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Bank of Japan

Macroprudential Policy and Initiatives by the Bank of Japan

Speech at Japan Society in London

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Introduction

Thank you, Mr. Fraser, for your kind introduction. Distinguished guests and members of the Japan Society, I am truly honored to have this opportunity to speak to you.

Today, I will talk mainly about the Bank of Japan's initiatives on the prudential front, focusing on macroprudential policy rather than microprudential.

Microprudential policy aims to ensure the financial soundness of individual financial institutions. By contrast, macroprudential policy aims to ensure the stability of the financial system as a whole by analyzing and assessing risks within that system and formulating, based on the findings, institutional designs and policy responses to mitigate such risks. Microprudential measures to prevent the failure of individual financial institutions are important in that they can address signs of risk that will threaten the stability of the entire financial system. Based on the efficacy of microprudential measures, macroprudential measures focus on avoiding a situation in which vulnerability arising from the interaction among the real economy, financial markets, and financial institutions makes the entire financial system unstable.

A central bank conducts monetary policy with the aim of achieving price stability, and monetary policy is not directly aimed at ensuring financial system stability. However, as I will explain later, there is a close relationship between monetary policy and financial system stability. Once the functioning of the financial system is significantly impaired following the bursting of a bubble, the effects of monetary policy will be largely restrained. It is becoming clear through recent studies that an economic trough following a financial crisis tends to become deeper and last longer than troughs arising from different situations.[1] Taking that into account, there has been a growing tendency worldwide to place greater emphasis on macroprudential policy since the global financial crisis. The Bank of Japan has been placing emphasis on a macroprudential perspective in its conduct of monetary policy since before the crisis.

In today's speech, I will share with you my views on the issues regarding the

[1] For details, see Òscar, Schularick, and Taylor (2011).

implementation of macroprudential measures, and then elaborate on the Bank's initiatives on the macroprudential front. Lastly, I will touch on the recent conduct of monetary policy by the Bank of Japan.

I. Issues Involved in Implementing Macroprudential Measures

As I mentioned earlier, macroprudential policy aims to ensure the stability of the financial system as a whole by analyzing and assessing risks within that system and formulating, based on the findings, institutional designs and policy responses to mitigate such risks, with particular attention paid to the interaction among the real economy, financial markets, and financial institutions. In view of the experience of the global financial crisis, in addition to the analysis and assessment of risks in the overall financial system, a macroprudential perspective has been actively adopted worldwide in institutional designs and policy responses.

For example, countercyclical capital buffers (CCBs) are to be introduced, as stipulated in the Basel III requirements. They aim to limit financial institutions' excessive risk taking by requiring an increase in their capital at the time of credit expansion. They also are expected to function as a buffer when losses are actually incurred. Other types of policy measures aim at containing systemic risk arising from credit expansion and overheating of demand by imposing direct regulations on credit expansion by financial institutions, such as limits on total credit supply, loan-to-value (LTV) caps, and debt-to-income (DTI) limits (Chart 1). Some countries and regions have already introduced those measures and have produced policy effects.[2]

In Japan, such macroprudential measures were taken in the past. One example is the quantitative ceiling on banks' real estate loans, which was set in 1990 to contain the excessive growth in bank lending to the real estate sector by keeping the growth rate of such loans to a level equal to or below that of total bank lending. Regardless of how the ceiling was categorized at that time, it now can be considered a macroprudential measure.[3] The

[2] For example, a CCB framework has already been established in Switzerland, and loan-to-income (LTI) and LTV caps for new residential mortgages have been introduced in the United Kingdom and New Zealand, respectively.

[3] For details, see Nelson and Tanaka (2014).

measures I have mentioned so far are regarded as typical macroprudential measures. However, other measures -- that is, those which already have been implemented, such as on-site examinations and inspections of individual financial institutions and oversight of payment and settlement systems -- should also be conducted, taking into account a macroprudential perspective, in cooperation with the relevant parties.

