

February 4, 2015

Bank of Japan

### Japan's Economy and Monetary Policy

Speech at a Meeting with Business Leaders in Miyagi

Kikuo Iwata

Deputy Governor of the Bank of Japan

(English translation based on the Japanese original)

#### Introduction

It is my pleasure to have the opportunity today to exchange views with administrative, financial, and business leaders in Miyagi Prefecture. I would like to take this opportunity to express my sincerest gratitude for your cooperation with the activities of the Bank of Japan's Sendai Branch.

It is almost four years since the Great East Japan Earthquake, which caused immense damage to the Tohoku region. I renew my deepest condolences to the victims of the earthquake and tsunami. In addition, I express my great respect to all of you who have made every effort to swiftly rebuild their businesses soon after the disaster and to reconstruct the cities thereafter.

In visiting Sendai this time, I have come with an expectation to confirm the current state of the disaster-stricken areas and to listen in person to the recent business sentiment and the situation of rebuilding in various fields as well as your thoughts on the Bank's policies and activities.

Today, before exchanging views with you, I will briefly explain the recent economic developments at home and abroad, and then touch on some notable points regarding monetary policy. Following my speech, I would like to have your views on the actual situation of the local economy and your candid opinions about the Bank of Japan.

#### I. The Current Situation of and Outlook for Japan's Economy

#### A. The Current Situation of Japan's Economy

Japan's economy has continued to recover moderately as a trend. Although the effects of the decline in demand after the consumption tax hike in April 2014 have still been seen in part, those effects have been waning on the whole.

Before going into the details about the current situation of Japan's economy, I will talk about the developments in overseas economies (the left table in Chart 1). The U.S. economy has continued to recover steadily, led by private demand. On the back of robust employment conditions, the household sector has increased consumption and housing investment. Business sentiment and production have maintained the momentum for improvement, and business fixed investment has continued to recover. As for the European economy, some weakness in the momentum for recovery has recently been seen in part, due mainly to concern over geopolitical risk. The Chinese economy has continued with a stable growth for now, underpinned by an improvement in external demand and the authorities' measures to support economic activity, although there is concern over adjustments in the real estate market and over a slowdown in fixed asset investment in manufacturers. Other emerging economies as a whole have been losing steam, as an improvement has been seen in many countries and regions but economic stagnation in countries facing structural issues or political instability has been protracted. Specifically, the economies of the NIEs, ASEAN, and India have shown a pick-up or a slightly moderate recovery. By contrast, the economies of Brazil and Russia have remained increasingly lackluster due mainly to weak domestic demand.

Let me turn to the recent developments in Japan's economy amid such an external environment. Exports, which had been more or less flat, have shown signs of picking up (the right table in Chart 1). By region, exports to the United States and Asia have increased. As for the United States, exports of capital goods and parts used in overseas production sites have been increasing, and, as for Asia, exports of capital goods and parts as well as IT-related goods have been increasing.

With regard to domestic demand, in the corporate sector, business fixed investment has been on a moderate increasing trend as corporate profits have continued to improve. Due to the decline in demand following the consumption tax hike, inventory stocks increased and production declined. But as inventory adjustments have progressed in line with the picking up of final demand, production of late has bottomed out. In the household sector, against a backdrop of a steady improvement in the employment and income situation, private consumption has remained resilient as a trend. As for durable consumer goods, which were affected substantially by the effects of the decline in demand following the consumption tax hike, those effects have recently been waning. Housing investment, which continued to decline following the front-loaded increase, has recently started to bottom out (Chart 2). Looking somewhat in detail about labor market conditions, they have continued to improve steadily. The unemployment rate has recently been around 3.5 percent, which is at the same level as around 1997, and the active job openings-to-applicants ratio has risen to the highest level since 1992. The nominal wage per employee has risen moderately. The year-on-year rate of increase in both monthly wages per worker for full-time employees and hourly wages of part-time employees has accelerated at a moderate pace. Later, I will talk in more detail about this employment and income situation in the context of its implications for prices and monetary policy.

With regard to the price developments, excluding the direct effects of the consumption tax hike, the year-on-year rate of increase in the consumer price index (CPI, all items less fresh food) was 0.5 percent for December 2014.

#### B. Outlook for Economic Activity and Prices

The Bank of Japan releases the *Outlook for Economic Activity and Prices* semiannually in April and October. At the Monetary Policy Meeting held last month, the Policy Board members, as their interim assessment, revised their projections of real GDP and the CPI made last October. With regard to the outlook, Japan's economy is expected to continue growing at a pace above its potential as a trend, while it will be affected by the front-loaded increase and subsequent decline in demand prior to and after the consumption tax hike. Exports are expected to increase moderately mainly against a background of the recovery in overseas economies. As for domestic demand, business fixed investment is expected to continue with a moderate increasing trend with corporate profits following their improving trend. Private consumption is expected to remain resilient with the employment and income situation continuing to improve steadily, and the effects of the decline in demand after the consumption tax hike are expected to dissipate gradually. Reflecting those developments in demand both at home and abroad, industrial production is expected to resume its moderate increase.

