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Bank of Japan

**Economic Activity, Prices,
and Monetary Policy in Japan**

Speech at a Meeting with Business Leaders in Nagano

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(English translation based on the Japanese original)

Introduction

Thank you for giving me this opportunity to exchange views with people representing Nagano, who have taken time to be here despite their busy schedules. It is indeed a great honor to be here today. Please allow me to express my gratitude for your great cooperation with business operations of the Bank of Japan, particularly of the Matsumoto Branch and the local office in Nagano.

Three and a half years have passed since the Bank introduced quantitative and qualitative monetary easing (QQE) in April 2013. Most recently, in September 2016, it released "Comprehensive Assessment: Developments in Economic Activity and Prices as well as Policy Effects since the Introduction of Quantitative and Qualitative Monetary Easing (QQE)," and at the same time decided on a new framework for strengthening its monetary easing policy.

Today, I would like to offer my assessment of the Bank's monetary policy to date. First, from a somewhat longer-term perspective, I would like to discuss developments in Japan's economy since the 1980s in order to examine why the economy, which had experienced high growth among advanced economies, became stagnant from the 1990s. Then, I will elaborate on the recent economic developments and monetary policy in Japan.

Following my speech, I look forward to hearing your views on the economic situation, and to your candid opinions on the Bank's monetary policy.

I. Economic Developments in Japan and Monetary Policy since the 1980s

Until 1990, Japan had been considered the country that could achieve the highest growth among advanced economies. However, it is well known that its economy then stagnated over the long term and simultaneously fell into deflation.

Let us first look at Chart 1, which shows Japan's nominal GDP, real GDP, and the GDP deflator since the 1980s. Japan's economy, in terms of the real GDP growth rate, had seen steady growth until the beginning of the 1990s, but shifted to low growth thereafter. At the same time, prices became sluggish and began to decline. The GDP deflator then flattened,

and when excluding the effects of the consumption tax hikes in 1997 and 2014, it declined almost consistently from 1995 (Chart 1 excludes the effects of the consumption tax; for the method of adjustment, see the Note to this chart). Naturally, the growth rate in nominal GDP also had been sluggish. Nevertheless, since the 2013 introduction of a bold monetary easing policy -- namely, QQE -- nominal GDP and the GDP deflator have seen recovery. Note that the GDP deflator is an index that shows the underlying trend in prices and does not reflect effects of global price fluctuations, such as crude oil price movements. Since the 2013 introduction of QQE, the GDP deflator has been rising stably at an annual rate of 0.9 percent, having bounced back from an annual rate of minus 1.2 percent for the ten years prior to the introduction (for this past year, however, the rate of increase has been at 0.6 percent). For the past ten years, the rate of change in the GDP deflator was 0.8 percent lower on average than that in the consumer price index (CPI). Thus, simply put, if the rate of change in the GDP deflator becomes 1.2 percent, that in the CPI will be calculated as 2 percent.

Let me now examine the economic stagnation in Japan by comparing its economic developments with those in other advanced economies.

Chart 2 shows real GDP of Japan, the United States, the United Kingdom, Germany, and France, with the level in 1990 set as 100. We can see from this chart that Japan's economic growth rate -- which had been high among these five advanced economies until the 1980s -- has fallen to the lowest since the 1990s.

Some argue that a low growth rate in Japan is unavoidable because the country has been facing a decline in its population, and more importantly, a decline in its working-age population of those between 15 and 64 years of age. Taking this argument into account, let us look at Charts 3 and 4, which show real GDP per capita and real GDP per working-age person, respectively. In terms of real GDP per capita, Japan's growth rate has been the lowest among five countries -- namely, Japan, the United States, the United Kingdom, Germany, and France. Nevertheless, in terms of real GDP per working-age person, Japan does not appear to be as bad off among these economies since 2000.

Let us now turn to developments in nominal GDP, as shown in Chart 5. Since the 1990s, the nominal GDP growth rate in Japan has been decelerating while the rates in the other four advanced economies have been rising steadily. This also applies in terms of nominal GDP per capita and nominal GDP per working-age person (not shown in the chart). This is natural because the change in nominal GDP growth is larger than that in population growth.

II. Did Deflation Cause the Decline in the Real GDP Growth Rate?

So far, I have referred to the fact that Japan's economy fell into deflation and its real GDP growth rate became low compared to other advanced economies. So, is there a connection between the two factors? In other words, did deflation push down the real GDP growth rate?

Economists within academia say that there is basically no connection between the two. Here is the logic, using two examples. First, the levels of both real wages and real consumption will remain the same for the two cases where there is no change in those of prices and wages, and where nominal prices and wages increase by 1 percent. Second, for both cases where the inflation rate and nominal interest rate are 0 percent, and where these rates are 1 percent, the levels of real interest rates and firms' investment also should remain the same. As a result, with the levels of real consumption and real investment staying the same in these examples, real GDP growth rates also should stay at the same level.

However, does this logic hold? Firms' profits in terms of accounting and return on equity (ROE) -- which shows how efficiently stockholders' funds are invested -- are concepts in nominal terms. ROE calculated for the purpose of accounting is not a ratio in real terms. Recently, in Japan, firms are encouraged to aim at achieving ROE at a certain level; for example, 8 percent. This 8 percent is in nominal terms, and the higher the inflation rate, the easier it is to achieve. A 1 percent rise in the inflation rate will bring the same margin of increase in ROE.¹ It seems that there is no actual effect in achieving ROE of 8 percent, but

¹ Assume that an investment of 100 will be made using 30 of equity and 70 of debts. If the inflation rate is 0 percent, investment returns will be 3 percent and the interest rate will be 1 percent. If the inflation rate is 1 percent, investment returns will be 4 percent and the interest rate will be 2 percent. In the first instance, ROE will be $(100 \times 0.03 - 70 \times 0.01) / 30 = 2.3 / 30 = 7.7$ percent. In the second instance, it will be $(100 \times 0.04 - 70 \times 0.02) / 30 = 2.6 / 30 = 8.7$ percent. Thus, ROE of 8 percent can be achieved. Hence, an inflation of 1 percent causes ROE to rise accordingly.

many corporate managers consider this as crucial and that may bring about some changes in firms' behavior.²

Nonperforming loans are also an issue discussed in nominal terms. Losses incurred from past investment failures will decline in real terms if sales and profits increase owing to inflation. Nonperforming loans were a major problem for Japan's economy in the 1990s.³ Based on what I have just mentioned, deflation and the consequent reduction in sales represent a failure.

The government budget is another issue discussed in nominal terms. An increase in nominal GDP means a decrease in past fiscal deficits in real terms. It seems strange that economists within academia who claim fiscal deficits as an issue do not emphasize the importance of nominal figures. If the argument holds true that people do not increase their consumption based on the assumption that the government will increase taxes due to fiscal deficits, the decline in the ratio of government debt to nominal GDP should increase consumption.⁴ This means that the sluggishness in nominal GDP will restrain real consumption.

² See the Ministry of Economy, Trade and Industry (METI) final report on the project chaired by Professor Kunio Ito "Competitiveness and Incentives for Sustainable Growth: Building Favorable Relationships between Companies and Investors," August 6, 2014, pp. 40-41. In this report, it is stated that ROE targets should be set at 8 to 10 percent for firms in general and around 15 percent for firms with global operations.

³ There are many documents that refer to the point that nonperforming loans cause stagnation in the economy through (1) the bank's reluctance to lend and the consequent sluggish investment or (2) an extension of additional loans to inefficient firms and a decline in macroeconomic productivity. See Ryuzo Miyao, "Ginkou Kinou no Teika to 90 Nendai Ikou no Defure Teitai (Deterioration in Bank's Functioning and Continued Deflation since the 1990s)" in Koichi Hamada, Akiyoshi Horiuchi, and the Economic and Social Research Institute (ESRI), eds. *Ronsou Nihon no Keizai Kiki* (Debates on the Economic Crisis in Contemporary Japan), Nikkei Publishing Inc., May 2004 (available only in Japanese).

⁴ The possibility of people not increasing their consumption based on the assumption that the government will increase taxes due to fiscal deficits is analyzed in Masumi Kawade, Arata Ito, and Toru Nakazato, "1990 Nendai Ikou no Zaisei Seisaku no Kouka to Sono Henka (The Effects and Changes in Fiscal Policy since the 1990s)," Chapter 5 of Toshihiro Ihori, ed. *Nihon no Zaisei Akaji* (Japan's Fiscal Deficit), Iwanami Shoten, December 2004 (available only in Japanese).

Stock prices and exchange rates are also nominal figures. Profits in nominal terms affect stock prices and exchange rates influence firms' profits. I believe that nominal figures do affect real figures.

In addition, there is a problem that the economic growth rate has declined and the natural rate of interest has fallen to close to zero. The natural rate of interest refers to an optimal interest rate that will neither depress nor overheat the economy. If the natural rate of interest is close to zero, it is difficult to stimulate the economy through lowering interest rates. In this situation, if the inflation rate is in positive territory, economic activity can be stimulated by lowering interest rates to zero and reducing real interest rates to negative territory. However, if the inflation rate is in negative territory, it is difficult to lower real interest rates. Then, bringing economic conditions to normal by stimulating economic activity will become difficult. I think this is the channel recognized by many economists within academia as a reason why deflation causes economic stagnation.⁵

Many argue in Japan that, rather than pushing down interest rates forcibly through monetary policy, the natural rate of interest should be raised by increasing the real GDP growth rate through growth strategies and structural reforms. However, of those making such an argument, few have yet provided specific indicators in terms of defining what kind of growth strategy could be used and to what extent such strategy could raise the natural rate of interest. However, an exception here is the effects of the Trans-Pacific Partnership (TPP) on Japan's economy; some analyses suggest that, if Japan participates in the TPP, real GDP will increase by 0.66 to 2 percent.⁶ This does not mean that the economic growth rate could be increased by up to 2 percent, but that the size of the economy could be increased by 2 percent over, for example, a decade. An increase of 2 percent in a decade suggests that the economic growth rate will rise merely by 0.2 percent on an annual basis. This tells us how difficult it is to produce effects from a growth strategy.

