Financial System Report Annex – A

FSR – A

Designing Scenarios for Macro Stress Testing

(*Financial System Report*, April 2016)

Background

The Bank of Japan publishes the *Financial System Report* semiannually, with the objectives of assessing the stability of Japan's financial system from a macroprudential perspective and enhancing communication of financial stability issues with concerned parties. The *Report* provides a regular and comprehensive assessment of the financial system.

The *Financial System Report Annex Series* supplements the *Financial System Report* by providing more detailed analysis and insight into a selected topic, on an ad-hoc basis. This paper provides a detailed explanation of scenario development for macro stress testing in the April 2016 issue of the *Report*.

Abstract

In the *Financial System Report,* two macro stress test scenarios are presented: (1) a "tail event scenario" that assumes an extremely severe set of financial and economic conditions approximately equivalent to the Lehman shock in every semiannual report, in order to assess the stability of the financial system through fixed-point observations; (2) a "tailored event scenario" in which the vulnerability of the financial system is assessed according to macroprudential concerns, with its focus changing over time. In the April 2016 issue of the *Report,* the tailored event scenario features a rise in Japanese banks' foreign currency funding costs.

This paper delves into the approach employed in specifying the quantitative relationships among variables during the process of developing the stress scenarios. In recent years, financial institutions have been placing increasing emphasis on stress testing as a tool to capture and analyze varied and complex risks and their effects on profitability and financial strength, as part of a risk management framework. Stress testing plays an important role in a risk appetite framework that governs financial institutions' risk management and risk taking behavior, based on their business strategies. In conducting stress testing on a financial institution, it is critical to develop an appropriate scenario that applies suitably severe stress corresponding to its risk profile. Other important elements of a well-designed scenario include the appropriate calibration of macro-economic and financial variables, firm-level financial data, and a sound understanding of their linkages. The Bank of Japan hopes that this paper will contribute to the enhancement of stress testing among financial institutions. The Bank of Japan discloses the detailed scenarios and test results, in order to enhance communication with financial institutions.

1. *Financial System Report* (April 2016) macro stress tests

Macro stress testing involves examining financial institutions' capital adequacy and the resilience of the financial system dynamically, from a macro viewpoint, by estimating the extent of capital loss under specific stress events.

The two stress scenarios under consideration are the "tail event scenario" and the "tailored event scenario."[1] The former is designed to assess the stability of the financial system through fixed-point observations, by applying an approximately equal degree of stress in every semiannual report. In particular, the assumed level of stress is comparable to that observed at home and abroad during the Lehman shock.[2] The latter is designed to be a multi-dimensional analysis of the vulnerabilities inherent in the financial system with its focus changing every time.[3] In this *Report*, it is assumed that Japanese banks' foreign currency funding costs rise substantially, considering the recent increase in overseas exposure of Japanese financial institutions, in both lending and securities investment. Scenarios presented in this stress testing exercise are hypothetical, developed for the purpose of effectively conducting the above-mentioned analysis and assessment. It should be noted that the scenarios presented do not represent likely outcomes for the economy, asset prices or other factors, neither should they be interpreted as the Bank of Japan's outlook.

The following section will first discuss the baseline scenario, which will be used as a benchmark to assess the results of the stress test simulations, and then elaborate on the background of the stress scenarios.

2. Baseline scenario

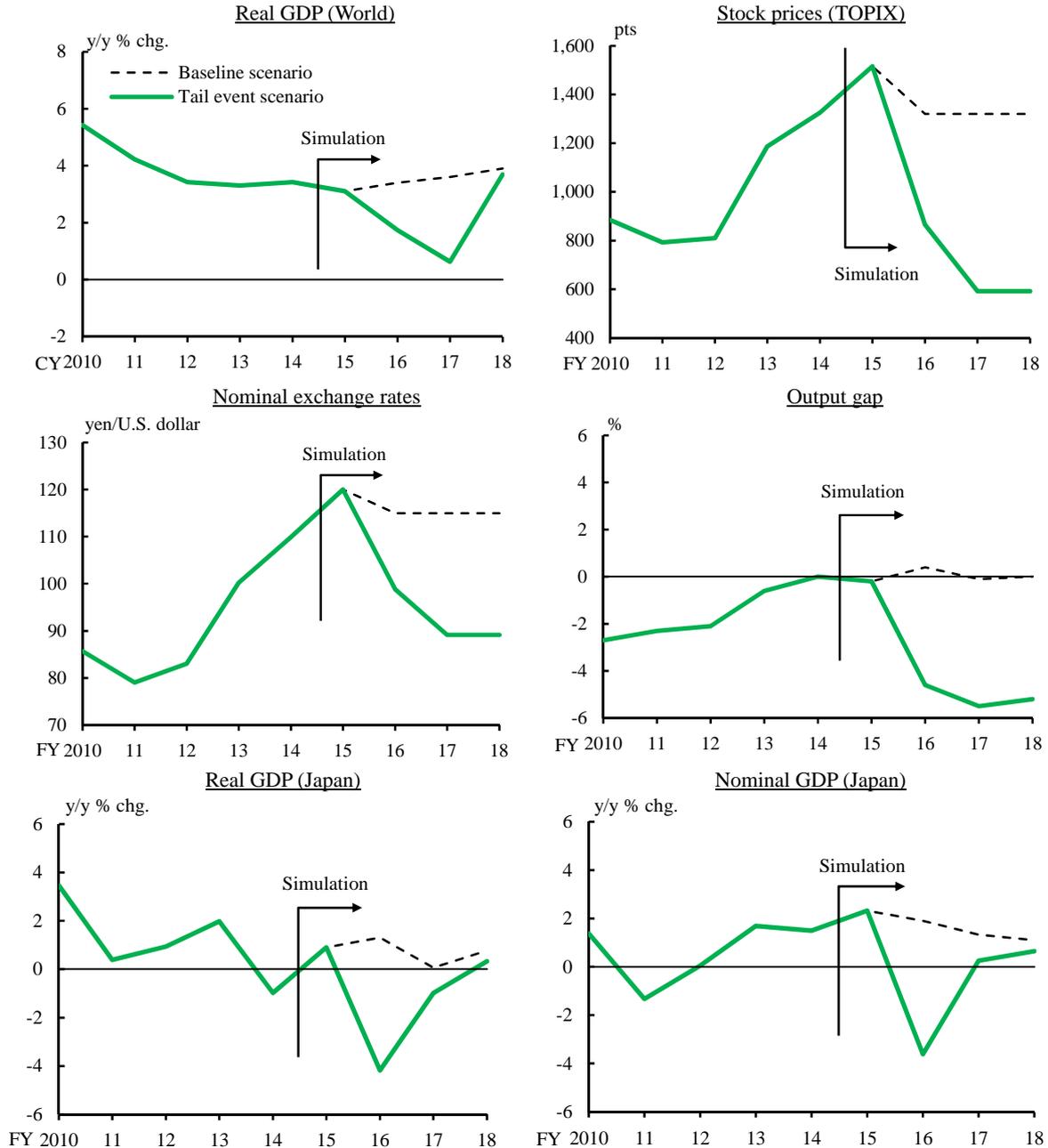The baseline scenario for the real economy in Japan and overseas is based on

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[1] For more details on reasoning behind the formulation of two stress scenarios, see "Designing Scenarios in Macro Stress Testing at the Bank of Japan," *Financial System Report Annex Series*, October 2015.

