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Bank of Japan

# **Outlook for Economic Activity and Prices**

January 2016

(English translation prepared by the Bank's staff based on the Japanese original)

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## The Bank's View<sup>1</sup>

### Summary

- Japan's economy has continued to recover moderately, although exports and production have been affected by the slowdown in emerging economies. Through fiscal 2017, domestic demand is likely to follow an uptrend, with a virtuous cycle from income to spending being maintained in both the household and corporate sectors, and exports are expected to increase moderately on the back of emerging economies moving out of their deceleration phase. Thus, Japan's economy is likely to be on a moderate expanding trend.
- The year-on-year rate of change in the consumer price index (CPI, all items less fresh food) is likely to be about 0 percent for the time being, due to the effects of the decline in energy prices, and, as the underlying trend in inflation steadily rises, accelerate toward 2 percent. Meanwhile, assuming that crude oil prices will rise moderately from the recent level, it is likely that the contribution of energy items to the year-on-year rate of change in the CPI will decrease gradually from the current level of slightly more than minus 1 percentage point, but remain negative until the end of fiscal 2016.<sup>2</sup> Based on this assumption, the timing of the year-on-year rate of change in the CPI reaching around 2 percent -- the price stability target -- is projected to be around the first half of fiscal 2017.<sup>3,4</sup> Thereafter, the year-on-year rate of change in the CPI is likely to be around 2 percent on average.
- Comparing the current projections with the previous ones, the projected growth rates are more or less unchanged. The projected rate of increase in the CPI for fiscal 2016 is lower, and the projection for fiscal 2017 is more or less unchanged. The downward revision of the projection for the CPI and the delay in the projected timing of the CPI reaching around 2 percent are due to the assumption of lower crude oil prices.
- As for the conduct of monetary policy, the Bank introduced "Quantitative and Qualitative Monetary Easing (QQE) with a Negative Interest Rate" in order to achieve the price stability target of 2 percent at the earliest possible time. It will continue with "QQE with a Negative Interest Rate," aiming to achieve the price stability target of 2 percent, as long as it is necessary for maintaining that target in a stable manner. It will examine risks to economic activity and prices, and take additional easing measures in terms of three dimensions -- quantity, quality, and interest rate -- if it is judged necessary for achieving the price stability target.

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<sup>1</sup> The text of "The Bank's View" was decided by the Policy Board at the Monetary Policy Meeting held on January 28 and 29, 2016.

<sup>2</sup> Individual Policy Board members make their forecasts assuming that Dubai crude oil prices will rise moderately from the recent 35 U.S. dollars per barrel to the range of 45-50 dollars per barrel toward the end of the projection period. Under this assumption, 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 around minus 0.9 percentage point for fiscal 2015, and approximately in the range of minus 0.7 to minus 0.8 percentage point for fiscal 2016. More specifically, the contribution is expected to start to lessen in the second half of fiscal 2016 and reach around 0 percentage point during the first half of fiscal 2017.

<sup>3</sup> The Bank has set the price stability target at 2 percent in terms of the year-on-year rate of change in the all-item CPI. Projections are made on the all-item CPI excluding fresh food, for which prices tend to be largely affected by unpredictable factors such as weather.

<sup>4</sup> The projection of the year-on-year rate of change in the CPI for fiscal 2017 excludes the direct effects of the consumption tax hike. The January 2016 *Outlook for Economic Activity and Prices* (Outlook Report) assumes that the consumption tax will rise to 10 percent in April 2017 and that a reduced tax rate will be applied to food and beverages -- excluding alcohol and dining-out -- and newspapers.

## **I. The Current Situation of Economic Activity and Prices in Japan**

Japan's economy has continued to recover moderately, although exports and production have been affected by the slowdown in emerging economies. Overseas economies -- mainly advanced economies -- have continued to grow at a moderate pace, despite the slowdown in emerging economies. In this situation, exports have been picking up, although sluggishness remains in some areas. On the domestic demand side, business fixed investment has been on a moderate increasing trend as corporate profits have continued to improve markedly. Against the background of steady improvement in the employment and income situation, private consumption has been resilient and housing investment has been picking up. Public investment has been on a moderate declining trend, although it remains at a high level. Industrial production has continued to be more or less flat. Financial conditions are accommodative. On the price front, the year-on-year rate of change in the CPI (all items less fresh food, and the same hereafter) is about 0 percent. Inflation expectations appear to be rising on the whole from a somewhat longer-term perspective, although some indicators have recently shown relatively weak developments.

## **II. Baseline Scenario of the Outlook for Economic Activity and Prices in Japan**

### **A. Outlook for Economic Activity**

Looking ahead, Japan's economy is likely to be on a moderate expanding trend because domestic demand is likely to follow an uptrend, with a virtuous cycle from income to spending being maintained in both the household and corporate sectors, and because exports are expected to increase moderately on the back of emerging economies moving out of their deceleration phase.

Specifically, the economy is expected to continue growing at a pace above its potential through fiscal 2016.<sup>5</sup> Thereafter, through fiscal 2017, it is projected to maintain its positive growth, although with a slowing in its pace to around a level somewhat below the

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<sup>5</sup> Japan's potential growth rate is estimated to be around 0.5 percent or lower recently under a specific methodology, and is expected to rise gradually toward the end of the projection period. However, the estimate of the potential growth rate varies depending on the methodologies employed and could be revised as the sample period becomes longer over time. Thus, it should be regarded as being subject to a considerable margin of error.

potential growth rate. The slowdown is due mainly to (1) the effects of a front-loaded increase and subsequent decline in demand prior to and after the consumption tax hike planned in April 2017 and (2) cyclical deceleration.

The above projection assumes the following underlying developments.

First, as the Bank of Japan continues with "QQE with a Negative Interest Rate," aiming to achieve the price stability target of 2 percent as long as it is necessary for maintaining that target in a stable manner, financial conditions are likely to remain accommodative and continue stimulating the economy.<sup>6,7</sup>

Second, overseas economies are expected to moderately increase their growth rates as it is likely that advanced economies will continue to see firm growth and emerging economies will move out of their deceleration phase on the back of the developments in advanced economies.

Third, public investment is expected to follow a moderate downtrend from the current relatively high level, and thereafter level off toward the end of the projection period.

Fourth, firms' and households' medium- to long-term growth expectations are expected to rise moderately against the backdrop of progress in implementation of the government's growth strategy, including regulatory and institutional reforms, an increase in labor participation by women and the elderly under such strategy, firms' continued efforts toward improving productivity and discovering potential domestic and external demand, and steady progress in overcoming of deflation.

Given these assumptions, economic activity during the projection period can be elaborated on as follows. For the second half of fiscal 2015 through fiscal 2016, exports are expected to continue picking up for the time being, and after that they are likely to increase

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<sup>6</sup> See the Bank's statement released on January 29, 2016, entitled "Introduction of 'Quantitative and Qualitative Monetary Easing with a Negative Interest Rate.'"

<sup>7</sup> Individual Policy Board members make their forecasts taking into account the effects of past policy decisions and with reference to views incorporated in financial markets regarding future policy. Specifically, each Policy Board member makes an assumption about the future path of short- and long-term interest rates based on their market rates, with the difference in the outlook for prices between that presented in the Outlook Report and that of market participants in mind, and also taking into account the effects of today's policy decisions.

moderately as emerging economies are expected to move out of their deceleration phase. Past foreign exchange rate developments are also likely to support exports. With capacity utilization rates rising supported by a pick-up in exports and production, and with record profits seen at Japanese firms and monetary accommodation continuing to provide a boost, business fixed investment is projected to continue increasing, additionally reflecting firms' positive stance on domestic investment. Private consumption is projected to rise moderately, led by continued steady improvement in the employment situation and a resultant increase in wages, and by the positive effects of the decline in energy prices through raising real income. Industrial production is expected to start picking up as the effects of the slowdown in emerging economies abate and as the inventory adjustments progress, and after that it is likely to increase moderately reflecting demand both at home and abroad.

Through fiscal 2017, the economy is likely to be affected by the front-loaded increase and subsequent decline in demand prior to and after the consumption tax hike scheduled to take place in April 2017, and the pace of increase in business fixed investment is likely to decline, reflecting a cycle in the accumulation of capital stock.<sup>8</sup> However, exports are projected to continue increasing moderately owing to overseas economic growth, and domestic private demand is likely to be resilient, supported by accommodative financial conditions and heightened growth expectations. Meanwhile, Japan's potential growth rate is expected to follow a moderate increasing trend through the projection period, pushing up the economy's growth in the medium to long term. Reflecting these developments, the economy is projected to maintain its positive growth in fiscal 2017, although with a slowing in its pace to around a level somewhat below the potential growth rate.

Comparing the current projections with the previous ones, the projected growth rates are more or less unchanged.

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<sup>8</sup> The effects of the two rounds of consumption tax hikes on the economic growth rate for each fiscal year are quantitatively estimated as follows: an increase of around 0.5 percentage point for fiscal 2013, a decrease of around 1.2 percentage points for fiscal 2014, an increase of around 0.3 percentage point for fiscal 2015, an increase of around 0.3 percentage point for fiscal 2016, and a decrease of around 0.7 percentage point for fiscal 2017. It should be noted that the effects of the consumption tax hikes are considerably uncertain, given that they depend partly on income conditions and price developments at each point in time, and therefore these estimates are subject to a considerable margin of error.

## **B. Outlook for Prices**

The outlook for prices is as follows. The year-on-year rate of change in the CPI is likely to be about 0 percent for the time being, due to the effects of the decline in energy prices, and, as the underlying trend in inflation steadily rises, accelerate toward 2 percent. Meanwhile, assuming that crude oil prices will rise moderately from the recent level, it is likely that the contribution of energy items to the year-on-year rate of change in the CPI will decrease gradually from the current level of slightly more than minus 1 percentage point, but remain negative until the end of fiscal 2016. Based on this assumption, the timing of the year-on-year rate of change in the CPI reaching around 2 percent -- the price stability target -- is projected to be around the first half of fiscal 2017.<sup>9</sup> Thereafter, the year-on-year rate of change in the CPI is likely to be around 2 percent on average.

Comparing the current projections with the previous ones, the projected rate of increase in the CPI for fiscal 2016 is lower, and the projection for fiscal 2017 is more or less unchanged. The downward revision of the projection for the CPI and the delay in the projected timing of the CPI reaching around 2 percent are due to the assumption of lower crude oil prices.

In formulating these projections, major factors that determine inflation rates are evaluated as follows. First, the aggregate supply and demand balance (the output gap), which shows the utilization of labor and capital, has steadily followed an improving trend driven mainly by labor market developments, albeit under some downward pressure partly from the flattening of production against the background of the slowdown in emerging economies.<sup>10</sup> Specifically, the tightening trend in labor market conditions has continued, with the

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<sup>9</sup> The effects of the scheduled consumption tax hike in April 2017 on prices can be mechanically estimated by assuming that the rise in the consumption tax will be fully passed on to taxable items. On this basis, the year-on-year rate of change in the CPI will be pushed up by 1.0 percentage point in fiscal 2017.

<sup>10</sup> There are two approaches to estimating the output gap: (1) estimating potential GDP and then measuring its difference from actual GDP and (2) directly measuring the utilization of production factors (labor and capital). As the output gap in the Outlook Report has been estimated based on the latter approach, changes in the GDP growth rate do not have a one-to-one relationship with the expansion/narrowing of the output gap. It should be noted that estimates of the output gap could differ depending on the specific methodology employed and data used, and therefore they are subject to a considerable margin of error.

unemployment rate declining moderately to the range of 3.0-3.5 percent.<sup>11</sup> Capacity utilization rates are expected to increase as exports and production pick up. Looking ahead, the output gap is likely to turn positive (in excess demand) toward the end of fiscal 2015, and move further into positive territory in fiscal 2016; thus, upward pressure on wages and prices due to the tightening of supply-demand conditions is likely to steadily increase. In fiscal 2017, the output gap is projected to be more or less unchanged in positive territory.

Second, medium- to long-term inflation expectations appear to be rising on the whole from a somewhat longer-term perspective, although some indicators have recently shown relatively weak developments. Specifically, albeit with some market indicators and survey results showing relatively weak developments, firms' price- and wage-setting stance has clearly changed, particularly from the turn of the fiscal year. Consumers seem to be accepting price increases, mainly reflecting an improvement in the employment and income situation. Against this backdrop, price hikes by firms have been widespread and sustained. In the annual labor-management wage negotiations, movements toward making wages reflect price developments as well as corporate performance and supply-demand conditions in the labor market have been broadening since 2014, and such movements are likely to continue to be seen this year. These developments indicate the steady functioning of the mechanism in which inflation rises moderately accompanied by wage increases. Nevertheless, given that firms have been seeing record profits and the unemployment rate has declined to the range of 3.0-3.5 percent, it should be noted that the pace of improvement in wages to date has been slow and the labor share has remained on a downtrend.

Looking ahead, as the Bank pursues "QQE with a Negative Interest Rate" and the observed inflation rate rises, medium- to long-term inflation expectations are also likely to follow an increasing trend and gradually converge to around 2 percent -- the price stability target.

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<sup>11</sup> One measure used in assessing the degree of tightness in labor market conditions is the *structural unemployment rate*. In the labor market, there is always some mismatch between job openings and job applicants, and thus there is a certain number of unemployed even when the economy is booming. The unemployment rate at which no excess labor force is found, excluding the unemployment due to the mismatch, is called the structural unemployment rate. This rate is calculated to be in the range of 3.0-3.5 percent recently under a specific methodology. It should be noted that the estimated structural unemployment rate tends to change over time.



Against this backdrop, firms' price- and wage-setting stance is likely to shift further toward raising wages and prices.

Third, through import prices, while past developments in foreign exchange rates will exert upward pressure on consumer prices, a decline in international commodity prices including crude oil prices will exert downward pressure on consumer prices. It is presumed that the effects of the yen's depreciation on prices are not limited to such direct ones resulting from raising import prices; the yen's depreciation raises prices by improving the output gap as well, and the resultant price increases push up inflation expectations. The effects through the output gap and the inflation expectations will likely be more persistent.

### **III. Upside and Downside Risks**

#### **A. Risks to Economic Activity**

The following are upside and downside risks to the Bank's baseline scenario regarding the economy. First, there is uncertainty regarding developments in overseas economies. It is difficult to deduce the pace of growth in emerging and commodity-exporting economies, particularly China, and their impact on the global economy, given that the uncertainties surrounding those economies remain high and that there are negative effects of the declines in commodity prices. In addition, the following are considered as risks: developments in the U.S. economy and the influences of its monetary policy response to them on the global financial markets; prospects regarding the European debt problem and the momentum of economic activity and prices in Europe; and geopolitical risks.

The second risk is the effects of the consumption tax hike scheduled to take place in April 2017. Although it is likely that the recently announced introduction of a reduced tax rate on some goods will somewhat decrease the effects of the front-loaded increase and subsequent decline in demand prior to and after the consumption tax hike and of the decline in real income, the actual impact may differ depending on consumer sentiment, the employment and income situation, and developments in prices.

Third, firms' and households' medium- to long-term growth expectations may be either raised or lowered depending on future developments in regulatory and institutional reforms, innovation in the corporate sector, and the employment and income situation surrounding

the household sector. It is desirable that firms more effectively allocate their ample cash flow arising from their record profits to investment such as in physical and human capital.

Fourth, in the event that confidence in fiscal sustainability in the medium to long term declines, the economy may deviate downward from the baseline scenario through increasing concerns regarding the future and rises in long-term interest rates that are unwarranted by economic fundamental conditions. On the other hand, there is also a possibility that the economy will deviate upward from the baseline scenario if confidence in the path toward fiscal consolidation strengthens and people's concerns regarding the future are alleviated.

## **B. Risks to Prices**

In case the aforementioned upside and downside risks to the economy materialize, it is likely that prices will also be affected to a certain degree. Other factors that could exert upside and downside risks to prices are as follows. The first factor is developments in firms' and households' medium- to long-term inflation expectations. The baseline scenario assumes that, amid rises in observed inflation accompanied by wage increases, people's inflation expectations will rise further and gradually converge to around 2 percent -- the price stability target. However, the pace at which they will rise is subject to uncertainty over developments in observed prices and to the extent to which they will affect inflation expectations. In the case where the effects of the decline in energy prices will persist and the year-on-year rate of change in the CPI will not easily increase for a long period, there is a risk that the pace of increase in inflation expectations might be different from what is envisaged. Regarding the relationship between wages and prices, the focal point is that rises in the underlying trend in inflation to date and the outlook for prices will be reflected appropriately in wage increases in the annual labor-management wage negotiations this spring. Moreover, recently, global financial markets have been volatile against the backdrop of the further decline in crude oil prices and uncertainty such as over future developments in emerging and commodity-exporting economies, particularly the Chinese economy. For these reasons, there is an increasing risk that an improvement in the business confidence of Japanese firms and conversion of the deflationary mindset might be delayed and that the underlying trend in inflation might be negatively affected.

The second factor is developments in the output gap, particularly in labor market conditions. The baseline scenario assumes that the recent increase in labor participation by the elderly and women and recent movements by firms to convert part-time employees into regular ones will underpin labor supply, but there are both upside and downside risks associated with this assumption.

The third factor is the responsiveness of inflation to the output gap. There is a risk that the pace of increase in inflation will deviate downward from the baseline scenario should movements toward raising wages among firms not become widespread, reflecting uncertainties over the business environment including developments in overseas economies, or should consumers mount stronger resistance to an increase in sales prices under such circumstance. In addition, while prices of food products and durable goods respond relatively clearly to improvements in the output gap, administered prices, some services prices, and rents for houses have been less responsive thus far, and therefore there is a possibility that those prices will continue to constrain the acceleration of CPI inflation.

Fourth, developments in import prices, reflecting fluctuations in international commodity prices such as crude oil prices and foreign exchange rates, as well as the extent to which such developments will spread to domestic prices, may lead prices to deviate either upward or downward from the baseline scenario.

#### **IV. Conduct of Monetary Policy**

In the context of the price stability target, the Bank assesses the aforementioned economic and price situation from two perspectives and then outlines its thinking on the future conduct of monetary policy.<sup>12</sup>

The first perspective concerns an examination of the baseline scenario for the outlook. Japan's economy is judged as likely to achieve around 2 percent inflation around the first half of fiscal 2017 and thereafter gradually shift to a growth path that sustains such inflation in a stable manner.

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<sup>12</sup> As for the examination from two perspectives in the context of the price stability target, see the Bank's statement released on January 22, 2013, entitled "The 'Price Stability Target' under the Framework for the Conduct of Monetary Policy."

The second perspective involves an examination of the risks considered most relevant to the conduct of monetary policy. With regard to the baseline scenario for economic activity, risks are skewed to the downside, particularly those regarding developments in overseas economies. With regard to the baseline scenario for prices, there is considerable uncertainty, mainly in developments in medium- to long-term inflation expectations, and risks are skewed to the downside. Examining financial imbalances from a longer-term perspective, there is no sign at this point of excessively bullish expectations in asset markets or in the activities of financial institutions. Nevertheless, in a situation where the amount outstanding of government debt has shown a cumulative increase, due attention needs to be paid to the fact that financial institutions' holdings of government bonds have remained at an elevated level, although they have been on a declining trend on the whole.

As for the conduct of monetary policy, the Bank introduced "QQE with a Negative Interest Rate" in order to achieve the price stability target of 2 percent at the earliest possible time. It will continue with "QQE with a Negative Interest Rate," aiming to achieve the price stability target of 2 percent, as long as it is necessary for maintaining that target in a stable manner. It will examine risks to economic activity and prices, and take additional easing measures in terms of three dimensions -- quantity, quality, and interest rate -- if it is judged necessary for achieving the price stability target.

**Forecasts of the Majority of Policy Board Members**

y/y % chg.

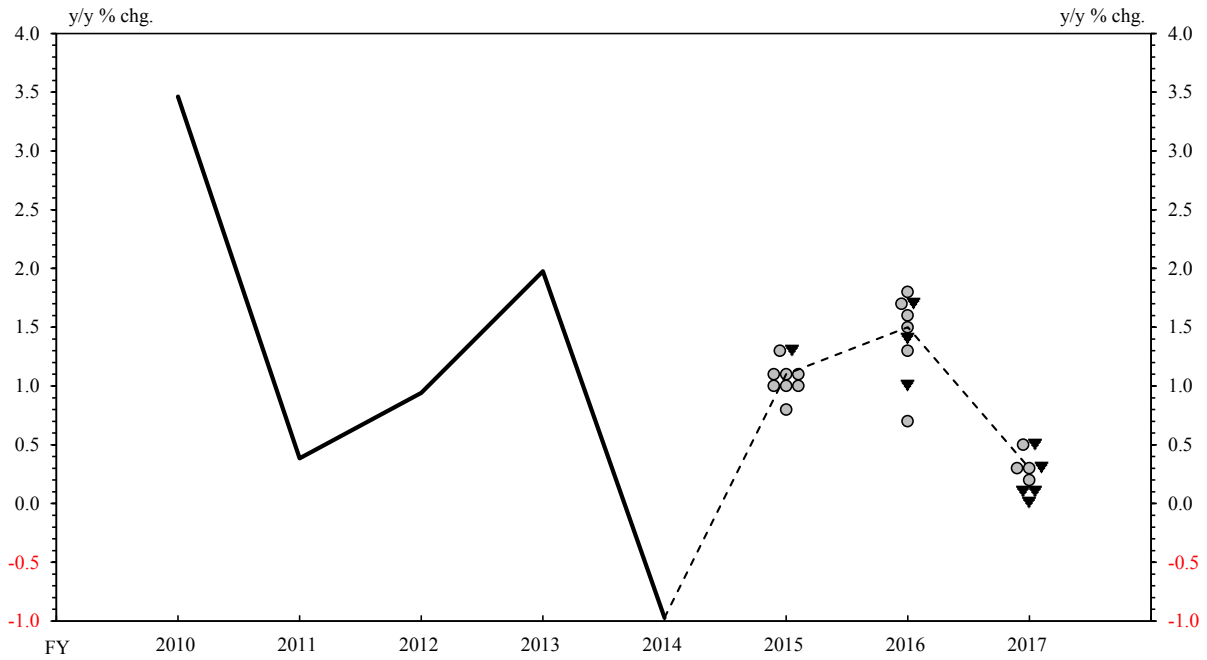
	Real GDP	CPI (all items less fresh food)	Excluding the effects of the consumption tax hikes
Fiscal 2015	+1.0 to +1.3 [+1.1]	0.0 to +0.2 [+0.1]	
Forecasts made in October 2015	+0.8 to +1.4 [+1.2]	0.0 to +0.4 [+0.1]	
Fiscal 2016	+1.0 to +1.7 [+1.5]	+0.2 to +1.2 [+0.8]	
Forecasts made in October 2015	+1.2 to +1.6 [+1.4]	+0.8 to +1.5 [+1.4]	
Fiscal 2017	+0.1 to +0.5 [+0.3]	+2.0 to +3.1 [+2.8]	+1.0 to +2.1 [+1.8]
Forecasts made in October 2015	+0.1 to +0.5 [+0.3]	+2.5 to +3.4 [+3.1]	+1.2 to +2.1 [+1.8]

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

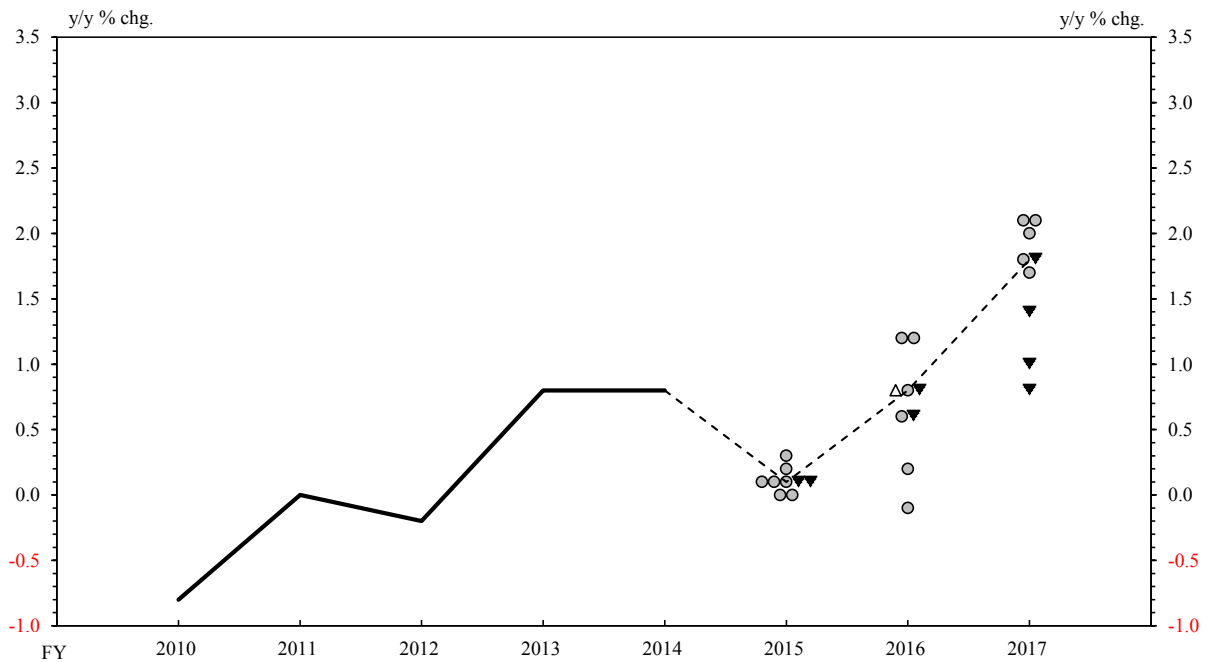
2. The forecasts of the majority of the Policy Board members are constructed as follows: each Policy Board member's forecast takes the form of a point estimate -- namely, the figure to which he or she attaches the highest probability of realization. These forecasts are then shown as a range, with the highest figure and the lowest figure excluded. The range does not indicate the forecast errors.
3. Individual Policy Board members make their forecasts taking into account the effects of past policy decisions and with reference to views incorporated in financial markets regarding future policy. Specifically, each Policy Board member makes an assumption about the future path of short- and long-term interest rates based on their market rates, with the difference in the outlook for prices between that presented in the Outlook Report and that of market participants in mind, and also taking into account the effects of today's policy decisions.
4. Dubai crude oil prices are expected to rise moderately from the recent 35 U.S. dollars per barrel to the range of 45-50 dollars per barrel toward the end of the projection period. Under this assumption, 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 around minus 0.9 percentage point for fiscal 2015, and approximately in the range of minus 0.7 to minus 0.8 percentage point for fiscal 2016. More specifically, the contribution is expected to start to lessen in the second half of fiscal 2016 and reach around 0 percentage point during the first half of fiscal 2017.
5. The consumption tax hike scheduled to take place in April 2017 -- to 10 percent -- and the reduced tax rate to be applied to food and beverages -- excluding alcohol and dining-out -- and newspapers are incorporated in the forecasts, but individual Policy Board members make their forecasts of the CPI based on figures excluding the direct effects of the consumption tax hike. The forecasts for the CPI for fiscal 2017 that incorporate the direct effects of the consumption tax hike are constructed as follows. First, the contribution to prices from the tax hike is mechanically computed on the assumption that the tax increase will be fully passed on for taxable items. The CPI will be pushed up by 1.0 percentage point. Second, this figure is added to the forecasts made by the Policy Board members.

## Policy Board Members' Forecasts and Risk Assessments

### (1) Real GDP



### (2) CPI (All Items Less Fresh Food)



Notes: 1. Solid lines show actual figures, while dotted lines show the medians of the Policy Board members' forecasts (point estimates).

2. The locations of  $\circ$ ,  $\Delta$ , and  $\blacktriangledown$  in the charts indicate the figures for each Policy Board member's forecasts to which he or she attaches the highest probability. The risk balance assessed by each Policy Board member is shown by the following shapes:  $\circ$  indicates that a member assesses "upside and downside risks as being generally balanced,"  $\Delta$  indicates that a member assesses "risks are skewed to the upside," and  $\blacktriangledown$  indicates that a member assesses "risks are skewed to the downside."

3. Figures for the CPI exclude the direct effects of the consumption tax hikes.

## **The Background<sup>13</sup>**

### **I. The Current Situation of Economic Activity and Its Outlook**

#### **A. Economic Developments**

Looking back at Japan's economy since the October 2015 Outlook Report, it continued to recover moderately, with the virtuous income-generating mechanism continuing to work with support from the low crude oil prices and the low yen rate, although the slowdown in emerging economies exerted downward pressure on exports and production. Reflecting these economic developments, after slightly negative growth in the April-June quarter of 2015, real GDP increased in the July-September quarter by an annualized rate of 1.0 percent that exceeds the potential growth. The main driver was an increase in domestic private demand (Chart 1).<sup>14</sup> The output gap -- which captures the utilization of labor and capital -- had deteriorated in the April-June quarter due to a decline in capital utilization of manufacturers, but improved somewhat in the July-September quarter on the back of the tightening of labor market conditions (Chart 3).

This Outlook Report's views on future developments are generally unchanged from the October report. On the income side, the steady improvement in corporate profits is expected to continue as the favorable external environment, owing to the low crude oil prices and the low yen rate, is likely to continue to have positive price effects and support the income-generating mechanism, and as overseas economies, which have exerted negative quantity effects on exports and production, are expected to increase their growth rates moderately. Employee income is also projected to continue to increase moderately on the back of an improvement in corporate profits and the tightening of labor market conditions. On the expenditure side, domestic private demand is likely to follow an uptrend against the backdrop of income generated by this virtuous mechanism and of the monetary easing effects working on both the income and expenditure sides. Thus, Japan's economy is likely to continue growing at a pace above its potential through fiscal 2016. In fiscal 2017,

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<sup>13</sup> "The Background" provides explanations of "The Bank's View" decided by the Policy Board of the Bank of Japan at the Monetary Policy Meeting held on January 28 and 29, 2016.

<sup>14</sup> Real GNI has tended to increase at a faster pace than real GDP recently on the back of (1) improvement in trading gains due to the decline in crude oil prices and (2) an increase in net income from overseas partly supported by the yen's depreciation (Chart 2).

although demand related to hosting the Olympic Games will underpin the economy, the growth rate will slow to around a level somewhat below the potential, mainly because of a fall in household spending due to the consumption tax hike.<sup>15</sup> The view on fiscal 2017 is unchanged from the previous Outlook Report.

Details of the outlook for each fiscal year are as follows. Exports, which have been picking up, are expected to head toward a moderate increase toward the end of fiscal 2015 as the effects of the slowdown in emerging economies gradually abate. Business fixed investment, which was somewhat stagnant in the first half of the fiscal year, is expected to somewhat accelerate its pace of increase as the order backlogs that had accumulated will lead to more shipments.<sup>16</sup> Private consumption for the October-December quarter is likely to be relatively weak, reflecting weak demand-side statistics and partly due to the effects of bad weather, but is expected to generally be resilient, supported by the improvement in the employment and income situation, the decline in energy prices, and an improvement in consumer sentiment. Meanwhile, public investment is likely to continue its moderate downtrend. Reflecting these developments, it is projected that real GDP will grow at a pace above potential growth, albeit with some fluctuations, and the output gap will become positive toward the end of fiscal 2015.

In fiscal 2016, the pace of decline in public investment is projected to moderate, reflecting the implementation of the supplementary budget for fiscal 2015. Exports are expected to increase moderately as emerging economies move out of their deceleration phase. Domestic private demand is likely to increase firmly, on the back of an improvement in corporate profits and a rise in real disposable income, supported by the low crude oil prices. In addition, in the second half of the fiscal year, a front-loaded increase in demand prior to

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<sup>15</sup> This report assumes that the consumption tax will rise to 10 percent in April 2017 and the reduced tax rate of 8 percent will be applied to food and beverages -- excluding alcohol and dining-out -- and newspapers. Prior to the consumption tax hike, the front-loaded increase in demand, especially in household spending, will raise real GDP, and after the consumption tax hike, a subsequent decline in demand and a decline in real income will lower GDP. The introduction of the reduced tax rate on some goods will mitigate the negative effect on household spending, mainly through a smaller decline in real income. For details, see Box 1.

<sup>16</sup> The accumulation of backlogs of machinery orders has been marked recently, particularly for items that have a long lead time until shipment. For details, see Box 2.



the consumption tax hike is expected to be seen again in both household spending and business fixed investment. Thus, the economy is projected to continue growing at a pace clearly above its potential.

In fiscal 2017, economic growth is projected to substantially weaken compared to the previous fiscal year due to a decline in demand following the consumption tax hike and the effects of a decline in real income. The pace of cyclical increase in business fixed investment is also projected to gradually slow down. However, exports are expected to continue increasing moderately. It is also likely that domestic private demand will maintain its underlying resilience because of monetary accommodation and heightened growth expectations. Investment related to hosting the Olympic Games will have additional positive effects on domestic private demand. Thus, the economy is projected to see positive growth, albeit somewhat below the growth potential; on average, the output gap is expected to broadly maintain its positive level of the previous fiscal year.

## **B. Developments in Major Expenditure Items and Their Background**

### *Government Spending*

Public investment has been on a moderate declining trend, although it remains at a high level (Chart 4). The amount of public construction completed, which reflects the progress of public works, has been declining after it peaked in spring 2015. Going forward, considering that public works contracted and orders received for public construction, both of which reflect public orders, have decreased, albeit with fluctuations, public investment is likely to follow its moderate declining trend for the time being. Thereafter, with the implementation of the disaster relief public construction planned in the supplementary budget for fiscal 2015, the pace of decline in public investment is projected to further moderate. Through fiscal 2017, it is likely to gradually stop declining, underpinned in part by an increase in investment related to hosting the Olympic Games.

## *Overseas Economies*

Overseas economies -- mainly advanced economies -- have continued to grow at a moderate pace, despite the slowdown in emerging economies (Chart 5). Production and trade in the manufacturing sector had been weak on a global basis in the first half of 2015, but have generally picked up somewhat, albeit with some weakness still seen in emerging economies (Charts 6 and 10 [1]). Looking at developments by major region, the U.S. economy has continued to steadily recover, reflecting the firmness in household spending. The European economy also has continued to recover moderately. The Chinese economy has continued to be in a state of deceleration due to downward pressure from an overhang of production capacities and inventory adjustments in the manufacturing sector. Other emerging economies and commodity-exporting economies as a whole also remain in a situation of deceleration, as the effects of the slowdown in the Chinese economy have spread to them and as the decline in commodity prices has been protracted. Some economies in Asia, however, have seen a pick-up in IT-related demand.

In the outlook, the pace of growth in overseas economies is expected to accelerate moderately as the positive effects of the recovery in advanced economies gradually spread to emerging economies. However, given that the expected growth rates of emerging economies have become lower and low commodity prices have become protracted, the capital stock that accumulated amid the higher expected growth rates and higher commodity prices in the past is likely to continue to be excessive.<sup>17</sup> Thus, firms' restrained stance toward fixed investment expenditure is likely to be seen globally throughout the projection period.

By major region, the U.S. economy is expected to continue its firm recovery centered on the private sector, underpinned by accommodative financial conditions. The European economy is projected to continue to see moderate recovery, mainly on the back of improvement in the employment and income situation, as well as accommodative financial conditions. The Chinese economy is likely to broadly follow a stable growth path, albeit at a somewhat slower pace mainly in the manufacturing sector, as authorities proactively

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<sup>17</sup> In particular, there appears to be considerable excess in capital stock in the energy sector, which had been accumulated when commodity prices had risen or remained at high levels since 2000.

carry out policy measures to support economic activity. Other emerging economies and commodity-exporting economies as a whole are expected to gradually increase their growth rates, due mainly to the effects of the recovery in advanced economies and of economic stimulus measures, although some commodity-exporting economies are likely to remain in a situation of deceleration for the time being.

### ***Exports and Imports***

Exports have been picking up, although sluggishness remains in some areas (Chart 7 [1]). Specifically, although exports of capital goods have continued to be relatively weak with the effects of the slowdown in emerging economies such as China remaining, IT-related exports, which had been declining since early 2015, have leveled off accompanied by an increase in those of parts for new models of smartphones, and automobile-related exports have firmly increased, mainly those to the United States and Europe, due partly to shifting back production sites from foreign countries to Japan (Charts 7 [2] and 8).

Exports are likely to continue picking up for the time being. Although IT-related exports are projected to decrease again, reflecting the product life-cycle, capital goods exports are expected to bottom out and head toward a pick-up in line with overseas machinery orders, and automobile-related exports are likely to continue increasing on the back of the introduction of new cars to the market in addition to firm sales developments in the United States, Europe, and China (Chart 9). Thereafter, exports are projected to follow a moderate increasing trend. Although a waning of the effects of the introduction of new cars is likely to be seen, the volume of global trade is expected to continue increasing moderately with the positive effects of the steady recovery in advanced economies spreading to emerging economies, and the share of Japan's exports in global trade is also likely to recover, supported in part by the past depreciation of the yen (Charts 10 and 52).<sup>18</sup> However, given the decline in expected growth in emerging and commodity-exporting economies, protracted low commodity prices, and the resulting excess in production capacity related to material and energy, Japan's exports are expected to tend to mark a fall rather than a clear increase, especially those of capital goods in which Japan has a

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<sup>18</sup> The volume of global trade is calculated by adding up real imports in each country.

comparative advantage, and thus the pace of recovery in the share of Japan's exports is projected to be only moderate.

Meanwhile, the number of foreign visitors, especially from Asia, has continued to increase substantially despite the slowdown in emerging economies, and the travel receipts that are categorized as exports of services in the *Balance of Payments* have followed a clear improving trend (Chart 11 [1] and [2]). Such an increasing trend in the number of foreign visitors is likely to continue, supported by the past depreciation of the yen and governmental measures to attract foreign tourists to Japan in view of the country hosting the 2020 Tokyo Olympics, and this is expected to underpin exports through an increase in travel receipts.<sup>19</sup>

Imports have remained on a moderate increasing trend, mainly reflecting developments in domestic demand (Chart 7 [1]). In the outlook, although the past developments in foreign exchange rates will be a restraining factor for the time being and the consumption tax hike will cause fluctuations, imports are expected to continue a moderate increasing trend, mainly reflecting developments in domestic demand.

### ***External Balance***

Looking at the nominal current account balance, the surplus had somewhat declined through summer 2015; however, it has resumed expanding recently, mainly due to the pick-up in exports and the decline in crude oil prices (Chart 11 [3]). The current account surplus is likely to continue its expanding trend, reflecting an improvement in the nominal trade balance in line with the aforementioned developments in exports and imports and also reflecting the larger surplus of the income balance supported by the low yen rate.<sup>20</sup>

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<sup>19</sup> For the economic impact of hosting the 2020 Tokyo Olympics on Japan's economy, see "Economic Impact of the Tokyo 2020 Olympic Games," Bank of Japan Reports and Research Papers, January 2016.

<sup>20</sup> Looking at the domestic saving-investment balance that by definition equals the current account balance, the deficit in the general government is expected to decrease markedly during the projection period, partly due to an increase in tax revenue, while excess saving in the private sector will likely narrow very moderately, albeit with fluctuations caused by the consumption tax hike. Therefore, excess saving for Japan as a whole is expected to follow a rising trend through the projection period.

### ***Industrial Production***

Industrial production has continued to be more or less flat, against the background of the prolonged inventory adjustments of small cars and some capital goods. The effects of the slowdown in emerging economies also remain (Charts 12 [1] and 13). However, favorable developments have started to be seen: IT-related demand has been picking up, particularly for parts for new models of smartphones, and transport equipment production has started trending moderately upward with an increase in shipments to the United States and Europe and a shift of production sites from overseas back to Japan (Chart 12 [2]).

Industrial production is likely to start picking up as the effects of the slowdown in emerging economies abate and as the inventory adjustments progress.<sup>21</sup> Thereafter, it is likely to follow a moderate increasing trend, reflecting an increase in final demand at home and abroad.

### ***Corporate Profits***

Corporate profits have continued to improve markedly, underpinned by the decline in crude oil prices and the depreciation of the yen. According to the *Financial Statements Statistics of Corporations by Industry, Quarterly*, the ratio of current profits to sales aggregated across all industries and company sizes for the July-September quarter of 2015 has been maintaining a level close to a record high, although it declined somewhat due to the setback from the significant increase in the previous quarter (Chart 14). Business sentiment has generally stayed at a favorable level on the back of the improvement in corporate profits and resilience in domestic private demand, although somewhat cautious developments have been observed in some areas, including business condition forecasts, due to the slowdown in emerging economies and to the decline in commodity prices (Chart 15).

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<sup>21</sup> Based on interviews with firms, industrial production for the January-March quarter is projected to increase firmly on a quarter-on-quarter basis, mainly due to an increase in production of transport equipment, reflecting the introduction of new models, and to its stimulative effects on related sectors (iron and steel, chemicals, and fabricated metals).

Corporate profits are expected to maintain their clear improving trend on the back of (1) the improvement in the terms of trade, mainly due to the decline in crude oil prices, (2) the rise in dividend income and interest income from overseas business, partly reflecting the higher yen value brought by the depreciation of the yen, and (3) the pick-up in sales volume led by an increase in demand both at home and abroad. However, toward the end of the projection period, the growth rate of corporate profits is expected to gradually decline, because income distribution to households will gradually become large, mainly through an increase in labor costs, and because the economy will head for a cyclical deceleration and there will be a decline in demand in fiscal 2017 following the front-loaded increase prior to the consumption tax hike.

### ***Business Fixed Investment***

Business fixed investment has been on a moderate increasing trend as corporate profits have continued to improve markedly. As for the coincident indicators, while the aggregate supply of capital goods is currently more or less unchanged, partly owing to an increase in machinery investment with a long lead time from orders to shipment, the *Financial Statements Statistics of Corporations by Industry, Quarterly* indicates that business fixed investment in nominal terms has been trending moderately upward, albeit with some fluctuations (Chart 16).<sup>22</sup> According to the December 2015 Short-Term Economic Survey of Enterprises in Japan (*Tankan*), firms have generally continued to plan to increase fixed investment firmly despite the slowdown in emerging economies (Charts 17 and 18). For example, in their plans for fiscal 2015, business investment (including software investment and excluding land purchasing expenses) in all industries including financial institutions, which is close to the basis in GDP, is expected to increase by 8.6 percent (Chart 17 [2]). This number is the highest among plans in past December *Tankan* surveys since fiscal 2006. Reflecting firms' positive fixed investment stance, machinery orders -- a leading indicator of

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<sup>22</sup> For the recent features of business fixed investment, see Box 2.

machinery investment -- have followed a firm increasing trend, albeit with some fluctuations (Chart 19 [1]).<sup>23</sup>

Business fixed investment is projected to continue to see a moderate increase on the back of (1) a marked improvement in corporate profits, (2) stimulative financial conditions such as low interest rates and accommodative lending attitudes, and (3) manufacturers' positive stance on domestic investment in response to the continuation of low yen rates. Toward the end of the projection period, as the capital stock accumulation becomes considerable, the pace of the cyclical increase in business fixed investment is projected to gradually slow down. In light of corporate profits or cash flow, firms are judged as having maintained their restrained fixed investment stance since the global financial crisis due to sluggish growth expectations. However, their stance is projected to gradually become more positive through the second half of the projection period in response to a moderate rise in growth expectations and a sustained improvement in profitability (Chart 20 [1]).

It is possible to assess projected business fixed investment growth from the viewpoint of the capital stock cycle, based on the assumption that the investment will be undertaken in order to realize the level of capital stock necessary for production activity under the specific rate of expected growth (Chart 20 [2]). For the time being, business fixed investment is likely to moderately increase at the pace consistent with the assumption that firms' expected growth rates are about the same level as the growth potential, which is estimated to be around 0.5 percent or lower. Thereafter, it is projected that firms will raise their expected growth rates to the range of 0.5-1.0 percent and moderately accumulate capital stock. Investment is also supported by the following: (1) extremely accommodative financial conditions; (2) the materialization of investment demand related to hosting the Olympic Games; and (3) sustained improvement in profitability.

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<sup>23</sup> Construction starts in terms of floor area (private, non-dwelling use) -- a leading indicator of construction investment -- have been more or less flat, but planned construction expenses have kept trending firmly upward, reflecting elevated construction costs and increases in high value-added construction resulting in larger expenses per floor area (Chart 19[2]).

### ***The Employment and Income Situation***

Supply-demand conditions in the labor market have continued to improve steadily, and employee income has increased moderately (Charts 21 and 22). According to the *Labour Force Survey*, the smoothed-out number of employees has been increasing in the range of 0.5 percent to around 1.0 percent on a year-on-year basis. Against this backdrop, the active job openings-to-applicants ratio has risen steadily and a perception of labor shortage suggested by the employment conditions DI in the December *Tankan* has heightened; both indicators are almost at the same levels as around the first half of 1992. The unemployment rate has declined moderately, albeit with some fluctuations, and recently has been in the range of 3.0-3.5 percent. Labor force participation rates have increased moderately -- especially those for women and the elderly -- after bottoming out around 2012, despite the structural downward pressure due to the aging population. As Japan's economy is likely to continue growing at a pace above its potential for some time, the number of employees is likely to continue increasing and the supply-demand conditions in the labor market are also expected to continue improving steadily.

On the wage side, total cash earnings per employee excluding special cash earnings have risen moderately (Chart 23).<sup>24</sup> Specifically, the year-on-year rate of increase in scheduled cash earnings as a whole has moderately accelerated in spite of continued downward pressure from an increase in the ratio of part-time workers, as the rate of increase in scheduled cash earnings of full-time employees has accelerated at a moderate pace, mainly due to the effects of the rise in base pay. Hourly cash earnings are also assessed as continuing a moderate improving trend, disregarding fluctuations in summer bonuses. Hourly cash earnings of part-time employees, which are responsive to labor market conditions, have shown an especially clear improvement recently and grown at an

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<sup>24</sup> In the *Monthly Labour Survey*, year-on-year fluctuations in wage data, particularly for special cash earnings, have become larger since the January 2015 replacement of samples for establishments with 30 or more employees, probably because of differences in the samples before and after the revision. This makes it somewhat difficult to assess actual wage developments. Nevertheless, taking into consideration various survey results on bonus payments, the developments in wage-related statistics other than the *Monthly Labour Survey*, and an improving trend in consumer sentiment, there seems to have been no significant change in the uptrend of wages.



accelerated pace of slightly below 2 percent on a year-on-year basis. A recent increase in minimum wages also supports this development.<sup>25</sup>

With regard to the outlook, as the tightening of labor market conditions and the heightening of inflation expectations will become more evident, these will tend to exert upward pressure, especially on scheduled cash earnings, through an improvement in base pay and an increase in hourly cash earnings of part-time employees.<sup>26</sup> Under this situation, the rate of change in hourly cash earnings of overall employees is likely to increase gradually, and at the end of the projection period, accelerate to almost the same level as trend labor productivity growth in nominal terms (Chart 42 [2]).<sup>27</sup> Bonus payments are also projected to increase on the back of an improvement in corporate profits.

In light of the aforementioned prospects for employment and wages, the rate of increase in employee income is expected to moderately accelerate and, toward the second half of the projection period, gradually stabilize at around the same rate as nominal GDP growth (Chart 24 [1]).

