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Bank of Japan

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**Recent Economic and Financial Developments  
and Monetary Policy in Japan**

*Speech at a Meeting with Business Leaders in Tokushima*

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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 the political, economic, and financial communities of Tokushima Prefecture. I would like to take this opportunity to express my sincere gratitude for your cooperation with the activities of the Bank of Japan's Takamatsu Branch and Tokushima Office.

In today's speech, I will begin by focusing on recent economic and financial developments in Japan and abroad, as well as the Bank's recent monetary policy. I will then touch briefly on the economy of Tokushima Prefecture. Following my speech, I would like to hear your views on actual conditions in the local economy and on the Bank's conduct of monetary policy.

## **I. Recent Economic and Financial Developments in Japan and Abroad**

### **A. Global Financial Markets and Overseas Economies**

In 2016, the results of the U.K.'s referendum and the U.S. presidential election turned out to be different from the expectations of most market participants, leading to volatile movements in global financial markets. In particular, after the U.S. presidential election, stock prices in major countries soared partly due to expectations for fiscal stimulus measures.

Recently, the market exuberance has calmed amid cautiousness about protectionist moves. However, some of the exuberance remains, with U.S. stock prices staying at a record high level.

On the monetary policy front, in a situation where some people assume that the slack in the U.S. labor market has been considerably reduced or eliminated, the Federal Reserve has become more active in sending messages since the December FOMC meeting, indicating the possibility of accelerating the pace of interest rate hikes, depending on the contents of fiscal policy, because of concern about the economy overheating due to fiscal expansion.

Under these circumstances, among future risk factors is a change in the flow of funds in global financial markets driven by U.S. monetary policy, above all the possibility of an

outflow of funds from emerging economies. The huge pile of debts that accumulated in emerging economies during U.S. monetary easing in the past is a chronic disease that takes time to be remedied, so to speak, although it is not attracting much attention for the moment. Meanwhile, although China is heading toward stable growth led by the appearance of the effects of various economic measures, it is necessary to continue to pay attention to structural problems, including the problem of excessive domestic debts. Also, the political situation, especially in Europe, is another major risk factor for 2017, considering that it disturbed global financial markets in 2016.

### **B. Japan's Economy**

Japan's economy was in a soft patch until around the first half of 2016, reflecting the turmoil in global financial markets and the slowdown in emerging economies in that period. However, the economy turned up through the end of the year in line with the pick-up in emerging economies. Exports are picking up, led mainly by mobile phone parts and other IT-related goods as well as automobile-related goods including parts, while production is also improving in line with the progress in inventory adjustments. Consumption lacks vigor despite somewhat increasing its resilience recently. However, going forward, consumption is expected to continue increasing moderately because household and business sentiment is generally picking up against the background of the solid employment and income situation and because stock prices have stayed firm. If the effects of fiscal stimulus measures under the recent supplementary budget are taken into consideration, Japan's economy is expected to maintain the growth pace of around 1.5 percent in fiscal 2017, as it did in fiscal 2016.

Although there are many points to discuss concerning Japan's economy, here, I would like to focus on the relationship between the recent employment situation and wages in connection with the price situation, which will be discussed later. Across Japan, labor shortage is becoming serious and the employment situation is becoming increasingly tight. However, the tight employment situation in local regions is presumed to be partly due to demographic effects. For example, the active job openings-to-applicants ratio before the 2000s varied significantly by region in times of favorable economic conditions, with well-performing regions recording a steep rise in the ratio, while the ratio remained low in regions where the employment situation remained sluggish. In contrast, in the current

economic phase, the variance between well-performing and other regions has become small, as the ratio is also rising in regions where it was low. In 2016, the active job openings-to-applicants ratio surpassed 1.0 in all 47 prefectures for the first time. The rise in the ratio in local regions is presumed to be due in part to a decline in the number of job applicants caused by population migration, so it seems not quite right to simply interpret the rise as a result of improvements in the economic situation.

Looking at the active job openings-to-applicants ratio by job type, we can see that the degree of the tightness of the employment situation varies significantly. For example, the ratio was over 3.0 for nursing care-related workers and construction workers, whereas the ratio was in the range of only 0.3-0.4 for general clerical workers. The ratio is low, particularly for regular workers engaging in clerical jobs. In other words, the labor supply-demand balance is tightening with respect to nursing care-related workers -- for which wages are kept low as a policy and which are chronically in short supply -- construction workers with special skills, and truck drivers in the transportation industry, but there continues to be excess labor with respect to clerical jobs.

Although there are variances by industry, hourly wages of non-regular workers increased by about 2 percent compared with the previous year, reflecting the tight employment situation, whereas basic wages of regular workers do not rise easily, reflecting the sense of excess labor. As wages and employee income of non-regular workers are lower than those for regular workers, the rise in wages of non-regular workers is insufficient to raise the overall hourly wages and employee income at the macro level, given the composition effects. There is a broad consensus on the view that this is one reason why prices do not rise easily, as is mentioned below.

If business managers view that there is a surplus of labor with respect to regular workers engaging in clerical jobs or if wages not commensurate with the productivity level are being paid, it must be said that the hurdle for raising basic wages of regular workers, which are fixed costs for firms, is high.

This is a matter related to the situation of the labor market itself, which I will discuss later, and I believe that it is necessary to quickly forge a consensus among various quarters concerning this matter.

### **C. Prices**

The consumer price index (CPI, on a nationwide basis, all items less fresh food and energy) for December 2016 remained relatively weak, with the year-on-year rate of change marking 0.1 percent, remaining close to 0 percent. The main reason for the weakness is considered to be because households' preference for lower prices and their cost-saving tendency grew again as people's sentiment became cautious due to the market turmoil in the first half of 2016, putting a drag on consumption, and because firms' price-setting behavior accordingly grew cautious.

Recently, as people's sentiment improved due to a recovery in the market environment, consumption has somewhat increased its resilience. The underlying trend in prices is presumed to sensitively reflect the consumption trend, so I am looking forward to a change in the underlying trend in prices, which has remained weak since 2016, in the January-March quarter of 2017 at the earliest. The year-on-year increase in the CPI including energy (all items less fresh food) is expected to pick up further in line with developments in the underlying trend in prices, as the negative contribution of energy prices is likely to dissipate in the January-March quarter and gradually rise to positive territory. It is possible to expect the year-on-year growth rate to surpass 1 percent in the second half of fiscal 2017, although that depends on the assumptions of crude oil prices and exchange rates.

For the moment, market participants' outlook for prices does not appear to be so bullish. However, if the year-on-year rate of growth in the CPI rises faster than the consensus pace, the long-term interest rate, which has stayed close to 0 percent due to the Bank's Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control, may face increased upward pressure, so I would like to carefully monitor these developments.

As a result of our experiences in the four years since the introduction of QQE, we have learned that if people's medium- to long-term inflation expectations decline under prolonged deflation, it is not easy to raise them again even through unconventional monetary policy implemented on a large scale. As was pointed out in the Bank's comprehensive assessment of QQE released in September 2016, the formation of people's medium- to long-term inflation expectations in Japan is considered to be strongly influenced by the past CPI growth rates -- in other words, the formation of inflation expectations is largely adaptive.

