Hiroshi Nakaso: Challenges toward financial stability and the policy frontier – unconventional monetary policy, macroprudence, and financial institutions' low profitability

Speech by Mr Hiroshi Nakaso, Deputy Governor of the Bank of Japan, at the IVA (The Royal Swedish Academy of Engineering Sciences) – JSPS (The Japan Society for the Promotion of Science) Seminar, Stockholm, 21 March 2016.

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Accompanying charts can be found at the end of the speech.

Introduction

Good evening, ladies and gentlemen. It is a great honor and pleasure for me to be able to speak to you at this esteemed institution today.

Before I get into the substance of this speech, let me first thank the person who made this event possible: Mr. Robert Stenram. Mr. Stenram was the Tokyo representative of Swedbank in the 1990s, during the acute financial crisis in Japan. While he was posted in Tokyo, he was instrumental in liaising very closely with the Japanese banking industry. I benefitted from his deep insights and thoughtful advice based on his experiences as a professional banker. It was indeed the most turbulent of times, but we also became friends, and I have long enjoyed his friendship since then. I deeply regret that he no longer is with us, and wish to pay my tribute to the great work he has accomplished in linking Sweden and Japan in the world of finance. Robert, I will not forget how much we owe to you. May his soul, now joined by his beloved wife Siv, rest in peace.

Over the years, both Sweden and Japan have confronted a few very difficult issues in terms of monetary policy and financial stability. In the late 1980s, we saw financial bubbles develop and burst. From 2008 to 2009, we tackled the most recent global financial crisis together, and today the two countries are fighting deflationary headwinds. As you know, the Riksbank and the Bank of Japan have adopted negative interest rate policies so as to achieve their respective price stability targets.

In order to discharge our responsibilities for maintaining price and financial stability, central banks must be prepared to meet new challenges as they appear. Reflecting on my experiences, I have been on the front lines as a central banker during Japan's financial crisis in the 1990s and 2000s, and during our Bank's long battle with deflation for nearly two decades. Not once during all those years could I forget the importance of financial stability. With this background, I will describe today the importance of financial stability and the policy implications of newly emerging challenges from three perspectives: unconventional monetary policy, macroprudence, and low profitability of financial institutions.

Financial crisis and growth inflection

To begin with, let me go back to the 1990s and explain my experiences during the bursting of the bubble economy in Japan. As I touched on at the beginning, both Sweden and Japan experienced financial bubbles. Nevertheless, the subsequent paths of the two countries were quite different (Chart 1).

In Sweden after the crisis in the early 1990s, capital was quickly injected into the banking system and the stability of the financial system was restored. In addition, the Swedish krona was floated, and the Riksbank was able to ease monetary policy. With the tailwind of the depreciating krona contributing, the Swedish economy began to recover as early as 1993. Furthermore, following Sweden's accession to the European Union in 1995, factors such as the growth of the IT industry benefitting from the increases in inbound investment contributed

to productivity growth. In fact, Sweden's potential growth actually increased after the bursting of the bubble.

In contrast, Japan only managed to inject capital into financial institutions on a meaningful scale after the "Dark November" in 1997, when it experienced a series of failures of large financial institutions.[1] That was nearly eight years after the bubble had burst. During those years, financial institutions' behavior, such as evergreening their loans to practically failed businesses by extending additional loans, resulted in a further buildup of impaired assets, which made it all the more difficult to cleanse financial institutions' balance sheets of problem loans, and which distorted the allocation of resources. The layering of these multiple factors pushed the Japanese economy into deflation, and concurrently, productivity growth declined.[2] Furthermore, this period overlapped with rapid changes in demography, resulting from a declining working-age population against the backdrop of a low birth rate and aging. The confluence of the two currents – financial sector problems and demographic changes – significantly pulled down Japan's potential growth rate (Chart 2). That in turn exacerbated over-leveraging in the corporate sector and discouraged corporate investment. From a macroeconomic perspective, lower investment depressed productivity growth, which again negatively impacted potential growth. There was a vicious cycle: over-leveraging in the corporate sector led to the decline in the potential growth rate, which in turn exacerbated the difficulty of resolving non-performing loans in the banking sector and over-leveraging in the corporate sector. Admitting one can be wise only after the event, in retrospect, the forbearance policy at an early stage after the bursting of the asset bubble and the underestimation of the systemic nature of what was going on in the financial sector allowed the problem in the banking sector to develop into a full-blown financial crisis.[3] This is the shorthand account of the extended stagnation and deflation following the bursting of the bubble: the so-called "lost two decades" in Japan.

From this painful episode, we have learned two things. One is that financial stability is the foundation of sustained growth of the economy, and another is that changes in potential growth amplify the financial cycle and consequently impact financial stability. The widespread recognition in the international policy fora of the need to take account of the macroprudential perspective may be a consequence of the recent global financial crisis, but Japan's predicament that preceded it seems to amply underscore the importance of such a perspective. To me, this was a formative experience as a central banker. I have attached importance to macroprudence ever since.