On the price front, the year-on-year rate of increase in the CPI, excluding the direct effects of the consumption tax hike, is likely to slow for the time being, reflecting the decline in energy prices. Meanwhile, the outlook for the underlying trend remains unchanged from that made last October, based on expectations that an improvement in the output gap continues as a trend and that the increasing trend in the medium- to long-term inflation expectations continues. Taking a closer look at various surveys, the expected inflation rates remain likely to accelerate steadily, despite the recent decline in crude oil prices (Chart 3). In this interim assessment, on the assumption that crude oil prices will rise moderately from the recent levels, the Bank expects that the year-on-year rate of change in the CPI is likely to accelerate gradually as the base effect of the falling crude oil prices dissipates and reach around 2 percent around the middle of the projection period; that is, in or around fiscal 2015. Thereafter, Japan's economy is expected to shift to a growth path that sustains such inflation in a stable manner.

Let me explain the outlook in specific figures (Chart 4). As for the median of the Policy Board members' projections in this interim assessment, compared with those made in October 2014, real GDP growth for fiscal 2014 will likely be lower at minus 0.5 percent, but it will likely be higher at plus 2.1 percent for fiscal 2015, and at plus 1.6 percent for fiscal 2016 due mainly to the positive effects from the substantial decline in crude oil prices and the government's fiscal stimulus package. With regard to the CPI, the outlook for the underlying trend remains unchanged. Compared with that made in October 2014, the year-on-year rate of increase will likely be lower toward fiscal 2015, due to the significant decline in crude oil prices, as already mentioned. That for fiscal 2016 will likely be more or less unchanged from the October forecast.

Risks to such baseline scenario include developments in the emerging and commodity-exporting economies, the prospects regarding the debt problem and the risk of low inflation being protracted in Europe, and the pace of recovery in the U.S. economy.

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

Now, I will talk about monetary policy that the Bank pursues.

In January 2013, the Bank set the price stability target of 2 percent in terms of the year-on-year rate of change in the CPI; in other words, the introduction of an inflation target.

Toward achieving this target, the Bank has been implementing aggressive monetary easing called quantitative and qualitative monetary easing (QQE) since April 2013, and expanded the measure in October 2014.

These measures aim at converting people's deflationary mindset, which has been formed firmly amid the prolonged period of deflation, to the mindset that expects moderate inflation. That is, in other words, preparing a platform on which people can act on the assumption that prices continue to rise moderately.

Therefore, in order to have the mindset convert proactively, I believe it is very important to thoroughly explain the Bank's policy and deepen your understanding.

#### A. Change in Policy Regime

Whenever I am asked what the core of the QQE is, I answer that it is dispelling the deflationary mindset through a regime change (Chart 5).

One who first discussed economic policy by using the term "regime" was Professor Thomas J. Sargent, who was awarded the Nobel Prize in Economics in 2011. Professor Sargent is famous for his studies in the field of rational expectations. He also presented a view on a mechanism of how fiscal and monetary policies will influence the real economy. Namely, he indicated that economic policies are effective because people will respond to a regime that the policy authorities rely on.

A policy regime is a term that is difficult for a proper Japanese translation. Tentatively, you can consider that it means something like "a system of rules that form the basis of policy choice" or "a basic framework of thinking." You can simply say "the rules of a game." A regime change in a policy means that the system of rules that forms the basis of policy choice changes.

People's behavioral pattern depends on the rules of a game which people are participating in. If the rules change, people's behavior will also change. Why is such a self-evident truth important to economic policy? That is because expectations and the behavior of various economic entities, such as households and firms, will depend on whether a regime change in policy was to take place. Reflecting such expectations and the behavior, the resulting policy effects themselves would completely be different.

For example, suppose the policy authorities facing hyperinflation embark on monetary tightening. If such policy is not perceived to be a long lasting measure, inflation will not be reined in because households' and firms' expectations for a future course of prices do not change and they continue to behave based on the same assumption of high inflation. By contrast, if the policy authorities' firm stance toward overcoming inflation would gain credibility, the credible policy stance will lead to a change in firms' and households' expectations for future policy path, together with their behavior based on that renewed expectations. Accordingly, inflation will be contained in a self-fulfilling manner.

Practical examples could be found in the ending of hyperinflation in the European countries after the World War I and in the emerging process from the Great Depression in Japan and the United States in the first half of the 1930s.

The Bank's current monetary policy is rooted in the point of departure where it changed its past policy regime to a different regime characterized by a view that "overcoming deflation can be achieved through aggressive monetary easing because both inflation and deflation are ultimately monetary phenomena."

In the past, the Bank pursued various monetary easing measures as a front runner in monetary policy history, such as the introduction of zero interest rate policy and quantitative easing. Nevertheless, the Bank was not successful in getting out of deflation for a long time of more than 15 years. One reason might be that a policy regime of "deflation can be overcome through monetary policy" was not adopted, or, at the minimum, the Bank was not able to gain such credibility from private economic entities.

