Haruhiko Kuroda: "Comprehensive Assessment" of the monetary easing and "QQE with Yield Curve Control"

Speech by Mr Haruhiko Kuroda, Governor of the Bank of Japan, at a meeting with business leaders, Osaka, 26 September 2016.

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Accompanying charts can be found at the end of the speech or on the Bank of Japan's website.

Introduction

It is my great pleasure to have the opportunity today to exchange views with a distinguished gathering of business leaders in the Kansai region. I would like to take this opportunity to express my sincerest gratitude for your cooperation with the Bank of Japan's branches in Osaka, Kobe, and Kyoto.

At the Monetary Policy Meeting (MPM) held last week, the Bank conducted a comprehensive assessment of the developments in economic activity and prices as well as policy effects since the introduction of quantitative and qualitative monetary easing (QQE). In light of the findings of the assessment, with a view to achieving the price stability target of 2 percent at the earliest possible time, it decided to introduce "QQE with Yield Curve Control" as a means of strengthening the existing framework for monetary easing. Today, I would like to talk about the main points of and thinking behind these initiatives and how the Bank aims to achieve the price stability target under this new framework.

I. Comprehensive assessment and directions for new policy framework

In the "Comprehensive Assessment," the Bank examined the developments in economic activity and prices, as well as the policy effects, over the past three years since the introduction of QQE in an objective manner, based on facts and theories. This is detailed in a nearly 60-page report, including the main text, appendixes, and charts, but its essence can be summarized broadly by the following four main points.

The first point is that, during the three years since the introduction of QQE, Japan's economic activity and prices, as well as financial conditions, have improved substantially, and Japan's economy is no longer in deflation. Corporate profits, measured by the ratio of current profits to sales, have been at a record-high level (Chart 1). Excessive appreciation of the yen has been corrected and stock prices have surged. The employment situation has significantly improved and the unemployment rate has declined to 3 percent. Base pay rises, seen for the first time in two decades, have continued for three consecutive years. On the price front, the year-on-year rate of change in the consumer price index (CPI) for all items less fresh food and energy had been negative before the introduction of QQE, but it turned positive in autumn 2013 and has remained in positive territory for two years and ten months (Chart 2). This is the first time since the late 1990s, when Japan's economy fell into deflation, that the annual change in the CPI has been in positive territory for such a long period. Japan's economy is no longer in deflation, which is commonly defined as a sustained decline in prices.

QQE has brought about a positive turnaround in economic activity and prices, and lowered real interest rates are considered to be the main transmission mechanism in exerting its policy effects. This mechanism can be explained as follows: (1) people's inflation expectations – that is, their outlook for prices – would be raised through the Bank's strong commitment to achieving the price stability target of 2 percent and its large-scale monetary easing; (2) nominal interest rates across the entire yield curve would be pushed down through the large-scale purchases of Japanese government bonds (JGBs); and (3) together, real interest rates would be lowered, which would stimulate the economy and push up prices.

In the “Comprehensive Assessment,” the Bank ran counterfactual simulations in which actual developments in Japan’s economy were compared with simulated developments obtained assuming QQE had not been introduced (Chart 3). The simulations using the Bank’s macroeconomic model are conducted under several different assumptions regarding (i) when QQE started having an impact and (ii) to what extent changes in stock prices and exchange rates are regarded as part of the effects of QQE. In many cases, the simulations suggest that Japan still would have been in deflation if QQE had not been introduced. The results of various analyses, including these simulations, clearly show that QQE has had the intended effects through the mechanism associated with lowered real interest rates.

The second point is that, despite such a positive turnaround, the price stability target of 2 percent has not been achieved. The key reason lies in developments in inflation expectations. In Japan, the view that prices will not increase – the so-called deflationary mindset – has been entrenched among people under prolonged deflation. In this situation, it has been rational for individual economic entities to maintain the status quo by hoarding cash rather than taking risks. As a result, Japan’s economy lost its vibrancy. In order to break out of such a situation, it is necessary to dramatically change people’s outlook for prices. Specifically, it is essential that people will share the view that annual inflation will be around 2 percent, and that price-setting of a variety of goods and services and labor-management wage negotiations should be based on such view on prices. For that purpose, the Bank set the price stability target of 2 percent in terms of the CPI inflation and launched QQE with a view to achieving the target at the earliest possible time.