Stability consequences of QQE with a negative interest rate

Next on my agenda today is the implementation of monetary policy by the Bank of Japan and its relationship with macroprudential policy. After the bursting of the bubble, the lowering of potential growth brought about a large decline in the natural rate of interest, which is the guidepost for monetary policy formulation (Chart 3). As you know, monetary easing is used to bring down real interest rates below the natural rate of interest. Mindful of the prevailing views then that there was a zero lower bound for nominal interest rates, quantitative and qualitative monetary easing (QQE) introduced by the Bank of Japan in April 2013 was a breakthrough in the following sense: the Bank made a strong commitment to achieve the price stability target of 2 percent at the earliest possible time, which encouraged expected

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1 During this month, as many as four financial institutions, including internationally active ones, failed in succession: Sanyo Securities, Hokkaido Takushoku Bank, Yamaichi Securities, and Tokuyo City Bank.

2 Caballero, Ricardo J., Takeo Hoshi, and Anil K. Kashyap. 2008. "Zombie Lending and Depressed Restructuring in Japan." American Economic Review, 98(5): 1943–77.

3 Nakaso, Hiroshi. "The financial crisis in Japan during the 1990s: how the Bank of Japan responded and the lessons learnt," BIS Papers No 6, October 2001.

inflation to rise. Concurrently, the Bank, recognizing that there was only limited room for short-term interest rates to decline, exerted downward pressure on nominal interest rates across the entire yield curve by purchasing a large amount of long-term government bonds, so that together with higher inflation expectations, real interest rates would be brought down.

The QQE with a negative interest rate framework that was introduced by the Bank of Japan this January aims at reinforcing the existing QQE and supports the activities of firms and households, thereby ensuring the earliest attainment of the 2 percent inflation target. The policy will work through the same channels, by bringing down real interest rates. As I just noted, the conventional wisdom was that there was a zero lower bound for nominal interest rates, but the demonstration by a few European central banks, including the Riksbank, that such limitation could be overcome to some degree led the Bank of Japan to adopt the new policy framework. In fact, after the introduction of the negative policy rate, the financial environment has further relaxed, with the yield curve shifting significantly lower and financial institutions lowering their lending rates (Chart 4). In addition, rebalancing of the portfolios of financial institutions is also starting to take place, with increased interest in investing in foreign currency denominated bonds, although this trend is somewhat masked by the effects of recent market turmoil.

Against the backdrop of these positive developments in financial intermediation, from the macroprudential perspective, their effects on financial stability must be carefully monitored. I believe that we need to be mindful of two angles. One is the "overheating" risk, where the extremely relaxed financial environment could destabilize the financial system through excessive risk taking. The other is the "contraction" risk, where low revenue streams resulting from low interest rates could erode the risk appetite and/or undermine the soundness of financial institutions.

For the time being, we believe that there is generally no need to be overly concerned as regards the overheating risk. There is evidence of increasing real estate transactions, with prices of apartments in the Tokyo area topping their previous peak during the bubble years, but leverage in the real estate sector is still not excessive. Our general view is that the financial sector has a robust capital base relative to risks taken and its resilience in the face of stress is sufficient, and thus it could undertake positive risk taking and portfolio rebalancing under QQE with a negative interest rate framework.

At the same time, we believe that the contraction risk at present is also small. The extended period of monetary easing has tended to pressure the interest rate margins of financial institutions, negatively impacting their revenue streams (Chart 5). This is not something that is unique to a setting of unconventional monetary policy, but in an economic environment where such exceptional policy needs to be adopted, there tends to be less room for deposit rates to fall – in other words, the interest rate margins are tighter than ever – and additional easing of policy could result in a non-linear compression of margins.[4] Having said that, Japanese financial institutions have been able to remain sound because the reduction in margins thus far has been more than offset by revenue improvements against the backdrop of improving economic conditions under monetary easing, such as increases in lending volume, lower credit costs, and higher investment incomes.

The policy framework of QQE with a negative interest rate maintains monetary easing in terms of quantity and quality and boosts it strongly with a negative policy rate. As such, it will strongly influence the financial system. Accordingly, the Bank of Japan must thoroughly monitor and analyze the state of the financial system from a macroprudential perspective. To this end, the Bank of Japan is publishing its *Financial System Report* twice a year. In this report, it assesses the stability of Japan's financial system from various angles, including the

[4] Borio, Claudio, Leonardo Gambacorta, and Boris Hofmann. 2015. "The Influence of Monetary Policy on Bank Profitability." BIS Working Papers No.514.

balance between the amount of risks borne by financial institutions and their financial bases, macro stress testing, and macro risk indicators (i.e., the "heat map"). I believe that independent examination of developments from a financial perspective will enhance the credibility of QQE with a negative interest rate.

Macroprudential policy and monetary policy

Even if the risks are contained at this juncture, what should we do if, in the future, the overheating risk becomes more apparent? There are two contrasting views on the relationship between monetary and macroprudential policies: the *separation principle* and *leaning against the wind*. The former says to render unto monetary policy things that concern price stability, and render unto macroprudential policy things that concern financial stability. On the other hand, the latter holds that, if the amplification of financial imbalances is expected to threaten price stability in the long run, the central bank should resort to monetary policy in order to dampen the financial cycle, notwithstanding a temporary deviation of inflation from the target. Let me offer you my views, which are influenced by the experiences of the Japanese bubble.