### ***Household Spending***

Private consumption has been resilient, supported by the steady improvement in the employment and income situation and the improvement in real income due to the decline in energy prices. According to various statistics, retail sales are on a moderate increasing trend but have been somewhat weak recently due to sluggish sales in winter apparel stemming from irregularly warm weather (Chart 28). The supply-side statistics indicate that the aggregate supply of consumer goods has picked up (Chart 27 [2]). Services consumption such as dining-out and travel has been increasing firmly recently (Chart 29

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<sup>25</sup> For the relationship between the recent tightening of labor market conditions and part-time employee wages, see Box 3.

<sup>26</sup> On this point, see section II in the *Regional Economic Report January 2016*, "Firms' employment and wage-setting behavior in each region" (available in Japanese only).

<sup>27</sup> The labor share is expected to gradually level off toward the end of the projection period (Chart 24 [2]). However, firms' expected growth rates rise only moderately, and they have maintained their restrained stance toward personnel expenses that could lead to an expansion in fixed costs. Thus, the labor share is likely to be below the long-term average throughout the projection period.

[2]). The index of consumption expenditure (excluding some items such as housing-related expenditure) in the *Family Income and Expenditure Survey* has shown relatively weak developments, reflecting fluctuations that seem to be attributable to the sample bias, thus deviating from the supply-side statistics and sales statistics (Chart 27 [2]).<sup>28</sup> The synthetic consumption index, which combines the monthly statistics on both the supply and demand sides in roughly the same way as the GDP statistics, has been relatively weak recently, reflecting the weakness in the *Family Income and Expenditure Survey* (Chart 26 [1]). Nonetheless, given (1) an increase in real disposable income due to a rise in nominal wages, an increase in pension payments, and the decline in energy prices and (2) a moderate improving trend in consumer sentiment under such circumstances, it is assessed that the underlying resilience in private consumption has been maintained, disregarding the weather-related fluctuations (Charts 25 and 30).

In the outlook, the propensity to consume is expected to be more or less unchanged, albeit with the fluctuations stemming from the consumption tax hike, and private consumption is projected to generally remain resilient, reflecting the developments in real disposable income (Chart 26).<sup>29</sup> Specifically, private consumption is expected to gradually increase its resilience on the back of an increase in real disposable income and an improvement in consumer sentiment.<sup>30</sup> Against this backdrop, in the second half of fiscal 2016, private consumption growth is expected to be relatively high, additionally supported by a front-loaded increase in demand prior to the consumption tax hike. In contrast, in fiscal 2017, as there will be a subsequent decline in demand and a drop in real income due to the

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<sup>28</sup> The index of consumption expenditure (excluding some items such as housing-related expenditure) in the *Family Income and Expenditure Survey* recently has been at around the same level as that observed immediately after the consumption tax hike in spring 2014, when it significantly fell due to the decline in demand following the front-loaded increase prior to the consumption tax hike. The irregularly warm winter seems to have lowered consumption expenditure, but it is implausible that private consumption has actually declined to the level seen immediately after the consumption tax hike; it is likely that the recent weakness is largely attributable to the sample bias.

<sup>29</sup> Private consumption will be temporarily pushed down by the irregularly warm winter. In addition, attention should continue to be paid to the possibility that private consumption in the GDP statistics will be weaker than in actuality due to the bias in the demand-side statistics.

<sup>30</sup> In addition to these macro drivers, private consumption is likely to be temporarily pushed up by the introduction of new models for a mobile phone and a popular automobile.

consumption tax hike, private consumption is likely to turn to a decline but be less significant than the drop seen in fiscal 2014.

Housing investment has been picking up (Chart 31). It is expected to continue doing so, underpinned by the continued steady improvement in the employment and income situation and the low levels of housing loan rates.<sup>31</sup>

## **II. The Current Situation of Prices and Their Outlook**

### ***Developments in Prices***

The producer price index (PPI, adjusted for the effects of seasonal changes in electricity rates) has continued to decline relative to three months earlier since July 2015, reflecting the decline in international commodity prices and the deterioration in supply-demand conditions in Asia, especially in the material sector (Charts 32 and 33 [1]). The year-on-year rate of increase in the services producer price index (SPPI, excluding international transportation) has been around 0.5 percent, amid firms' continued positive spending stance on the back of the improvement in corporate profits (Chart 33 [2]).

The year-on-year rate of change in the CPI (all items less fresh food) has generally been about 0 percent, with the following two factors broadly offsetting: (1) the further decline in energy prices, reflecting the decline in crude oil prices, and (2) the further increase in non-energy prices (Charts 34 and 38 [1]). Looking at this in detail, developments in prices for goods -- especially for food products, durable goods, and clothes -- have continued to improve steadily, reflecting the resilient private consumption and the pass-through of the cost increases due to the depreciation of the yen, while the contribution of petroleum product prices to the CPI has remained negative to a large extent. The rate of increase in general service prices has kept accelerating moderately, mainly due to wage-driven price

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<sup>31</sup> Among the effects of the consumption tax hike planned in April 2017, the degree of the front-loaded increase and subsequent decline in housing investment is likely to be somewhat smaller than that of the hike in April 2014, given that (1) a part of the front-loaded demand to avoid the effects of the second round of consumption tax hikes may have materialized to some extent before the first round and (2) the gift tax exemption related to housing acquisition funds has been extended and expanded.

increases in dining-out and other services, including accommodation and housework-related services, while house rent has continued to decline slightly. Meanwhile, administered prices have tended to decline at a faster pace recently, mainly due to reductions in electricity and gas prices through the Fuel Cost Adjustment System.

As one of the indicators for capturing the underlying trend in the CPI, the year-on-year rate of increase in the CPI for all items excluding energy in addition to fresh food has continued to be on a steady rising trend after bottoming out in the period of January-February 2015, when it marked an increase of 0.4 percent, and it stood at 1.3 percent in December (Chart 35).<sup>32</sup> The rate of increase in the trimmed mean has risen very moderately since the start of 2015, albeit with some fluctuations, and has been around 0.5 percent recently.<sup>33</sup> Looking at annual price changes in all CPI items less fresh food, the share of price-increasing items minus the share of price-decreasing items has shown a marked increase since April 2015, albeit with some fluctuations. The mode has continued rising moderately after bottoming out at the beginning of 2013. Meanwhile, the weighted median has been more or less flat, albeit slightly positive, because of a decline in house rent, which has a large weight (Chart 36).<sup>34</sup>

The year-on-year rate of increase in the GDP deflator has been slightly less than 2 percent recently, mainly due to the decline in the import deflator arising from the decline in crude oil prices (Chart 37). In contrast, the year-on-year rate of change in the domestic demand deflator has been around 0 percent recently, due to the effects of the decline in energy prices as well as the contribution of the consumption tax hike in April 2014 having become zero.

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<sup>32</sup> For more details on the core price indicators, see "Core Inflation and the Business Cycle" Bank of Japan Review Series (2015-E-6) and "Performance of Core Indicators of Japan's Consumer Price Index" Bank of Japan Review Series (2015-E-7).

<sup>33</sup> The effects of large relative price fluctuations are eliminated by mechanically excluding items that belong to a certain percentage of the upper and lower tails of the price fluctuation distribution (10 percent of each tail in this report).

<sup>34</sup> The mode is the inflation rate with the highest density in the distribution. The weighted median is the weighted average of the inflation rates of the items at around the 50 percentile point of the distribution.

### ***The Environment surrounding Prices***

In the outlook for prices, the main factors that determine inflation rates are assessed as follows. First, toward the end of fiscal 2015, the output gap is expected to exceed 0 percent, which corresponds to the long-term average, and become slightly positive, reflecting a rise in the manufacturing sector's capacity utilization supported by a pick-up in exports and production, and a further improvement in labor market conditions (Charts 3 [1] and 38 [2]). In fiscal 2016, the output gap is projected to steadily expand within positive territory, reflecting a higher utilization of production inputs accompanying the economic expansion and higher growth due to a front-loaded increase in demand prior to the consumption tax hike planned in April 2017. In fiscal 2017, it is likely to more or less level off, while remaining in positive territory, due to the slowdown of the growth rate to around a level somewhat below the potential growth rate against the backdrop of the consumption tax hike.

Second, medium- to long-term inflation expectations appear to be rising on the whole from a somewhat longer-term perspective, although some indicators have recently shown relatively weak developments. Specifically, albeit with some market indicators and survey results showing relatively weak developments, firms' price- and wage-setting stance has clearly changed, particularly from the turn of the fiscal year (Charts 39 and 40). Consumers seem to be accepting price increases, mainly reflecting an improvement in the employment and income situation. Against this backdrop, price hikes by firms have been widespread and sustained. In the annual labor-management wage negotiations, movements toward making wages reflect price developments as well as corporate performance and supply-demand conditions in the labor market have been broadening since 2014. Looking ahead, as the Bank pursues "QQE with a Negative Interest Rate" and the observed inflation rate rises, medium- to long-term inflation expectations are also likely to follow an increasing trend and gradually converge to around 2 percent -- the price stability target.

The third factor is developments in import prices (Chart 32). The Bank assumes that Dubai crude oil prices will rise moderately from the recent 35 U.S. dollars per barrel to the range of 45-50 dollars per barrel toward the end of the projection period, generally in line

with what the futures prices suggest. Under this assumption, the contribution of energy items (petroleum products, electricity, and manufactured and piped gas) to the year-on-year rate of change in the CPI (all items less fresh food) is expected to remain negative at around minus 1 percent in the first half of fiscal 2016, and then the negative contribution is estimated to gradually lessen but remain until the end of the fiscal year. As for the effects of developments in foreign exchange rates on consumer prices, the pass-through of cost increases due to the past depreciation of the yen is expected to continue for some time against the backdrop of the increasing resilience of private consumption, although it should tend to moderately wane.<sup>35</sup>

### ***The Outlook for Prices***

The outlook for prices (excluding the direct effects of the consumption tax hikes) is as follows. The year-on-year rate of increase in the CPI (all items less fresh food and energy) is projected to steadily accelerate to around 2 percent from the current range of 1.0-1.5 percent, because cost increases resulting from the depreciation of the yen and the rise in wages are expected to be reflected in prices on the back of the improvement in the output gap and the rise in inflation expectations.<sup>36</sup> The year-on-year rate of change in the CPI (all items less fresh food) is projected to be about 0 percent or slightly above 0 percent in fiscal 2015, because the negative contributions of energy items are likely to offset the positive contributions of items other than fresh food and energy. The negative contributions of energy items are likely to remain large even after the turn of fiscal 2016 but wane through the second half of the fiscal year. Thus, the year-on-year rate of change in the CPI (all items less fresh food) is projected to reach around 2 percent around the first half of fiscal 2017 as the negative contribution of energy items dissipates. Thereafter, the rate of change is likely to be around 2 percent on average.

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<sup>35</sup> For the effects of the yen's depreciation on the CPI, see Box 4.

<sup>36</sup> As in the aforementioned notes, this Outlook Report assumes that the reduced tax rate will be applied to food and beverages -- excluding alcohol and dining-out -- and newspapers when the consumption tax will be raised in April 2017. Under such assumption, the effects of the consumption tax hike are 1.0 percentage point on the year-on-year rate of change in the CPI excluding fresh food and 0.9 percentage point on that excluding fresh food and energy. For more details, see Box 1.

The outlook for prices can be described as follows from the viewpoint of the Phillips curve that represents the relationship between inflation (the CPI, all items less fresh food and energy) and the output gap (Chart 41). The inflation rate has been accelerating since the start of 2015 at a faster pace than suggested by the improvement in the output gap, because cost increases in supply chains are expected to be passed on to final goods prices. Such developments were seen in fiscal 2013 following the rapid depreciation of the yen, which occurred immediately before the start of that fiscal year. The inflation rate has been in the range of 1.0-1.5 percent recently, with the output gap being at about 0 percent. In fiscal 2016, although the upward effects of the depreciation of the yen will dissipate gradually, the inflation rate is expected to moderately increase, broadly at a pace suggested by the improvement in the output gap, as medium- to long-term inflation expectations increase. In fiscal 2017, as medium- to long-term inflation expectations are likely to converge to around 2 percent and the output gap is likely to be more or less unchanged, the inflation rate is expected to be around 2 percent. As such, in the baseline scenario, it is projected that the year-on-year rate of change in the CPI will respond fairly clearly to the improvement in the output gap and the Phillips curve will continue to shift upward, reflecting a rise in medium- to long-term inflation expectations.

With regard to the relationship between prices and nominal wages, the CPI and hourly nominal wages move almost in parallel in the long run and the relationship is stable (Chart 42 [1]). Specifically, there are interactive effects between rises in nominal wages and prices, in that firms try to pass on cost increases due to nominal wage increases by raising sales prices and that households try to keep real income unchanged by demanding wage increases in line with price increases. In the outlook, hourly cash earnings -- especially scheduled cash earnings -- are expected to rise moderately, reflecting the tightening of labor market conditions and the rise in inflation expectations, and the underlying rate of increase in the CPI is projected to accelerate gradually in a consistent manner with such wage developments.

### **III. Financial Developments in Japan**

#### ***Financial Conditions***

Financial conditions are accommodative.

With the Bank pursuing QQE, the monetary base has been increasing at a high year-on-year growth rate of about 30 percent (Chart 43).

Firms' funding costs have been hovering at low levels. The issuance spreads for CP and corporate bonds have been low, as favorable issuing conditions have continued against the backdrop of firm demand from investors (Chart 44). The average interest rates on new loans and discounts have been at historical low levels (Chart 45 [1]). In these circumstances, interest payments by firms have been at sufficiently low levels compared with their profits (Chart 45 [2]).

With regard to the availability of funds for firms, financial institutions' lending attitudes -- as perceived by large as well as small firms -- have been on an improving trend (Chart 46 [1]). The DI in the *Tankan* has improved to the level generally in line with or above that of around 2006, which is the recent peak. Firms' financial positions have been favorable for both large and small firms (Chart 46 [2]). Various DIs have improved to the levels generally in line with or above the recent peak seen around 2006.

Demand for working capital by firms and for funds related to mergers and acquisitions of firms has continued to increase. There has also been a moderate increase in demand for funds for business fixed investment. In these circumstances, bank lending has continued to increase and this rise has expanded to a wider range of businesses, regions, and firm sizes. The year-on-year rate of change in its amount outstanding has been around 2.0-2.5 percent (Chart 47 [1]). By firm size, the year-on-year rates of change in bank lending both to large and small firms have continued to be positive (Chart 47 [2]). Meanwhile, the year-on-year rate of change in the aggregate amount outstanding of CP and corporate bonds has been negative (Chart 47 [3]). Looking at CP and corporate bonds separately, the year-on-year rate of change in the amount outstanding of CP has been negative recently, partly due to a



decrease in funding by commodity-related firms for securing working capital, following a fall in commodity prices. The year-on-year rate of change in the amount outstanding of corporate bonds has been negative, partly resulting from the fact that issuers hold ample liquidity and that financial institutions' lending attitudes have been active.

The year-on-year rate of change in the money stock (M2) has been growing in the range of 3.0-3.5 percent, mainly reflecting the increase in bank lending (Chart 48 [1]). The ratio of M2 to nominal GDP has been on a moderate increasing trend (Chart 48 [2]).

### ***Developments in Financial Markets***

In global financial markets, in view of the difference in the direction of monetary policy between the United States and Europe, risk aversion has increased from the end of 2015, against the backdrop of the declines in crude oil prices and Chinese stock prices.

Looking at respective financial markets, stock prices had been resilient up to early December 2015, partly backed by firm economic indicators in the United States, but this was followed by a large fall, reflecting the declines in crude oil prices and Chinese stock prices (Chart 49 [1]).

Yields on 10-year government bonds in the United States have been declining somewhat, as the Federal Reserve's interest rate hike had been factored in broadly by the market and as crude oil prices have declined recently (Chart 50 [1]). Those in Germany had fluctuated, mainly reflecting anticipation of the additional monetary easing by the European Central Bank (ECB) conducted in December 2015. However, they have been declining somewhat recently, against the backdrop of the decline in crude oil prices and expectations for the ECB's further monetary easing. Meanwhile, Japanese banks' foreign currency funding conditions have remained stable on the whole, although premiums for U.S. dollar funding through the dollar/yen foreign exchange swap market have been at somewhat high levels compared with the levels seen before last summer due to the tightening in the supply-demand balance (Chart 51 [2]). The LIBOR-OIS spreads in the U.S. dollar and euro have generally remained at low levels (Chart 51 [3]).

Looking at financial markets in Japan, short-term interest rates -- including those on term instruments with longer maturities -- have been kept low as the Bank continues to provide ample liquidity (Chart 51 [1]). Yields on treasury discount bills (T-Bills) have been about 0 percent or in negative territory. Credit spreads on interbank transactions have remained stable as the balance sheets of Japanese financial institutions have maintained their soundness (Chart 51 [3]).

Yields on 10-year Japanese government bonds (JGBs) declined somewhat, mainly reflecting the heightened risk aversion of investors amid the Bank's continued conduct of QQE, and have been in the range of 0.20-0.25 percent recently (Chart 50).

Stock prices had continued their rising trend until early December 2015, on the back of favorable corporate results, but subsequently fell substantially, reflecting the decline in overseas stock prices (Chart 49 [1]). In the Japan real estate investment trust (J-REIT) market, prices have declined somewhat, reflecting the heightened risk aversion of investors observed after the turn of the year (Chart 49 [2]).

In foreign exchange markets, the yen had somewhat depreciated against the U.S. dollar in response to an increase in expectations for the Federal Reserve's interest rate hike; however, the yen subsequently appreciated somewhat against the dollar, reflecting the heightened risk aversion of investors against the backdrop of the declines in crude oil prices and Chinese stock prices, and recently has been around 120 yen against the dollar (Chart 52). The yen has appreciated against the euro, reflecting the heightened risk aversion of investors.

**(Box 1) Effects of the Consumption Tax Hikes and the Introduction of  
the Reduced Tax Rate**

The consumption tax hikes will affect the real economy by (1) generating a front-loaded increase and subsequent decline in demand prior to and after the consumption tax hikes (i.e., an intertemporal substitution effect) and (2) raising prices and reducing households' real disposable income (Box Chart 1 [1]). The effects of the front-loaded increase and subsequent decline in demand prior to and after the consumption tax hikes are expected to emerge mainly in household spending (i.e., private consumption and housing investment). Such effects are projected to emerge in business fixed investment as well, albeit to a smaller extent, particularly in family-owned firms and small firms that are eligible for the simplified tax system or the tax exemption.<sup>37</sup>

Given the difference in the scale of the tax rate increase, the effects of the scheduled consumption tax hike in April 2017 on the economic growth rate are projected to be only about two-thirds of the estimated effects of the consumption tax hike in April 2014.<sup>38</sup> In addition, the reduced tax rate will be applied to some goods, and the effects of the front-loaded increase and subsequent decline in demand and the decline in real income are expected to be smaller than if the reduced tax rate is not introduced. Estimating the effects of the introduction of the reduced tax rate should be based on the following two conjectures:

---

<sup>37</sup> Inventories are run down during the period when demand surges, and thus inventory investment lowers GDP. Moreover, a part of this demand increase is met by increased imports, which are deducted when calculating GDP. It should be noted that these movements in inventory investment and imports may contribute to smoothing swings in GDP.

<sup>38</sup> The effects of the consumption tax hike in April 2014 on the economic growth rate are estimated to be as follows. After the front-loaded increase in demand pushed up the growth rate by about 0.5 percentage point in fiscal 2013, both the subsequent decline in demand and the decline in real income pushed down the growth rate by about 1.2 percentage points in fiscal 2014. The growth rate is expected to be pushed up by about 0.3 percentage point in fiscal 2015 as the effects of the subsequent decline in demand will dissipate. It is worth noting that these estimates are subject to a considerable margin of error, since quantitatively extracting the effects of the consumption tax hike in April 2014 is quite difficult. This is because (1) the expiration of some widely used computer operating systems and the strengthening of gas emission regulations also caused demand fluctuations around that time and (2) the price rise including that due to the consumption tax hike is likely to have made household sentiment cautious and affected consumption more negatively than explained by the decline in real income.

(1) food, beverages, and newspapers, to which the reduced tax rate is to be applied, are non-durable goods and the front-loaded increase and subsequent decline in demand for those categories would be limited, and (2) the introduction of the reduced tax rate on some goods will restrain price increases and thus push up households' real disposable income to the same extent as the degree of restraint. In light of those considerations, the negative effects of the scheduled consumption tax hike in April 2017 on the economic growth rate are expected to become somewhat smaller compared to the case where the reduced tax rate on some goods is not introduced, mainly through the smaller decline in real income. Specifically, the consumption tax hike is estimated to push up the real GDP growth rate for fiscal 2016 by about 0.3 percentage point and push down that for fiscal 2017 by about 0.7 percentage point.

The direct effects of the scheduled consumption tax hike in April 2017 on prices can be mechanically estimated by assuming that the rise in the consumption tax will be fully passed on to taxable items. In fiscal 2017, the year-on-year rate of change in the CPI excluding fresh food and that excluding fresh food and energy will be pushed up by 1.0 percentage point and 0.9 percentage point, respectively (Box Chart 1 [2]). Compared to the case where the reduced tax rate on some goods is not introduced, the effects of the rise in prices will be smaller; the year-on-year rate of change in the CPI excluding fresh food and that excluding fresh food and energy will be smaller by 0.3 percentage point and 0.4 percentage point, respectively.

## **(Box 2) Recent Features of Business Fixed Investment**

There is an increase in the number of business fixed investment plans that envisage a somewhat longer lead time between plan and completion, reflecting firms' investment stance targeted at medium- to long-term growth and the materialization of pent-up investment demand, which has been restrained so far. Total backlogs of machinery orders have clearly tended to accumulate, and recently reached a record high since the start of data publication, particularly that of machines with a long lead time from orders to shipment, such as electricity-related, aircraft, and railway vehicles (Box Chart 2 [1] and [2]). As the number of long-term investment plans increases, the aggregate supply (i.e., domestic shipments) of capital goods and business fixed investment in the GDP statistics have been somewhat stagnant recently, compared with machinery orders (Box Chart 2 [3]).<sup>39</sup> On the other hand, the increase in long-term investment plans will push up business fixed investment on a shipment basis for an extended period of time, unless they are canceled due to significant changes in economic conditions, for example. It is therefore expected that the uptrend in business fixed investment will likely be maintained, even toward the second half of the projection period, when the pace of increase in business fixed investment will tend to slow down from the viewpoint of the capital stock cycle.

Although it is possible to assess that the stagnant business fixed investment in the first half of fiscal 2015 is partly attributable to postponing some of the plans, stemming from heightened uncertainties over overseas economies, particularly emerging economies, such moves for postponement are considered to have been limited so far. The revision patterns of export plans and investment plans of large manufacturing firms in the *Tankan* are closely correlated, and it is observed that the larger the downward revision of export plans, the larger the downward revision of investment plans (Box Chart 3 [1]). In light of this correlation, as the export plan of fiscal 2015 reported in the December *Tankan* remains

---

<sup>39</sup> Business fixed investment reported in the *Financial Statements Statistics of Corporations by Industry, Quarterly* includes the assets in construction in progress (CIP) account, which includes deposits, cash advances, cost of materials paid, and machines acquired for the construction of equipment. Accordingly, the long-term investment plans, which are yet to be completed for shipment but are accounted as CIP assets, are included in the business fixed investment reported in the *Financial Statements Statistics of Corporations by Industry, Quarterly*.

robust, compared with those of fiscal 2011 and fiscal 2012, when exports were substantially revised downward due to the deceleration of overseas economies, it is estimated at the moment that downward pressure on business fixed investment remains limited on this front (Box Chart 3 [2] and [3]).

### **(Box 3) Labor Market Conditions and Wages of Part-Time Employees**

Labor market conditions strongly affect the wages of part-time employees (or non-regular employees), as they are not employed on a long-term basis, unlike full-time employees (or regular employees). If the relationship between scheduled cash earnings and the unemployment rate gap (i.e., the unemployment rate minus the structural unemployment rate) is observed by differentiating full-time employees from part-time employees, the hourly cash earnings of part-time employees have been on a clear uptrend recently, compared with the scheduled cash earnings of full-time employees, reflecting the tightening of labor market conditions (Box Chart 4 [1] and [2]). The moves to raise minimum wages in the last few years also seem to have contributed to the rise in hourly wages of part-time employees. The proportion of employees whose wages in a particular year were below the new minimum wage levels set later in that year (i.e., the influence ratio) has been increasing steadily, reflecting the upward revisions to minimum wages in recent years, and thus the degree of influence at which minimum wages directly affect the level of wages has become greater than in the past (Box Chart 4 [3]). Moreover, raising minimum wages affect to a certain extent the level of hourly cash earnings of part-time employees whose wages are above the minimum, in addition to hourly cash earnings of those who work at around minimum wage levels. The estimation of the impact of the increase in minimum wages on wage distributions, using the data on the distribution of hourly cash earnings of part-time employees by prefecture, suggests that raising minimum wages can have the indirect impact of lifting hourly cash earnings up to around the lower 30th percentile wage level (Box Chart 4 [4]). Indeed, according to interviews with firms, some raised the wages of their part-time employees working at above minimum wage levels, so that they can maintain the spread between the actual wages paid and minimum wages.

The increase in hourly cash earnings of part-time employees is expected to lead to upward pressure on prices through the increase in labor costs, particularly in the service sector, where the share of part-time employees is relatively high, such as for dining-out (i.e., "meals outside the home") services (Box Chart 5). Indeed, the correlation between hourly scheduled cash earnings of part-time employees and the CPI for general services less house rent has become higher than in the past, particularly in the service sector, such as dining-out, reflecting the uptrend in the share of part-time employees in recent years.

#### **(Box 4) Effects of Exchange Rates on the CPI**

The recent increasing pace of the rise in the CPI (all items less fresh food and energy, the same hereafter) is largely attributable to the rise in prices of items of which imported goods have a considerable share, such as food products, durable goods, and clothes (Box Chart 6 [1]). In light of this fact, some often argue that, as the recent improvement in the CPI is mostly supported by the effects of yen depreciation, it will decelerate sooner or later given that the pace of the depreciation has stalled recently. However, the prices of such items as food products, durable goods, and clothes are responsive not only to the effects of exchange rates, but also to economic activity; thus, the effects of exchange rates on the rise in the CPI should be quantitatively sorted out, taking account of the effects of macroeconomic factors such as the output gap and inflation expectations. In other words, in order to assess the impact of exchange rate movements in the current phase -- i.e., that excessive appreciation of the yen has been corrected and thus the yen has depreciated -- it is important to differentiate the first-round pass-through, which is the direct effects of exchange rates on the CPI, from the full pass-through, which includes the effects through indirect channels such as the improvement in the output gap and inflation expectations.

Previous studies suggest that the first-round pass-through on the CPI tends to be small, with the exception of that on energy prices. If the Phillips curve with exchange rates added to explanatory variables is estimated, the coefficient of the nominal effective exchange rate is relatively small at 0.10 (Box Chart 7 [1]). If the contribution of exchange rates on the year-on-year rate of increase in the CPI is calculated based on this estimation (indicated as the "Single Equation Approach" in Box Chart 6 [2]), it has been moderately dissipating after peaking in the middle of fiscal 2014 and is currently at around 0.2 percentage point. Looking ahead, based on this estimation result, if it is assumed that the nominal effective exchange rate will continue to be flat, the contribution of yen depreciation to the CPI is calculated as shrinking moderately, even though it will remain toward the end of fiscal 2016.

On the other hand, the effects of the full pass-through are considered to be substantially large and persistent. In the estimated trivariate VAR (vector auto-regression) model



consisting of the nominal effective exchange rate, the output gap, and the CPI, which incorporates the lag structure of the macroeconomic variables and their interdependence, the effects of a 10-percent yen depreciation shock on the CPI is calculated to be larger and more persistent, compared with the first-round pass-through effects estimated by Single Equation Approach, reflecting indirect effects such as the improvement in the output gap and the rise in (backward-looking) inflation expectations (Box Chart 7 [2]). If the year-on-year rate of increase in the CPI is decomposed into the contributions of fundamental factors by using the results of this VAR estimation (i.e., historical decomposition), the depreciation of the yen has been very persistently pushing up the CPI since the second half of 2013, and it currently stands at 0.5-1.0 percentage point (Box Chart 6 [3]).<sup>40</sup> This is considered to be attributable to indirect effects -- the improvement in the output gap and inflation expectations triggered by yen depreciation -- having persistently pushed up the CPI, in addition to a cost-push factor; namely, that the depreciation has directly pushed up import prices. Looking ahead, if this point is taken into account, the past depreciation of the yen will continue to have the persistent effect of pushing up the CPI.

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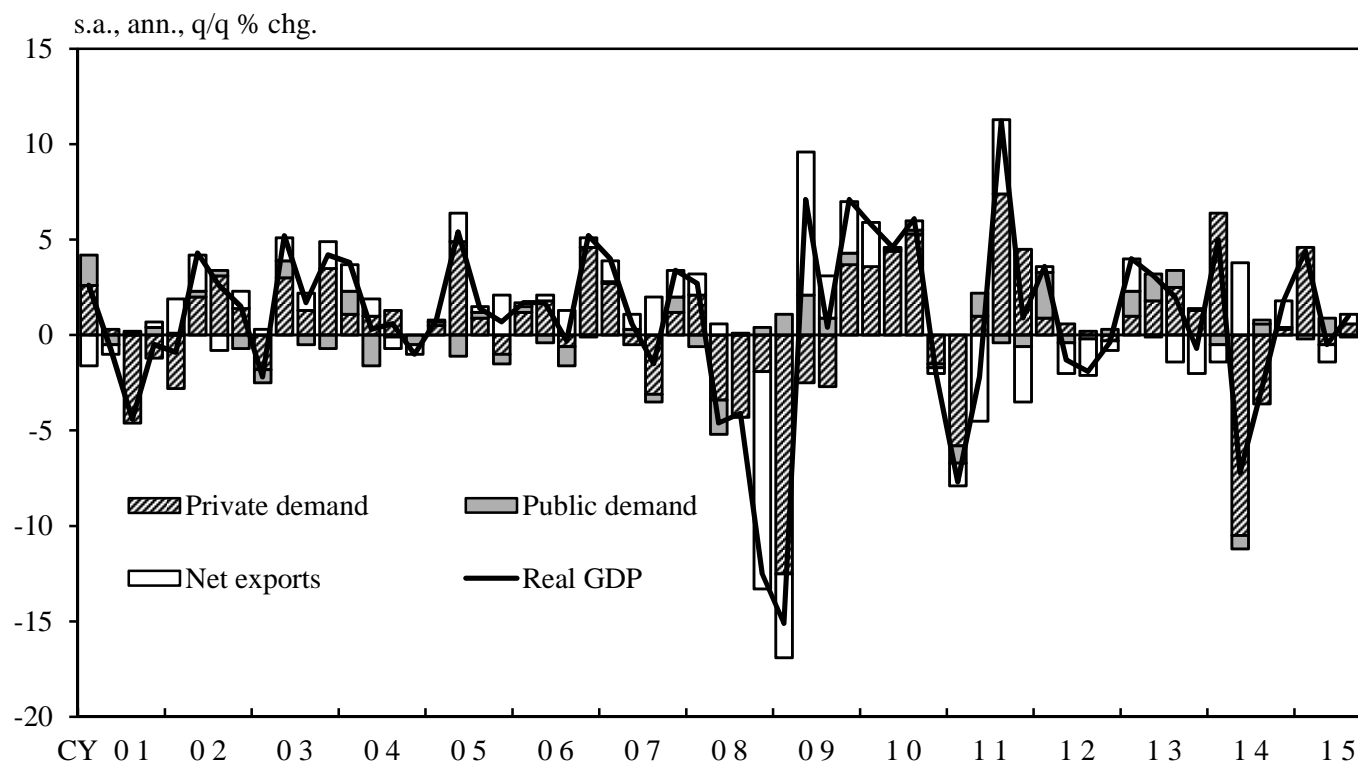
<sup>40</sup> The historical decomposition based on VAR quantitatively reveals the indirect effects of a fundamental shock through other variables. Accordingly, the contribution of the exchange rate shock in this analysis includes changes in the CPI through the transmission channel where yen depreciation induced the improvement in the output gap and inflation expectations, thereby leading to the rise in the CPI.

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## Real GDP

## (1) Real GDP



## (2) Components

s.a., q/q % chg.

	2014		2015		
	Q3	Q4	Q1	Q2	Q3
Real GDP	-0.7	0.5	1.1	-0.1	0.3
[Annual rate]	[-2.8]	[1.8]	[4.4]	[-0.5]	[1.0]
Domestic demand	-0.7	0.1	1.1	0.1	0.1
Private demand	-0.9	0.1	1.1	-0.1	0.2
Private consumption	0.0	0.2	0.2	-0.3	0.2
Non-resid. investment	-0.1	0.0	0.4	-0.2	0.1
Residential investment	-0.2	-0.0	0.1	0.1	0.1
Private inventory	-0.6	-0.1	0.5	0.3	-0.2
Public demand	0.2	0.0	-0.0	0.2	-0.0
Public investment	0.1	-0.0	-0.1	0.2	-0.1
Net exports of goods and services	0.1	0.3	-0.0	-0.2	0.1
Exports	0.3	0.5	0.4	-0.8	0.5
Imports	-0.2	-0.2	-0.4	0.6	-0.4
Nominal GDP	-0.9	0.8	2.0	0.2	0.4

y/y % chg.

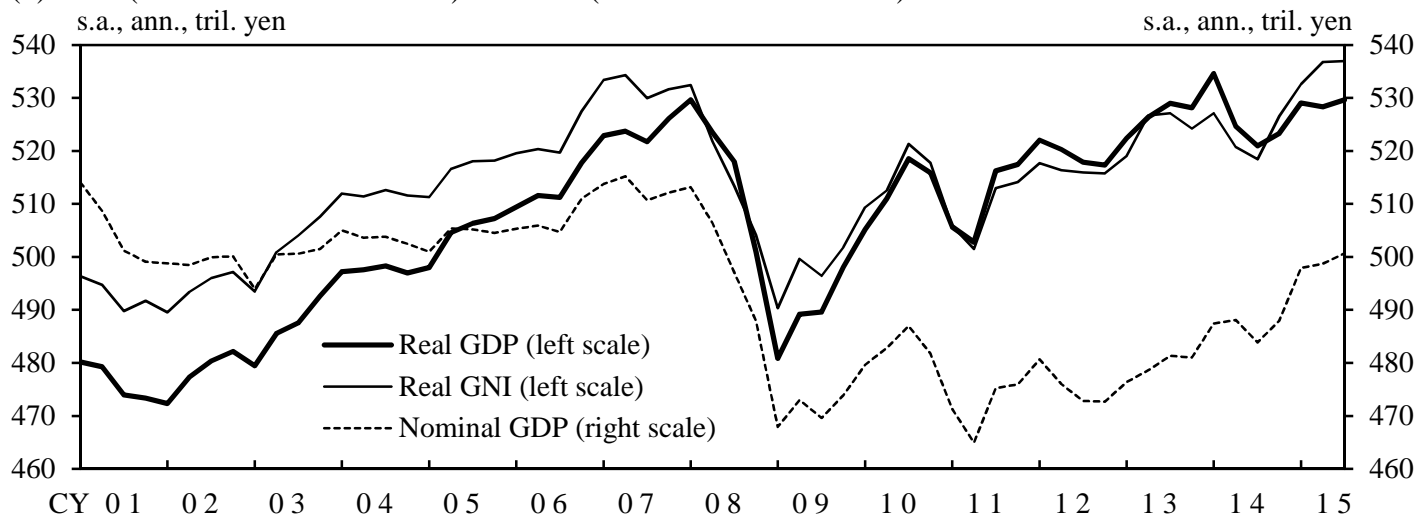
	2014		2015		
	Q3	Q4	Q1	Q2	Q3
GDP deflators	2.0	2.3	3.3	1.5	1.8
Domestic demand deflators	2.3	2.1	1.4	0.0	0.0

Note: Figures of components in real GDP indicate contributions to changes in real GDP.

Source: Cabinet Office.

## Aggregate Income Formation and Indexes of Business Conditions

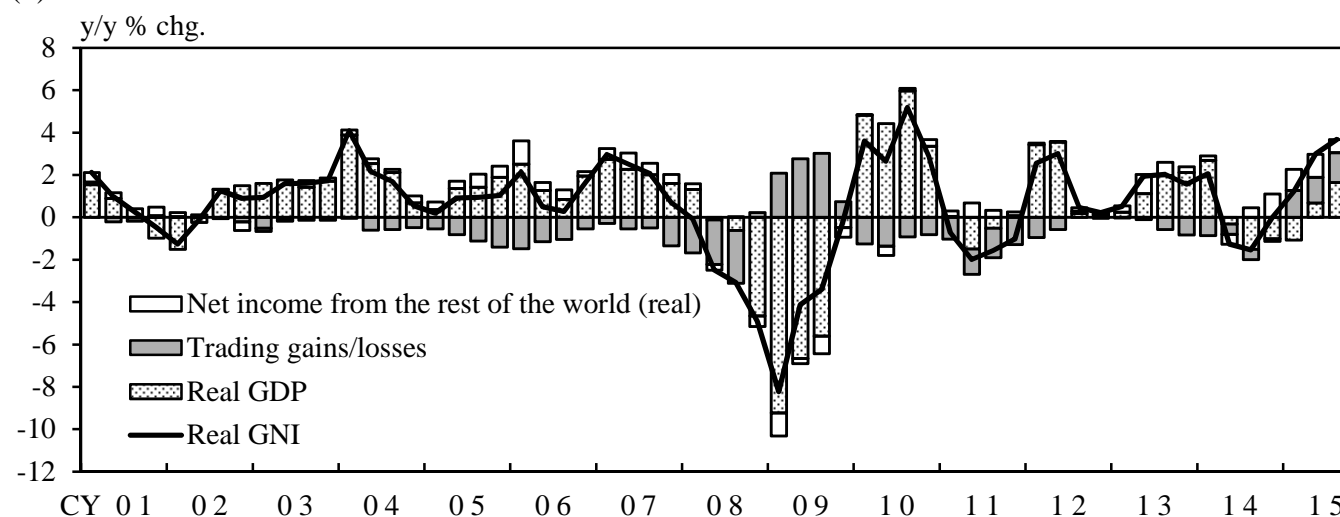
### (1) GDP (Gross Domestic Product) and GNI (Gross National Income)



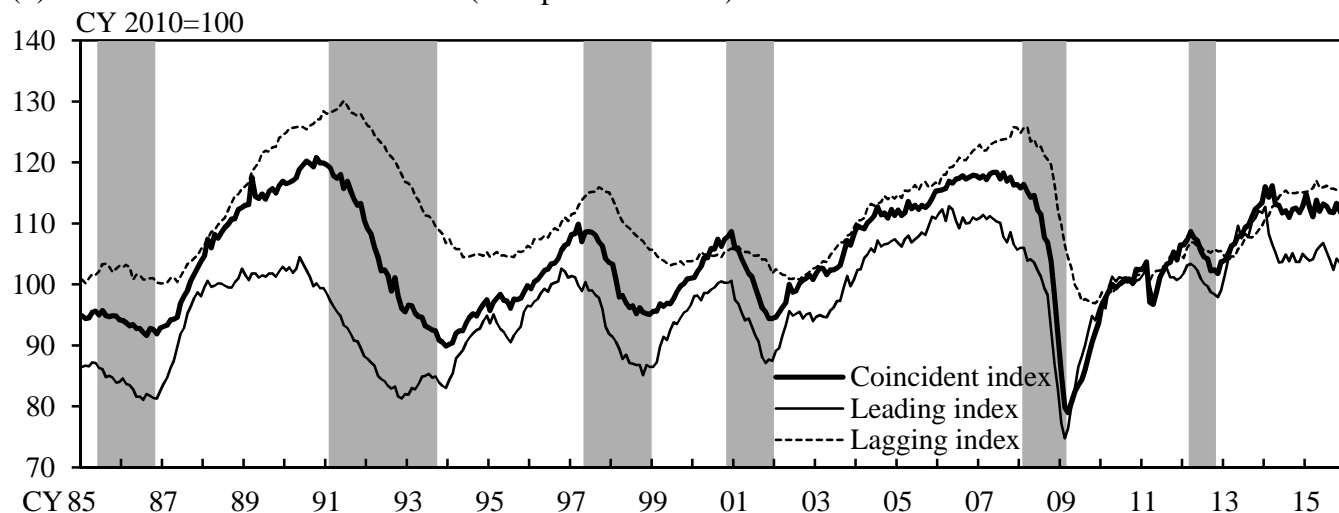
Note: Real GNI = real GDP + trading gains/losses + net income from the rest of the world (real)

Trading gains/losses = nominal net exports / weighted average of export and import deflators - real net exports

### (2) GNI



### (3) Indexes of Business Conditions (Composite Indexes)

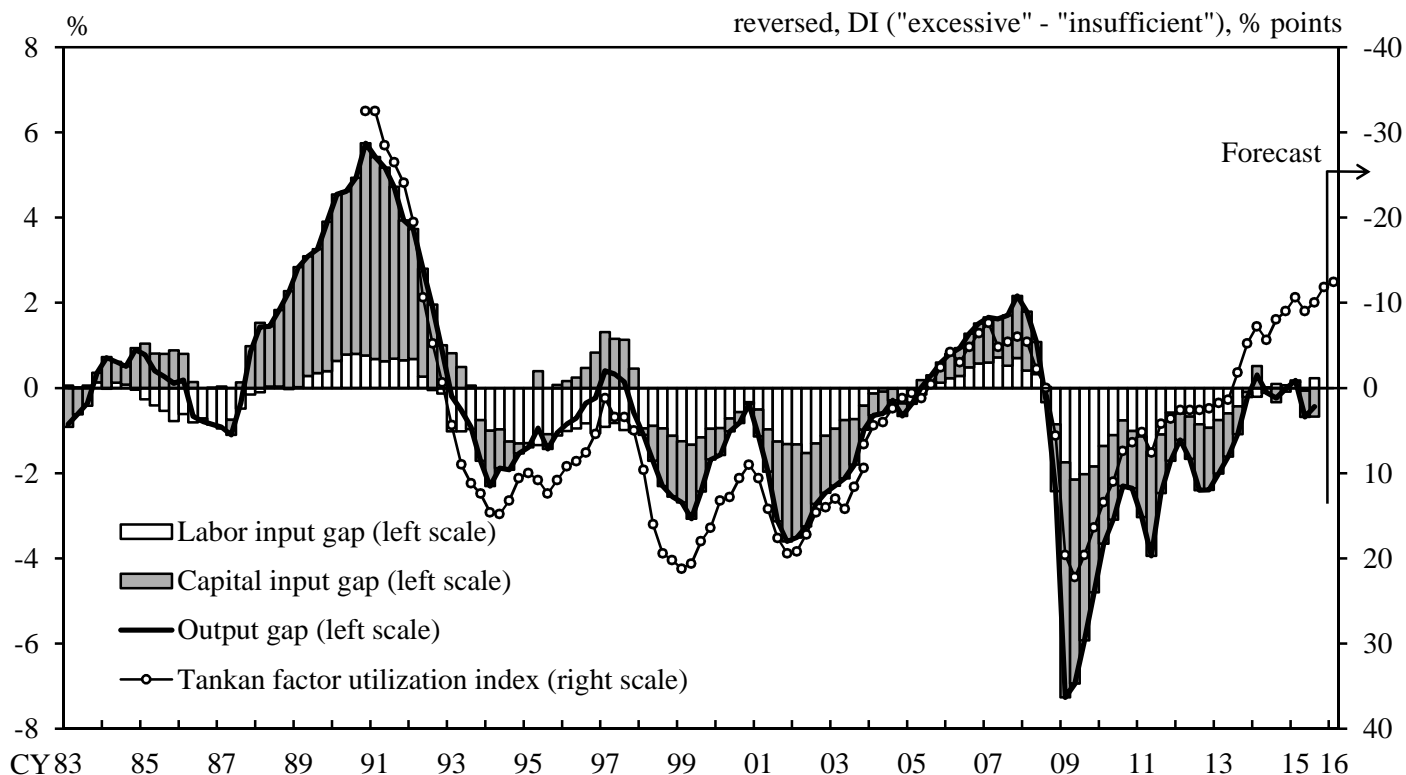


Note: Shaded areas indicate recession periods.

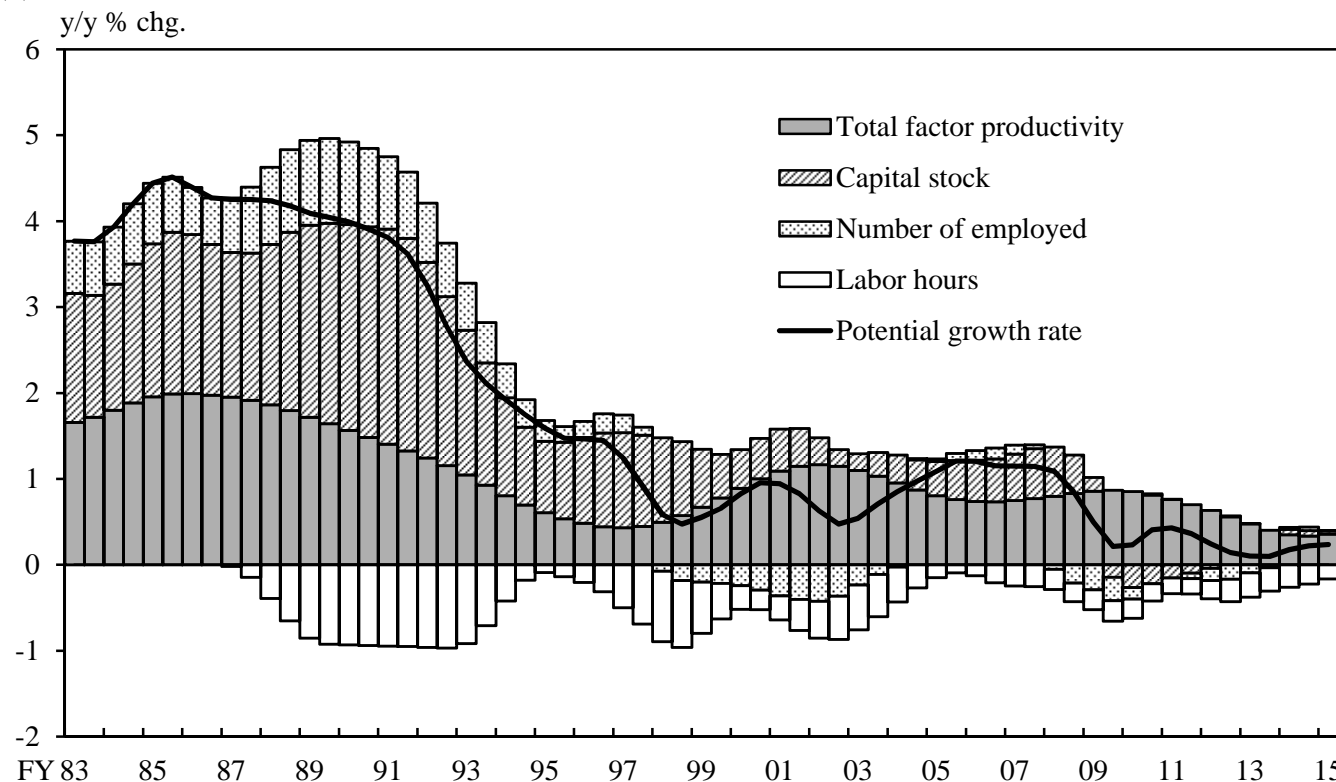
Source: Cabinet Office.