Initially, QQE exerted its intended effects or even more effects than anticipated (Chart 4). The annual CPI growth rose to 1.5 percent in April 2014 and inflation expectations also improved clearly. Thereafter, however, against the background of the substantial decline in crude oil prices since summer 2014 and weak demand after the consumption tax hike, the observed inflation rate decreased. Inflation expectations also started to stall, following the course of the observed inflation rate. In order to maintain the momentum of converting the deflationary mindset, the Bank expanded QQE in October 2014. Thanks in part to this response, inflation expectations managed to stay around the same level despite the strong headwinds. But global financial markets became volatile amid the slowdown in emerging economies, particularly in China, since summer 2015, and, since the turn of this year, stock prices declined globally and the yen appreciated. Under this environment, inflation expectations have weakened.

These experiences suggest that the mechanism of formation of inflation expectations in Japan tends to be heavily influenced by the course of the past inflation rate. It is phrased as an adaptive mechanism weighing in the formation of inflation expectations. The adaptive mechanism plays a considerably larger role in Japan than in other countries (Chart 5). This is considered to be attributable to the fact that the price stability target has been missed in the prolonged deflation, as well as to the practice of wage negotiations, including the annual labor-management wage negotiations in spring (*shunto*), with the previous fiscal year’s inflation rate serving as a reference. Against this background, inflation expectations in Japan started to weaken as the observed inflation rate declined. This is the main factor that hampers achieving the price stability target of 2 percent.

In order to achieve the price stability target, the view should be firmly entrenched among people that the observed inflation will, in due course, converge to the price stability target set by the central bank, which is 2 percent, even if it fluctuates due to a variety of factors. This is referred to as the “forward-looking mechanism” in the formation of inflation expectations, in contrast to the “adaptive mechanism” explained earlier. Taking into account that the forces to push up inflation expectations through the “adaptive mechanism” have weakened, it is imperative to further strengthen the “forward-looking mechanism,” in order to push up inflation expectations. This is one of the main points taken into account in designing the new policy framework.

The third point is that the Bank was able to push down the entire yield curve in combination with large-scale purchases of JGBs under QQE and the negative interest rate policy introduced in January 2016. Nominal interest rates have been declining since the introduction of QQE, and the pace of decline accelerated after adopting the negative interest rate policy, particularly for those with longer maturities (Chart 6). In light of these developments, the Bank has come to the conclusion that it can facilitate the formation of a yield curve, which is deemed most appropriate for achieving the price stability target of 2 percent, through the appropriate combination of a negative interest rate and JGB purchases. With these factors in mind, the Bank has placed "yield curve control" as the core element of the new policy framework.

The fourth point is the impact of monetary easing on the functioning of financial intermediation. In the "Comprehensive Assessment," the Bank examined how "QQE with a Negative Interest Rate" has translated into lending rates and has affected the profits of financial institutions. When the negative interest rate was introduced, some raised concerns that, as interest rates were already extremely low, lower JGB yields would not lead to a decline in banks' lending rates as well as interest rates on corporate bonds and CP, but to date, the extent of the pass-through of the decline in JGB yields to these funding rates has been roughly similar to changes in previous episodes of interest rate cuts. At the same time, deposit rates also declined, but to a smaller extent compared to the decline in lending rates. This means that the fall in lending rates has been achieved at the expense of financial institutions' profits. Thus, looking ahead, the policy effects of the decline in interest rates will depend on the impact on the profits of financial institutions and their lending attitudes reflecting such impact. In fact, lending rates have been on a declining trend in a severely competitive environment, and the pace of decline has accelerated since the introduction of the negative interest rate policy (Chart 7). The excessive decline in long-term and super-long-term rates lowers the rate of return on insurance and pension products and leads to the increase in firms' pension benefit obligations. Although the direct impact of these developments on economic activity as a whole is unlikely to be substantial, it is possible that such developments can cause uncertainty regarding the sustainability of the financial functioning in a broad sense, in that they could have a negative impact on economic activity through a deterioration in people's confidence. In facilitating the formation of an appropriate yield curve, the Bank should take account of these points.

