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Bank of Japan

## **Quantitative and Qualitative Monetary Easing and Japan's Recent Economic and Financial Developments**

*Speech at the International Centre for the Study of  
East Asian Development, Kitakyushu (ICSEAD)*

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## **Introduction**

I express my thanks for having such a large audience gathered from Kitakyushu and other regions, and also for giving me an opportunity to speak in front of you.

About a year ago, I was appointed as Deputy Governor of the Bank of Japan, on March 20, 2013. In the 40 years up to that time, I had been teaching in college while studying as an economist within academia, and in the latter half of those years I consistently emphasized that the biggest challenge for Japan's economy was to overcome deflation at the earliest possible time, and that the role of monetary policy to that end was critical.

On April 4, 2013, shortly after the current governor and deputy governors, including myself, assumed their duties, the Bank of Japan decided to introduce an unprecedented scale of accommodative monetary policy called quantitative and qualitative monetary easing (QQE), and so far, it has been pursuing the policy as scheduled.

Today, I will explain the aim of the QQE in light of recent developments in Japan's economy.

To understand the QQE, it is necessary to gain your understanding of the price stability target of 2 percent in terms of the year-on-year rate of change in the consumer price index (CPI) that the Bank aims at -- or, in other words, the Bank's inflation targeting policy -- and the thinking behind the policy. Let me start with this point (Chart 1).

### **I. Price Stability Target**

#### **A. Why is Deflation Problematic?**

I mentioned earlier that overcoming deflation at the earliest possible time was the biggest challenge for Japan's economy.

While deflation is "a persistent decline in prices," it often seems to have been used to refer to "a situation in which the economy is in a vicious cycle of price decline and recession" -- that is, the same meaning as "deflationary recession."

In terms of sentiment toward spending in everyday life, you might often think that a decline in prices is a favorable thing. As prices of various goods and services decline, you can get more at the same price. What is the problem (Chart 2)?

### ***Decline in Aggregate Demand due to Deferred Spending***

At the outset, we need to acknowledge the difference between prices in general and those of individual goods and services.

As for the former, there are indicators such as the CPI and the domestic corporate goods price index. Price stability that the Bank aims at is defined by the CPI. The CPI shows changes in the total amount of expenditure required to purchase the equivalent goods and services purchased by households at a given time, which is called the "reference period."

The CPI is calculated by giving a value of 100 for the reference period and comparing prices of the observation period with those of the reference period. Inflation is defined as a situation in which the CPI persistently rises; on the contrary, deflation is defined as a situation in which the CPI keeps falling. A price rise or fall of individual items such as vegetables and television sets does not constitute either inflation or deflation.

Keeping that in mind, let me now explain what the consequence of a persistent decline in general prices -- rather than price declines in individual goods and services -- will look like.

To be sure, a decline in prices itself will have the effect of raising your real income. However, a persistent decline in prices means that the more you wait, the more goods and services you can get at the same price. In other words, it means that the value of cash and deposits increases just by holding them. Thus, firms and households will hoard money as much as possible and defer actions that are associated with spending, such as consumption and investment. Put in the jargon of economics, aggregate demand will decline. That is a problem.

If aggregate demand declines and sales of goods and services decrease, firms will reduce production to a level consistent with the decline in sales. As corporate profits will decline

and employee income will fall accordingly, people's consumption and housing investment -- as well as firms' business fixed investment -- will further stagnate. Namely, aggregate demand will further decline, and that will induce a further decline in price levels. Thus, the economy will be trapped in a vicious cycle of price declines and recession (Chart 3).

### ***Increase in Effective Debt Burden***

In addition, as a decline in prices means that the value of money for goods and services will increase, for those who borrow money, the value of money that they will have to repay in the future will increase. Thus, that represents an increase in the effective debt burden.

It might be easier to understand if you consider a case in which you have a mortgage. As the amount to be repaid is fixed while wages and real estate prices decline due to deflation, you feel the debt service burden gradually increase.

The effective burden of debt you already have will become heavier and, even for future borrowings, somewhat more than nominal interest rates suggest. Therefore, firms and households will become cautious about borrowing money. In addition, households and firms that have already borrowed will try to repay their debts as soon as possible, even by restraining their consumption and investment.

Thus, housing investment and firms' business fixed investment will stagnate and aggregate demand will become compressed, thereby resulting in a vicious cycle of recession and price declines (Chart 3).

## **B. Why is Stable and Moderate Inflation Desirable?**

By contrast, in an environment of stable and moderate inflation, for example, in a case where the CPI rises about 2 percent year-on-year, the mechanism that is a reversal of what I have just explained under deflation will work (Chart 4).

### ***Increase in Aggregate Demand due to Rejuvenated Spending***

Namely, if you can envisage that prices will rise, many of you might wish to purchase things that you can buy as much as possible before the prices rise. A front-loaded increase

in demand ahead of the consumption tax hike next month has often been referred to these days, and a similar mentality works in a consistent manner.

Of course, like perishables, there are a number of goods that cannot be purchased in advance, and most services cannot be brought forward. Here, I am just talking about the trends as a whole.

Unlike a consumption tax hike, which is a one-off event that alters prices at a certain point of time, the price level will gradually rise. Therefore, the incentive to bring spending forward will not work as powerfully as in the case of a front-loaded increase in demand ahead of the tax hike, but rather slowly and constantly.

As spending in terms of consumption and investment is stimulated due to the future price outlook, aggregate demand in the economy as a whole will increase. Sales of goods and services will rise and firms will expand their production to a level consistent with the increased sales. As corporate profits improve and employee income increases, consumption and housing investment, as well as firms' activity -- including business fixed investment -- becomes further rejuvenated. In other words, aggregate demand will further increase and prices will rise accordingly. A virtuous cycle of a buoyant economy and inflation will be generated (Chart 4).

### ***Costs of Rapid Inflation***

As a matter of course, what I have in mind here is stable and moderate inflation, not unexpected rapid inflation or so-called hyperinflation.

As you are well aware of, hyperinflation is the last thing we want.

If a rise in wages and pensions cannot keep up with rapid inflation, your real income will decline and the real value of cash and deposits saved will also decline rapidly. Through reducing the effective debt service burden of past debt, an unexpected income transfer, so to speak, from creditors to debtors will occur, in which creditors will lose and debtors will gain. By contrast, in case you wish to newly borrow money, the lender will require a high

interest rate in preparation for future high inflation, making your fund-raising difficult.