⁵ Ben S. Bernanke, "Deflation: Making Sure 'It' Doesn't Happen Here," remarks before the National Economists Club, Washington D.C., November 21, 2002.

⁶ Cabinet Secretariat of Japan, "Kanzei Teppai Shita Baai no Keizai Kouka ni Tsuite no Seifu Touitsu Shisan (The Government Estimate on the Economic Impact of Tariff Elimination)" and "PECC Shisan no Gaiyou (Outline of the Estimate of the Pacific Economic Cooperation Council [PECC])," both published on March 15, 2013 and available only in Japanese.

Meanwhile, monetary easing and a growth strategy do not conflict with each other. Hence, it would be effective if they are implemented together. The primary purpose of a growth strategy is to improve efficiency -- or to raise labor productivity by eliminating wasteful areas -- and therefore, in the process of pursuing a growth strategy, employment problems could arise. In the meantime, if the economic conditions become favorable through monetary easing and the employment situation improves, it will become easier to implement structural reforms.

Furthermore, rather than not seeing any rise in nominal wages during the course in which deflation affects economic activity, I think that people's sentiment will be more upbeat if prices and wages rise at the same level, though I am not certain that this will be the case.

Developments in Indicators in Nominal Terms

Let us now look at movements in indicators in nominal terms.

Chart 6 shows the local currency-denominated stock prices and the ratios obtained by dividing these prices by nominal GDP of each country. They are both converted into indices with the level in 1990 set as 100. Compared with the level in 1990, stock prices in Japan have fallen to 70 percent while those in the other four advanced countries have risen by seven times for the United States and Germany and three times for the United Kingdom and France. However, relative to nominal GDP, stock prices in these countries compared with those in 1990 have increased only by three times for Germany, two times for the United States, and 1.3 times for France, stayed at the same level in the United Kingdom, and dropped to 60 percent of the 1990 level in Japan. Hence, differences in the extent of change in stock prices between Japan and these other advanced countries narrow significantly. It can be said that one factor behind the sluggish stock prices in Japan was that nominal GDP did not grow due to deflation.

Chart 7 shows the exchange rate movements of major currencies against the U.S. dollar. The yen and the U.S. dollar, which is represented in terms of the nominal effective exchange rate, are on an appreciating trend (in the chart, drops in the lines indicate the appreciation of currencies), but the British pound sterling and the euro do not show such a

trend. If the yen did not depreciate after the introduction of QQE, its appreciating trend would have been clearer. The yen's appreciation causes sluggish sales of exporting firms and import-competing firms, leading them to inevitably reduce their prices, and this consequently lowers prices in the overall economy. Price declines eventually may lead to a recovery in the competitiveness of firms, but adjustments until then impose serious difficulties. For example, firms that had been making fixed investment based on the assumed exchange rate of 120 yen against the U.S. dollar would incur substantial losses if the yen were to appreciate to 80 yen against the dollar. In view of such a painful experience, firms may refrain from making investments, and this will result in a prolonged decline in investment.

One reason for the appreciating trend in the U.S. dollar in terms of the nominal effective exchange rate is that major trading partners of the United States -- namely, the countries in Central and South America -- have been under rampant inflation. If such an appreciating trend did not exist, the United States might also be in an inflation situation similar to that in Central and South America.

Chart 8 shows fiscal deficits relative to nominal GDP. While Japan has been facing a massive fiscal deficit compared with the other four advanced countries, it has narrowed during the period of monetary easing and increase in nominal GDP. That is, the narrowing of the deficit owes to improvement in the economy led by monetary easing and the ensuing increase in tax revenue and the expansion in nominal GDP, the denominator in calculating the figures in this chart. As I have mentioned, if people truly do not increase their consumption based on the assumption that the government will increase taxes due to fiscal deficits, the decline in the ratio of government debt to nominal GDP should increase consumption. However, this is not the real case.

Meaning of the Rise in the Unemployment Rate

Although it has no direct connection to discussions of nominal indicators, let us now look at the unemployment rate, my last choice of indicator for international comparison. The unemployment rates shown in Chart 9 are different from those normally seen, in that they are compared to the level in 1990 set as 100. The chart indicates that the unemployment rate

in Japan has risen from 1990. The rates in the other four countries, meanwhile, have fluctuated in line with economic cycles and eventually returned to around their original levels. The high unemployment rate in Japan must have meant that production had been sluggish, and that tax revenues and social insurance revenues had been low. Since the middle of the 1990s, Japan has suffered many losses.

These losses go beyond economic matters and social issues. Not being employed makes individuals feel unwanted in society and creates stress for them. In fact, there is a study indicating that the number of suicides increases in line with the rise in the unemployment rate.⁷ Today, with the fall in the unemployment rate, the number of suicides has declined by more than 10,000 from its peak of around 34,000 in 2003.

During the first decade of the 2000s, the acronym NEET -- which stands for "Not in Education, Employment, or Training" -- was commonly used in Japan. This acronym was first used in the United Kingdom amid increased awareness of how to socially include young people facing various difficulties such as coping with poverty, having a low level of education, and being racial minorities. Meanwhile, in Japan, NEET began to convey the image of a weak mentality among young people who have grown up in a wealthy society and either do not have the will or are unable to work for some reason. Nevertheless, the number of young people in Japan who were categorized as NEETs -- while the category in Japan is broadly interpreted, as I just noted -- gradually increased during the economic recession since the 1990s. If they are the product of economic recession, the number of NEETs should decline with the fall in the unemployment rate.⁸ Currently, the acronym NEET is hardly used in Japan. Searching through articles in *The Nikkei*, it appeared 138

⁷ Yasuyuki Sawada, Michiko Ueda, and Tetsuya Matsubayashi, *Jisatsu no Nai Shakai e: Keizaigaku Seijigaku Kara no Ebidensu ni Motozuku Apurochi* (Towards Evidence-Based Suicide Prevention: Perspectives from Economics and Political Science), Yuhikaku Publishing Co., Ltd., June 2013 (available only in Japanese).

⁸ Yutaka Harada and Kazutomo Abe, "Nito, Furita, Jakunen Shitsugyou to Makuroteki na Keizai Kankyou (NEET, Non-Regular Employees, Unemployment among Young-Age Group, and Macroeconomic Environment)," Chapter 3 of Yoshio Higuchi, ed. *Tenkanki no Koyou Nouryoku Kaihatsu Shien no Keizai Seisaku* (Economic Policy to Support Employment and Capacity Development at a Critical Juncture), Nippon Hyoron Sha Co., Ltd., December 2006 (available only in Japanese).

times at its peak in 2006 but 19 times for this past year -- that is, from September 2015 through August 2016.

In recent years, on the other hand, the term black companies (*burakku kigyō*) has become widespread. This refers to firms that force employees to work at low wages for an exceedingly long period of time, without receiving any corresponding rewards that these firms promised. A question then arises as to why people choose to work at such firms. This is because, amid considerable disparities in employment conditions between regular and non-regular employees in Japan, it became difficult for many young people to work as regular employees. In this circumstance, *burakku kigyō* won over anxious young people by hiring them as regular employees. This situation occurred largely because of the prolonged economic recession, in which the employment situation had deteriorated. Recently, firms that have been labeled *burakku kigyō* have been struggling to secure employees as the rise in the ratio of non-regular employees to regular employees has leveled off after the end of 2013 in a situation where labor market conditions have eased with a fall in the unemployment rate. In line with the fall in the unemployment rate, the numbers of suicides and NEETs also have declined, and it has become difficult for the harsh working conditions under *burakku kigyō* to continue.

Based on the observations made so far, I would like to assert that Japan's deflation and the decline in its real economic growth rate are connected. There is a powerful argument against this, which runs as follows: even if prices decline, nothing will change as long as the levels of wages and interest rates fall by the same margin, and therefore deflation cannot cause a decline in the real GDP growth rate or a rise in the unemployment rate. However, I think that the actual economy is more complex, in that there is a channel in which deflation causes a decline in real GDP. Almost all economists within academia recognize the channel in which deflation affects economic growth when there is a low natural interest rate.

In my view, the loss of employment due to the deflation since the 1990s led to the deterioration of human capital, and this might have caused a decline in labor productivity, as well as a decrease in the economy's growth rate for an extended period.

I believe that we must learn from the failures experienced during the 1990s and conduct monetary policy so as to overcome deflation.

III. Japan's Economic Developments after the Introduction of QQE and the Bank's Comprehensive Assessment of September 2016

Now, I would like to elaborate on economic developments in Japan after the introduction of QQE. I believe that QQE has been conducted to improve the situation that I explained earlier. So, was it effective in overcoming failures experienced in the past?

To illustrate, let us look at the GDP deflator in Chart 1. Following the introduction of QQE, it started to rise stably (please note that the GDP deflator excludes the effects of the crude oil price movements). QQE has worked to change deflationary mindset of the past. However, as described earlier, the deflator has been increasing merely by 0.9 percent, which is not enough to reach the Bank's target of 2 percent in terms of the year-on-year rate of change in the CPI (all items less fresh food). In order to achieve that target, a 1.2 percent increase in the GDP deflator is necessary, based on the relationship between the CPI and the GDP deflator mentioned earlier.

Next, let us look at the CPI. Chart 10 shows developments in the CPI in terms of all items less fresh food and that for all items less fresh food and energy, both of which exclude the effects of the consumption tax hike. After the introduction of QQE that followed the inauguration of the second Abe Cabinet, the inflation rate -- which had been negative until then -- turned positive. Specifically, the year-on-year rate of change in the CPI for all items less fresh food and energy, excluding the effects of the crude oil price movements, rose to 0.9 percent in February 2014, from minus 0.8 percent immediately before the introduction of QQE. The 0.9 percent figure includes the effects of the front-loaded increase in demand prior to the consumption tax hike in April 2014. After the hike, however, the pace of increase slowed. Accordingly, the Bank decided to expand QQE in October 2014, and with this expansion, the increase in the CPI for all items less fresh food and energy accelerated again. Nevertheless, since around the end of 2015, the rate of increase has continued to slow. The Bank introduced QQE with a Negative Interest Rate in January 2016 and enhanced monetary easing in July, almost doubling the amount of the Bank's exchange-traded fund

(ETF) purchases. However, the price stability target of 2 percent has not yet been achieved, although at least the economy is no longer in deflation.