Let me turn to the issues regarding the implementation of macroprudential measures. I believe there are three (Chart 2). First, it is important to implement -- with appropriate timing -- policy measures that are considered effective, among a wide range of choices, in containing financial imbalances that have been identified at that time. In that regard, an empirical study shows that a failure to get the timing right can push down the average level of economic activity and increase its volatility.[4] It has been pointed out that the implementation of the quantitative ceiling on banks' real estate loans in 1990 was too late to contain excessive hikes in land prices when it was necessary, and instead, once land prices turned to a decline, the policy implementation ended up accelerating the decline in land prices.[5] To be sure, it is recognized that the timing of the implementation is of critical importance, but it seems that there is still not enough understanding as to how to identify financial imbalances, which is the premise of such implementation. That might be because the buildup of imbalances that threatened the financial system and the ensuing collapse occurred through different mechanisms in each instance in the past. At any rate, it is a significant challenge to first gauge on a real-time basis whether the imbalances that could lead to systemic risk are emerging within the financial system, and then to judge the timing of policy implementation.

Second, and related to the first issue, there is difficulty of communication to the public at the time of policy implementation. It is difficult to prove "in advance" the rightness of the policy authorities' judgment about emerging signs of financial imbalances. The difficulty in noticing the signs of financial imbalances with certainty at the same time suggests the difficulty in persuasively arguing for the need for a policy response to such signs. Even though the financial authorities are able to judge, based on their analysis and experience,

[4] For details, see Kawata *et al.* (2013).

[5] For details, see Bank for International Settlements (2012).

that signs of financial imbalances are clear, they might be unable to gain sufficient support from stakeholders at an early stage regarding the need for a policy response. Or, if the authorities wait until the buildup of financial imbalances becomes clear in many people's eyes, the timing of policy implementation could be too late.

At one point, in international discussions following the global financial crisis, there were divided views. One view was that it was necessary to identify financial imbalances in advance as early as possible and address them. The other view was that it was difficult to identify such imbalances in advance, and therefore it was enough to address them after the bursting of a bubble actually occurred. That division suggests the difficulty in policy judgment and communication mentioned in the first and second issues. At present, many countries design their institutions and policy frameworks with the intent to work to identify financial imbalances as early as possible and take action, although there is some degree of difference among countries.

Third, it is also difficult to find a way to prevent the leakage of policy effects. Regulatory arbitrage is one example. Even though regulated banks reduce their lending in response to certain measures, policy effects could be offset if reduced lending amounts are provided instead by non-regulated financial institutions such as shadow banking institutions. The same was true for Japan's quantitative ceiling on banks' real estate loans, which I mentioned earlier. If regulations are to be imposed on a wide range of shadow banking institutions to minimize the leakage of policy effects, cooperation among several other authorities is considered to be necessary. Without full cooperation, policy effects might be diminished. There also could be a vicious cycle in which advancements in financial technology give rise to new financial products that are not subject to regulation. The authorities will respond to that by expanding the scope of regulation, but other new products will still emerge. In the future, it may become necessary to facilitate international regulatory coordination under free capital mobility.

II. The Bank's Initiatives on the Macroprudential Front

With those three issues in mind, I will now elaborate on the Bank's initiatives on the macroprudential front. In Japan, reflecting the emergence of the asset bubble in the late

1980s and its subsequent bursting, a number of measures were taken from the late 1990s to the early 2000s. Those measures include the establishment of the Financial Services Agency (FSA), the amendment of the Bank of Japan Act with a clear statement of its on-site examinations, and the formulation of a crisis management framework. At present, on the basis of those, the FSA -- which is legally authorized to conduct industry-wide supervision and inspections -- and the Bank -- which contributes to financial system stability, such as through the "lender of last resort" function -- take the initiative in carrying out macroprudential policy. They fulfill their respective functions in monitoring risks and financial imbalances in the entire financial system.

The Bank regularly releases the *Financial System Report*, which analyzes and assesses the stability and functioning of the financial system as a whole. The Bank began its release back in 2005, before the global financial crisis occurred. Since then, this semiannual report has been released to convey the Bank's thinking on risks and issues facing Japan's entire financial system. Through this release, the Bank works to grasp risks in the financial system as a whole, and to share a common understanding with a wide range of participants in the system, including financial institutions. I think this process is fundamental to identifying financial imbalances at an early stage and implementing, with appropriate timing, measures that are considered to be effective in containing risks. In relation to the three issues I mentioned earlier, there are two key points. First, it is important to improve the quality of the assessment of financial developments so that macroprudential measures can be implemented with appropriate timing. Second, it is also important to increase the scope of analysis to cover not only banks but also the entire financial system.