If rapid inflation goes on, there is the need to frequently revise the prices of goods and services. As it becomes ever more difficult to envisage future manufacturing costs and selling prices, firms will not be able to even prepare their production plans. The economy will tumble into turmoil.

Therefore, what the Bank is aiming at is that stable and moderate inflation continues, and not by any means generating hyperinflation (Chart 4).

### **C. Advantages of Inflation Targeting Policy**

In order to achieve stable and moderate inflation, what kind of policy will be desirable?

One answer is a policy framework called inflation targeting. The Bank has been pursuing monetary easing under the price stability target of 2 percent in terms of the year-on-year rate of change in the CPI. That can be understood as a typical example of inflation targeting policy (Chart 5).

#### *Enhancing Policy Credibility and Predictability*

Inflation targeting policy has a number of advantages.

To begin with, as the policy contains a specific numerical target for the future inflation rate, it can be judged objectively whether the target has been met. Through enhanced transparency, a central bank's obligation to be accountable with regard to policy judgment and the status of achieving the target will become crucial. That will create a situation in which credibility in monetary policy is likely to be enhanced.

As it becomes easier to forecast price levels, various economic entities can conduct economic activity on the basis of such forecasts. The predictability of future prices will be further reinforced as credibility in monetary policy becomes enhanced (Chart 5).

### ***Preventing Hyperinflation***

About the Bank's policy, some demonstrate concern that when the time comes for the Bank to stop monetary easing, it might be difficult to do so due to pressure from financial markets or the government, and that eventually leads to inducing hyperinflation. The adoption of inflation targeting also is effective against such concern.

The reason for that is that the inflation targeting policy is a device to hold a specific numerical target for the future inflation rate and make a commitment to achieving a situation that generates neither inflation above the target rate nor deflation.

Though the inflation targeting policy has often been discussed in Japan as a measure to overcome deflation, it was originally adopted in countries like New Zealand in the 1980s that suffered high inflation.

I would like you to understand that, in case the economy should overheat and the inflation rate should rise well above the 2 percent price stability target, the Bank has already made a commitment to taking appropriate measures in line with the framework of inflation targeting policy.

I should stress that, in line with the mission stipulated in the Bank of Japan Act, the Bank will conduct monetary policy based on its judgment and responsibility while facilitating communication with the government (Chart 5).

## **II. Aim of the QQE and the Current Situation of Japan's Economy**

So far, I have explained the price stability target of 2 percent in terms of the year-on-year rate of change in the CPI; namely, the so-called inflation targeting policy and the thinking behind that.

Now, I will talk about the contents and effects of the QQE, which was introduced as a policy to achieve the 2 percent price stability target, by also taking into account the current state of Japan's economy.

## **A. What is the QQE?**

The QQE consists of two pillars (Chart 6).

The first pillar is the commitment under which the Bank will achieve the price stability target of 2 percent as soon as possible. The Bank has made a clear commitment that it "will achieve the price stability target of 2 percent at the earliest possible time, with a time horizon of about two years."

The second pillar is to engage in actions that embody the commitment specified in the first pillar. As exemplified by the phrase "quantitative and qualitative monetary easing," those actions are to increase the "quantity" of the Bank's balance sheet and change the "quality" of its asset purchases.

An increase in quantity requires massively increasing the amount of money the Bank directly supplies to the financial system -- this is called "the monetary base" -- at an annual pace of about 60-70 trillion yen.

Measures to increase the monetary base are mainly through the purchases of Japanese government bonds (JGBs), and the Bank will purchase JGBs so that their outstanding amount will increase at an annual pace of about 50 trillion yen.

A change in quality requires purchasing assets with a higher risk profile. Among the JGBs, the Bank has started purchasing those with longer remaining maturities. In addition, it has increased the amounts of purchases in exchange-traded funds (ETFs) and Japan real estate investment trusts (J-REITs) in order to reduce risk premiums on assets.

When we decided to introduce the QQE last April, we used the expression "a new phase of monetary easing both in terms of quantity and quality." The Bank has been pursuing monetary easing in exactly that manner, at an unprecedented scale.

## **B. Working on Expected Real Interest Rates**

While the QQE consists of those two pillars, as far as its transmission channels are

concerned, the most important factor of all in terms of having an effect on the economy is lowering expected real interest rates. The following explanations will become somewhat complicated, but please bear with me (Chart 7).

Expected real interest rates are obtained by subtracting the expected rates of inflation from the nominal interest rates actually observed in financial markets or over the counter.

While nominal rates -- that is, objective interest rates -- are visible, expected real interest rates are those that people forecast subjectively, based on their respective price projections, and thus various rates exist on a person-by-person basis.

Viewed from the borrowers' side, real interest rates are equivalent to borrowers' subjective expectations regarding their real costs of borrowing, taking into account price changes, when they borrow money at a certain nominal interest rate. Consequently, the lower the expected real interest rates of an economic entity, the more subdued the entity expects its real cost of borrowing to be.

The QE has the effect of reducing nominal interest rates and the effect of lifting each economic entity's inflation expectations, and both will exert downward pressure on expected real interest rates, which are derived from subtracting the expected rates of inflation from the nominal rates (Chart 8).

### **C. Spillover Effects on the Real Economy**

If many economic entities lower their expected real interest rates, that will stimulate demand in the real economy in a number of ways.

For example, when real interest rates decline, investment in cash, deposits, and fixed-income securities (excluding inflation-indexed bonds) becomes less attractive; thus, people will shift their portfolios from those financial assets to equities and tangible assets such as land and housing, or to foreign currency-denominated assets with higher returns. The rise in equity prices and the appreciation of foreign currencies will stimulate private consumption through the wealth effect (Charts 9 and 10).

In addition to the decline in expected real interest rates, other factors -- including an increase in consumption and an improvement in export conditions due to the depreciation of the yen -- will encourage firms to be more aggressive in their business fixed investment (Charts 11 and 12).

According to the Business Outlook Survey, conducted jointly by the Cabinet Office and the Ministry of Finance, the index of business conditions for large enterprises will decline to minus 9.8 in the April-June quarter but is expected to rise to plus 8.3 in the July-September quarter. That of small and medium-sized enterprises follows more or less the same pattern with that of large enterprises (Chart 13).

While that may be partly due to statistical peculiarities, it suggests that firms anticipate a subsequent decline in spending after the consumption tax hike in April 2014 as a result of the front-loaded increase in spending to be relatively short-lived.