If people's price perceptions become conservative, the frequency of price adjustments declines, and in particular, services prices, represented by administrative prices, become sticky. The reason why a vicious circle of low services prices leading to a curb on wages at service providers occurs is presumed to be that people's medium- to long-term inflation expectations, namely the norm applied to prices, become excessively conservative and difficult to change.

One necessary condition for raising inflation expectations after they have declined due to the adaptive expectations formation in an environment of sticky prices is that the observed CPI rises to some degree due to a shock either on the supply side or on the demand side. The recent pick-up in energy prices is likely to have the effect of raising inflation expectations somewhat in a situation where a change in the underlying trend in prices is expected. However, it cannot be denied that inflation expectations are influenced by the external environment at the time.

More fundamentally, I believe that it is desirable to change the wage-setting mechanism in the labor market and shift to a forward-looking expectations formation mechanism like the one observed in the United States and Europe. In other words, in wage negotiations, it is desirable to replace the existing practice of referring to the observed CPI in the past with a method of sharing between labor and management the outlook on the path of price changes over the next several years, or over the medium to long term, and to use the central bank's price target as the basis of the medium- to long-term path of price changes. To do so, it is necessary for people to have sufficient confidence in the central bank's price target and monetary policy.

## **II. Future Conduct of Monetary Policy**

### **A. QQE with Yield Curve Control**

I have been arguing that it is necessary to make patient efforts in the medium to long term in order to raise people's dampened medium- to long-term inflation expectations and overcome deflation, and that to this end, it was essential to transform the framework of the previous QQE, which was a shock therapy solution aiming for quick results, into a more flexible and sustainable one. QQE with Yield Curve Control, which was adopted in September 2016 after the comprehensive assessment, is in line with my argument, so I agree with this framework in principle. Even so, the current guideline for market operations -- to set the short-term policy interest rate of minus 0.1 percent and the target level of yields on 10-year Japanese government bonds (JGBs) at around 0 percent -- could lead to holding JGB yields in negative territory up to a maturity of ten years. In particular, there is a high probability that yields on bonds in the short- and medium-term zones with a maturity of three to five years will stay in negative territory under the current guideline. I have been voting against setting interest rate target levels because such a situation is unlikely to contribute to maintaining financial system stability, which is one of the Bank's two mandates.

However, unlike the pegging of long-term interest rates that was adopted in the United States until the 1950s, the framework of QQE with Yield Curve Control is a flexible one under which, at each Monetary Policy Meeting (MPM), the target level for the intermeeting period is determined. Under this framework, regarding the control of the long-term interest rate, the Bank's Policy Board judges what the appropriate shape of the yield curve is while taking into consideration economic activity, prices, and financial conditions at the time and the momentum of changes in the situation. However, regarding the appropriate shape of the yield curve, there is large room for interpretation in the range of the optimal policy interest rate level calculated even through the Taylor rule; currently, there is as much or more room for interpretation. Therefore, even the most advanced economics theories cannot precisely identify the shape of a yield curve at which economic activity neither accelerates nor decelerates. In addition, as the policy practice concerning the control of the long-term interest rate is not necessarily well-established at this moment, I believe that it is important to take due care, for example by avoiding surprises to the market through close

communication before conducting market operations although the timing and degree of the control is of course a matter to be decided by the Policy Board.

Under the above-mentioned thinking, my view on the policy reaction function concerning the control of the long-term interest rate is as follows: if the Policy Board assesses that economic activity and prices are changing for the better and that market conditions are changing in response to or in anticipation of the improvement, it is appropriate to flexibly adjust the interest rate level in the guideline so that the guideline would reflect market movements. For example, if this policy works well, resulting in higher inflation expectations, it is natural to think that nominal interest rates will come under upward pressure because of awareness about inflation risk premiums. In that case, from my viewpoint, it is uncertain whether the Bank can continue to keep nominal interest rates at around 0 percent through conventional JGB purchases. Even if the Bank can do so, such operation would be undesirable because it could build up financial imbalances when the rates are kept there for too long. Furthermore, although unrestricted fixed-rate purchases may be effective in controlling the market in the short term, I am concerned that the implementation of this sort of operation could undermine dialogue with market participants by constraining subsequent policy management because such purchases will send quite a strong message of commitment by the central bank to a specific interest rate level. In this respect, I understand that fixed-rate purchases are nothing more than an emergency tool. I believe that flexibly and moderately adjusting the targets in accordance with market conditions is prudent policy management even if this approach may be considered behind the curve.

In my view, the yield curve that would be most appropriate for achieving favorable conditions in economic activity and prices should be a little steeper. If the yield curve becomes excessively flat and expectations of a continued interest rate decline become predominant, firms and households increasingly tend to defer procurement of funds, which in turn leads to postponement of investment and consumption -- in other words, demand is prone to be deferred. In this respect, a slightly steeper yield curve is rather beneficial for stimulating sound economic activity and is also likely to contribute to enhancing the sustainability of the social security system, thereby stabilizing people's sentiment. As for the



negative impact of steepening, I presume that it barely dampens business fixed investment at the macro level because economic entities other than the government that procure funds in the very long term -- a period of 20 to 30 years -- are limited to firms whose cash flow is abundant and stable from the outset.

### **B. A Shift from Targeting the Monetary Base to Targeting Interest Rates**

One of the key points of the policy shift from QQE with a Negative Interest Rate to QQE with Yield Curve Control is that the operating target for money market operations changed from the monetary base to interest rates, a traditional target. In this respect, the guideline for the Bank's annual JGB purchases of about 80 trillion yen, which was the pillar of the initiative to increase its monetary base, has become an approximate guideline that is not strongly binding for the guideline for money market operations. Consequently, I believe that the purchasing of treasury discount bills, which has been conducted as a complementary measure in preparation for the possibility of failing to reach the monetary base target through purchases of JGBs, is essentially unnecessary. I consider it desirable to further reduce the amount outstanding of holdings of treasury discount bills while paying close attention to the impact on the money market.

Even so, it is necessary to continue purchasing a certain amount of JGBs as a precondition for long-term interest rate control regardless of whether or not the annual purchase amount should be about 80 trillion yen. As for the impact of continued purchases of JGBs on the long-term interest rate, it is natural to think that the long-term interest rate will come under downward pressure due to the stock effects as JGBs are accumulated on the central bank's asset side. Theoretically, it is impossible to set targets in terms of quantity and interest rates at the same time, and the actual policy framework is not intended to do so. Therefore, if the long-term interest rate target of around 0 percent is maintained for a certain period of time, it is also natural to think that the purchase amount of JGBs will gradually decrease.

In that case, the relationship between the decrease and the approximate guideline for purchasing JGBs totaling about 80 trillion yen per year may become an issue. However, I believe that monetary policy should not be bound by that figure, which is merely an approximate guideline. The prospect that the JGB purchase amount necessary and sufficient

to keep the long-term interest rate at around 0 percent will gradually start to decrease in theory could become an important factor that will promote smooth normalization of monetary policy if we are to consider in the relatively long term what the ideal exit from the unconventional monetary policy should be like after deflation is overcome.