[2] Even under a comparable level of stress, the impact of the stress on the financial system could vary depending on financial institutions' risk profiles, their financial bases and other factors at the time of the stress test exercise. In this issue, the capital adequacy ratios based on the simulation results of a tail event scenario are lower than the levels seen in the previous *Report* (October 2015), mainly due to the following factors: (1) the weaker outlook for overseas economies and the decline in domestic interest rates, which exerted downward pressure on future profits; and (2) the decrease in unrealized gains on securities due to the recent decline in stock prices.

[3] Under this scenario, the intensity of the stress may not necessarily be as severe as that observed under the tail event scenario. Nevertheless, the tailored event scenario is developed to assess the manner in which risks materialize, or the mechanism through which the shock is transmitted, by utilizing additional data or by extending the model as necessary.

forecasts by the International Monetary Fund (IMF) and the private sector, namely, that the "overseas economies recover, with the upswing in advanced economies spreading to emerging and developing economies. Japan's economy continues to recover at a moderate pace, albeit with fluctuations due to the influence of the consumption tax hike in fiscal 2017 (Charts 2-1 and 2-2)."

Chart 2-1: Summary of variables (tail event scenario)[1]

Real GDP (World)

Stock prices (TOPIX)

Nominal exchange rates

Output gap

Real GDP (Japan)

Nominal GDP (Japan)

Note: *1*. Output gap from fiscal 2010 to fiscal 2014 is estimated by the BOJ. For simulation periods, output gap is estimated by the Financial Macro-econometric Model in each scenario and is not the BOJ's forecast.

Sources: Cabinet Office, "National accounts"; IMF, "World economic outlook"; Japan Center for Economic Research, "ESP forecasts"; Tokyo Stock Exchange; BOJ.

Chart 2-2: JGB yields[1]
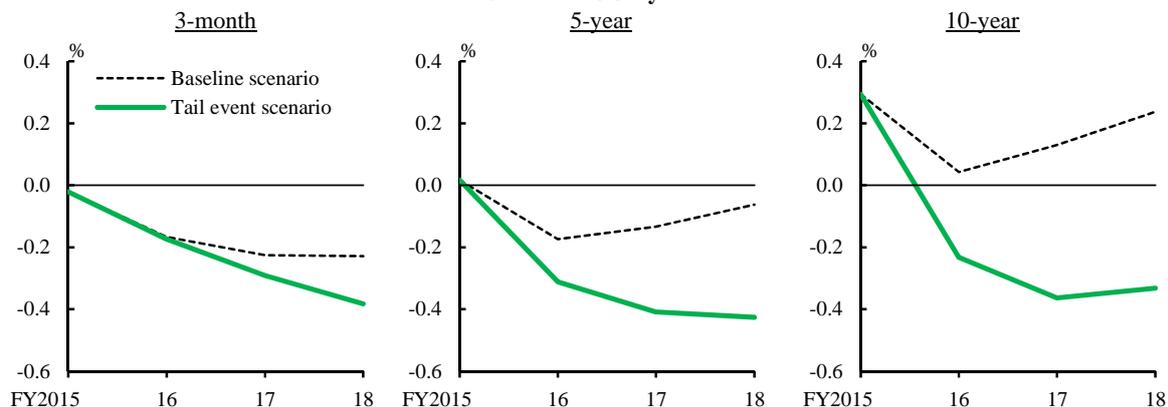
Note: *1*. Figures for 3-month indicate the rate of treasury discount bills.
Source: BOJ.

Specifically, under the baseline scenario, the overseas real GDP growth rate rises moderately from 3.1 percent in 2015 to 3.9 percent by 2018.[4] The growth rate of the domestic economy (real GDP) reaches 1.3 percent in fiscal 2016, above the potential growth rate. In fiscal 2017, the growth rate decelerates to 0.1 percent due to the subsequent decline in demand following the front-loaded increase prior to the consumption tax hike, but in fiscal 2018 the growth rate rises to 0.8 percent, again exceeding the potential growth rate.[5] Based on these assumptions for real growth rates, the output gap improves from minus 0.2 percent in fiscal 2015 to 0.4 percent in fiscal 2016.[6] In fiscal 2017, the output gap once again turns negative, falling to minus 0.1 percent, before recovering to 0.0 percent in fiscal 2018 (Chart 2-3).

In terms of financial markets, beyond the first quarter of 2016, stock prices (TOPIX) and the nominal exchange rate remain unchanged at the monthly average values recorded during February 2016.[7] Furthermore, 10-year JGB yields move according to the yield curve (as of February 2016) after declining in the first quarter of 2016 due to the introduction of negative interest rates. Specifically, after falling from 0.29 percent in fiscal 2015 to 0.04 percent in fiscal 2016, they rise moderately to 0.13 percent in fiscal 2017 and to 0.24 percent in fiscal 2018 (Chart 2-2). Market interest rates, which serve as benchmarks for bank lending rates, move in line with the yield curve (as of February 2016) for swap rates. Approximately ten years of historical data are used to estimate the

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[4] This assumption is based on IMF forecasts available as of January 2016.

[5] This assumption is based on ESP forecasts published in February 2016.

[6] For the estimation of the output gap, the potential growth rate is assumed to remain constant at its average of 0.6 percent from fiscal 2000 onward.

[7] Specifically, it is assumed that the TOPIX remains at 1,320 points and the yen exchange rate (against the U.S. dollar) is 115 yen/dollar.

pass-through from market interest rates to lending rates (Chart 2-4). [8]

Chart 2-3: Assumptions for baseline scenario (chart 2-1, chart 2-2)

	Scenario paths				Notes
	FY2015	16	17	18	
Real gross domestic product <World> (CY, y/y % chg.)	+3.1	+3.4	+3.6	+3.9	Based on International Monetary Fund (IMF) forecasts available as of January 2016.
Real gross domestic product <Japan> (y/y % chg.)	+0.9	+1.3	+0.1	+0.8	Based on ESP forecasts published in February 2016.
Output gap (%)	-0.2	+0.4	-0.1	0.0	Estimated under the assumption that the potential growth rate remains constant at its average from fiscal 2000 onward.
Stock prices (TOPIX, pts)	1,516	1,320			Beyond the first quarter of 2016, stock prices remain unchanged at the monthly average values recorded during February 2016.
Nominal exchange rates (yen/U.S. dollar)	120	115			Beyond the first quarter of 2016, nominal exchange rates remain unchanged at the monthly average values recorded during February 2016.
JGB yields (10-year, %)	0.3	0.0	0.1	0.2	JGB yields move according to the yield curve as of February 2016.