If a shortage of aggregate demand in the economy as a whole is eliminated through an increase in demand such as private consumption and investment, price levels will naturally rise. In fact, the recent developments in the CPI show that Japan's economy is following a path toward overcoming deflation as expected (Chart 14).

Production increases as demand expands, and thus employment conditions will also improve. That does not suddenly result in a rise in wages and bonuses, but tends to first lead to an increase in the number of employees, mainly non-regular employees. Nevertheless, due to an expansion in corporate profits and tightness in the labor market, the income each employee receives will gradually increase (Chart 15).

If employee income as a whole increases in such a manner, that will further elevate the consumption of households, including those that have not benefited from the wealth effect through a rise in stock prices or the appreciation of foreign currencies. An increase in corporate profits will increase business fixed investment. Those increases in demand will again lead to an increase in income.

An improvement in fiscal conditions due to an increase in tax revenue and an improvement in pension financing caused by a rise in asset prices will also alleviate people's concern about the future as a whole, and thereby exert positive effects on the economy.

In such a manner, by overcoming deflation starting with the QQE, a virtuous cycle of the economy is expected to continue (Chart 16).

#### **D. Outlook up to Fiscal 2015**

As for the outlook, Japan's economy is expected to continue with a moderate recovery as a trend, supported by an improvement in the employment and income situation, while it is expected to be affected by the front-loaded increase and the subsequent decline in demand prior to and after the consumption tax hike.

As for prices, the year-on-year rate of increase in the CPI, excluding the direct effects of the consumption tax hike, is likely to be around 1¼ percent for some time. After that, it is expected to gradually return to the rising trend and is likely to reach around the 2 percent price stability target toward the end of fiscal 2014 through fiscal 2015 (Chart 17).

#### **Concluding Remarks**

Let me conclude my remarks by touching on the economy of Kitakyushu (Chart 18).

Kitakyushu's economy was long stagnant after the Lehman shock, but it has gradually been improving in the region's main force -- the manufacturing sector -- partly on the back of a correction in the yen's appreciation. Recently, an improvement has started to spread from large to medium- and small-sized firms, and the regional economy has been recovering moderately on the whole.

Historically, Kitakyushu prospered since the Meiji Period, centering on the Chikuho coalfield and Moji Port, and by utilizing this location advantage, a government-managed steelworks started operation in Yahata in 1901. For reference, while the Kitakyushu branch of the Bank of Japan marked its 120th anniversary last year, the precursor of that

branch -- namely, the Saibu branch -- was established around that time, in 1893.

Kitakyushu has represented Japan's modernization, and despite a number of difficulties, it has thrived and subsequently has been improving and evolving. As a result of many years of tremendous efforts, Kitakyushu has established itself as one of the prominent industrial areas in Japan -- with electrical machinery and the automobile industry, in addition to the steel industry -- as well as a base for international trade with Asian and other countries.

Other than on the industrial front, Kitakyushu City has become one of the world's environmental cities, and recently was selected as a "model city for green growth" by the Organisation for Economic Co-operation and Development (OECD), and as a "future city" by the Japanese government. In addition, the government has decided to recommend "local industrial heritage sites of the Meiji period," which include Yahata steelworks-related facilities in Kitakyushu, to the United Nations Educational, Scientific, and Cultural Organization (UNESCO) as candidates for World Heritage sites this fiscal year. This region has started to grab the spotlight in industrial tourism.

As global competition intensifies in the years ahead, the path Kitakyushu follows might not be a smooth one. However, this region has a strong industrial base, including manufacturing technology and human resources, which has been established over many years. This region also has well-developed traffic and distribution systems, with a 24-hour airport and the starting point of the East Kyushu Highway that extends to Miyazaki City scheduled to be opened in fiscal 2014. While fully utilizing those strengths, I strongly believe that Kitakyushu's economy will further grow and develop into the future.

Thank you.

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March 24, 2014

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*Deputy Governor of the Bank of Japan*

# Price Stability Target and QQE

Policy Framework for Sustainable Economic Growth  
Under Stable and Moderate Inflation

Price Stability Target  
= 2 % y/y rate of change in the consumer price index (CPI)

Means to achieve  
the Price Stability Target

Quantitative and Qualitative Monetary Easing (QQE)

## Why is Deflation Problematic?

Deflation

= Persistent Decline in Prices

∴ Situation in which the Economy is  
in a Vicious Cycle of Price Decline  
and Recession (Deflationary Recession)



**Q: What is the Problem of  
Persistent Decline in Prices?**

# Why is Deflation Problematic?

## *Decline in Aggregate Demand due to Deferred Spending*

The more you wait, the more goods and services available at the same price (value of cash and deposits increases just by holding them)

- ⇒ Firms and households defer investment and consumption
- ⇒ Aggregate demand declines
- ⇒ Vicious cycle of price declines and recession

## *Increase in Effective Debt Burden*

Decline in prices = Increase in the value of money for goods and services

- = Increase in the effective debt burden for borrowers
- ⇒ Willingness of firms and households to borrow declines
- ⇒ Aggregate demand declines
- ⇒ Vicious cycle of price declines and recession

# Why is Stable and Moderate Inflation Desirable?

## *Increase in Aggregate Demand due to Rejuvenated Spending*

Persistent increase in prices

(Value of cash and deposits increases just by holding them)

- ⇒ Stimulates consumption and investment
- ⇒ Aggregate demand increases
- ⇒ Expanded production, better employment situation
- ⇒ A virtuous cycle of a buoyant economy and inflation



- Decline in real income and real value of savings
- Unexpected income transfer from creditors to debtors
- High interest rates and difficult fund-raising
- ∴ Economic turmoil

## Advantages of Inflation Targeting Policy

In order to achieve stable and moderate inflation...  
⇒ Inflation Targeting

### *Enhancing Policy Credibility and Predictability*

- Specific numerical target for the future inflation rate
  - ⇒ Enhanced transparency, accountability and credibility in monetary policy
- Forecast of price levels becomes easier
  - ⇒ Better environment for economic activities

### *Preventing Hyperinflation*

- Commitment to prevent both inflation above the target and deflation (i.e., Commitment to prevent hyperinflation is already embedded in the framework)

# Two Pillars of the QQE

## 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."

### Actions

#### • Increase in Quantity

Increase monetary base\* at annual pace of about ¥60-70 trillion (mainly through purchases of JGBs)

