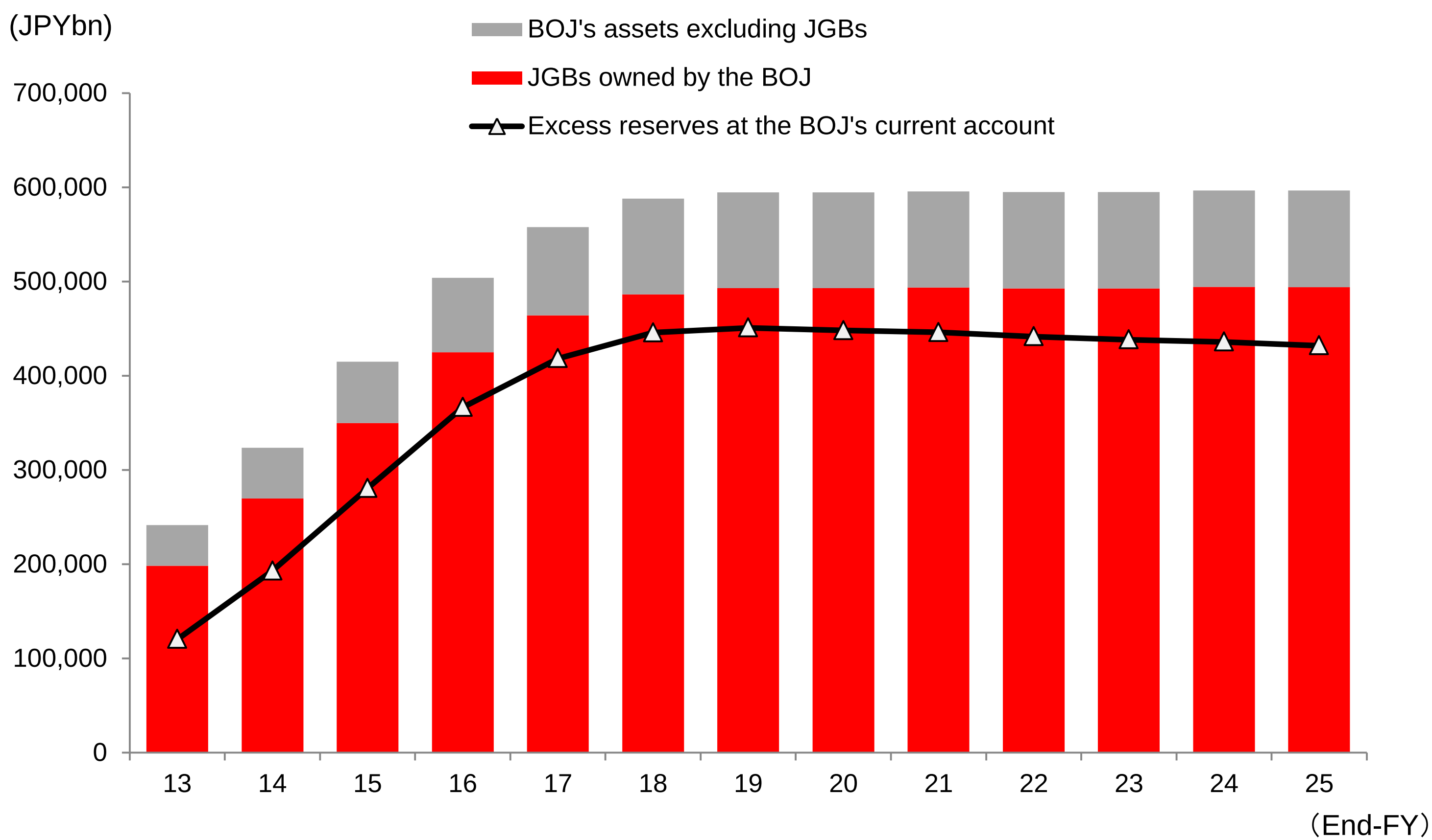
Comparison of five option for post-QQE, yield curve targeting policy



Source : Nomura, BOJ

Does size of central bank matter?