Up until the 1980s, the Bank of Japan was requiring banks to comply with guidance that set their loan growth at levels individually assigned by the Bank. This arrangement, called "window guidance" was then regarded as a tool for monetary policy, but under the current taxonomy, it would be regarded as a time-varying macroprudential policy tool, akin to regulation of loan-to-value (LTV) or debt-to-income (DTI). There were two schools of thought regarding the effectiveness of the tool: the "independent tool theory," which held that window guidance was effective by itself, and the "complementary tool theory," which held that window guidance had to be used alongside the mainstream monetary policy of official discount rate adjustments to be effective. The subject was actively discussed in academia, and those supporting the independent tool theory argued that a tightening of window guidance could dampen the financial cycle, even if the official discount rate was held steady.[5] The Bank of Japan, in the meantime, basically adopted the complementary tool theory and explained window guidance as a tool to support general policy instruments, such as changes to the official discount rate, rather than an independent policy instrument.

Notwithstanding such an official position, in the last half of the 1980s, as the call for international policy coordination necessitated the maintenance of a low interest rate environment with a view to expanding domestic demand, the Bank of Japan attempted to respond to signs of financial excesses through the tightening of window guidance. As a result, the growth of bank lending slowed gradually, but large corporates were still able to raise funds from outside the banking sector through the issuance of bonds (Chart 6). The period coincided with the gradual relaxation of underwriting guidelines for corporate bonds, and the buoyant stock market, which was partly a reflection of monetary easing, that reduced the costs of equity financing, such as convertible bonds and bonds with embedded warrants. The resulting increases in capital market financing sustained the relaxed financial environment, and corporate balance sheets kept on expanding. The Bank of Japan could not effectively deal with the signs of overheating.

Another notable feature of the Japanese bubble in the late 1980s was that potential growth and the natural rate of interest were both fairly high at the time (Charts 2 and 3). The degree of monetary easing at one particular level of the policy rate depends on whether the natural rate of interest is high or low. When the natural rate of interest and expected growth were high, there were likely to be strong incentives for both financial institutions and corporates to circumvent the restriction imposed by window guidance.

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[5] Fukumoto, Tomoyuki, Masato Higashi, Yasunari Inamura, and Takeshi Kimura. "Effectiveness of Window Guidance and Financial Environment," Bank of Japan Review Series, 10-E-4, August 2010.

In light of the Japanese experiences, while I fully subscribe to the view that narrowly confined imbalances should be countered by macroprudential policy as the first line of defense, the effectiveness of such policy by itself is very uncertain, considering the changes in financial market structure due to deregulation and the level of the natural rate of interest. Accordingly, I cannot fully uphold the *separation principle*, which reflects the view that time-varying macroprudential policy measures are by themselves effective. I believe we should leave open the possibility of responding to widening financial imbalances with fiscal policy, including tax policy, and monetary policy. Such thinking is reflected in how the Bank of Japan conducts monetary policy, where the Bank examines economic and monetary conditions in a two-pillar approach: the deliberation of the most likely outcomes for the first pillar, and the deliberation of other risk factors relevant for the conduct of monetary policy, financial imbalances in particular, for the second pillar.

Low profitability of financial institutions

Let me now turn to the other risk: the contraction risk. What should we do if this risk becomes apparent? More specifically, what should we make of the low profitability of financial institutions from a macroprudential perspective? This question seems to be attracting more and more attention in Europe as well. In order to properly think about this issue, it is important to distinguish between low profitability due to acute problems and that due to chronic issues.

When profits of financial institutions severely decline because of acute stresses, it is necessary to have sufficient capital in order to maintain financial stability. Looking at current developments, the international banking system has significantly raised the capital ratio, reflecting the strengthening of the capital rules following the recent financial crisis. Such capital strength is also important for the effective transmission of monetary policy. Given that monetary easing pressures interest margins at financial institutions in the short run, weakly capitalized institutions will not be able to increase lending, undercutting the positive effects of easing. As I noted earlier, the fact that Japanese financial institutions were able to increase lending as the Bank of Japan implemented unconventional monetary policies and margins were compressed demonstrates how well capitalized the institutions are.

In short, even if the economy suffers an acute stress and profits of financial institutions are negatively impacted, as the cushion provided by sufficient capital prevents the instability of the financial system, stimulus from monetary easing should provide the shot in the arm that would turn around the economy and thence the profits of financial institutions. Such an outcome, however, is not assured when the financial system is confronted with more chronic stresses, even if current levels of capital are adequate. This is because the persistence of an environment in which financial institutions cannot get sufficient net returns on capital would eventually erode the capital of financial institutions.

One example of such chronic stress is foot-dragging by financial institutions in their recognition of non-performing loans and its flip side: the over-leveraging of corporates. Another is the inflection of the potential growth rate, which would lower firms' expectations for growth and depress investment. In fact, in many developed economies, excess savings are observed in the corporate sector (Chart 7). With the stagnation of investment comes the decline in productivity growth, which would again negatively impact the potential growth rate. As the process unfolds, financial institutions would face downward pressure on their lending rates. Financial institutions facing the resulting compression of interest rate margins would then pursue volume to increase their revenue flows. Such increases in competitive pressure would further depress lending rates and revenues as well. Excessive competition by financial institutions in lending would thus make it easier for low-productivity firms to survive, hindering the efficient allocation of resources in the economy and the so-called "creative destruction," and consequently would prevent the lifting of the potential growth rate. If the low levels of profits at financial institutions and the depressed potential growth rate are tied together by excessive lending competition by financial institutions, the risk that profits become "too low to

recover" could gradually increase, unless financial institutions succeed in changing their business models.