#### • Change in Quality

Purchasing assets with higher risk profile  
(JGBs with longer duration, ETFs and J-REITs)

\*Money supplied to the financial system directly by the central bank

Chart 7

## Working on Expected Real Interest Rates

Real costs of borrowing,  
taking into account price changes  
(Borrowers' subjective expectations)

Subjective forecast  
based on respective  
price projections

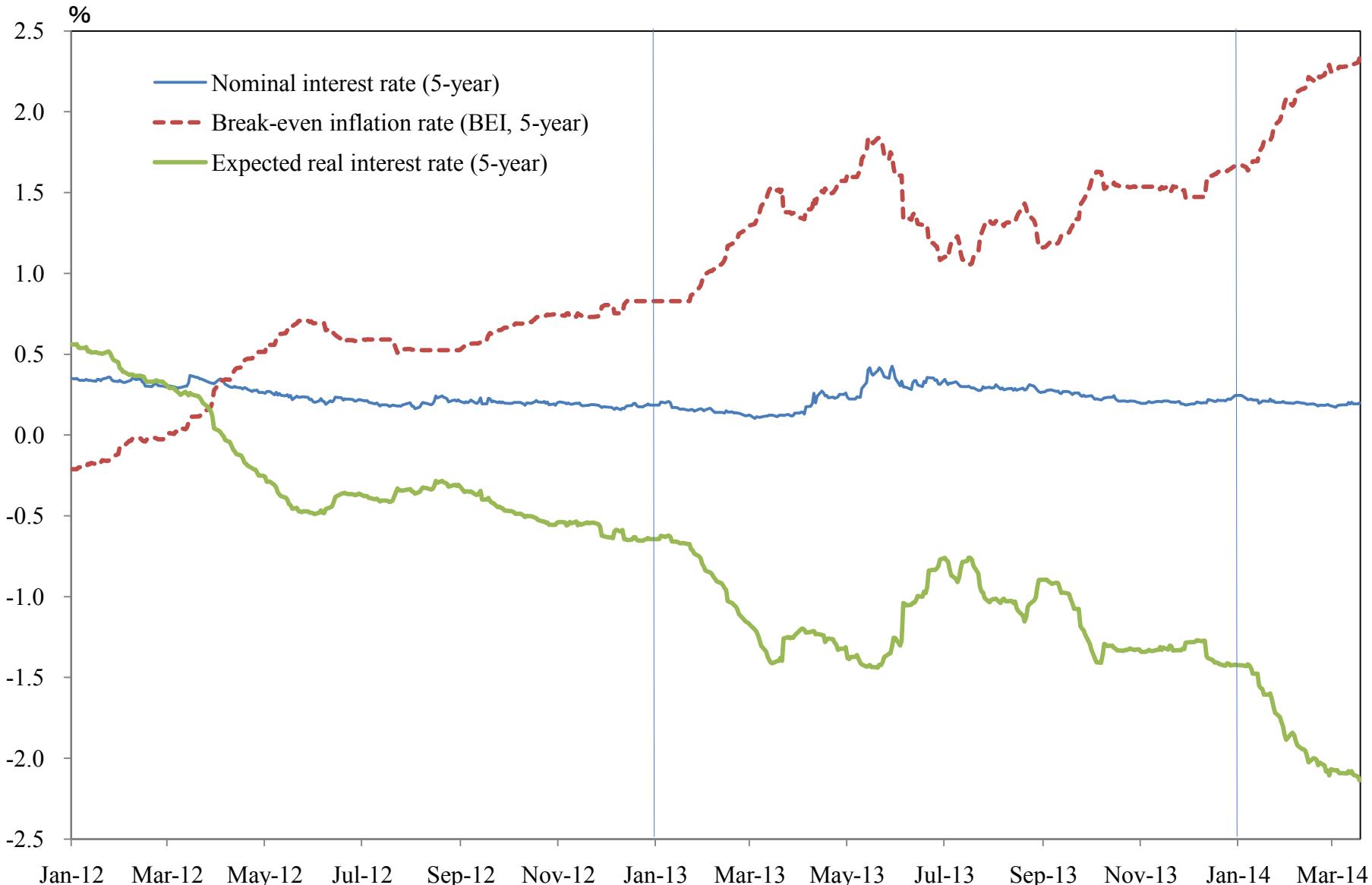
Visible in financial  
markets or over the  
counter

$$\text{Expected real interest rates} = \text{Nominal interest rates} - \text{Expected rates of inflation}$$