### **C. Relationship with Fiscal and Structural Policies**

Since the recognition of the need to utilize all available measures, including not only monetary but also fiscal policy measures, was shared at the Group of Twenty (G-20) meeting in Shanghai in February 2016, the roles of expansionary fiscal policy and monetary policy supporting it have been discussed in various quarters. "Helicopter money," which calls for fiscal expansion using permanent fiscal finance provided by the central bank, is an extreme example. In addition, the Fiscal Theory of the Price Level (FTPL), which has a more robust theoretical framework, has regained attention in Japan since the Jackson Hole conference in August 2016.

The definition of helicopter money differs depending on who is discussing it. In Japan, the central bank is prohibited from engaging in direct financing of fiscal deficits in the first place. Meanwhile, the underwriting of zero-coupon perpetual government bonds by the central bank, which is often mentioned by supporters of helicopter money, is unrealistic even if legal problems are resolved, because the idea of capitalizing something that has no or little economic value is not practical.

Concerning the FTPL, even if government debts are assumed to be financed in the future by inflation that will be triggered by fiscal expansion, it is difficult to use it as the basis of macroeconomic forecasts for the purpose of policy formulation because empirical research on this topic is still insufficient. While economic policy is implemented based on a critical decision that takes account of more than just economic gains and losses for various economic entities, it is difficult to obtain the consent of stakeholders based on an economic model which considers future inflation to be inevitable but cannot predict when it will occur. Actual policy management cannot help being prudent because macroeconomic policy is managed under various constraints -- constraints in terms of legal, accounting, and practical

affairs, as well as the need for parliamentary consent -- and because policy authorities need to be strongly conscious of these constraints.

Because of the limitations of the unconventional monetary policy, fiscal expansion is refocused in the political and academic worlds. My understanding is that this situation occurred because in Japan's case, it has been difficult to feel the benefits of economic recovery despite powerful monetary easing measures implemented on an unprecedented scale. In Europe's case, this was a reaction to the excessive rise in expectations for monetary policy after awareness about the limitations of fiscal policy grew due mainly to the sovereign debt crisis. In particular, the fact that the global financial crisis that broke out in 2008 was overcome through various unconventional measures has led to misunderstanding that monetary policy is the "only game in town." In that respect, the recent spread of expectations for fiscal measures reminds me of this lesson: "History repeats itself."

In any case, I feel sympathy with the fact that an orthodox strategy of strengthening growth potential through structural policy while buying time by providing cyclical support for the economy through collaboration of fiscal and monetary policies has started to gain some support not only in Japan but globally, because the strategy has something in common with the concept of the "three-arrows" strategy that was launched soon after the inauguration of the Abe administration.

Under these circumstances, the central bank's role is ultimately generating the maximum effects of the fiscal and structural policies by maintaining accommodative financial conditions. Within the scope of this role, the Bank is conducting unprecedented monetary policy, namely, controlling the yield curve. The prerequisite for the control of the long-term interest rate is that the credibility of the JGB market is maintained through the government's efforts toward establishing a sustainable fiscal structure. If fiscal discipline weakens as a result of the Bank guiding the long-term interest rate to around 0 percent, it is possible that the credibility of fiscal management will be undermined and that the Bank will inevitably increase JGB purchases further in order to control the long-term interest rate. In addition, if the long-term interest rate rises due to a decline in the credibility of fiscal management, it is uncertain whether an increase in risk premiums can be contained through the Bank's JGB

purchases. In this situation, I believe that it is necessary to keep in mind the risk that this policy could lead to fiscal dominance, depending on the fiscal policy stance.

While a substantial portion of newly issued JGBs are purchased by the Bank, I would like to reiterate that the JGB purchases are conducted from the perspective of overcoming deflation and achieving the price stability target, not for the purpose of financing fiscal deficits.

### **Concluding Remarks: Economic Activity in Tokushima Prefecture**

My concluding remarks will touch on the economy of Tokushima Prefecture.

Tokushima Prefecture, facing the Seto Inland Sea and the Pacific Ocean, is blessed with rich natural resources, including mountains, which occupy around 80 percent of its land, small and large rivers, including Yoshino River, and the Naruto whirlpools, as well as historical and cultural heritage items, including the Awa dance and the Shikoku 88 Temples. Looking at the industrial structure of this prefecture, which prospered in the past thanks to its *aizome* (indigo dye) industry and salt industry, we see that the manufacturing industry, mainly chemicals and electrical machinery, has a particularly large share. In addition, the share of the primary industry is relatively large compared with the national average. In agriculture, Tokushima Prefecture has the largest share of production in Japan concerning many items because of its geographical advantage -- proximity to the cities of Kyoto, Osaka, and Kobe. It is also rich in tourism resources. The annual Awa dance festival held in August is a major summer festival in Japan that attracts more than 1 million people.

Tokushima Prefecture's economy has recently continued to recover at a moderate pace. Although growth momentum in business fixed investment has come to a pause, investment has stayed at a relatively high level. Private consumption has continued to pick up, while housing investment is also picking up, albeit with fluctuations, and is at a high level. Public investment has been more or less flat. Production is moderately picking up albeit with fluctuations and has stayed at a high level.

However, Tokushima Prefecture is also facing challenges of a population decline and an aging society. In this situation, the following has gained attention: the presence of satellite

offices of IT firms taking advantage of the prefecture's superior broadband environment, which is one of the best in Japan; initiatives as seen in "Happa Business," which is led mainly by elderly people; and renewal of communities using the scenic views of unexplored sites and traditional Japanese-style houses. Moreover, Tokushima Prefecture as a whole has recently been conducting initiatives bolder than before, including the "Vs. Tokyo 'Comeback to Tokushima' Comprehensive Strategy," which has been formulated by the local government. In relation to the manufacturing industry, Tokushima Prefecture has continued to actively invite and support LED-relating firms, with the number of such firms operating in the prefecture already exceeding 100. Regarding urban area revitalization initiatives, Tokushima Marche is held every month as an event to sell unique agricultural products and processed products, attracting many visitors. Also, I hear that the Tokushima LED Art Festival, which was held in December 2016, was successful, drawing more visitors than at the previous time. In terms of tourism, the Otsuka Museum of Art and Iya-no Kazura Bashi suspension bridge are attracting an increasing number of tourists from outside the prefecture, including foreign tourists.

I hope that these wide-ranging initiatives will bring successful results and further invigorate the economy of Tokushima Prefecture.