## Output Gap and Potential Growth Rate

### (1) Output Gap



### (2) Potential Growth Rate



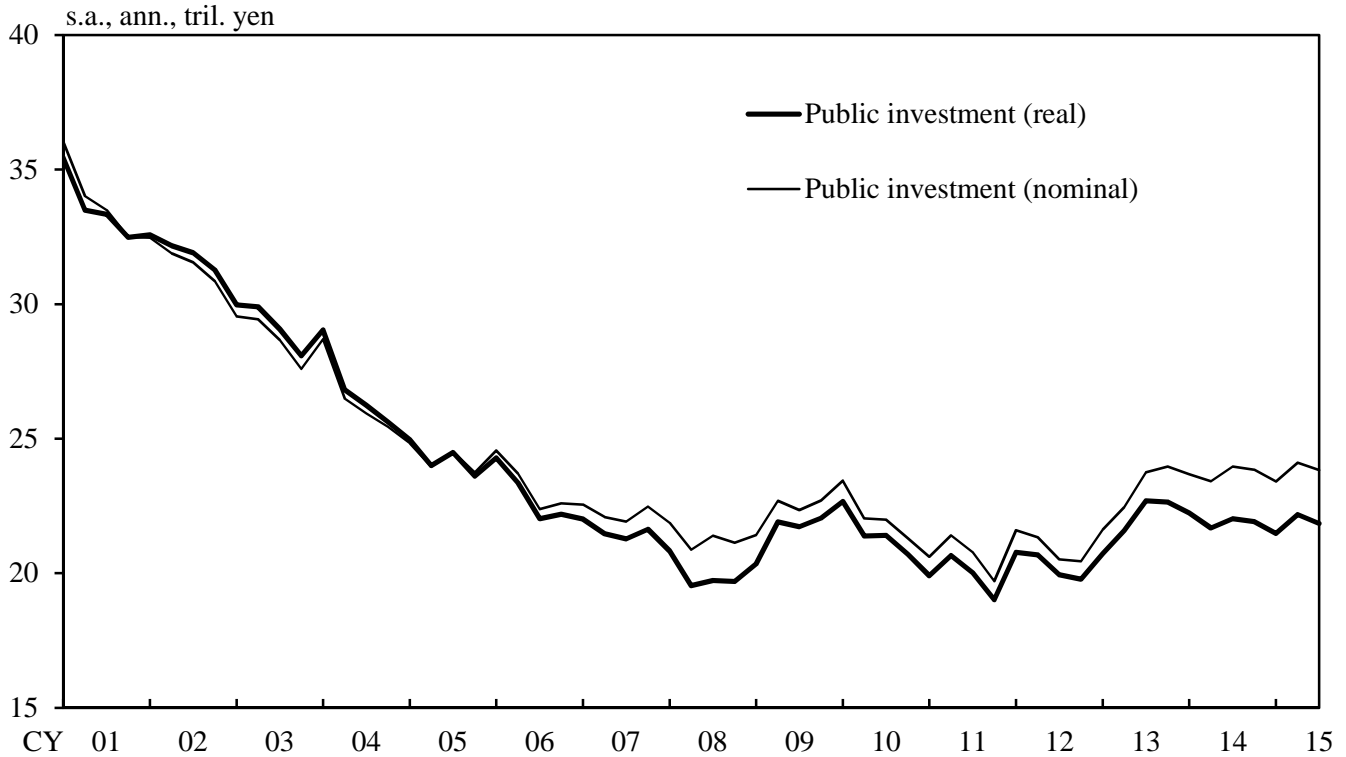
Notes: 1. The output gap and the potential growth rate are estimated by the Research and Statistics Department, Bank of Japan.

2. The Tankan factor utilization index is calculated as the weighted average of the production capacity DI and the employment conditions DI for all enterprises. The capital and labor shares in the "National Accounts" are used as weights. There is a discontinuity in the data in December 2003 due to a change in the survey framework.

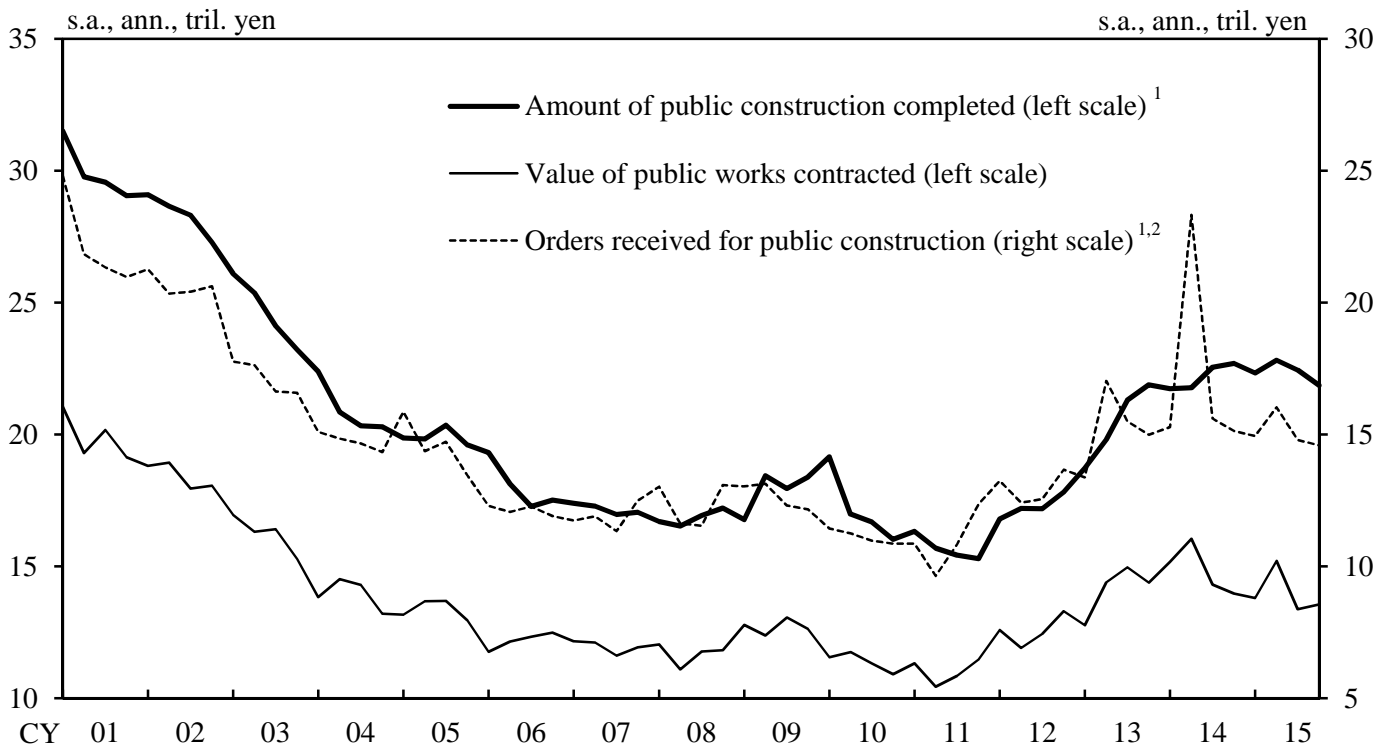
Sources: Cabinet Office; Bank of Japan; Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry; Research Institute of Economy, Trade and Industry.

## Public Investment

### (1) Public Investment (SNA Basis)



### (2) Indicators of Public Investment



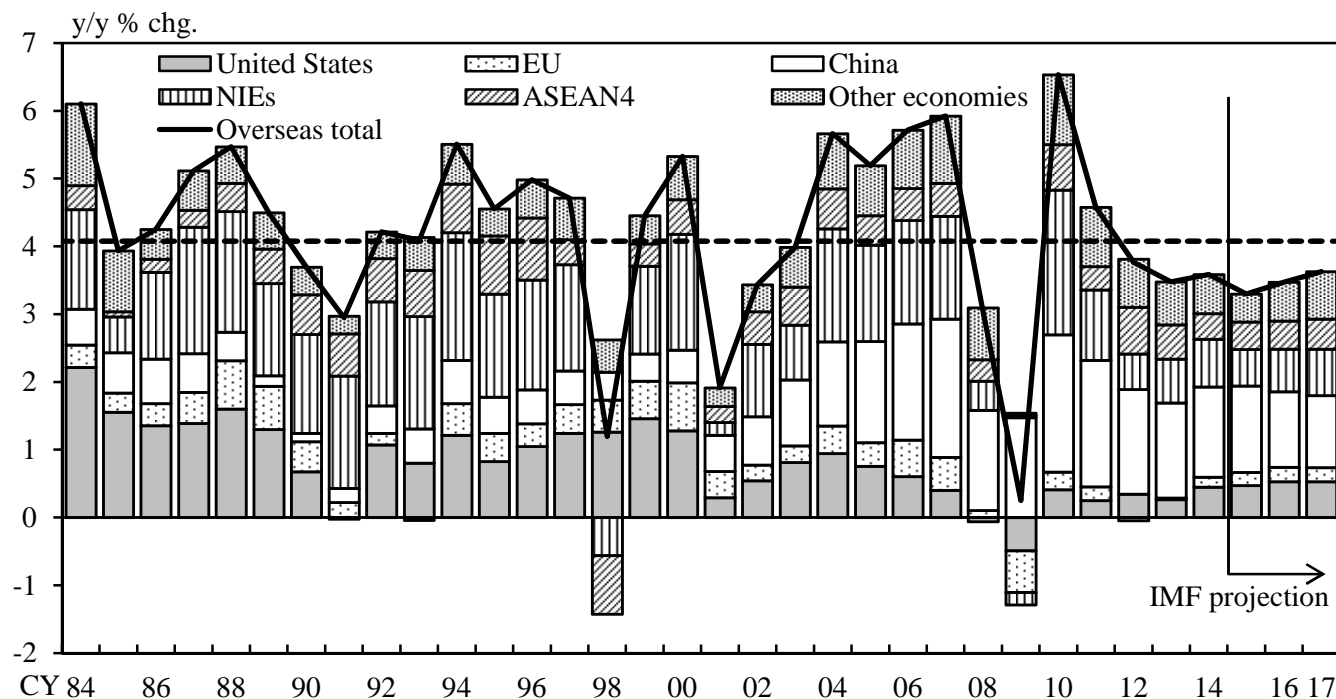
Notes: 1. Figures for 2015/Q4 are October-November averages.

2. Figures up to 2011/Q4 are adjusted to reflect changes in estimation methods.

Sources: Cabinet Office; Ministry of Land, Infrastructure, Transport and Tourism; East Japan Construction Surety etc., "Public Works Prepayment Surety Statistics."

## Overseas Economies

(1) Real GDP Growth Rates of Overseas Economies



(2) Forecast of Real GDP Growth Rates by Major Country and Region

	Quarter (Actual, s.a., ann., q/q % chg.)					CY (Actual or Projection, y/y % chg.)			
	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2014 Actual	2015-2017 IMF Projection		
Overseas total						3.6	3.3 (3.3)	3.5 (3.6)	3.6 (3.7)
Major economies <79.7>	3.5	2.8	3.3	3.7	n.a.	3.8	3.6 (3.6)	3.6 (3.7)	3.6 (3.8)
United States <20.1>	2.1	0.6	3.9	2.0	n.a.	2.4	2.5 (2.6)	2.6 (2.8)	2.6 (2.8)
EU <10.6>	1.9	2.3	1.9	1.5	n.a.	1.4	1.8 (1.9)	2.0 (1.9)	2.0 (2.0)
East Asia <49.0>	4.4	3.7	3.3	4.7	n.a.	4.7	4.4 (4.3)	4.4 (4.4)	4.4 (4.5)
China <17.5>	7.0	5.3	7.8	7.4	6.6	7.3	6.9 (6.8)	6.3 (6.3)	6.0 (6.0)
NIEs <21.7>	1.5	2.9	-0.7	2.6	n.a.	3.2	n.a. (2.5)	n.a. (2.9)	n.a. (3.1)
ASEAN4 <9.8>	5.7	2.7	3.9	4.4	n.a.	3.4	4.0 (3.9)	4.2 (4.3)	4.5 (4.7)
Other economies <20.3>						2.9	2.1 (2.1)	2.9 (3.0)	3.6 (3.6)

Notes: 1. Figures are the weighted averages of real GDP growth rates using countries' share in Japan's exports as weights. GDP growth rates are from the "World Economic Outlook" as of January 2016, while figures in parentheses are as of October 2015. Figures for some countries and regions have not been published as of January 2016 and are estimated using figures as of October 2015.

2. The broken line in (1) shows the average for 1980-2014 (4.1 percent).

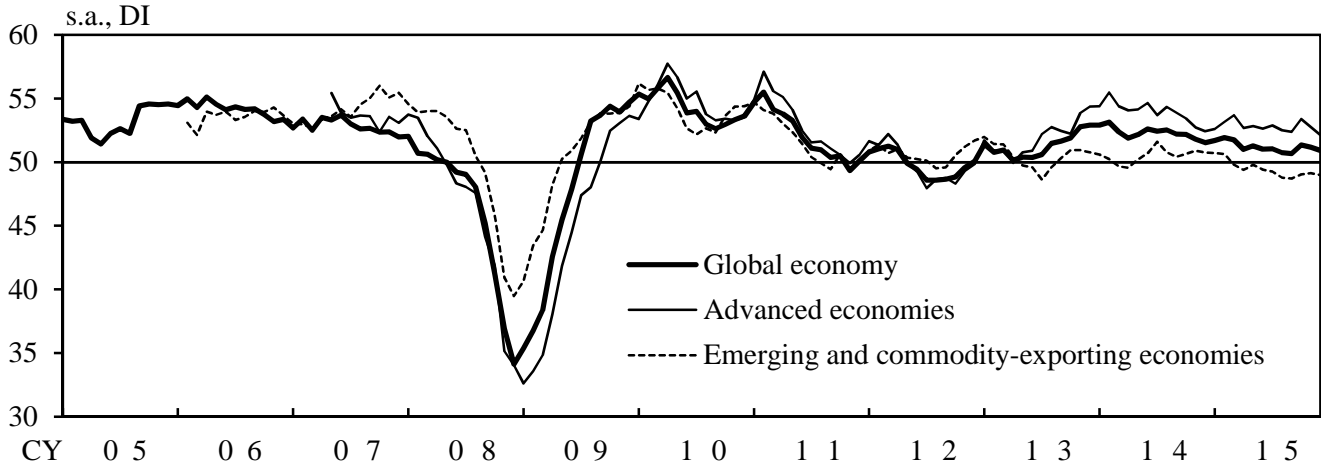
3. Figures in angular brackets show the share of each country or region in Japan's total exports in 2015.

4. Major economies consist of the United States, the EU, and East Asia.

Sources: IMF; Ministry of Finance; BEA; European Commission; National Bureau of Statistics of China, etc.

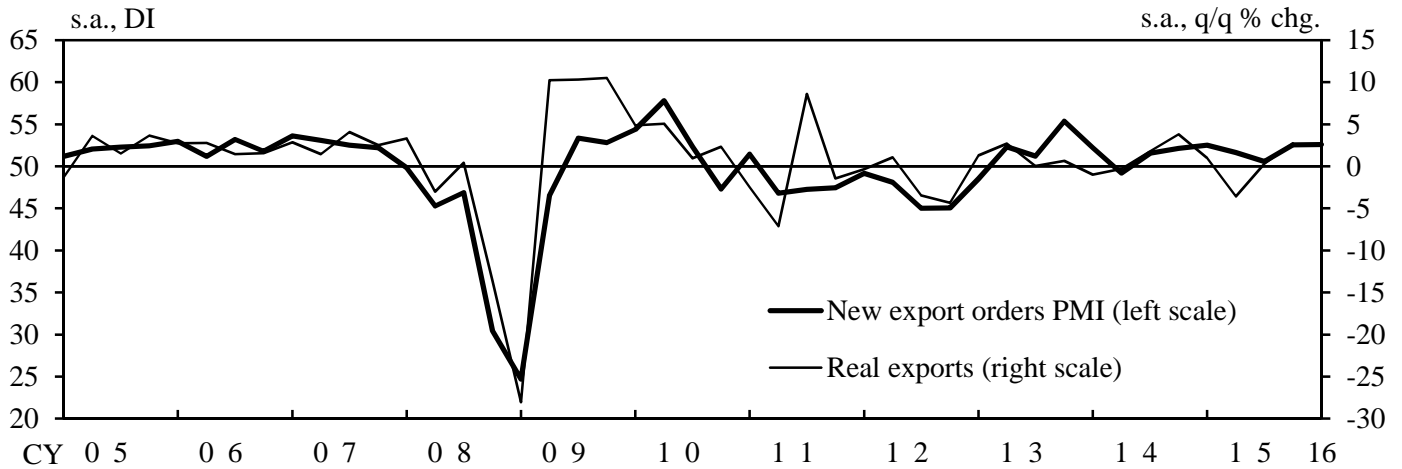
## Environment Surrounding Exports

### (1) Business Confidence (Manufacturing PMI)



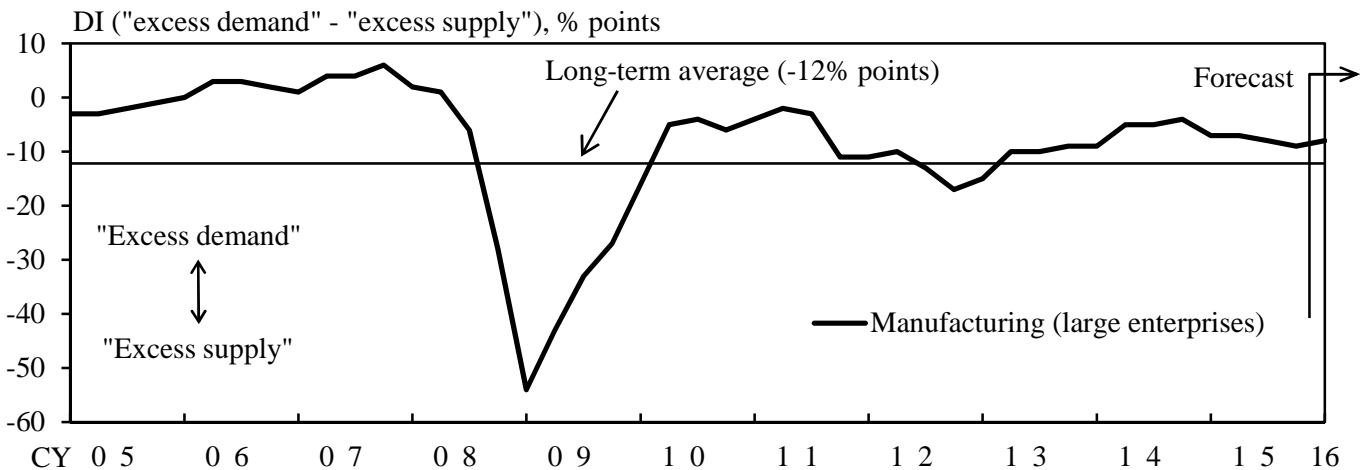
Note: Figures for the global economy are published by Markit. Figures for advanced economies as well as emerging and commodity-exporting economies are calculated as the weighted averages of the Markit PMI using PPP-adjusted GDP shares of world total GDP from the IMF as weights. Advanced economies consist of the United States, the euro area, the United Kingdom, and Japan. Emerging and commodity-exporting economies consist of 15 countries and regions, such as China, South Korea, Taiwan, Russia, and Brazil.

### (2) New Export Orders PMI and Real Exports



Note: The figure for 2016/Q1 is that of January.

### (3) Overseas Supply and Demand Conditions for Products (*Tankan*)

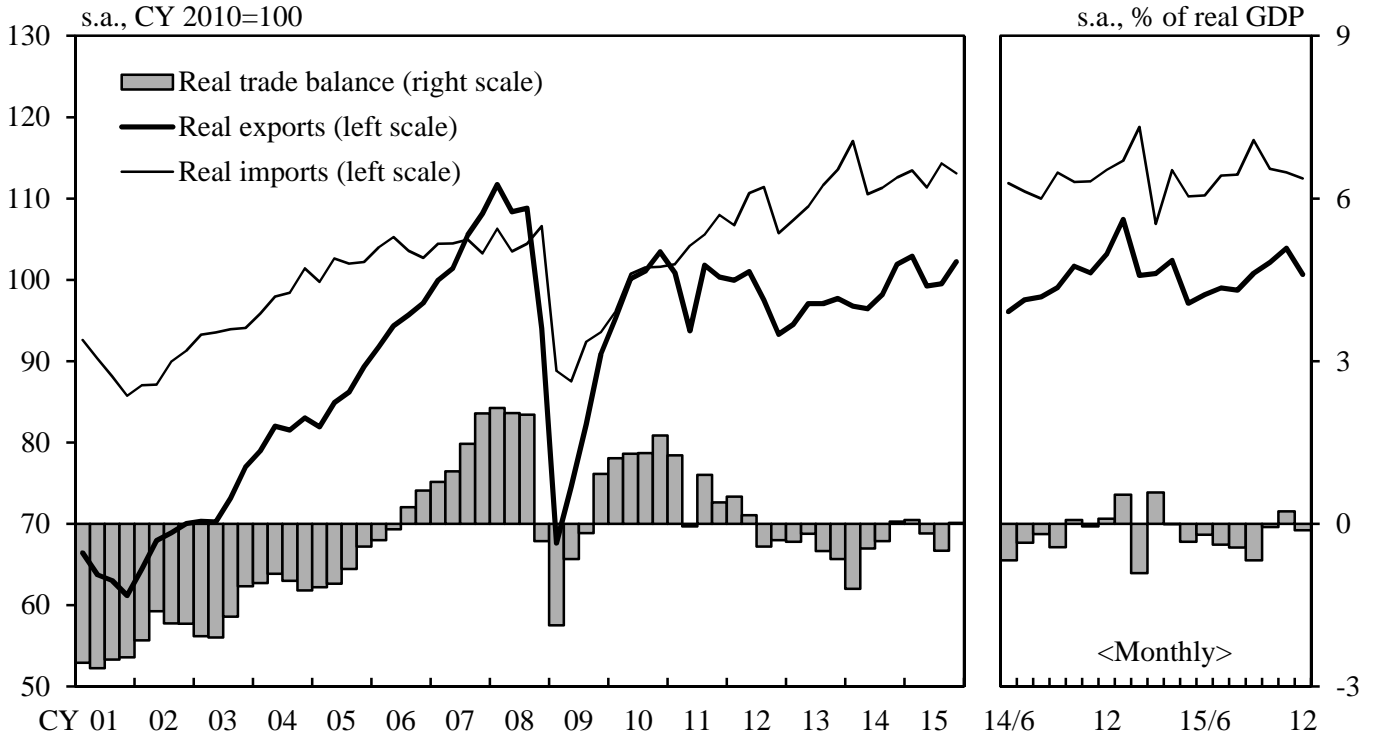


Sources: Markit (© and database right Markit Economics Ltd 2016. All rights reserved.); IMF; Ministry of Finance; Bank of Japan.



## Real Exports and Real Imports

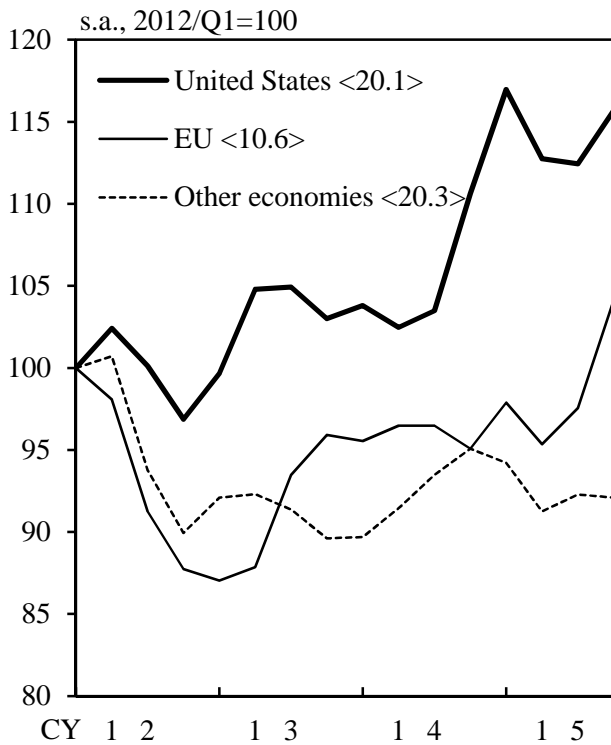
### (1) Real Exports and Real Imports



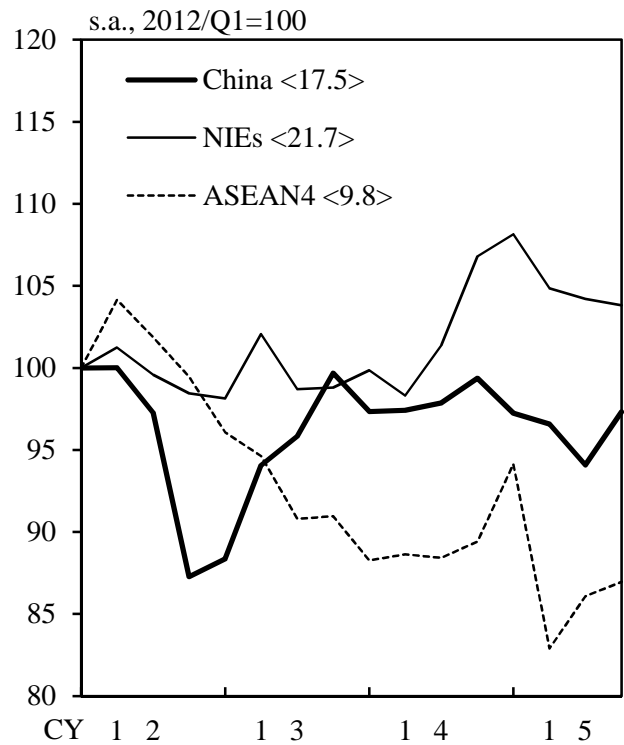
Note: Figures for the real trade balance (as a ratio of real GDP) from October 2015 onward are calculated using real GDP for 2015/Q3.

### (2) Real Exports by Major Country and Region

(a) United States, EU, and Other Economies



(b) China, NIEs, and ASEAN4



Note: Figures in angular brackets show the share of each country or region in Japan's total exports in 2015.

Sources: Ministry of Finance; Bank of Japan; Cabinet Office.

## Real Exports

## (1) Breakdown by Region

		y/y % chg.		s.a., q/q % chg.					s.a., m/m % chg.		
		CY 2014	2015	2014 Q4	2015 Q1	Q2	Q3	Q4	2015 Oct.	Nov.	Dec.
United States	<20.1>	1.8	9.1	6.9	5.7	-3.6	-0.3	2.9	1.1	-0.0	0.2
EU	<10.6>	5.2	3.1	-1.5	3.0	-2.6	2.3	6.8	6.2	4.0	-2.2
East Asia	<49.0>	1.1	0.5	3.1	0.8	-4.0	-0.5	1.2	1.0	-1.0	-3.5
China	<17.5>	3.5	-1.9	1.5	-2.1	-0.7	-2.6	3.4	2.6	-0.4	-2.2
NIEs	<21.7>	2.0	3.5	5.4	1.2	-3.0	-0.6	-0.4	-0.5	-4.2	-2.5
ASEAN4	<9.8>	-4.7	-1.4	1.1	5.3	-11.9	3.9	1.0	1.4	5.5	-7.9
Others	<20.3>	1.2	-0.0	1.7	-0.9	-3.1	1.1	-0.2	0.4	5.6	-6.7
Real exports		1.7	2.7	3.8	1.0	-3.6	0.3	2.7	1.3	1.7	-3.1

## (2) Breakdown by Goods

		y/y % chg.		s.a., q/q % chg.					s.a., m/m % chg.		
		CY 2014	2015	2014 Q4	2015 Q1	Q2	Q3	Q4	2015 Oct.	Nov.	Dec.
Intermediate goods	<19.8>	0.1	-0.5	2.3	1.2	-4.5	-0.0	2.1	0.9	1.9	-2.4
Motor vehicles and their related goods	<24.3>	-1.4	1.3	-0.9	-1.1	-1.5	2.6	6.2	2.4	5.9	-4.4
IT-related goods	<10.6>	3.6	-1.0	3.3	-0.3	-4.5	-1.4	0.2	-0.4	-2.7	-4.5
Capital goods and parts	<27.5>	3.1	-1.4	3.7	-1.8	-4.6	-0.0	-0.5	2.3	-0.5	-2.7
Real exports		1.7	2.7	3.8	1.0	-3.6	0.3	2.7	1.3	1.7	-3.1

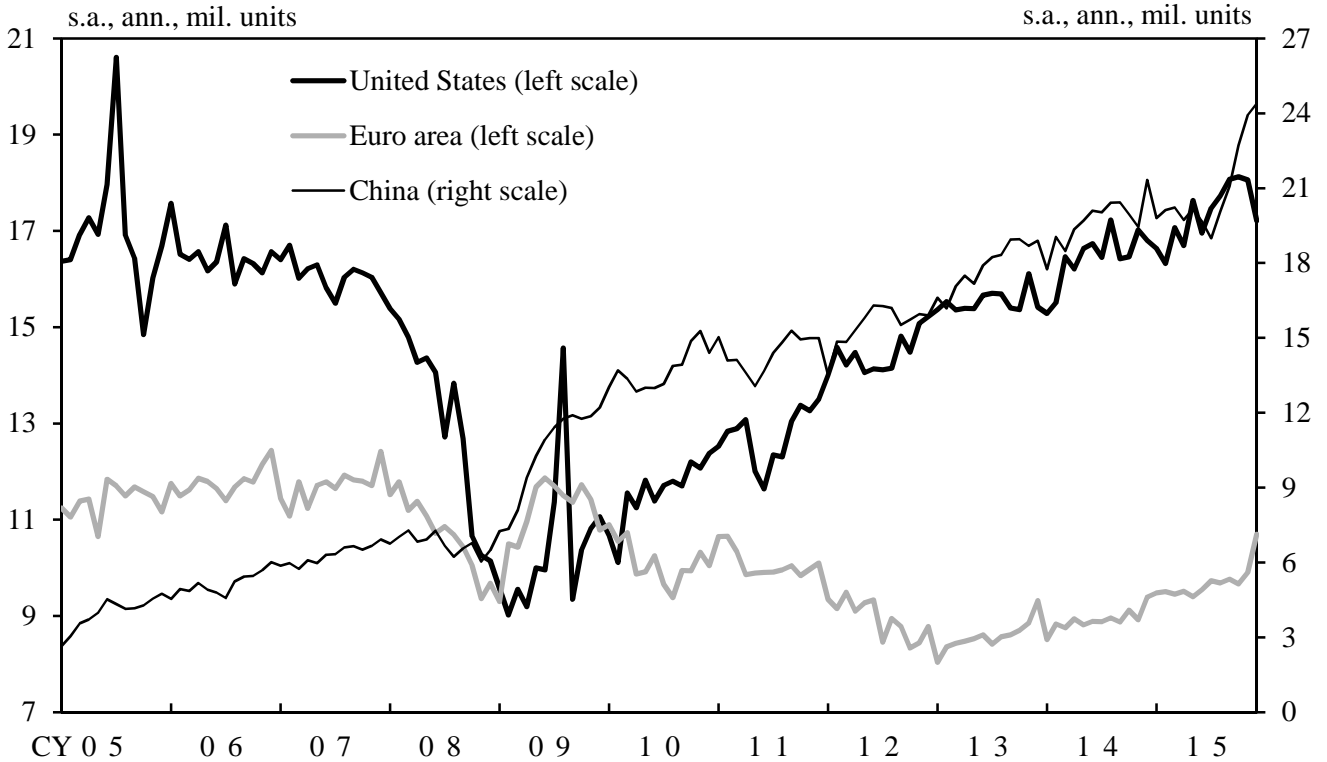
Notes: 1. Figures in angular brackets show the share of each country or region or each type of goods in Japan's total exports in 2015.

2. IT-related goods consist of computers and units, telecommunication machinery, integrated circuits, visual apparatus, audio apparatus, and medical and optical instruments.

3. Capital goods and parts exclude IT-related goods, power generating machinery, and parts of motor vehicles.

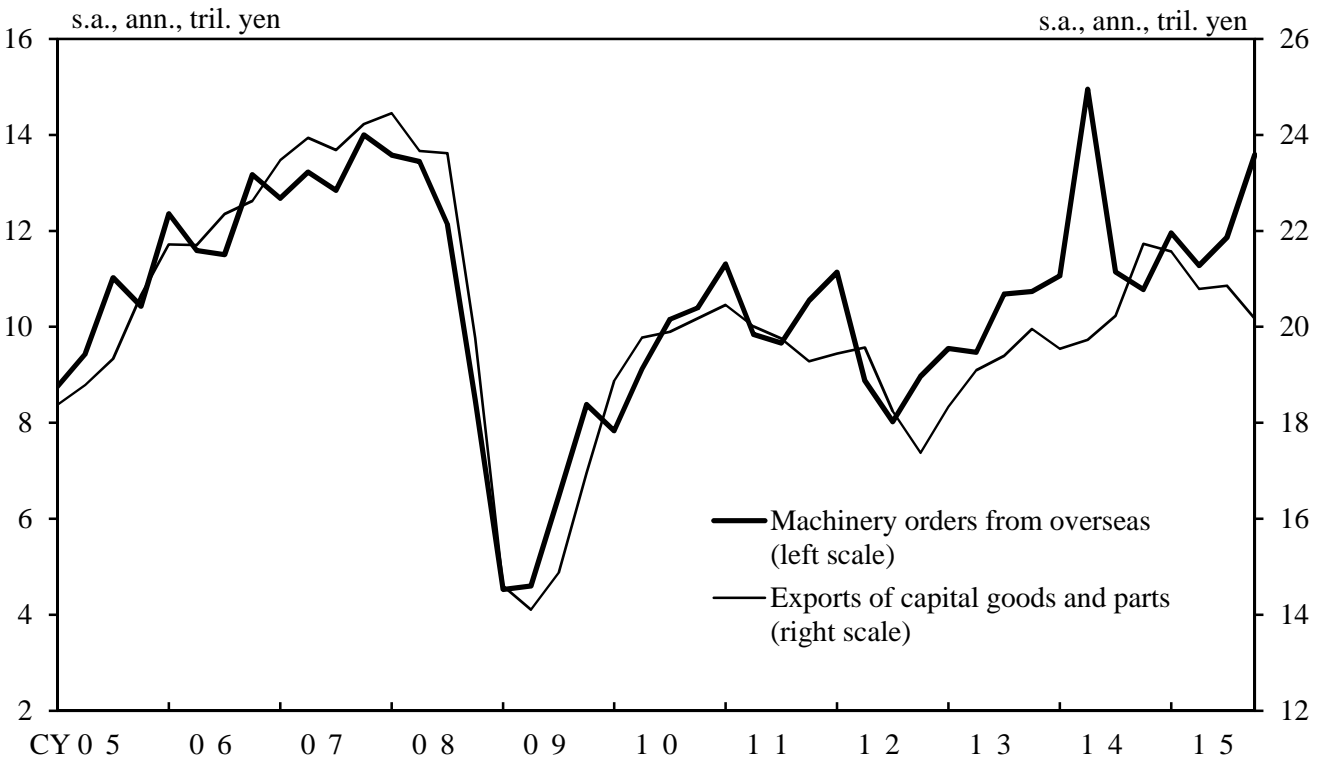
## Overseas Motor Vehicle Sales and Exports of Capital Goods

### (1) Motor Vehicle Sales in Major Economies



Note: Figures for the United States are based on motor vehicle sales excluding heavy trucks. Figures for the euro area are based on new passenger car registrations. Figures for China are based on passenger car sales.

### (2) Machinery Orders from Overseas and Exports of Capital Goods and Parts (Nominal)



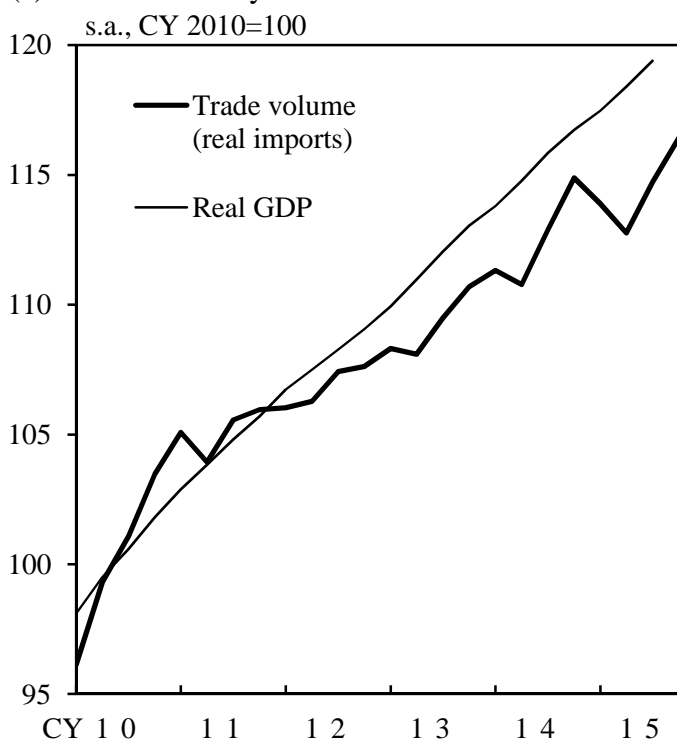
Note: The figure for machinery orders from overseas for 2015/Q4 is the October-November average.

Sources: BEA; ECB; China Association of Automobile Manufacturers; Ministry of Finance; Cabinet Office.

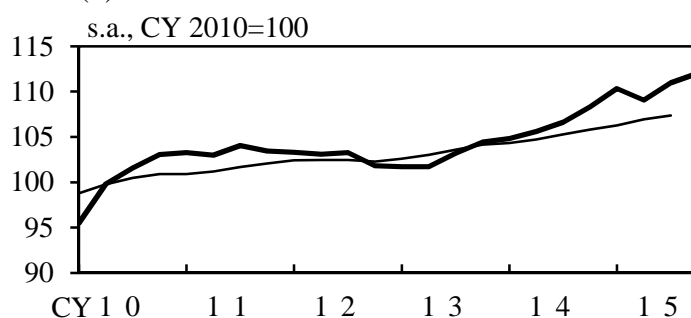
## World Trade Volume and Japan's Share of Exports in World Trade

### (1) Real GDP and Trade Volume of the World Economy

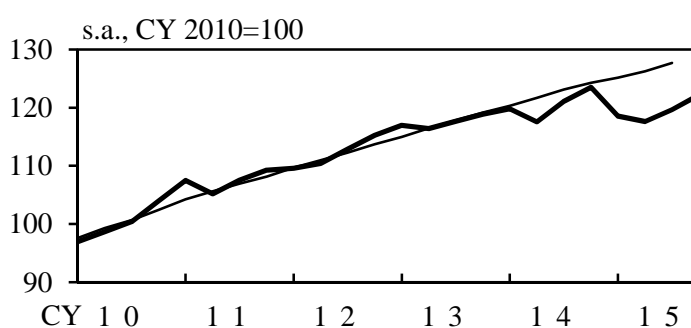
#### (a) World Economy



#### (b) Advanced Economies



#### (c) Emerging and Commodity-exporting Economies

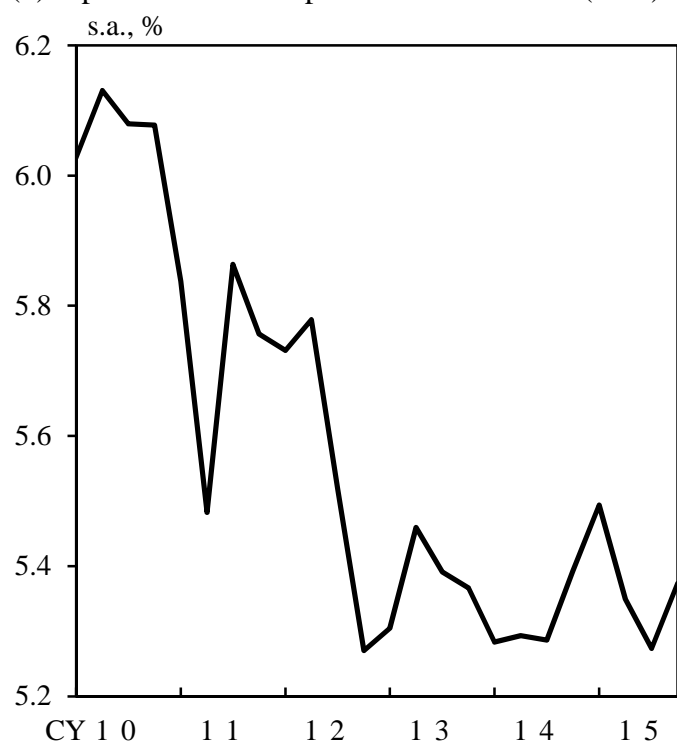


Notes: 1. Figures for the trade volume for 2015/Q4 are October-November averages.

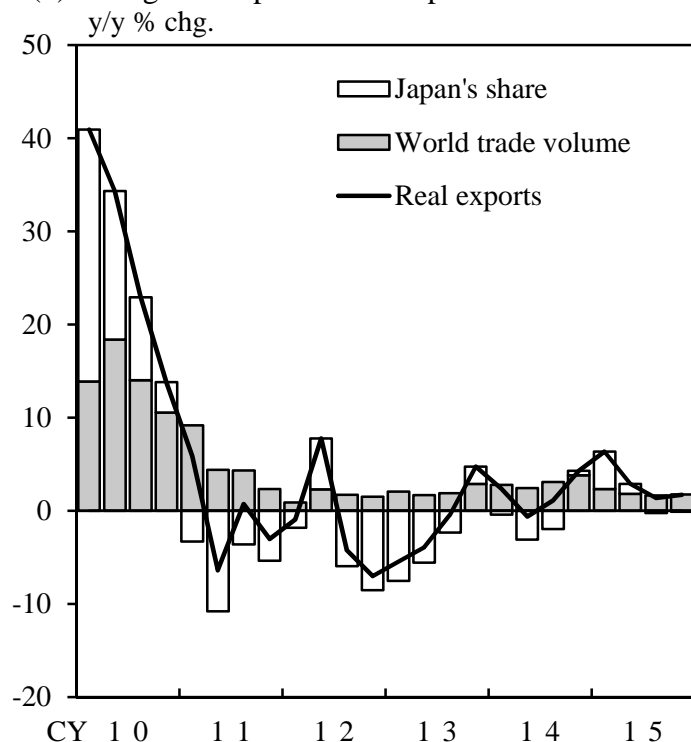
2. In the process of estimating real GDP (quarterly data), annual data is used for some areas.

3. Advanced economies are the United States, the EU and Japan. Emerging and commodity-exporting economies consist of the rest of the world economy.

### (2) Japan's Share of Exports in World Trade (Real)



### (3) Changes in Japan's Real Exports

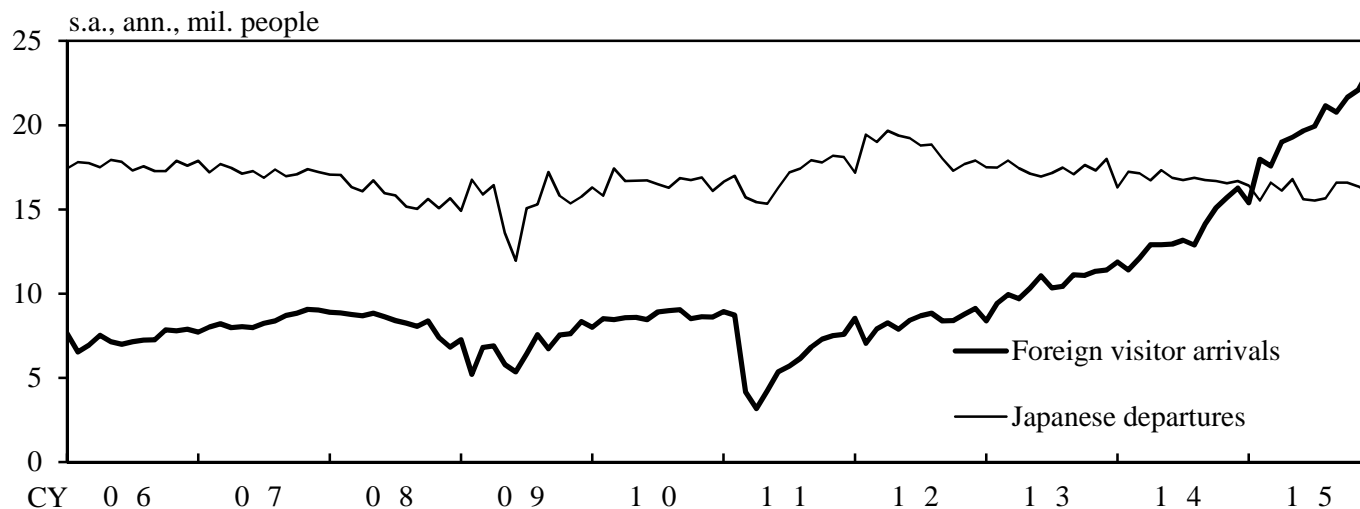


Notes: 1. Figures for 2015/Q4 are October-November averages.

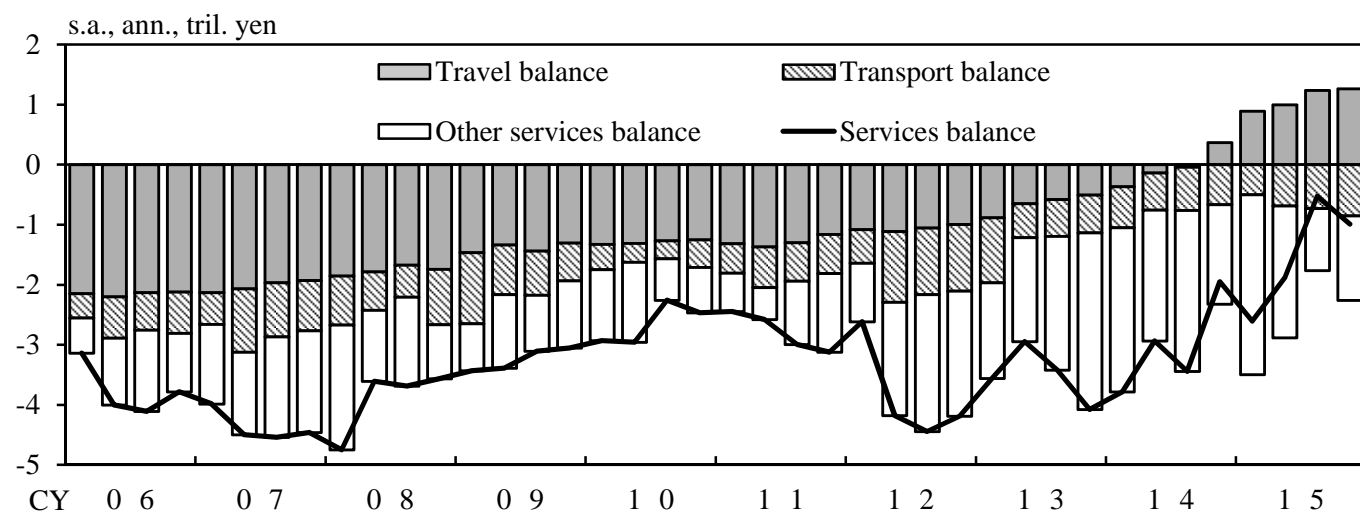
2. Japan's share of exports in world trade is obtained by dividing Japan's real exports by world real imports (2005 prices).