Moreover, the growth rate of Japan's real GDP does not appear to have accelerated even after the introduction of QQE. However, as shown in Chart 4, the rate of real GDP per working-age person -- excluding that for 2014, which was affected by the consumption tax hike -- seems to have been realizing an acceleration in its growth, albeit slightly. Improvement in the employment situation -- which I already have explained -- is not only seen in major cities but is spreading across Japan. In June 2016, the active job openings-to-applicants ratio marked a figure above 1 in all prefectures. Needless to say, the active job openings-to-applicants ratio for "All Japan" has risen, registering 1.37 times in August 2016 -- the highest level since August 1991. The ratio also has risen here in Nagano, registering 1.42 times.

The Bank's Comprehensive Assessment

On the basis of the fact that the price stability target has not yet been achieved, the Bank conducted a comprehensive assessment of the developments in economic activity and prices, as well as on policy effects, since the introduction of QQE at the Monetary Policy Meeting (MPM) held on September 20 and 21, 2016. At the same time, the Bank also decided on a new framework for strengthening its monetary easing policy. In what follows, I will explain these two topics.

The Bank's comprehensive assessment is divided into the following five aspects: (1) the transmission mechanism in which QQE affects the real economy; (2) factors that have hampered achieving the 2 percent price stability target; (3) the mechanism of inflation expectation formation; (4) pushing down of the yield curve; and (5) the effects and impact of the decline in the yield curve. I will explain each of these.

First of all, the transmission mechanism of QQE functioned efficiently and lowered interest rates for Japanese government bonds (JGBs) for all durations, as evident from the yield curve that I will touch upon later. Many indicators reveal that inflation expectations have been in positive territory. Thus, real interest rates have declined to levels well below the

natural rate of interest, and have stimulated the economy. As a result, economic activity improved, and Japan's economy is no longer in deflation, which is commonly defined as a sustained decline in prices.

Second, I would like to describe factors that have hampered the achievement of the 2 percent target. In terms of the mechanism that I have just described, a rise in inflation expectations is crucial. However, the rate of increase in the observed inflation rate -- i.e., the CPI -- continued to decline due to (1) the fall in crude oil prices, (2) the weakness in demand following the consumption tax hike in April 2014, and (3) the slowdown in the global economy and volatility in global financial markets. The decline in the observed inflation rate weakened inflation expectations adaptively, and this decline then pushed down actual prices.

Here, understanding the mechanism of inflation expectation formation -- the third aspect -- becomes important. Since the observed inflation rate is likely to remain subdued for the time being, it seems that a further rise in inflation expectations through the adaptive mechanism is uncertain and may take time. This highlights the important role played by the forward-looking expectation formation mechanism. The expansion of the monetary base, together with the commitment to achieving the price stability target, by bringing about a regime change in monetary policy, has led to a rise in inflation expectations. The relationship between the monetary base and inflation expectations seems to be of a long-run nature. Therefore, what is important is the Bank's commitment to expanding the monetary base in the long run.

Fourth, the combination of the negative interest rate policy and JGB purchases proved to be an effective means for the central bank to push down the entire yield curve.

As for the fifth aspect, the decline in the yield curve and the change in its shape affect the economy as a whole in various ways. Let me note three points. First, short- and medium-term interest rates have a larger impact on economic activity than longer-term rates. At least until now, the stimulative effects on the economy of the decline in short- and medium-term interest rates were larger than those of the decline in super-long-term interest

rates. Second, however, the link between the impact of interest rates and the shape of the yield curve may change as firms are now exploring new ways of raising funds, such as issuing super-long-term corporate bonds. And third, an excessive flattening of the yield curve may have a negative impact on economic activity by leading to a deterioration in people's sentiment, as it can cause uncertainty about the sustainability of financial functioning.

The first and second points can be understood as common sense. Most firms make investment decisions based on a strategy for the next several years. Thus, a decline in interest rates on 20-year JGBs does not immediately cause a large increase in investment. Firms that consider profitability over 20 years have mainly been those engaged in infrastructure business so far. Such firms tend to be not much affected by recent short-term developments in interest rates, because they conduct investment in line with their medium- to long-term business plans. Firms including those engaged in other than infrastructure business, however, are experiencing positive developments through issuing super-long-term corporate bonds.

Financial Institutions' Business Conditions and Flattening of the Yield Curve

I would like to talk further about business conditions of financial institutions and the flattening of the yield curve. Namely, long-term interest rates are higher than short-term ones, but the differential between the two rates has become smaller. The reason behind this flattening is that short-term interest rates tend not to decline due to difficulty in lowering deposit rates into negative territory. Also, since interest rates have become negative, long-term bonds have been bought by many investors in search of a positive yield.

The profits of financial institutions decrease with the flattening of the yield curve because they make long-term investment by raising short-term funds. Thus, after the introduction of the negative interest rate policy, financial institutions' profits in terms of those from the differential between long- and short-term interest rates have been decreasing.

However, financial institutions gain profits only after they get their loans paid back, and therefore this does not mean that they can earn more simply with the steepening of the yield

curve. Financial institutions' profits have been stable at high levels since the introduction of QQE. This is because the upturn in the economy has improved the business conditions of borrowing firms and thereby has reduced default costs and credit costs. A decrease in default costs is desirable, but what matters is to ensure sustainable profits. That seems to be the reason why there might have been considerable concern that the flattening of the yield curve could have a negative impact on the sustainable increase in financial institutions' profits, and could decrease their future profits.

However, from a long-term perspective, financial institutions can gain profits only when they have borrowers. Firms are hoarding their surplus and not making investment mainly because the prolonged deflation has reduced their incentive to do so. When Japan's economy moves out of deflation, firms are expected to regain such incentive, and this in turn will increase demand for borrowing funds from financial institutions. That is to say, financial institutions are expected to increase their lending and their profits will eventually rise.

Furthermore, the current low interest rate environment has been brought about by the prolonged low economic growth and deflation since the bursting of the bubble in 1990. Thus, it is not necessarily the case that the Bank's current policy has caused such an environment. Looking at the saving-investment balance of the corporate sector, saving has been exceeding investment on the whole recently, and thus there is no need for firms to borrow money. This inevitably will cause a declining trend in interest rates and profit margins.⁹ After the introduction of the negative interest rate policy, however, the extent of the decline in interest rates and profit margins became larger than before. This seems to be the reason why there has been considerable concern over the effects of the negative interest rate policy on financial institutions' profits.

Chart 11 shows developments in the JGB yield curve since the Bank's introduction of quantitative easing (QE) policy. The chart indicates that, comparing the yield curve of

⁹ Yutaka Harada, "Naze Nihon no Kinri wa Hikuinoka (Why Are Interest Rates Low in Japan?)," *Keiki to Saikuru* (The business and the cycle), No.62, Japan Association of Business Cycle studies (JABC), November 2016 (forthcoming; available only in Japanese).

December 30, 2000 -- just before the introduction of QE on March 21, 2001 -- and those just after the introduction on March 21, 2001, the curve has declined on the whole, but the extent of the flattening is very marginal. Comparing interest rates for the two dates, while those on one-year JGBs declined by 0.4 percentage point, those on 20-year JGBs declined by 0.7 percentage point. However, comparing interest rates just before the introduction of QQE on December 28, 2012 and just before the enhancement of monetary easing on July 28, 2016, while those on one-year JGBs declined by 0.5 percentage point, those on 20-year JGBs declined by a wider margin of 1.6 percentage points.¹⁰

Interest rates on 20-year JGBs temporarily declined to around 0.1 percent. Many economists say that it is difficult to achieve the 2 percent price stability target. However, even they predict that the inflation rate will be around 1 percent over the medium to long term.¹¹ I think that, even if the natural rate of interest is 0 percent, interest rates on 20-year JGBs at the time had been too low. Interest rates on 20-year JGBs have gradually risen, and I consider this to be healthy growth.

Monetary Policy and Business Conditions of Financial Institutions

Of course, maintaining sound business conditions is crucial for financial institutions. What is important in conducting monetary policy is how business conditions of financial institutions affect the economy as a whole. Therefore, we must consider the overall transmission channels of monetary policy.

Monetary policy affects the economy through two channels: bank lending and asset markets. When interest rates decline, demand for loans increases, and financial institutions expand their lending accordingly. If their business conditions are not favorable, they may not be able to meet such demand, and this will suppress the monetary policy effects. However, even when business conditions of one financial institution are not favorable, the policy

¹⁰ At the MPM held on July 28 and 29, 2016, the Bank decided to conduct a comprehensive assessment of the developments in economic activity and prices under QQE and QQE with a Negative Interest Rate, as well as their policy effects, at the September MPM. Since July 29, mainly due to market speculation over a rise in the JGB yield curve, super-long-term interest rates have increased.

¹¹ See Chart 39 (2) of the July 2016 *Outlook for Economic Activity and Prices*.

effects on the economy will not be suppressed if other financial institutions can conduct lending instead. As for the channel of asset markets, the rise in stock and land prices or a depreciation of the yen can stimulate consumption and/or investment. The issue then is how large the stimulative effects that permeate through these channels could be on the overall economy.¹²

After the bubble period, it often was argued that, when financial institutions are burdened with massive nonperforming loans, this could constrain their lending and thus distort the recovery of the economy as a whole. However, many empirical analyses show that throughout the 1990s it was only at the time of the financial crisis in 1997 and 1998 when financial institutions' nonperforming loans impaired their lending and negatively affected the economy as a whole.¹³ It is unlikely that in the current situation the negative interest rate policy would affect financial institutions' business conditions and deteriorate the economy as a whole.