The quest for innovations in financial intermediation

Joseph Alois Schumpeter, in his seminal *The Theory of Economic Development*, stresses the important role played by the "banker," as well as that of the "entrepreneur"[6] The banker profits from her ability to identify those entrepreneurs who develop truly innovative undertakings that are high-quality startups, and from generating information that leads to improved corporate performance. Schumpeter expects that such profit motives of the banker backed up by her exceptional ability to pick winners would bring about a more efficient reallocation of risks in the macroeconomy and lead to an endogenous rise in the economic growth rate.[7]

This role of the banker – promoting the creative destruction through financial intermediation – has not changed since the time of Schumpeter. However, as economies mature, the nature of investment that supports innovations by entrepreneurs changes gradually from investments in tangible assets to those in intangible assets, such as research and development, information technology, and human and organizational capital. Accordingly, investment in intangible assets is now identified as an important element of new sources of growth in the developed economies.[8] If I may point out the findings of one recent research study, investments in intangible assets are more sensitive to the availability of internal funds (or cashflow) compared with investments in tangible assets.[9] If financial markets were perfect markets, the sources of funds – that is, internal financing or external financing including bank financing – would be completely substitutable, and corporate investment would not be affected by the availability of internal funds. Nevertheless, the fact that investments in intangibles are more sensitive to the availability of internal funds suggests that firms could be facing financial constraints due to information asymmetries. One could say that such asymmetries result from the difficulty of assessing the collateral value of intangible assets compared with tangible assets. Consequently, there are opportunities for the banker to profit from overcoming information asymmetries.

In Japan, the ratio of investments in intangible assets to nominal GDP is lower than that in the United States and other major peers (Chart 8). If financial institutions are able to tease out the corporate demand for investments in intangible assets, that not only would enhance the productivity of the whole economy but also would contribute to solving the structural problem of low profitability of financial institutions. The future path of the Japanese economy would be influenced by the behavior of financial institutions whether financial institutions would continue their war of attrition under their existing business models or would expand their business frontiers by unearthing new financing needs. Just as in human beings, for whom chronic syndromes demand fundamental changes in lifestyles, financial institutions must be prepared to fundamentally change their business models in order to extricate themselves from a structural lack of profitability.

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6 Schumpeter, Joseph Alois. 1926. *Theorie der wirtschaftlichen Entwicklung: Eine Untersuchung über Unternehmergewinn, Kapital, Kredit, Zins und den Konjunkturzyklus*, 2nd revised ed. Leipzig: Duncker & Humblot. (*The Theory of Economic Development*, Translated by Redvers Opie, Transaction Publishers: New Brunswick, New Jersey, 1983.)

7 Laeven, Luc & Levine, Ross & Michalopoulos, Stelios. 2015. "Financial innovation and endogenous growth," Journal of Financial Intermediation, Elsevier, vol. 24(1), pages 1–24.

8 OECD. 2011. "New Sources of Growth: Intangible Assets."

9 Morikawa, Masayuki. 2015. "Financial Constraints on Intangible Investments: Evidence from Japanese Firms," in Ahmed Bounfour and Tsutomu Miyagawa eds. Intangibles, Market Failure and Innovation Performance, Springer, Ch.6, pp.139–155.

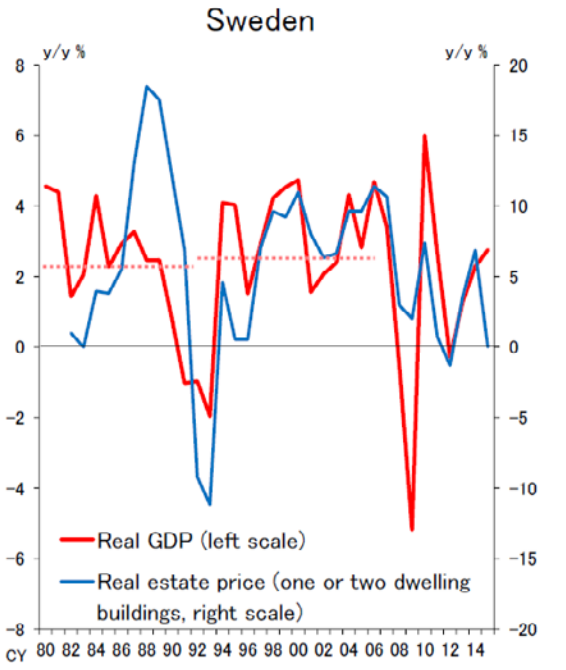
The Bank of Japan has implemented a few measures that would encourage financial institutions to implement their essential reforms. One is to adjust the way in which the Bank injects liquidity into the financial system – for example, the fund-provisioning measure to support strengthening the foundations for economic growth, and purchases of ETFs composed of stocks issued by firms that are proactively investing in physical and human capital. These measures are expected to play catalytic roles in enhancing the financial intermediation functions of financial institutions and capital markets, which would foster productivity increases and ultimately lead to improvements in the potential rate of growth. Another set of measures is designed to enhance the function of financial institutions to efficiently allocate resources. The Bank of Japan is actively providing financial institutions with information and know-how through seminars, etc., so that they can enhance the value of their financial intermediation through, for example, support for startup businesses, business matching, rejuvenating businesses, and utilizing information technology. These undertakings by the Bank of Japan are somewhat different from those found in the conventional macroprudential toolkit, but I believe that they perform important functions in promoting financial stability.