## Services Balance and Current Account

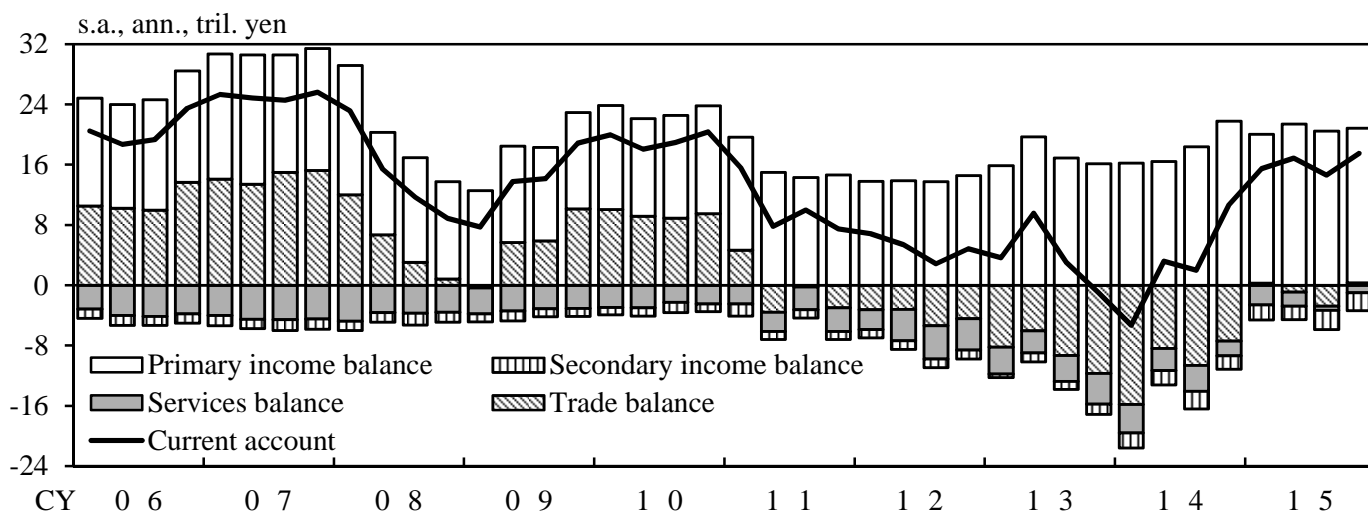
### (1) Foreign Visitor Arrivals and Japanese Departures



### (2) Services Balance



### (3) Current Account

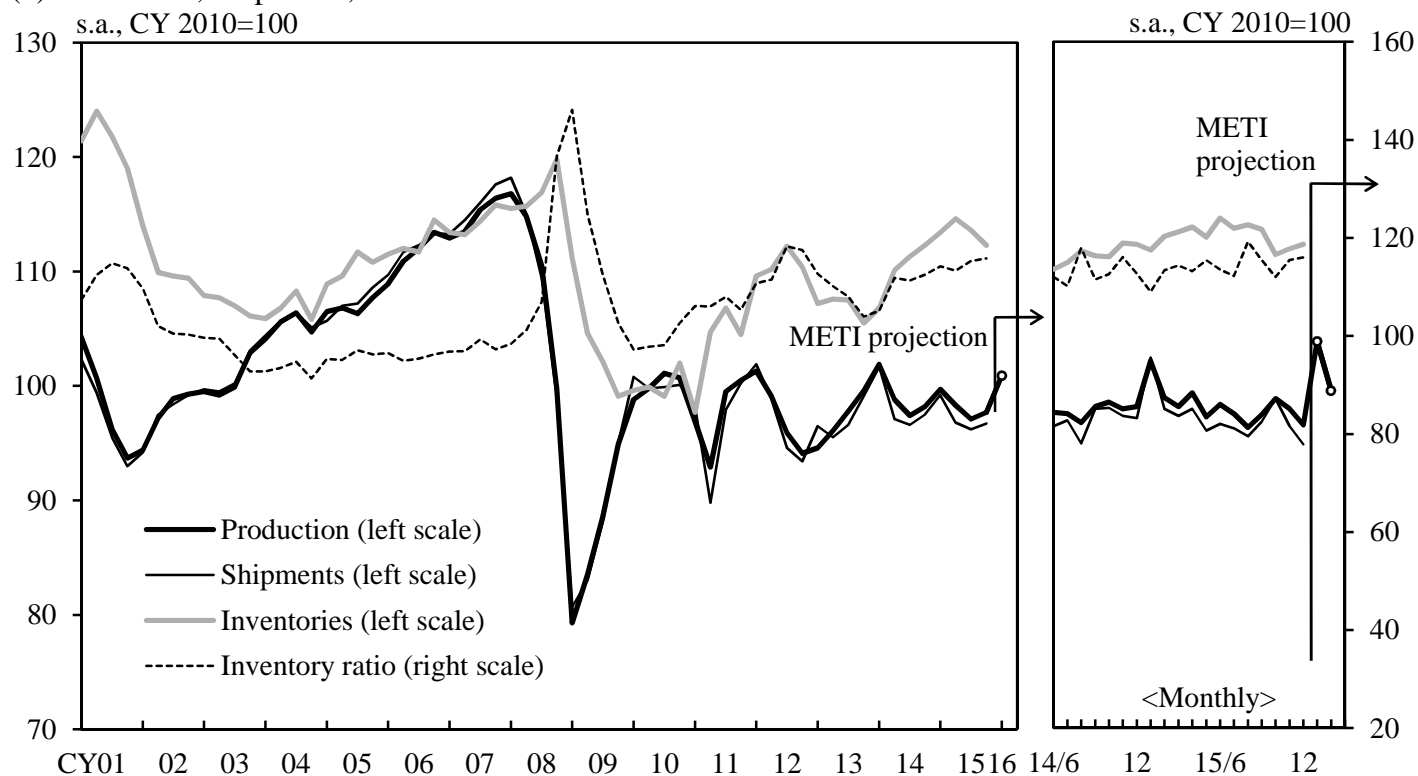


Note: Figures for 2015/Q4 are October-November averages.

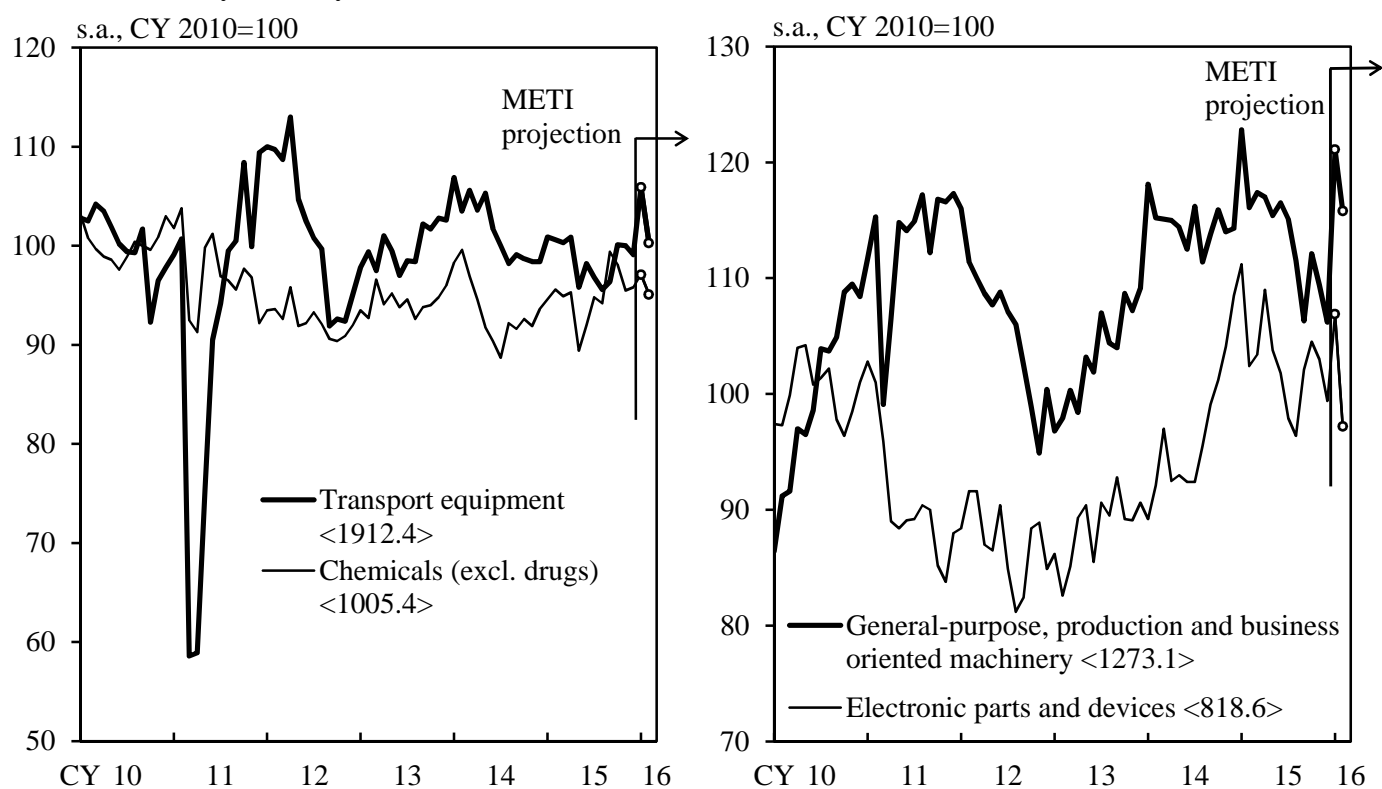
Sources: Japan National Tourism Organization (JNTO); Ministry of Finance and Bank of Japan.

## Production, Shipments, and Inventories

(1) Production, Shipments, and Inventories



(2) Production by Industry



Notes: 1. Figures for 2016/Q1 and January and February 2016 are calculated based on METI projections.

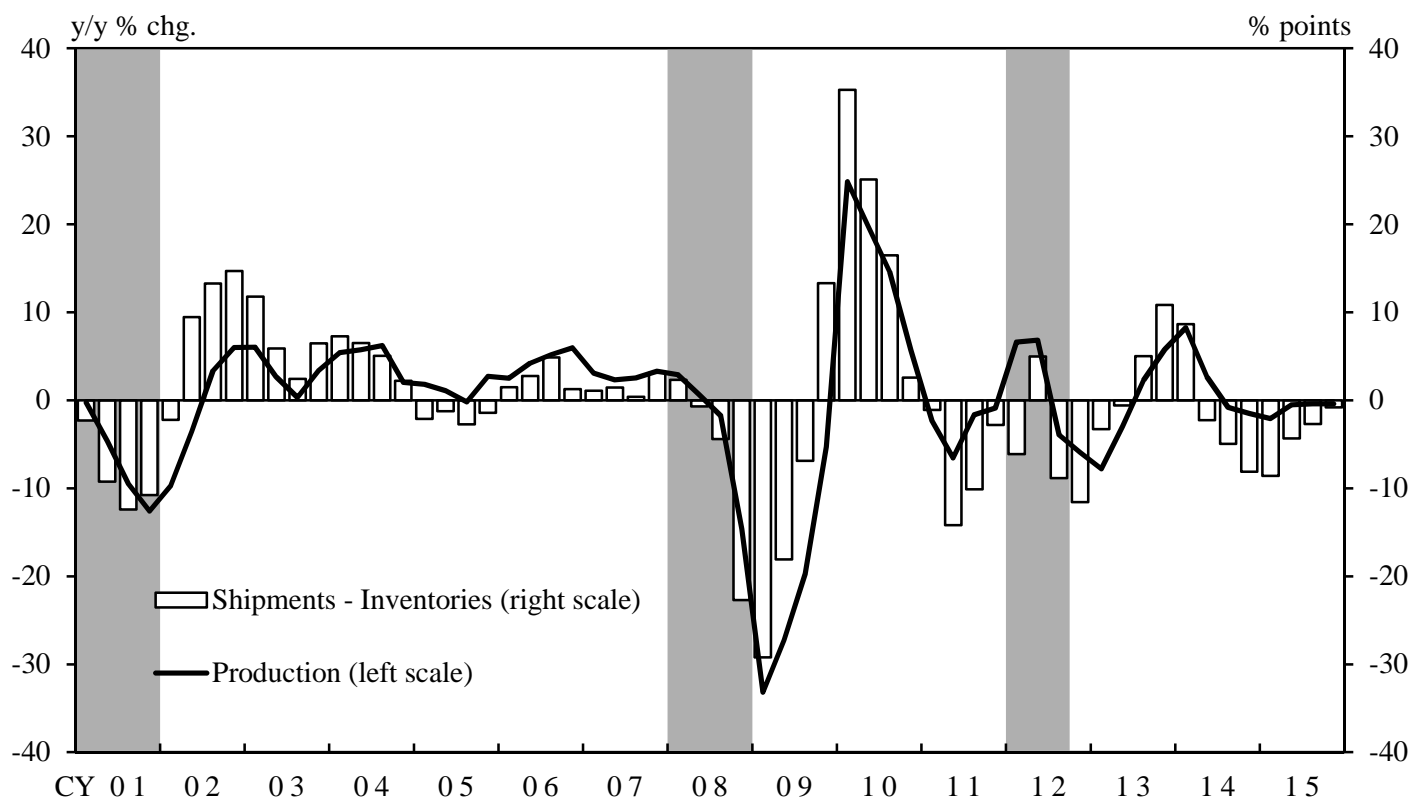
The figure for 2016/Q1 is based on the assumption that the production level in March is the same as February.

2. Figures in angular brackets show the value added weight in total production (=10,000).

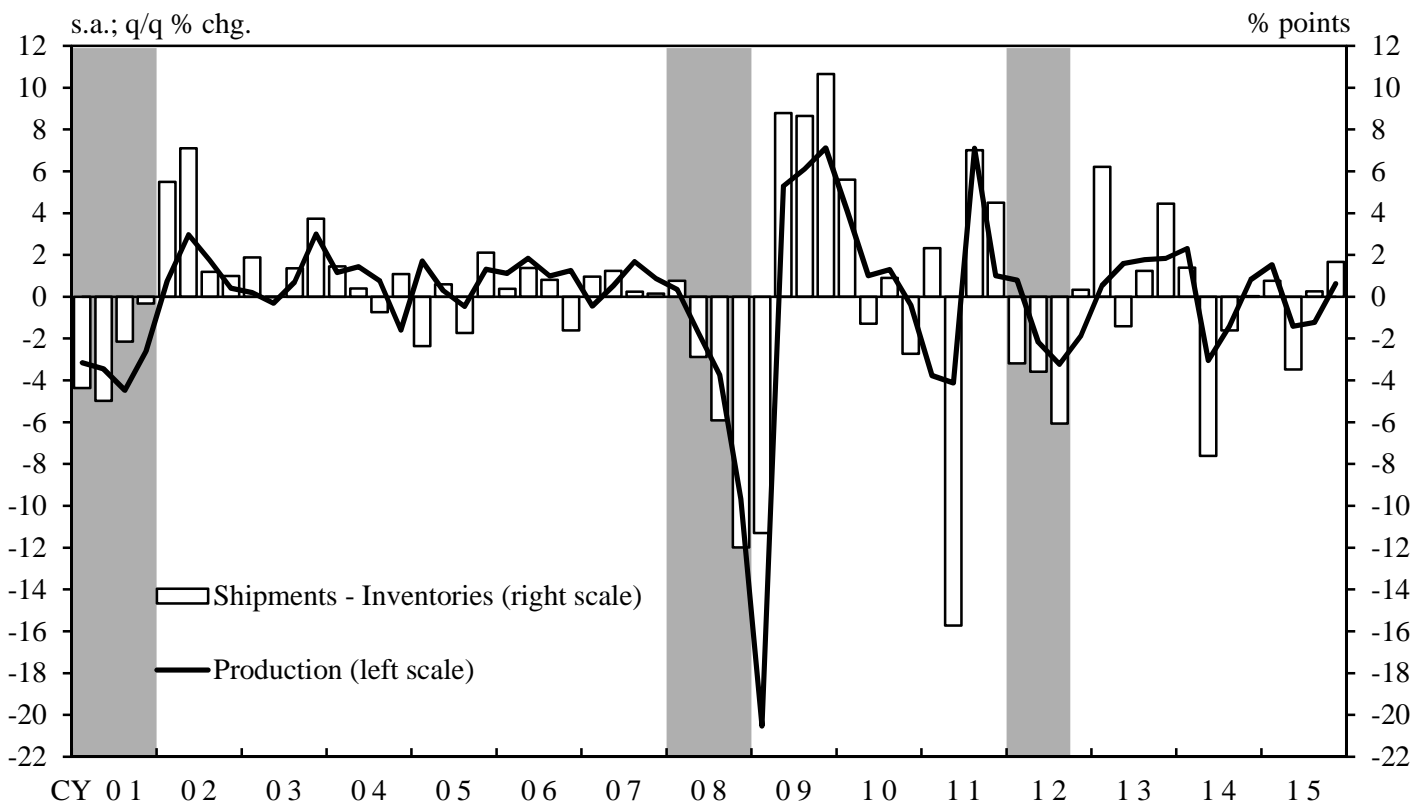
Source: Ministry of Economy, Trade and Industry (METI).

## Shipment-Inventory Balance

(1) Changes from the Previous Year



(2) Changes from the Previous Quarter

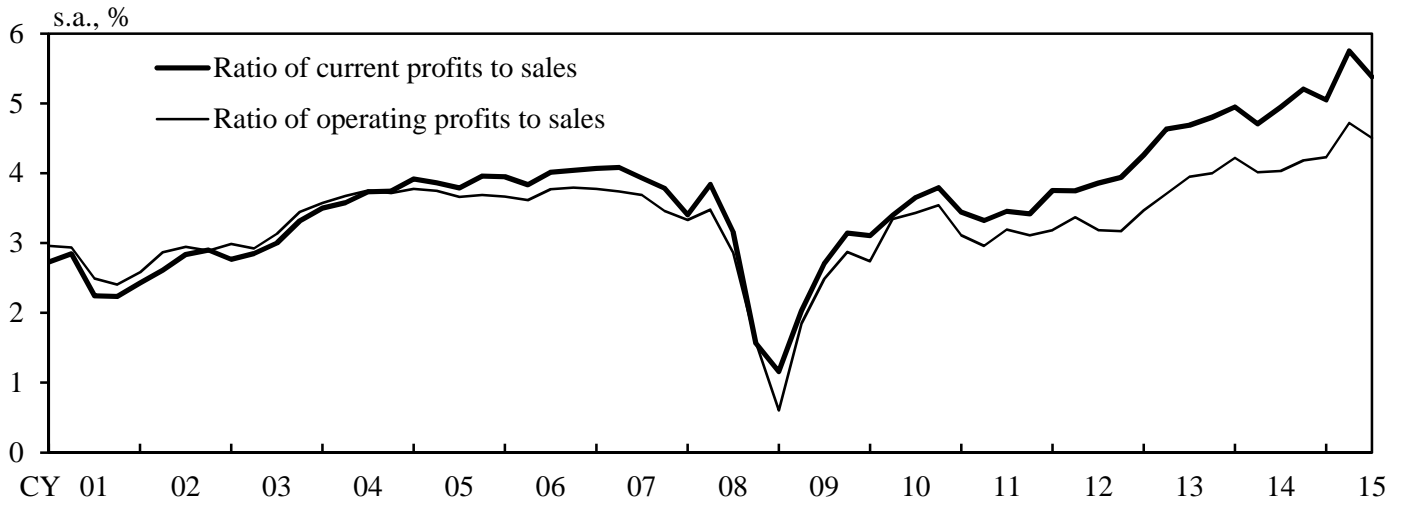


Note: Shaded areas indicate recession periods.

Source: Ministry of Economy, Trade and Industry.

## Corporate Profits

### (1) All Industries and Enterprises



### (2) Manufacturing

#### (a) Large Enterprises

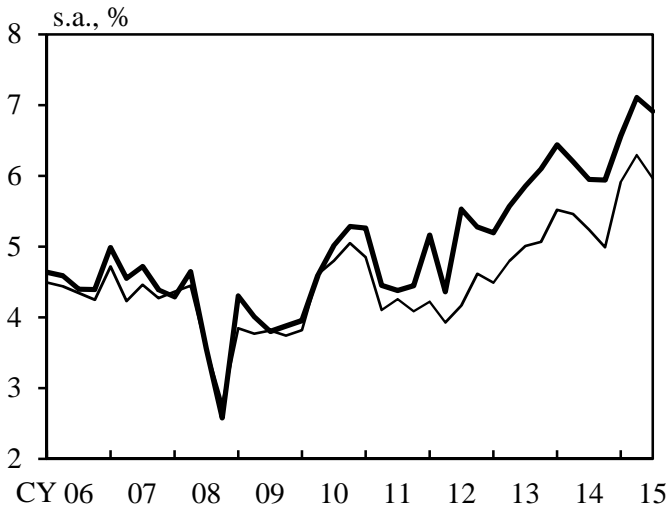


#### (b) Small and Medium-Sized Enterprises

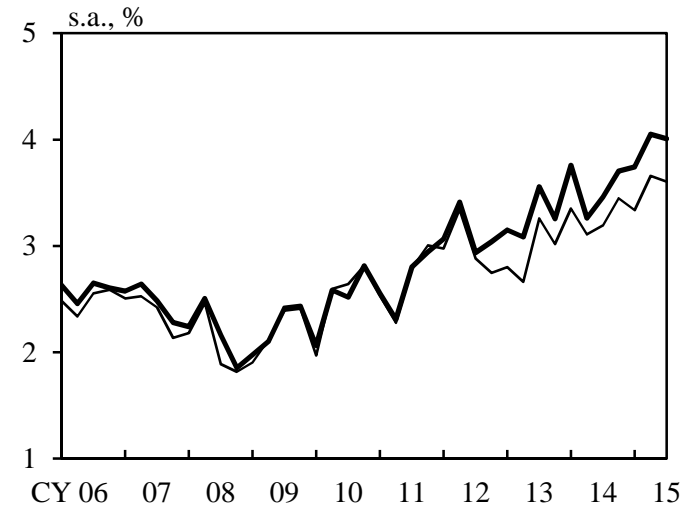


### (3) Nonmanufacturing

#### (a) Large Enterprises



#### (b) Small and Medium-Sized Enterprises



Note: Based on the "Financial Statements Statistics of Corporations by Industry, Quarterly."

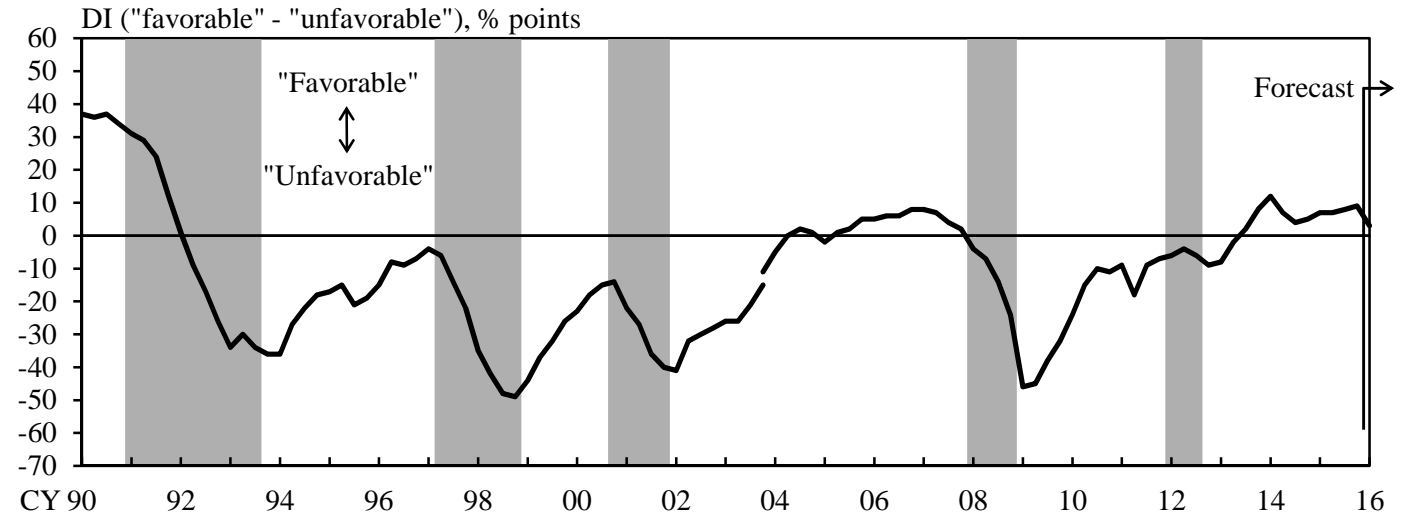
Excluding "Finance and Insurance."

Source: Ministry of Finance.

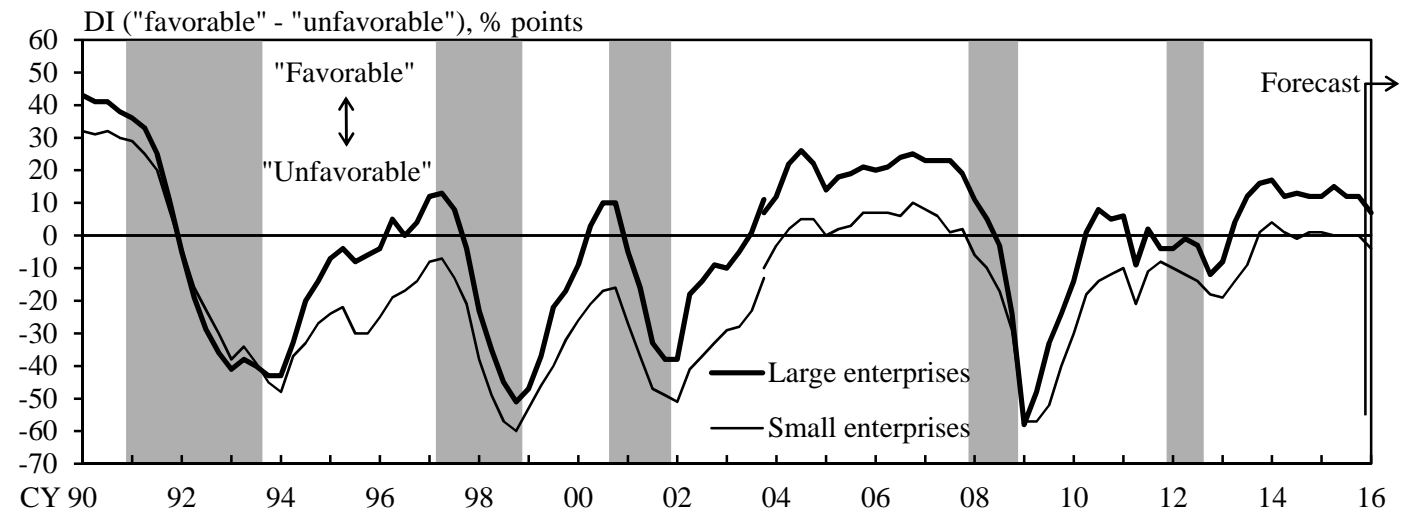


## Business Conditions

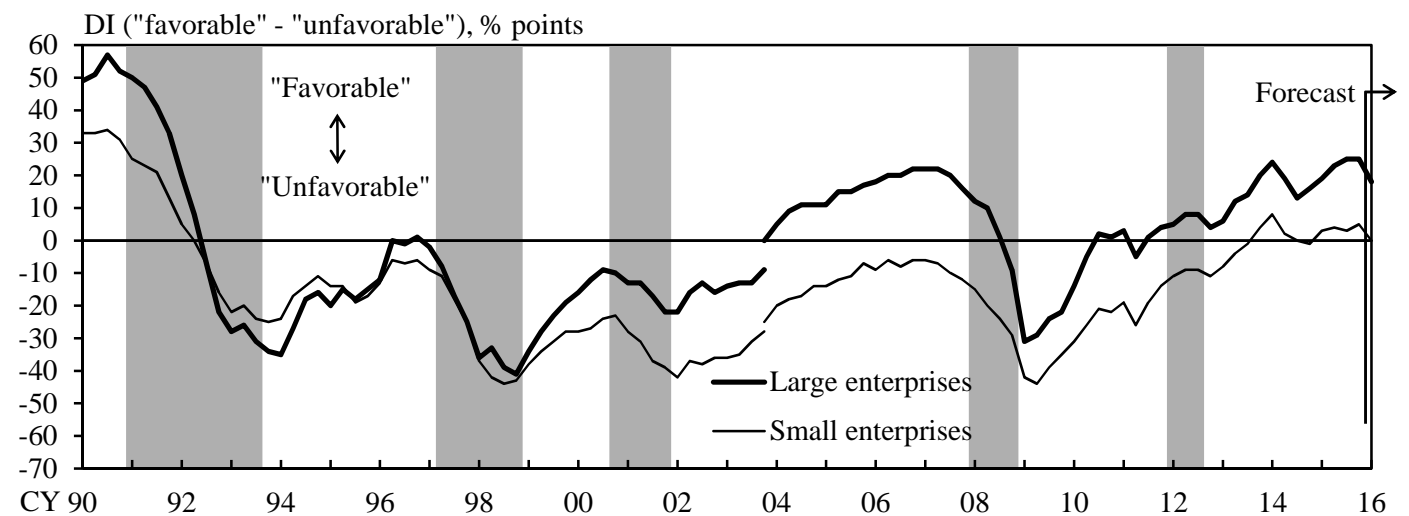
### (1) All Industries and Enterprises



### (2) Manufacturing



### (3) Nonmanufacturing



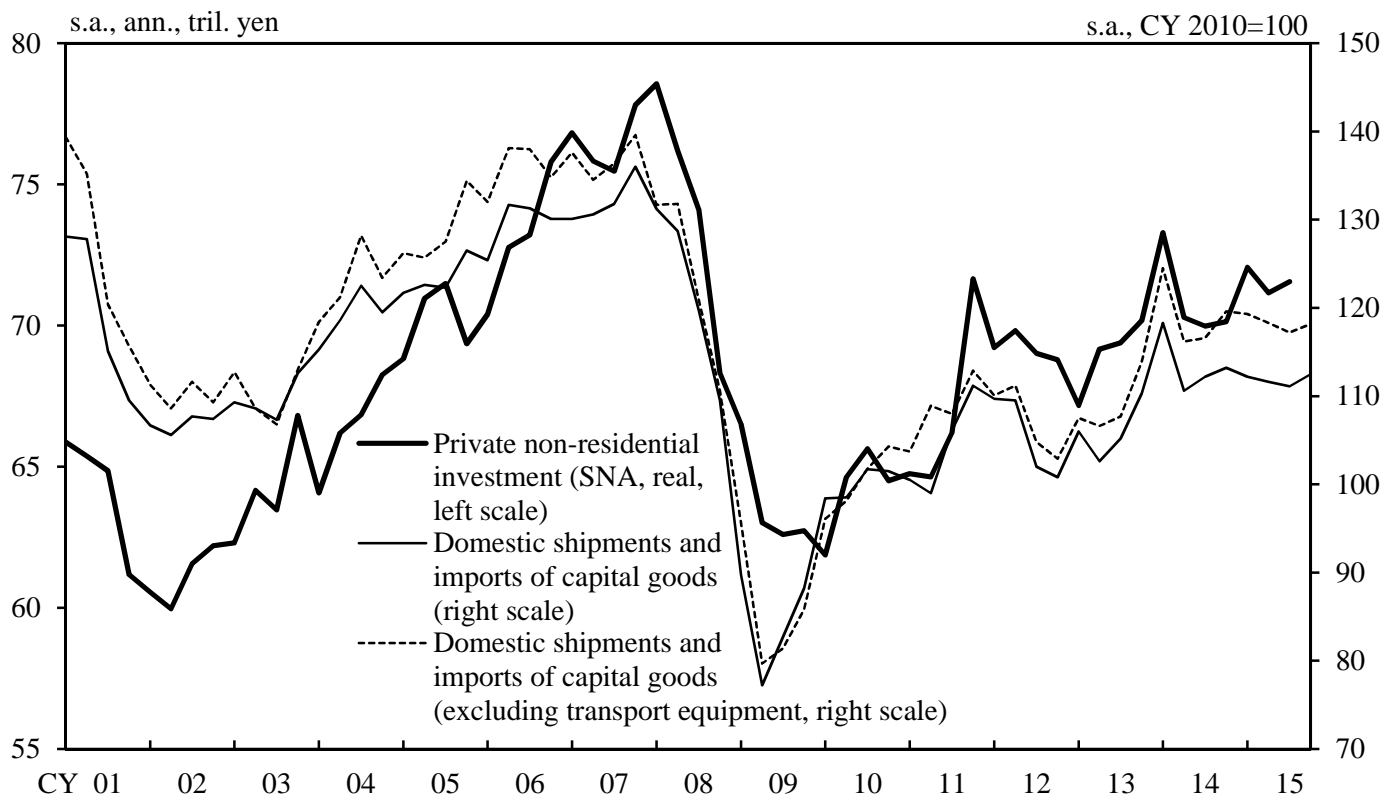
Notes: 1. Based on the *Tankan*. Shaded areas indicate recession periods.

2. There is a discontinuity in the data in December 2003 due to a change in the survey framework.

Source: Bank of Japan.

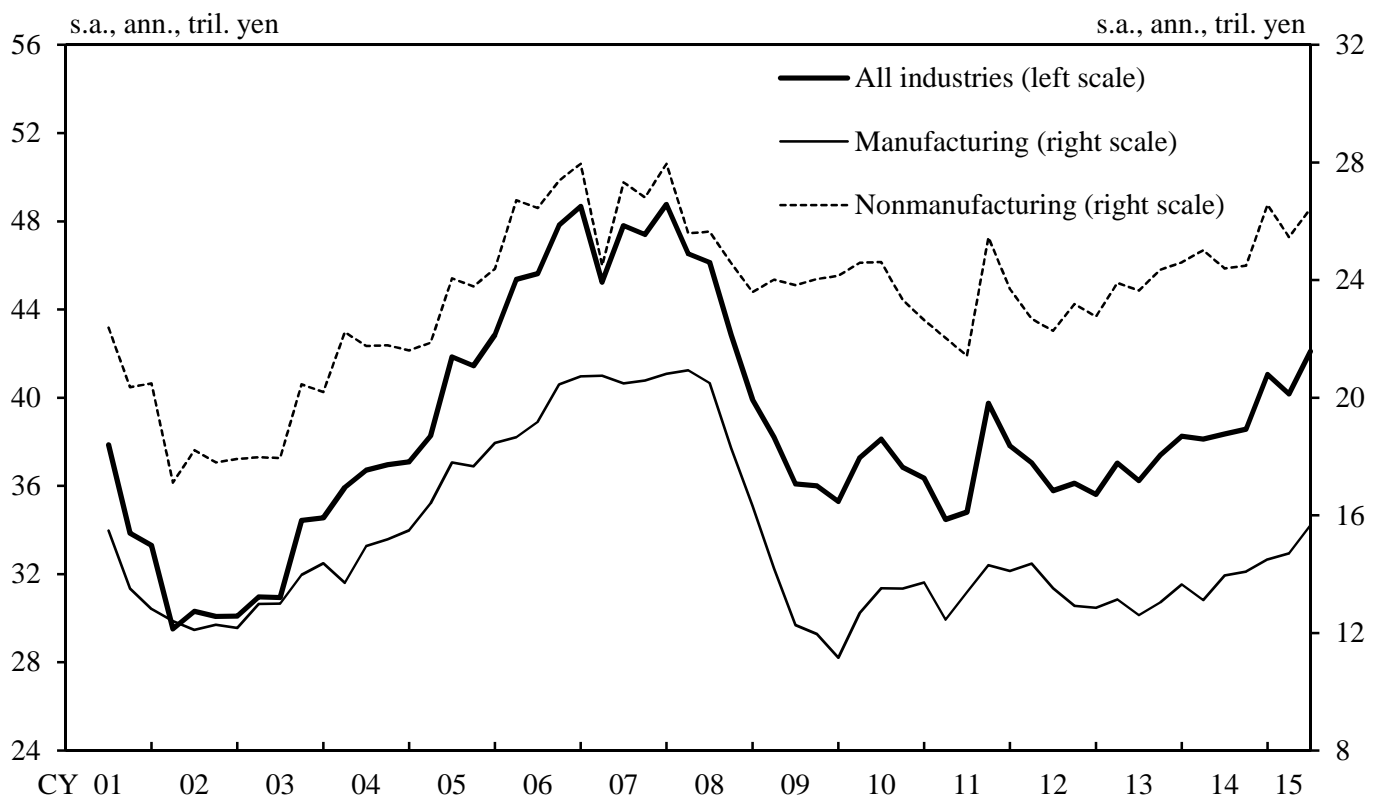
## Coincident Indicators of Business Fixed Investment

### (1) Private Non-Residential Investment (SNA Basis), and Domestic Shipments and Imports of Capital Goods



Note: Figures for 2015/Q4 are October-November averages.

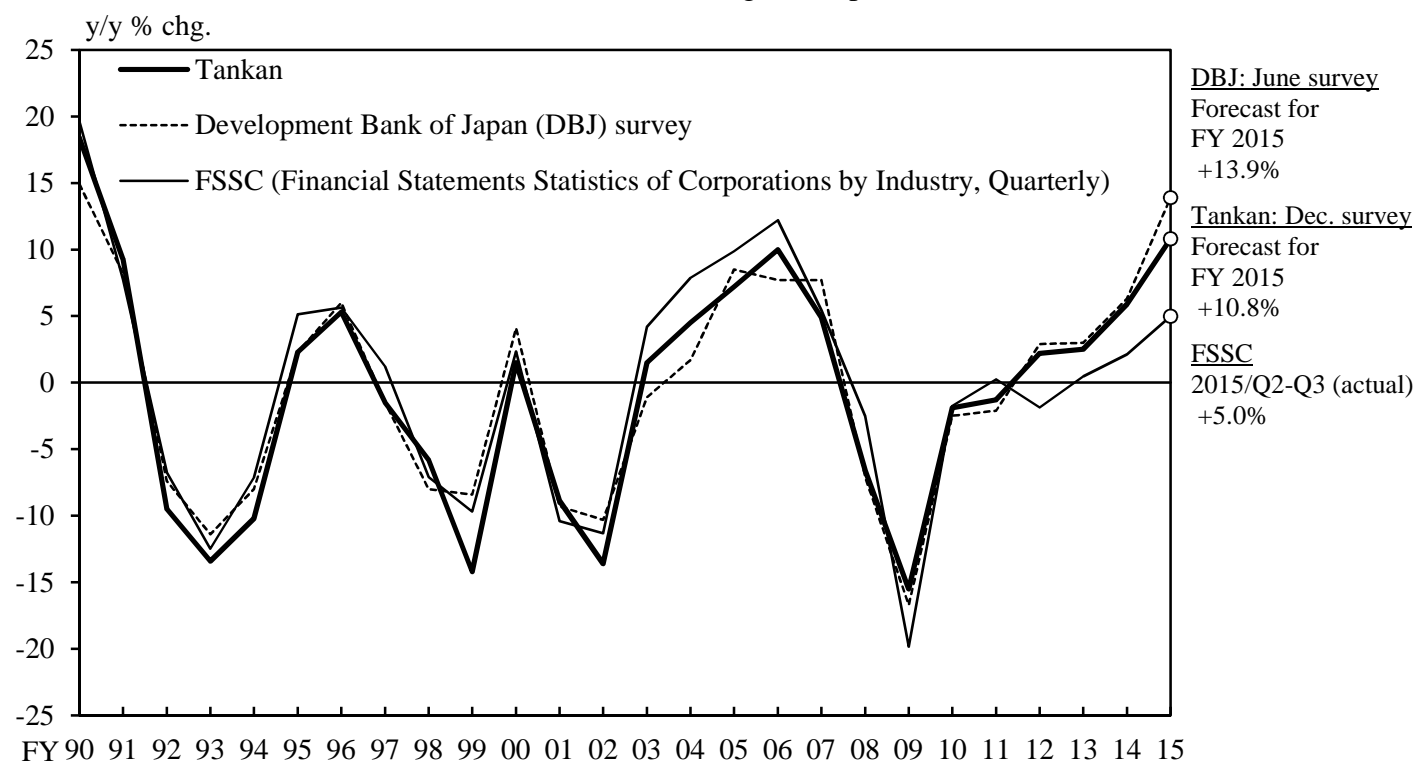
### (2) Business Fixed Investment (All Enterprises, Excluding Goods Rental and Leasing Industry)



Note: Excluding "Finance and Insurance" and "Goods Rental and Leasing," and including software investment.  
Sources: Cabinet Office; Ministry of Economy, Trade and Industry; Ministry of Finance.

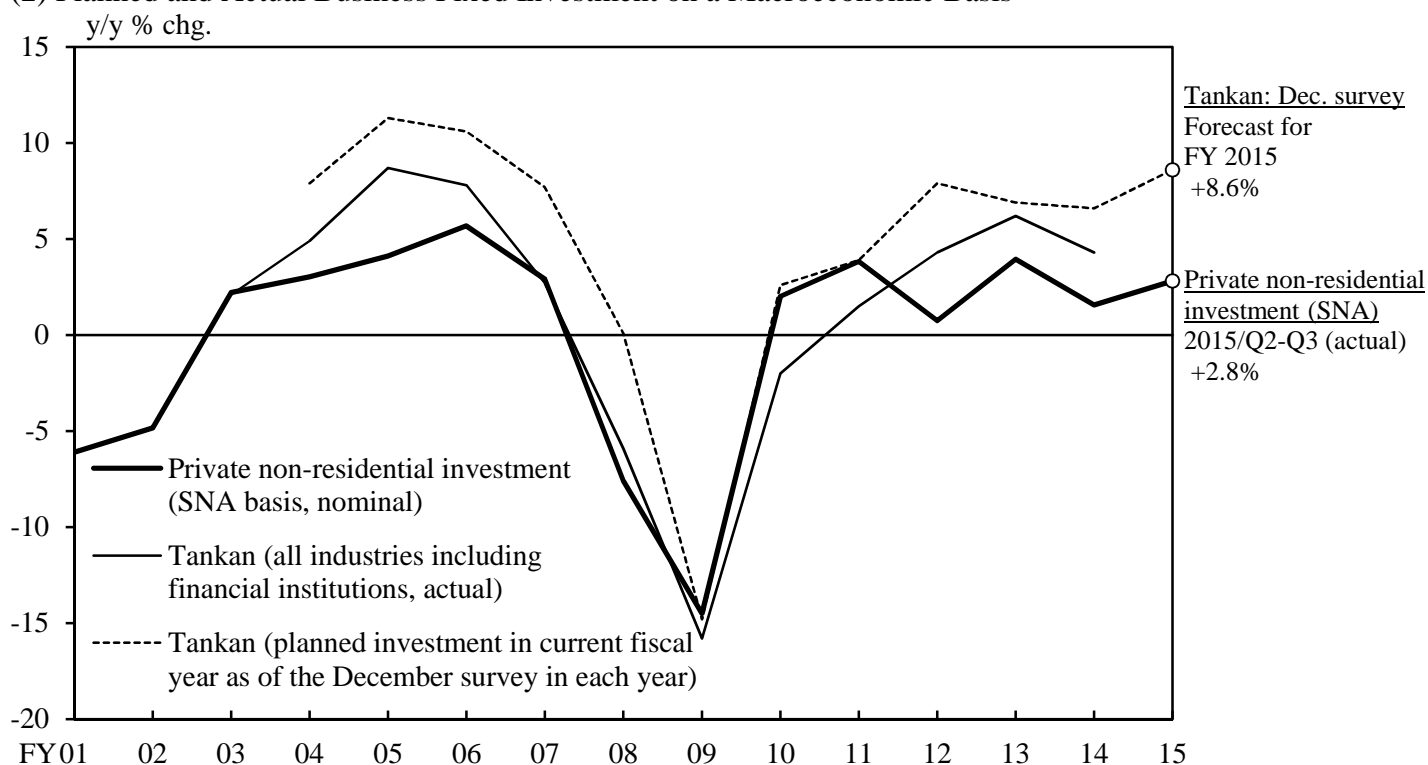
## Planned and Actual Business Fixed Investment

### (1) Planned and Actual Business Fixed Investment in Large Enterprises



Note: Data up to fiscal 2014 are actual changes from the previous fiscal year. Figures are for all industries and enterprises (excluding "Finance and Insurance"); software investment is excluded. Figures for the *Tankan* and the DBJ survey include land purchasing expenses. Figures for the FSSC exclude "Goods Rental and Leasing."

### (2) Planned and Actual Business Fixed Investment on a Macroeconomic Basis

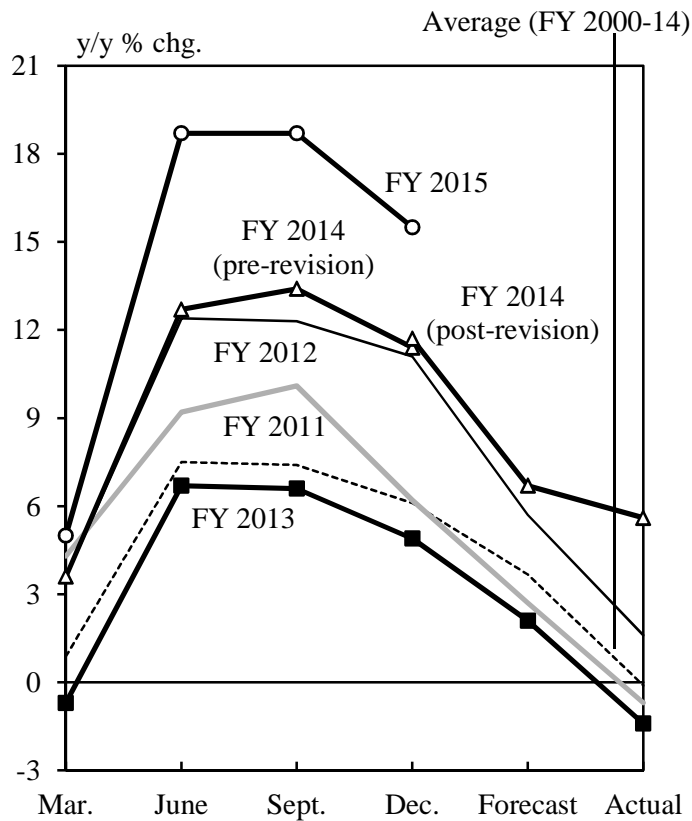


Note: Figures for the *Tankan* include software investment and exclude land purchasing expenses.