Chart 2-4: Market interest rate pass-through to lending rates[1]

Long-term lending rates

Short-term lending rates
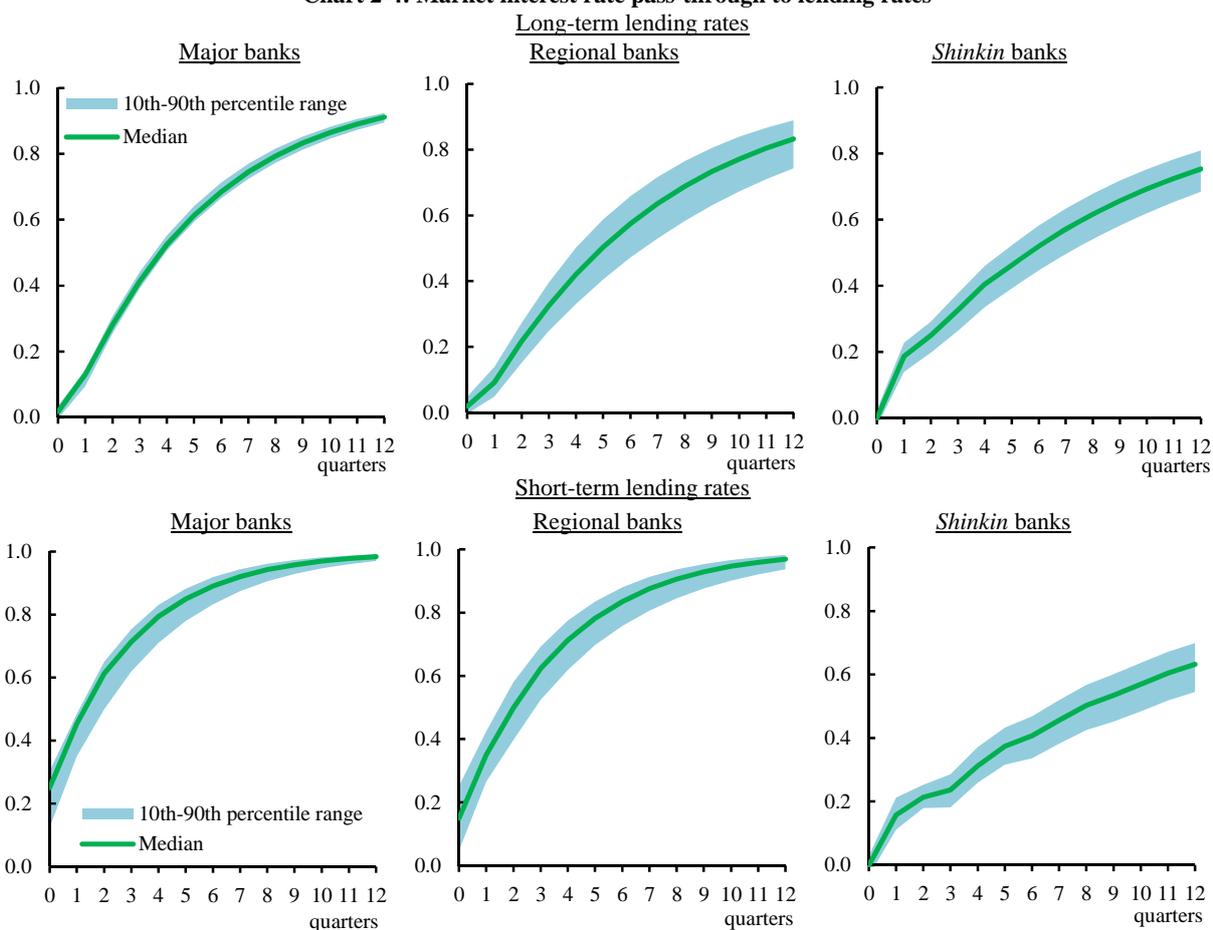
Note: *1*. The vertical axes indicate the pass-through of lending rates.
Source: BOJ.

[8] The pass-through for *shinkin* banks is lower than that for major banks and regional banks. This is because the share of lending for which interest rates are fixed is higher in *shinkin* banks than in major banks and regional banks.

3. Tail event scenario

The tail event scenario is designed such that Japan's output gap deteriorates to around minus 7 to minus 8 percent, as experienced at the trough of the Lehman shock. Other financial and economic variables are calibrated so that they are generally consistent with an economic downturn of such a magnitude (Charts 2-1 and 3-1).[9]

Chart 3-1: Assumptions for tail event scenario (chart 2-1, chart 2-2)

	Scenario paths				Notes
	FY2015	16	17	18	
Real gross domestic product <World> (CY, y/y % chg.)	+3.1	+1.7	+0.6	+3.7	Based on the size of slowdown experienced during the Lehman shock.
Real gross domestic product <Japan> (y/y % chg.)	+0.9	-4.2	-1.0	+0.3	Based on the output gap assumption below.
Output gap (%)	-0.2	-4.6	-5.5	-5.2	Output gap deteriorates to the level experienced at the trough of the Lehman shock.
Stock prices (TOPIX, pts)	1,516	865	592	592	Based on returns experienced during the Lehman shock.
Nominal exchange rates (yen/U.S. dollar)	120	99	89	89	Based on returns experienced during the Lehman shock.
JGB yields (10-year, %)	0.3	-0.2	-0.4	-0.3	Based on changes estimated by a VAR model.

Specifically, the growth rate of overseas economies falls sharply from 3.1 percent in 2015 to 1.7 percent in 2016 and to 0.6 percent in 2017. The growth rate of Japan's economy falls deep into negative territory, to minus 4.2 percent in fiscal 2016, with negative growth of minus 1.0 percent persisting in fiscal 2017. As a result, Japan's output gap deteriorates significantly to minus 4.6 percent in fiscal 2016 and then to minus 5.5 percent in fiscal 2017, and remain substantially negative at minus 5.2 percent in fiscal 2018.[10]

As for financial markets, stock prices (TOPIX) fall by 55 percent by the end of fiscal 2016, and remain unchanged thereafter. 10-year JGB yields decline from 0.29 percent in fiscal 2015 to minus 0.23 percent in fiscal 2016, and to minus 0.36 percent in fiscal 2017 (Chart 2-2). In terms of the nominal exchange rate, the yen appreciates by 23

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[9] The set of financial and economic conditions assumed in the tail event scenario and channels through which the shock propagates are the same as described in the previous *Report* (October 2015). For details, see "Designing Scenarios in Macro Stress Testing at the Bank of Japan," *Financial System Report Annex Series*, October 2015.

[10] On a quarterly basis, the output gap deteriorates to approximately minus 7.3 percent in the first quarter of 2017, as assumed in the scenario.

percent against the U.S. dollar and reaches 89 yen by the end of fiscal 2016, and remains unchanged thereafter.

4. Tailored event scenario

(1) Background to scenario design

The tailored event scenario in the April 2016 issue of the *Report* is characterized by a rise in Japanese banks' foreign currency funding costs. The background to the scenario is as follows.

Amid declining profitability and slowing growth in the domestic market, Japan's financial institutions have rapidly increased overseas lending and have increased investments in foreign currency-denominated assets, such as foreign bonds (Charts 4-1 and 4-2). As a result, the demand for foreign currency funding by Japan's financial institutions has also increased (Chart 4-1). Given such developments, Japan's financial institutions and financial system are becoming more sensitive to developments in overseas economies, foreign currency funding markets such as yen FX swaps and overseas financial markets, including interest rates markets.

