



September 8, 2016  
Bank of Japan

---

**Toward a "Comprehensive Assessment"  
of the Monetary Easing**

*Speech at a Meeting Hosted by  
the American Chamber of Commerce in Japan (ACCJ) in Tokyo*

**Hiroshi Nakaso**

*Deputy Governor of the Bank of Japan*

## **Introduction**

It is my great pleasure to have the opportunity today to speak at a business luncheon hosted by the American Chamber of Commerce in Japan.

All eyes seem to be on a comprehensive assessment to be conducted at the Bank of Japan's September 2016 Monetary Policy Meeting (MPM). This is, of course, the main topic of my speech today. Before addressing that issue, however, I would like to touch on responses taken by central banks after the United Kingdom's vote to leave the European Union (EU) -- the so-called Brexit -- and decisions made at the Bank's MPM held in July 2016. For me, these topics are not appetizers served before the main dishes. I believe that they are important policies on their own.

## ***Responses to Brexit***

On June 23, 2016, contrary to general consensus, a majority of voters in the United Kingdom supported leaving the EU, and this led to global financial markets destabilizing, manifested in such developments as the rapid depreciation of the pound sterling.

As Japan's markets were the first to be exposed to the unfolding results of the referendum, they reacted violently. The yen's exchange rate appreciated rapidly and the stock prices fell sharply. The authorities around the world, including those in the G7 countries, responded quickly and effectively. The G7 central banks expressed their intention to ensure adequate liquidity and support the functioning of markets. In the Japanese context, we judged it necessary to ensure accessibility of globally operating Japanese firms and financial institutions to funding liquidity in foreign currencies, in particular to U.S. dollar funding liquidity, and to that end, to reinforce the backstop facilities that had been installed during the Global Financial Crisis.

## ***Enhancement of Monetary Easing in July***

In light of heightened uncertainties surrounding overseas economies, such as those stemming from the United Kingdom's vote to leave the EU, the Bank decided at the July 2016 MPM to enhance monetary easing. Specifically, measures taken by the Bank are threefold (Chart 1).

The first is an increase in the Bank's purchases of exchange-traded funds (ETFs). Specifically, the amount of purchases will be almost doubled from an annual pace of about 3.3 trillion yen to an annual pace of about 6 trillion yen. This measure aims at preventing the deterioration in business confidence and consumer sentiment and promoting proactive risk-taking. I think that this amount is significantly large given the fact that foreign investors' cumulative net purchases of stocks amounted to about 16 trillion yen for the first three years of Abenomics (Chart 2).

The second is a doubling of the size of the Bank's lending program in U.S. dollars to support economic growth (the Special Rules for the U.S. Dollar Lending Arrangement to Enhance the Fund-Provisioning Measure to Support Strengthening the Foundations for Economic Growth Conducted through the Loan Support Program). Under this lending program, the Bank will provide back-to-back financing in U.S. dollars to financial institutions by using its own U.S. dollar reserve funds in cases where these financial institutions make foreign currency-denominated investments and loans to firms, which contributes to the strengthening of the foundations for economic growth. The duration of the Bank's lending can be up to 4 years through rollovers. The loans under the program enable firms to receive stable funding in U.S. dollars over the long term, and the program has been actively used for funding of firms, including local ones through regional banks. The size of the program was doubled and raised to 24 billion U.S. dollars.

The third is an expansion in the amount of collateral that can be pledged under the Bank's U.S. dollar funds-supplying operations. The Bank has been conducting U.S. dollar funds-supplying operations regularly with U.S. dollar funds raised through a network of bilateral swap lines among central banks. With this operation, financial institutions can raise U.S. dollar funds on a full allotment basis. Nevertheless, there is a condition that the amount of funds to be provided is up to that of eligible collateral pledged by each institution because in principle, transactions with the Bank should be backed by collateral. Under the current monetary policy, many financial institutions have sold Japanese government securities (JGSs) to the Bank while holding a substantial amount of current account balances with it. Under these circumstances, the Bank decided to establish a new securities lending facility in which it lends JGSs to counterparties of these operations against their current account balances with the Bank. This enables the financial institutions to raise U.S.

dollar funds against JGSs borrowed from the Bank. The new facility is designed to provide for a rainy day by precluding concern about the lack of collateral they hold. In this way, it is expected to further enhance effectiveness of the U.S. dollar funds-supplying operations as a backstop.

These measures, despite their technical nature, can contribute meaningfully to ensuring access to funding liquidity in foreign currencies and thus to economic stability. I want to reiterate that such a technocratic endeavor is no less important than such big policy moves as the negative interest rate or the massive purchases of Japanese government bonds (JGBs), which tend to attract more attention.

## **I. Background of Comprehensive Assessment**

I would now like to turn to the broad framework of monetary policy. Against the backdrop of heightened uncertainty over the outlook for prices, with a view to achieving the price stability target of 2 percent at the earliest possible time, the Bank decided to conduct at the next MPM, to be held in late September, a comprehensive assessment of the developments in economic activity and prices, as well as of the policy effects, over the past three years since the introduction of quantitative and qualitative monetary easing (QQE).

The background is twofold. First, since the introduction of QQE, Japan's economic activity and prices have improved substantially, and Japan's economy is no longer in deflation. However, the price stability target of 2 percent has not been achieved yet, despite the unprecedented large-scale monetary easing. The Bank will analyze how monetary policy has functioned during these years and what factors have possibly hampered achievement of the 2 percent target. Second, under "QQE with a Negative Interest Rate," which was introduced more than half a year ago, various interest rates, including JGB yields as well as rates for lending and corporate bonds, have declined substantially; thus, the policy already has exerted remarkable effects. At the same time, however, it has had an impact on financial markets' liquidity and financial institutions' profits. The Bank will also assess the effects and impact of this policy.