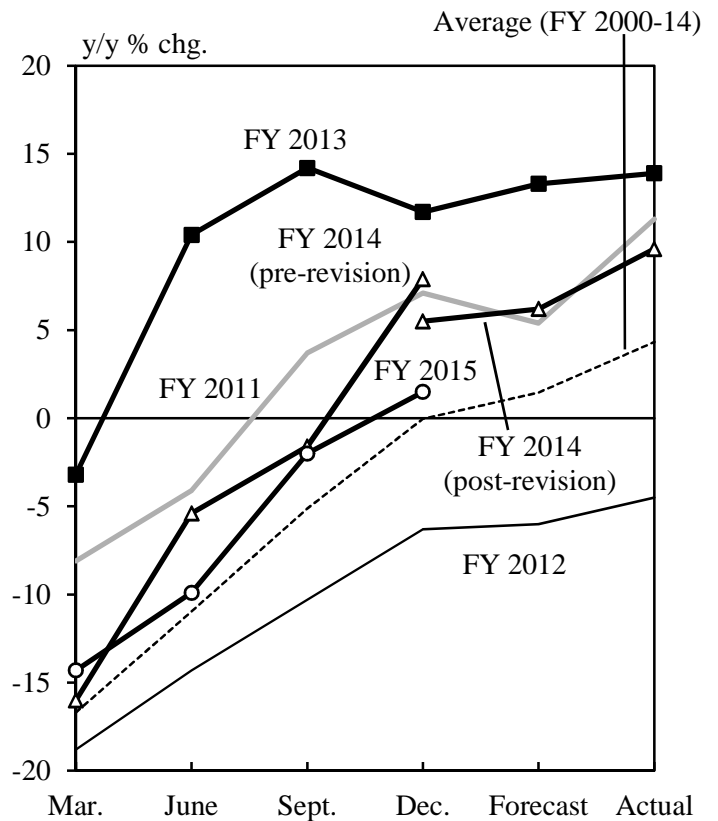
Sources: Bank of Japan; Development Bank of Japan; Cabinet Office; Ministry of Finance.

### Business Fixed Investment Plans, by Industry and Enterprise Size

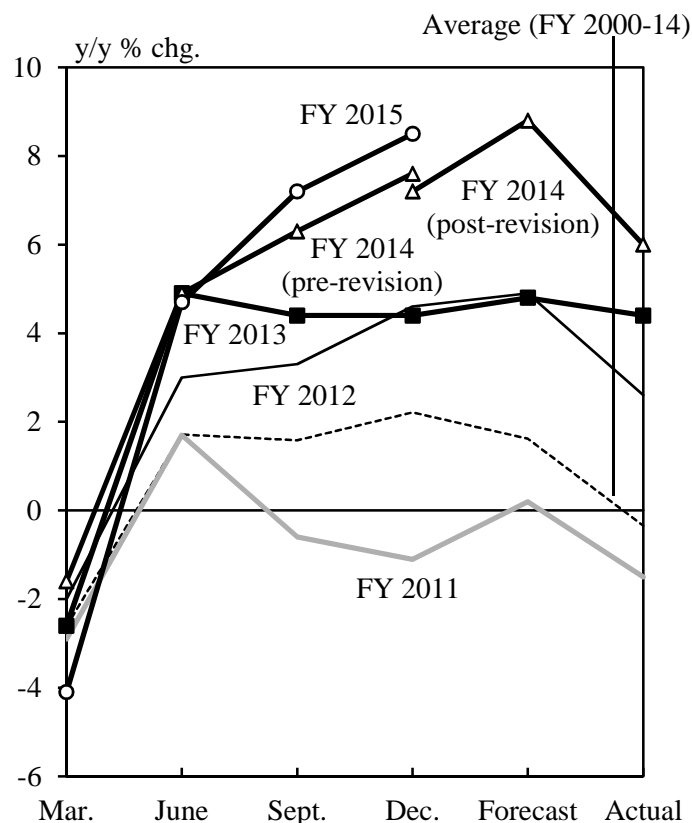
(1) Large Manufacturing Enterprises



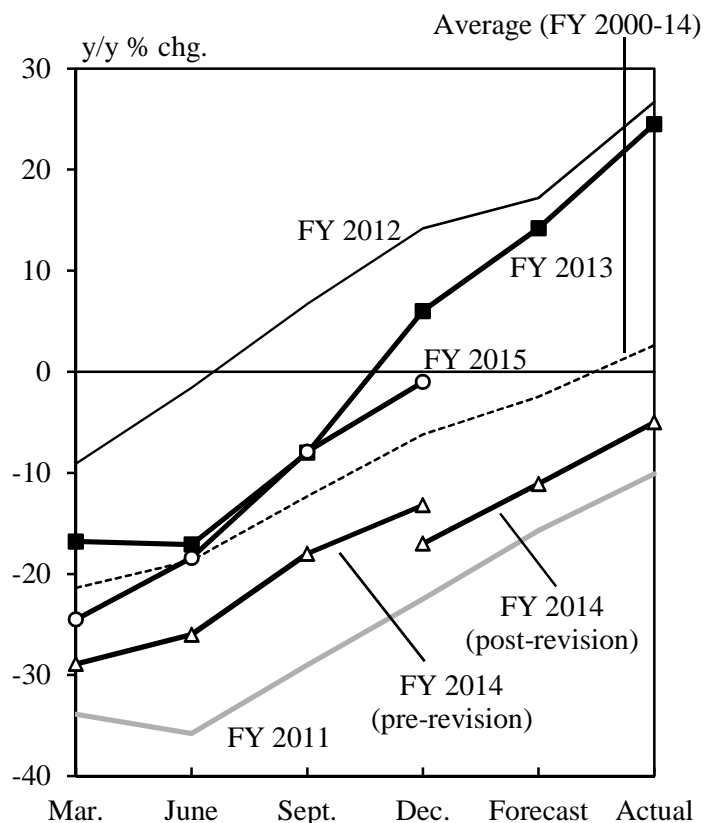
(2) Small Manufacturing Enterprises



(3) Large Nonmanufacturing Enterprises



(4) Small Nonmanufacturing Enterprises



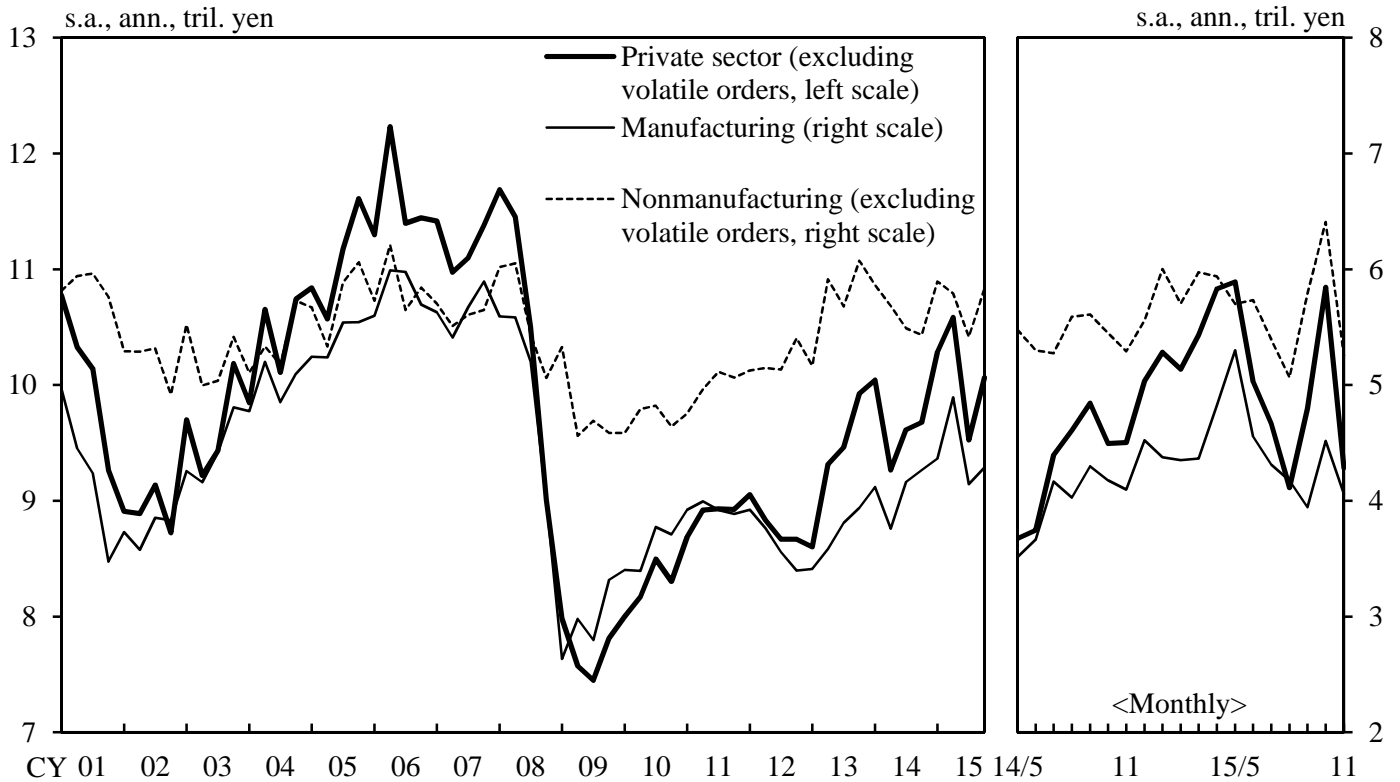
Notes: 1. Based on the *Tankan*. Figures include land purchasing expenses and exclude software investment.

2. There is a discontinuity in the data in December 2014 due to a change in the survey sample.

Source: Bank of Japan.

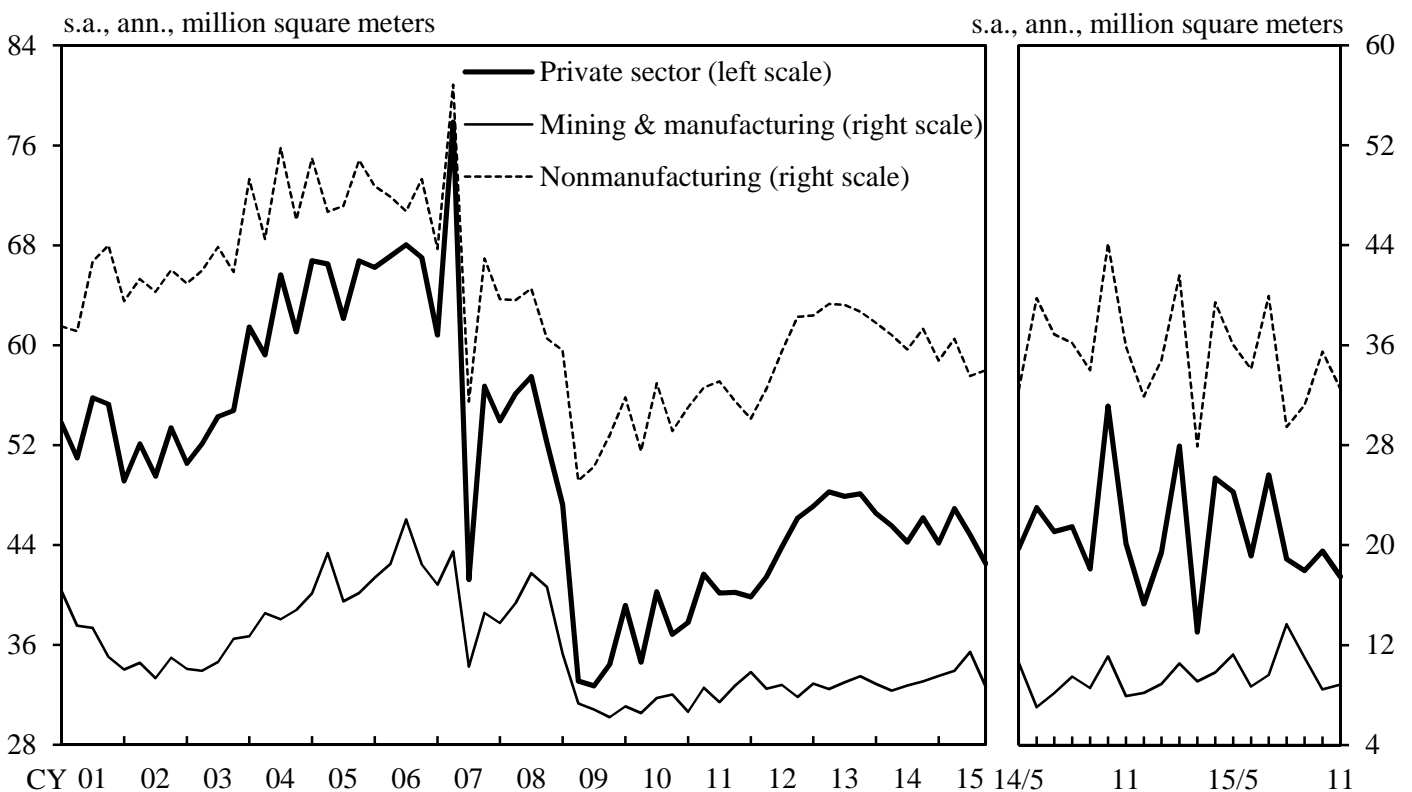
## Leading Indicators of Business Fixed Investment

### (1) Machinery Orders



Notes: 1. Volatile orders: orders for ships and orders from electric power companies.  
 2. Figures for 2015/Q4 are October-November averages. The same applies to the chart below.

### (2) Construction Starts (Floor Area, Private, Nondwelling Use)

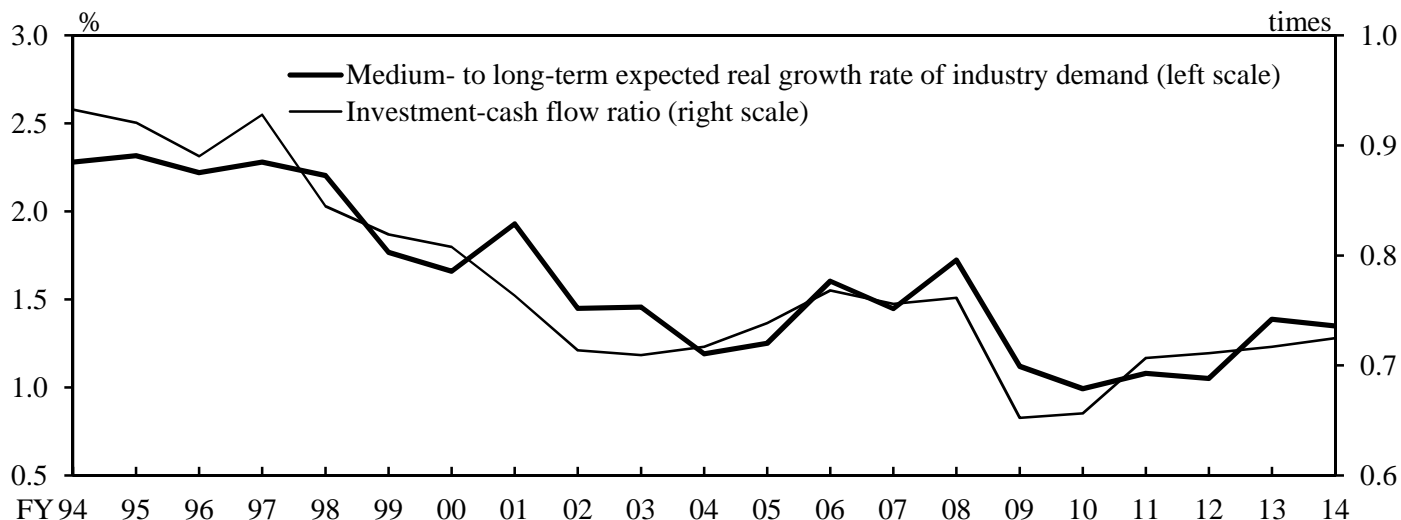


Note: Figures up to fiscal 2002 are adjusted to reflect changes in the Japan Standard Industrial Classification.

Sources: Cabinet Office; Ministry of Land, Infrastructure, Transport and Tourism.

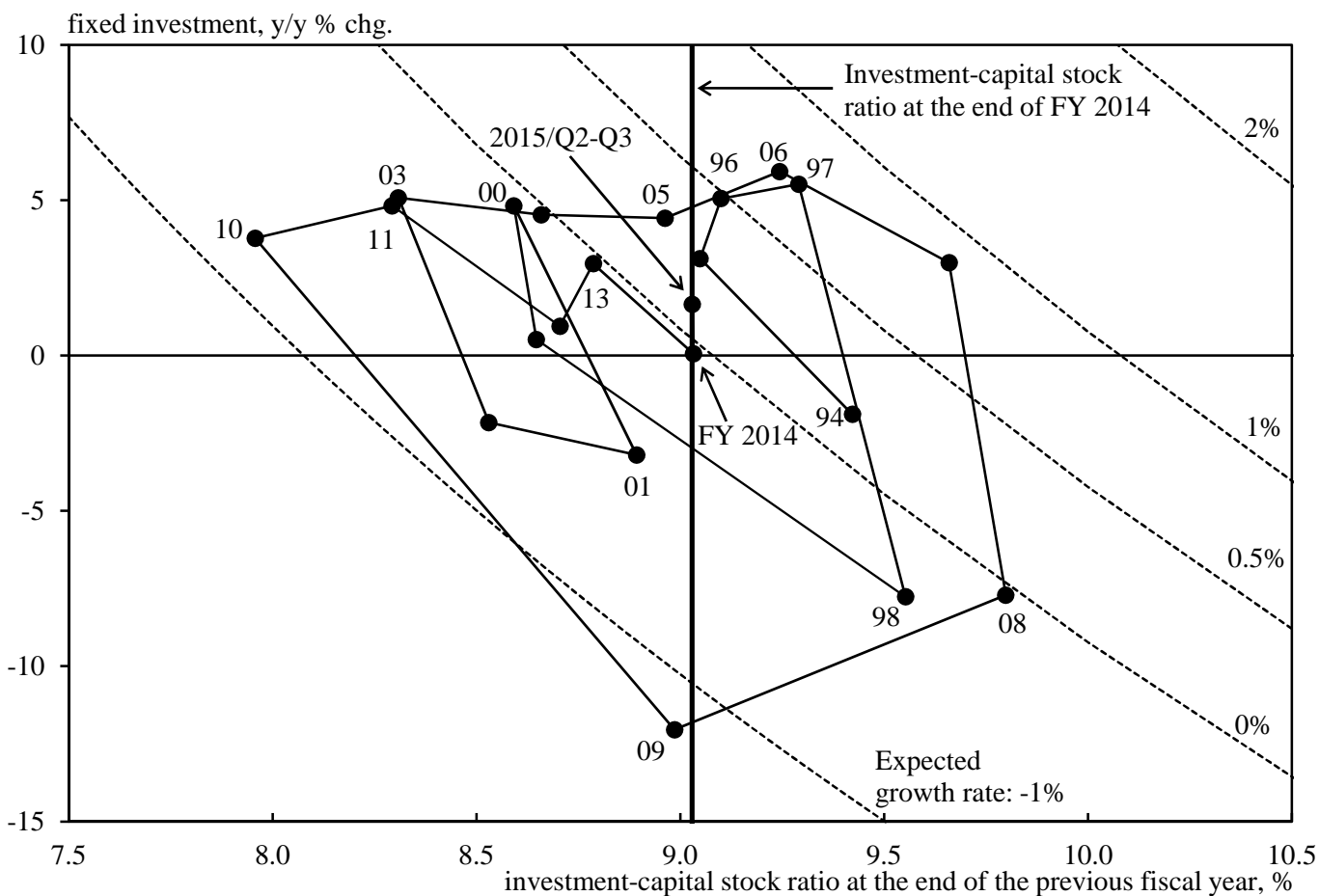
## Expected Growth Rate and Capital Stock Cycles

(1) Expected Growth Rate and Investment-Cash Flow Ratio



Notes: 1. The medium- to long-term expected real growth rate is calculated using the forecasts of real growth rates of industry demand (for the next fiscal year, the next 3 years, and the next 5 years) from the "Annual Survey of Corporate Behavior" as the expected real growth rate for the final year.  
 2. Cash flow = consumption of fixed capital + (operating surplus + net property income) / 2

(2) Capital Stock Cycles

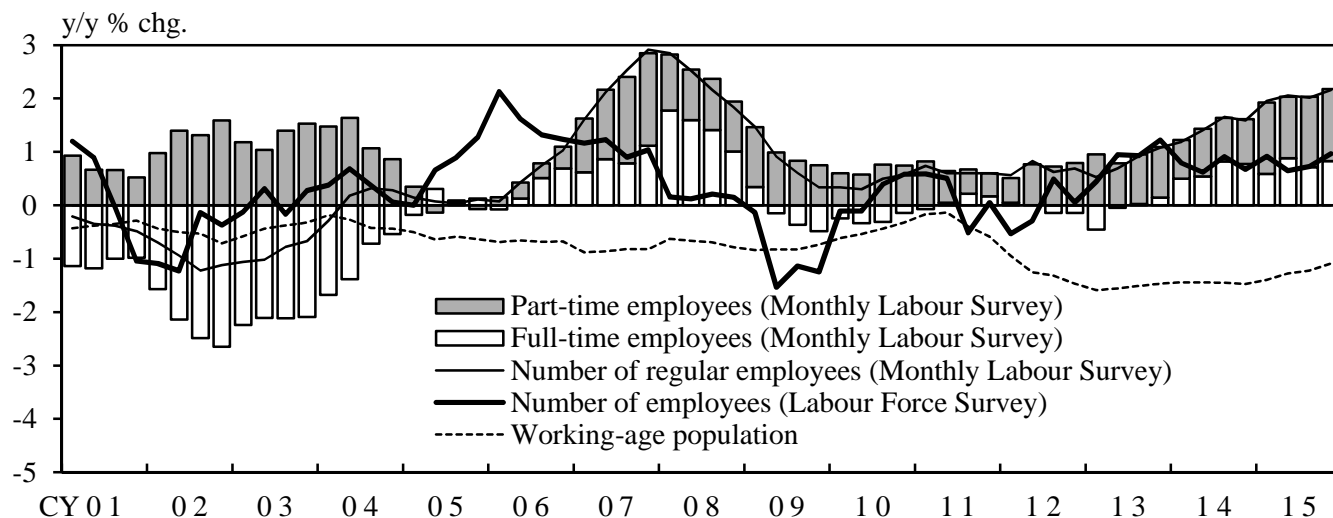


Note: Each broken line represents the combination of the rate of change in fixed investment and the investment-capital stock ratio at a certain expected growth rate. For details, see "The Recent Increase in Business Fixed Investment in the Manufacturing Sector," Bank of Japan Review Series, 2006-J-17 (available in Japanese only).

Sources: Cabinet Office; Research Institute of Economy, Trade and Industry.

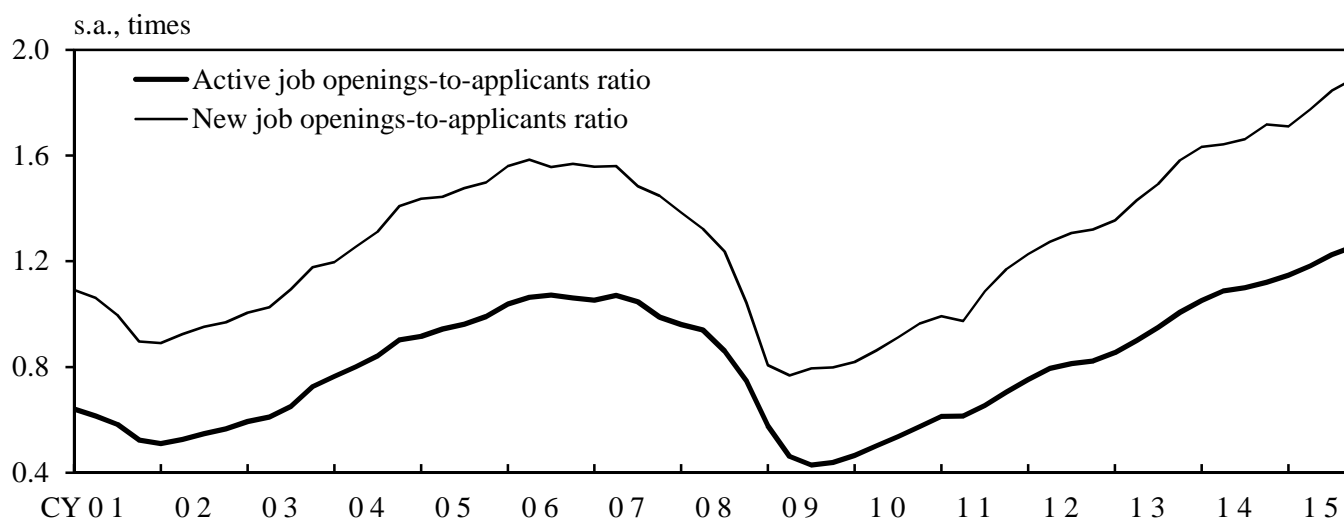
## Employment and Labor Market Conditions

### (1) Number of Employees

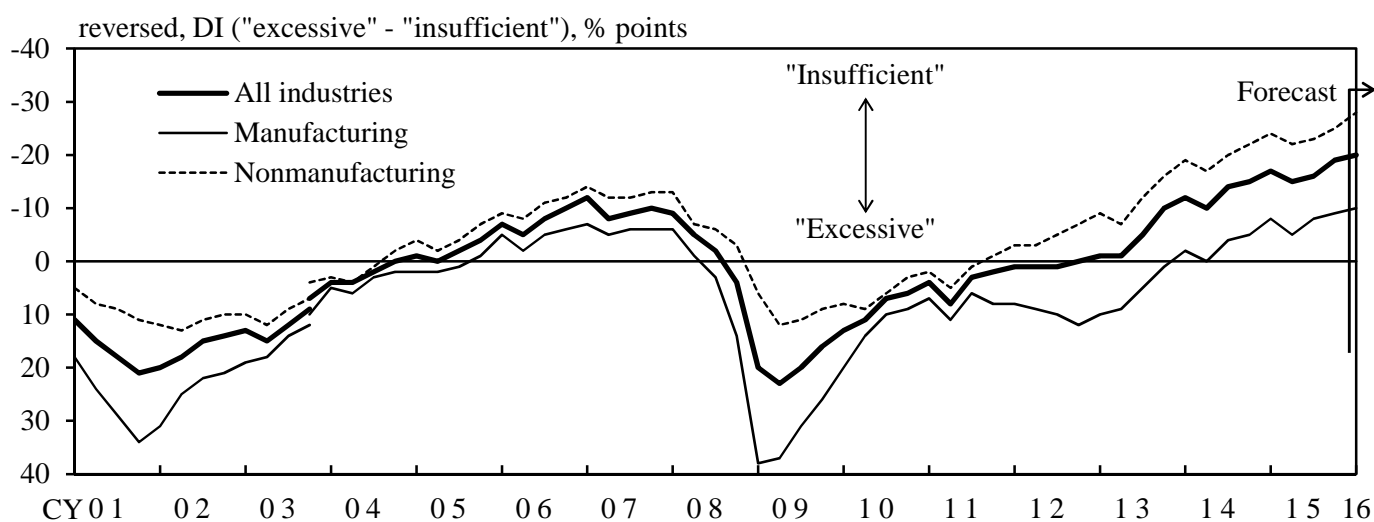


Note: Figures based on the "Monthly Labour Survey" for 2015/Q4 are October-November averages.

### (2) Job Openings-to-Applicants Ratio



### (3) Employment Conditions DI (*Tankan*, Enterprises of All Sizes)

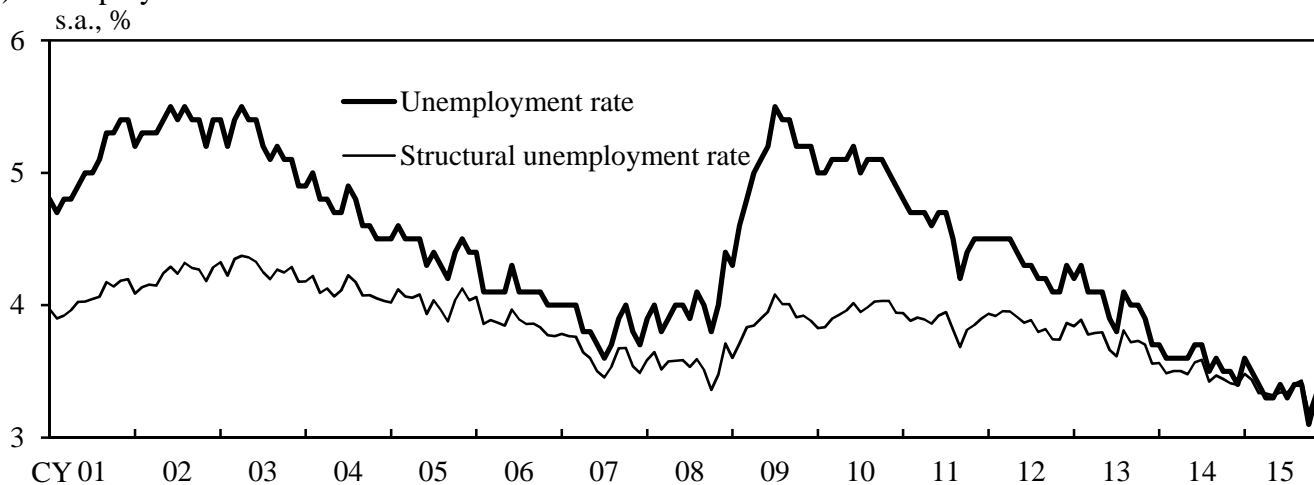


Note: There is a discontinuity in the data in December 2003 due to a change in the survey framework.

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

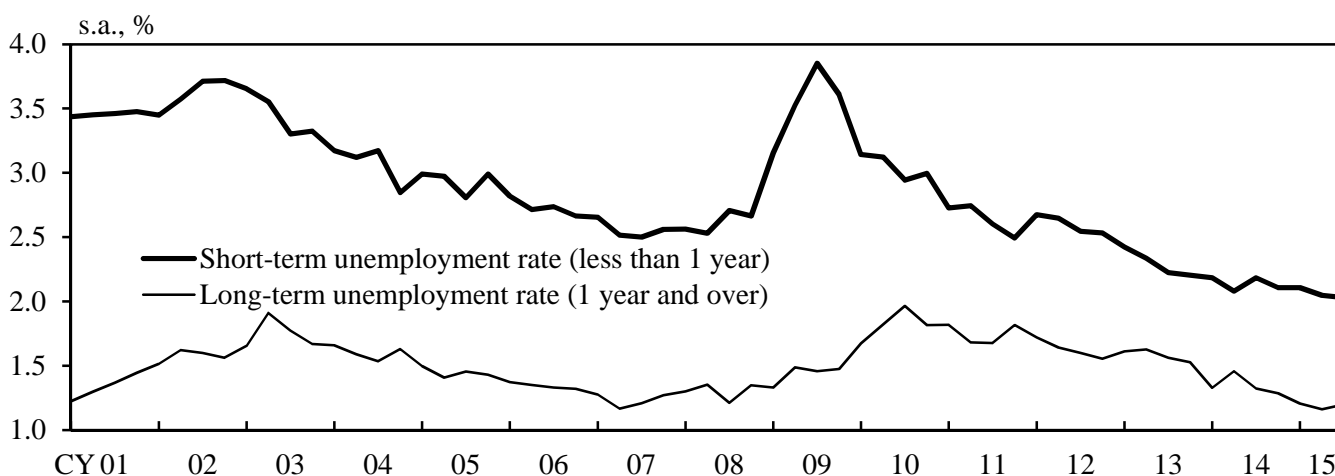
## Unemployment Rate and Labor Force Participation Rate

(1) Unemployment Rate



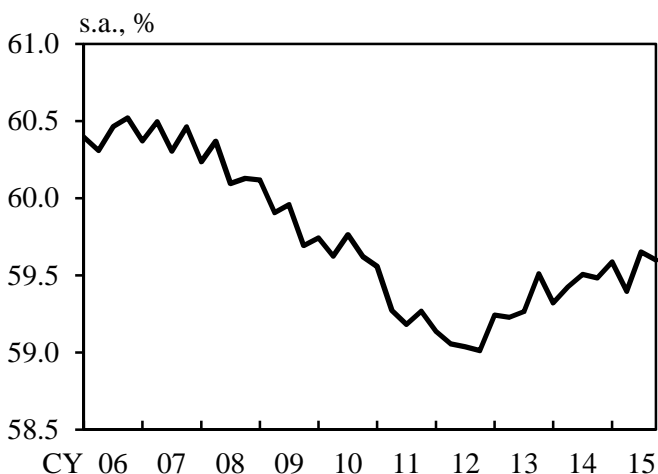
Note: The structural unemployment rate is estimated by the Research and Statistics Department, Bank of Japan.

(2) Unemployment Rate by Duration

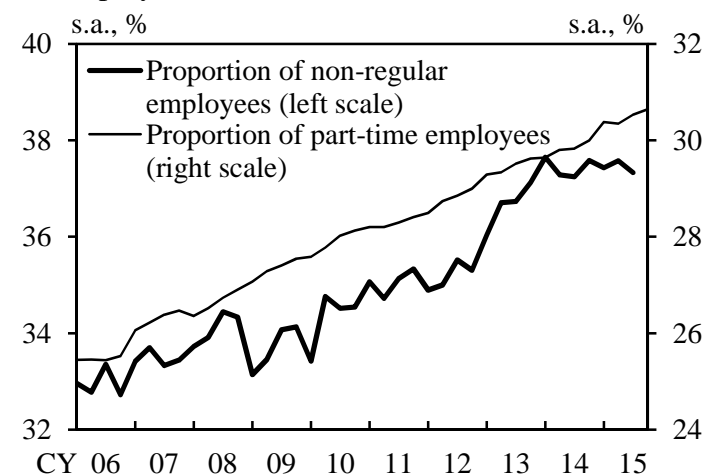


Note: Figures for unemployed persons by duration up through CY 2001 are not seasonally adjusted, since they are on a semiannual basis.

(3) Labor Force Participation Rate



(4) Proportion of Non-Regular and Part-Time Employees



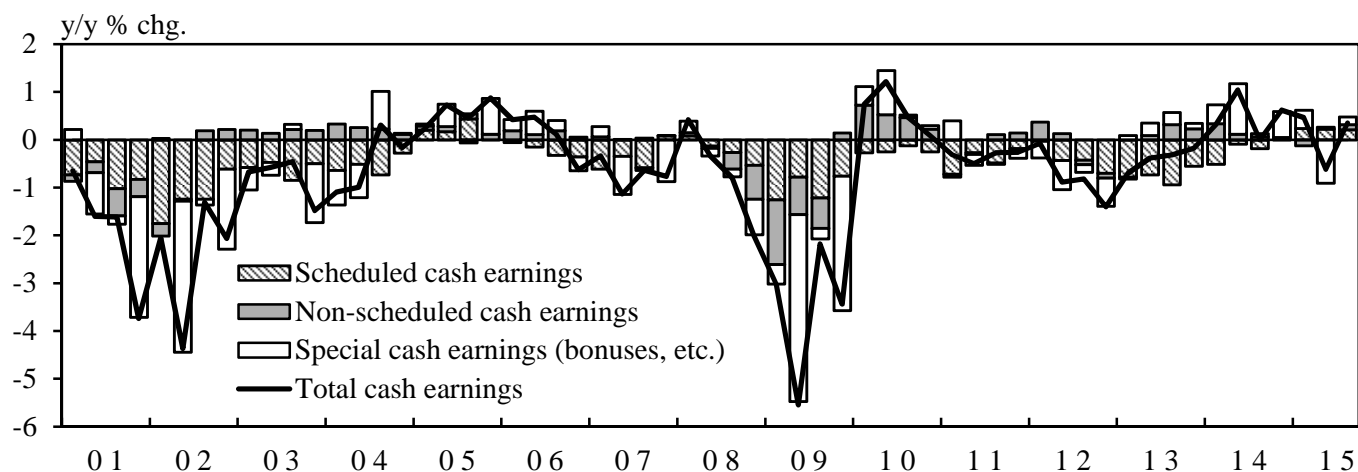
Note: Figures for the proportion of non-regular employees are based on the "detailed tabulation" in the "Labour Force Survey." The figure for the proportion of part-time employees for 2015/Q4 is the October-November average.

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



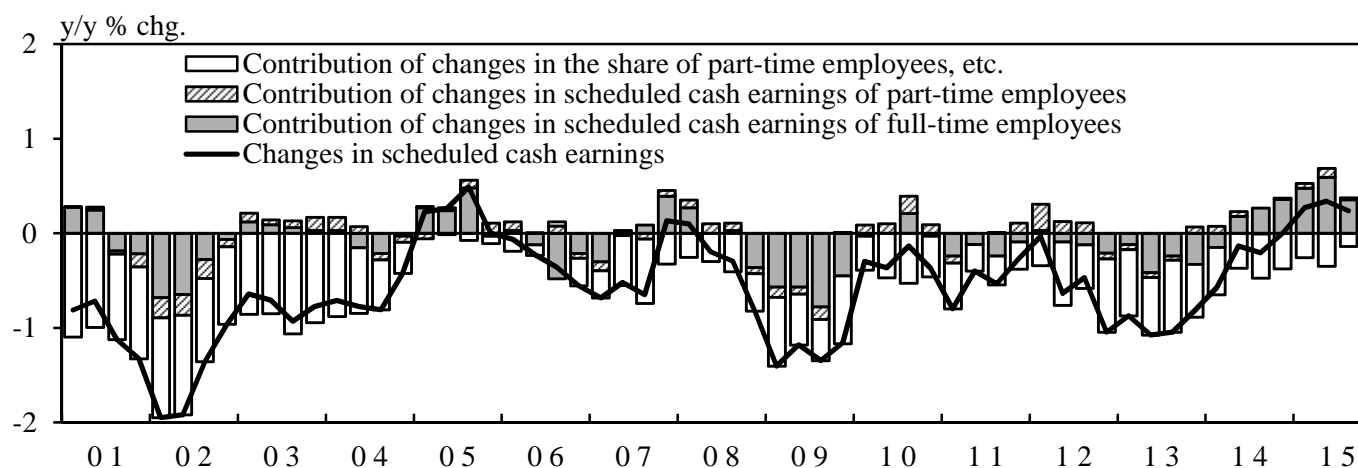
## Nominal Wages

### (1) Total Cash Earnings



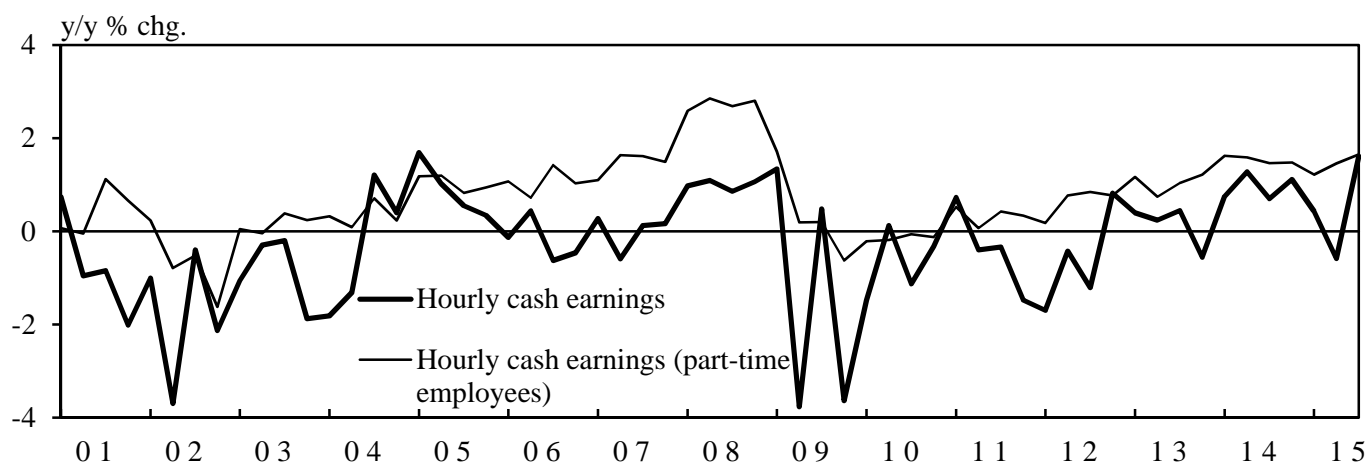
Note: Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.  
The same definition applies to the charts below.

### (2) Scheduled Cash Earnings



Note: The contribution of changes in scheduled cash earnings of part-time (full-time) employees is obtained by multiplying the year-on-year rate of changes in part-time (full-time) scheduled cash earnings and part-time (full-time) employees' share of total scheduled cash earnings in the previous year. The contribution of changes in the share of part-time employees, etc. is calculated as the residual.

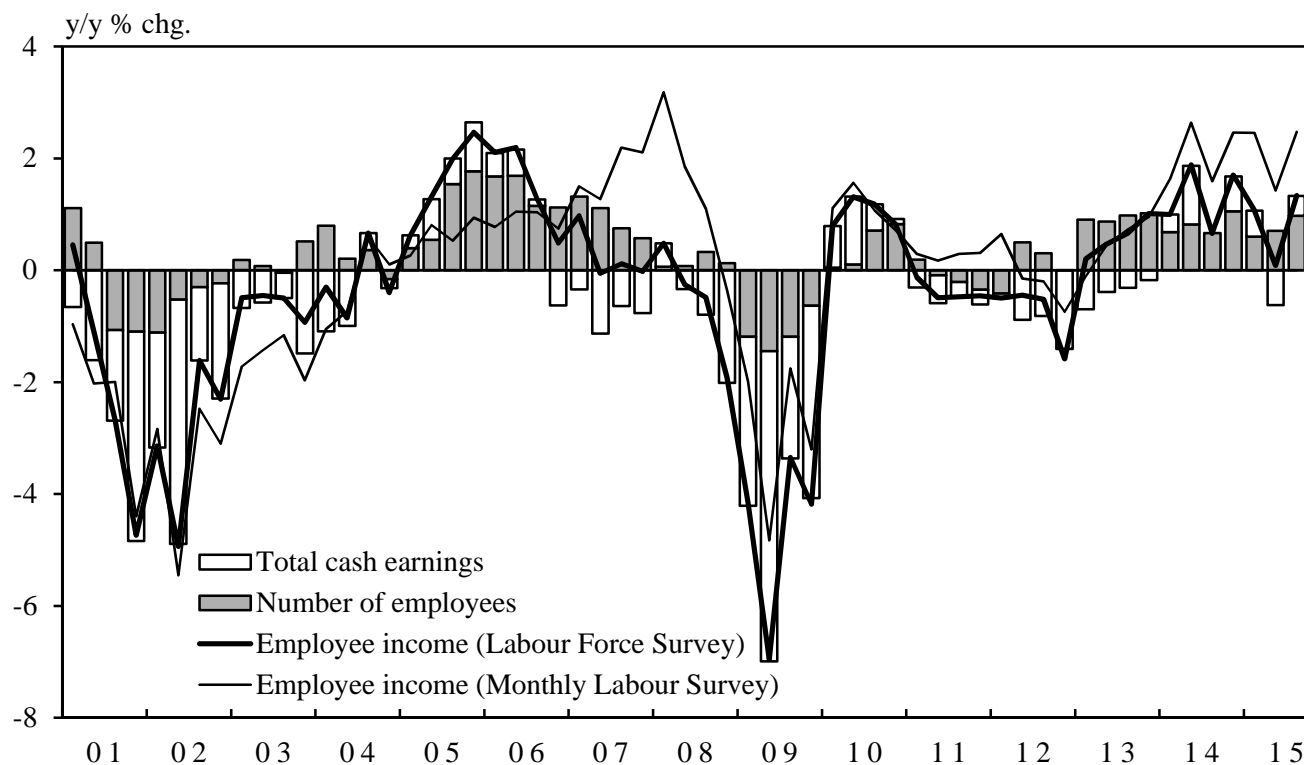
### (3) Hourly Cash Earnings



Source: Ministry of Health, Labour and Welfare.

## Employee Income

### (1) Employee Income

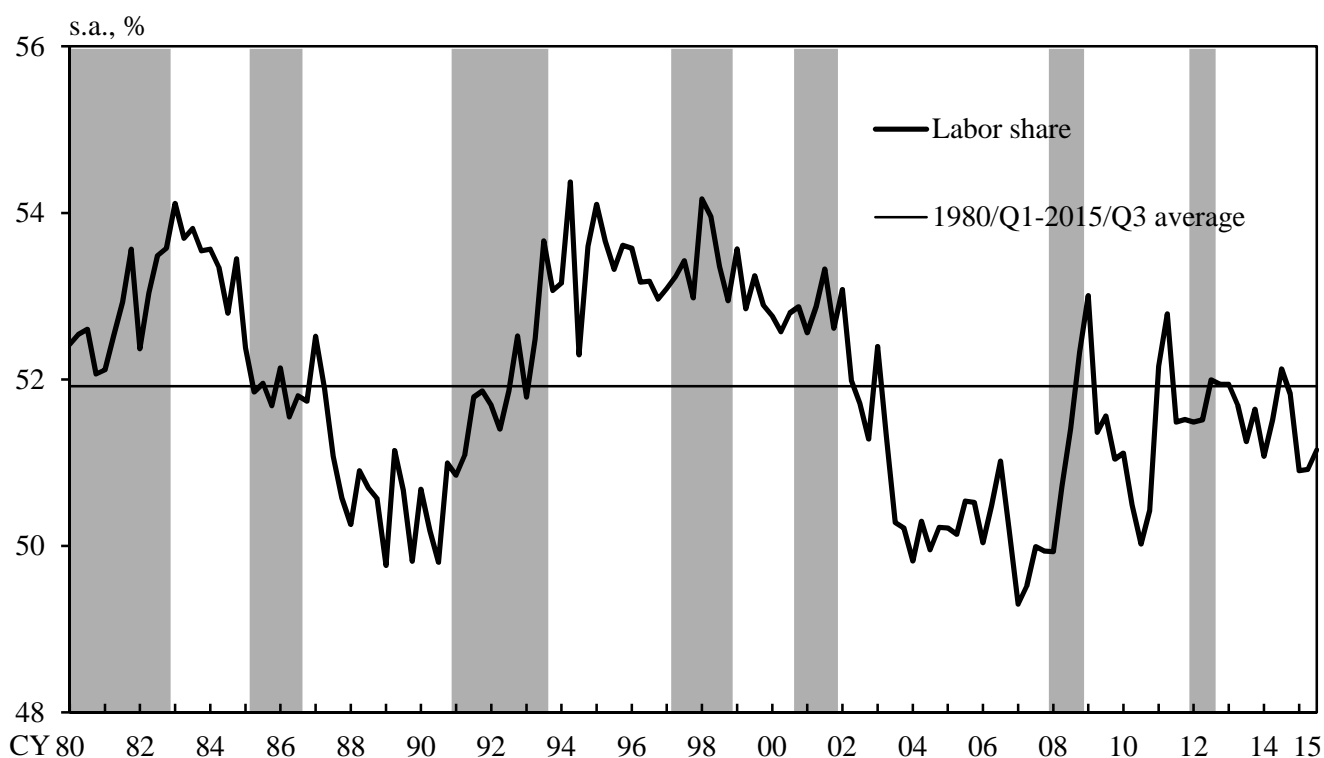


Notes: 1. Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.