Chart 4-1: Structure of foreign currency funding and investments among major banks[1]
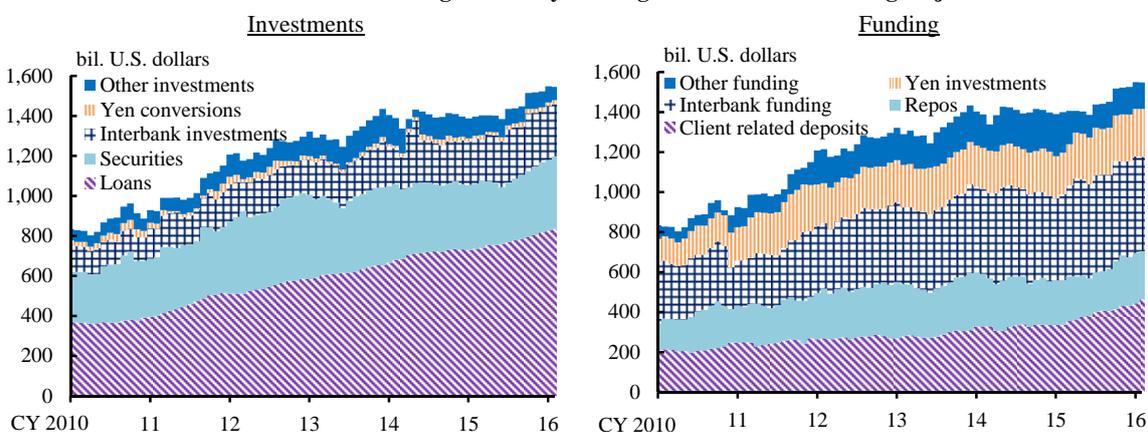
Note: *1*. The latest data are as of end-February 2016.
Source: BOJ.

Chart 4-2: Outstanding amount of foreign bonds among financial instituitons[1,2,3]

Notes: *1*. The latest data are as of end-February 2016.
    2. The data are the sums of figures for foreign currency-denominated and domestic currency-denominated foreign bonds.
    3. The data are the sums of figures for domestic and overseas branches. The data are based on the amount outstanding at month-end.
Source: BOJ.
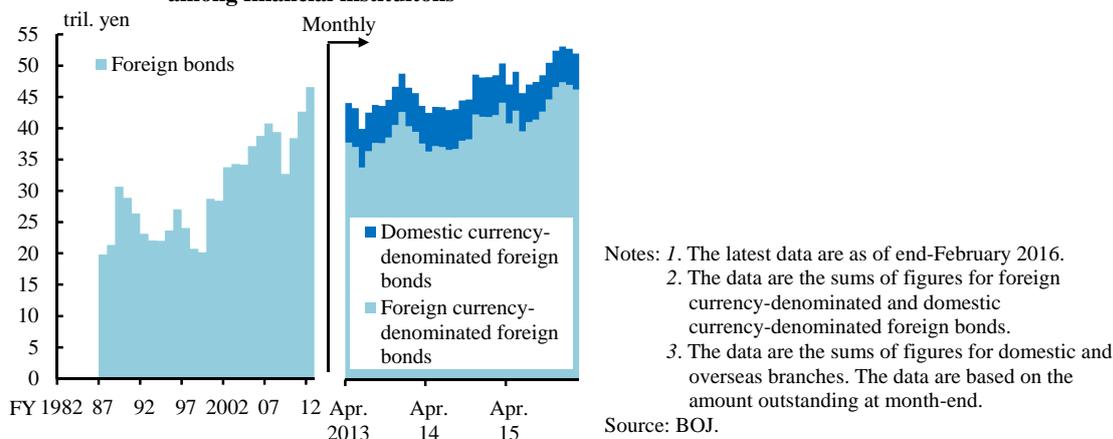
On this basis, it is important that a scenario is devised to understand the impact of a rise in foreign currency funding costs on the profitability and capital adequacy of financial institutions from the viewpoint of securing the stability of Japan's financial system in the context of its rising overseas exposure.

(2) Overview of the scenario

Given that the U.S. dollar is the main currency that Japanese banks use in foreign currency funding, both (1) a widening in the term premium for U.S. long-term interest rates and (2) a widening in the dollar funding premium in FX and currency swap markets are assumed in this scenario, which features a rise in the cost of foreign currency funding by Japanese banks. A rise in the U.S. term premium leads to a slowdown in the U.S. economy, which then spills over to a certain extent to the global economy, through trade and financial channels. Under these circumstances, a repatriation of investment from emerging economies and commodity-exporting economies to the U.S. occurs, further denting growth in these economies. As a result, overseas economies decelerate, which causes a slowing in Japan's economy through falling exports.

The rise in U.S. interest rates and the slowing global economy lead to a deterioration in the financial strength of debtors. In emerging economies and commodity-exporting economies, an increase in dollar funding costs and an outflow of dollar funds from these economies, as well as currency depreciation -- leading to an effective rise in their dollar-denominated debt -- cause a substantial deterioration in corporate credit. Accordingly, stock prices fall both in Japan and overseas, loan quality declines and credit costs rise. In addition, rising interest rates in the U.S. and falling stock prices increase unrealized losses on securities holdings and reduce the capital of

internationally active banks.

Moreover, as a result of changes in international capital flows, in foreign currency funding markets such as FX swaps, the dollar funding premium (covered interest arbitrage differential in FX swaps and the basis in currency swaps) widens. The enhanced attractiveness of investing in dollar denominated assets due to rising U.S. interest rates and the increase in liquidity demand for U.S. dollars owing to increased uncertainty cause the supply-demand situation in dollar funding markets to tighten.

Financial institutions in Japan whose foreign currency funding structure consists of a large portion of market funding are sensitive to a widening in the dollar funding premium (Chart 4-3). At the same time, due to competition from foreign financial institutions, Japanese banks are unable to pass on the costs of the wider funding premium to interest rates on dollar-denominated loans, and as a result lending spreads contract and net interest income declines. This scenario further assumes that financial institutions cannot cut back on the volume of foreign currency-denominated loans outstanding, therefore the effects are observed only in lending spreads and net interest income.[11]

Chart 4-3: Structure of dollar funding and investments[1,2]