# Recent Economic and Financial Developments and Monetary Policy in Japan

*Speech at a Meeting with Business Leaders in Tokushima*

March 1, 2017

Takehiro Sato  
Bank of Japan

## Global Economy

(1) IMF Projections (as of January 2017)

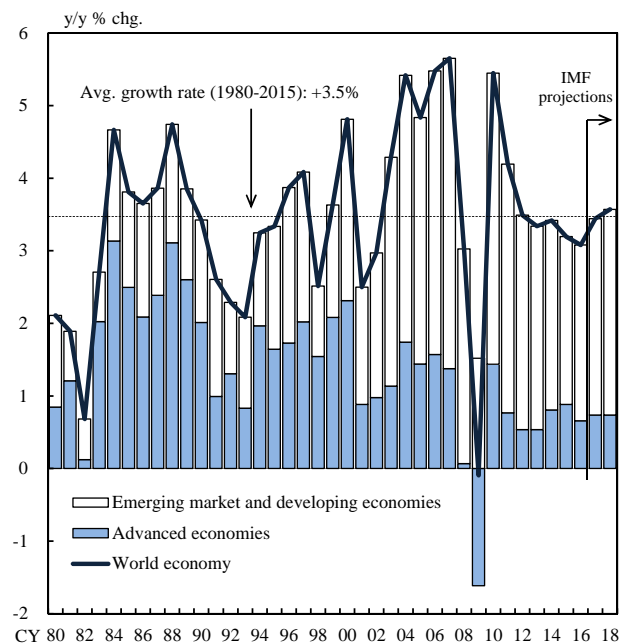
CY	real GDP growth rate, y/y % chg.			
	2015	2016 estimates	2017 projection	2018 projection
World	3.2	3.1	3.4 (0.0)	3.6 (0.0)
Advanced economies	2.1	1.6	1.9 (0.1)	2.0 (0.2)
United States	2.6	1.6	2.3 (0.1)	2.5 (0.4)
Euro area	2.0	1.7	1.6 (0.1)	1.6 (0.0)
United Kingdom	2.2	2.0	1.5 (0.4)	1.4 (-0.3)
Japan	1.2	0.9	0.8 (0.2)	0.5 (0.0)
Emerging market and developing economies	4.1	4.1	4.5 (-0.1)	4.8 (0.0)
Emerging and developing Asia	6.7	6.3	6.4 (0.1)	6.3 (0.0)
China	6.9	6.7	6.5 (0.3)	6.0 (0.0)
ASEAN	4.8	4.8	4.9 (-0.2)	5.2 (0.0)
Russia	-3.7	-0.6	1.1 (0.0)	1.2 (0.0)
Latin America and the Caribbean	0.1	-0.7	1.2 (-0.4)	2.1 (-0.1)

Notes: 1. Figures are calculated using GDP based on purchasing power parity (PPP) shares of the world total from the International Monetary Fund.

2. Figures in parentheses are the difference from the October 2016 *World Economic Outlook* projections.

Source: International Monetary Fund.

(2) Real GDP Growth Rate of the World Economy



Note: As of October 2016.

Source: International Monetary Fund.

# "Outlook for Economic Activity and Prices" (January 2017)

## Forecasts of the Majority of Policy Board Members

	y/y % chg.	
	Real GDP	CPI (all items less fresh food)
Fiscal 2016	+1.2 to +1.5 [+1.4]	-0.2 to -0.1 [-0.2]
Forecasts made in October 2016	+0.8 to +1.0 [+1.0]	-0.3 to -0.1 [-0.1]
Fiscal 2017	+1.3 to +1.6 [+1.5]	+0.8 to +1.6 [+1.5]
Forecasts made in October 2016	+1.0 to +1.5 [+1.3]	+0.6 to +1.6 [+1.5]
Fiscal 2018	+1.0 to +1.2 [+1.1]	+0.9 to +1.9 [+1.7]
Forecasts made in October 2016	+0.8 to +1.0 [+0.9]	+0.9 to +1.9 [+1.7]

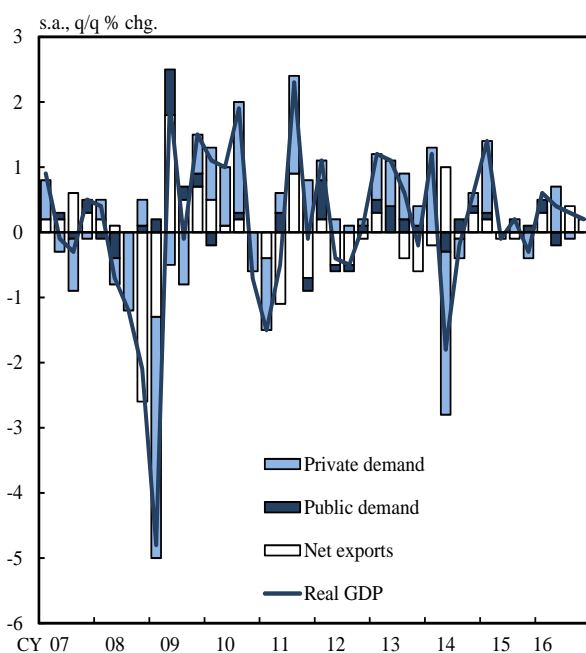
Notes: 1. Figures in brackets indicate the median of the Policy Board members' forecasts (point estimates).

2. The contribution of energy items to the year-on-year rate of change in the CPI (all items less fresh food) is estimated to be approximately minus 0.6 percentage point for fiscal 2016 and reach around 0 percentage point in early 2017, becoming slightly positive thereafter.

Source: Bank of Japan.

2

## Japan's Economy: Real GDP



Source: Cabinet Office.

		s.a., q/q % chg.											
		2014			2015				2016				
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Real GDP	a	-1.8	-0.2	0.6	1.4	-0.1	0.2	-0.3	0.6	0.4	0.3	0.2	
Inventories	b	1.0	-0.4	-0.2	0.6	0.4	-0.2	-0.1	-0.2	0.2	-0.3	-0.1	
Imports	c	0.8	-0.3	-0.2	-0.1	0.5	-0.5	0.1	0.2	0.2	0.0	-0.2	
Final demand	d = a - b - c	-3.6	0.5	1.0	0.9	-1.0	0.9	-0.3	0.6	0.0	0.6	0.5	
Real GDP	e	-1.8	-0.2	0.6	1.4	-0.1	0.2	-0.3	0.6	0.4	0.3	0.2	
Trading gains/losses	f	0.2	0.1	0.3	0.8	0.1	0.3	0.1	0.5	0.2	-0.1	-0.2	
Real GDI	g = e + f	-1.6	-0.1	0.9	2.2	0.0	0.5	-0.2	1.1	0.6	0.2	0.1	
Income from/to the rest of the world	h	0.1	0.3	0.4	-0.4	0.3	0.0	0.1	-0.3	-0.3	-0.1	-0.1	
Real GNI	i = g + h	-1.4	0.2	1.3	1.7	0.3	0.5	-0.1	0.7	0.3	0.1	0.0	