From that viewpoint, the results of various analyses are set out in the *Financial System Report*. As an example, let me introduce the Financial Activity Indexes (FAIXs) (Chart 3). The Bank began their compilation in 2012. The FAIXs aim to detect, as early as possible, overheating in financial activity that could lead to systemic risk. They are a selection of 14 financial indicators, such as the total credit-to-GDP ratio and the land prices to GDP ratio, and measure how far individual indicators deviate from their historical trends. The *Financial System Report* provides overheating or overcooling assessments of individual

indicators in a "heat map" format, where red shading shows that the indicator in question is tilted toward overheating, blue indicates overcooling, and green represents everything in between. Through a comprehensive analysis and assessment of these indicators, the Bank works to gauge the accumulation of macro financial imbalances. Of course, the heat map is not perfect. Let me offer the example of the total credit-to-GDP ratio, which is a typical indicator of the financial cycle (Chart 4). It is difficult to grasp the underlying trend of the ratio, given the overwhelming magnitude of the emergence and bursting of the asset bubble from the late 1980s to early 1990s in Japan. The financial cycle is long and unstable, and the associated recovery in robustness of the financial system requires time. Therefore, for this kind of financial cycle indicator, it is ultimately a matter of judgment as to how long the deviation from the underlying trend should be accepted. Although there are such issues to be considered, the FAIXs are a useful tool for gauging the buildup of financial imbalances.

In the *Financial System Report*, in addition to presenting the FAIXs, the Bank conducts macro stress testing (Chart 5). Through such testing, it aims to analyze the degree of accumulation of risks in the entire financial system and the uneven distribution of risks among financial institutions, and then utilize such analysis in its policy judgment. Macro stress testing assesses the degree of resilience of the financial system assuming that severe stress occurs in the real economy and financial markets. First, by devising stress scenarios, the testing enables to some extent assessment of how an unprecedented shock would affect the entire financial system. Second, an industry-wide analysis using the same scenario enables the identification of an uneven distribution of risks in the financial system. In conducting macro stress testing at the Bank, particular emphasis is placed on the importance of working to bring together economic analysis skills accumulated so far and data/knowledge obtained from individual financial institutions through the process of on-site examinations and off-site monitoring. For example, when assuming stress scenarios, the Bank focuses on risk factors that are considered to be the most important at that particular point in time. Before the Lehman shock, when the global economy overheated and newly established real estate firms actively developed real estate projects in Japan, the Bank conducted stress testing focusing on credit risk in lending to real estate-related sectors. When concern about the European sovereign debt crisis heightened, the Bank assessed its spillover impact by taking account of co-movements in domestic and

international financial markets, and also conducted stress testing against foreign currency liquidity risk based on the assumption that the foreign currency funding markets had become dysfunctional. Most recently, the Bank has conducted an analysis by assuming scenarios involving an economic downturn of approximately the same magnitude as that observed at the time of the Lehman shock and an approximately 2 percentage point rise in long-term interest rates leading to an economic downturn.

As noted, in the *Financial System Report* the Bank clarifies risks and challenges for Japan's financial system by examining a number of indicators. It examines a wide range of indicators and conducts various analyses, and ultimately makes a discretionary judgment as to whether the implementation of measures is indeed necessary. With a view to analyzing and assessing financial system stability and making use of macroprudential measures, close cooperation between the FSA and the Bank is also important. In that regard, the two entities together established in June 2014 a task force with the aim of holding regular joint meetings to exchange views on financial stability, with participants including the FSA Commissioner and the Bank's Deputy Governor. The FSA and the Bank have been exchanging views frequently at various levels and maintaining close cooperation, and the meetings will further strengthen such cooperation.

III. The Relation between Monetary Policy and Macroprudential Policy

Now let me turn to the issue of how much a central bank should involve itself in macroprudential policy. As is the case here in the United Kingdom, having experienced the recent financial crisis, a central bank's involvement in ensuring the stability of the financial system has strengthened globally. The Bank of Japan Act stipulates that the purpose of the Bank is to carry out currency and monetary control as well as to contribute to the maintenance of the stability of the financial system, and therefore the Bank is responsible for taking care of both tasks equally (Chart 6).

Looking back, the following two cycles have often synchronized: the cycle of economic activity, or the output gap, and the financial cycle -- in other words, the buildup of financial imbalances and their collapse. That is because of a feedback loop in which changes in the output gap and changes in the financial cycle have reinforced each other, leading to larger

changes for both. In Japan, monetary policy and macroprudential policy are therefore considered to be complementary. The Bank's activities on the macroprudential front are in line with its mission as stipulated in the Bank of Japan Act, just like its microprudential activities, such as on-site examinations and off-site monitoring. Based on that, the Bank also allocates considerable management resources to conduct prudential policy that aims to ensure the stability of the financial system, as well as monetary policy that aims to maintain price stability.