## **II. Mechanism of QQE**

### ***Natural Rate of Interest and Real Interest Rate***

Regarding the first point, I would like to start with the basics of the monetary policy transmission mechanism. In fact, the main transmission mechanism of monetary policy, be it conventional or unconventional, is the same. That is, real interest rate effects; in other words, driving the real interest rate higher or lower than the "natural rate of interest," which is the level of the real interest rate neutral to economic activity and prices. The bigger the difference in these rates, the more effective the monetary easing or tightening will be.

The potential growth rate and expected growth rate are considered proxies for the "natural rate of interest." As Japan has continued to struggle with a trend decline in the potential growth rate since the bubble burst, the Bank has lowered its policy rate to ensure the monetary easing effects (Chart 3). In 1999, it introduced the zero interest rate policy. Starting in 2001, the Bank conducted unconventional monetary policy measures such as quantitative easing and Comprehensive Monetary Easing. Nevertheless, the monetary easing provided by those policies proved insufficient to overcome deflation.

### ***Mechanism of QQE***

Based on this experience, in 2013, the Bank set the price stability target of 2 percent, and with a view to achieving the target at the earliest possible time, it launched QQE. The transmission mechanisms of QQE are also expected to operate through real interest rate effects. QQE aims to raise inflation expectations through the Bank's strong and clear commitment to achieving the price stability target of 2 percent and through large-scale monetary easing that underpins the commitment. At the same time, the Bank exerts downward pressure on nominal interest rates across the entire yield curve through purchases of JGBs. The compound effects through these channels compress real interest rates. This decline in real interest rates boosts firms' and households' economic activity, which in turn leads to higher inflation rates, supported by higher inflation expectation. It was assumed that, as people actually experience inflation, inflation expectations correspondingly would rise further (Chart 4). This last point is called an "adaptive formation mechanism" of inflation expectations, and it is a key concept of what I will talk about later.

The innovative quality that might stand out in comparison with measures previously taken by the Bank of Japan and other central banks is that QQE focuses on inflation expectations. Specifically, based on the Fisher Equation, which states that the nominal interest rate is equal to the sum of inflation expectations and the real interest rate, QQE aims to lower real interest rates by raising inflation expectations while compressing nominal interest rates.

### ***Economic Activity and Prices under QQE***

This mechanism has worked and produced intended effects. QQE brought about a decline in the real interest rate by raising inflation expectations and lowering the nominal interest rate. As I mentioned earlier, the "natural rate of interest" has been on a trend decline. Despite that, the level of the real interest rate has been pushed down significantly lower than the "natural rate of interest" and the financial conditions have improved. Specifically, a moderate increase in lending coupled with a decline in interest rates, a rise in stock prices, and depreciation of the yen have been observed, and these have boosted economic activity. As a result, regarding economic activity, corporate profits marked a record high level and the unemployment rate, released last week, has declined to a remarkably low level of 3.0 percent. As for wages, the annual labor-management wage negotiations in 2014 resulted in base pay rises for the first time in two decades; base pay rises have continued for three consecutive years since then. Looking at the economy as a whole, the output gap has improved close to the long-term average of 0 percent. On the inflation front, on a basis excluding fresh food and energy, the year-on-year rate of change in the CPI, which had been around minus 0.5 percent before the introduction of QQE, turned positive, and thereafter has remained in positive territory for two years and ten months (Chart 5). This is the first time since the late 1990s, when Japan's economy fell into deflation, that the CPI inflation rate has remained in positive territory over a protracted period. I think Japan's economy is no longer in deflation, which is commonly defined as a situation where prices decline on a sustained basis.

### ***Reasons for Missing 2 Percent Price Stability Target***

However, it is true that the price stability target of 2 percent has not been achieved. This also has to do with developments in inflation expectations, which is a key factor for real interest rate effects to operate. Looking back, the mechanism worked as expected or better than expected over the first year or so from the introduction of QQE. Thereafter, however,

exogenous factors emerged such as a decline in crude oil prices and weakness in demand following the consumption tax hike from the beginning of fiscal 2014. This was compounded by the slowdown in emerging economies from summer 2015 that accompanied volatile developments in global financial markets. As a result, the observed inflation rate has declined, and inflation expectations, which are formed in an adaptive manner, stalled. This seems to be the main factor that hampers achieving the price stability target of 2 percent (Chart 6).

It is widely accepted that people's inflation expectations are formed by two factors: a "forward-looking formation mechanism" and an "adaptive formation mechanism." In Japan, the effects of the "adaptive formation mechanism" seem to have dominated. This seems to be partly because the price stability target has been missed under prolonged deflation. In addition, during wage negotiations in Japan, such as the so-called spring offensive or *shunto* in Japanese, wages are decided on a basis of the actual price developments in the previous fiscal year. This may have been one of the factors behind the "adaptive formation mechanism." The Bank, by continuing with QQE, has been trying to enhance the "forward-looking formation mechanism" and thereby to raise people's inflation expectations and anchor them to the price stability target of 2 percent. As a result, perhaps we have managed to deanchor the deflationary expectation that the prices would never rise. But inflation expectations are still in transition to be reanchored at 2 percent.

Looking ahead, as the observed inflation rate is expected to revert to a gradual rising trend, inflation expectations will be pushed up by the "adaptive formation mechanism." However, given that the observed inflation rate is likely to hover at slightly negative or about 0 percent for the time being, uncertainty persists about this point. For this reason, I think it is all the more important for the Bank to firmly maintain its commitment to achieving the price stability target of 2 percent at the earliest possible time from the viewpoint of enhancing the "forward-looking formation mechanism." The comprehensive assessment is conducted with the aim of achieving the 2 percent target at the earliest possible time. To avoid any possible misunderstanding, this was explicitly referred to in the statement released after the MPM in July 2016. At the forthcoming MPM, we will discuss what needs to be done to achieve the 2 percent target at the earliest possible time. Means toward reducing the level of monetary policy accommodation will not be on the agenda.