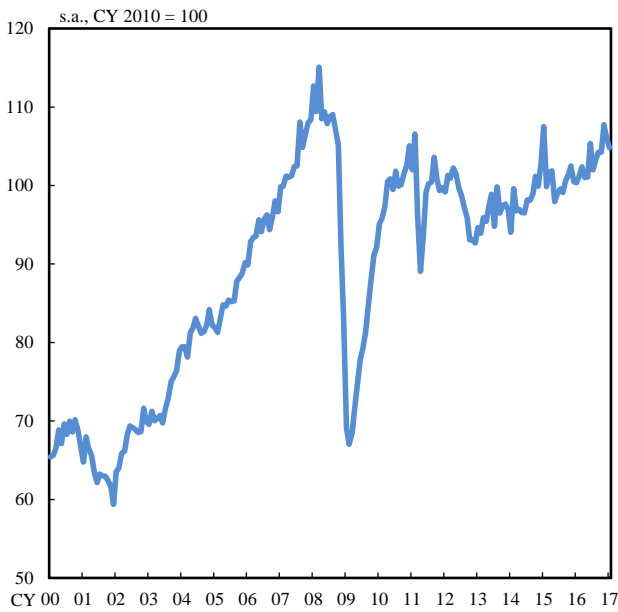
  

		y/y % chg.											
Real GDP		-0.3	-1.1	-0.3	-0.1	1.8	2.1	1.1	0.3	0.9	1.1	1.7	
Real GDI		-0.5	-1.3	-0.1	1.4	3.1	3.7	2.4	1.5	2.0	1.8	2.0	
Real GNI		-0.9	-0.8	0.6	1.9	3.6	3.9	2.3	1.4	1.3	1.1	1.2	

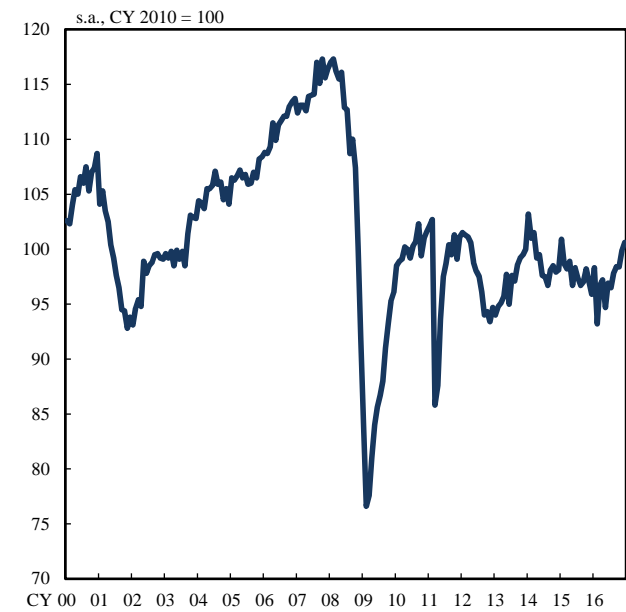
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# Exports and Production

(1) Real Exports

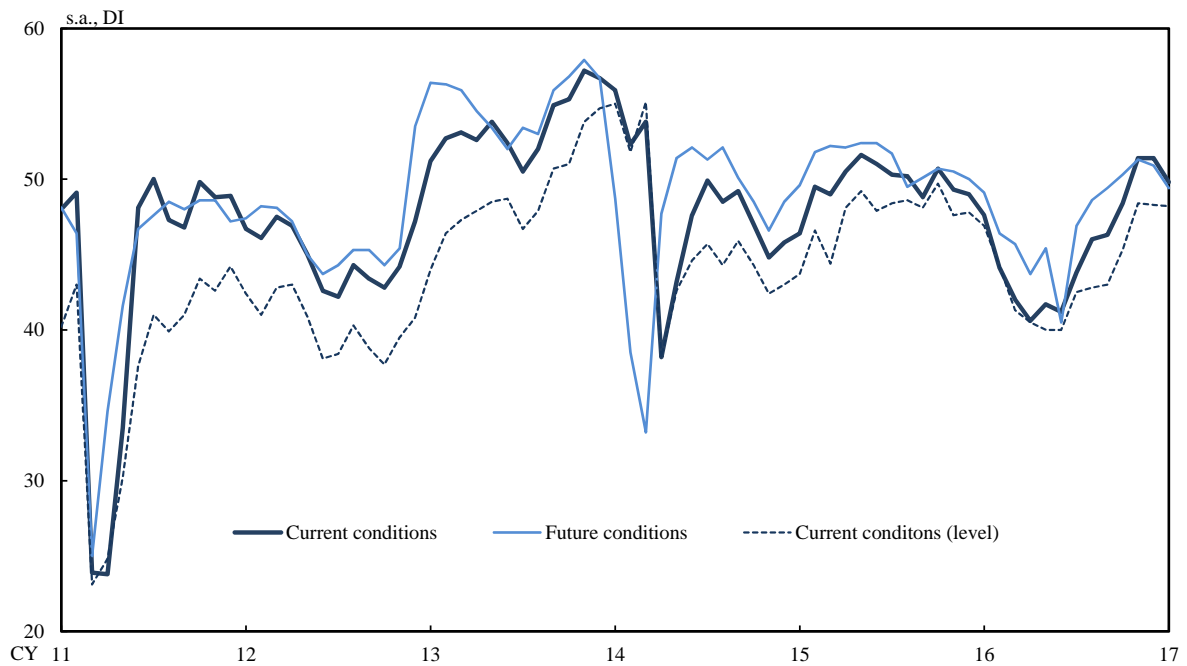


(2) Industrial Production



Sources: Ministry of Finance; Bank of Japan; Ministry of Economy, Trade and Industry.

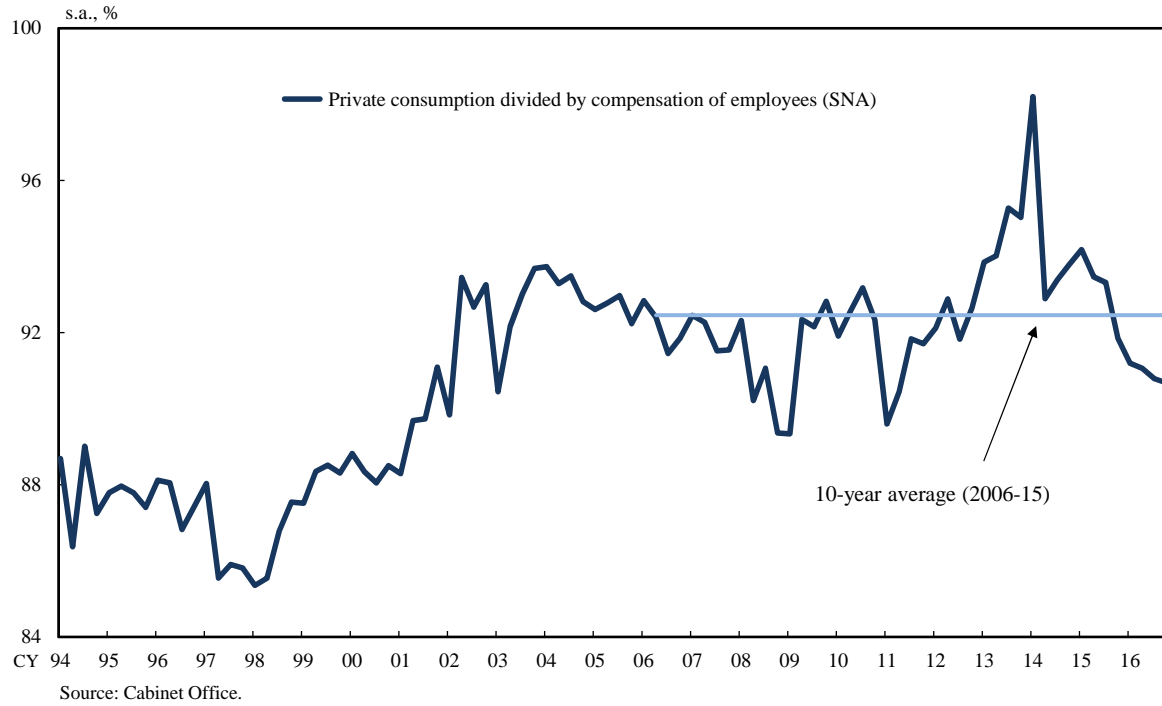
# Economy Watchers Survey



Source: Cabinet Office.