II. Main points of "QQE with yield curve control"

Based on these findings of the "Comprehensive Assessment," the Bank decided to introduce "QQE with Yield Curve Control," which is a new framework for monetary easing, by strengthening the two previous policy frameworks: "QQE" and "QQE with a Negative Interest Rate." The new policy framework consists of two major components. The first is "yield curve control" in which the Bank sets short-term and long-term interest rates as an operating target, and the second is an "inflation-overshooting commitment" in which the Bank commits itself to maintaining an increase in the monetary base until the annual rate of increase in the observed CPI exceeds the price stability target of 2 percent and stays above the target in a stable manner. Now, I will explain each of these components.

Yield curve control

As mentioned earlier, the experience so far with the negative interest rate policy shows that a combination of the negative interest rate and JGB purchases is effective in exerting an influence on the entire yield curve. Against this background, the Bank has introduced "yield curve control." To facilitate the new framework, new market tools have been introduced.

Under the new framework, the Bank sets two key interest rates – the short-term policy rates and an operating target for the long-term interest rate – as a guideline for market operations. Specifically, for the short-term policy rate, the Bank uses the interest rate applied to the Policy-Rate Balances in current accounts held by financial institutions at the Bank, which is

minus 0.1 percent, unchanged this time (Chart 8). For the long-term interest rate, the Bank sets a level of 10-year JGB yields as an operating target. The Bank conducts purchases of JGBs to achieve the target level. This time, the operating target for 10-year JGBs is set at "more or less at the current level (around zero percent)". For other maturities, yields are expected to be formed in the markets consistent with the guideline for market operations. In other words, the shape and the locations of the yield curve will broadly remain as they are at present. In addition, in order to control the yield curve smoothly, the Bank decided to introduce new market operations such as fixed-rate JGB purchase operations; that is, the Bank purchases JGBs at a price it designates. The fixed-rate purchase operations are intended to serve to cap long-term rates when necessary.

Let me elaborate on the difference from the existing policy framework. The guideline for purchases of JGBs has been specified so far by the amount of increase in the amount outstanding of JGBs held by the Bank. This approach has been widely adopted not only by the Bank but other central banks in advanced economies, including the Federal Reserve in the United States, the European Central Bank, and the Bank of England, in part because it is clear how the purchases are conducted. Under this approach, however, the impact of a unit amount of JGBs purchases on long-term yields varies depending on developments in economic activity and prices as well as financial market conditions. Therefore, the purchases could push down yields either insufficiently or excessively, in comparison with an appropriate yield curve.

Under "yield curve control," purchases of JGBs are conducted to achieve the target level of interest rates specified by the guideline for market operations at the time. As the latest guideline specifies the target interest rates broadly corresponding to the current level, the Bank will conduct purchases more or less in line with the current pace – an annual pace of increase in the amount outstanding of its JGB holdings at about 80 trillion yen – but it is anticipated that the pace may fluctuate to some extent, either upward or downward, in order to achieve yield curve control. Therefore, a possible change in the amount of purchases has no policy implication.

As I have explained, under "yield curve control," the Bank will be able to conduct purchases of JGBs in a more flexible and effective manner than before. Thus, it will be better prepared to address various changes in circumstances, and the sustainability of its policy will also be enhanced.

Inflation-overshooting commitment

Next, I will explain the inflation-overshooting commitment. Since the introduction of QQE, the Bank has committed itself to continue with monetary easing, aiming to achieve the price stability target of 2 percent, as long as it is necessary for maintaining that target in a stable manner.