Downward  
Pressure  
by the QQE

Chart 8

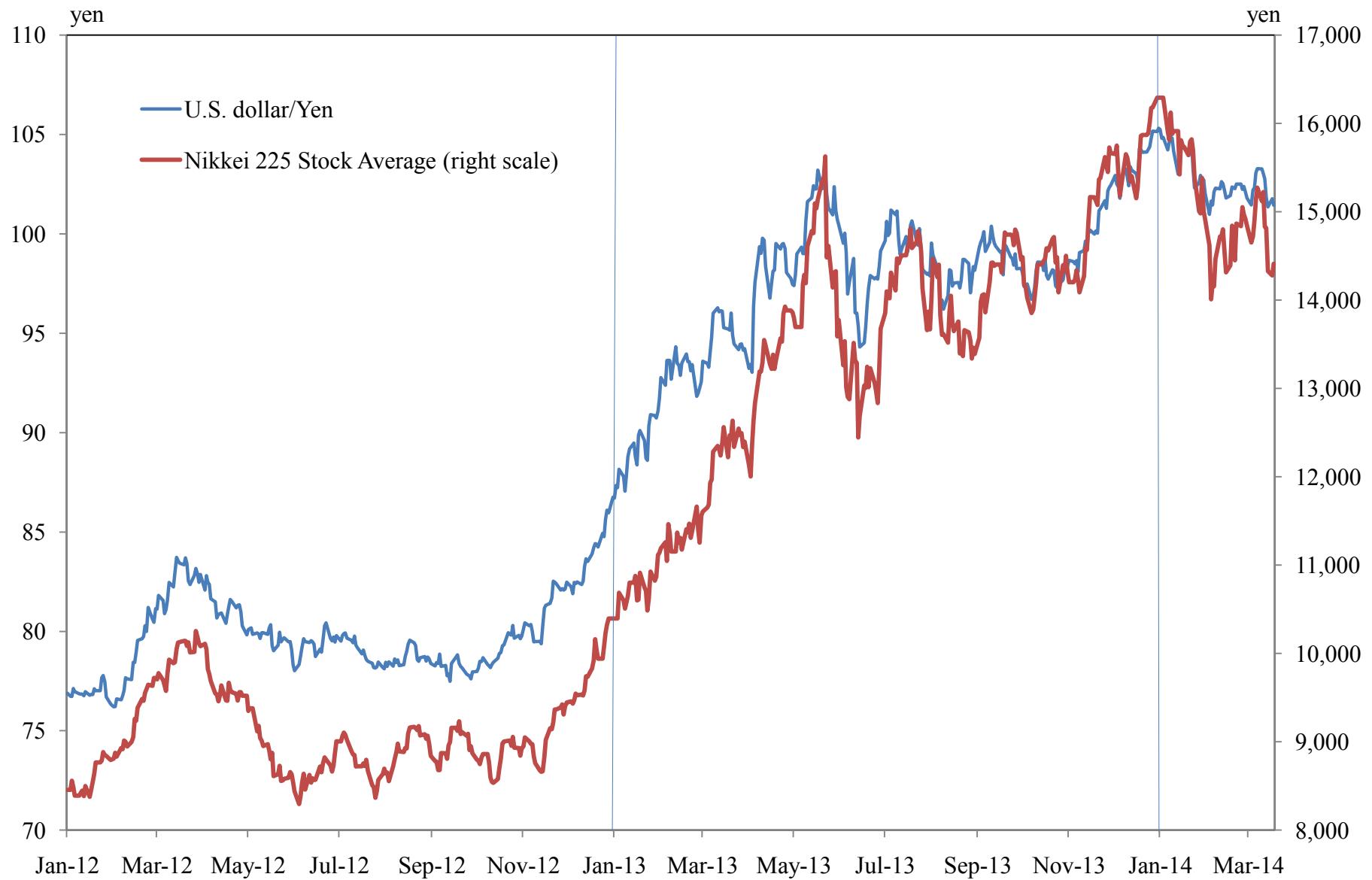
# Interest Rates and Inflation Expectations



Source: Bloomberg.

Chart 9

# Stock Price and Exchange Rate



Source: Bloomberg.

Chart 10

# Household Assets

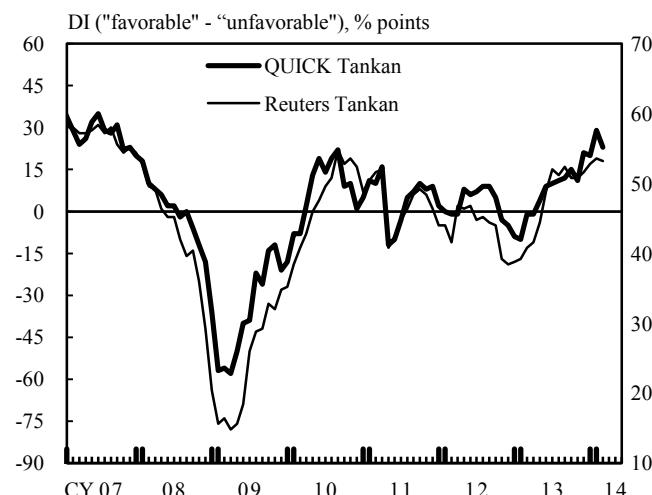
		2011		2012			2013			Amounts outstanding in September-end 2013 in trillion yen (percentage ratio in parentheses)
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
	Amounts outstanding (End of period, trillion yen)	1,500	1,517	1,514	1,509	1,544	1,568	1,592	1,598	
C h a n g e s  (- %)	Total assets	-0.1	1.1	0.2	1.5	2.9	3.4	5.1	5.9	1,598 (100.0)
	Currency and deposits	2.0	2.2	1.8	1.9	2.0	1.7	2.1	2.1	856 ( 53.5)
	Bonds	-12.0	-8.4	-7.9	-8.7	-9.3	-8.0	-9.0	-8.7	30 ( 1.9)
	Investment trust beneficiary certificates	-10.7	-4.9	-11.3	2.0	13.3	20.1	29.0	33.0	75 ( 4.7)
	Shares and other equities	-6.3	0.9	-5.4	-1.4	11.3	15.1	32.5	43.8	135 ( 8.5)
	Insurance and pension reserves	0.2	0.9	1.1	1.8	2.5	2.4	2.6	2.8	437 ( 27.3)
	Others	-2.1	-0.4	-1.0	3.6	4.0	3.6	6.8	5.1	66 ( 4.1)

Source: Bank of Japan, "Flow of Funds."