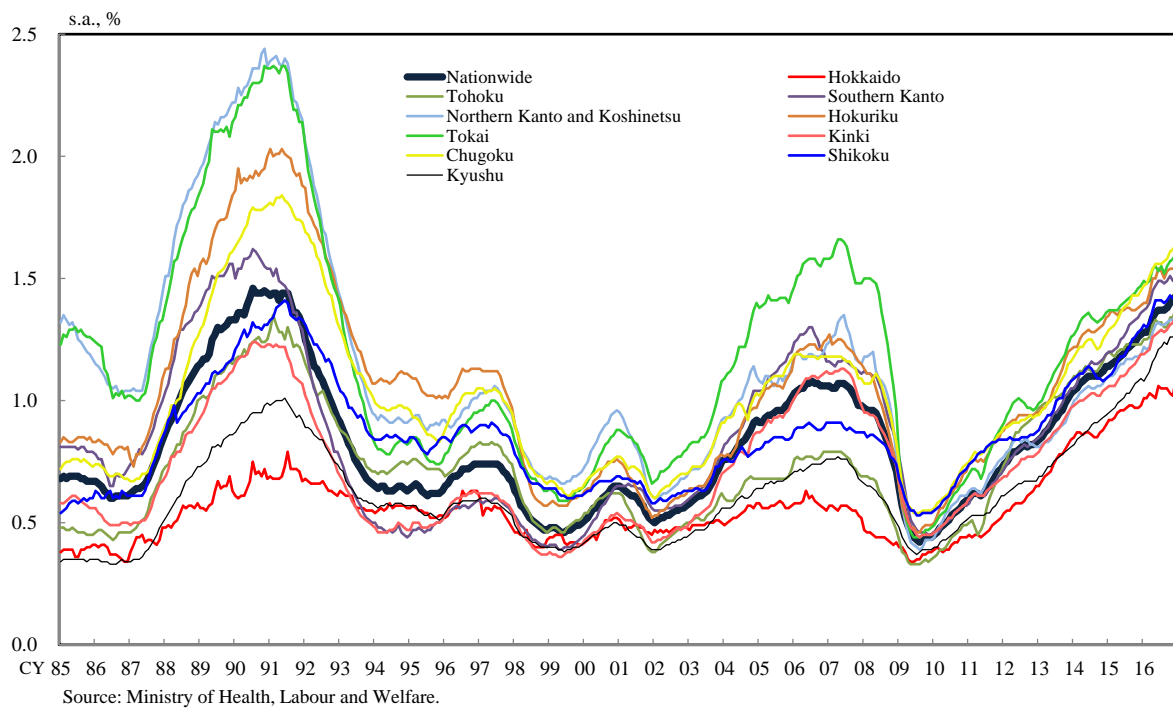


# Propensity to Consume on Compensation of Employees Basis



6

# Active Job Openings-to-Applicants Ratio by Region



7

# Active Job Openings-to-Applicants Ratio by Job Type

times, 10 thousand people

	Active job openings-to-applicants ratio			[reference]
	(including part-time employees)	Effective job offers	Effective job seekers	Active job openings-to-applicants ratio (excluding part-time employees)
Clerical	0.42	20	47	0.38
General clerical	0.33	13	40	0.29
Service	3.28	57	17	2.67
Professional and engineering	2.20	45	20	2.19
Sales	1.92	27	14	1.67
Manufacturing process	1.48	21	14	1.40
Transport and machine operation	2.21	11	5	2.14
Construction and mining	3.84	9	2	4.03
Carrying, cleaning, packaging and related	0.73	20	27	0.49
Total (including others)	1.36	220	162	1.27
Nursing care-related	3.60	26	7	2.97

Notes: 1. Figures are those for regular workers that refer to either work without a fixed employment term or work with a fixed term of more than four months (excluding seasonal work). They are as of December 2016, and not seasonally adjusted.

2. "Nursing care-related" consists of "Welfare facility guidance professionals," "Other social welfare specialist professionals," "Housekeepers, home helpers," and "Care service workers."

Source: Ministry of Health, Labour and Welfare.

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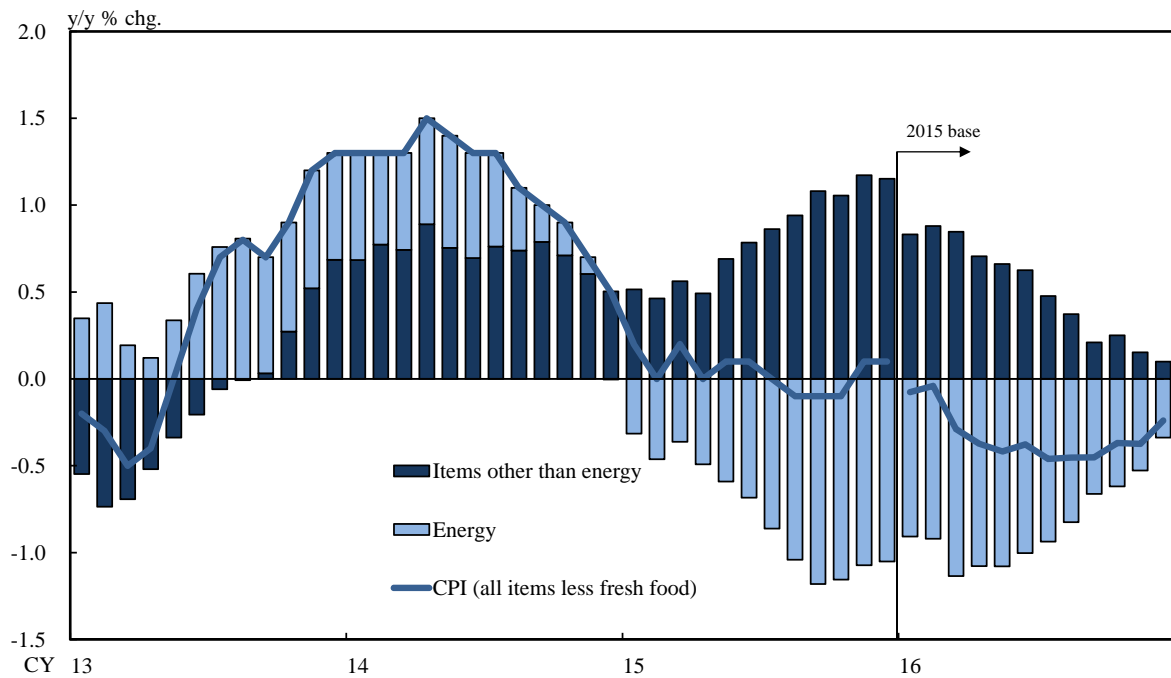
# Consumer Prices



Note: Figures from April 2014 onward are estimated by adjusting the direct effects of the consumption tax hike.  
Source: Ministry of Internal Affairs and Communications.