Unconventional policy and beyond

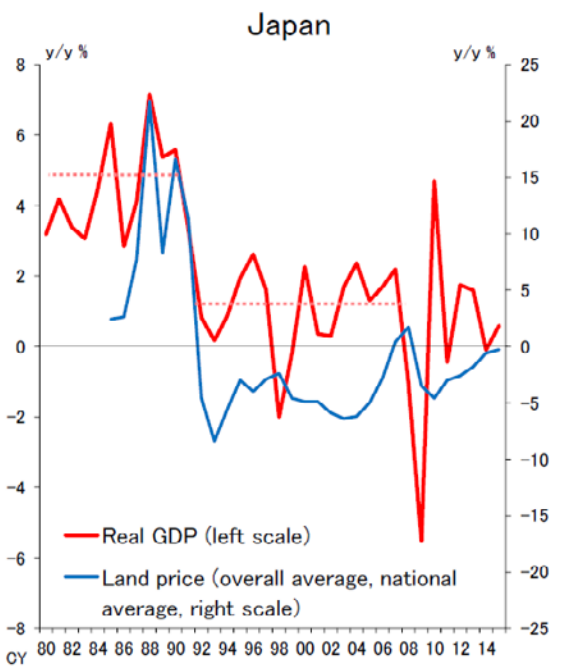
Before concluding my remarks today, I would like to emphasize that, if changes in the potential growth rate would influence the effectiveness of monetary and macroprudential policies, and ultimately affect price and financial stability, that would naturally affect central banks' thinking on policy formulation. As a matter of fact, in the area of monetary policy, the effectiveness of policy had been constrained in Japan by the concurrent decline in expected inflation under persistent deflation and in the potential growth rate. In this regard, the current pursuit by the Bank of Japan of the 2 percent inflation target through QQE with a negative interest rate will contribute to lifting potential growth through purging the deflationary mindset and encouraging capital formation. At the same time, in the area of macroprudential policy, the current focus on strengthening regulation does not solve the structural problem of low profitability at financial institutions. With regard to this problem, in the global policy fora, the jury is still out, so to speak, as regards how to expand the policy frontier. Central banks perhaps need to be a little more flexible in the designing of macroprudential policies to serve this end. Of course, structural problems cannot solely be solved by central bank actions. Economic policies of the government and undertakings by firms and financial institutions aimed at encouraging innovation are also essential. The Bank of Japan is working with these actors in order to tackle the new challenges in terms of financial stability.

Thank you for your attention.

Chart 1. Economic growth after bursting of financial bubble



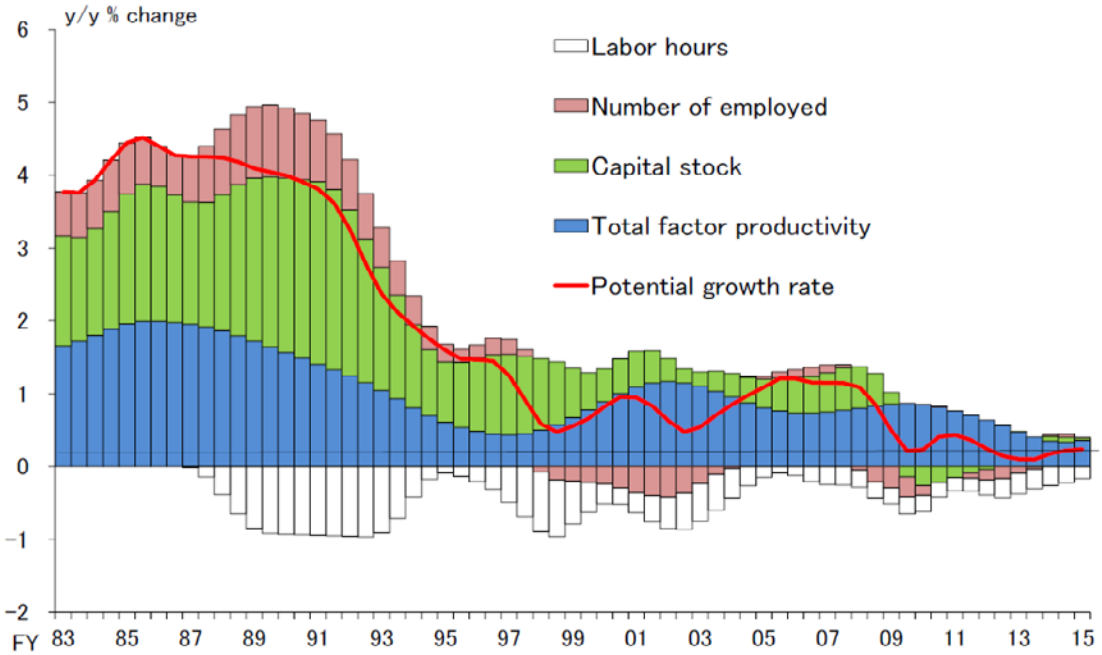
	1980～1992	1993～2007 (bursting of bubble～the Lehman shock)
Real GDP (average)	2.2%	2.6%