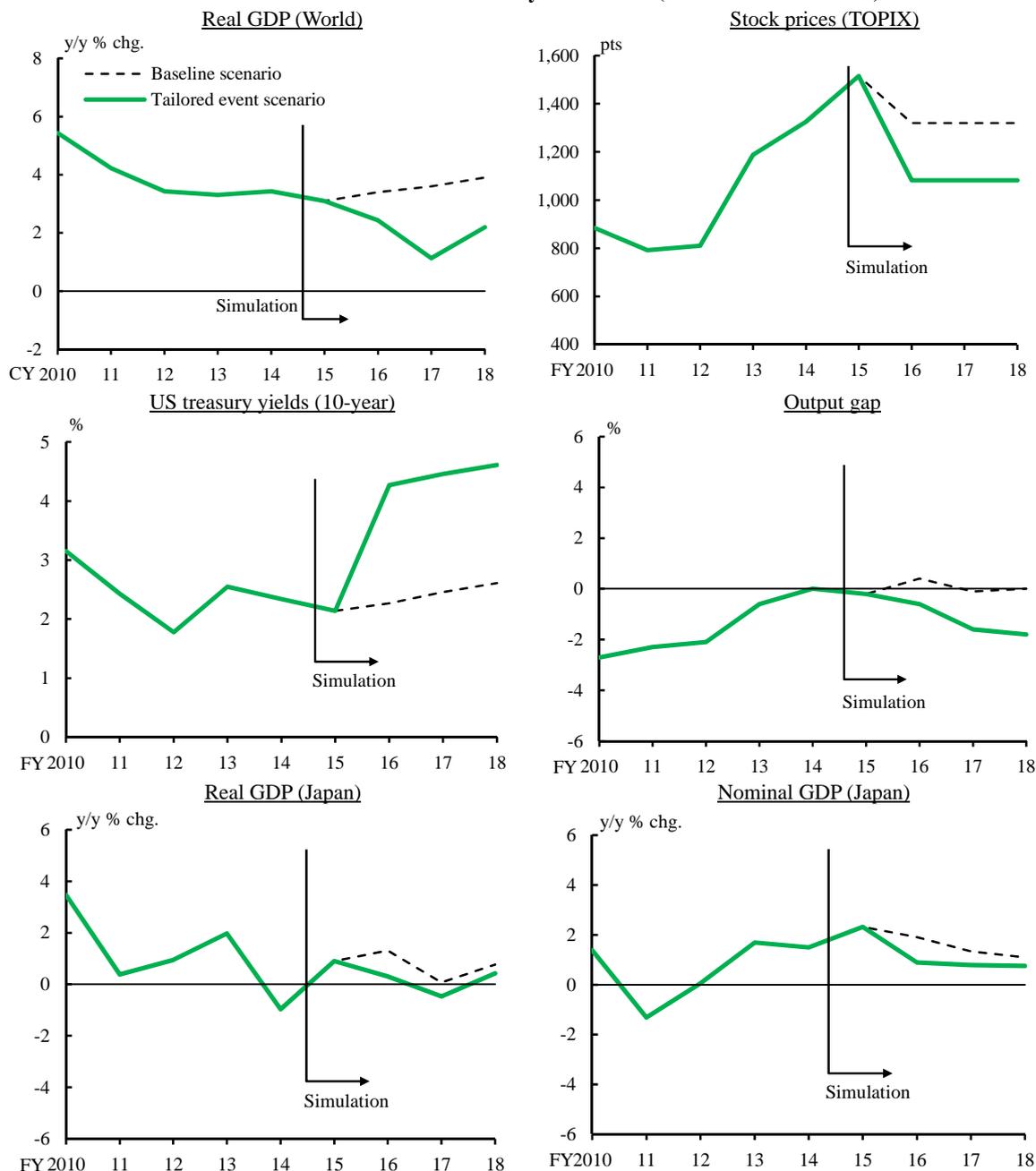| Investments	Funding
Loans (49.8%)	Client related deposits (23.4%)
	Repo funding (8.5%)
	Funding from central banks (7.5%)
Interbank lending (11.8%)	Interbank funding (21.8%)
FX swap and currency swap (8.6%)	FX swap and currency swap (18.6%)
Securities (16.2%)	
Others (13.6%)	Others (20.2%)

Notes: 1. Five major banks with a large share of overseas loans are counted.
2. Figures in parentheses indicate shares of each item in investments and funding. The data are as of end-September 2015.
Source: BOJ.

The developments in economic variables are as follows (Charts 4-4 and 4-5). First, we assume a rise in dollar funding costs, namely, the U.S. term premium and the dollar funding premium expand by 200 bps and 50 bps, respectively. Under this assumption, long-term interest rates in the U.S. rise from 2.1 percent in fiscal 2015 to 4.3 percent in fiscal 2016. This is followed by a moderate increase to 4.5 percent in fiscal 2017 and

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[11] This scenario does not assume that dollar shortages occur. When the amount of dollar funding is constrained, banks are forced to cut back on foreign currency denominated assets, incurring losses. In this case, both a decrease in loans and a narrowing of lending spreads occur. To incorporate this development into simulation exercises, costs associated with the reduction of lending outstanding need to be specified and quantified.

4.6 percent in fiscal 2018.[12] For Japanese bank's market funding portion, the dollar funding premium is applied.[13]

Chart 4-4: Summary of variables (tailored event scenario)[1]

Real GDP (World)

Stock prices (TOPIX)

US treasury yields (10-year)

Output gap

Real GDP (Japan)

Nominal GDP (Japan)

Note: *1*. Output gap from fiscal 2010 to fiscal 2014 is estimated by the BOJ. For simulation periods, output gap is estimated by the Financial Macro-econometric Model in each scenario and is not the BOJ's forecast.

Sources: Bloomberg; Cabinet Office, "National Accounts"; FRB; IMF, "World economic outlook"; Japan Center for Economic Research, "ESP forecasts"; BOJ.

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[12] Although the term premium rises, we assume that the path of future short-term interest rates remain unchanged.

[13] The impact of the rising premium is reflected, as shown in Chart 4-3, on the funding side of the interbank dollar investment and funding structure, FX swaps and others (CP, corporate bonds etc.).

Chart 4-5: Assumptions for tailored event scenario (chart 4-4)

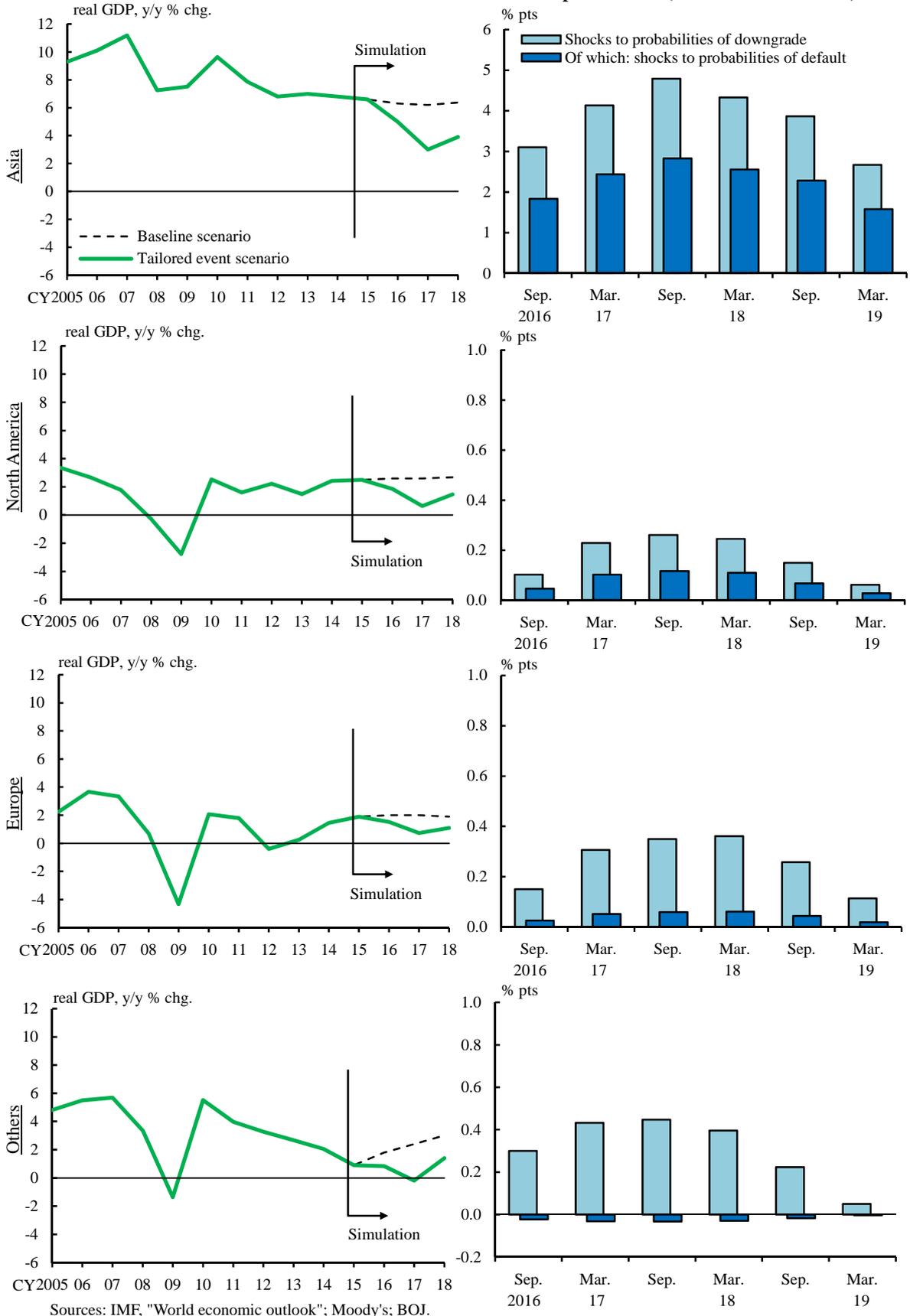|	Scenario paths				Notes
	FY2015	16	17	18	
Real gross domestic product <World> (CY, y/y % chg.)	+3.1	+2.4	+1.1	+2.2	The size of slowdown following a rise in long-term interest rates in the US is estimated by a VAR model.
US treasury constant maturity rate (10-year, %)	2.1	4.3	4.5	4.6	Based on the assumprion that the U.S. term premium expands by 200 bps.