This time, in addition to this existing commitment, the Bank decided to commit itself to expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds the price stability target of 2 percent and stays above the target in a stable manner.

To be clear, this is not meant to raise the price stability target of 2 percent. It has been actively debated within academia and in central banking circles whether the price stability target should be higher than 2 percent in order to address the downtrend in growth potential, sometimes referred to as secular stagnation. At present, this topic is being discussed as a medium- to long-term issue, rather than an immediate policy response. I am fully aware of this discussion. That said, let me make it clear that our inflation-overshooting commitment is designed based on the price stability target of 2 percent.

So, one might ask why the observed CPI needs to "exceed 2 percent." Achieving the price stability target of 2 percent means attaining a situation in which the observed CPI is around 2

percent on average over the business cycle. Thus, it naturally is assumed from the outset that there would be phases when the observed CPI stays above 2 percent.

Even so, this is an extremely strong commitment, in that it is linked to the observed CPI rather than the outlook for CPI. It is widely accepted that monetary policy should be conducted in a forward-looking manner as it takes some time for monetary policy to have an impact on economic activity and prices. In light of this, a backward-looking commitment based on the observed CPI is truly exceptional for the central bank. In fact, the Bank was the first in the world to adopt this backward-looking commitment based on the observed CPI under quantitative easing (QE) that had lasted five years since 2001. Back then, however, the commitment was that the Bank would continue with QE "until the CPI (all items less fresh food) registers stably a zero percent or an increase year on year." By comparing the new commitment with our previous one, you can understand how powerful the new commitment will be, in that it needs to "exceed 2 percent." As explained earlier, an adaptive mechanism in the formation of inflation expectations still plays a large role in Japan, as the legacy of prolonged deflation prevails. In order to raise inflation expectations under such circumstances, the Bank judged it necessary to dare to make a strong commitment based on the observed CPI and to demonstrate the Bank's unwavering determination to achieve the price stability target of 2 percent.

The commitment is to expand the monetary base. Its amount outstanding is currently about 400 trillion yen, which is already around 80 percent of nominal GDP (Chart 9). Corresponding ratios are about 20 percent in both the United States and the euro area. Looking ahead, the ratio is calculated to exceed 100 percent in slightly over one year, assuming that the Bank will continue with the current pace of increase in the monetary base.

You might be concerned about the risk that such a "bold" commitment would create a tightening of monetary policy behind the curve, leading to an acceleration in inflation. Let me point out a couple of things. First, it is hardly effective just to make a commitment that everyone considers as "modest." QQE led to the conversion of people's mindset and a positive turnaround of economic activity and prices, because everyone thought it was "unprecedentedly bold." Second, based on our latest current outlook, the annual rate of increase in the CPI is likely to accelerate gradually toward 2 percent. In this scenario, even if monetary easing with expansion of the monetary base and low interest rates across the yield curve continues, it is very unlikely that the inflation rate will significantly deviate from 2 percent and never revert to that level. Third, and lastly, even if inflation were to rapidly accelerate for some reason, the Bank can achieve the price stability target of 2 percent in a stable manner by influencing short-term and long-term interest rates; that is, yield curve control. Of course, this represents a just-in-case scenario, and you can reasonably assume that large-scale monetary easing will be in place until the observed CPI stays above 2 percent in a stable manner.

Formation of yield curve and options for additional easing

These are the main points of the new framework for monetary policy: "QQE with Yield Curve Control." The Bank will pursue monetary easing in a more forceful manner under the new framework to achieve the price stability target at the earliest possible time.

Specifically, in placing yield curve control as the core element of the framework, the Bank will facilitate the formation of the yield curve that is deemed most appropriate with a view to maintaining the momentum toward achieving the price stability target of 2 percent, responding to developments in economic activity and prices as well as financial conditions. As explained earlier, factors such as the impact on the functioning of financial intermediation are also taken into consideration. At the same time, however, let me emphasize that policy judgment should be based on its impact on Japan's economy as a whole. The impact on the functioning of financial intermediation should be considered to the extent that it would affect the entire economy through changes in financial conditions. To put it another way, the Bank

will make policy adjustments, without hesitation, if judged necessary for Japan's economy as a whole.