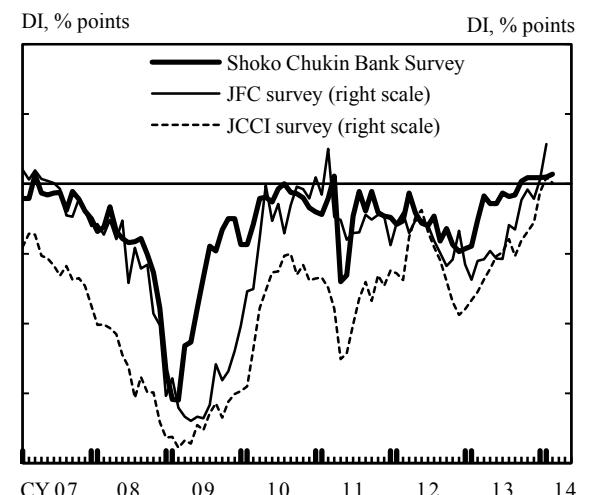
Chart 11

# Business Sentiment

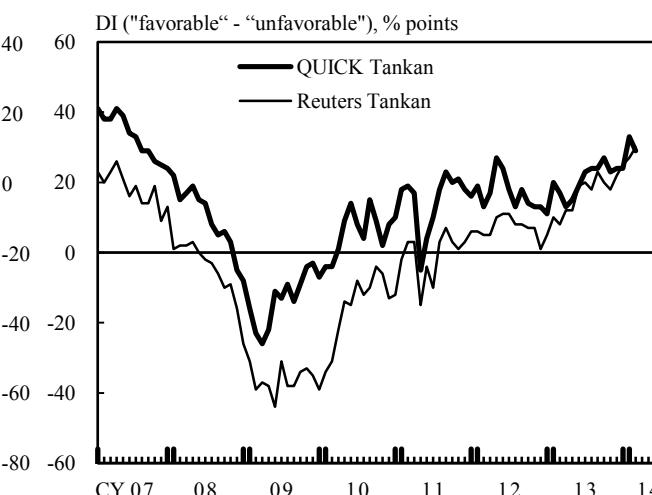
< Large Manufacturing Enterprises >



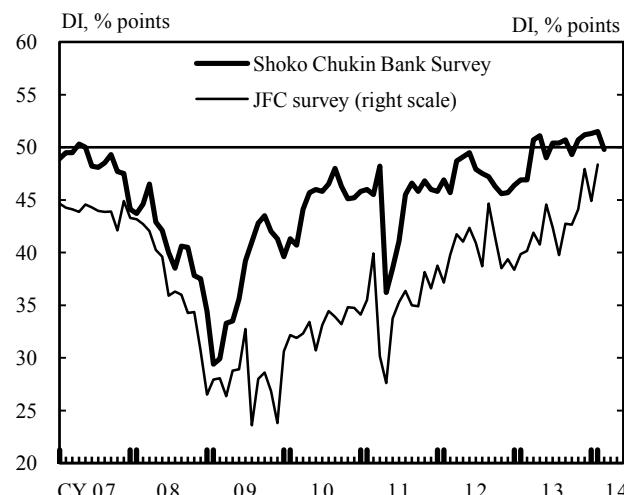
< Small Manufacturing Enterprises >



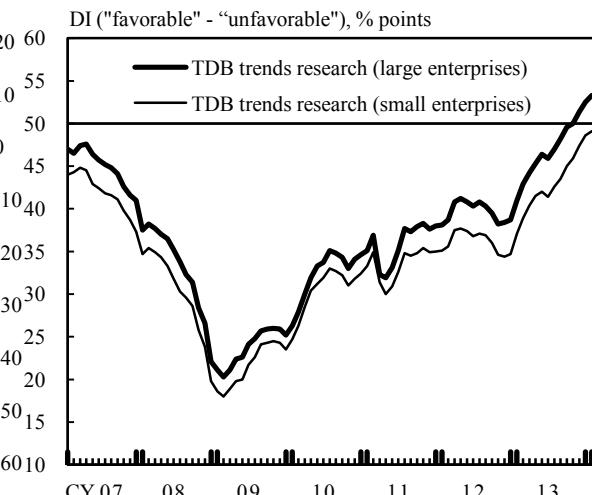
< Large Nonmanufacturing Enterprises >



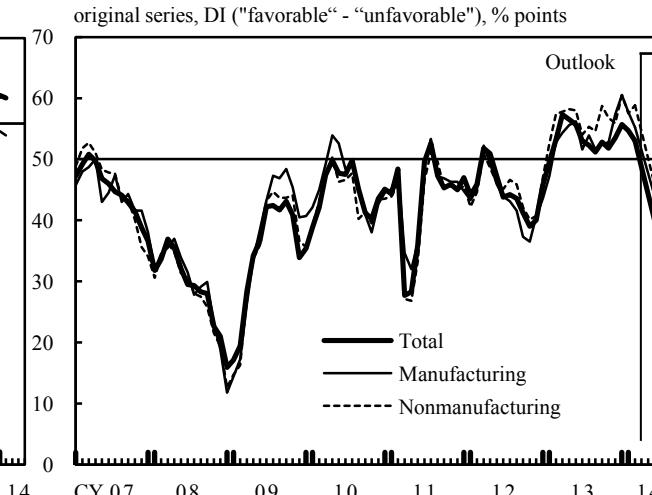
< Small Nonmanufacturing Enterprises >



< All Industries >



< Reference: Economy Watchers Survey >



Sources: QUICK, "QUICK Tankan"; Thomson Reuters, "Reuters Tankan"; Teikoku Databank; JCCI; JFC; Shoko Chukin Bank; Cabinet Office.

Chart 12

# Business Fixed Investment

**<Private Non-Residential Investment>**

s.a.; q/q % chg.

2012	2013				
	Q1	Q2	Q3	Q4	
-0.9	-0.9	1.0	0.1	0.8	

Source: Cabinet Office, "National Accounts."

**<Domestic Shipments and Imports>**

s.a.; q/q % chg.

	2013				2014
	Q1	Q2	Q3	Q4	Q1
Domestic Shipments and Imports	6.3	-4.3	1.9	6.4	11.8
(excluding transport equipment)	4.9	0.2	-0.9	6.3	17.8

Source: Ministry of Economy, Trade and Industry, "Indices of Industrial Domestic Shipments and Imports."

Note: Figures for 2014/Q1 are those of January.

**<Machinery Orders>**

s.a.; excluding volatile orders; q/q % chg.