Based on such bitter experience, through clearly hammering out a change in a policy regime, the Bank has currently been trying to dispel the deflationary mindset of households, firms, and financial institutions and to fundamentally alter their behavior.

#### **B.** Transmission Channels of the QQE

For the policy regime change to gain credibility, a clear and tangible message needs to be delivered from the policy authorities.

In the current monetary policy, (a) the Bank set a price stability target of 2 percent and strongly committed itself to achieve that target, and (b) the Bank has been powerfully pursuing the QQE as a tangible action. With those, a change in a policy regime has been taking place (Chart 6).

As strong downward pressure has been exerted on nominal interest rates through massive purchases of long-term government bonds under the QQE, people's expected real interest rates will be lowered, given that a change in a policy regime raises people's inflation expectations (Chart 7). Expected real interest rates are subjective expectations of "what interest rates in real terms will be when future price changes are taken into account," and will have various influences on people's savings and investment behavior as well as asset prices.

As you may know, financial markets have responded most vibrantly to such a policy regime change, and a rise in prices of risk assets, including stocks and foreign currency-denominated assets, has been stimulating private consumption through wealth effects (Chart 8). In addition, the correction of excessive yen appreciation has led to an upturn in profits of export-related firms mainly through an improvement in export profitability and to a marked increase in inbound tourism.

Furthermore, prompted by a decline in expected real interest rates and an improvement in the income and financial footing, households and firms, which have been striving to increase savings and holding of cash and deposits based on their deflationary mindset, are expected to expand housing investment and business fixed investment.

As explained so far, a transmission mechanism that the ongoing monetary policy intends to operate is that a rise in inflation expectations prompted by the policy regime change -- as an ignition point -- will expand aggregate demand through multiple channels.

#### C. Reasons of the Bank's Expansion of the QQE

Given the aforementioned view, you could naturally understand why the Bank expanded the QQE at the end of October last year (Chart 9).

The consumption tax hike in April last year brought about substantial fluctuations in the economy, that is, a front-loaded increase in demand immediately before the hike and a subsequent decline after the hike. As somewhat weak demand, mainly for durable consumer goods like automobiles, was protracted, a substantial decline in crude oil prices also exerted downward pressure on prices (Chart 10).

Weakness in demand associated with the consumption tax hike already waned, and the decline in crude oil prices will likely, over time, have a favorable impact on Japan's economy and work to put upward pressure on prices. However, as developments in actual prices and inflation expectations will mutually feed back, if there is downward pressure on actual prices, even for a short term, we should take a risk into account that it will delay the conversion of the deflationary mindset.

To preempt manifestation of such risk and to maintain the improving momentum of expectation formation, it was necessary to expand the QQE. That was the judgment the Bank made at the end of last October.

#### D. How to Evaluate Employment and Wage Developments

As aggregate demand expands, ignited by a rise in inflation expectations, a virtuous cycle from production to income and spending operates, and thereafter, stable employment and an improvement in labor conditions would ensue.

In that regard, as mentioned earlier, an improvement in the labor market conditions since last year, such as a sizable increase in the number of employees and a substantial improvement in the unemployment rate and the active job openings-to-applicants ratio, has not been interrupted even amid the seemingly lackluster real GDP growth due to the effects of the consumption tax hike (Chart 11). As for the increase in the number of employees, there is criticism noting that only non-regular employment was increasing in number while regular employment was not. However, that criticism seems to mix up a forward-looking development of "gradually increasing employment starting from non-regular employment," which has been occurring as the pie of employment as a whole has been expanding, with a backward-looking development of "replacing regular employment with non-regular employment," which had been seen in the past.

It is natural that non-regular employment, which can be adjusted relatively flexibly, will increase at the early stages of economic recovery. At this stage, we should fairly value the achievement that many non-workers have gotten a job and become able to earn wage income.

There is also a similar criticism regarding the continued uptrend in wages that a rise in nominal wages has not been keeping up with a rise in consumer prices and thus real wages have been declining.

On that point, it will be necessary to distinguish price increases due to demand expansion from those due to the effects of the consumption tax hike. Excluding the negative contribution of the consumption tax hike, both real wages of full-time workers and real hourly wages of part-time workers have not that much declined from 12 months earlier (Chart 12). The year-on-year rate of change in real income of employees as a whole, excluding the effects of the consumption tax hike, has also been positive for nine consecutive months since March 2014 (Chart 13).

Therefore, in my view, a fair assessment of real wages would be that "while both a wage per worker and labor income as a whole have been increasing to the extent that matches price increases brought about by demand expansion, those have yet to rise to offset also the effects of the consumption tax hike."