### **III. Effects and Impact of "QQE with a Negative Interest Rate"**

#### ***Issues of the Comprehensive Assessment***

Let me now move on to the topic of the negative interest rate policy.

In terms of the transmission mechanism of policy effects, "QQE with a Negative Interest Rate" is an extension of the aforementioned policies. Namely, the Bank considers real interest rate effects as the basic mechanism. Against the backdrop of weak inflation expectations that had started to descend further, the Bank decided to keep real interest rates lower by reducing the nominal interest rates beyond the zero bound. By applying the negative interest rate to a portion of financial institutions' current account balances with the Bank, in combination with its JGB purchases, the Bank intended to further compress interest rates on JGBs across the entire yield curve. This was expected to affect various interest rates, including those for lending, corporate bonds, and CP, spreading the effects of a decline in the real interest rate to economic activity and prices. On the other hand, from the inception of the negative interest rate policy, the single most important issue has been that the policy should avoid having an excessively negative impact on financial institutions' profits, thus impairing the financial intermediation. Based on the experience of the past six months, the Bank will also assess the effects and impact of this policy. This will be the second pillar in our comprehensive assessment.

#### ***What We Learned over the Last Six Months***

In my opinion, there are six points we have learned over the last six months since the introduction of "QQE with a Negative Interest Rate." Let me elaborate.

First, a combination of the negative interest rate policy and JGB purchases proved extremely powerful in exerting downward pressure across the entire yield curve. This seems to have operated through the mechanism in which (a) the negative interest rate applied to financial institutions' current account balances with the Bank has resulted in a decline in short-term interest rates, and (b) financial institutions have been discouraged to hold current account balances through JGB sales, and this, together with a decline in risk premiums caused by JGB purchases, has lowered long-term interest rates. Moreover, the so-called search for positive yield by investors has boosted the demand for assets with positive yields, substantially lowering yields on super-long-term JGBs. Such mechanism has exerted



downward pressure and flattened the yield curve, particularly toward the longer end. This first point has proven the effectiveness of "QQE with a Negative Interest Rate" as a monetary policy tool (Chart 7).

Second, some were concerned that lower risk-free rates, or JGB yields, might not lead to a decline in banks' lending rates or interest rates on corporate bonds and CP, as room is limited for a decline in rates on deposits, the main source of funding for financial institutions. I also considered that such concern deserves attention, but banks' lending rates, as well as interest rates for corporate bonds and CP, have fallen significantly thus far, each marking historical lows (Chart 8).

Third, new developments relating to corporate finance have emerged recently; for example, the issuance of corporate bonds with a maturity of over ten years and firms' borrowings through subordinated loans have increased. Super-long-term funding had been observed mainly in infrastructure firms such as those related to electricity and transportation, but now is increasingly shared by a wider range of industries (Chart 9).

Fourth, according to the results of surveys such as the Short-Term Economic Survey of Enterprises in Japan (*Tankan*) and the *Senior Loan Officer Opinion Survey on Bank Lending Practices at Large Japanese Banks* (often dubbed the *Loan Survey*), financial institutions' lending attitudes have remained proactive. Thus far, we have seen little evidence that the profit squeeze caused by the negative interest rate is adversely affecting their intermediary functions (Chart 10).

Fifth, however, the flipside of such positive developments is the growing pressure on financial institutions' profits. This can be seen from the larger fall in lending rates relative to a marginal decline in rates on deposits. For Japan, the impact of the negative interest rate policy on the profits of financial institutions tends to be relatively large. This is due to such factors as the amount outstanding of deposits far exceeding that of lending, and the interest margin already being extremely small following prolonged competition among financial institutions. Given that profitability affects the soundness of financial institutions in a cumulative manner, we are fully aware of the fact that the impact can vary depending on the duration of the policy. The view that the Bank might disregard the intermediary function

performed by the financial sector is totally unfounded. In fact, ever since our homegrown financial crisis in the 1990s, we have committed ourselves to maintaining financial system stability, which is a mandate given to us under the Bank of Japan Act. Besides, the banking system is the key transmission channel for monetary policy.

Sixth, as long-term and super-long-term rates have declined significantly, the rates of return on investments of insurance and pension products have declined, the sales of some saving-type products are suspended, and the net present value of retirement benefit obligations has increased. Although direct impacts of these developments on the entire economy may not be substantial, we should take account of the possibility that such developments can affect people's confidence by causing concerns over the sustainability of the financial function in a broad sense, thereby negatively affecting economic activity.

#### ***Thinking on the Monetary Policy Management***

"QQE with a Negative Interest Rate" must be pursued as the most appropriate macroeconomic policy, by striking the right balance between the powerful policy effects described in the first four points I mentioned and the possible adverse effects on financial intermediation that I listed as the fifth and sixth points. There is usually a trade-off between these two aspects, but the way we balance them must be dynamic. For example, a static and uniform judgment that rules out any further cuts in the negative interest rate in view of financial institutions' profits would not be the right approach. Depending on the situations for economic activity, prices, and financial conditions, further measures may still be deemed necessary after weighing policy effects against the cost on financial intermediation. Through numerous discussions I have had with the leaders of financial institutions, I think I fully recognize the effects of the large-scale monetary policy on financial institutions and financial markets, and the likely impacts if the policy is to continue. Based on this recognition, we will take measures that we judge necessary for Japan's economy.