	1980～1990	1991～2007 (bursting of bubble～the Lehman shock)
Real GDP (average)	4.5%	1.3%

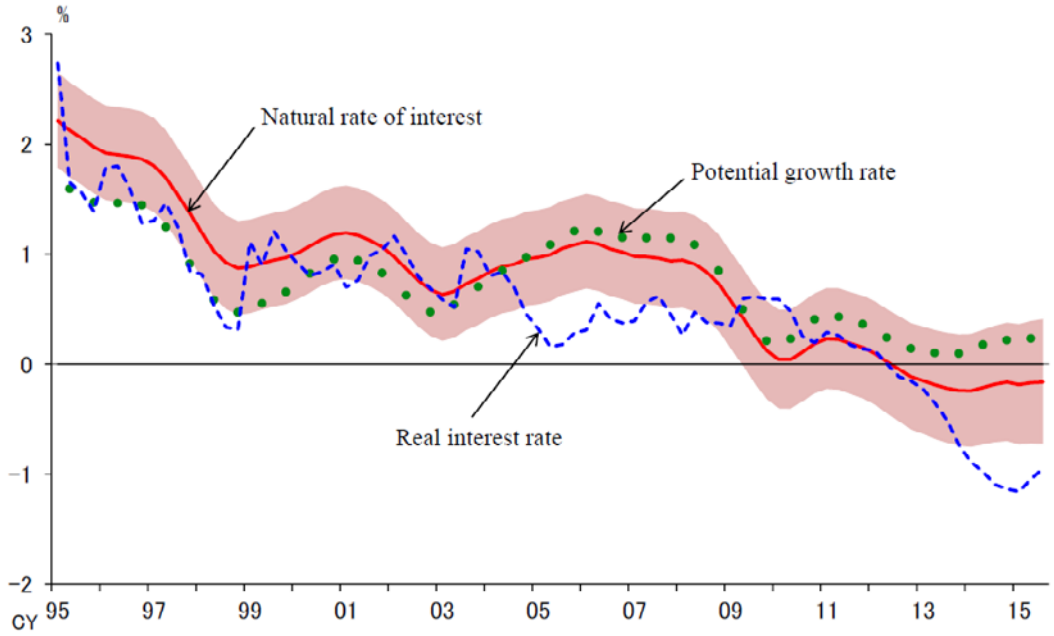
Sources: IMF; Japan Real Estate Institute; Statistics Sweden.

Chart 2. Potential growth rate of Japan



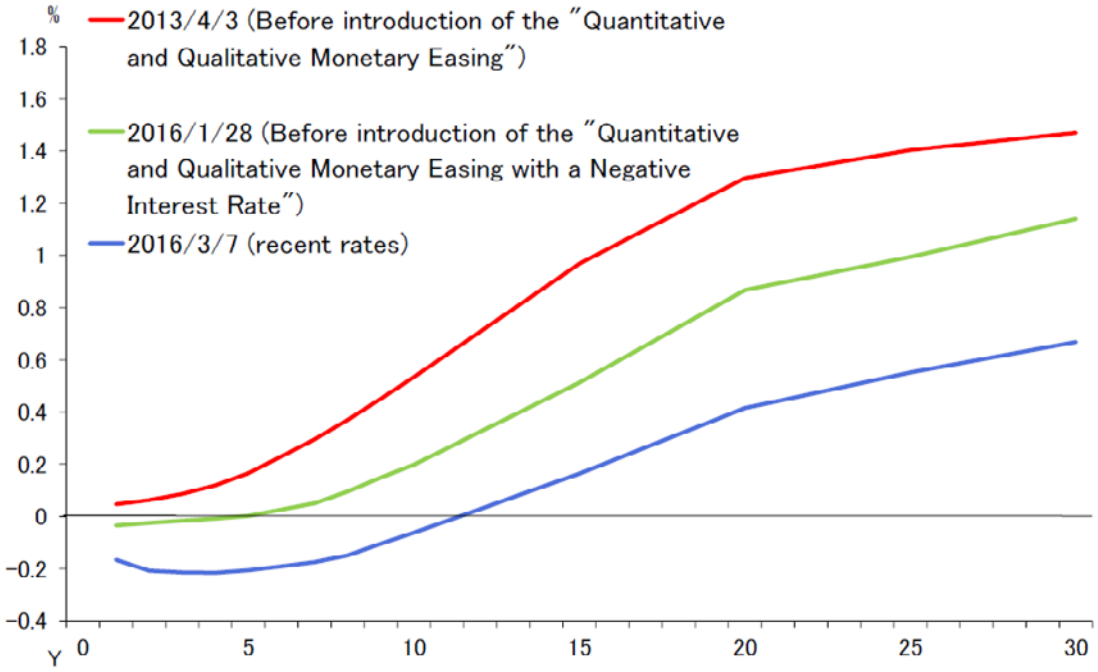
Notes: The potential growth rate is estimated by the Research and Statistics Department, Bank of Japan.
Sources: Bank of Japan; Cabinet Office; Ministry of Internal Affairs and Communications; Ministry of Economy, Trade and Industry; Ministry of Health, Labour and Welfare; Research Institute of Economy, Trade and Industry.