With regard to possible options for additional easing, the main policy tool will be further cuts in the negative short-term policy interest rate and lowering the target level of the long-term interest rate. Expanding asset purchases – the "quality" dimension – also continues to be an option. Moreover, if the situation warrants it, acceleration in the expansion of the monetary base – the "quantity" dimension – could be an option. In that case, interest rates are likely to decline significantly, regardless of yield curve control. There can be cases where such powerful monetary easing is needed, depending on developments in economic activity and prices as well as financial market conditions. The Bank stands ready to use every possible policy tool, if it judges necessary to achieve its objectives.

Conclusion

I have explained the findings of "Comprehensive Assessment" and the new framework for monetary policy based on the assessment.

I must say that it took more time than expected to overcome deflation. Now, I am even more strongly convinced that we should make sure that Japan's economy will never return to deflation. For these three years since the introduction of QQE, the economy has made substantial progress toward overcoming deflation that had lasted more than fifteen years. There is no better opportunity than now to completely get out of deflation. Talking about a limit to monetary policy does not help at all. What is important is to confront the issue and continue to pursue the best possible solutions. Two major items in our new framework, "yield curve control" and the "inflation-overshooting commitment," have been discussed within academia and in other fora. The Bank is the first in the world to introduce them as actual policy tools.

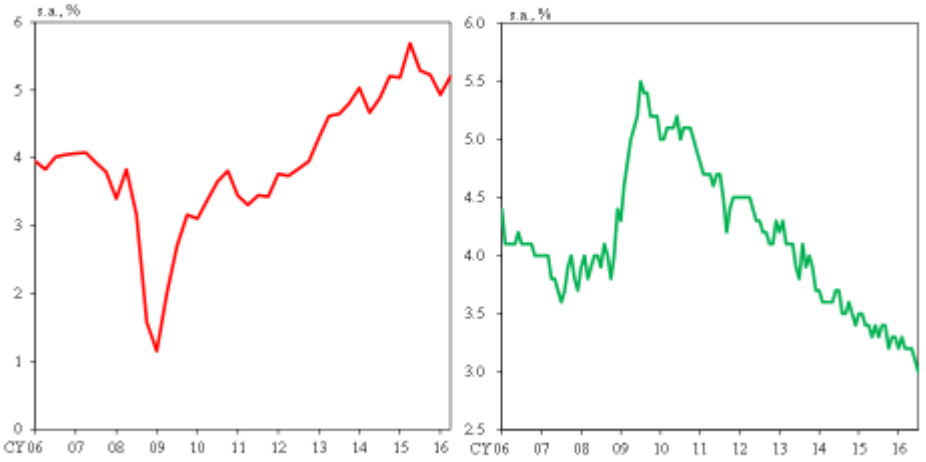
As I have mentioned on various occasions, there is no limit to monetary policy. "The costs of monetary policy should be minimized and the benefits be maximized." "In designing the monetary policy, the Bank will relentlessly pursue innovations and never hesitate to challenge." With these in mind, the Bank will continue to make its utmost efforts to achieve the price stability target of 2 percent at the earliest possible time.

Thank you.

Chart 1

Corporate Profits and Labor Market Conditions

Ratio of Current Profits to Sales | *Unemployment Rate*



Note: Figures for the ratio of current profits to sales exclude "Finance and Insurance."
Sources: Ministry of Finance; Ministry of Internal Affairs and Communications.

1

Chart 2

Consumer Prices

Note: Figures for the CPI (all items less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan, and are adjusted to exclude the estimated effects of changes in the consumption tax rate.
Source: Ministry of Internal Affairs and Communications.