As a result of the rise in U.S. interest rates, growth in overseas economies slows from 3.1 percent in 2015 to 1.1 percent in 2017 (Chart 4-4). The growth rates in each region -- the U.S., Europe, Asia and other regions -- fall and corporate creditworthiness deteriorates (Chart 4-6). In Asia and other regions, including emerging economies and commodity-exporting economies in particular, the rate of growth falls considerably.[14] The real GDP growth rate of Japan's economy falls from 0.9 percent in fiscal 2015 to minus 0.5 percent in fiscal 2017, while stock prices in Japan fall by 18 percent.[15,16] Nominal exchange rates and 10-year JGB yields are the same as in the baseline scenario (Chart 2-3).

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[14] We estimate the size of the retraction in economic growth rates following a rise in long-term interest rates in the U.S. for each region as follows. First, using a VAR model that includes economic growth rates for the U.S., Europe, Asia and other regions, we apply a shock corresponding to a 200 bps rise in U.S. long-term interest rates and estimate the impact on the economic growth rates of each country and region. For the U.S., we assume a growth trajectory based on an economic downturn in line with the estimated average figure. At the same time, we take the view that in Asia and other regions that include commodity-exporting economies there is a negative impact from the outflow of foreign capital, and assume that the size of the downturn is somewhat larger than that estimated by the VAR model. In the case of Asia in particular, we used the experience of the Asian Financial Crisis in the second half of the 1990s to estimate the magnitude of the downturn. For Europe, considering that the impact of Asia and commodity-exporting economies is larger than that on the U.S., we posit a larger slowdown.

[15] In contrast to the tail event scenario, no other shocks (e.g., shocks to income or expected growth) are overlaid directly onto the domestic economy in the tailored event scenario, because the tailored event scenario focuses solely on the impact of the rise in U.S. interest rates and dollar funding costs.

[16] The effects of the rise in U.S. long-term interest rates on U.S. and Japan's stock prices are estimated using a VAR model.

Chart 4-6: Overseas economies and shocks to transition probabilities (tailored event scenario)

real GDP, y/y % chg.

Asia

- - - Baseline scenario
— Tailored event scenario

Simulation

CY2005 06 07 08 09 10 11 12 13 14 15 16 17 18

% pts

■ Shocks to probabilities of downgrade
■ Of which: shocks to probabilities of default

Sep. 2016   Mar. 17   Sep.   Mar. 18   Sep.   Mar. 19

real GDP, y/y % chg.

North America

Simulation

CY2005 06 07 08 09 10 11 12 13 14 15 16 17 18

% pts

Sep. 2016   Mar. 17   Sep.   Mar. 18   Sep.   Mar. 19

real GDP, y/y % chg.

Europe

Simulation

CY2005 06 07 08 09 10 11 12 13 14 15 16 17 18

% pts

Sep. 2016   Mar. 17   Sep.   Mar. 18   Sep.   Mar. 19

real GDP, y/y % chg.