Chart 3. Natural rate of interest and real interest rate



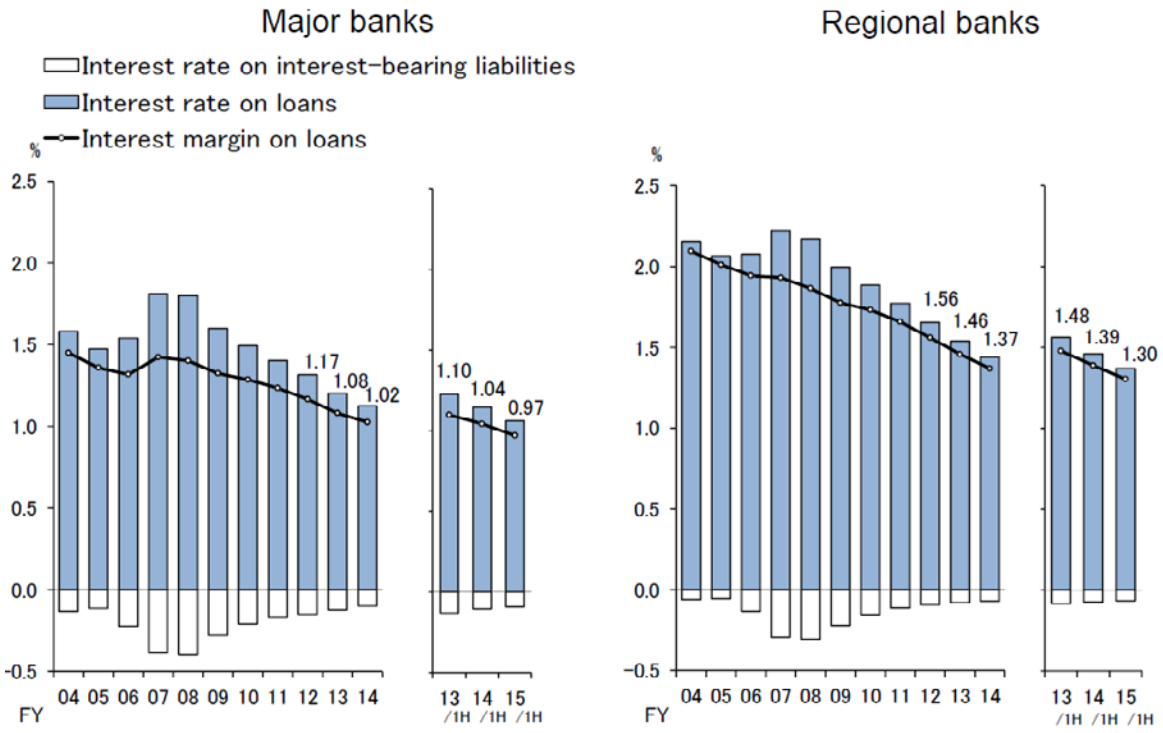
Notes: 1. The natural rate of interest and real interest rate are calculated based on 10-year government bond yields.
2. The shaded area indicates the 95 percent confidence interval for the natural rate of interest.
3. For details of the estimation procedures, see Imakubo et al. (2015), "The Natural Yield Curve: Its Concept and Measurement," Bank of Japan Working Paper Series, 15-E-5, and Hara et al. (2006), "The New Estimates of Output Gap and Potential Growth Rate," Bank of Japan Review Series, 2006-E-3.

Chart 4. Yield curve rates of JGBs



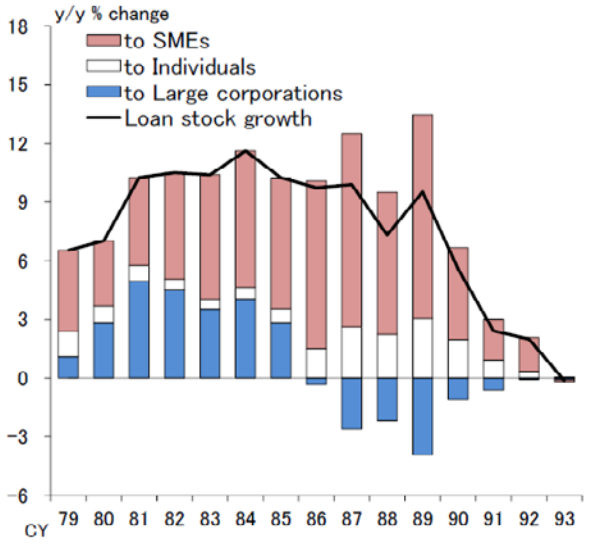
Source: Bloomberg.

Chart 5. Interest margin on loans in the domestic business sector

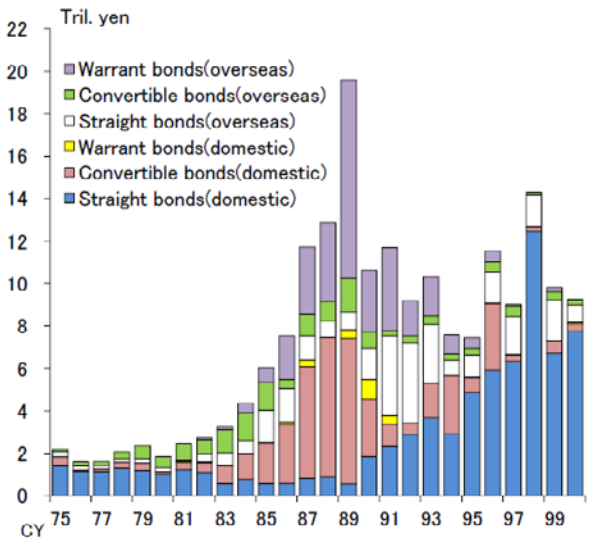


Note: Interest rate swaps are subtracted from funding costs. Domestic business sector.
Source: BOJ.