2. Employee income (Labour Force Survey) = number of employees (Labour Force Survey) × total cash earnings

Employee income (Monthly Labour Survey) = number of regular employees (Monthly Labour Survey) × total cash earnings

### (2) Labor Share (SNA Basis)



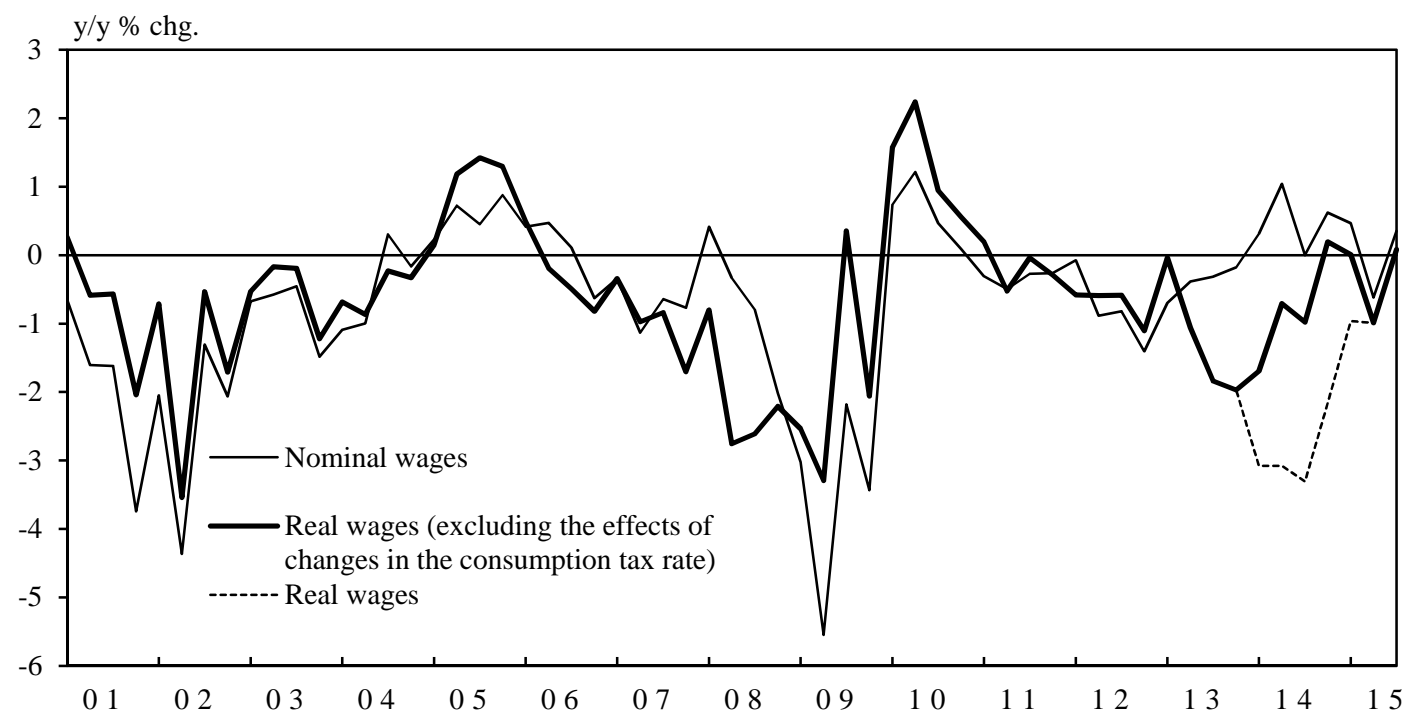
Notes: 1. Labor share = compensation of employees / nominal GDP × 100

2. Shaded areas indicate recession periods.

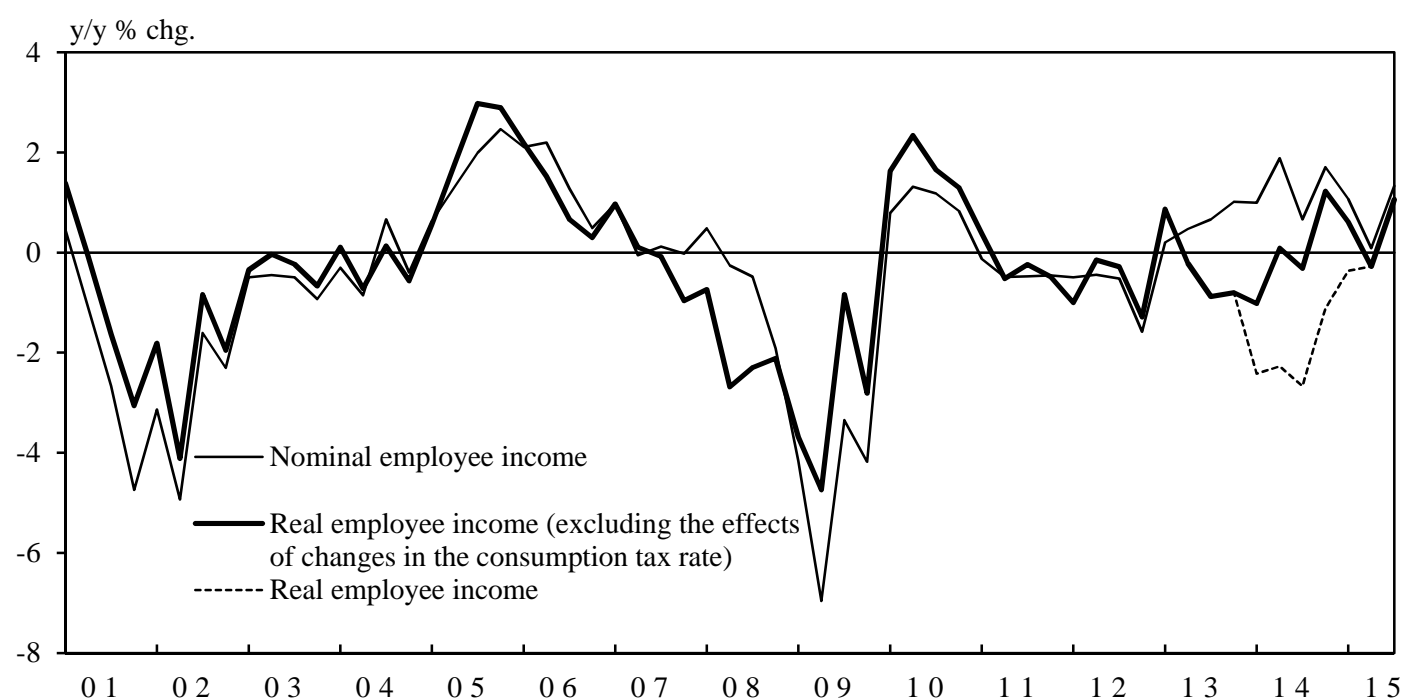
Sources: Ministry of Health, Labour and Welfare; Ministry of Internal Affairs and Communications; Cabinet Office.

## Real Wages and Real Employee Income

### (1) Real Wages



### (2) Real Employee Income



Notes: 1. Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.

2. Real wages are obtained by deflating nominal wages by the CPI (less imputed house rent) and are taken from the Ministry of Health, Labour and Welfare.

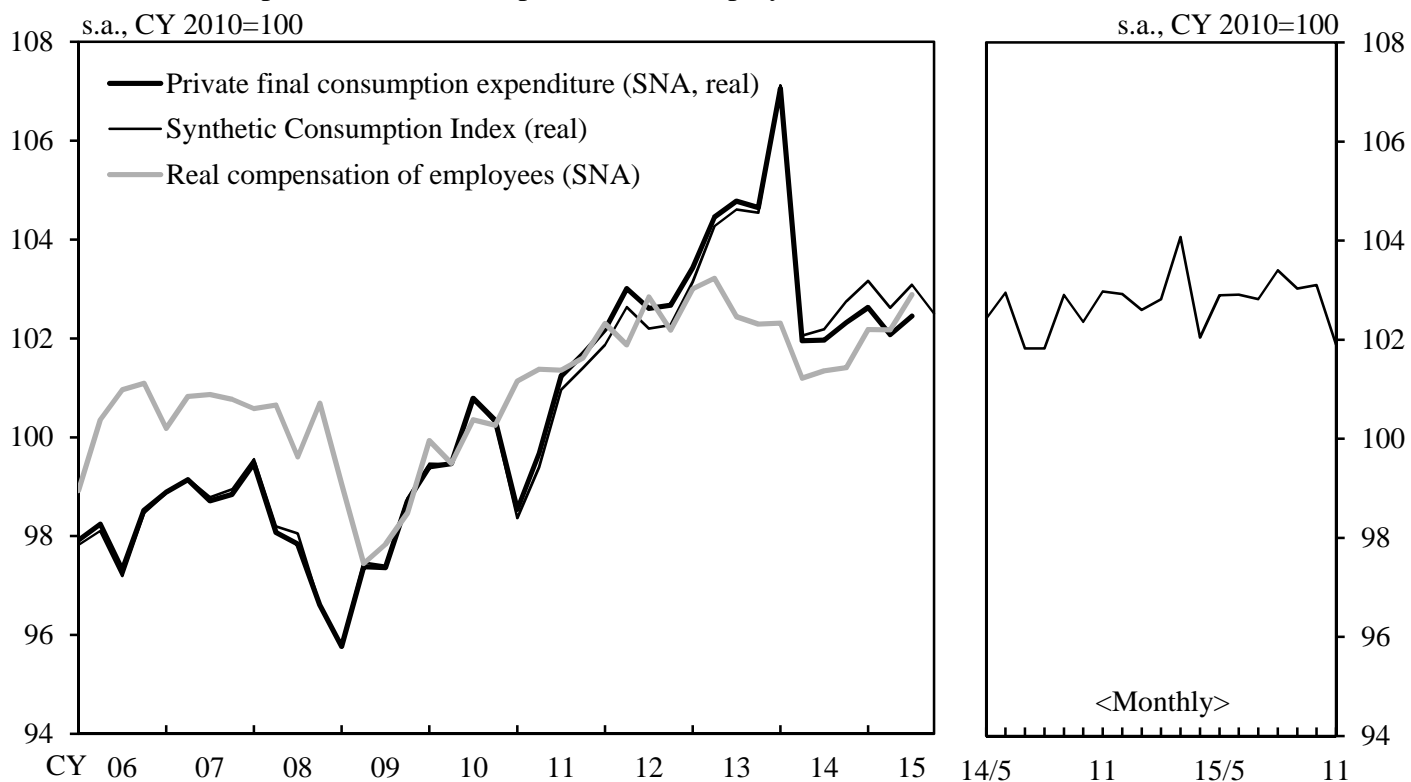
3. Nominal (real) employee income is obtained by multiplying nominal (real) wages and the number of employees (Labour Force Survey).

4. Real wages and real employee income (excluding the effects of changes in the consumption tax rate) are obtained by deflating nominal wages and nominal employee income by the CPI (less imputed house rent, adjusted to exclude the estimated effects of changes in the consumption tax rate).

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

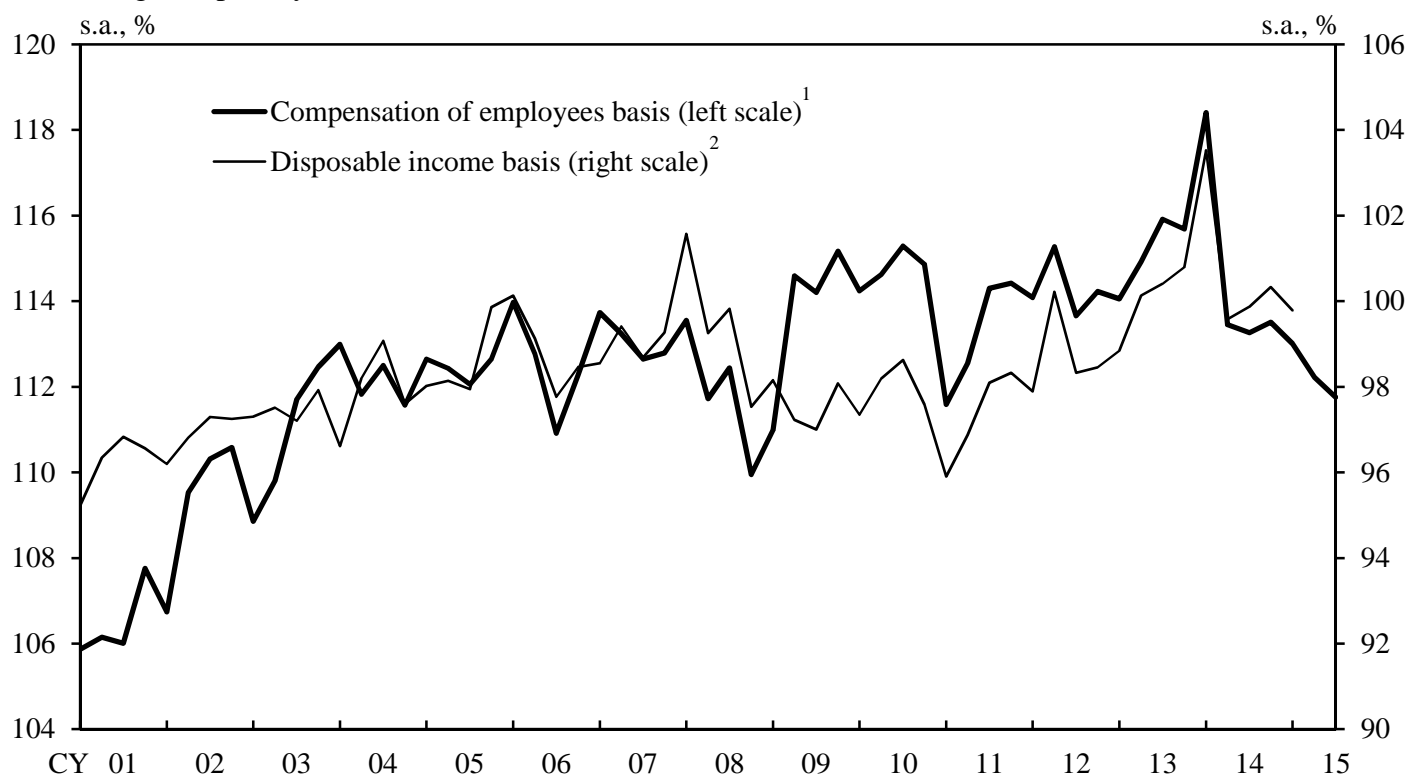
## Private Consumption (SNA Basis)

### (1) Private Consumption and Real Compensation of Employees



Note: The figure for 2015/Q4 is the October-November average.

### (2) Average Propensity to Consume



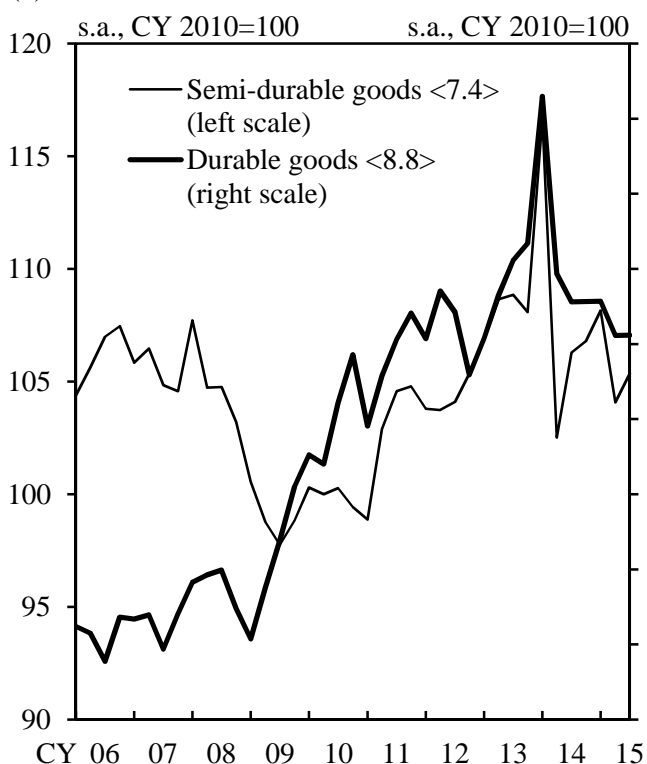
Notes: 1. Calculated by dividing consumption of households by compensation of employees.

2. Calculated by dividing consumption of households by disposable income including changes in pension reserves in pension funds.

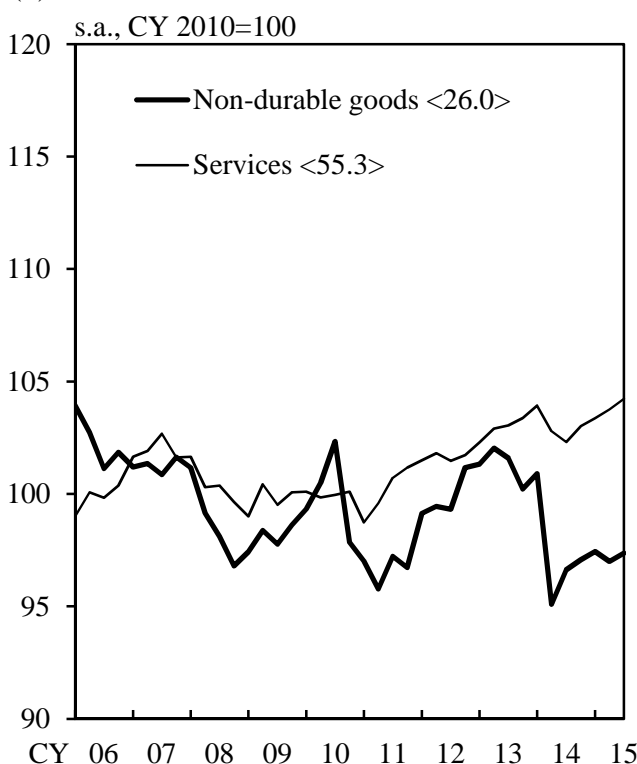
## Private Consumption by Type and Supply and Demand Side Statistics

### (1) Private Consumption by Type (SNA Basis, Real)

#### (a) Durable and Semi-Durable Goods

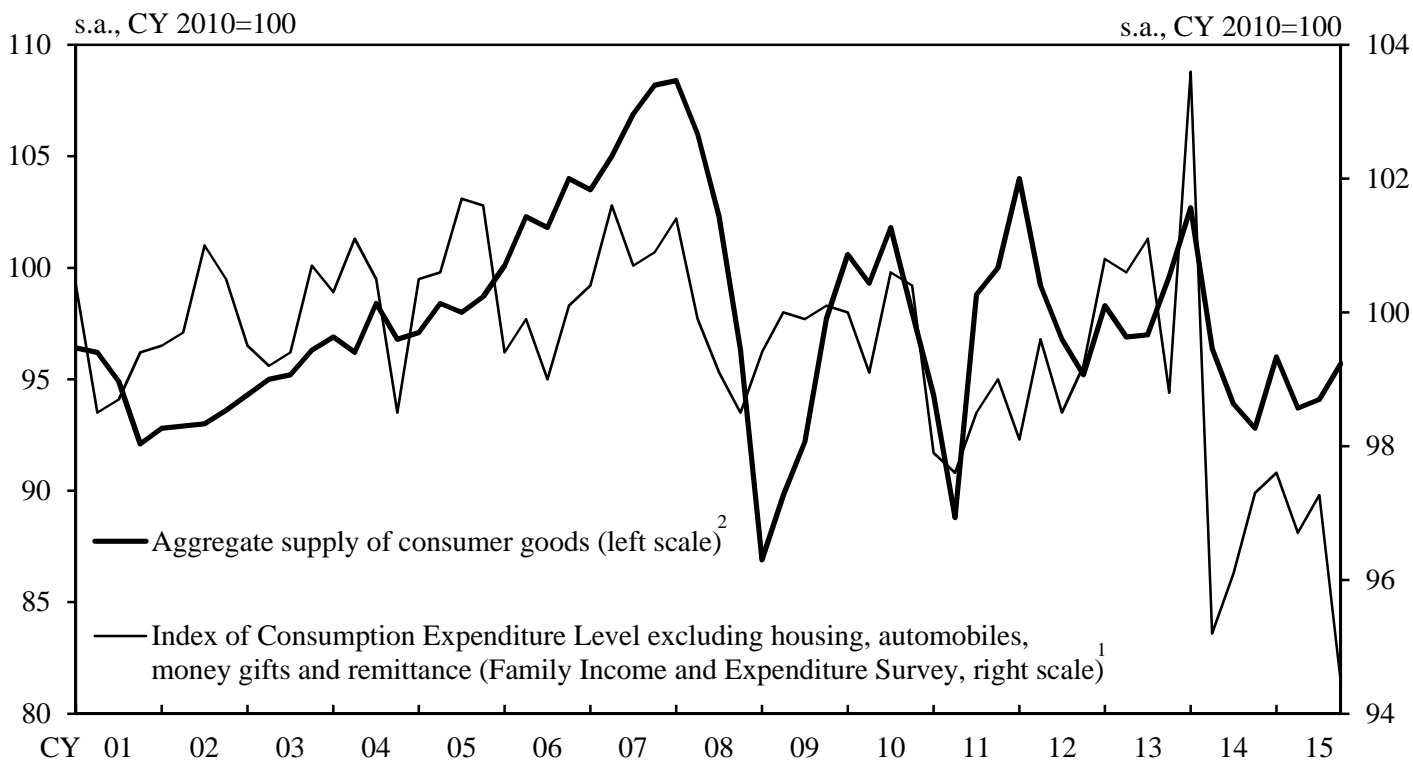


#### (b) Non-Durable Goods and Services



Note: Figures in angular brackets show the share in private final consumption expenditure in 2014.

### (2) Supply and Demand Side Statistics of Private Consumption



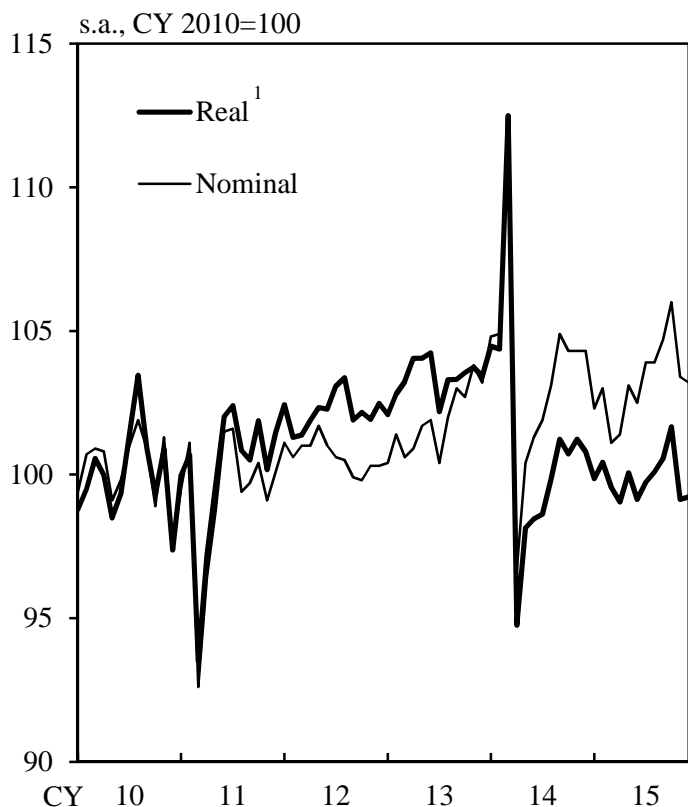
Notes: 1. Figures are based on households with two or more persons and are adjusted using the distribution of households by number of household members and age group of the household head.

2. The figure for 2015/Q4 is the October-November average.

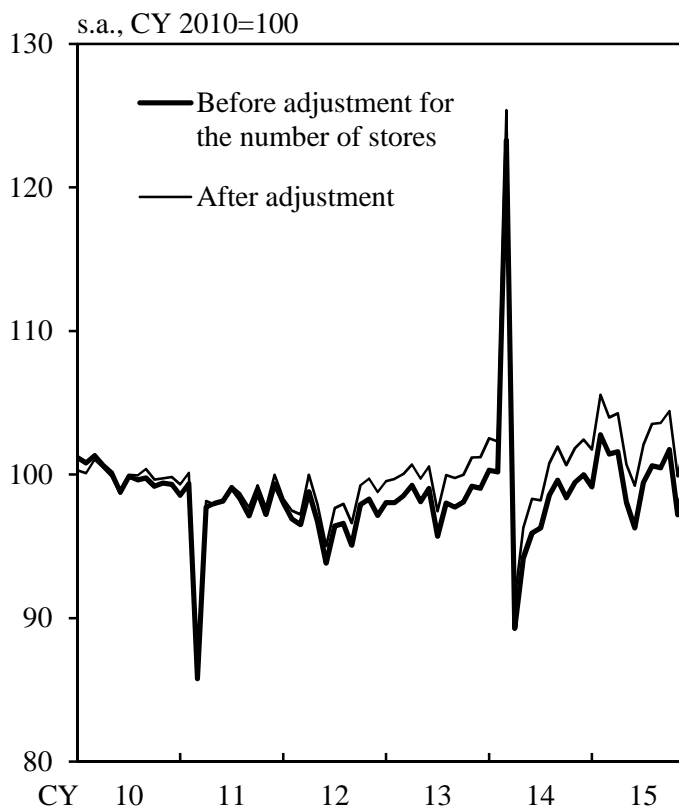
Sources: Cabinet Office; Ministry of Economy, Trade and Industry; Ministry of Internal Affairs and Communications.

## Sales Statistics (Current Survey of Commerce)

(1) Sales at Retail Stores

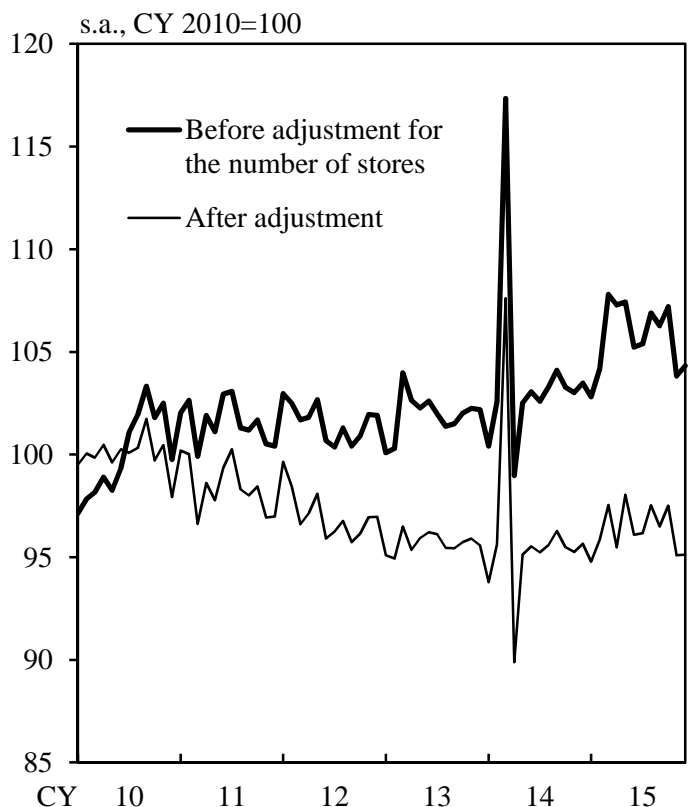


(2) Sales at Department Stores

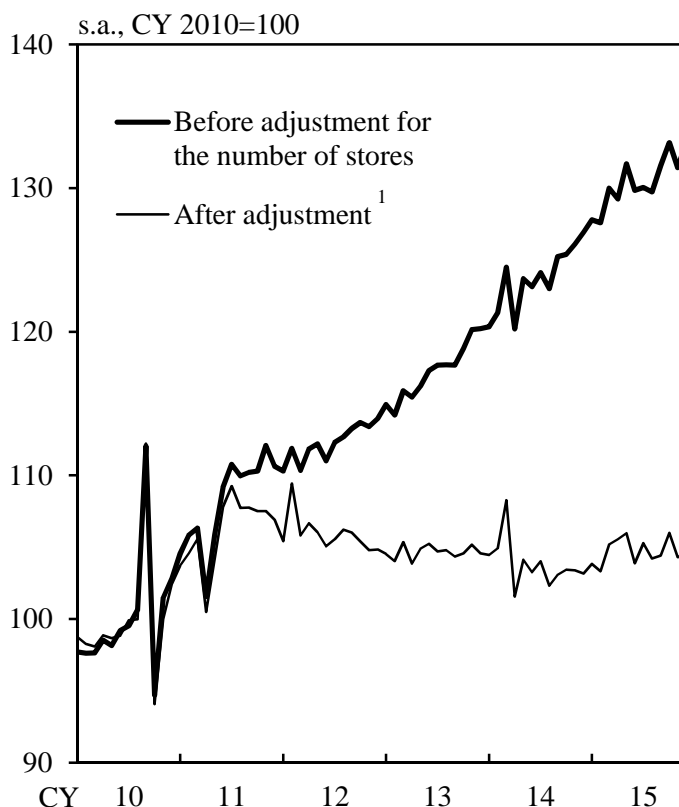


Note: 1. Real sales are obtained by deflating nominal sales by the CPI for goods (excluding electricity, gas & water charges).

(3) Sales at Supermarkets



(4) Sales at Convenience Stores



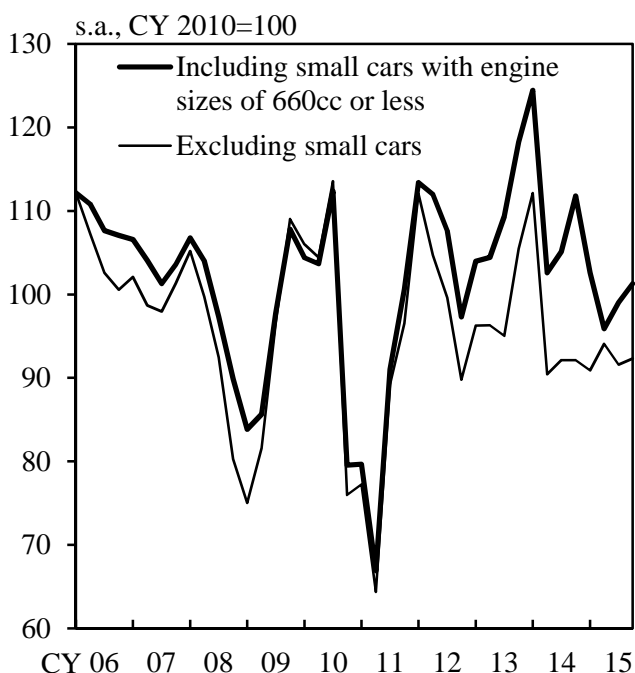
Note: 1. Figures are based on data published by the Japan Franchise Association.

Sources: Ministry of Economy, Trade and Industry; Ministry of Internal Affairs and Communications; Japan Franchise Association, "Convenience Store Statistics."

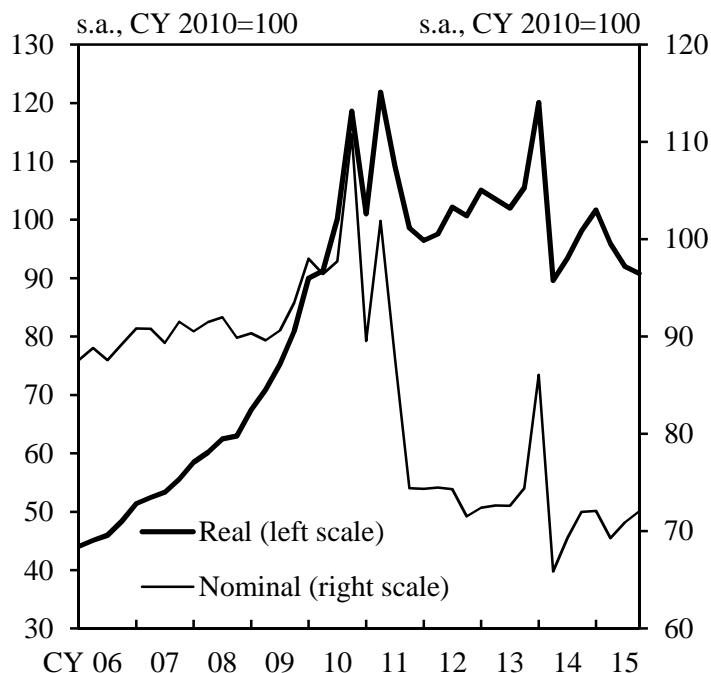
## Consumption of Durable Goods and Services

### (1) Consumption of Durable Goods

(a) New Passenger Car Registrations

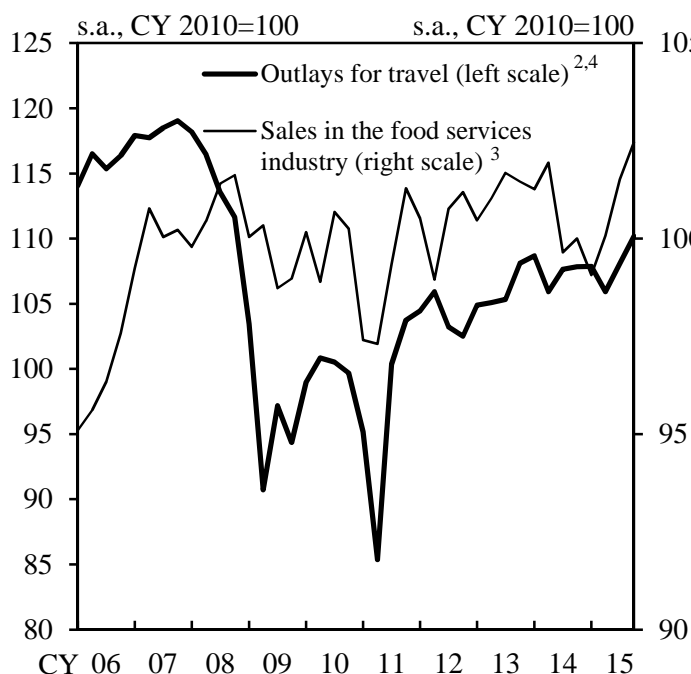


(b) Sales of Household Electrical Appliances<sup>1</sup>

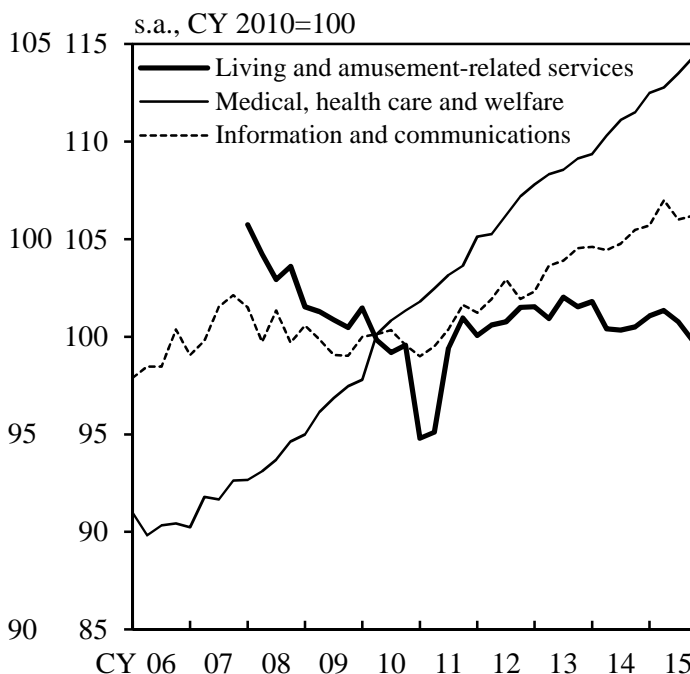


### (2) Consumption of Services

(a) Travel and Food Services (Nominal)



(b) Indices of Tertiary Industry Activity<sup>4</sup>



Notes: 1. Figures are based on the index of retail sales of machinery and equipment in the Current Survey of Commerce. Real sales are obtained by deflating the nominal index by the price index of related items in the CPI.

2. Excluding those by foreign travelers. Figures are calculated using the year-on-year rates of change released by the Japan Tourism Agency.

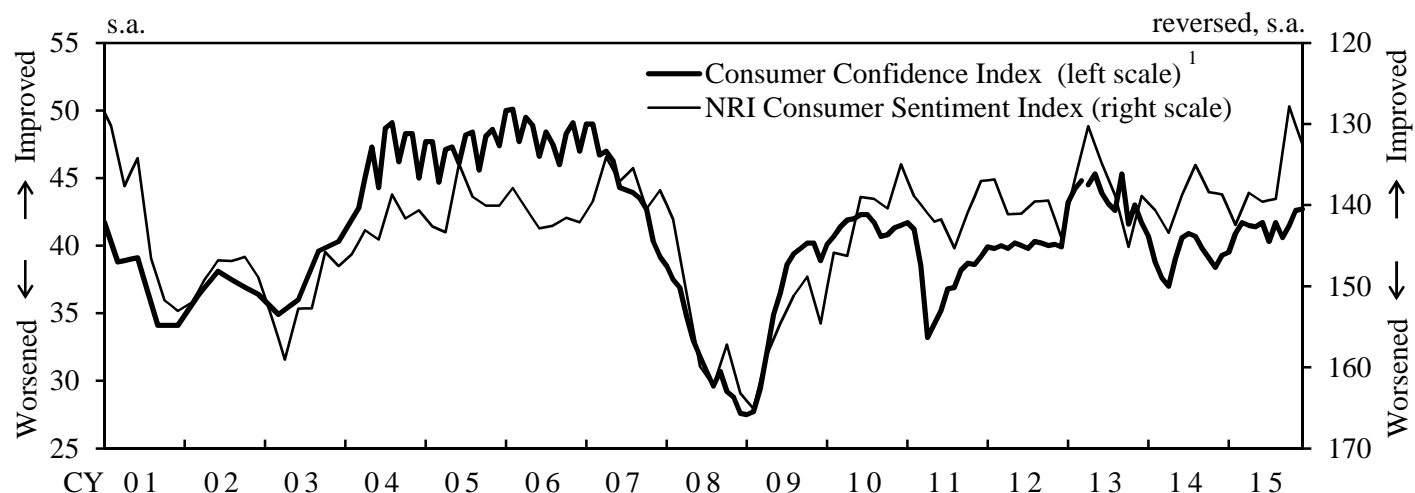
3. Figures are calculated using the year-on-year rates of change released by the Japan Food Service Association.

4. Figures for 2015/Q4 are October-November averages.

Sources: Japan Automobile Dealers Association; Japan Light Motor Vehicle and Motorcycle Association; Ministry of Economy, Trade and Industry; Ministry of Internal Affairs and Communications; Japan Tourism Agency; Japan Food Service Association, "Market Trend Survey of the Food Services Industry."

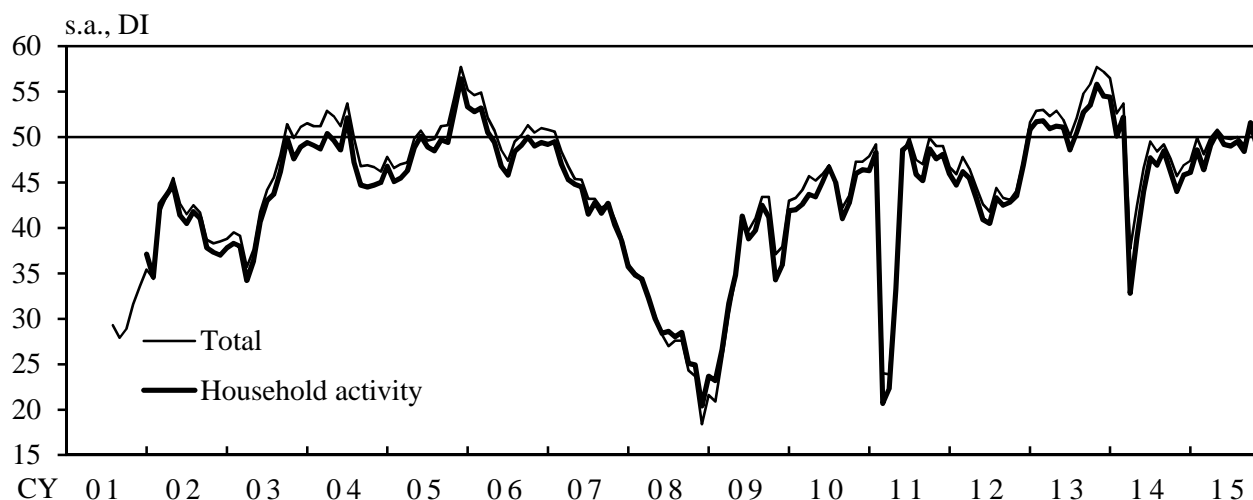
## Confidence Indicators Related to Private Consumption

(1) Consumer Confidence Index and NRI Consumer Sentiment Index

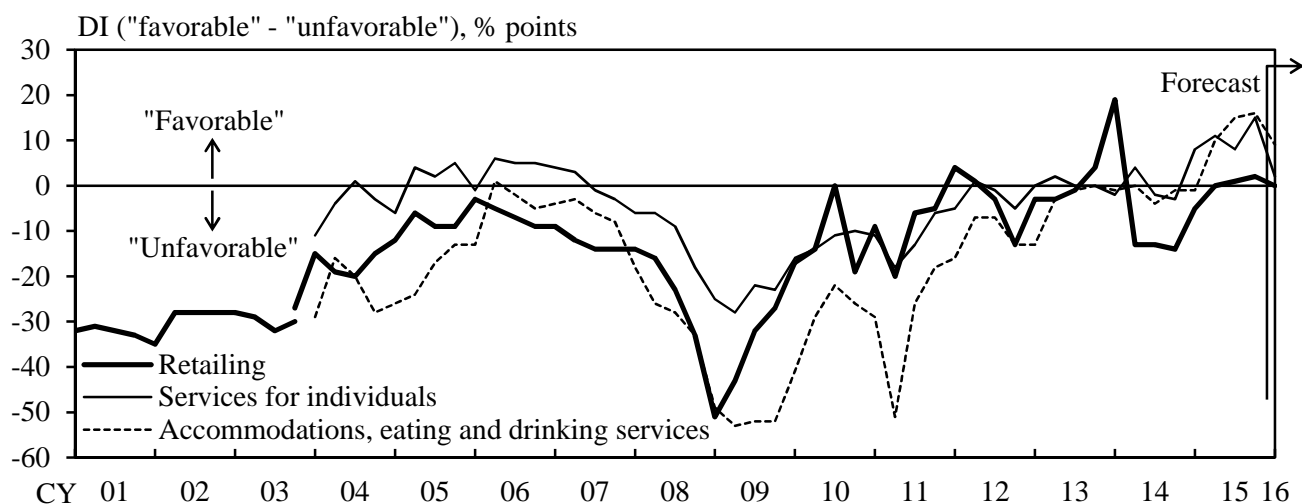


Note: 1. There is a discontinuity in the data in April 2013 due to a change in the survey method.

(2) DI for Judgement of Current Conditions (Economy Watchers Survey)



(3) Business Conditions of Industries Related to Private Consumption (*Tankan*, Enterprises of All Sizes)



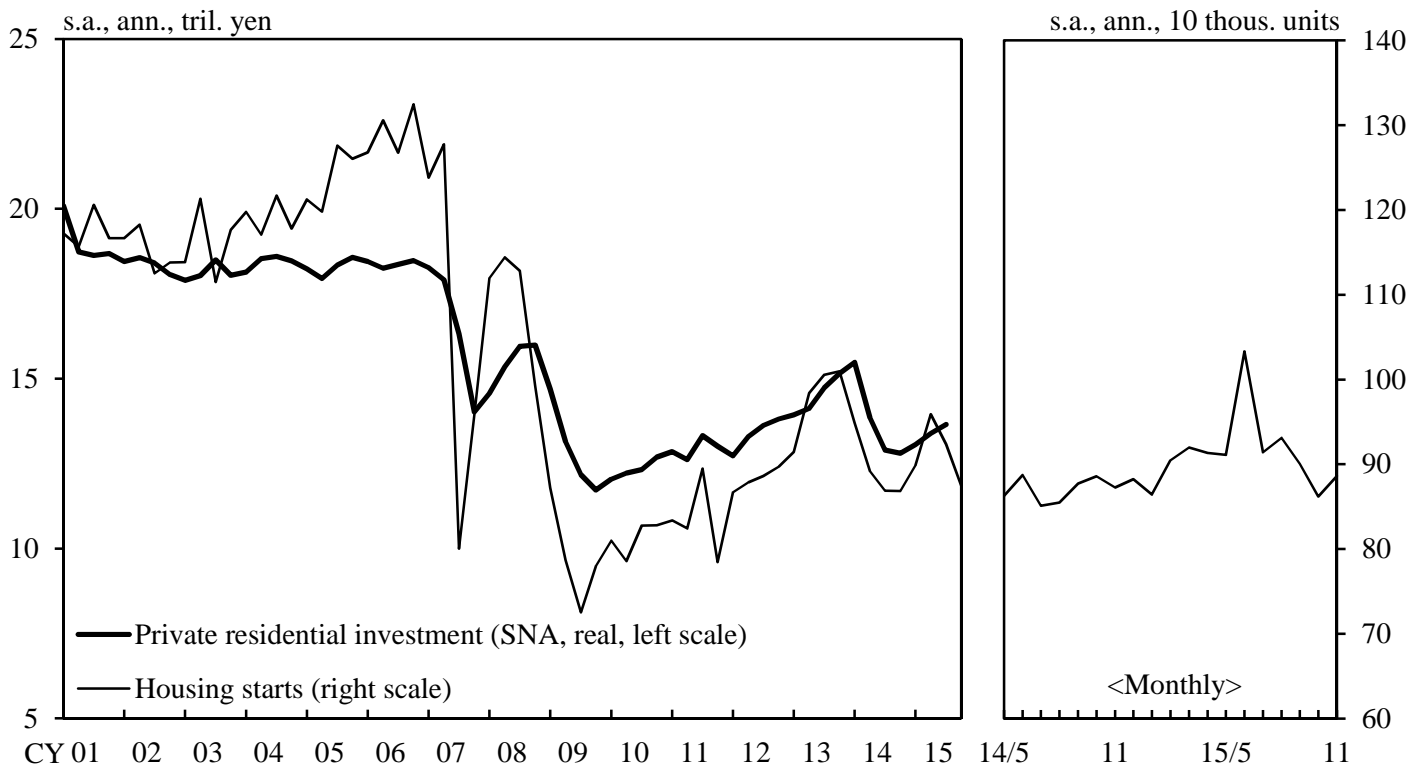
Note: There is a discontinuity in the data in December 2003 due to a change in the survey framework.

Sources: Cabinet Office; Bank of Japan; Nippon Research Institute (NRI), "Consumer Sentiment Survey."