Even if monetary policy and macroprudential policy are considered to be complementary to each other in the long run, depending on the economic phase, there may be cases in which asset prices surge under low inflation. Therefore, in the short run, where there is a trade-off between price stability and financial system stability, the question over which one a central bank should place greater emphasis on when taking action may well become an issue of debate. One approach to that issue would be a policy framework based on a dictionary-like ordering. That is, as long as price stability -- an objective of the highest priority -- has been met, a central bank can pursue its other objectives. For example, in advanced economies in general, where prices have been maintained at low levels as a trend, financial system stability is sometimes viewed as more important than price stability, which is considered to have been achieved already. That would sound reasonable, considering that a large-scale formation of financial imbalances and their collapse, just like the one observed before and after the Lehman shock, occurred when price stability had generally been maintained. On the other hand, in the case of Japan, since deflation persisted for a prolonged period, one might take the view that, for the time being, a higher priority should be placed on price stability than financial system stability. The background to this view could include the fact that risk-taking activities of financial institutions have been limited, even in a low-interest rate environment, and that a buildup of financial imbalances has not been observed so far.

I would not reject that way of thinking, but I am personally uncomfortable with accepting the dichotomy between monetary policy for price stability and macroprudential policy for financial system stability. That is because the dichotomy is seemingly easy to understand, but it is not always valid in every circumstance. Of course, there are cases in which

responses are possible under such a dichotomy. However, let us assume a situation in which the financial cycle is not sufficiently contained, leading to a feedback loop in which changes in the output gap and changes in the financial cycle reinforce each other. In that case, it inevitably becomes necessary to make use of not only macroprudential policy but also monetary policy, which has far-reaching effects. As in the case of the policy responses made after the bursting of the bubble economy in Japan, if monetary policy measures are taken only after fluctuations in the financial cycle have become substantial, there is a risk that policy responses will become extremely difficult to implement at that point. Therefore, what is desirable for a central bank is to give a certain consideration not only to the output gap but also to containing the financial cycle when pursuing monetary policy.

Based on that view, the Bank of Japan's monetary policy is conducted within a framework in which the Bank examines various risk factors, including those related to financial imbalances, in addition to the assessment of the current developments and outlook for economic activity and prices, from the perspective of achieving sustainable growth with price stability. When too much priority is placed on short-term price stability, there is a risk that the financial system will become unstable in the future, which in turn could undermine medium- to long-term price stability. On the other hand, when too much emphasis is placed on financial system stability, confidence in a central bank's efforts toward achieving price stability could deteriorate. In order to avoid falling into such situation, a central bank needs to conduct monetary policy in a balanced manner.

IV. The Bank's Recent Conduct of Monetary Policy

Lastly, I will briefly touch on the Bank's recent conduct of monetary policy.

At the Monetary Policy Meeting (MPM) held on October 31, 2014, the Policy Board decided to expand quantitative and qualitative monetary easing (QQE). As I cast a dissenting vote on this decision, I may be in a delicate position to talk about this policy change. However, I take this opportunity to explain the policy decision and provide my views to the best possible extent.

The Bank's assessment is that Japan's economy has continued to recover moderately as a trend, despite being affected by the consumption tax hike in April 2014, and is expected to continue to do so. Although weakness remains in exports, production, and some indicators relating to consumption, the mechanism for economic recovery has been steadily maintained on the back of the firm employment and income situation as well as resilient household and business sentiment. On the price front, somewhat weak developments in demand following the consumption tax hike and a substantial decline in crude oil prices have been exerting downward pressure recently. A temporary weakness in demand has already started to wane, and the decline in crude oil prices will have positive effects on economic activity from a somewhat longer-term perspective and eventually will push up prices. Nevertheless, if the current downward pressure on prices remains, albeit in the short term, there is a risk that conversion of the deflationary mindset, which has so far been progressing steadily, might be delayed. To pre-empt manifestation of such risk and to maintain the improving momentum of expectation formation, the Bank judged it appropriate to expand QQE, with an aim of offering kind of insurance.