It is from this standpoint that I will participate in discussions of the comprehensive assessment at the next MPM. Based on a candid assessment, we will decide whether or not it will be necessary to make adjustments to the current policy framework, and if judged necessary, in what way it should be adjusted.

## **Closing Remarks**

Lastly, let me talk about the relationship between the Bank's monetary policy and the government's fiscal management and a growth strategy.

The first relationship is that with the government's fiscal management. Usually, when the government increases fiscal expenditures by issuing government bonds, interest rates on government bonds will rise, which discourages private-sector investment. This effect is called "crowding out." In this regard, in a "policy mix" where the central bank pursues monetary easing at the same time, the rise in interest rates will be contained, thereby preventing "crowding out" effects. In the current Japanese context, this is exactly what is taking place. Market interest rates in Japan have been in negative territory across a wide range of maturities due to the effects of the Bank's "QQE with a Negative Interest Rate." In this situation, the economic stimulus of the government's fiscal expenditure, coupled with the monetary expansion, is bound to prove very powerful due to the synergy effects. This type of powerful "policy mix" has been in place in Japan over the last three years and is likely to be reinforced further with the new large-scale fiscal "stimulus package" in combination with "QQE with a Negative Interest Rate."

The second relationship is that with a growth strategy. As I said earlier, it is important that the Bank lowers the real interest rate while at the same time the government raises the natural rate of interest by promoting a growth strategy. In this regard, there should be an emphasis on "at the same time." Structural reforms raise potential growth and reduce uncertainty about the future, so that firms and households spend more today in anticipation of higher profits and incomes in the future, thus raising current demand. On the other hand, demand stimulus from monetary easing raises potential output through an increase in the capital stock as well as labor input. Thus, I believe monetary policy to overcome deflation and supply-side reforms to raise the growth potential must be pursued in tandem, or "at the same time," to bring Japan's economy back on track toward sustained growth. The Bank should continue with the monetary easing that successfully reshaped Japan's economy such that it may be described as no longer being in deflation, move further to terminate deflation, and achieve the 2 percent target. Meanwhile, I think that it is worth noting that the government's recent economic measures focus on "investment for the future."

It has been thirty-eight years since I joined the Bank of Japan. During this period, the economic and financial environment surrounding Japan has changed dramatically and the policy agenda for the central bank shifted accordingly. As a freshman, I could hardly imagine that this central bank traditionally renowned as an inflation fighter was going to be engaged in such a difficult struggle to overcome deflation. Such changes never lose steam. More recently, after the collapse of Lehman Brothers, active discussions have taken place around the world about policy responses to the slower growth trend and the framework of the monetary policy in such a situation, ignited by Larry Summers' Secular Stagnation Hypothesis. I already expressed my opinion in New York earlier this year, so I will not repeat this today. However, I have an impression that some topics that formerly had been confined to academic circles are today openly discussed as practical policy challenges that need to be addressed from a medium- to long-term perspective. I really feel this when attending international meetings and conferences. The answers vary from country to country, and they are not as straightforward as those provided in textbooks. For policy makers around the world, I sense that this has become a common challenge that underlies contemporary policy discussions and practices. I am reminded that, in order for policy makers at central banks and governments to appropriately keep abreast of the speed and dynamism with which the environment changes, they should not adhere simply to past common sense. Recently, I often think that we central bankers must have the courage to evolve with the times and adapt to the environment while cherishing the central bank's DNA; that is, "the policy actions based on theory and research." This last point is somewhat superfluous and clearly outside the scope of the upcoming comprehensive assessment, and I would like to finish my speech by reminding you that this is just my thought.

Thank you for your attention.

# Toward a "Comprehensive Assessment" of the Monetary Easing

*Speech at a Meeting Hosted by  
the American Chamber of Commerce in Japan (ACCI) in Tokyo*

September 8, 2016

Hiroshi Nakaso  
*Deputy Governor of the Bank of Japan*

Chart 1

## Enhancement of Monetary Easing (July 2016)

Against the backdrop of **the United Kingdom's vote to leave the European Union** and **the slowdown in emerging economies**, volatile developments have continued in the global financial markets.



The Bank will support proactive economic activities by **preventing a deterioration in business confidence and consumer sentiment** as well as **ensuring smooth funding in foreign currencies** by Japanese firms and financial institutions.

### Policy measures decided at the July 28-29 Monetary Policy Meeting

1. The Bank will purchase **ETFs** so that their amount outstanding will increase at an annual pace of about **6 trillion yen** (almost **double** the previous pace of about 3.3 trillion yen)

In order to **ensure smooth funding in foreign currencies**

2. For firms: **Double** the size of the Bank's lending program to support growth to **24 billion USD**

3. For financial institutions (FIs): Establish a new securities lending facility in which the Bank lends JGSs to FIs against their current account balances with the Bank. These JGSs can then be pledged as collateral for using the U.S. Dollar Funds-Supplying Operations