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## Consumer Prices (Continued)

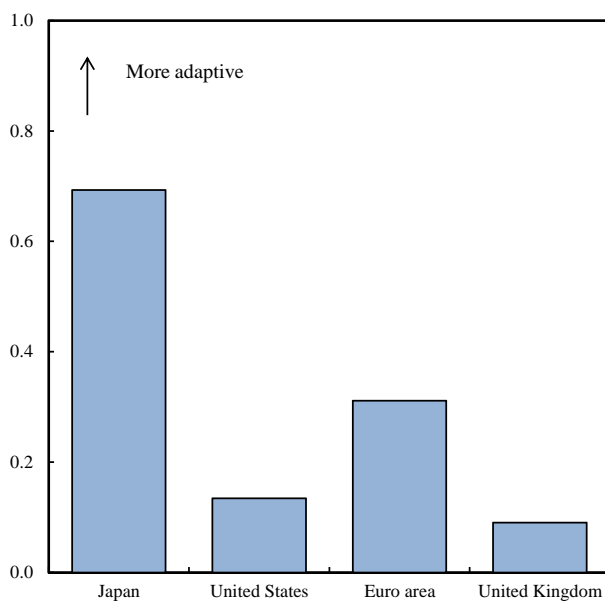


Note: Figures from April 2014 onward are estimated by adjusting the direct effects of the consumption tax hike.  
Source: Ministry of Internal Affairs and Communications.

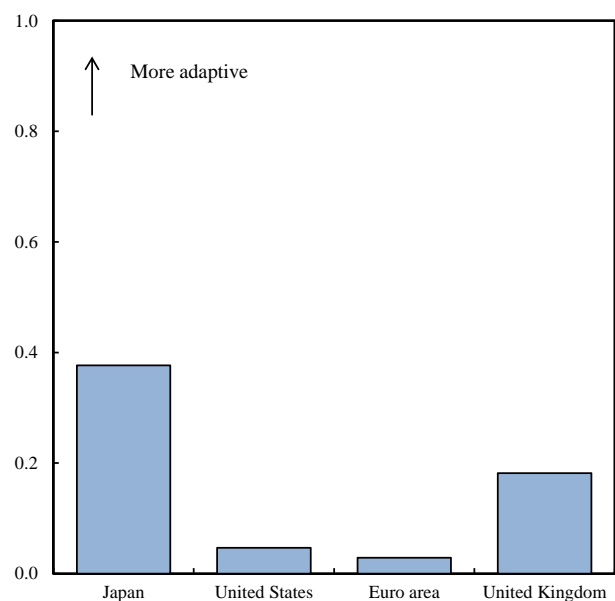
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## Contribution of the Observed Inflation to Inflation Expectations in Advanced Economies

(1) Contribution of the observed inflation to inflation expectations 1 year ahead



(2) Contribution of the observed inflation to inflation expectations 6-10 years ahead

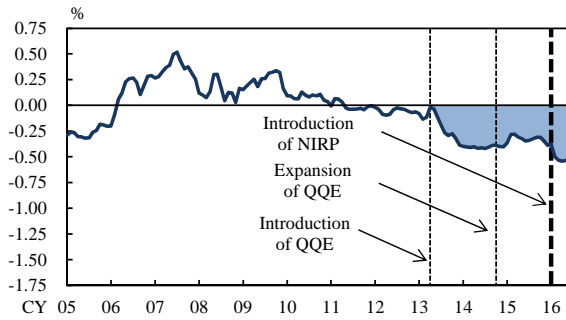


Sources: Bank of Japan; Consensus Economics Inc., "Consensus Forecasts"; Ministry of Internal Affairs and Communications; BLS; Eurostat; ONS.

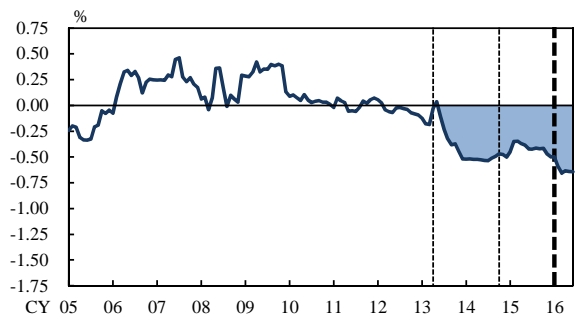
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# The Impact of the Negative Interest Rate Policy (NIRP) and JGB Purchases on Interest Rates

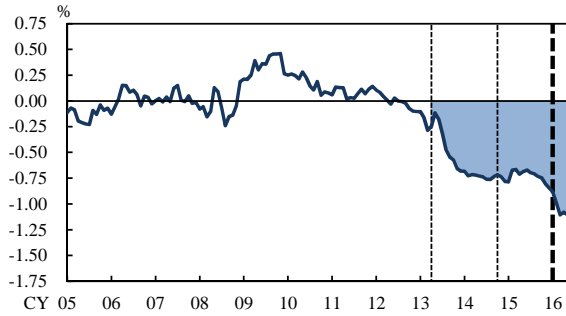
(1) 2-year JGB Yields



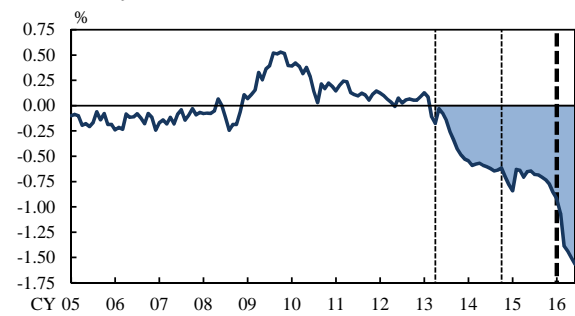
(2) 5-year JGB Yields



(3) 10-year JGB Yields



(4) 20-year JGB Yields

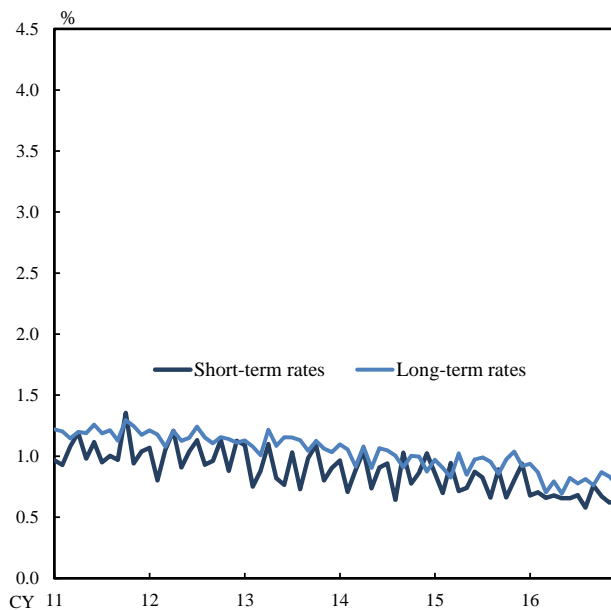


Note: The graphs show the residuals obtained when regressing JGB yields (for 2 years, 5 years, 10 years, and 20 years) on 10-year U.S. Treasury bond yields, the year-on-year rate of change in the CPI (all items less fresh food), and the active job openings-to-applicants ratio as a proxy for the output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