Others

Simulation

CY2005 06 07 08 09 10 11 12 13 14 15 16 17 18

% pts

Sep. 2016   Mar. 17   Sep.   Mar. 18   Sep.   Mar. 19

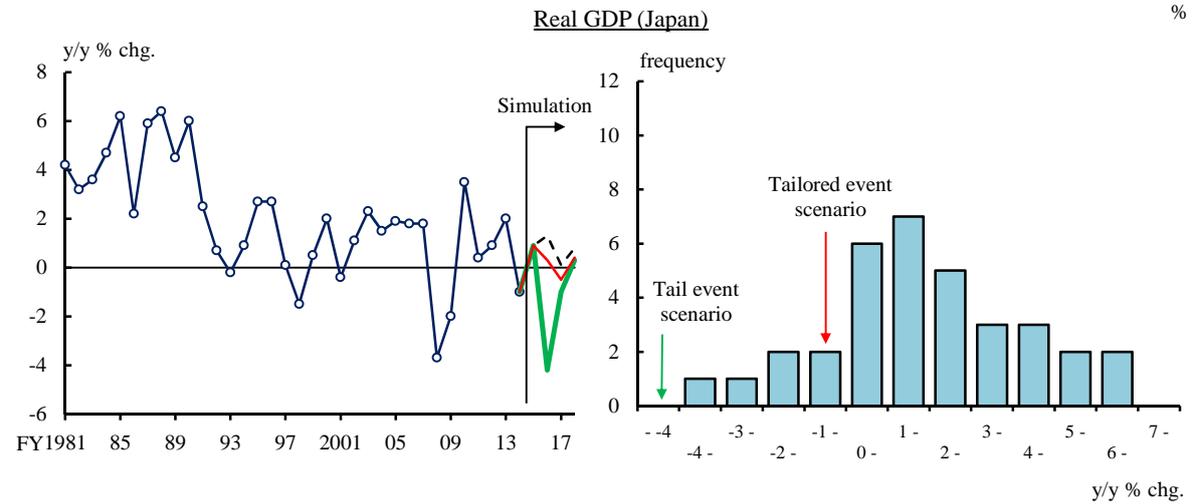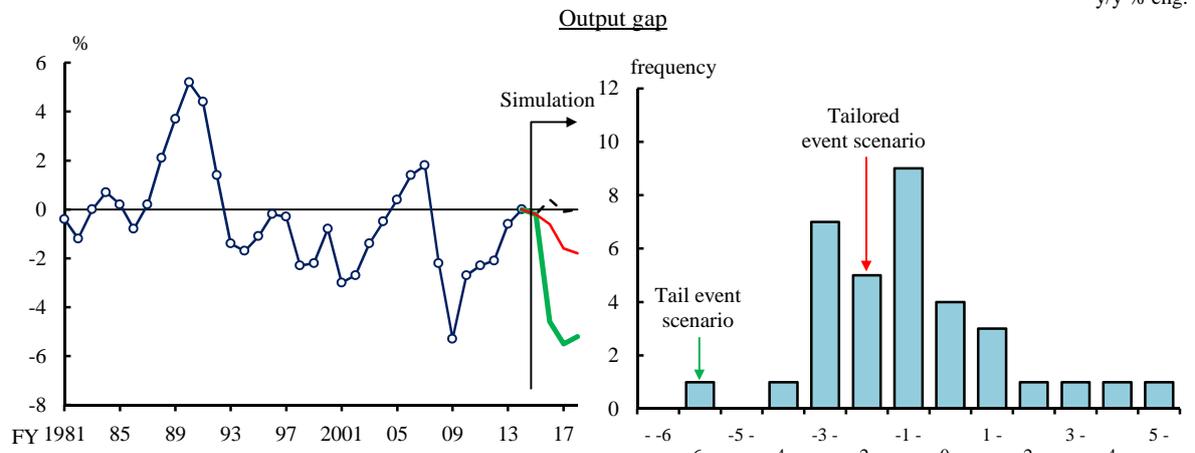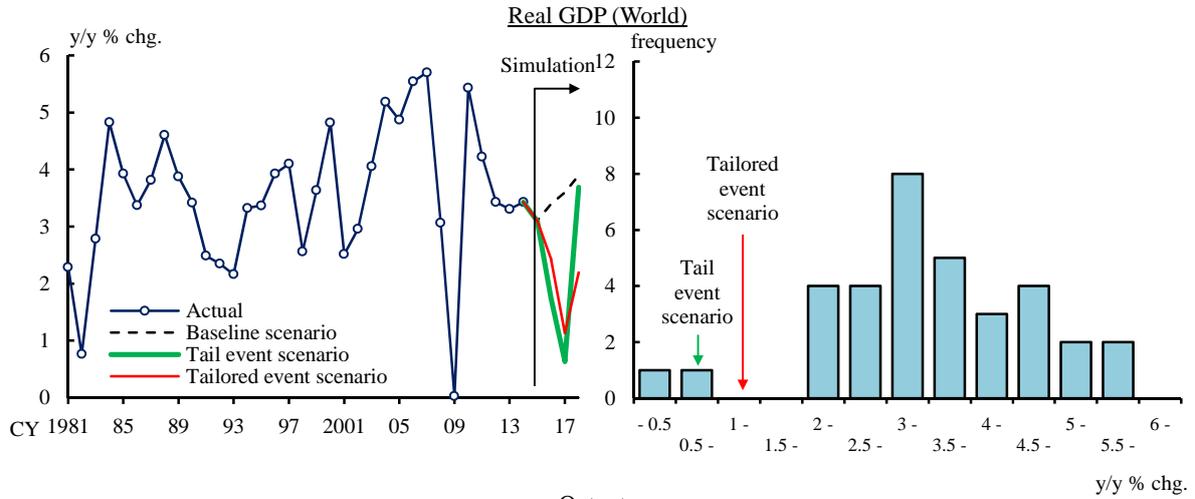Sources: IMF, "World economic outlook"; Moody's; BOJ.

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5. Conclusion

The major economic variables for each scenario are listed in Chart 5-1 and can also be downloaded from the Bank of Japan's web site.[17] The key results of macro stress testing are shown in Chart 5-2, and the detailed results can be found in the April 2016 issue of the *Report*.
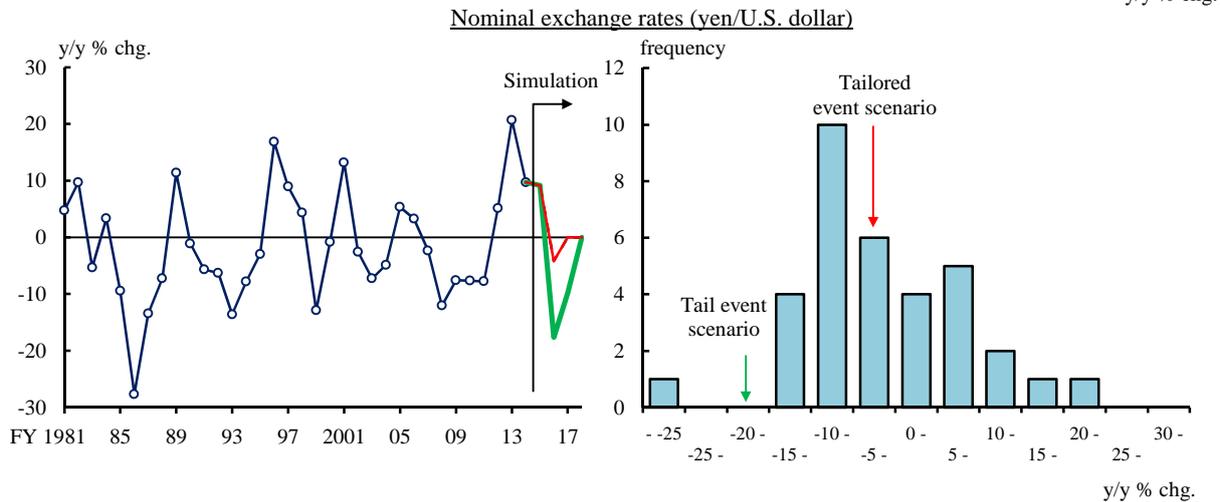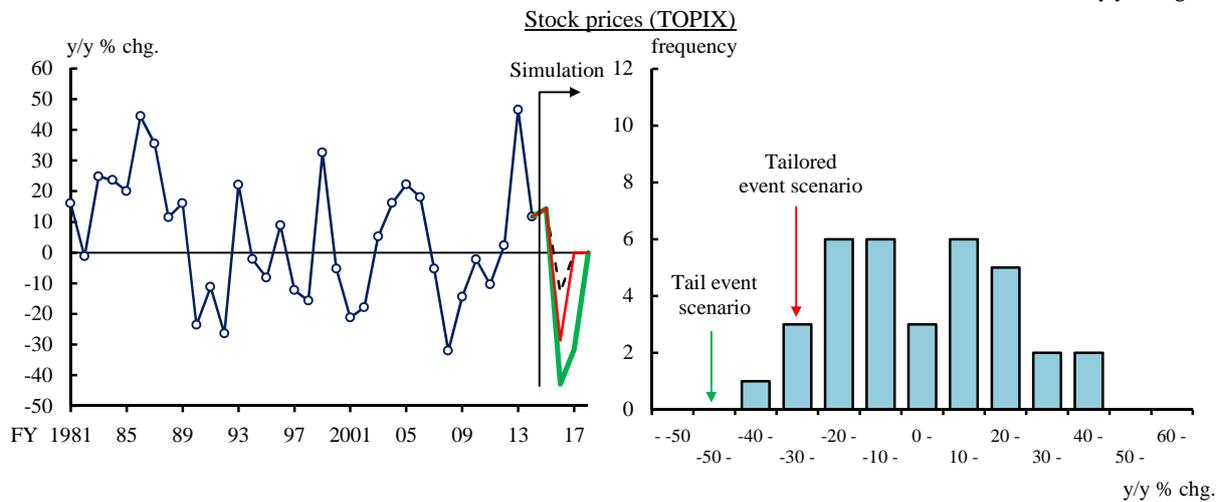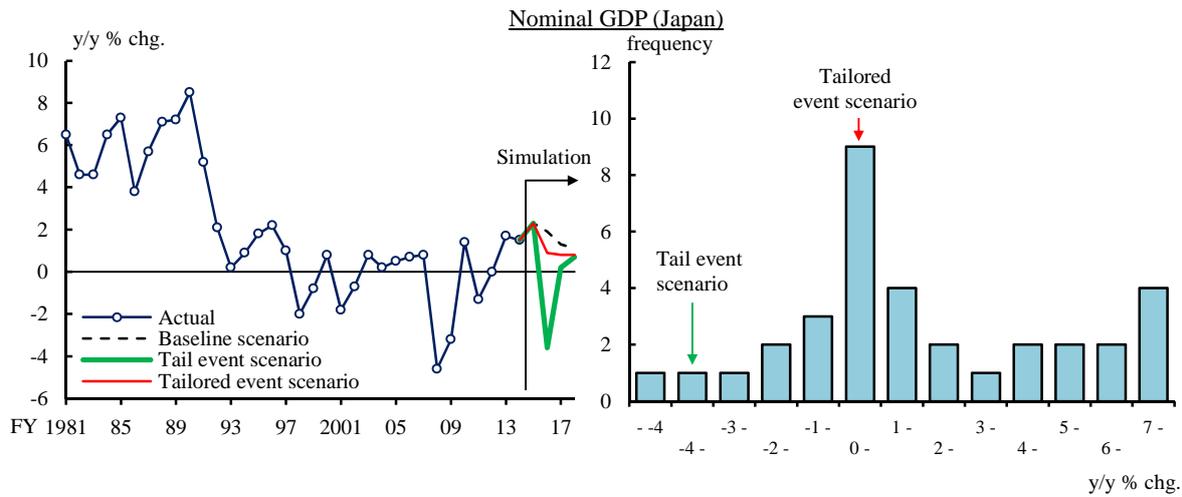
When an individual financial institution conducts stress testing, it usually does not consider the impact of its activities on the real economy and on the financial system. However, if many financial institutions change their lending behavior under the influence of common stresses, there could be an adverse effect on the real economy, which could in turn lead to a further deterioration in the profitability and financial strength of individual financial institutions and affect the financial system as a whole. In recognition of this, macro stress testing at the Bank of Japan incorporates the behavior of individual financial institutions, which are aggregated to derive the behavior of the overall financial sector, thereby making it possible to understand the interaction between the financial system and the real economy. Accordingly, it will be helpful for financial institutions to compare the results of their own stress tests with those conducted by the Bank of Japan.