Regarding the monetary base, the Bank will conduct money market operations so that it will increase at an annual pace of about 80 trillion yen. That is an addition of about 10-20 trillion yen compared with the past. To that end, the Bank will purchase Japanese government bonds (JGBs) so that their amount outstanding will increase at an annual pace of about 80 trillion yen. Compared with the past, it is an addition of about 30 trillion yen. The Bank also tripled the amount of some risk asset purchases, compared with the past (Chart 7).

The effects of QQE have a tendency to become stronger in a cumulative manner with the progress in asset purchases by the Bank. Those effects have already become clearly evident in both the front and back ends of the yield curve, and are expected to strengthen further with the progress to be made in such purchases.

With regard to my own view on the policy decision that I have mentioned, I refrain from providing details at this point, as the minutes of the MPM have not been released at this stage. However, as I have been presenting my personal views on the meaning of

"achieving the price stability target of 2 percent" and of the time frame "as long as it is necessary for maintaining that target in a stable manner," I take this opportunity to reconfirm them.

The price stability target is set based on the consumer price index (CPI) for all items, but I do not think that QQE can be considered to have accomplished its mission simply when the rate of increase in the CPI reaches 2 percent on a year-on-year basis. The price stability that the Bank aims to achieve should be a situation in which prices rise with an improvement in wages in a well-balanced manner, amid favorable overall economic conditions both in terms of the real economy and the asset market. To that end, it is important that people's medium- to long-term inflation expectations -- which are said to have consistently remained lower than those in other leading countries -- be raised to and re-anchored at around 2 percent, comparable to the level in the United States, so that people's behavioral pattern will be based on the assumption of around 2 percent inflation.

Fortunately, people's short-term inflation expectations appear to be rising on the whole from a somewhat longer-term perspective, in part because the year-on-year rate of increase in the core CPI, excluding the effects of the consumption tax hike, has continued to be stable at around 1¼ percent. In re-anchoring medium- to long-term inflation expectations, it is conceivable that people revise their expectations not only in a backward-looking manner based on the rise in short-term inflation expectations, but also in a forward-looking manner considering, for example, developments in wage revision. In that regard, the result of wage revision this year marked an important step toward a breakthrough in changing people's pessimistic expectations that base salaries will not rise under deflation. Regarding wage negotiations next year, three-way discussions among the government, employers, and labor unions are taking place under the government's initiatives. I expect that they will lead to actual wage increases and exert a positive effect on the formation of people's inflation expectations, thereby having favorable effects on medium- to long-term inflation expectations.

To be sure, the time frame for continuing QQE is based on the idea of forecast targeting -- namely, as long as it is necessary for maintaining the target in a stable manner. The price

stability target is expressed in terms of the year-on-year rate of increase in the CPI for all items. Considering the aim behind this, I think it will remain important to focus on the formation of people's inflation expectations -- as I have mentioned earlier -- and to carefully examine future developments in a wide range of price indicators including those relating to wages. It should be noted that there is no silver bullet for estimating people's medium- to long-term inflation expectations on a real-time basis, and therefore the necessity of continuing QQE should be judged by the Bank's Policy Board at each MPM.

Thank you.

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Outline

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Chart 1

Types of Macroprudential Policy Measures

Type of instrument	Examples
Limits calibrated to borrower risk characteristics	Loan-to-value caps, debt-to-income limits, limits on foreign currency lending
Absolute limits	Aggregate or sectoral credit growth ceilings, limits on exposure by instrument
Limits on leverage	Size-dependent leverage limits or asset risk weights
Limits on financial system concentration	Limits on interbank exposures
Capital	Time-varying capital requirements
Provisioning	Countercyclical/dynamic provisioning
Liquidity risk	Loan-to-deposit limits, core funding ratios, reserve requirements
Currency risk	Limits on open currency positions or on derivatives transactions

Sources: Bank for International Settlements (BIS); Bank of Japan.