In the case of stimulating demand through monetary easing, normally, as a rise in prices precedes a rise in nominal wages, real wages will decline at initial phases. Because,

however, there is a channel that a decline in real wages spurs firms' labor demand, leading to an increase in employment and a decline in the unemployment rate, the declines in real wages at this point of time are not necessarily bad news. As employment conditions tighten, nominal wages will rise and downward pressure on real wages will start to wane. As workers will be able to work more efficiently along with production increases, labor productivity will rise. In such a manner, real wages will eventually start to increase (Chart 14).

While monetary policy will surely influence the real economy, there is a sequence of steps for such influence to spread and thus it takes a certain length of time for the policy to come into full effect. In addition, Japan's economy is in the midst of tackling a difficult issue of overcoming deflation of more than 15 years. I would request your patience, with a good hope, while the virtuous cycle -- in which an improvement in income encourages spending, leading to a further expansion of production and income -- would make more progress as we move forward.

#### **Concluding Remarks**

In conclusion, let me touch on the economy of Miyagi Prefecture.

The regional economy is recovering moderately, with the decline in demand affected by the consumption tax hike waning gradually. Somewhat weak developments in production will continue. Reflecting the demand resulting from rebuilding and reconstructing, public investment has been increasing and housing investment has remained at a high level, particularly for building public housing for people affected by the disaster. Business fixed investment has also continued to be on an increasing trend and private consumption has remained resilient on the back of an improvement in the employment and income situation.

Looking at reconstruction in the disaster-stricken areas, I have recognized that while reconstruction has been steadily progressing, rebuilding day-to-day life and rehabilitation of livelihood are still half-way through. The pace of reconstruction differs between the regions and the difference between the regions seems to have been widening. At the root, there seems to be also a challenge that is common nationwide, namely, the declining

population and aging. In addition, a labor shortage and prices of materials rising or remaining at high levels have been affecting not a little the progress in reconstruction in the disaster-stricken areas. How that will develop going forward also warrants due attention, in my view.

I have heard that big events are scheduled for this year in Miyagi Prefecture. Sendai City will host next month the United Nations World Conference on Disaster Risk Reduction, the cumulative number of participants of which is expected to be more than 40,000, and has announced itself as a candidate for the 2016 Summit Meeting. The city has disclosed its plans to develop in the future as an international convention city as well as has aggressively been trying to tap inbound demand. An improvement and reinforcement of transportation infrastructure will be promoted. The JR Ishinomaki and Sengoku lines that have been cut off by the disaster are scheduled to be reopened throughout, the Tozai subway line is expected to open in Sendai city, and the privatization of the Sendai airport is being pursued. I expect that, triggered by those events and creating and tapping new demand, a stream of reconstruction will further accelerate and vitalization of the local economy will gain momentum.

The Bank conducts an operation that provides long-term funds at a low interest rate to financial institutions that have business offices in the disaster-stricken areas in order to support their efforts to meet the demand for funds for rebuilding those areas. The Bank expects to continue to play a part in rebuilding and developing the region's economy while carefully examining financial and economic developments, including those of the disaster-stricken areas.

Thank you.



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# February 4, 2015 **Kikuo Iwata**

Deputy Governor of the Bank of Japan

## World Economy and Exports

### **Projections for Major Economies**

Real Exports by Region

					y/y % chg.
		2012	2014	Projections	
		2013	2014	2015	2016
World		3.3	3.3 3.3		3.7
		5.5	5.5	(-0.3)	(-0.3)
Adv	Advanced Economies		1.8	2.4	2.4
		1.3		(0.1)	(0.0)
	nited States	2.2	2.4	3.6	3.3
	litted States	2.2	2.4	(0.5)	(0.3)
	o Aroo	-0.5	0.8	1.2	1.4
	uro Area			(-0.2)	(-0.3)
	202	1.0	0.1	0.6	0.8
Ja	pan	1.6	0.1	(-0.2)	(-0.1)
Eme	Emerging Market and			4.3	4.7
Dev	Developing Economies		4.4	(-0.6)	(-0.5)
	ovoloning Asia	6.6	6.5	6.4	6.2
	eveloping Asia			(-0.2)	(-0.3)
	China	7.8	7.4	6.8	6.3
				(-0.3)	(-0.5)
		га	<u>л</u> г	5.2	5.3
	ASEAN	5.2	4.5	(-0.2)	(-0.1)
La	atin America and	2.0	1 2	1.3	2.3
the Caribbean		2.8	1.2	(-0.9)	(-0.5)