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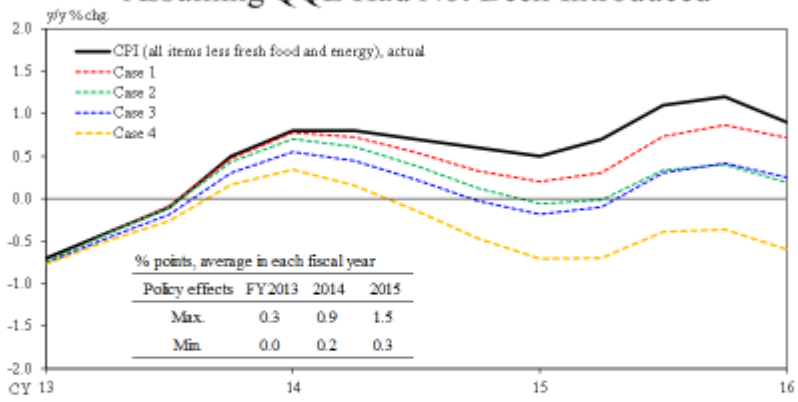
Chart 3

Simulated Developments in Consumer Prices Assuming QQE Had Not Been Introduced



% points, average in each fiscal year

Policy effects	FY2013	2014	2015
Max.	0.3	0.9	1.5
Min.	0.0	0.2	0.3

Assumptions for each counterfactual simulation
Case 1: The decline in the real interest rate from 2013/Q2 onward is regarded as a policy effect.
Case 2: The decline in the real interest rate, the depreciation of the yen, and the increase in stock prices from 2013/Q2 onward are regarded as policy effects.
Case 3: The decline in the real interest rate from 2013/Q1 onward is regarded as a policy effect.
Case 4: The decline in the real interest rate, the depreciation of the yen, and the increase in stock prices from 2013/Q1 onward are regarded as policy effects.

Notes: 1. The policy effects are calculated as the difference between the simulation results and actual values.
2. Figures for the CPI (all items less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan, and are adjusted to exclude the estimated effects of changes in the consumption tax rate.
Sources: Ministry of Internal Affairs and Communications; Bloomberg, etc.

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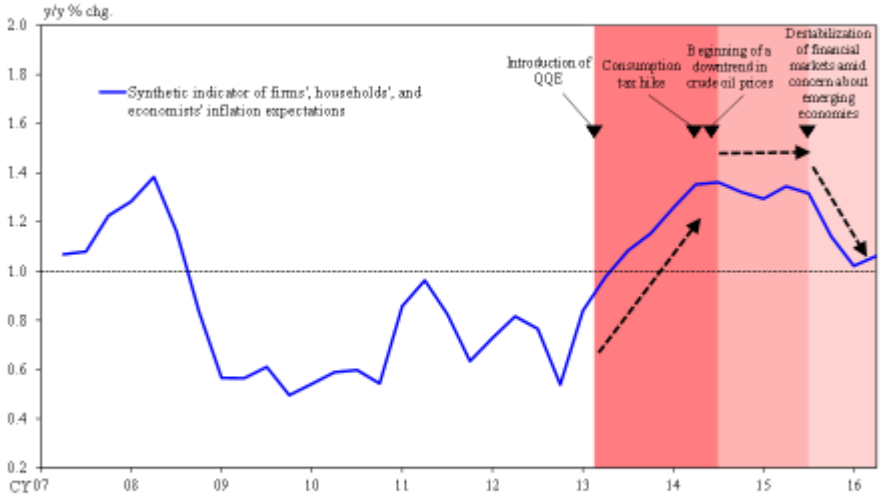
Chart 4

Inflation Expectations after the Introduction of QQE



Notes: 1. Inflation expectations of firms, households, and economists are represented by the *Tankan*, the "Opinion Survey," and the "Consensus Forecasts," respectively.
2. Semiannual data from the "Consensus Forecasts" up through 2014/Q2 are linearly interpolated. "Opinion Survey" figures exclude inflation expectations by respondents whose annual inflation expectations were +5% percent or greater and -5% percent or smaller. The output prices DI in the *Tankan* represents the difference between the share of firms that raised prices in the preceding three months and the share of firms that lowered prices.
Sources: Consensus Economics Inc., "Consensus Forecasts"; Bank of Japan.