IV. QQE with Yield Curve Control

Based on the comprehensive assessment that I have discussed so far, the Bank announced its decision to introduce QQE with Yield Curve Control after the MPM held on September 20 and 21, 2016. The findings of the comprehensive assessment are as follows. First, QQE has brought about improvements in economic activity and prices mainly through the decline in real interest rates. Notably, it was short- and medium-term interest rates that declined. In other words, it proved that the central bank can exert a large influence on the entire yield curve. Second, the forward-looking formation mechanism is important. And third, reflecting my personal view, it is necessary to make clear possible options for the Bank's additional monetary policy measures given that markets' awareness over a limit to monetary policy -- that is, there is no room for further monetary easing -- will weaken monetary policy effects.

¹² See Frederic S. Mishkin, *The Economics of Money, Banking, and Financial Markets*, Global Edition, Tenth Edition, Pearson, 2013, Chapter 26. It explains the channels through which monetary policy effects permeate the economy, dividing them into nine including bank lending and asset prices. Channels in which financial institutions' business conditions affect the economy as a whole are limited.

¹³ See Ryuzo Miyao, "Ginkou Kinou no Teika to 90 Nendai Ikou no Defure Teitai (Deterioration in Bank's Functioning and Continued Deflation since the 1990s)" cited in Footnote 3.

With respect to the first point, in order to control both the short-term policy interest rate and the long-term interest rate, the Bank decided to continue to apply a negative interest rate of minus 0.1 percent to current accounts held by financial institutions at the Bank and to purchase JGBs so that 10-year JGB yields will remain more or less at the current level of around 0 percent. Since the Bank will conduct purchases more or less in line with the current pace, the annual pace of increase in the amount outstanding of its JGB holdings is likely to be about 80 trillion yen. As for the second point, the Bank decided to introduce an inflation-overshooting commitment. This commitment means that the Bank will continue 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. In other words, the Bank will continue the expansion even if the year-on-year rate of increase in the CPI temporarily exceeds 2 percent, as shown in Chart 12. I think it is necessary to make this commitment to the public, because at the time the Bank terminated QE in March 2006, there might have been a misunderstanding that it would terminate the policy as soon as the rate of increase in the CPI became even slightly above 0 percent.

As shown in Chart 13, the ratio of the monetary base to nominal GDP in Japan is expected to exceed 100 percent -- marking over 500 trillion yen -- in slightly over one year. At present, the ratio is about 80 percent in Japan compared with about 20 percent in the United States and the euro area. I believe that this is a strong commitment denying that there is a limit to monetary policy. Aside from the monetary base relative to nominal GDP shown in Chart 13, I think that the limit to monetary easing should be considered in terms of the monetary base, which is almost the same size as the accumulated amount of JGBs purchased by the Bank, relative to the amount outstanding of government debt. The ratio is over 30 percent in Japan and about 20 percent in the United States, the United Kingdom, and the euro area. This means that Japan remains far from reaching a limit to monetary easing policy. Regarding the third point, the Bank decided to continue monetary easing through measures such as reductions in the short-term policy interest rate and the long-term interest rate, expansion in asset purchases in terms of quality, and an acceleration of expansion of the monetary base. This is also another strong commitment denying that there is a limit to monetary policy.

Concluding Remarks

Japan -- which used to take pride in its high economic growth -- has become the country with the lowest GDP growth rate among advanced economies since 1990 while simultaneously falling into deflation. The question addressed here is whether deflation caused the stagnation in Japan's economy.

In my view, deflation was to some extent, although not completely, the cause of the stagnation in the economy. If that is the case, the economy will likely recover from the past stagnation under the current monetary policy. As far as real GDP shows, there seems to be no such recovery from stagnation to higher growth, though this might be because of the negative impact of the consumption tax hike. However, in terms of real GDP per working-age person, there appear to be signs of such recovery to some extent. Moreover, the unemployment rate has been falling consistently. Let me note here that, given that the employment situation has improved in Japan, working people will be taken care of better.

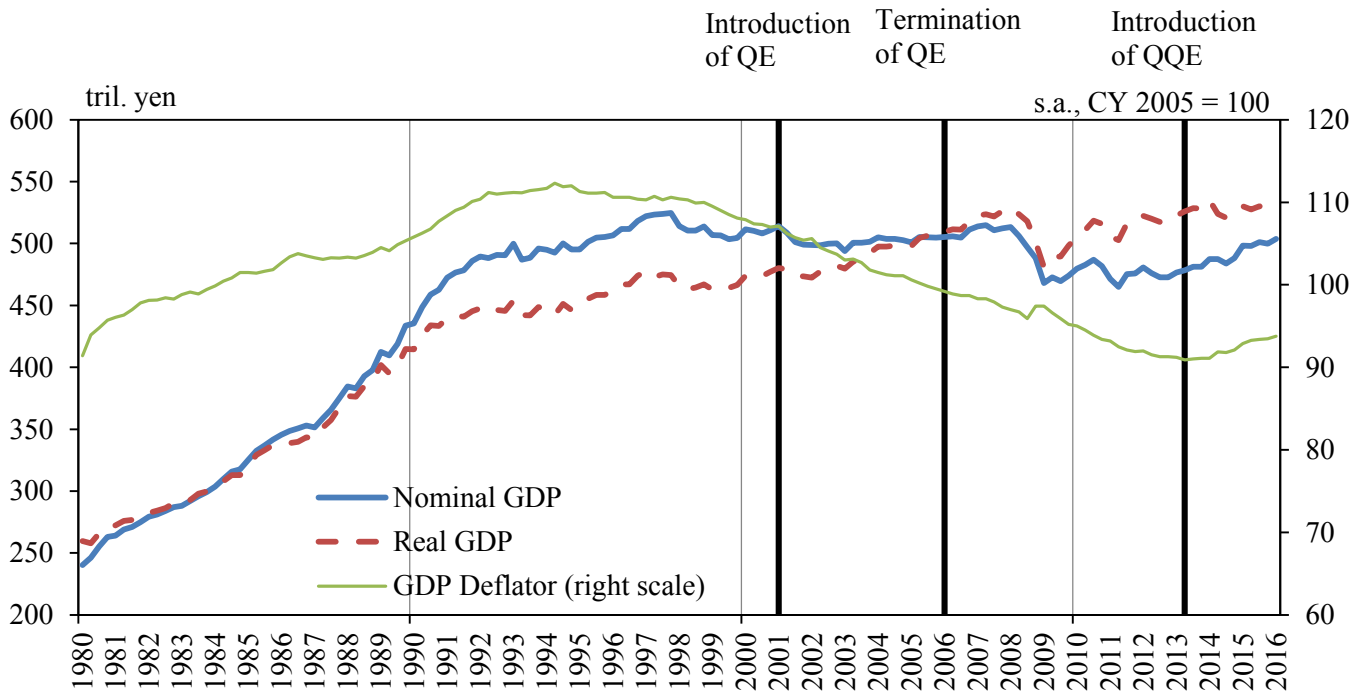
I am aware that there is opposition to the negative interest rate policy. This is because low interest rates cause the flattening of the yield curve, thereby affecting financial institutions' profits. However, what is important in conducting monetary policy is how financial institutions' business conditions affect the economy as a whole. Currently, the positive effects of this monetary policy on the economy as a whole seem to outweigh the negative ones.

Under QQE with Yield Curve Control introduced in September 2016, I believe that Japan's economy can proceed steadily toward achieving the price stability target of 2 percent. If a situation arises in which it becomes difficult to achieve the target -- for example, a significant change in the state of the global economy -- I think that the Bank should take additional easing measures without hesitation.

Thank you for your attention.

GDP and the GDP Deflator in Japan

Chart 1

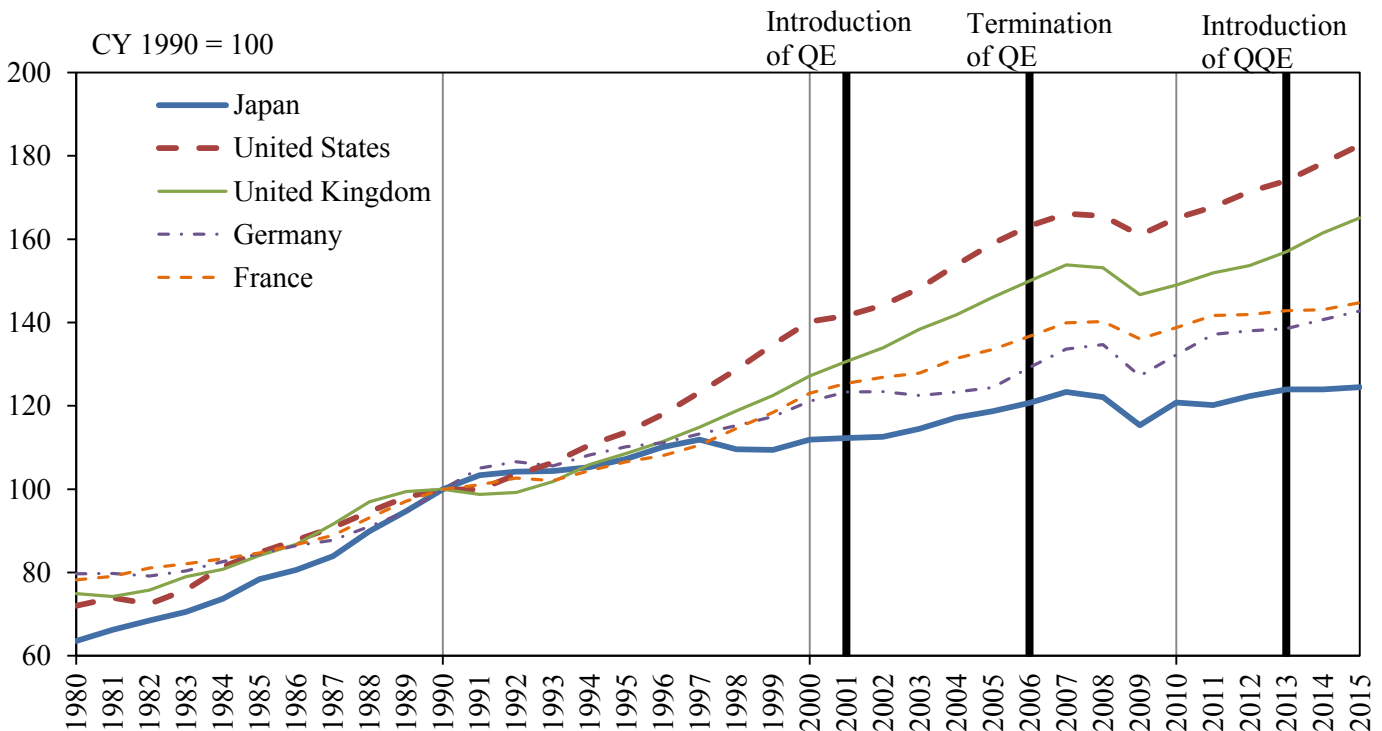


Note: The GDP deflator is adjusted for the effects of the consumption tax by deducting 1.2 percent at the tax's introduction in 1989, 0.9 percent at the first hike in 1997, and 1.2 percent at the second hike in 2014. These rates represent about 60 percent of the effects of the tax on the private consumption deflator -- the same level as those on the CPI at these times.