**In effect, FIs are allowed to pledge cash collateral for using the USD Funds-Supplying Operations**

# Bank of Japan's ETF Purchases

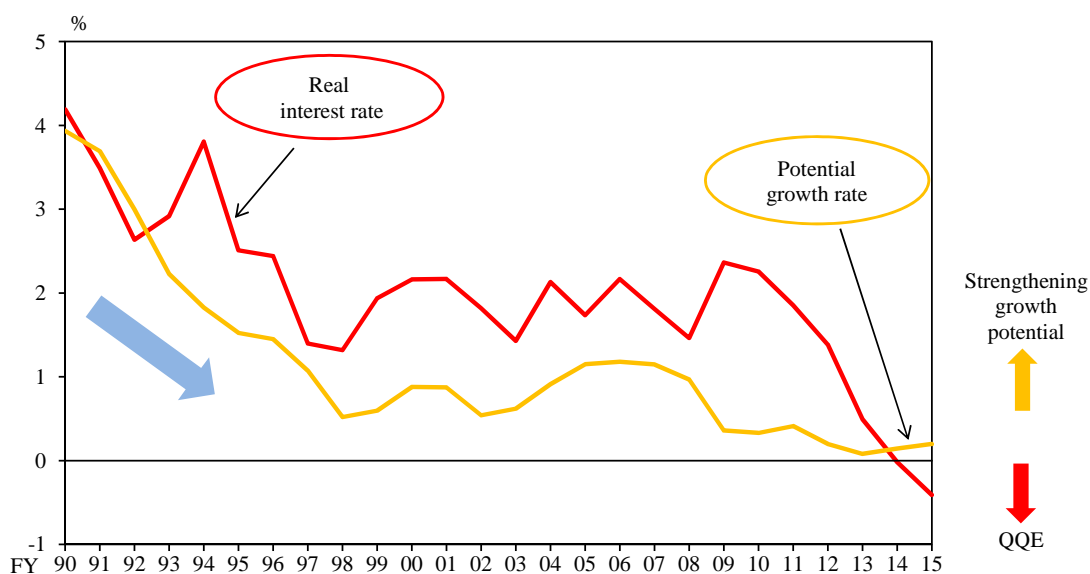
tril. yen

	BOJ's ETF Purchases	Net Purchases of Japanese Equities (A negative figure indicates net sales)			
		Households	Firms	Financial Institutions	Foreign Investors
CY 2013-2015 Total	5.4	-17.4	4.7	-0.1	15.7
Of which: CY 2015	3.1	-5.0	3.0	2.0	-0.3

**About 6 trillion yen**

Note: Net purchases of Japanese equities cover stocks listed on the first and second sections of the Tokyo Stock Exchange and the Nagoya Stock Exchange.  
Sources: Tokyo Stock Exchange; Bank of Japan.

# Real Interest Rate and Potential Growth Rate

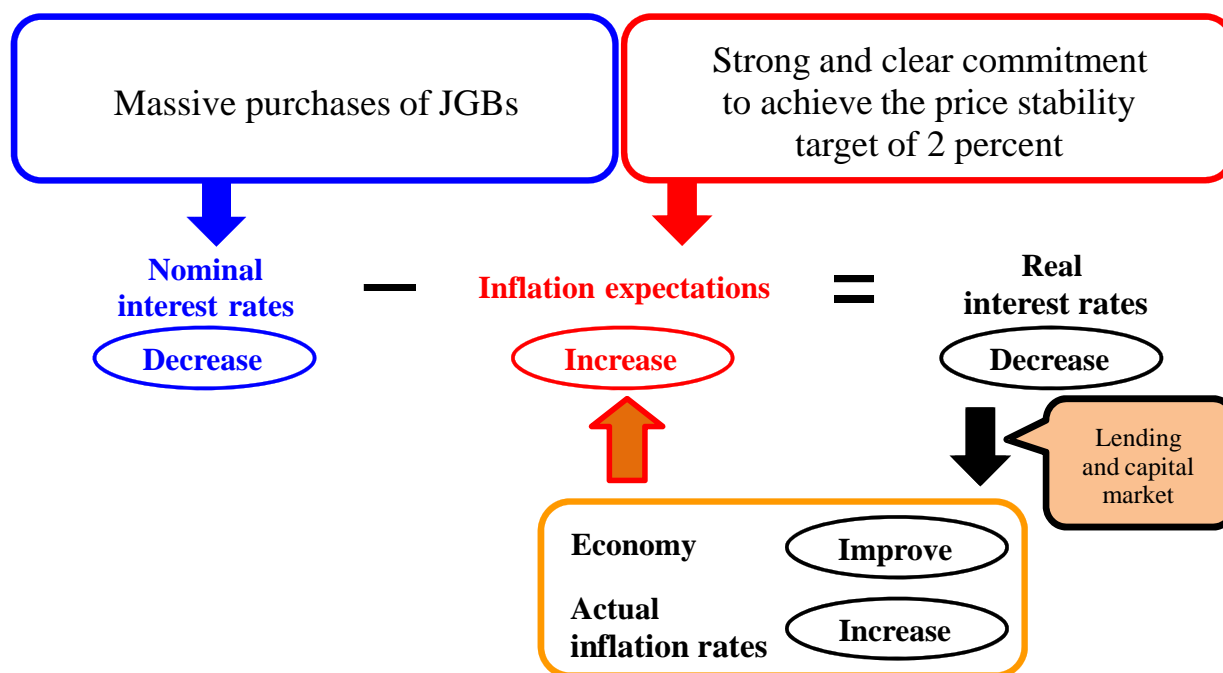


Notes: 1. Figures for the real interest rate are calculated by subtracting the year-on-year rate of change in the CPI (all items less food and energy) from the yield on 10-year JGBs.