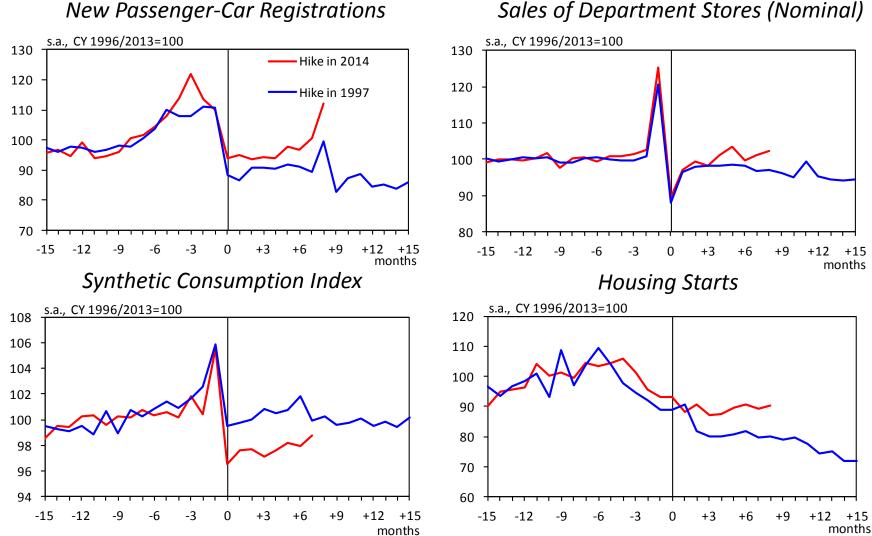
	y/y % chg.				s.a., q/q % chg.		
	2012	2013	2013 Q4	2014 Q1	Q2	Q3	Q4
United States <18.5>	13.0	2.8	-0.4	0.9	-2.3	-0.0	5.9
EU <10.0>	-13.0	-3.6	2.2	0.6	0.5	-0.1	-4.2
East Asia <50.9>	-2.6	-3.0	2.5	-1.5	-1.5	1.9	4.2
China <18.1>	-8.1	-1.7	5.7	-3.9	-0.7	1.2	3.2
NIEs <21.9>	-4.7	-1.0	1.1	1.0	-3.1	3.8	6.9
ASEAN4 <10.9>	12.5	-8.5	-0.0	-2.1	0.3	-0.9	0.4
Others <20.6>	1.7	-5.0	-2.0	0.2	1.4	2.4	1.2
Real Exports	-1.0	-1.9	1.5	-1.0	-1.2	1.6	4.0

Notes: 1. Projections for major economies are made by the IMF as of January 2015. Figures in parentheses are the difference from the October 2014 WEO projections.

2. Figures in angular brackets for real exports are shares of each region in 2013. NIEs consist of Korea, Taiwan, Hong Kong, and Singapore. ASEAN4 consists of Thailand, Indonesia, Malaysia, and the Philippines. Figures for 2014/Q4 are those of October-November averages converted into quarterly amount.

Sources: IMF, "World Economic Outlook"; Ministry of Finance, "Trade Statistics"; Bank of Japan, "Corporate Goods Price Index."

### Chart 2 Effects of the Consumption Tax Hikes



Sales of Department Stores (Nominal)

Notes: 1. Month 0 represents April 1997/2014, concurrent with the rise in the consumption tax rate.

2. Figures for new passenger-car registrations include small cars with engine sizes of 660cc or less.

Sources: Japan Automobile Dealers Association, "Domestic Sales of Automobiles"; Ministry of Economy, Trade and Industry, "Current Survey of Commerce"; Cabinet Office, "Synthetic Consumption Index"; Ministry of Land, Infrastructure, Transport and Tourism, "Statistics on Building Construction Starts," etc.

## Inflation Expectations

Chart 3

#### Households *Economists* (Consumer Confidence Survey) y/y % chg. % ann. avg., % 100 2.5 4 1 year from now (weighted average) — Ratio of "go up" (right scale) 2 to 6 years ahead (ESP Forecast) -----Ratio of "go down" (right scale) 7 to 11 years ahead (ESP Forecast) 2.0 75 3 —6 to 10 years ahead (Consensus Forecasts) 1.5 50 2 1.0 25 0.5 0 0.0 CY 05 06 08 09 10 11 12 13 14 07 CY 05 06 07 08 09 10 11 12 13 14 15

Notes : 1. Figures for the Consumer Confidence Survey are for all households. The weighted average is calculated based on the following assumption: survey responses chosen by households as their expected inflation rates -- "-5% or below," "from -5% to -2%," "from -2% to 0%," "from 0% to +2%," "from +2% to +5%," and "+5% or above" -- indicate inflation rates of -5%, -3.5%, -1%, +1%, +3.5%, and +5%, respectively.

2. Figures for the Consensus Forecasts are compiled every January, April, July, and October. Those up through April 2014 are compiled every April and October. Figures for the ESP Forecast are compiled every June and December, and exclude the effects of the consumption tax hikes.

Sources: Cabinet Office, "Consumer Confidence Survey"; Consensus Economics Inc., "Consensus Forecasts"; JCER, "ESP Forecast."

# Outlook for Economic Activity and Prices (as of January 2015)

y/y % chg.

	111				
	Real GDP	CPI (all items less fresh food)	Excluding the effects of the consumption tax hikes		
Fiscal 2014	-0.5	+2.9	+0.9		
Forecasts made in October 2014	+0.5	+3.2	+1.2		
Fiscal 2015	+2.1	+1.0			
Forecasts made in October 2014	+1.5	+2.4	+1.7		
Fiscal 2016	+1.6	+2.2			
Forecasts made in October 2014	+1.2	+2.8	+2.1		

Note: Figures indicate the median of the Policy Board members' forecasts (point estimates). Source: Bank of Japan.