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

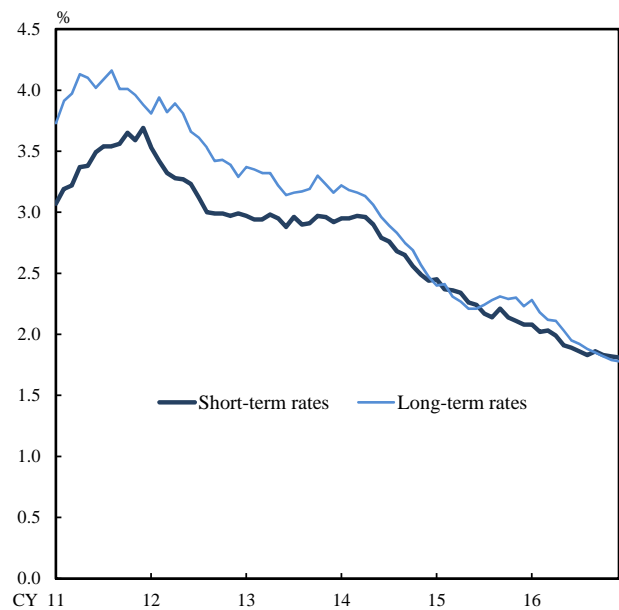
## Bank Lending Rates

(1) Japan



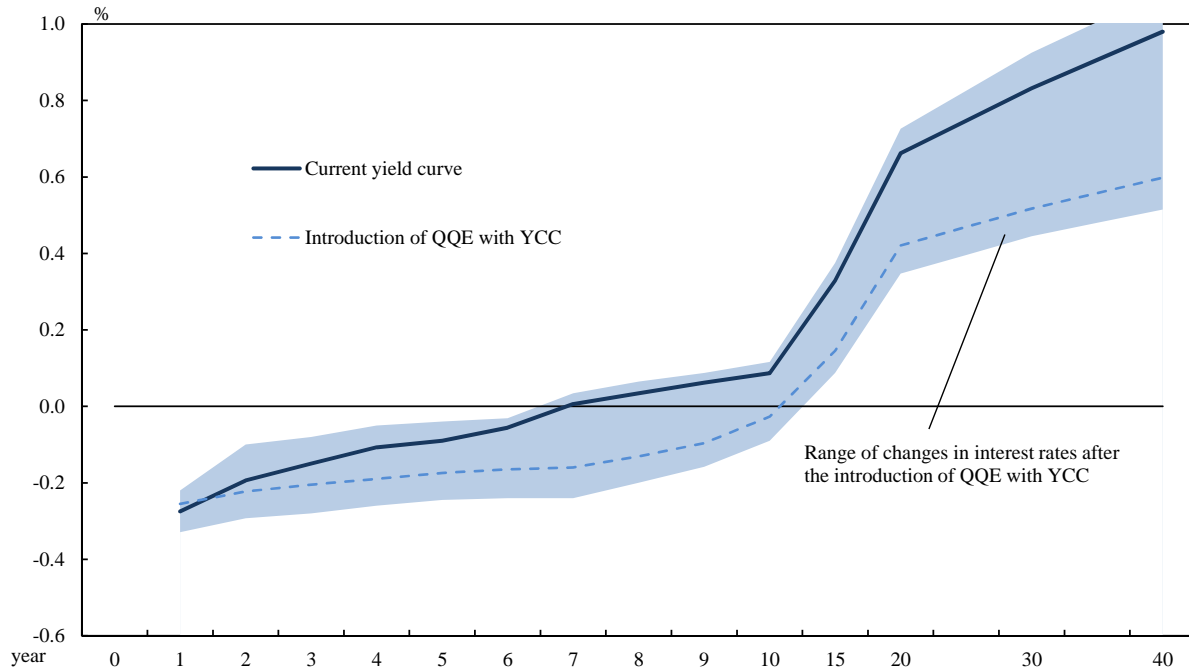
Note: Figures are domestically licensed banks' average contract interest rates on new loans and discounts.  
Source: Bank of Japan.

(2) Euro Area



Note: Figures are interest rates on new loans.  
Source: European Central Bank.

# Yield Curve Control (YCC)

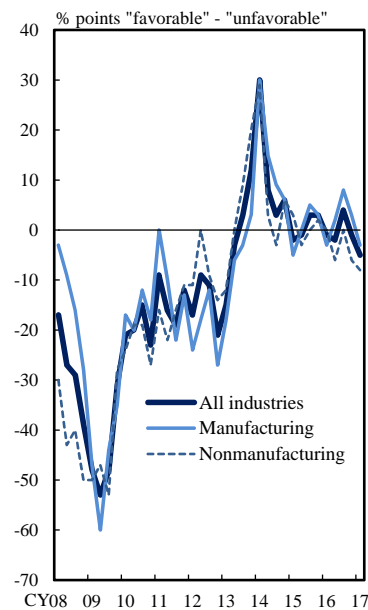


Source: Bloomberg.

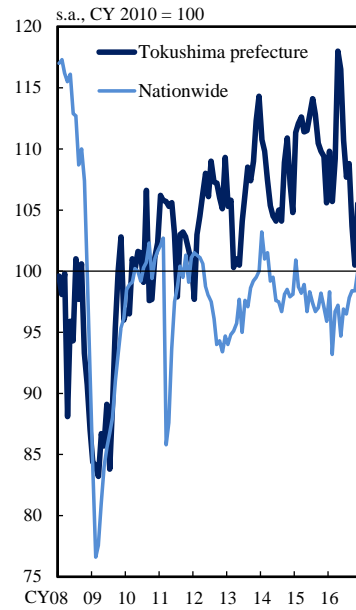
14

# Economic Activity in Tokushima Prefecture

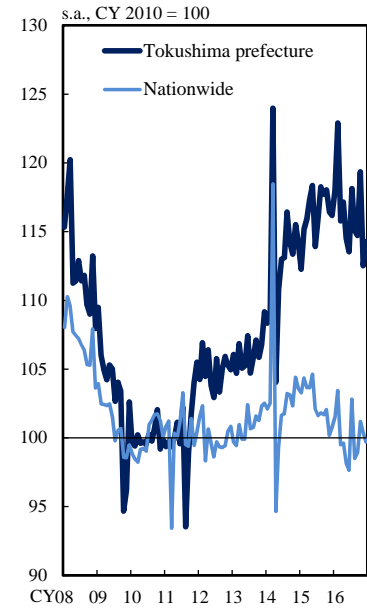
(1) Business Conditions DI  
(*Tankan*)



(2) Industrial Production



(3) Sales at department stores and supermarkets



Sources: Bank of Japan; Ministry of Economy, Trade and Industry; Shikoku Bureau of Economy, Trade and Industry; Tokushima Prefectural Government.

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