Chart 6. Bank lending and corporate finance during the bubble economy

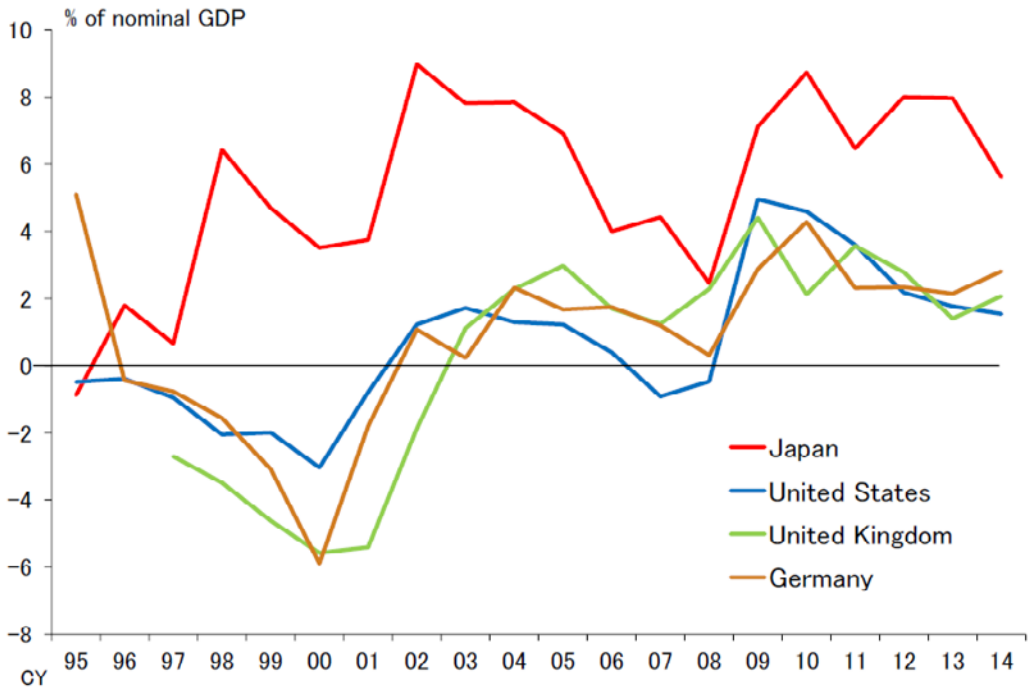


Source: BOJ.



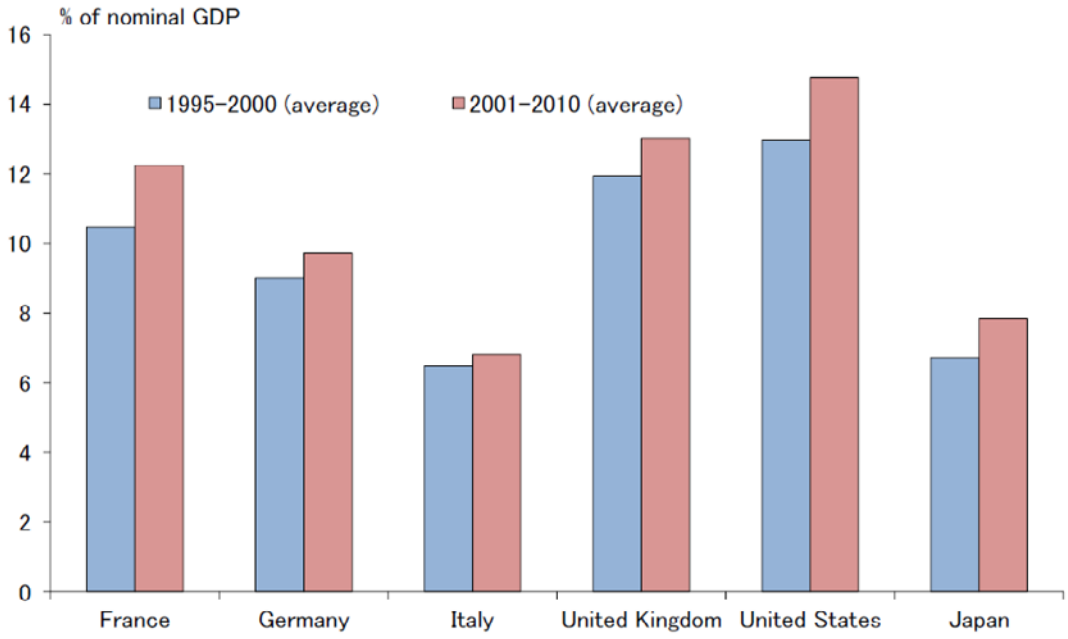
Source: Tokyo Stock Exchange.

Chart 7. Savings surplus by corporate sector



Source: Haver Analytics.

Chart 8. International comparison of intangible asset investments



Sources: Cabinet Office; INTAN-Invest Database; Research Institute of Economy, Trade and Industry.