# **Regime Change to Inflation Targeting**

- What does the term "regime" mean in economic policy?
- Inflation and deflation are ultimately "monetary phenomena"
  ⇒ Price stability can be achieved through monetary policy
- Setting the price stability target

"2 percent in terms of the year-on-year rate of change in the consumer price index (CPI)"

# Tangibility of "Policy Regime Change"

Quantitative and Qualitative Monetary Easing

## **Commitment**

Clear commitment that the BOJ "will achieve the price stability target of 2% at the earliest possible time, with a time horizon of about 2 years."

## <u>Actions</u>

### Increase in Quantity

Increase the monetary base<sup>\*</sup> at an annual pace of about ¥80 trillion (particularly through purchases of JGBs).

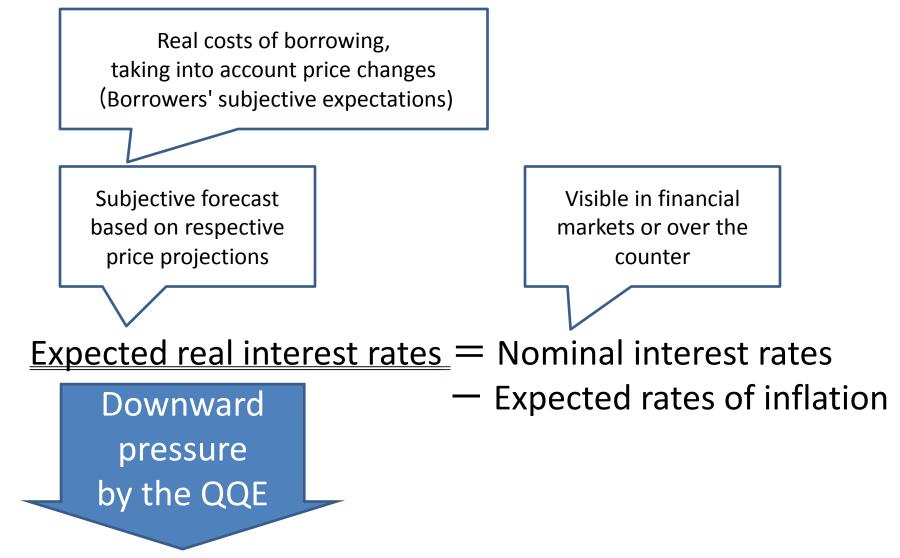
## •Change in Quality

Purchases of riskier assets (JGBs with longer remaining maturities, ETFs and J-REITs). Expansion