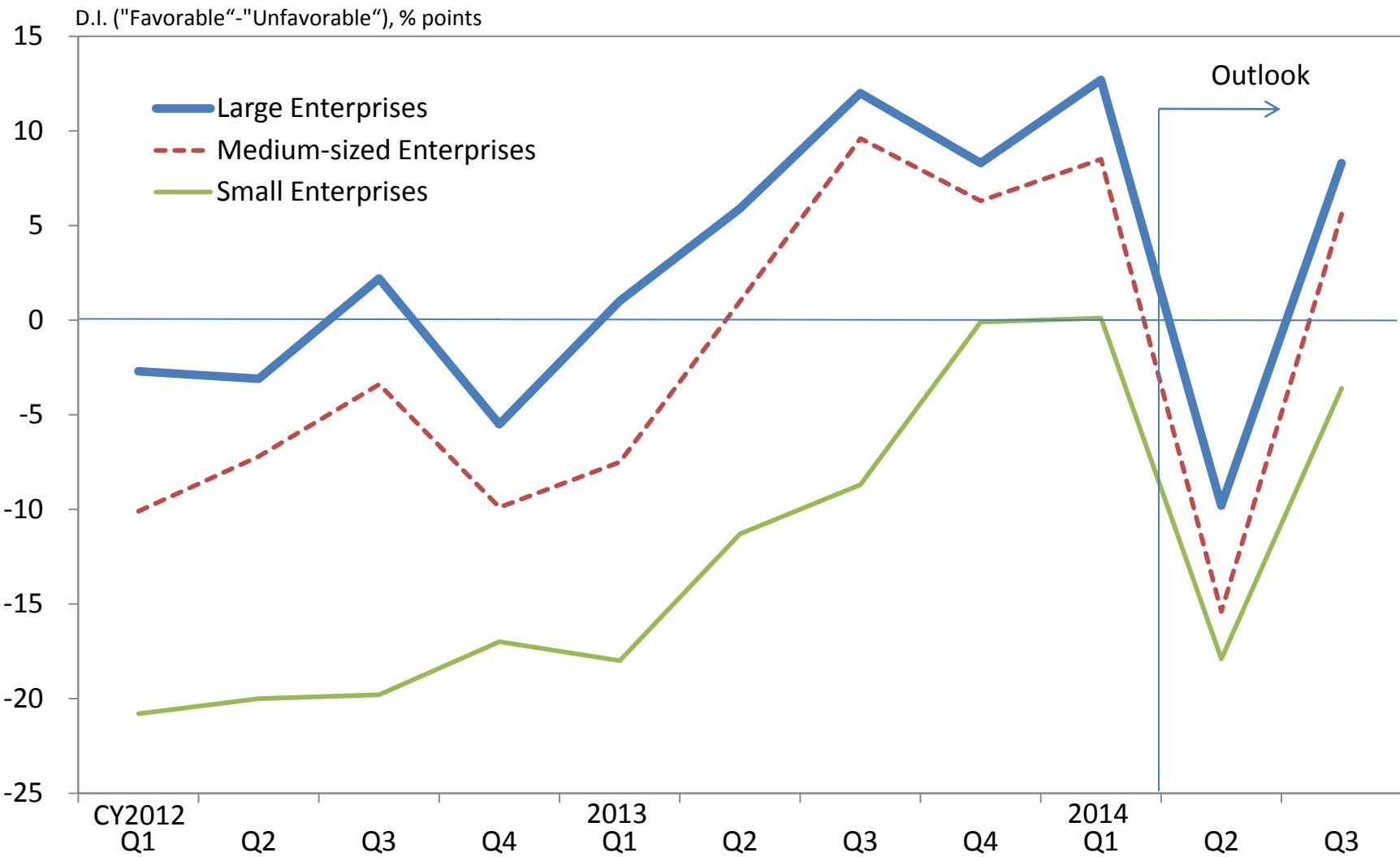
	2013				2014
	Q1	Q2	Q3	Q4	Q1
	-0.0	6.8	4.3	1.5	4.0

Source: Cabinet Office, "Orders Received for Machinery."

Note: Figures for 2014/Q1 are those of January.

Chart 13

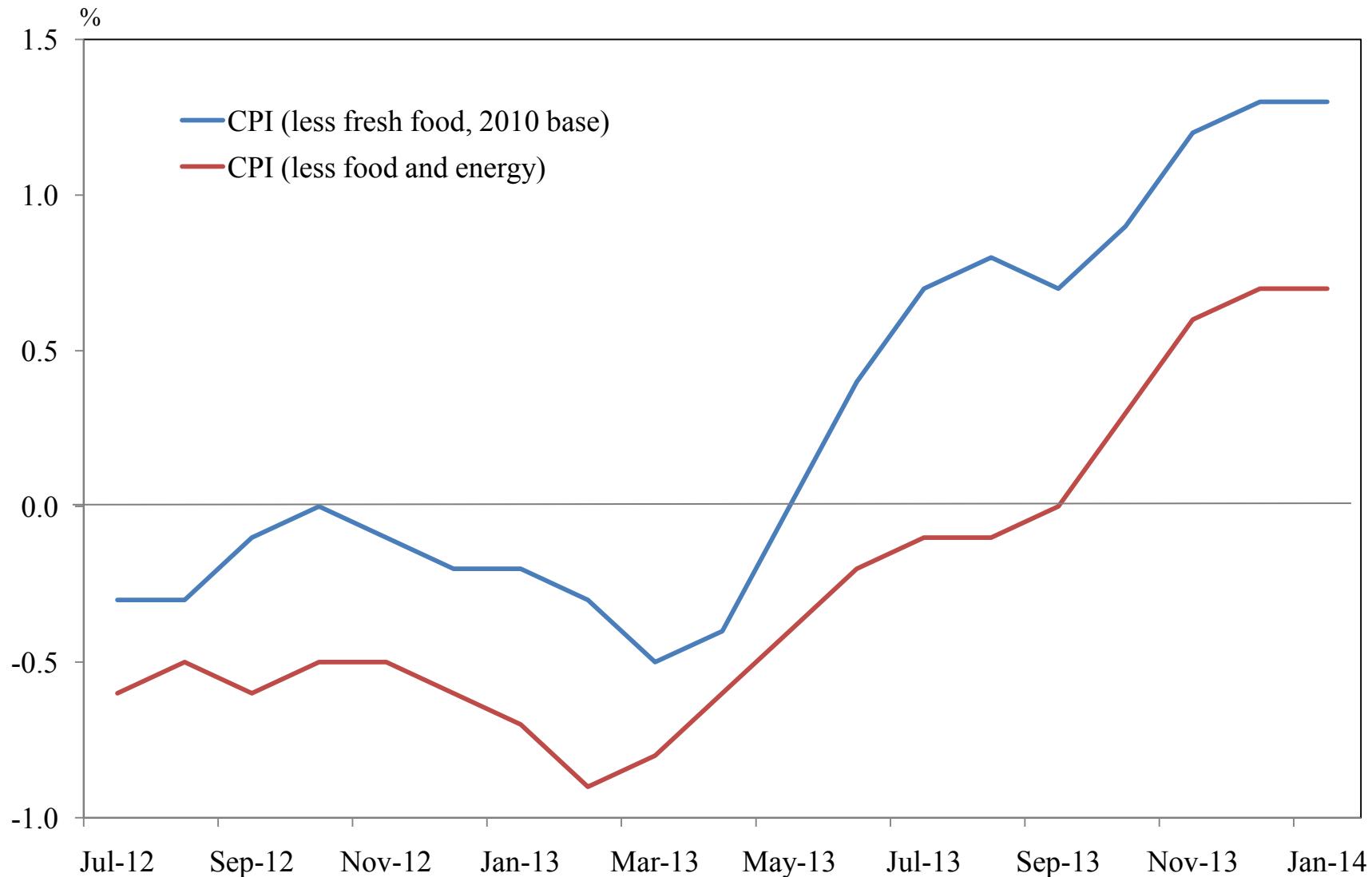
# Business Outlook Survey



Source: Cabinet Office and Ministry of Finance, "Business Outlook Survey."