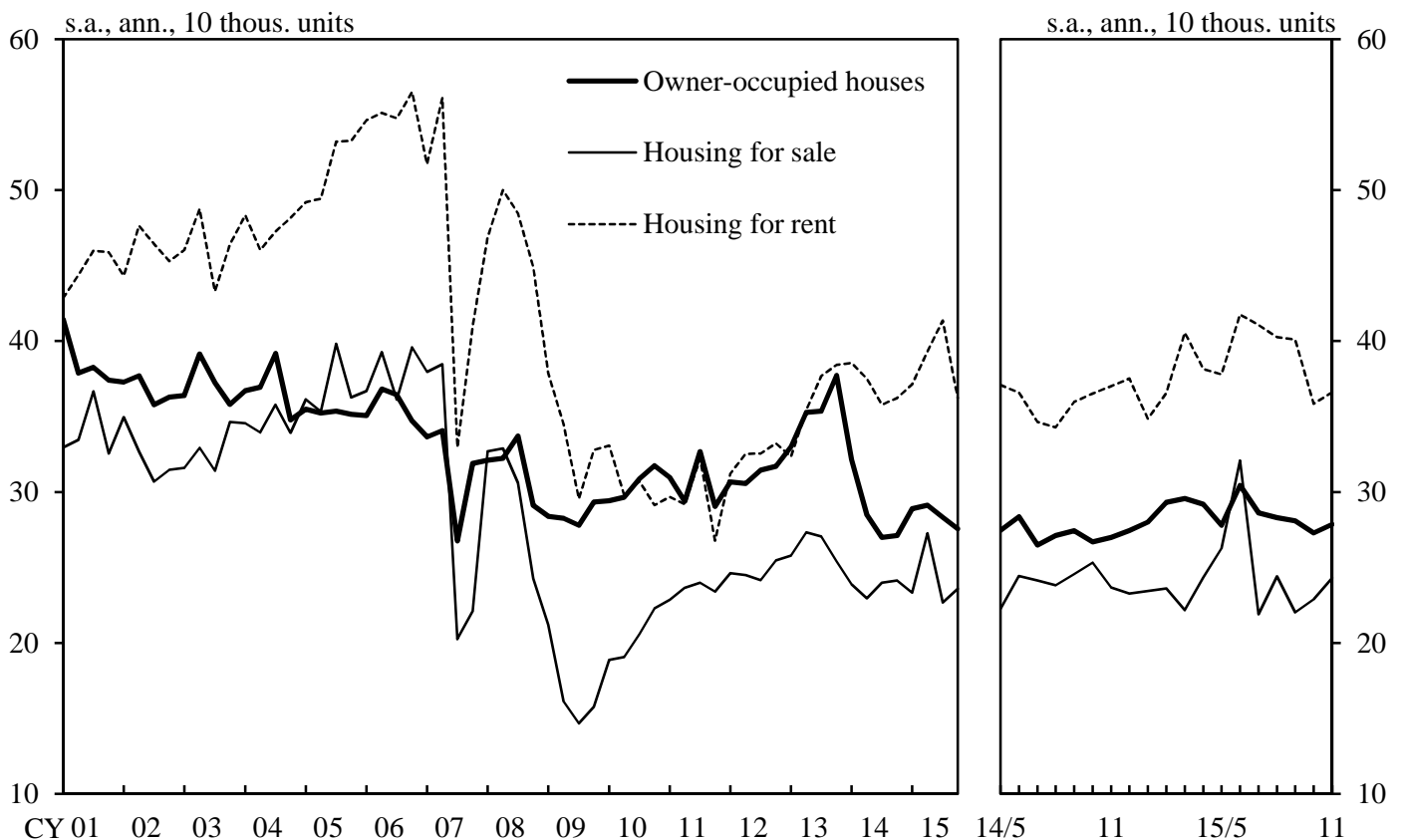


## Housing Investment

### (1) Housing Starts and Residential Investment (SNA Basis)



### (2) Composition of Housing Starts

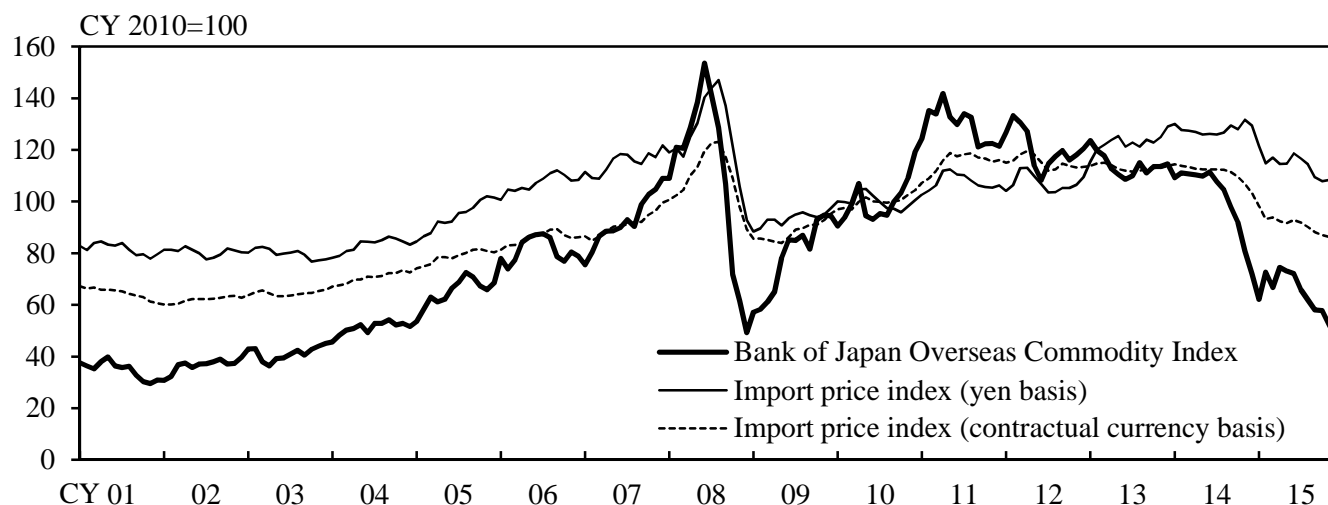


Note: Figures for housing starts for 2015/Q4 are October-November averages.

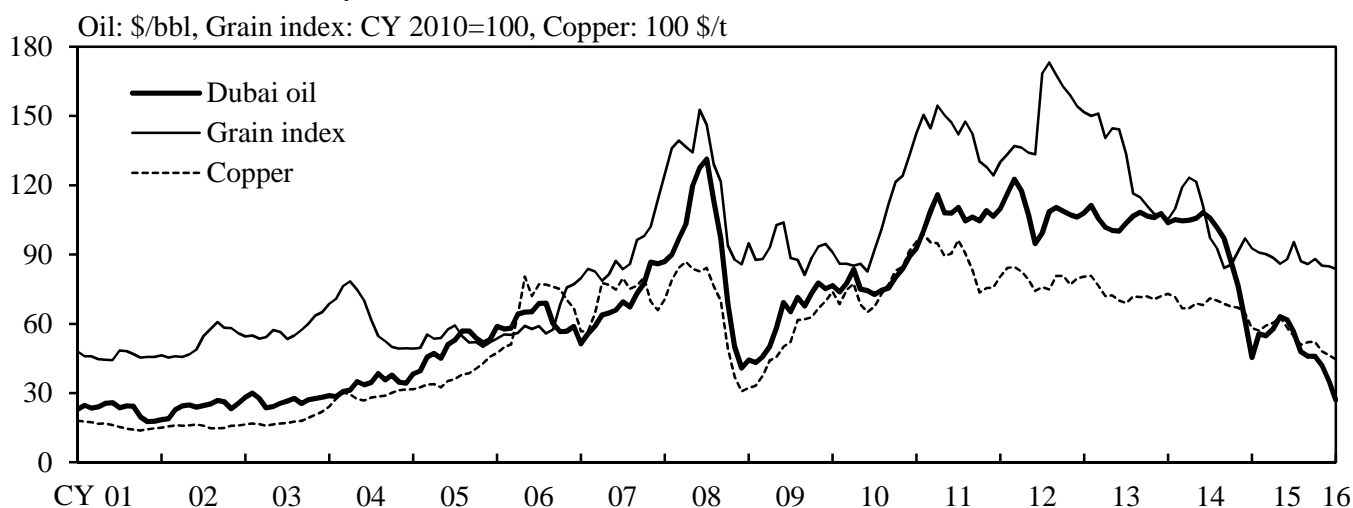
Sources: Cabinet Office; Ministry of Land, Infrastructure, Transport and Tourism.

## Import Prices and International Commodity Prices

### (1) Import Price Index and Overseas Commodity Index

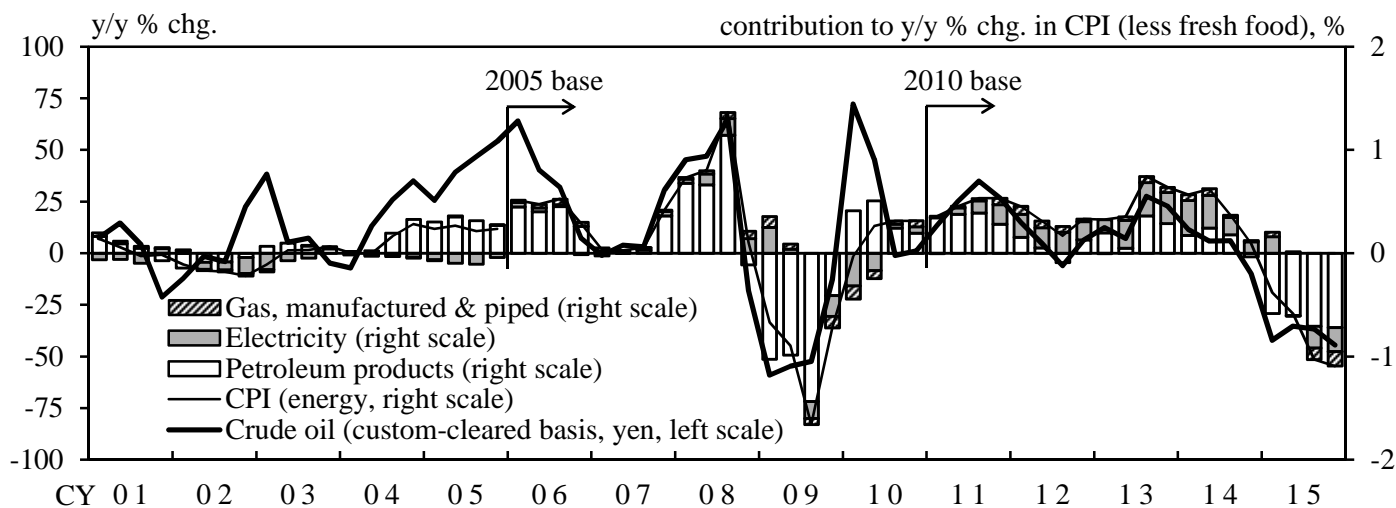


### (2) International Commodity Prices



Note: Monthly averages. The grain index is the weighted average of the prices of three selected items (wheat, soybeans, and corn) in overseas commodity markets. The weights are based on the value of imports in the "Trade Statistics."

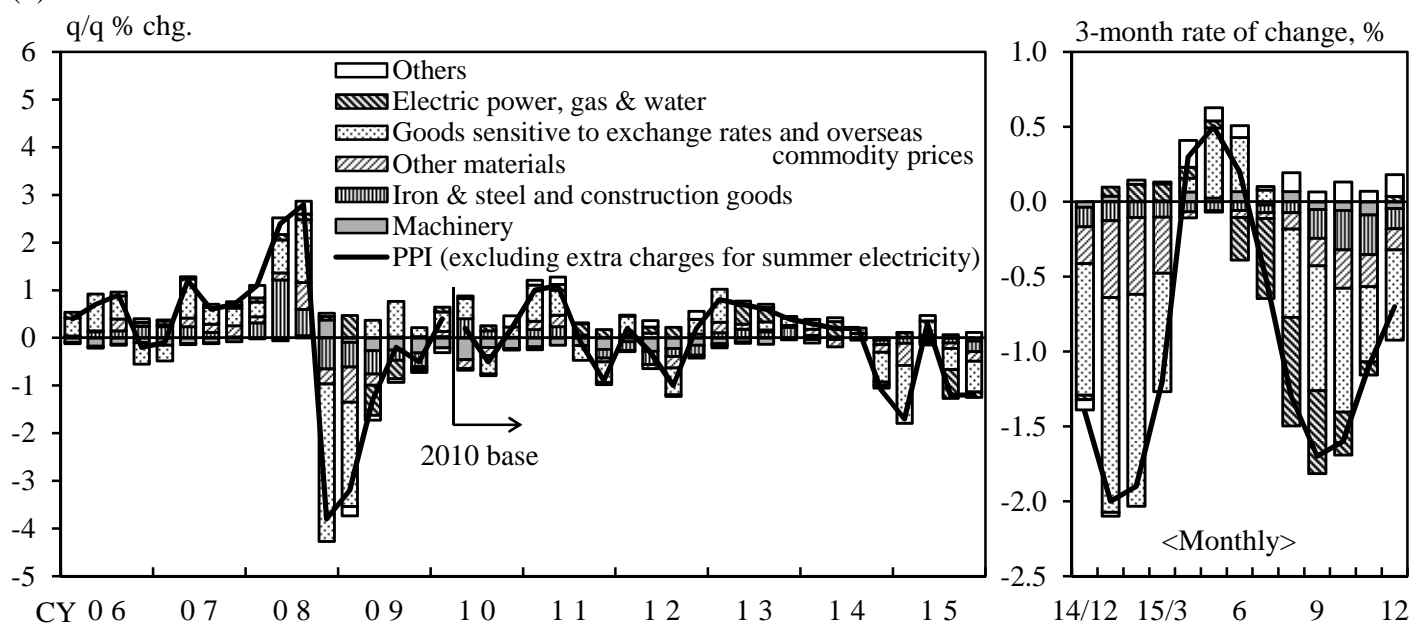
### (3) Crude Oil Prices and Energy Prices



Notes: 1. Figures for the CPI (energy) up to 2005/Q4 are calculated using the year-on-year rate of price change of each component.  
 2. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate.

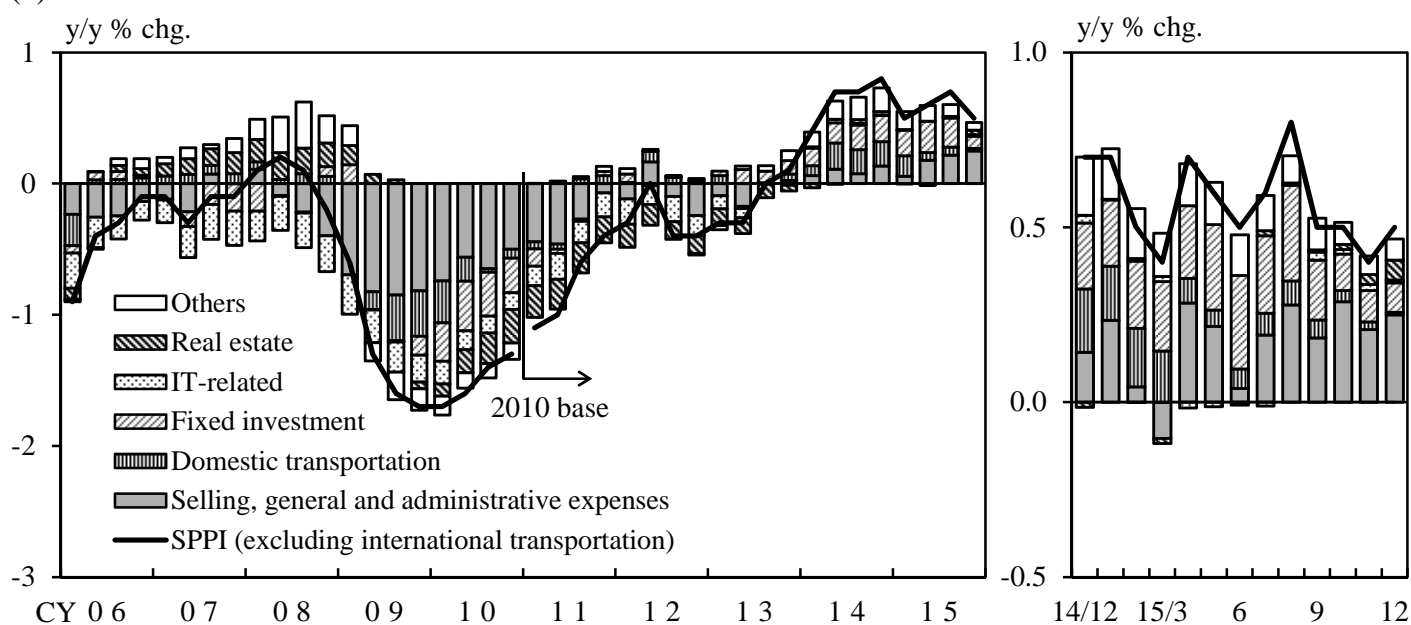
## Producer Price Index and Services Producer Price Index

### (1) Producer Price Index



- Notes: 1. Goods sensitive to exchange rates and overseas commodity prices: petroleum & coal products and nonferrous metals.  
 2. Iron & steel and construction goods: iron & steel, metal products, ceramic, stone & clay products, lumber & wood products, and scrap & waste.  
 3. Other materials: chemicals & related products, plastic products, textile products, and pulp, paper & related products.  
 4. Machinery: general purpose machinery, production machinery, business oriented machinery, electronic components & devices, electrical machinery & equipment, information & communications equipment, and transportation equipment.  
 5. Figures are adjusted to exclude the hike in electric power charges during the summer season from July to September.  
 6. Figures are adjusted to exclude the effects of changes in the consumption tax rate. The same applies to the charts below.

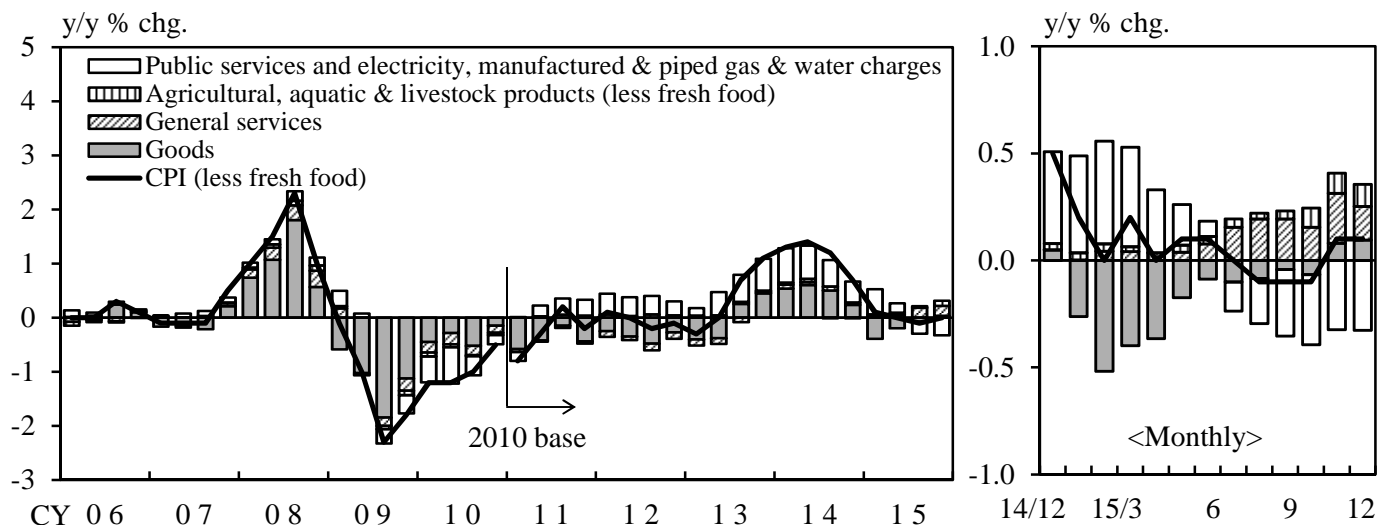
### (2) Services Producer Price Index



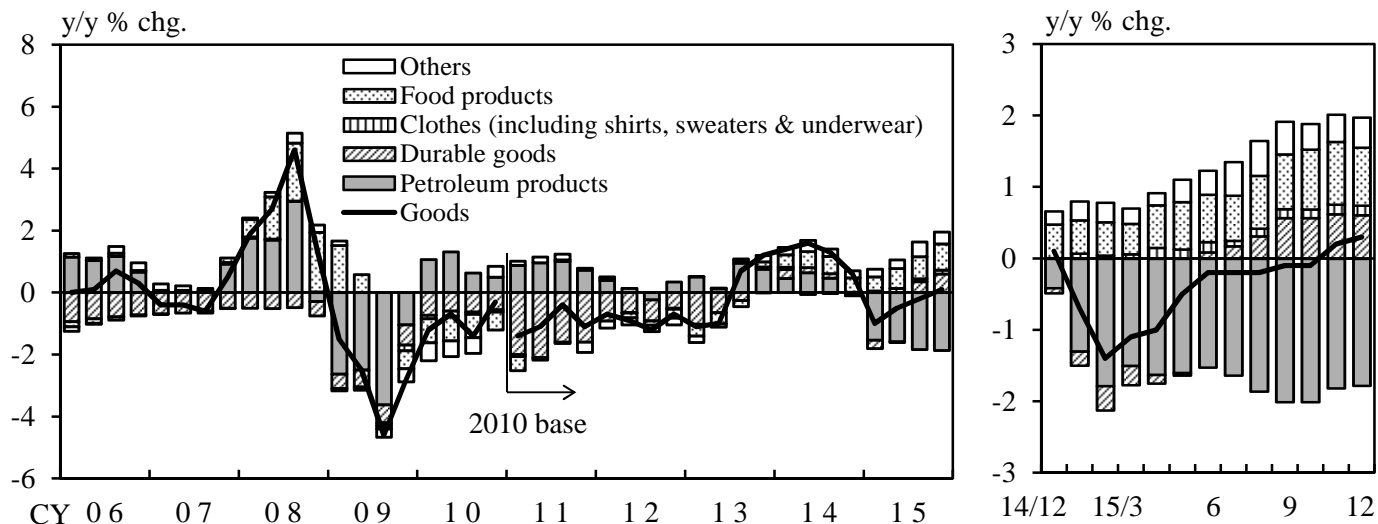
- Notes: 1. Selling, general and administrative expenses: information and communications (excluding newspapers and publishing), advertising services, other services (excluding plant engineering, and civil engineering and architectural services).  
 2. Domestic transportation: transportation and postal services (excluding international transportation and passenger transportation).  
 3. IT-related: leasing of computer and related equipment, and computer rental.  
 4. Fixed investment: leasing and rental (excluding IT-related), and civil engineering and architectural services.

# Consumer Price Index

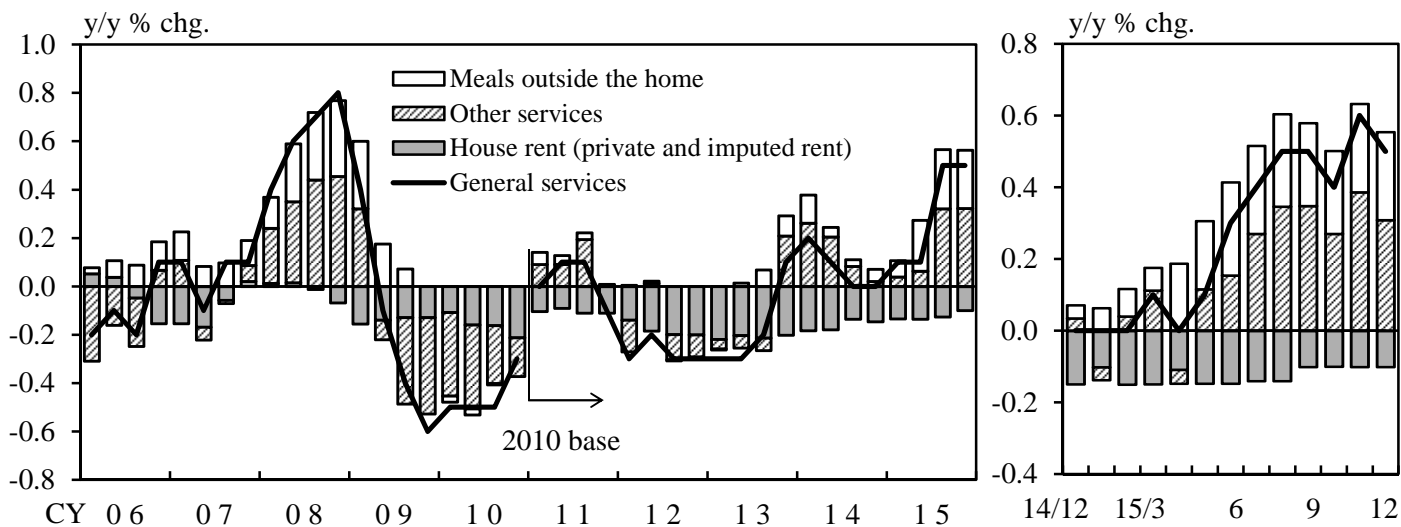
## (1) All Items (Less Fresh Food)



## (2) Goods



## (3) General Services

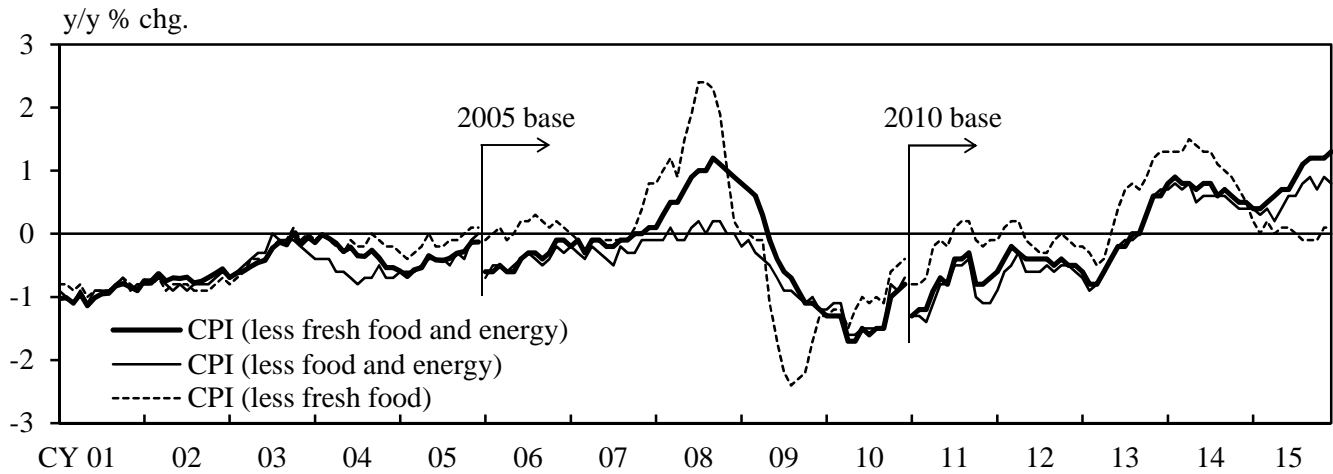


Notes: 1. Figures for goods exclude agricultural, aquatic & livestock products and electricity, manufactured & piped gas & water charges.

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

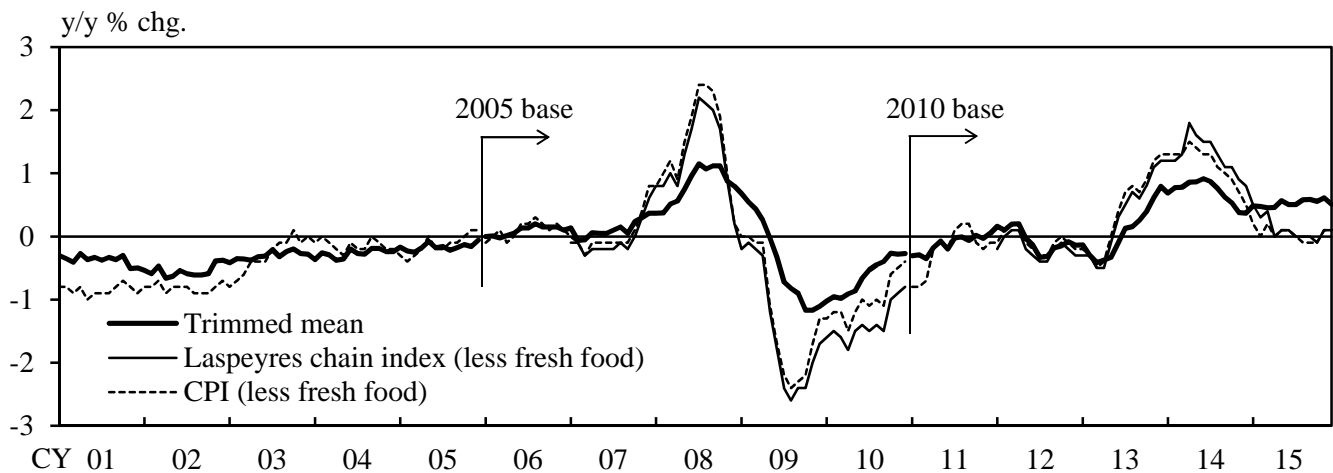
## Measures of Underlying Inflation

### (1) All Items (Less Fresh Food and Energy) and All Items (Less Food and Energy)



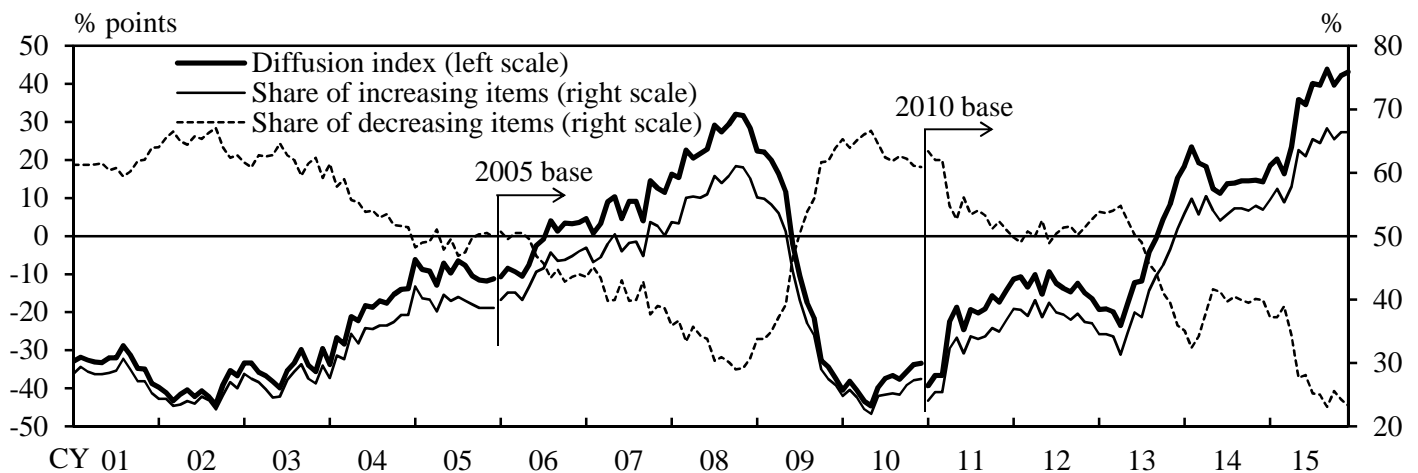
Notes: 1. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.  
 2. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate. The same applies to the charts below.

### (2) Trimmed Mean and Laspeyres Chain Index



Note: Figures for the trimmed mean are the weighted averages of the year-on-year price changes in all individual items making up the CPI. Items are arranged in ascending order of their year-on-year rate of price change and those falling into the upper and lower 10 percent tails by weight are trimmed.

### (3) Diffusion Index (Share of Increasing Items minus Share of Decreasing Items)

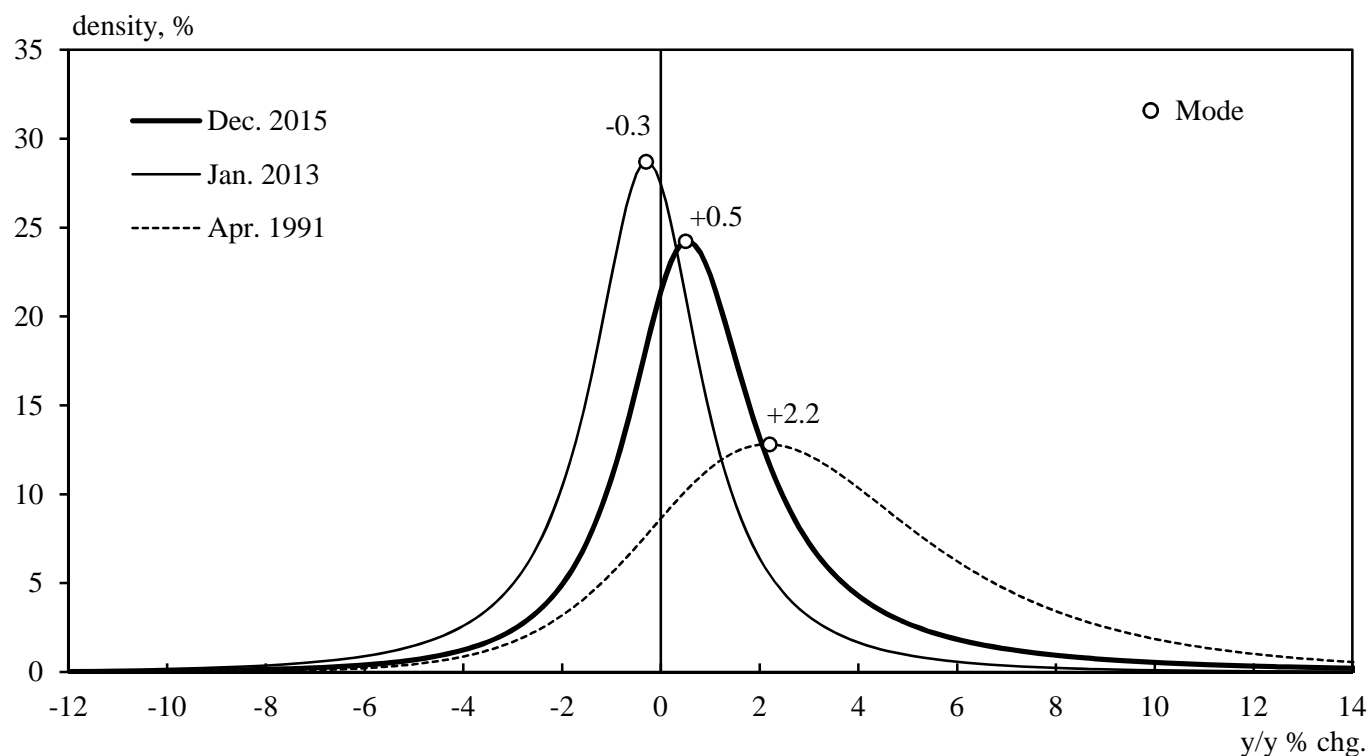


Note: The share of increasing/decreasing items is the share of items in the CPI (less fresh food) whose price indices increased/decreased from a year earlier.

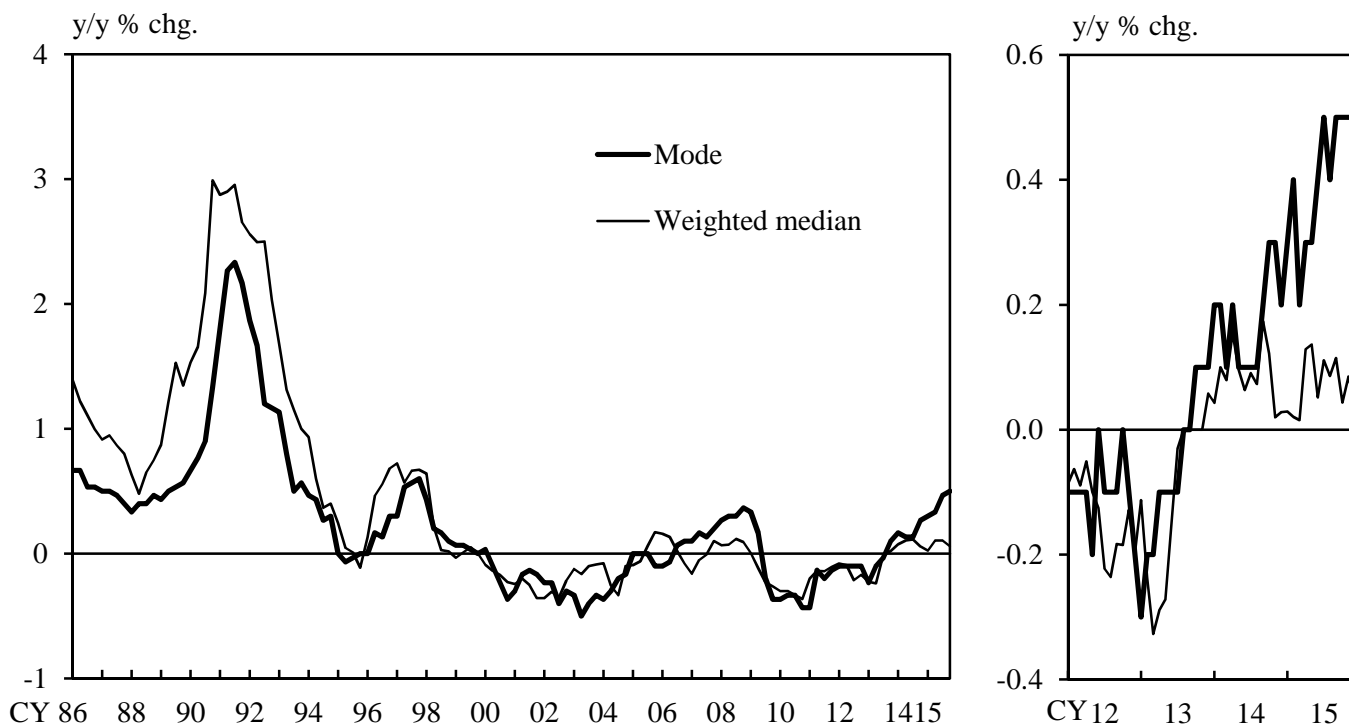
Source: Ministry of Internal Affairs and Communications.

## Distributions of Price Changes and Measures of Underlying Inflation

### (1) Distributions of Price Changes in Individual CPI Items



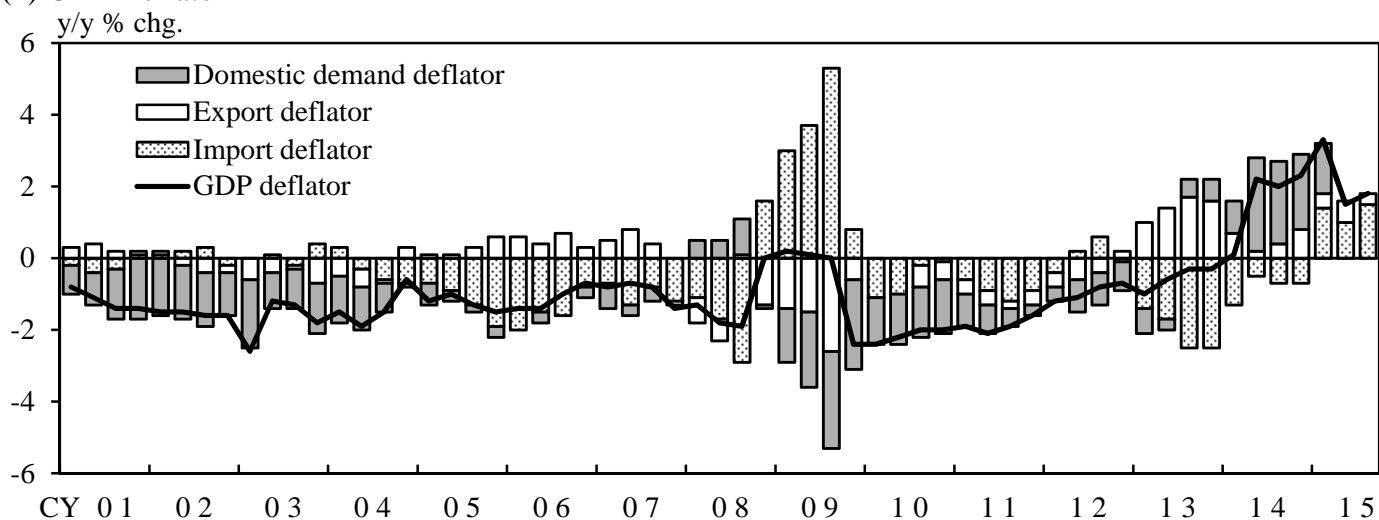
### (2) Various Measures of Core Inflation



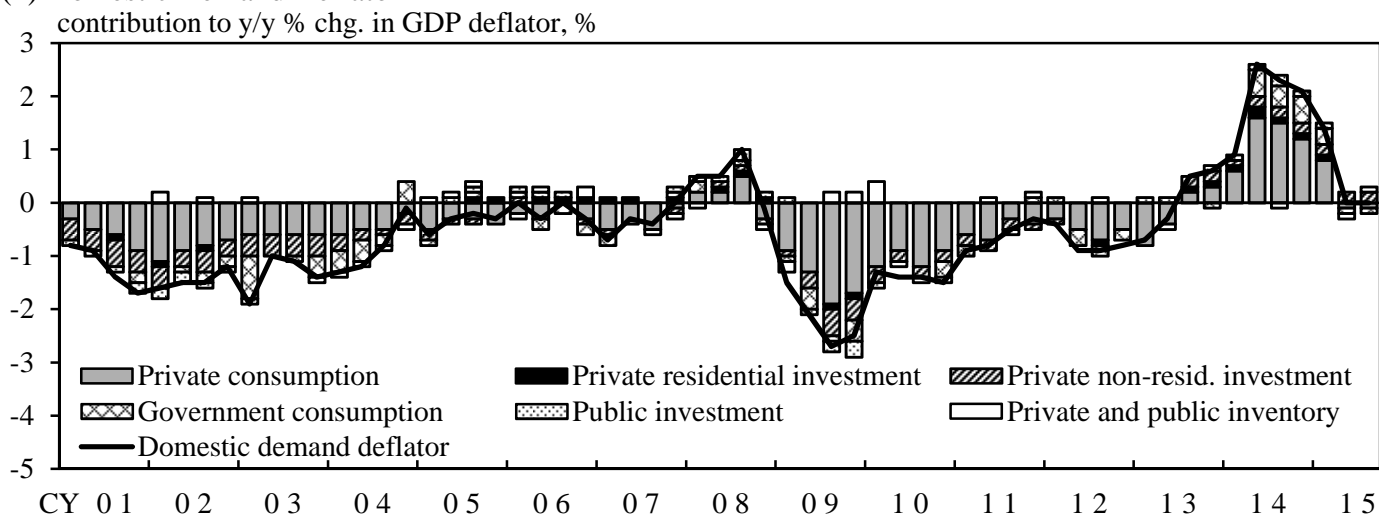
- Notes:
1. The distributions of the year-on-year rate of change in individual items of the CPI (less fresh food) are fitted to the normal inverse Gaussian distribution.
  2. The weighted median is calculated using the year-on-year price changes and weights of individual CPI items in each base year. For the period before 2005, the year-on-year price changes of minor groups and subgroups are used.
  3. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate.
  4. Figures for quarterly data are 3-month averages of monthly year-on-year price changes.

## GDP Deflator

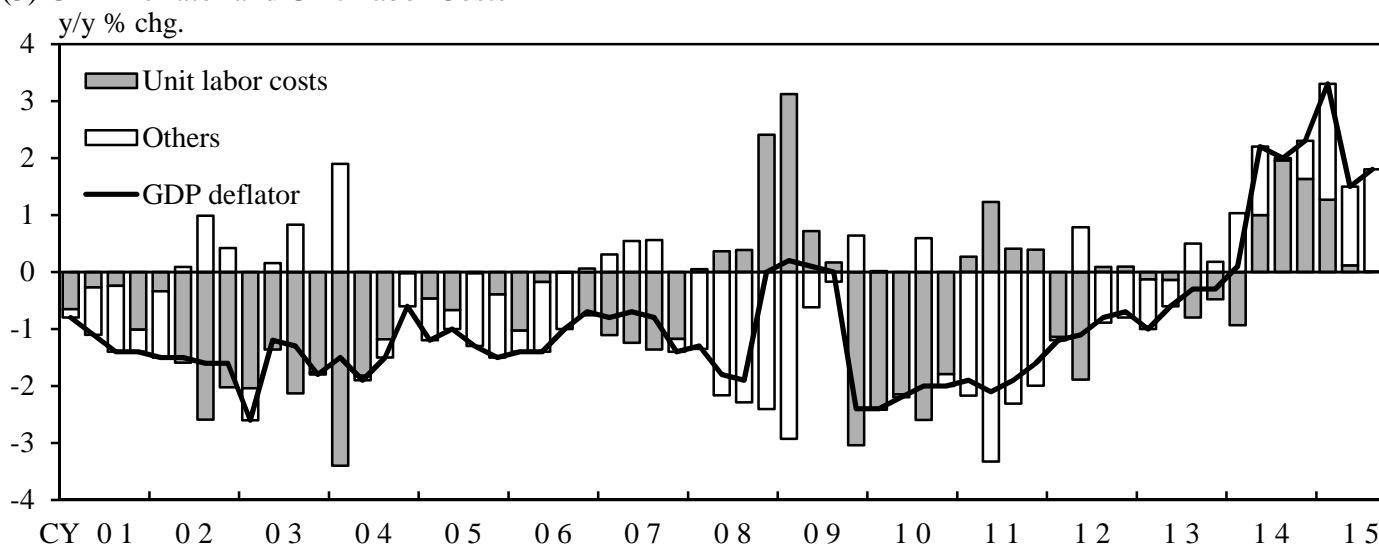
(1) GDP Deflator



(2) Domestic Demand Deflator



(3) GDP Deflator and Unit Labor Costs

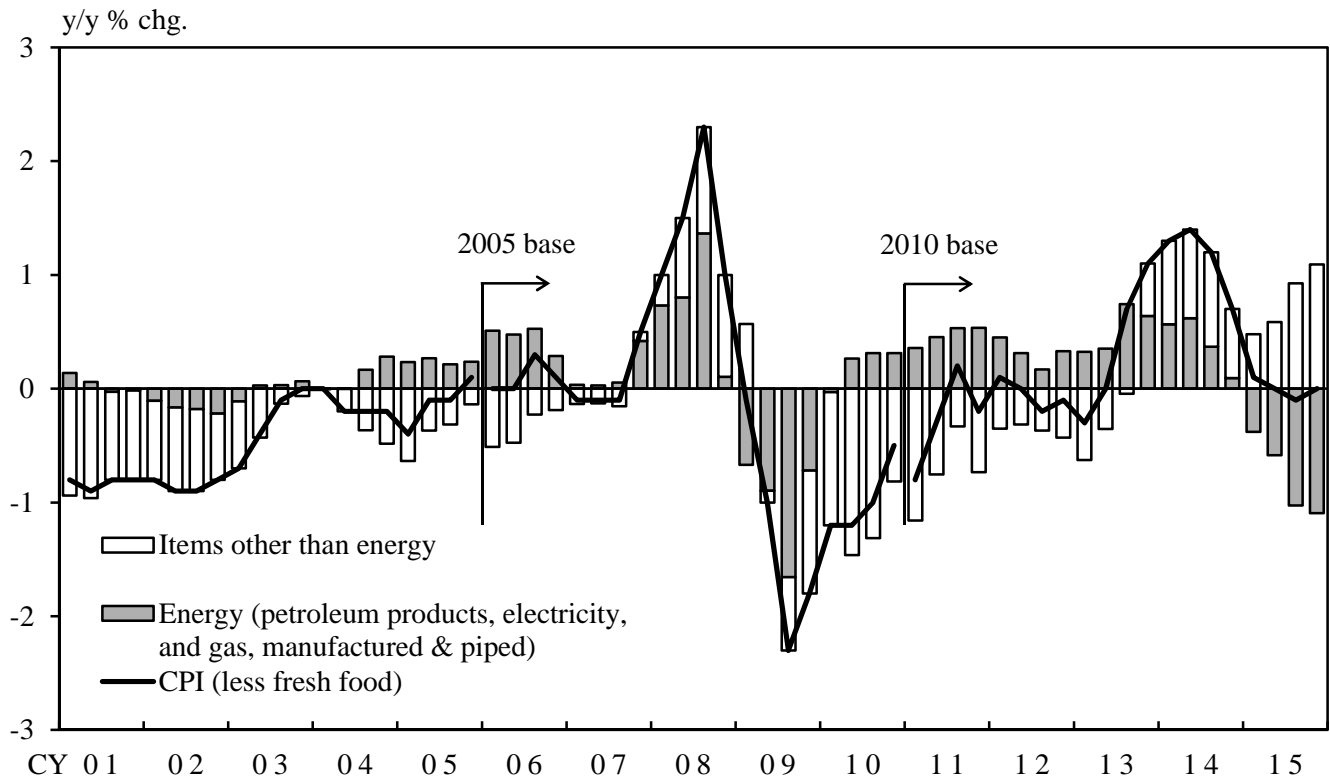


Note: Unit labor costs = nominal compensation of employees / real GDP

Source: Cabinet Office.