Source: Cabinet Office, "System of National Accounts."

Real GDP

Chart 2

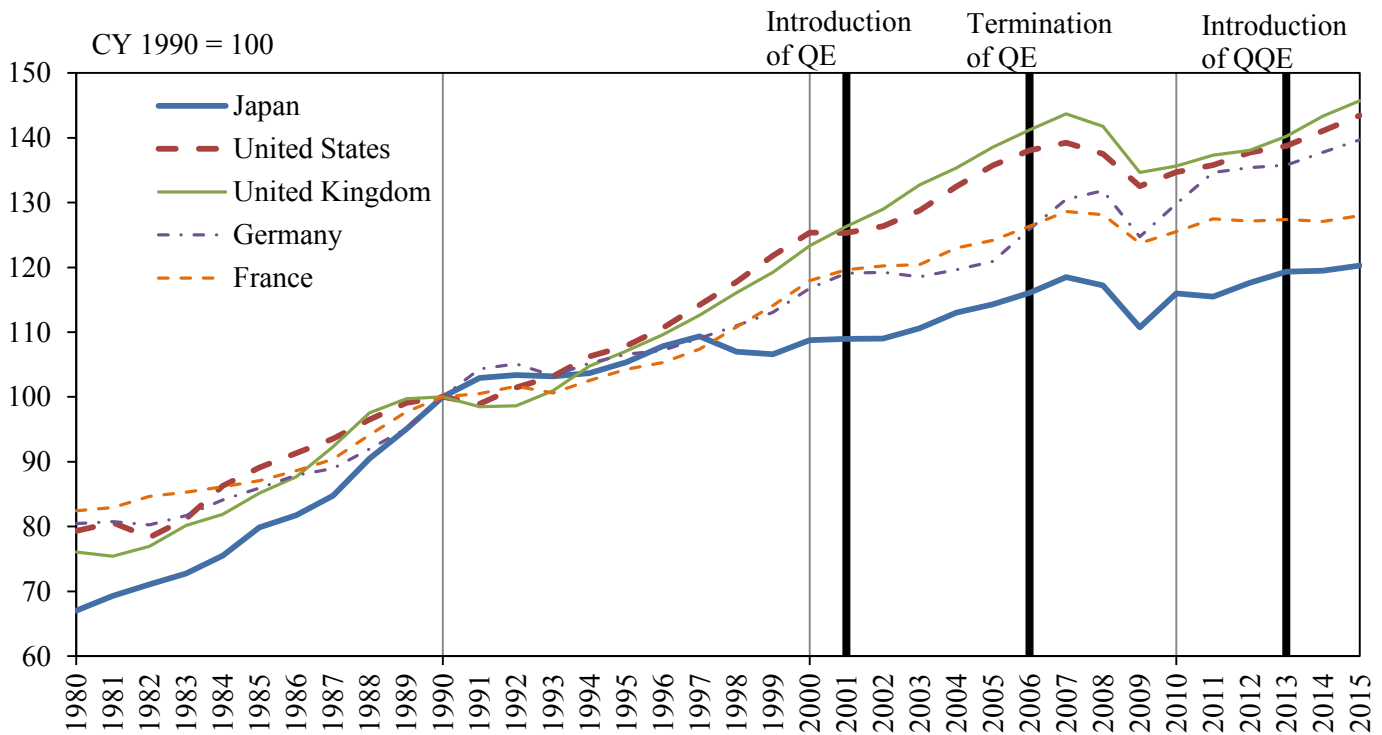


Note: Figures for Germany through 1990 are those for West Germany.

Source: IMF, "World Economic Outlook Database."

Real GDP per Capita

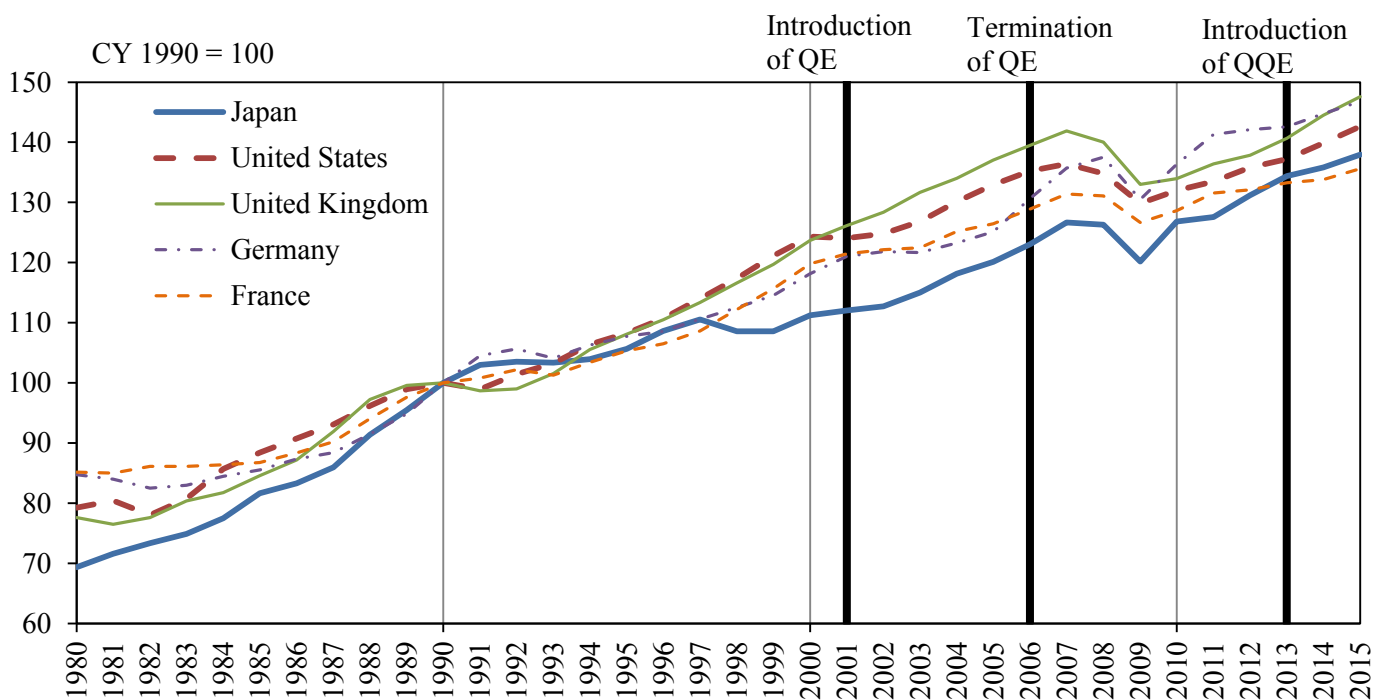
Chart 3



Note: Figures for Germany through 1990 are those for West Germany.
 Source: IMF, "World Economic Outlook Database."

Real GDP per Working-Age Person

Chart 4



Notes: 1. Annual figures for working-age population are obtained by linear interpolation of data for every five years.

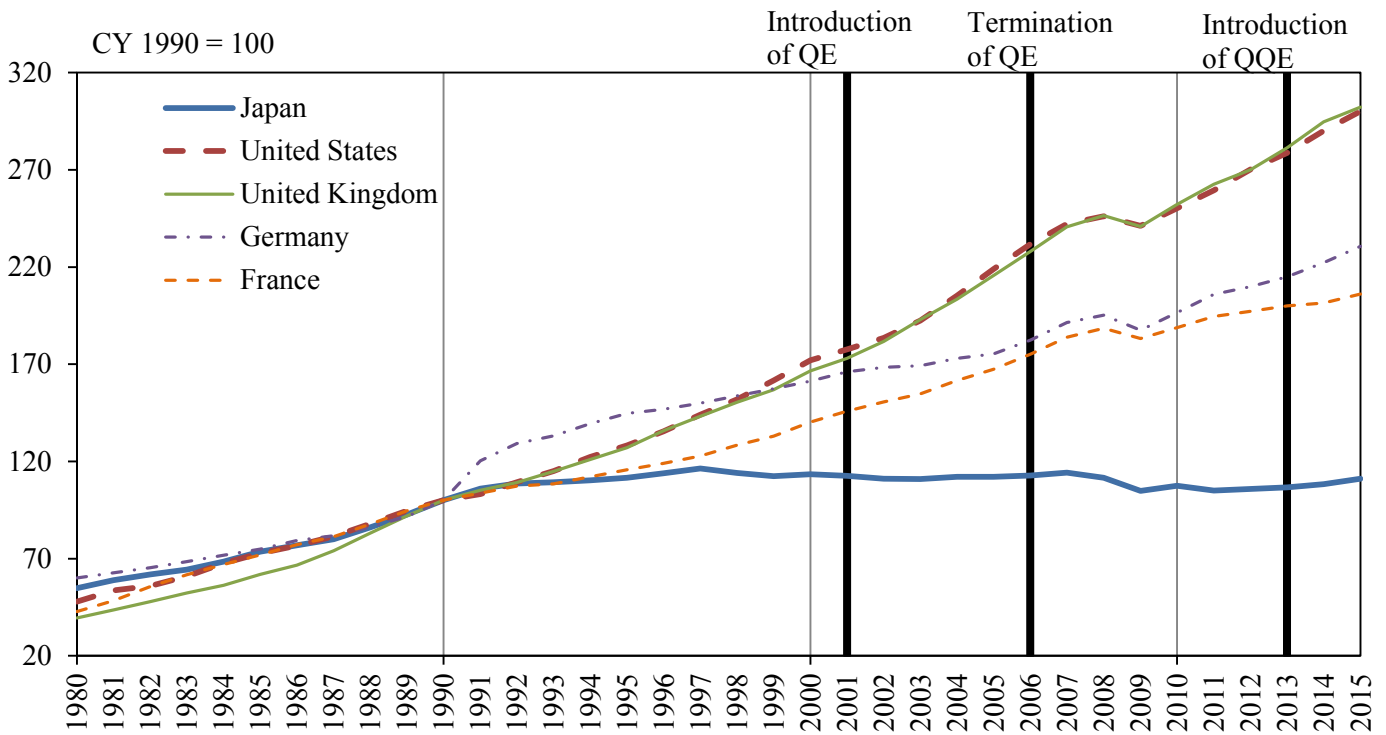
2. Figures for Germany through 1990 are those for West Germany.