Chart 14

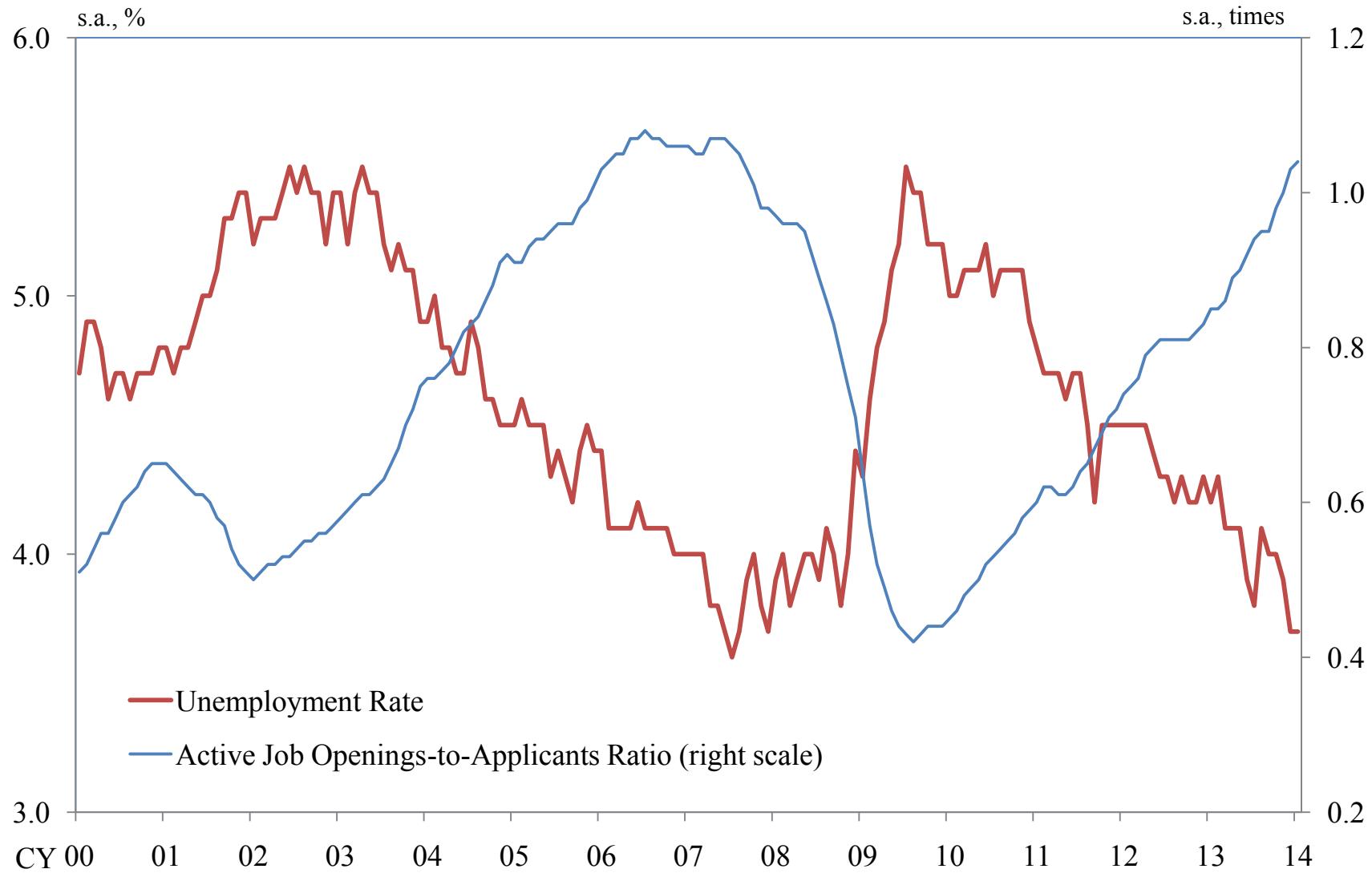
## Consumer Prices



Source: Ministry of Internal Affairs and Communications, "Consumer Price Index."

Chart 15

## Employment Conditions



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

Chart 16

# Real GDP Growth

s.a.; q/q % chg.

	2012		2013			
	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP	▲0.9	0.0	1.1	1.0	0.2	0.2
<Annual rate>	<▲3.7>	<0.1>	<4.5>	<4.1>	<0.9>	<0.7>
Private Consumption	▲0.3	0.4	1.1	0.6	0.2	0.4
Residential Investment	1.1	2.3	1.7	0.9	3.3	4.1
Non-Resi. Investment	▲3.3	▲0.9	▲0.9	1.0	0.1	0.8
Government Consumption	0.4	0.8	0.6	0.9	0.2	0.5
Public Investment	1.2	0.4	3.2	6.8	7.2	2.1
Exports	▲3.8	▲2.9	4.2	2.9	▲0.7	0.4
Imports	▲0.3	▲1.9	1.1	1.8	2.4	3.5

Source: Cabinet Office, "National Accounts."

Chart 17

# Forecasts of the Majority of Policy Board Members

	Real GDP	CPI (all items less fresh food)	y/y % chg. Excluding the effects of the consumption tax hikes
FY 2013	+2.5~+2.9 <u>&lt;+2.7&gt;</u>	+0.7~+0.9 <u>&lt;+0.7&gt;</u>	
FY 2014	+0.9~+1.5 <u>&lt;+1.4&gt;</u>	+2.9~3.6 <u>&lt;+3.3&gt;</u>	+0.9~+1.6 <u>&lt;+1.3&gt;</u>
FY 2015	+1.2~+1.8 <u>&lt;+1.5&gt;</u>	+1.7~+2.9 <u>&lt;+2.6&gt;</u>	+1.0~+2.2 <u>&lt;+1.9&gt;</u>

\*Figures in brackets indicate the median of the Policy Board members' forecasts (point estimates).

## About Kitakyushu's economy

Kitakyushu's economy has been recovering moderately.

After developing Chikuho coalfield and establishing the first government-owned Steel Works, Kitakyushu's economy has grown as one of the leading industrial zones in Japan, comprising the steel, automobile, and electric machinery industries.

City of Kitakyushu is one of the world leading cities in the area of environmental preservation. Recently, City of Kitakyushu has been in the spotlight as a city of industrial tourism.