Chart 2

Issues Involved in Implementing Macroprudential Measures

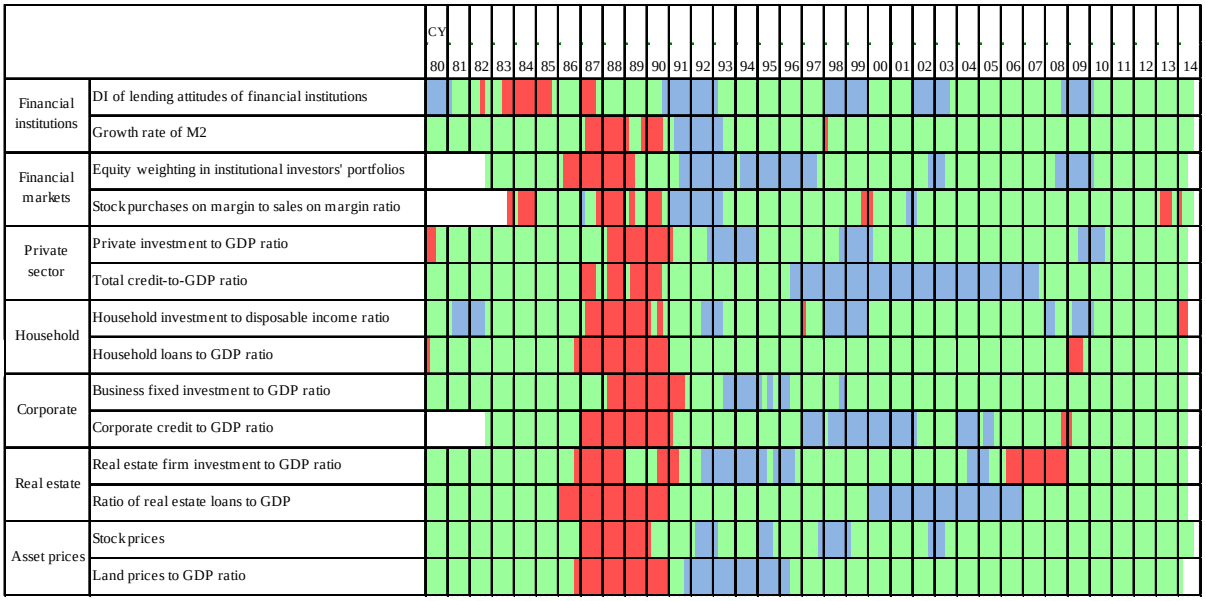
(1) Implementation of effective measures with appropriate timing

(2) Communication to the public at the time of policy implementation

(3) Prevention of leakage of policy effects

Chart 3

Heat Map of Financial Activity Indexes

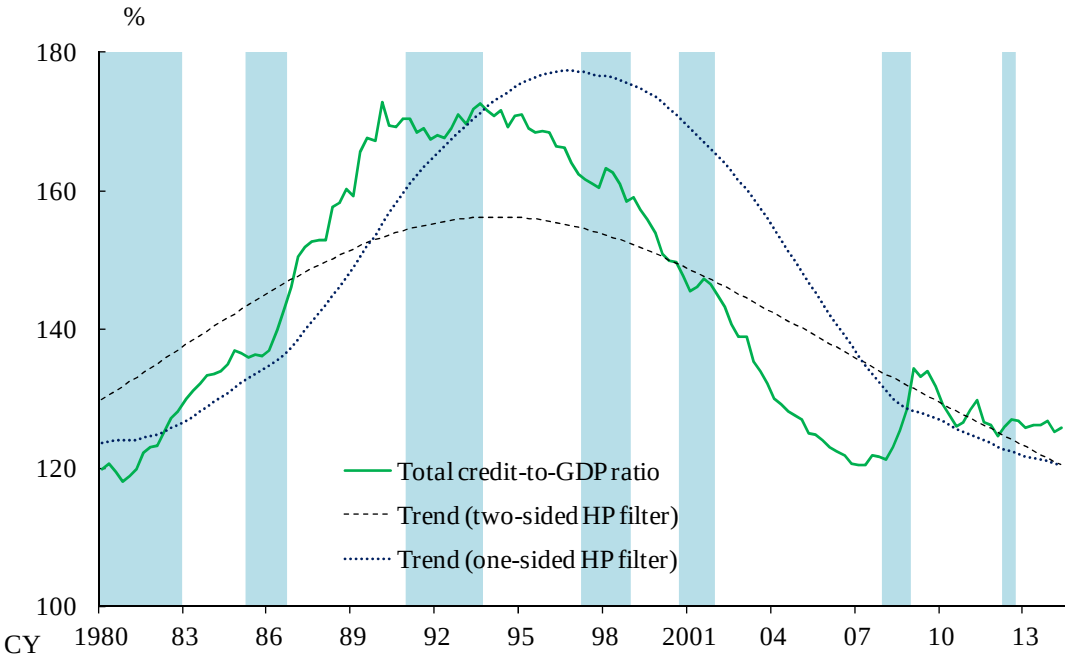


Heat map of Financial Activity Indexes
Red (darkest areas): overheating (a rise above the upper threshold)
Blue (second darkest areas): overcooling (a decline below the lower threshold)
Green (most lightly shaded areas): everything in between
White: periods without data

Sources: Bloomberg; Ministry of Finance; Tokyo Stock Exchange; Cabinet Office; Japan Real Estate Institute; Bank of Japan.