Sources: IMF, "World Economic Outlook Database";

United Nations Population Division, "World Population Prospects: 2015 Revision."

Nominal GDP

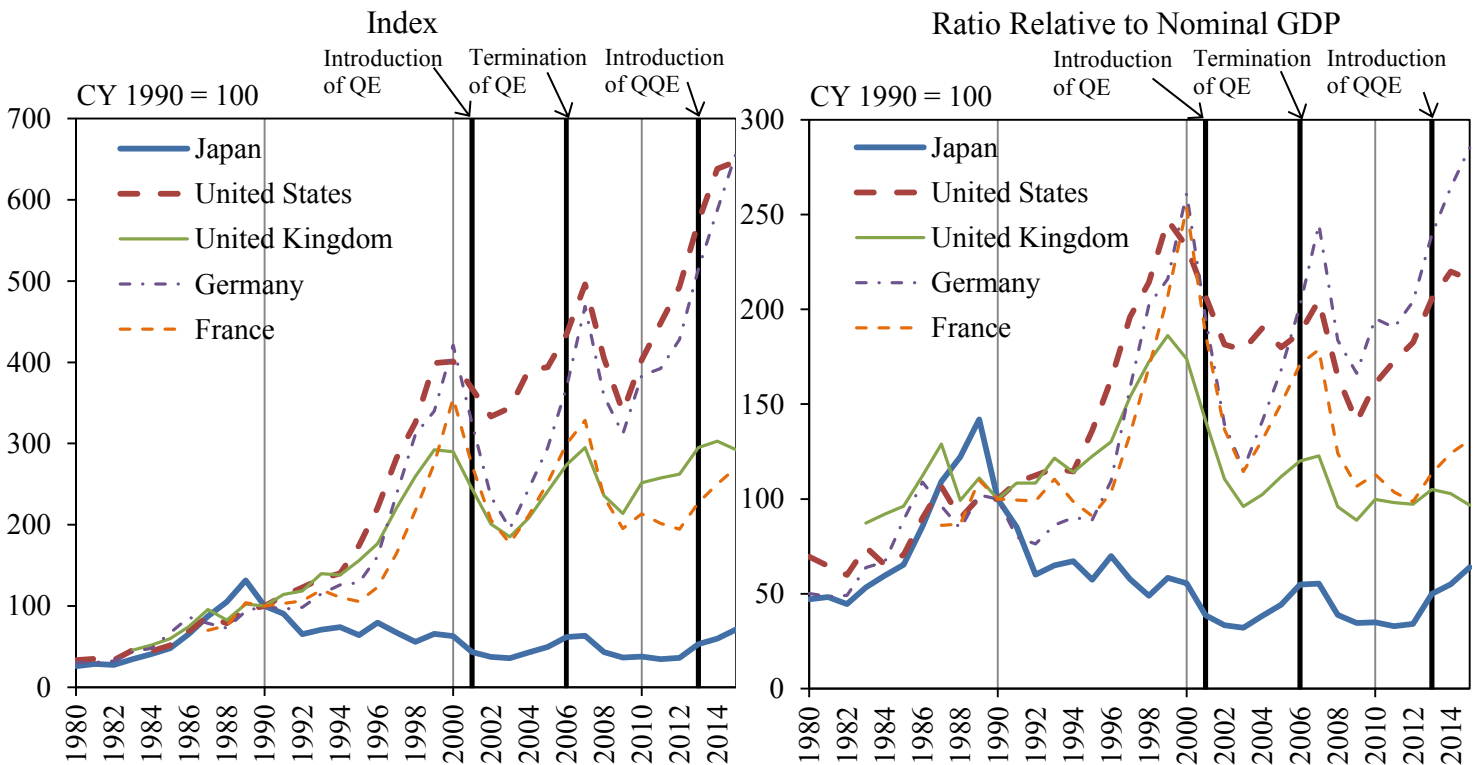
Chart 5



Note: Figures for Germany through 1990 are those for West Germany.
 Source: IMF, "World Economic Outlook Database."

Stock Prices

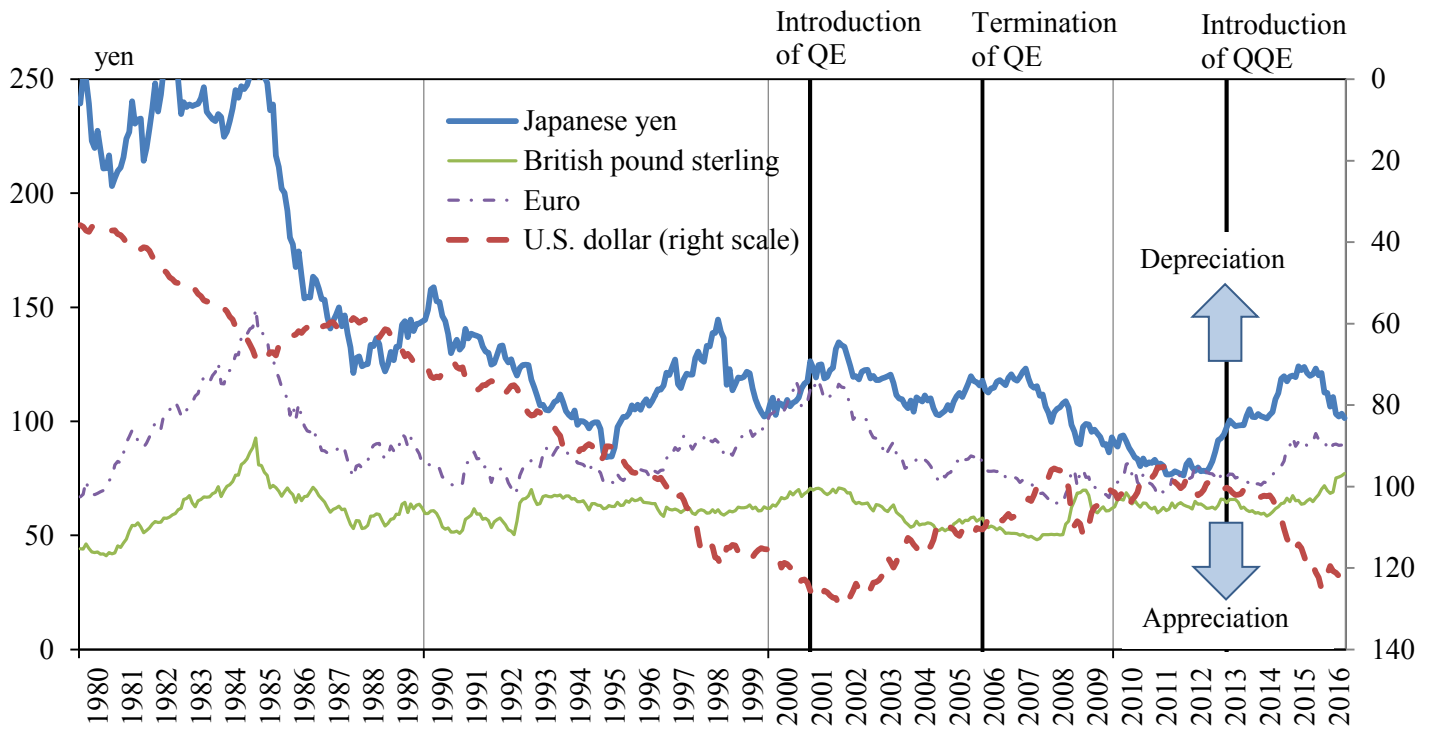
Chart 6



Note: Figures for Germany through 1990 are those for West Germany.
 Sources: Bloomberg; IMF, "World Economic Outlook Database."