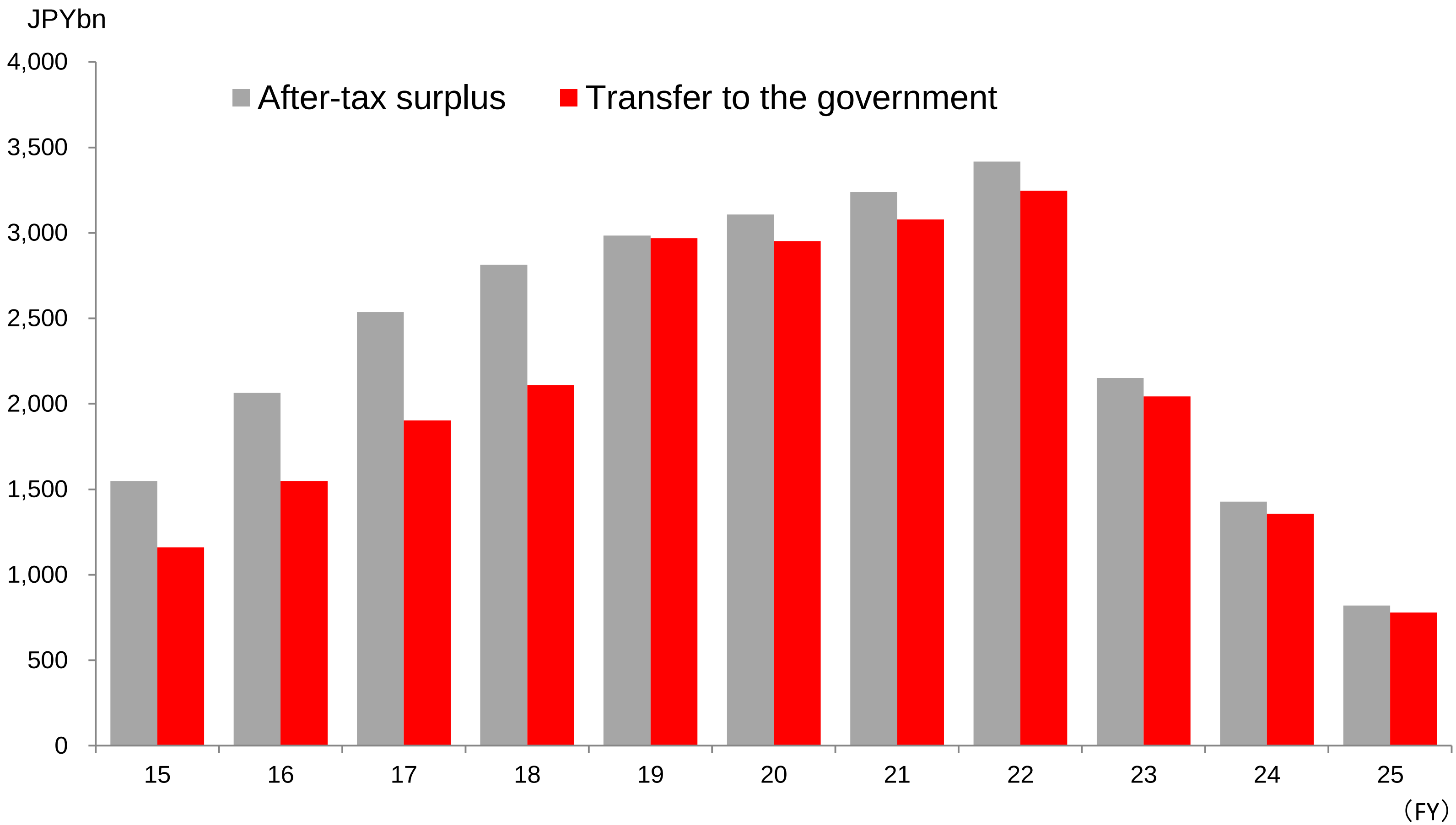
The projected size of the BOJ's balance sheet



Source : Nomura, BOJ

BOJ's profit likely to help contain budget deficit over the next several years

The BOJ's after-tax profit and expected transfers to the government



Source : Nomura

Thank you!