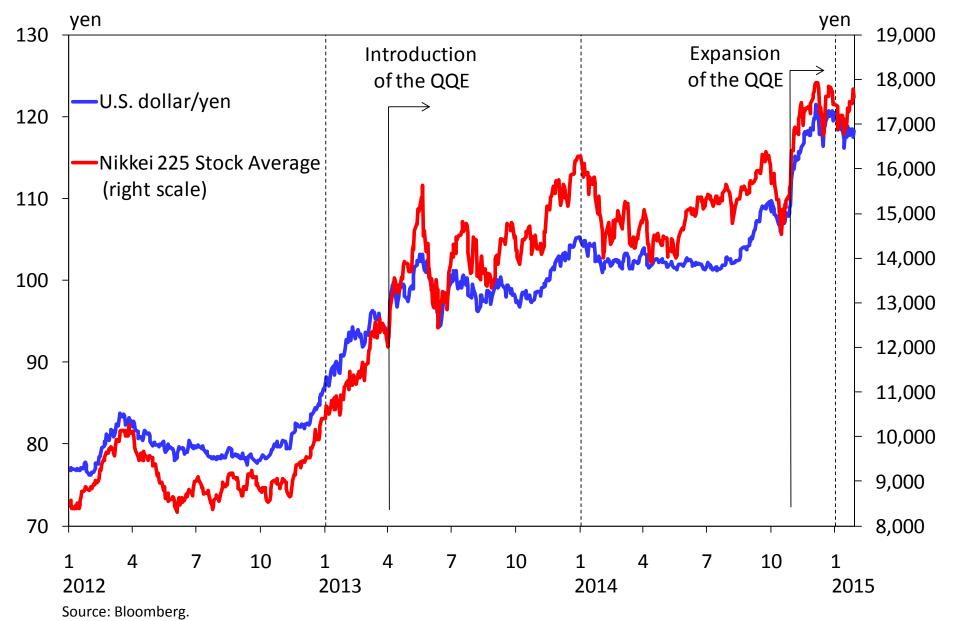
Expansion

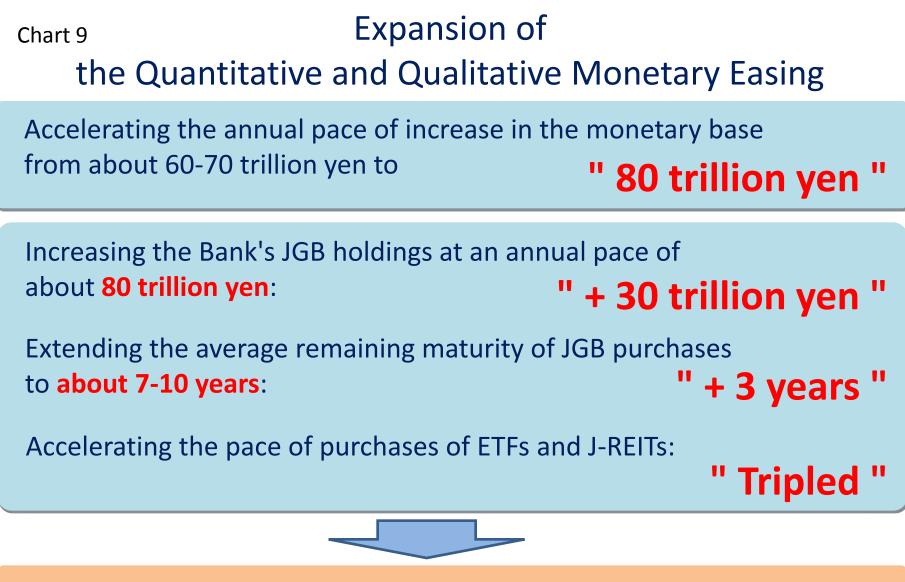
\* Money supplied directly from the central bank to the financial system.

# <sup>Chart 7</sup> Lowering Expected Real Interest Rates through Working on Inflation Expectations



## Chart 8 Stock Prices and U.S. Dollar/Yen Exchange Rate

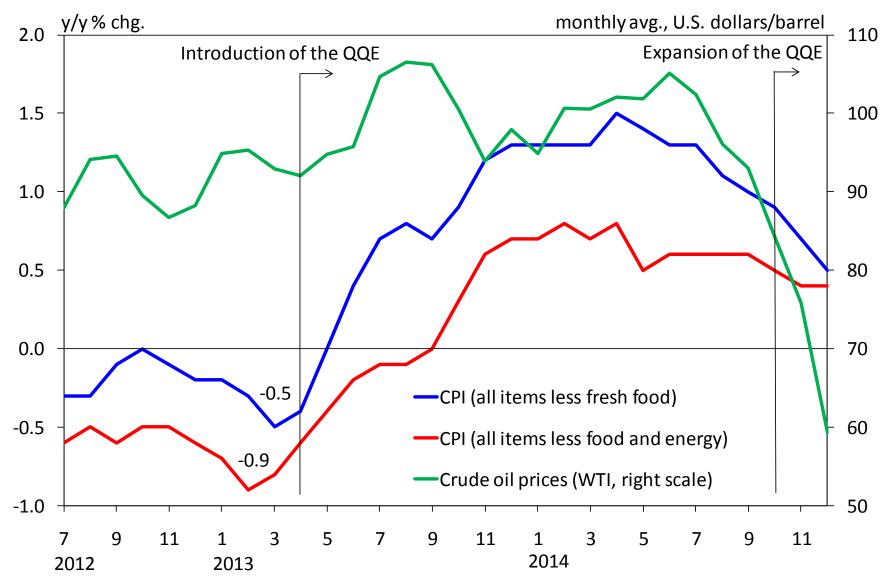




Pre-empt manifestation of a risk that conversion of deflationary mindset, which has so far been progressing steadily, might be delayed

Maintain the improving momentum of expectation formation

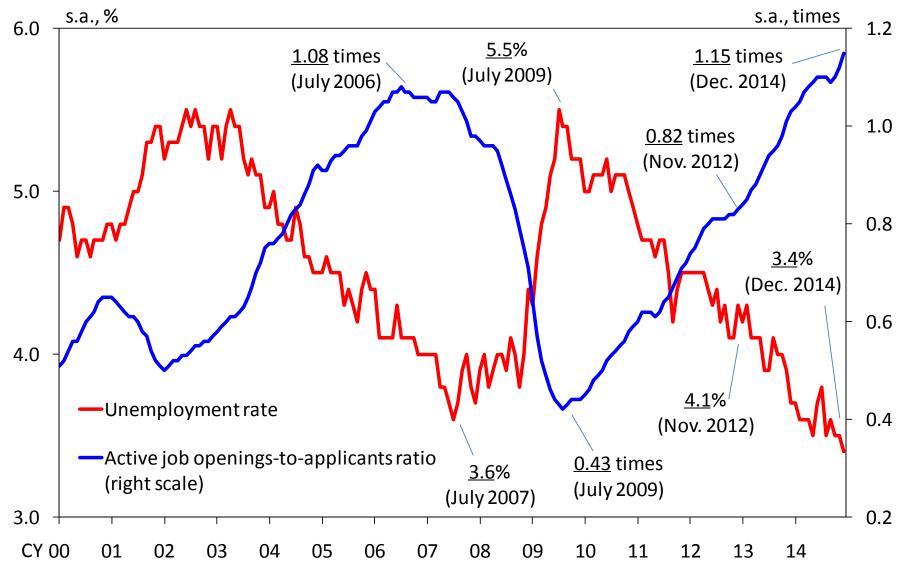
# Chart 10 Consumer Prices and Crude Oil Prices