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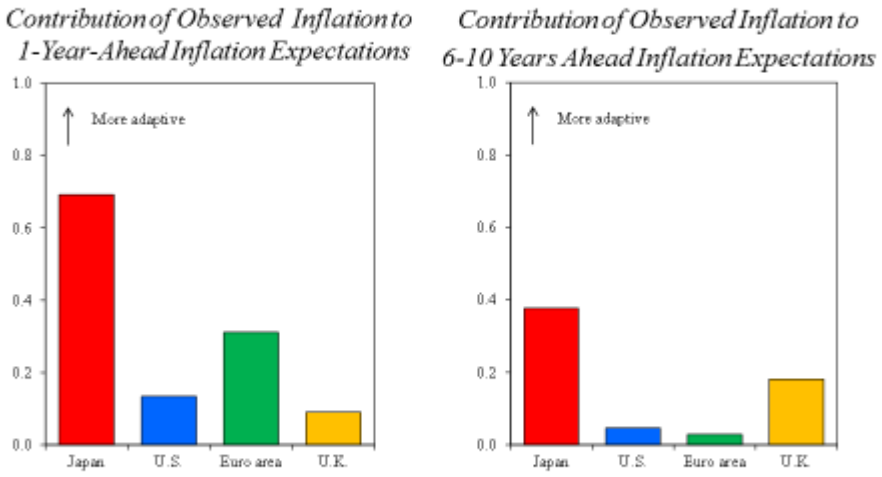
Chart 5

The Importance of "Adaptive" Mechanism of Inflation Expectations Formation



Notes: 1. The estimation periods are as follows: 2000/Q1-2016/Q3 for Japan and the United States; 2003/Q2-2016/Q3 for the euro area; and 2005/Q1-2016/Q3 for the United Kingdom.
2. The observed inflation rate and inflation expectations in Japan are adjusted to exclude the estimated effects of changes in the consumption tax rate.
3. The observed inflation rates used in the estimation are CPI (all items).

Sources: Consensus Economics Inc., "Consensus Forecasts"; Ministry of Internal Affairs and Communications; BLS; Eurostat; ONS.

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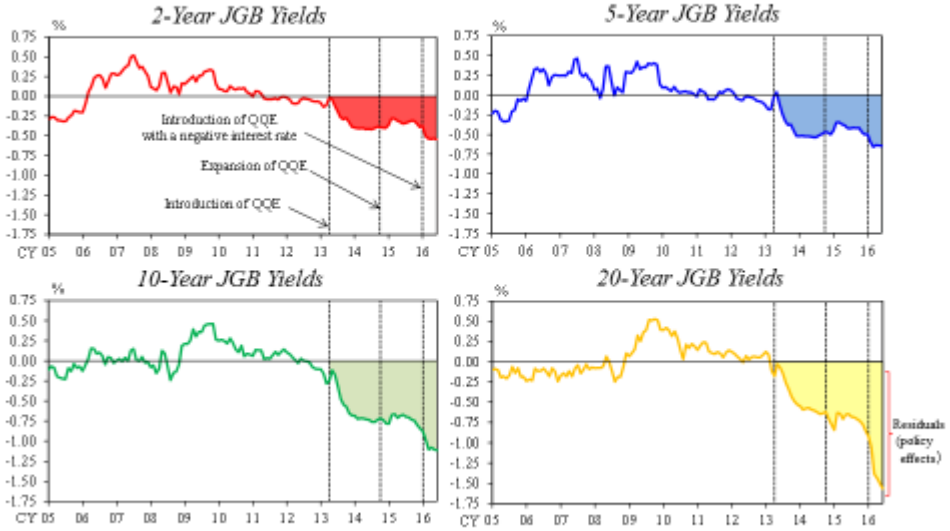
Chart 6

The Impact of JGB Purchases and the Negative Interest Rate Policy on Long-Term Interest Rates



Note: The graphs show the residuals obtained when regressing JGB yields (for 2 years, 5 years, 10 years, and 20 years) on 10-year U.S. Treasury bond yields, the year-on-year rate of change in the CPI (all items less fresh food), and the active job openings-to-applicants ratio as a proxy for the output gap. The estimation period is from January 1997 to March 2013. The data end in June 2016.

Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Bloomberg.

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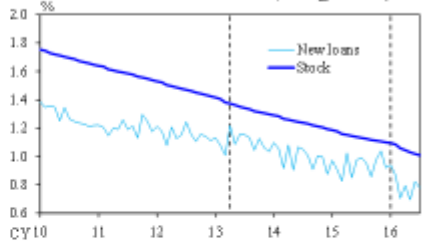
Chart 7

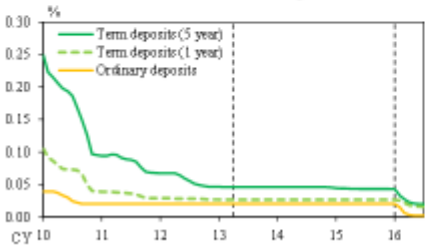
The Impact of the Negative Interest Rate on Financial Institutions' Profits

Average Contract Interest Rates on Loans and Discounts (Short-Term)

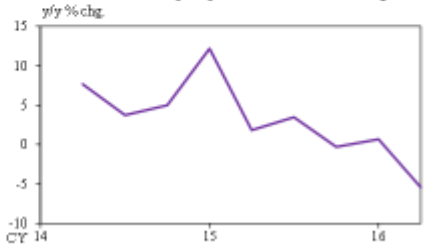
Average Contract Interest Rates on Loans and Discounts (Long-Term)



Interest Rates on Deposits



Premium Income of Life Insurance Companies



Notes: 1. Figures for average contract interest rates on loans and discounts exclude the Resolution and Collection Corporation and the Japan Post Bank.
2. Interest rates on term deposits are the simple averages of interest rates posted by financial institutions. Data cover domestically licensed banks (excluding several banks), all correspondent *shinkin* banks and the Shoko Chukin Bank.

Sources: The Life Insurance Association of Japan; Bank of Japan.

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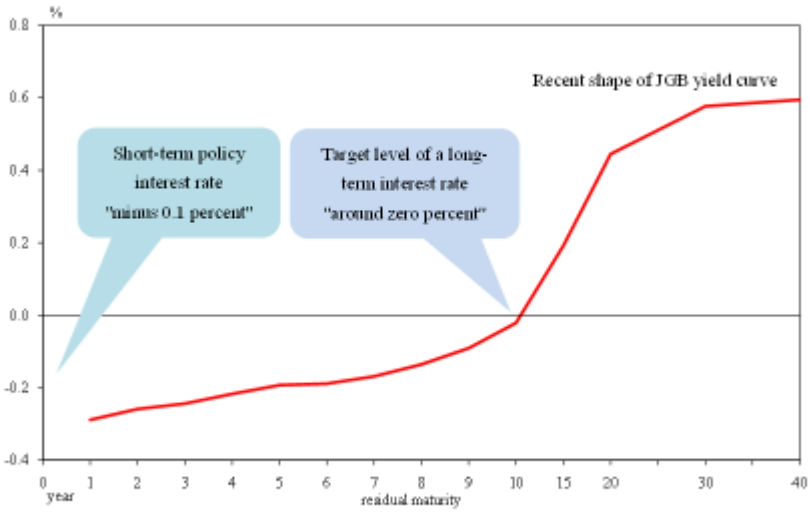
Chart 8

Yield Curve Control



Source: Bloomberg.

8

Chart 9

Ratio of Monetary Base to Nominal GDP

Sources: Cabinet Office; Bank of Japan; Federal Reserve; BEA; ECB; Eurostat.

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