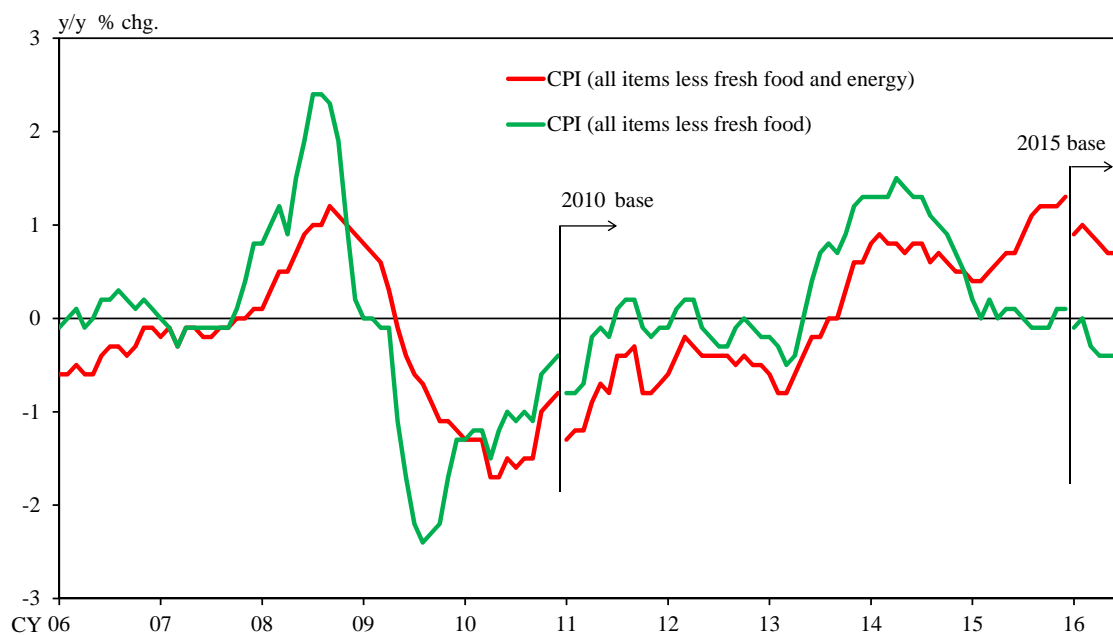
2. The potential growth rate is estimated by the Research and Statistics Department, Bank of Japan.

Sources: Ministry of Internal Affairs and Communications; Bloomberg; Cabinet Office; Bank of Japan; Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry; Research Institute of Economy, Trade and Industry.

## Transmission Mechanism of QQE



## Consumer Prices

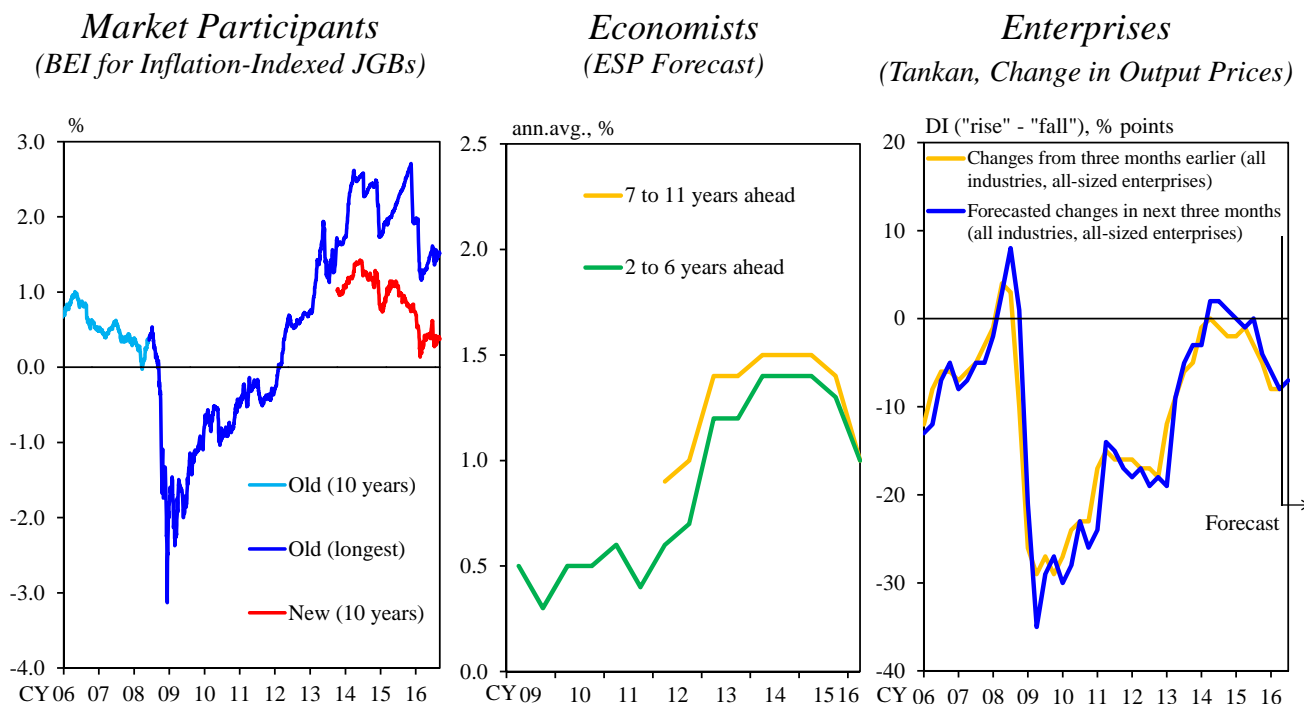


Notes: 1. Figures for the CPI (all items less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.

2. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate.

Source: Ministry of Internal Affairs and Communications.