Note: Figures for the CPI from April 2014 onward are calculated to adjust the direct effects of the consumption tax hike. Sources: Ministry of Internal Affairs and Communications, "Consumer Price Index"; Bloomberg.

Chart 11

## Labor Market Conditions

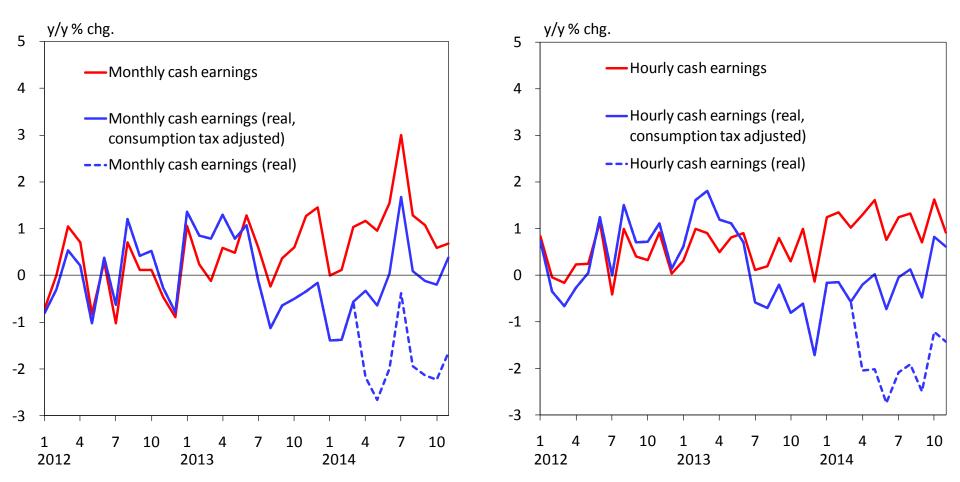


Sources: Ministry of Internal Affairs and Communications, "Labour Force Survey"; Ministry of Health, Labour and Welfare, "Report on Employment Service."

# **Real Wages and Hourly Wages**

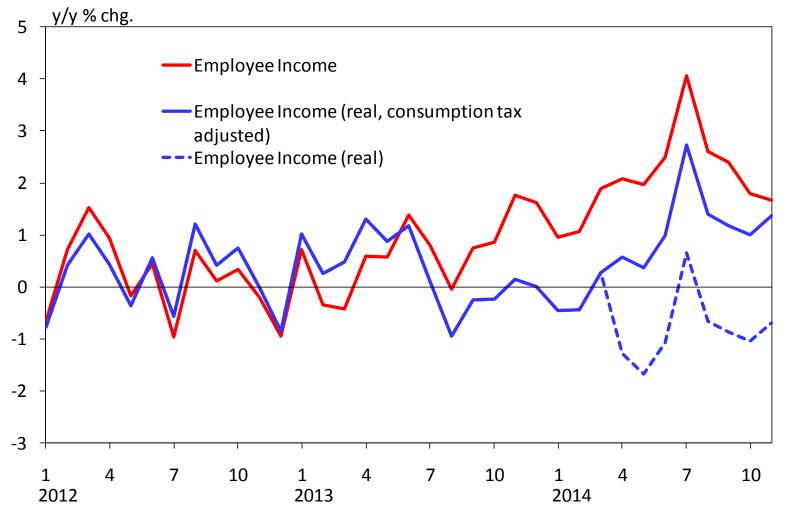
### Full-Time Employees

Part-Time Employees



Note: Figures for real wages are nominal wages deflated by the CPI (all items). Those after adjusting consumption tax are nominal wages deflated by the CPI (all items), which was calculated to adjust the direct effects of the consumption tax hike. Sources: Ministry of Health, Labour and Welfare, "Monthly Labour Survey"; Ministry of Internal Affairs and Communications, "Consumer Price Index."

## Real Employee Income



Notes: 1. Figures for "employee income" are calculated as the "number of regular employees" times "total cash earnings."

2. Figures for real employee income are nominal employee income deflated by the CPI (all items). Those after adjusting consumption tax are nominal employee income deflated by the CPI (all items), which was calculated to adjust the direct effects of the consumption tax hike.

Sources: Ministry of Health, Labour and Welfare, "Monthly Labour Survey"; Ministry of Internal Affairs and Communications, "Consumer Price Index."

## Chart 14 Transmission Channels of the QQE to Real Wages