Foreign Exchange Rates

Chart 7

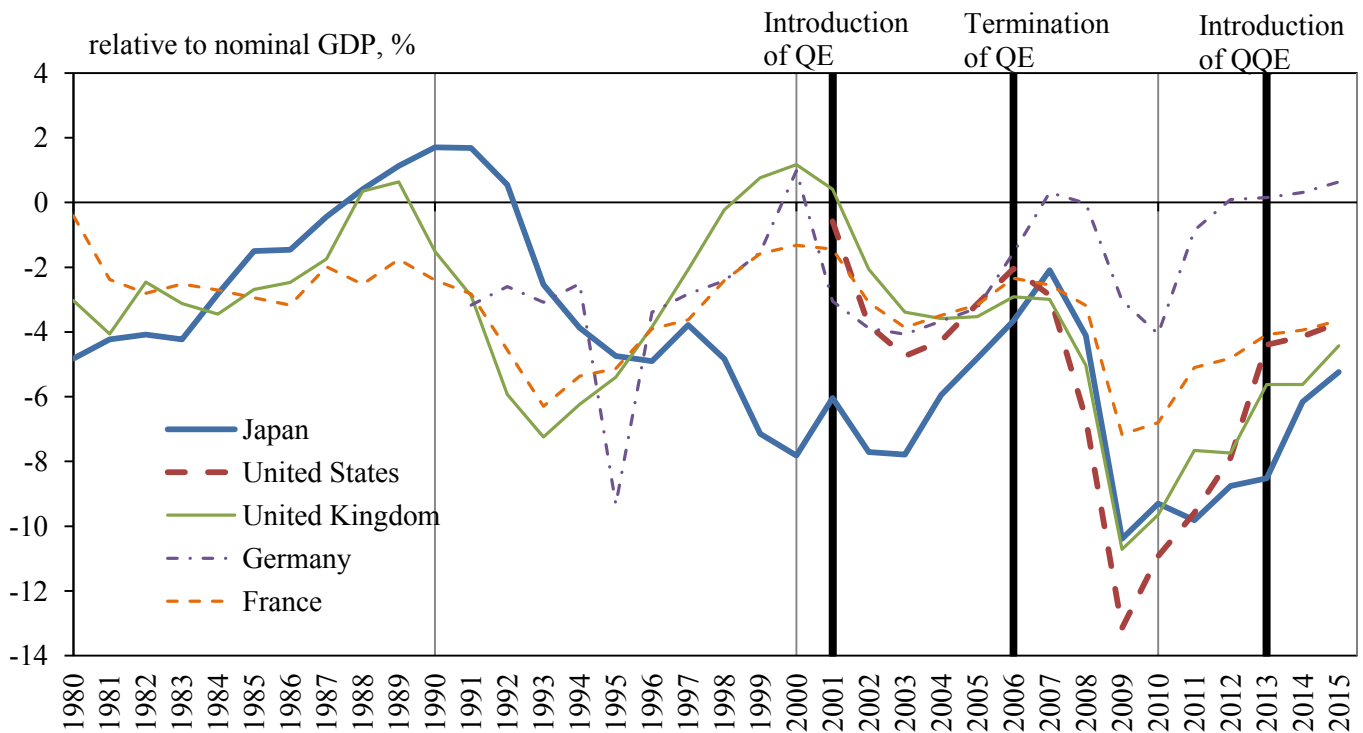


Note: The U.S. dollar indicates the nominal effective exchange rate. The British pound sterling and the euro are in 100× units.

Source: Bloomberg.

Fiscal Balances

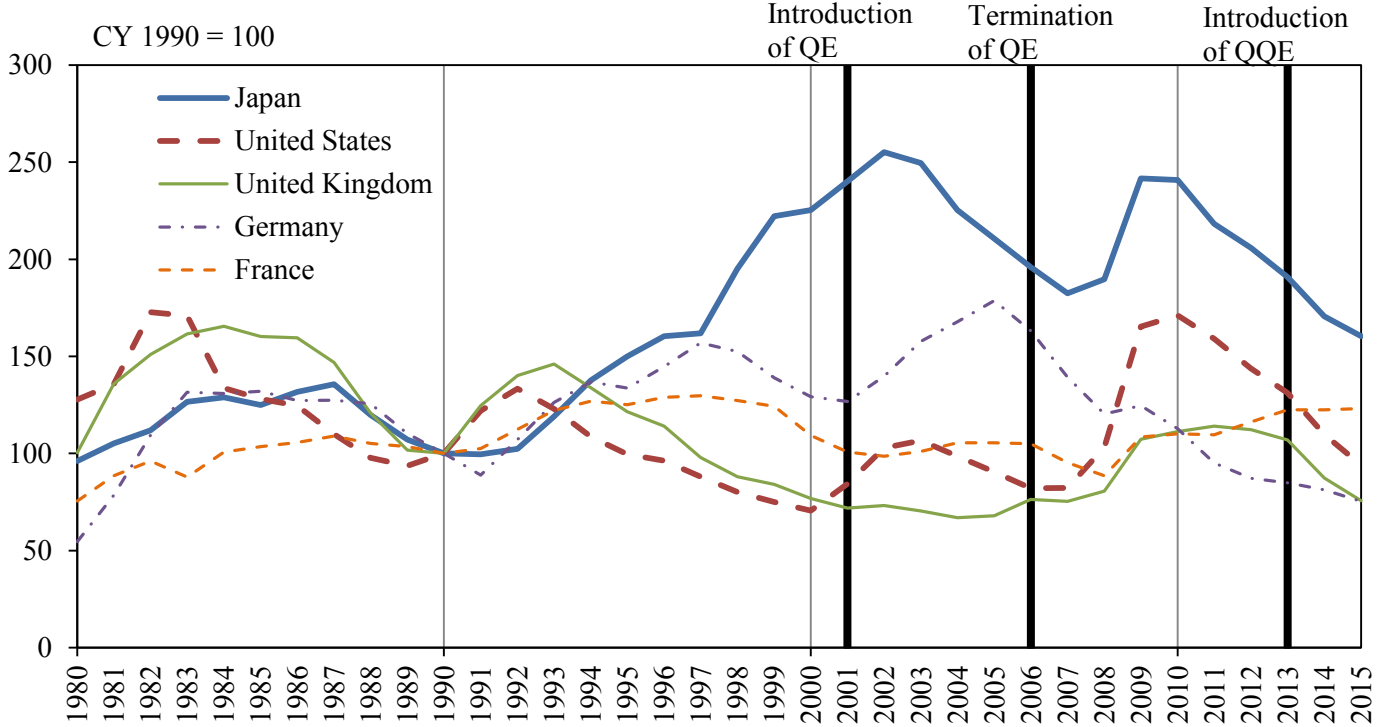
Chart 8



Source: IMF, "World Economic Outlook Database."