# Inflation Expectations

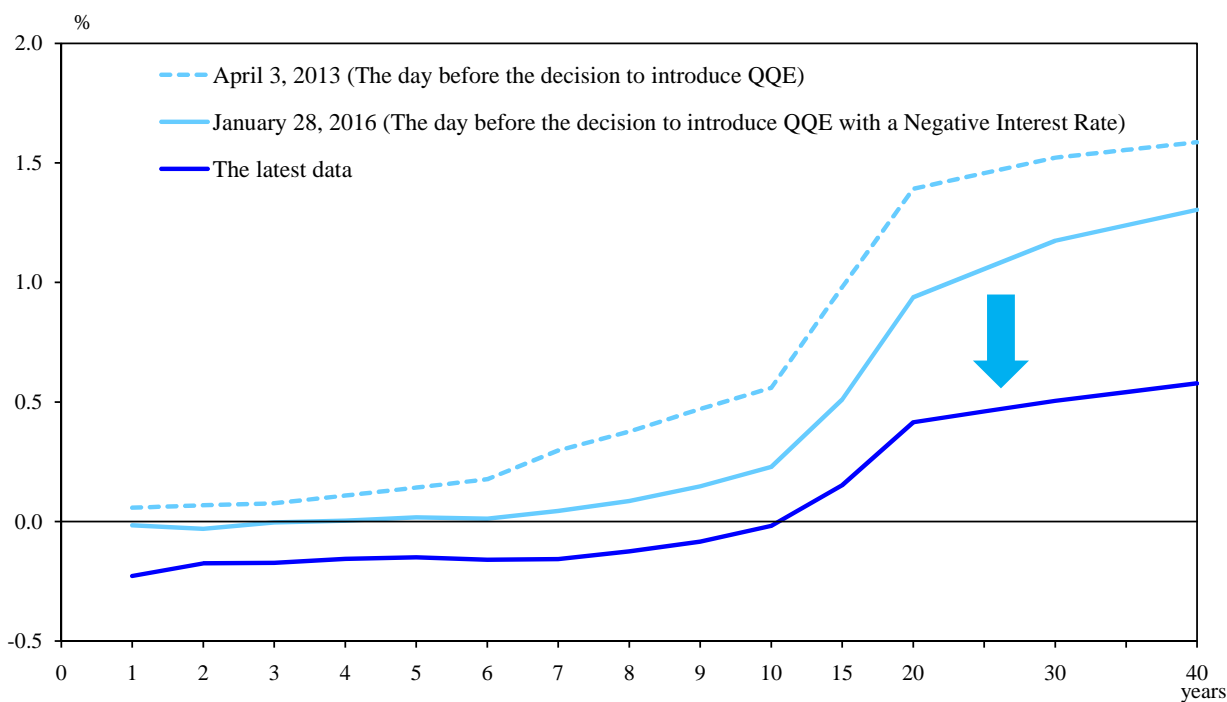


Notes: 1. BEI (break-even inflation) rates are yield spreads between fixed-rate coupon-bearing JGBs and inflation-indexed JGBs. Inflation-indexed JGBs issued since October 2013 are designated as "new," while the rest are designated as "old." Figures for "old (longest)" are calculated using yield data for issue No. 16 of inflation-indexed JGBs, which matures in June 2018.

2. Figures for the "ESP Forecast" are compiled every June and December, and exclude the effects of the consumption tax hikes.

Sources: Bloomberg; JCER; Bank of Japan.

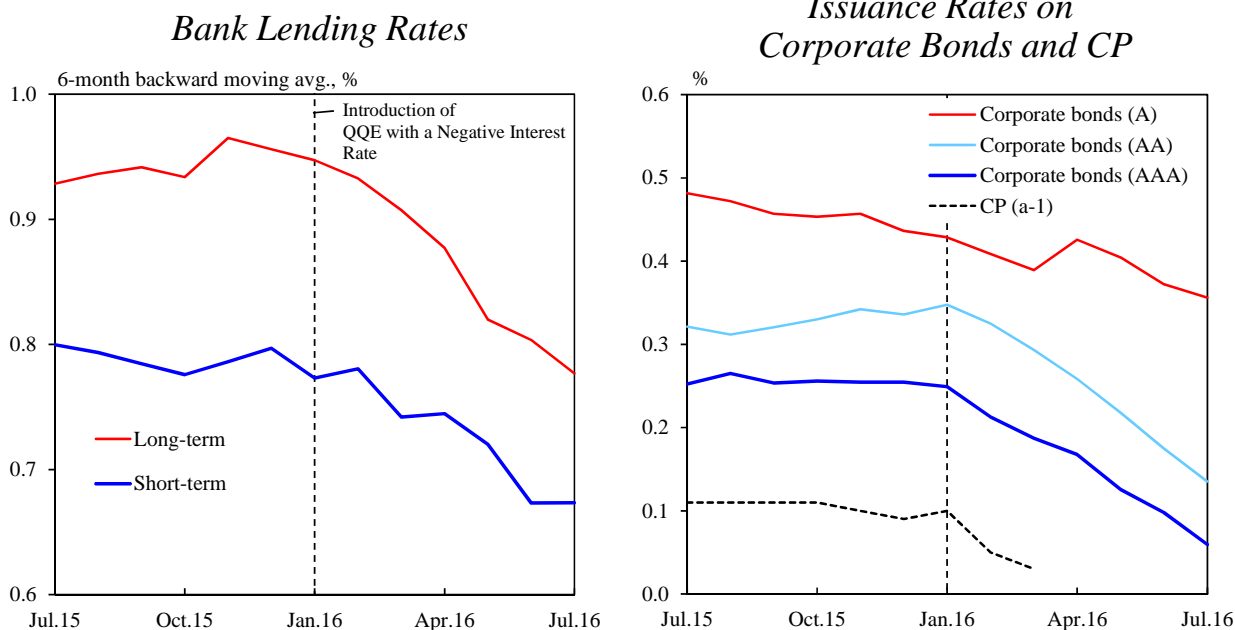
# Changes in JGB Yield Curve since the Introduction of the Negative Interest Rate Policy



Source: Bloomberg.