In order to enhance communication with financial institutions, the Bank of Japan continues to refine the models used in macro stress testing, and will continue to make detailed disclosures of the scenarios and test results. Upon request, the Bank of Japan will compare the results of financial institutions' own stress tests with those of the Bank of Japan's, during on-site examinations and on the other occasions.

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[17] http://www.boj.or.jp/en/research/brp/fsr/data/fsrb160422b.zip

Chart 5-1: Characteristics of variables for each scenario[1,2]

Real GDP (World)

Output gap

Real GDP (Japan)

14

Nominal GDP (Japan)

y/y % chg.

Simulation

Actual
Baseline scenario
Tail event scenario
Tailored event scenario

FY 1981 85 89 93 97 2001 05 09 13 17

frequency

Tailored event scenario

Tail event scenario

- 4 -3 - -1 - 1 - 3 - 5 - 7 -
-4 - -2 - 0 - 2 - 4 - 6 -

y/y % chg.

Stock prices (TOPIX)

y/y % chg.

Simulation

FY 1981 85 89 93 97 2001 05 09 13 17

frequency

Tailored event scenario

Tail event scenario

- -50 - -40 - -20 - 0 - 10 - 30 - 50 -
-50 - -30 - -10 - 20 - 40 - 60 -

y/y % chg.

Nominal exchange rates (yen/U.S. dollar)

y/y % chg.

Simulation

FY 1981 85 89 93 97 2001 05 09 13 17

frequency

Tailored event scenario

Tail event scenario

- -25 - -20 - -10 - 0 - 10 - 20 - 30 -
-25 - -15 - -5 - 5 - 15 - 25 -

y/y % chg.

Notes: *1*. Distribution of world Real GDP is compiled with data from 1981 to 2014; distribution of other variables are compiled with data from fiscal 1981 to fiscal 2014.

2. Output gap from fiscal 1981 to fiscal 2014 is estimated by the BOJ. For simulation periods, output gap is estimated by the Financial Macro-econometric Model in each scenario and is not the BOJ's forecast.

Sources: Cabinet Office, "National accounts"; IMF, "World economic outlook"; Japan Center for Economic Research, "ESP forecasts"; Tokyo Stock Exchange; BOJ.

Chart 5-2: Summary of stress testing results

Baseline scenario

		FY2015	16	17	18
Loans outstanding (y/y % chg.)	Internationally active banks	+2.9	+3.7	+4.2	+4.1
	Domestic banks	+2.8	+3.2	+3.8	+3.6
Net interest income (tril. yen)	Internationally active banks	4.5	4.1	3.9	4.0
	Domestic banks	5.3	5.0	4.9	5.0
Credit cost ratios (%)	Internationally active banks	0.0	0.1	0.1	0.1
	Domestic banks	0.1	0.1	0.2	0.2
Capital adequacy ratios (%)	Internationally active banks (CET I capital ratio)	12.2	12.5	12.7	12.8
	Domestic banks (Core capital ratio)	11.5	11.3	10.9	10.6

Tail event scenario

		FY2015	16	17	18
Loans outstanding (y/y % chg.)	Internationally active banks	+2.9	-4.9	-4.3	-4.8
	Domestic banks	+2.8	+1.6	+2.5	+1.9
Net interest income (tril. yen)	Internationally active banks	4.5	3.7	2.0	0.8
	Domestic banks	5.3	4.8	4.4	4.0
Credit cost ratios (%)	Internationally active banks	0.0	0.9	0.4	0.3
	Domestic banks	0.1	1.6	0.7	0.5
Capital adequacy ratios (%)	Internationally active banks (CET I capital ratio)	12.2	9.3	8.3	7.9
	Domestic banks (Core capital ratio)	11.5	10.1	9.3	8.7

Tailored event scenario

		FY2015	16	17	18
Loans outstanding (y/y % chg.)	Internationally active banks	+2.9	+2.0	+1.8	+1.0
Net interest income (tril. yen)		4.5	3.2	2.4	1.8
Credit cost ratio (%)		0.0	0.3	0.4	0.4
CET I capital ratio (%)		12.2	10.9	9.9	9.3