Chart 4

Total Credit-to-GDP Ratio



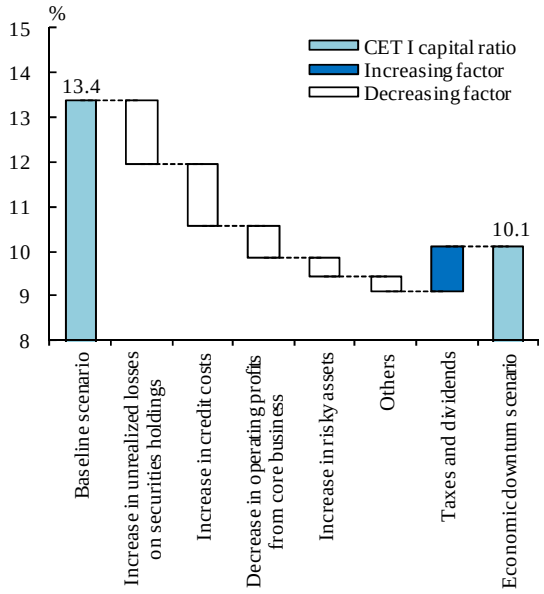
Notes: 1. Shaded areas indicate economic recession periods.
2. The two-sided HP filter is a method for extracting a trend from all available data using the Hodrick Prescott filter. The one-sided HP filter is a method for extracting a trend from the data available for a time period using the Hodrick Prescott filter.

Sources: Cabinet Office; Bank of Japan.

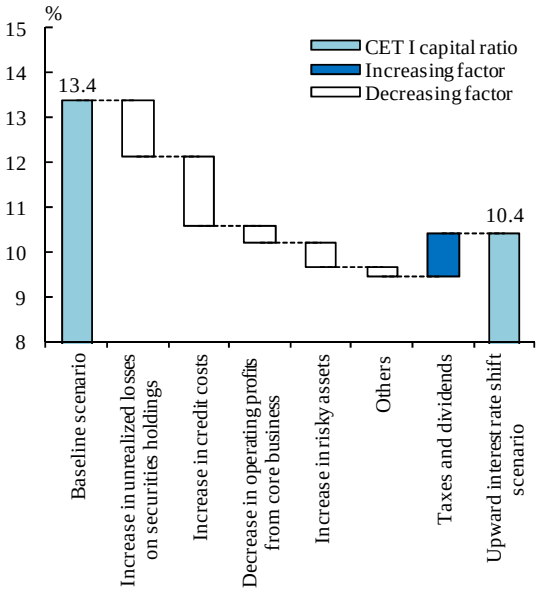
Chart 5

Macro Stress Testing Results

Scenario of an economic downturn



Scenario in which a rise in interest rates causes an economic downturn



Note: Internationally active banks are counted. For details on the macro stress testing assumptions and estimation methods, see the October 2014 issue of the *Financial System Report* on pages 86-104.
Source: Bank of Japan.

Chart 6

Bank of Japan Act

Article 1

(1) The purpose of the Bank of Japan, or the central bank of Japan, is to issue banknotes and to carry out currency and monetary control.

(2) In addition to what is prescribed in the preceding paragraph, the Bank of Japan's purpose is to ensure smooth settlement of funds among banks and other financial institutions, thereby contributing to the maintenance of stability of the financial system.

Article 2

Currency and monetary control by the Bank of Japan shall be aimed at achieving price stability, thereby contributing to the sound development of the national economy.

Expansion of the Quantitative and Qualitative Monetary Easing (QQE)

- Accelerating the annual pace of increase in the monetary base from about 60-70 trillion yen to about 80 trillion yen.

- Increasing the annual pace of the Bank's JGB holdings from about 50 trillion yen to about 80 trillion yen.
- Extending the average remaining maturity of JGB purchases from about 7 years to about 7-10 years.
- Increasing the Bank's holdings of ETFs and J-REITs so that the annual paces of increase are tripled to about 3 trillion yen and about 90 billion yen, respectively.