# Bank Lending Rates and Yields on Corporate Bonds and CP

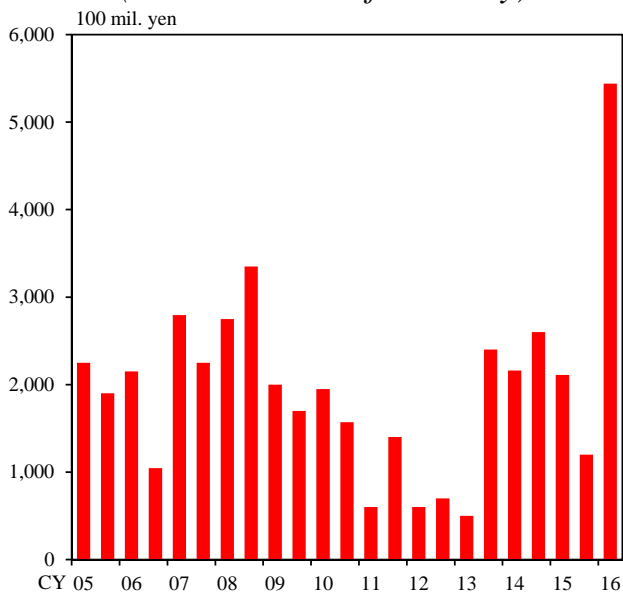


Notes: 1. Figures for bank lending rates are average contract interest rates on new loans and discounts.  
 2. Figures for the issuance rates on corporate bonds are the averages for domestically issued bonds classified based on the highest ratings among those from Moody's, S&P, R&I, and JCR. 6-month backward moving average. Bonds issued by banks and securities companies, etc., are excluded.  
 3. Figures for issuance rates on CP are monthly averages of CP with a maturity of three months. Figures for March 2016 are averages of weekly data up to March 18.

Sources: Japan Securities Depository Center; Capital Eye; I-N Information Systems; Bloomberg; Bank of Japan.

# Corporate Finance

*Volume of Super-Long-Term Corporate Bond Issuance (Over 10 Years of Maturity)*



*Selected Examples of Super-Long-Term Corporate Bond Issuance*

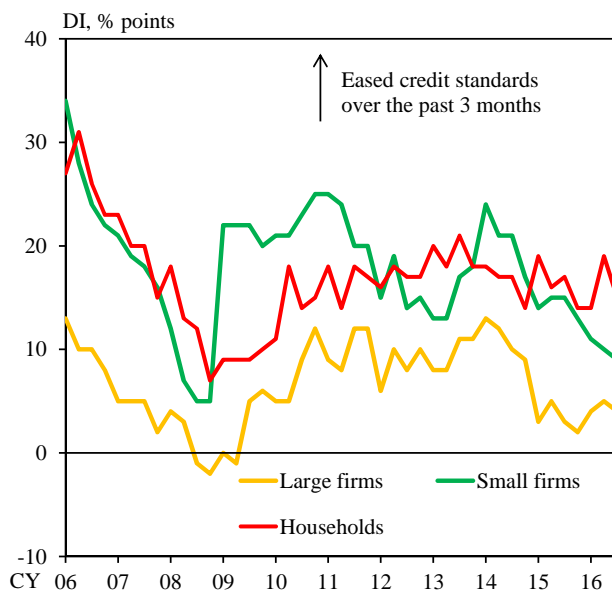
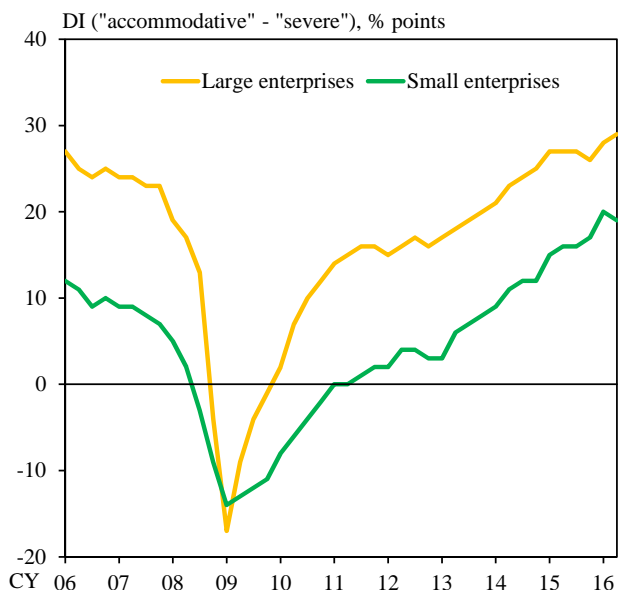
Issuer's Sector	Dates when bond issuance conditions are decided	Maturity (years)	Coupon	Issuance Volume (100 mil. yen)
Petroleum and coal products manufacturing	2016/7/22	20	0.830%	100
Pharmaceutical manufacturing	2016/7/15	30	1.200%	250
Land transportation	2016/6/3	30	0.608%	100
Transportation equipment manufacturing	2016/5/27	20	0.343%	200
Food and beverage manufacturing	2016/2/25	20	0.939%	250
Land transportation	2016/2/19	40	1.575%	100

Note: Volume of super-long-term corporate bond issuance excludes that of bonds for which first call dates are within 10 years from the issuance dates and that of bonds issued by banks and securities companies.  
 Source: I-N Information Systems.

# Financial Conditions

*Lending Attitude of Financial Institutions as Perceived by Firms (Tankan)*

*Lending Policies of Large Banks (Senior Loan Officer Opinion Survey on Bank Lending Practices at Large Japanese Banks)*



Notes: 1. Data from the *Tankan* are based on all industries.

2. DI for credit standards is calculated as follows.

$$DI = ( \text{percentage of respondents selecting "eased considerably"} + \text{percentage of respondents selecting "eased somewhat"} \times 0.5 ) - ( \text{percentage of respondents selecting "tightened considerably"} + \text{percentage of respondents selecting "tightened somewhat"} \times 0.5 )$$

Source: Bank of Japan.