Unemployment Rates

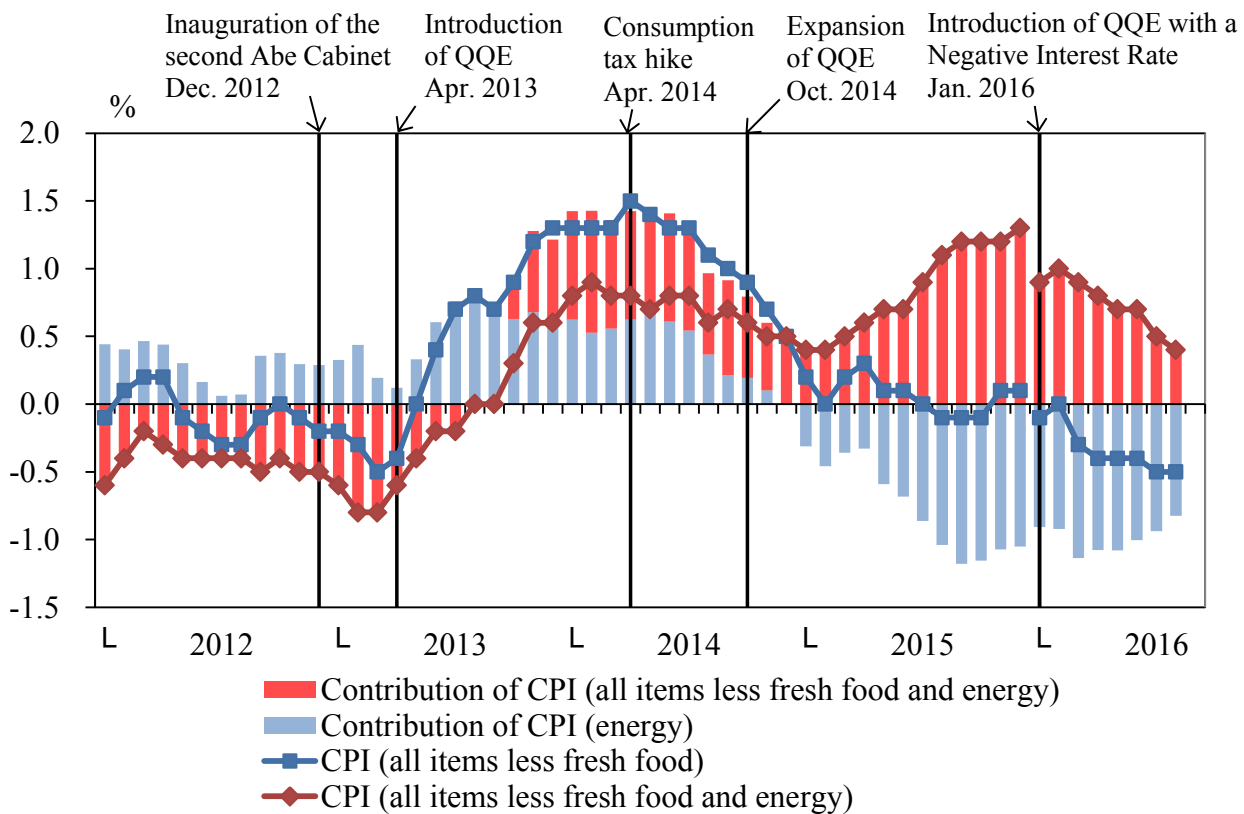
Chart 9



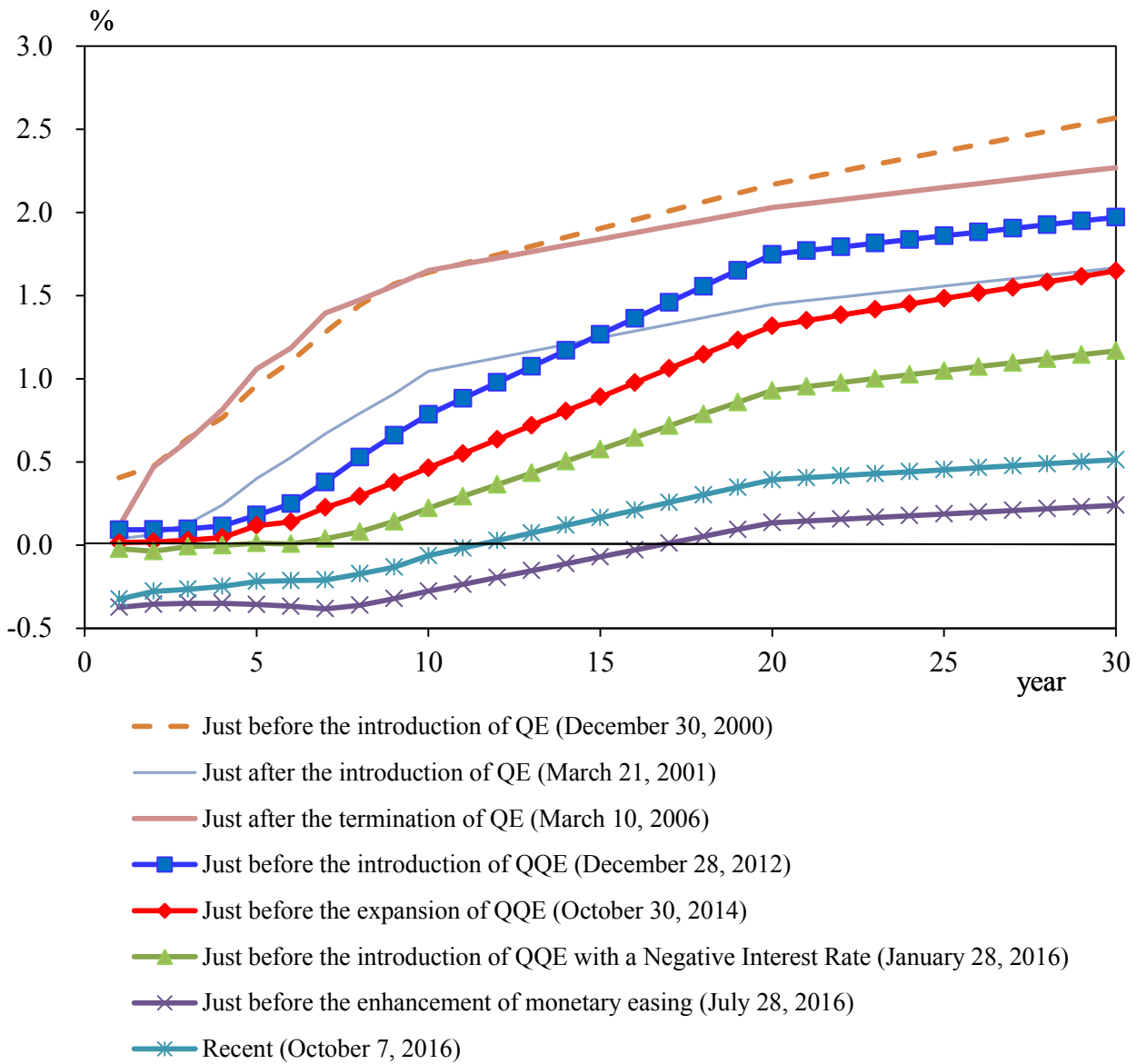
Note: Figures for Germany through 1990 are those for West Germany.
 Source: IMF, "World Economic Outlook Database."

Breakdown of the CPI (All Items Less Fresh Food)

Chart 10

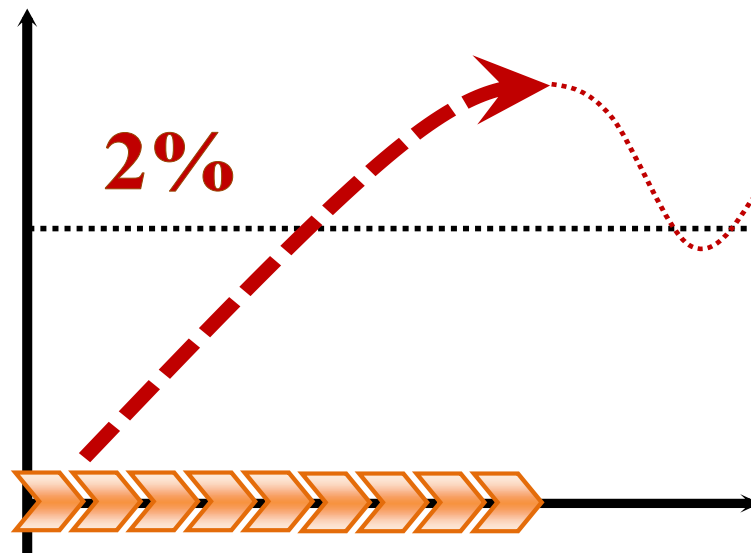


Notes: 1. Figures from January 2016 are based on 2015 standard.
 2. Figures for the CPI exclude the effects of the consumption tax hike.
 Source: Ministry of Internal Affairs and Communications, "Consumer Price Index."



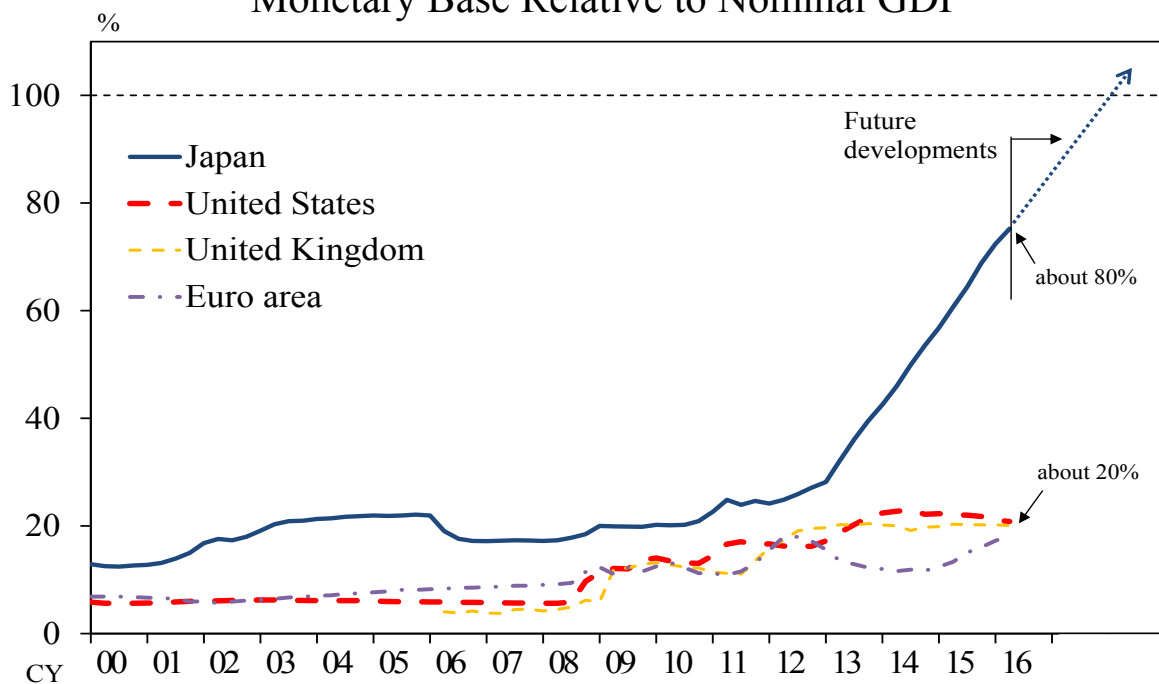
Source: Bloomberg.

Inflation rate



The Bank will continue 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.

Monetary Base Relative to Nominal GDP



The ratio of the monetary base to nominal GDP in Japan is expected to exceed **100 percent** in slightly over one year.

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

(Reference) Growth Rates in Major Economies

%

		Real GDP	Real GDP per Capita	Real GDP per Working- Age Person	Nominal GDP	Nominal GDP per Capita	Nominal GDP per Working- Age Person	Population	Working- Age Population
Japan	1980-1990	4.6	4.1	3.7	6.2	5.6	5.3	0.5	0.9
	1990-2000	1.1	0.8	1.1	1.3	1.0	1.2	0.3	0.1
	2000-2010	0.8	0.6	1.3	-0.5	-0.7	0.0	0.1	-0.5
	2010-2015	0.6	0.7	1.7	0.7	0.8	1.8	-0.1	-1.1
United States	1980-1990	3.3	2.3	2.4	7.6	6.6	6.6	1.0	1.0
	1990-2000	3.4	2.3	2.2	5.6	4.4	4.3	1.1	1.2
	2000-2010	1.6	0.7	0.6	3.8	2.9	2.8	0.9	1.0
	2010-2015	2.0	1.3	1.6	3.7	2.9	3.2	0.8	0.5
United Kingdom	1980-1990	2.9	2.8	2.6	9.8	9.6	9.4	0.2	0.4
	1990-2000	2.4	2.1	2.1	5.2	4.9	4.9	0.3	0.3
	2000-2010	1.6	1.0	0.8	4.2	3.6	3.4	0.6	0.8
	2010-2015	2.1	1.4	2.0	3.7	3.0	3.6	0.6	0.1
Germany	1980-1990	2.3	2.2	1.7	5.2	5.1	4.6	0.1	0.6
	1991-2000	1.6	1.3	1.4	3.3	3.0	3.1	0.3	0.2
	2000-2010	0.9	1.1	1.4	2.0	2.2	2.6	-0.2	-0.6
	2010-2015	1.5	1.5	1.5	3.2	3.2	3.2	0.1	0.1
France	1980-1990	2.5	2.0	1.6	8.9	8.3	7.9	0.5	0.9
	1990-2000	2.1	1.7	1.8	3.4	3.0	3.2	0.4	0.3
	2000-2010	1.2	0.6	0.7	3.0	2.4	2.5	0.6	0.5
	2010-2015	0.8	0.4	1.1	1.8	1.3	2.0	0.5	-0.2

Notes: 1. Figures are on an annualized basis.

2. Figures for Germany through 1990 are those for West Germany, and those from 1991 are for the unified Germany. Hence, the rates for 1990-2000 start from 1991 for Germany.

Sources: IMF, "World Economic Outlook Database"; United Nations Population Division, "World Population Prospects: 2015 Revision."