## Consumer Price Index and Output Gap

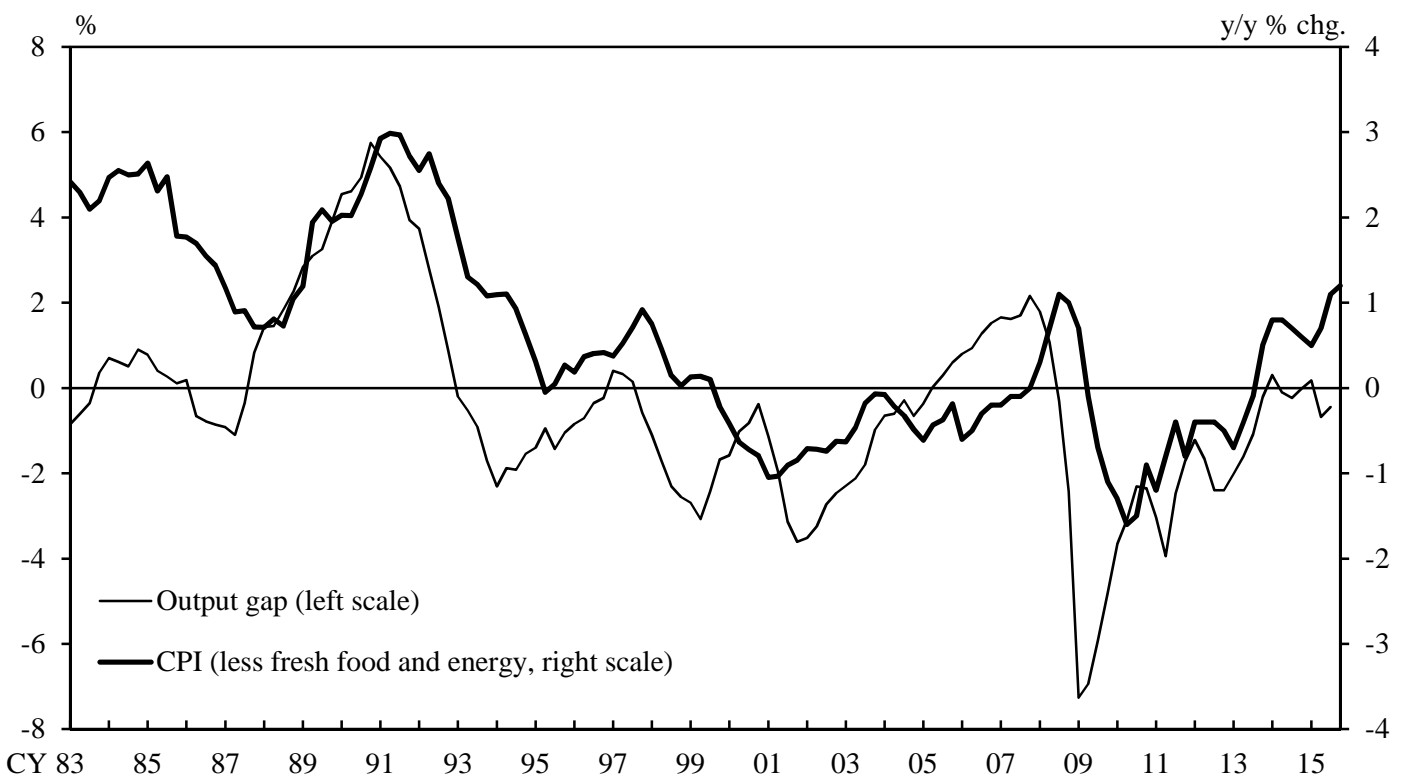
### (1) Consumer Price Index



Notes: 1. Figures for energy up to 2005/Q4 are calculated using the year-on-year rate of price change of each component.

2. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate. The same applies to the chart below.

### (2) Consumer Price Index and Output Gap



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

2. The output gap is estimated by the Research and Statistics Department, Bank of Japan.

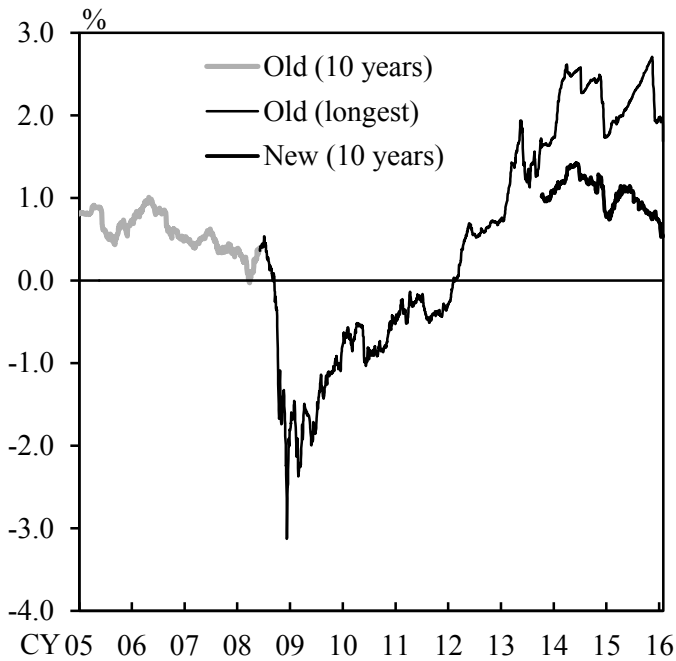
Sources: Ministry of Internal Affairs and Communications; Cabinet Office, etc.



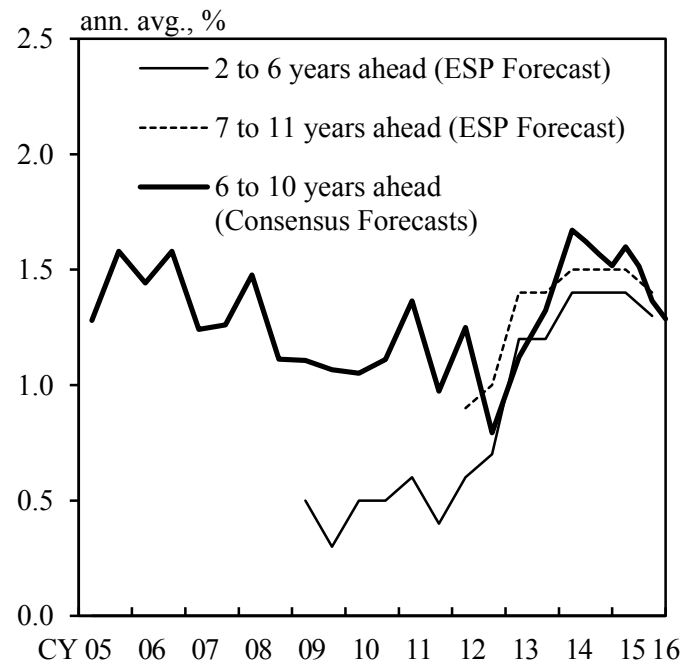
## Inflation Expectations (1)

### (1) Market Participants

(BEI for Inflation-Indexed JGBs)<sup>1</sup>



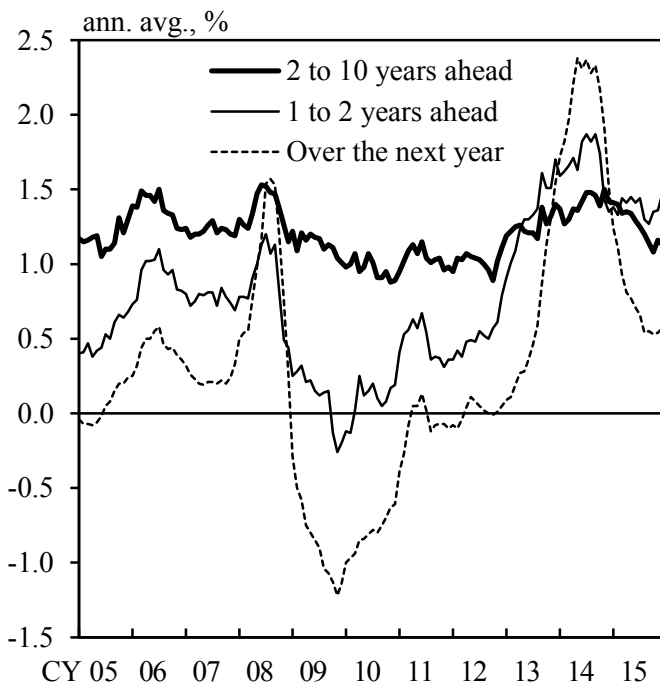
### (2) Economists<sup>2</sup>



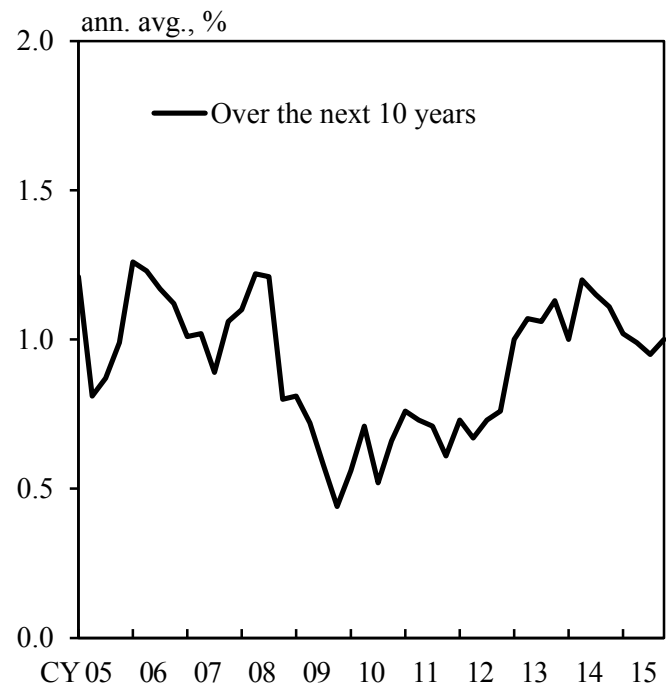
Notes: 1. BEI (break-even inflation) rates are yield spreads between fixed-rate coupon-bearing JGBs and inflation-indexed JGBs. Inflation-indexed JGBs issued since October 2013 are designated as "new," while the rest are designated as "old." Figures for "old (longest)" are calculated using yield data for issue No. 16 of inflation-indexed JGBs, which matures in June 2018.  
 2. Figures for the Consensus Forecasts are compiled every January, April, July, and October. Those up through April 2014 were 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.

### (3) Market Participants

#### (a) QUICK Survey



#### (b) Survey by Mizuho Securities



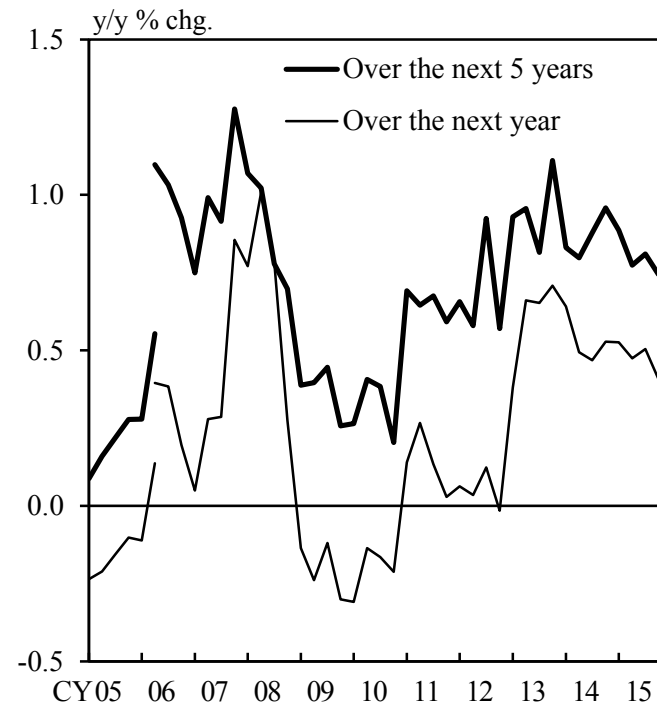
Note: From the September 2013 survey, the QUICK Monthly Market Survey (Bonds) asks respondents to include the effects of the consumption tax hikes. Figures for the survey by Mizuho Securities exclude the effects of the consumption tax hikes.

Sources: Consensus Economics Inc., "Consensus Forecasts"; JCER, "ESP Forecast"; QUICK, "QUICK Monthly Market Survey (Bonds)"; Mizuho Securities, "Investor Survey"; Bloomberg.

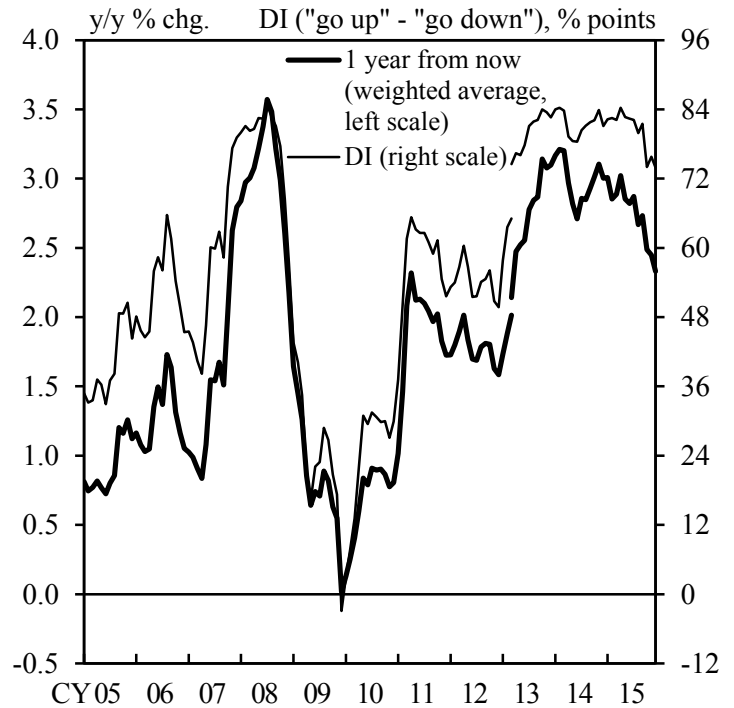
## Inflation Expectations (2)

### (1) Households

(a) Opinion Survey on the General Public's Views and Behavior<sup>1,2</sup>



(b) Consumer Confidence Survey<sup>3,4</sup>



Notes: 1. Figures are estimated using the modified Carlson-Parkin method.

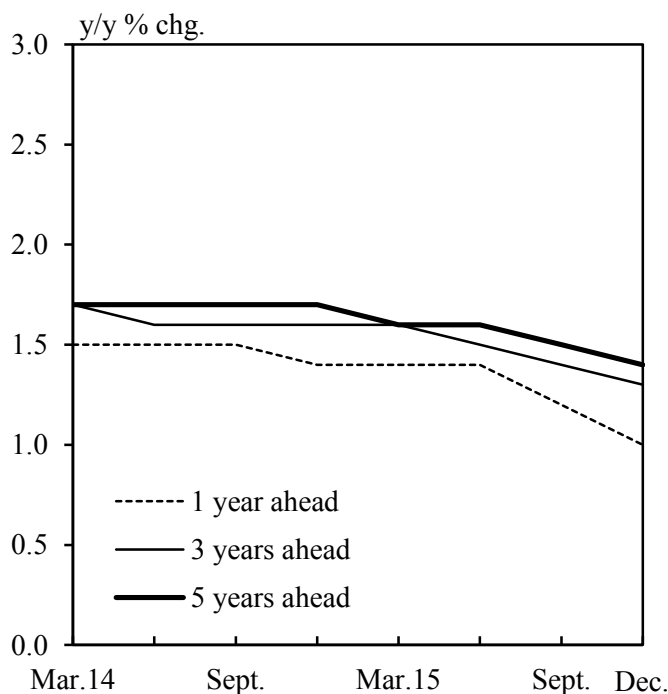
2. From the June 2013 survey, the Opinion Survey asks respondents to exclude the effects of the consumption tax hikes.

3. Figures are for all households.

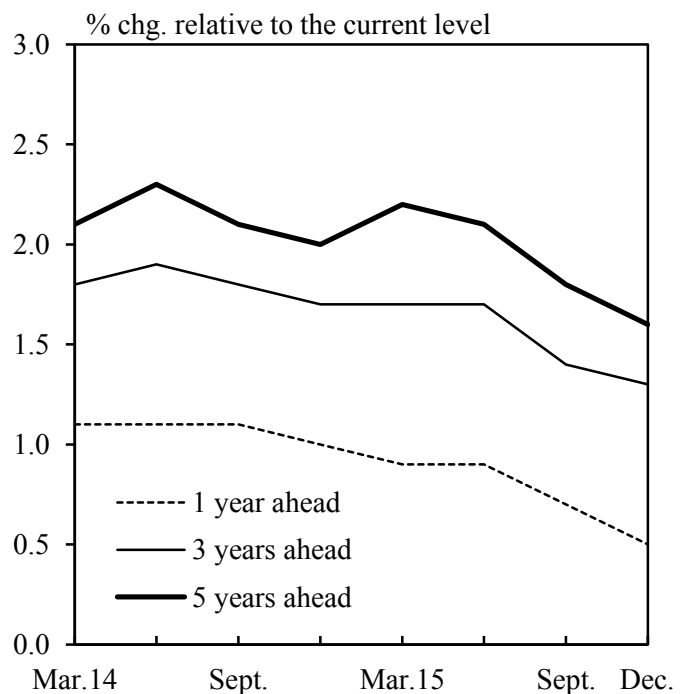
4. The weighted average is calculated based on the following assumption: survey responses chosen by households as their expected inflation rates -- "-5% or below," "from -5% to -2%," "from -2% to 0%," "from 0% to +2%," "from +2% to +5%," and "+5% or above" -- indicate expected inflation rates of -5%,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

### (2) Enterprises (*Tankan*, All Industries and Enterprises, Average)

(a) Outlook for General Prices



(b) Outlook for Output Prices

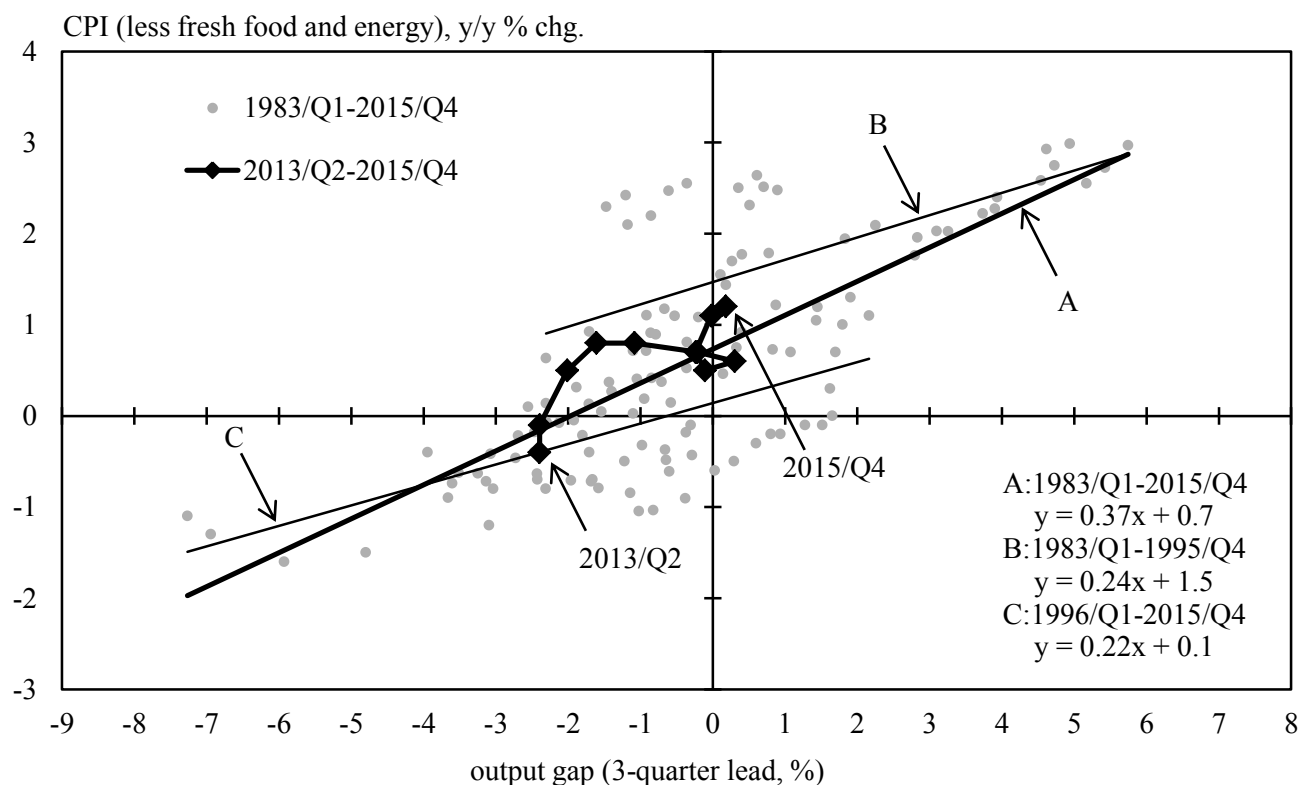


Note: Figures exclude the effects of the consumption tax hikes.

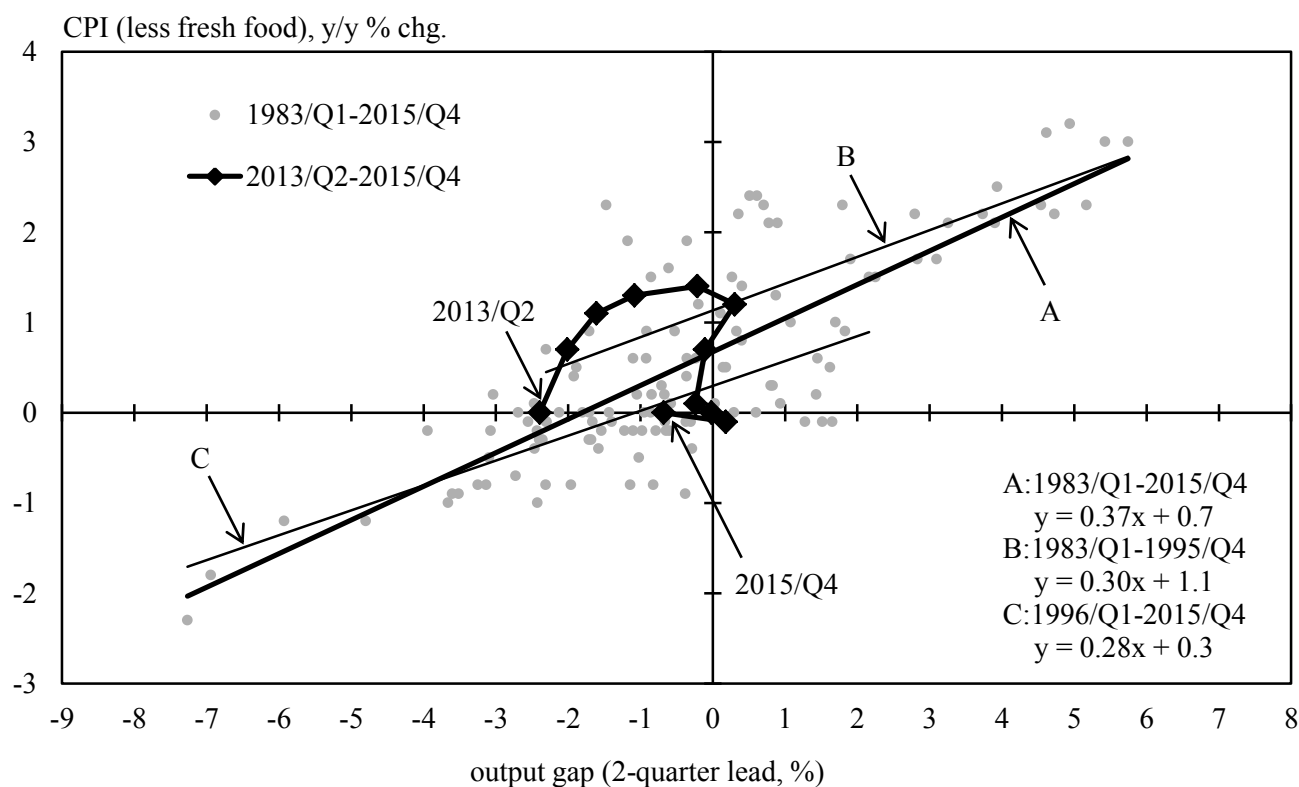
Sources: Bank of Japan; Cabinet Office; Ministry of Internal Affairs and Communications.

## Output Gap and Inflation Rate

### (1) Phillips Curve (CPI All Items Less Fresh Food and Energy)



### (2) Phillips Curve (CPI All Items Less Fresh Food)

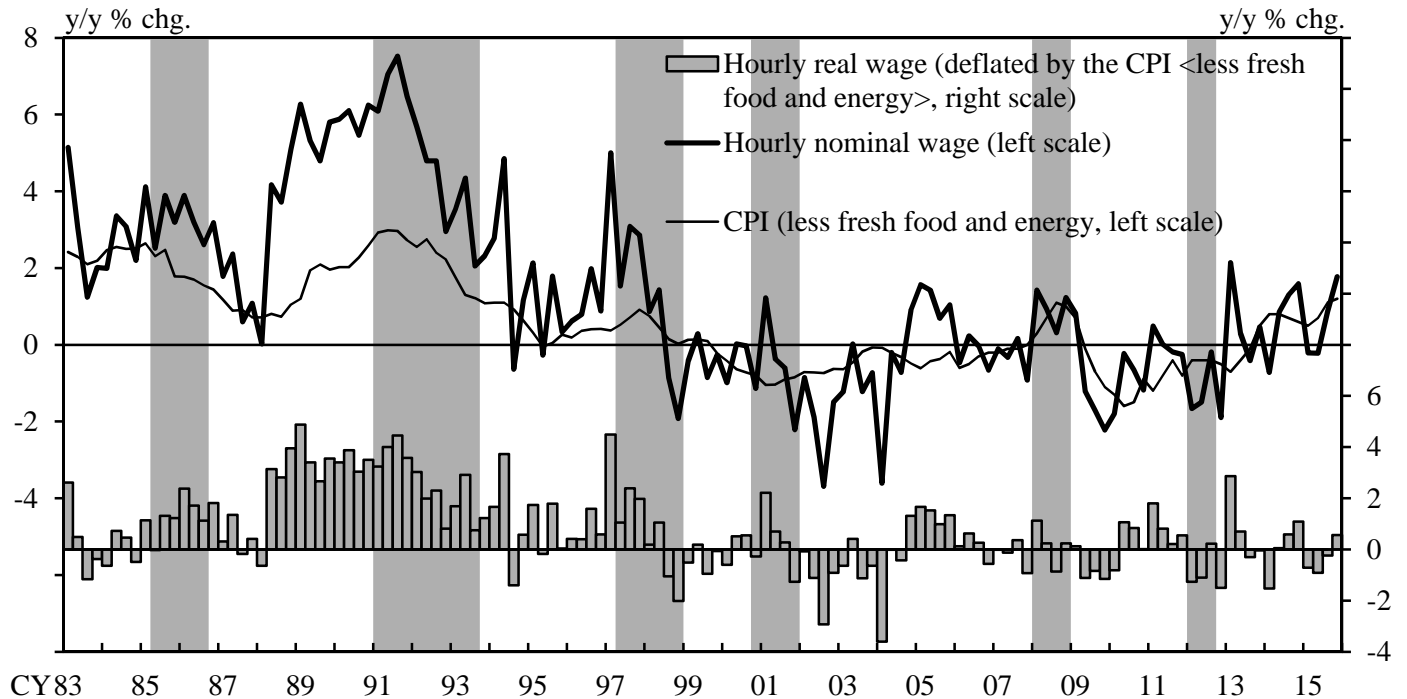


- Notes: 1. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.  
 2. The output gap is estimated by the Research and Statistics Department, Bank of Japan.  
 3. The number of lags is chosen so that the cross-correlation between the output gap and the CPI is maximized.  
 4. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate.

Sources: Ministry of Internal Affairs and Communications; Cabinet Office, etc.

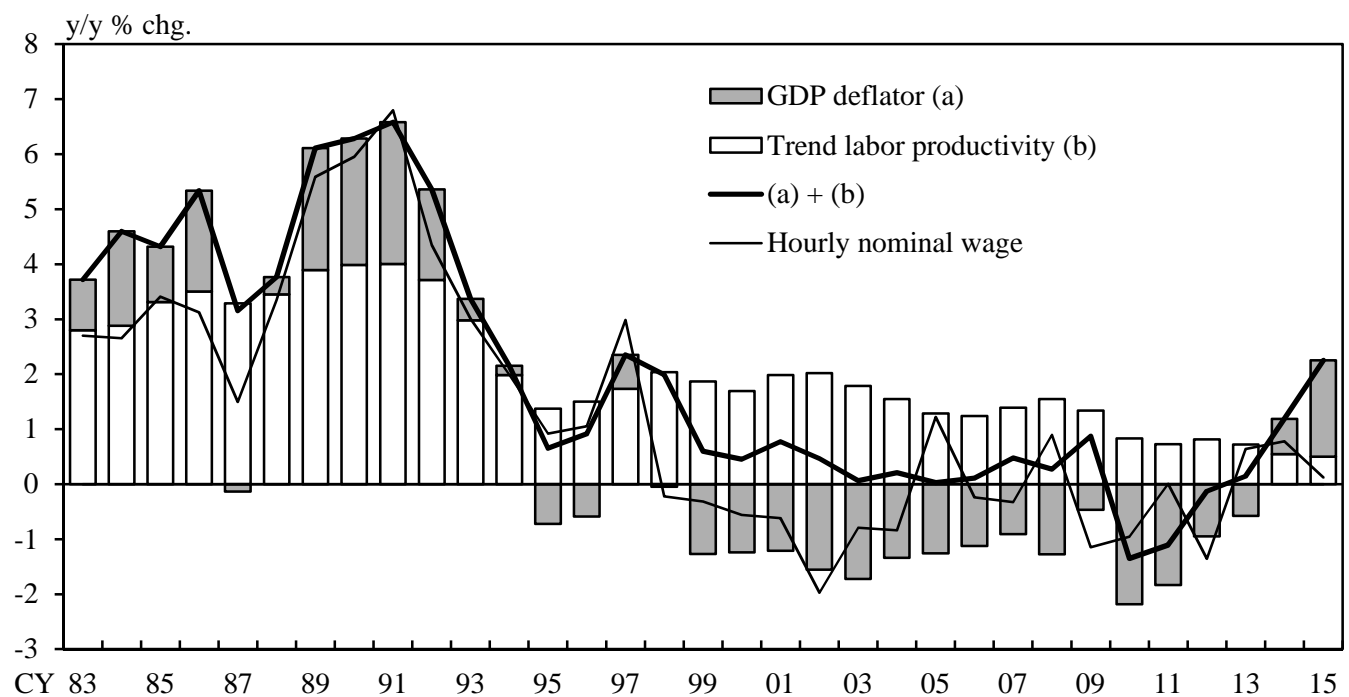
## Prices and Wages

### (1) CPI and Nominal Wage



- Notes: 1. Figures based on the "Monthly Labour Survey" up through 1990/Q4 are for establishments with 30 or more employees. The same applies to the chart below.  
 2. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan, and are adjusted to exclude the estimated effects of changes in the consumption tax rate.  
 3. Shaded areas indicate recession periods.  
 4. Figures for 2015/Q4 are October-November averages.

### (2) Trend Labor Productivity and Hourly Nominal Wage

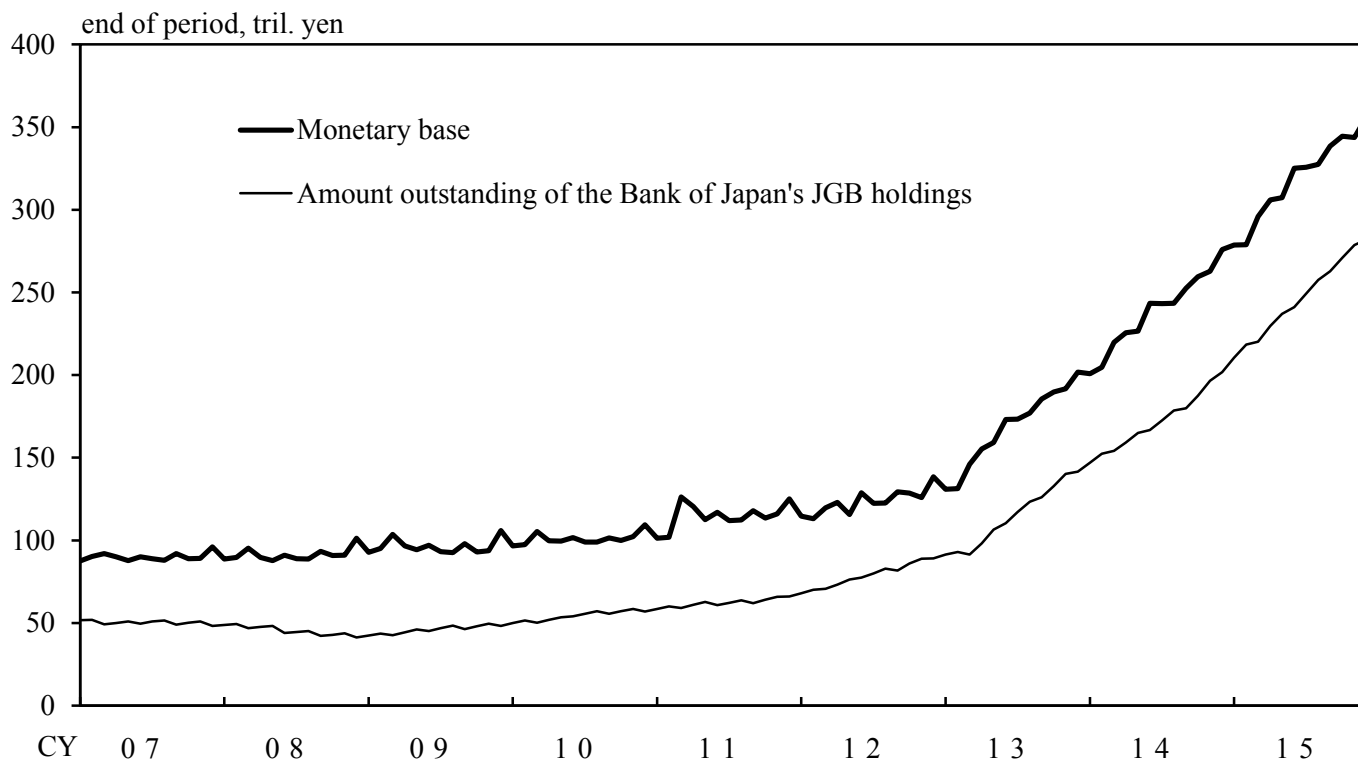


- Notes: 1. The trend labor productivity is estimated by the Research and Statistics Department, Bank of Japan.  
 2. Figures for the GDP deflator are adjusted to exclude the effects of the consumption tax hike in 2014. This adjustment is based on estimates by the Cabinet Office in December 2015.  
 3. Figures for 2015 are Q1-Q3 averages.

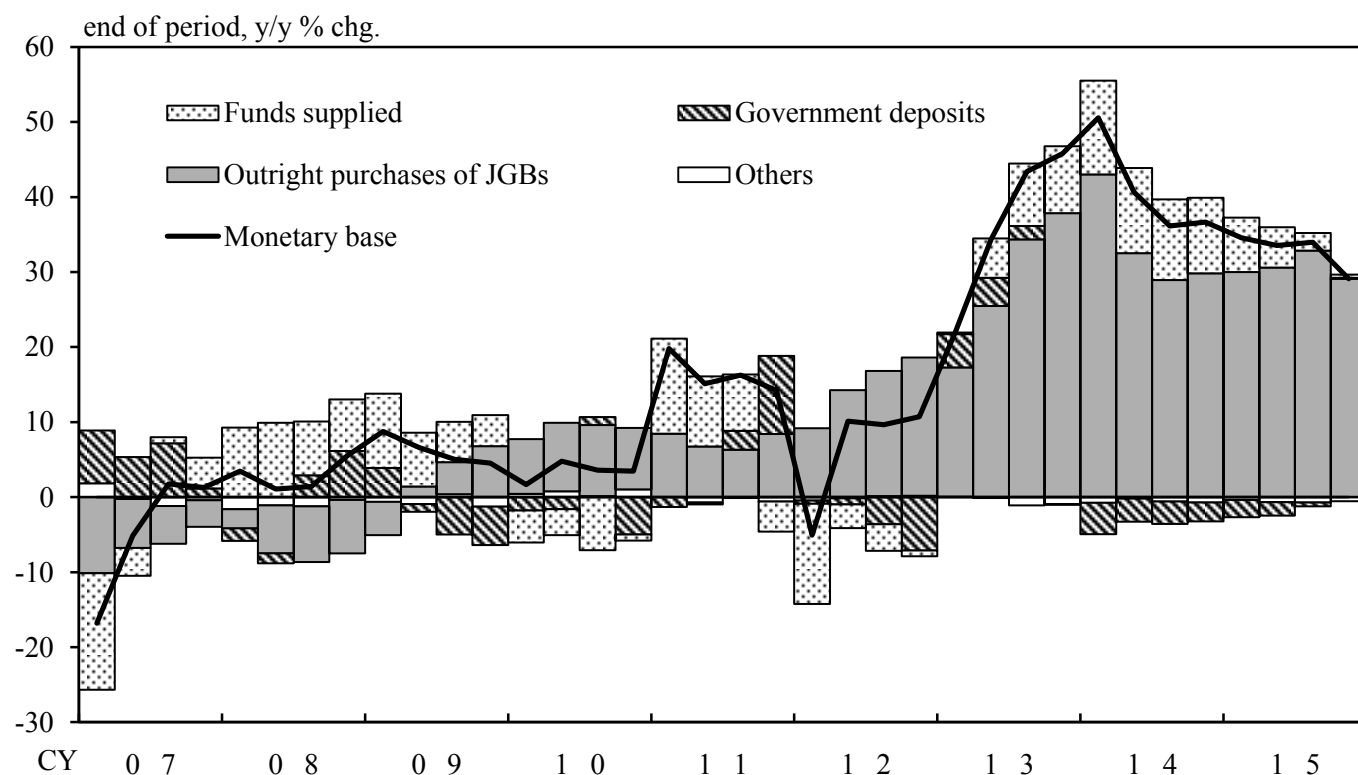
Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Cabinet Office.

## Monetary Base and JGB Purchases

### (1) Expansion in the Monetary Base and JGB Holdings



### (2) Year-on-Year Percentage Change in the Monetary Base



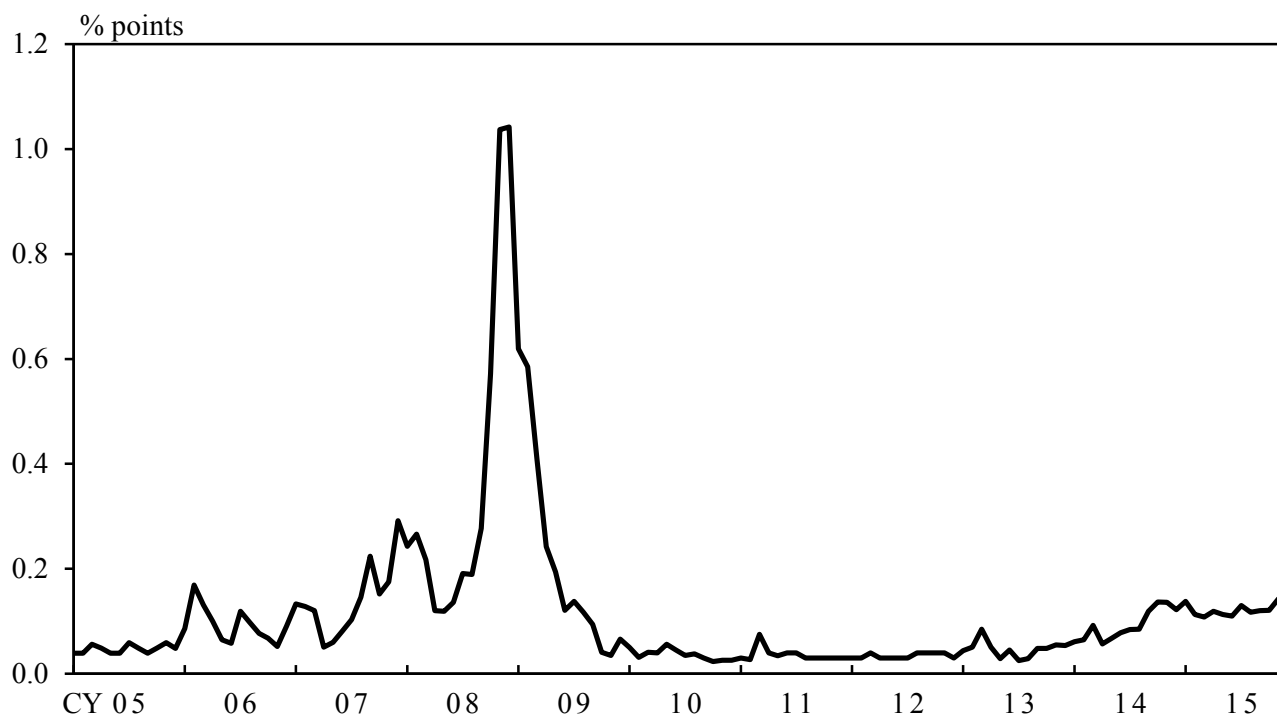
Notes: 1. Funds supplied are calculated by adding the amounts outstanding of assets purchased through market operations (excluding outright purchases of JGBs), funds-supplying operations against pooled collateral, the Loan Support Program, etc.

2. Government deposits mainly include sales of JGBs to the government under repurchase agreements and T-Bills underwritten by the Bank of Japan.

Source: Bank of Japan.

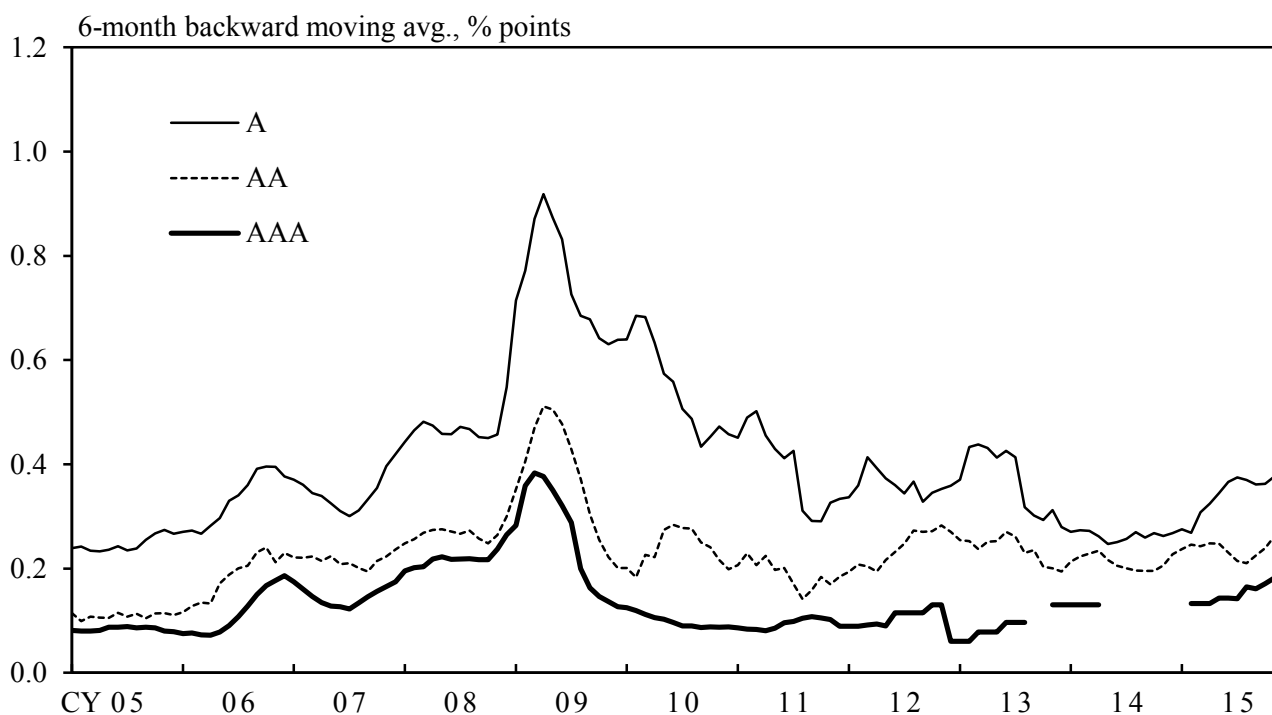
## Spreads for CP and Corporate Bonds

### (1) Issuance Spreads for CP



Note: Figures up to September 2009 are the average issuance rate of CP (3-month, rated a-1 or higher) minus the yield on T-Bills (3-month). Figures from October 2009 are the average issuance rate of CP (3-month, rated a-1) minus the yield on T-Bills (3-month).

### (2) Issuance Spreads for Corporate Bonds by Securities Rating

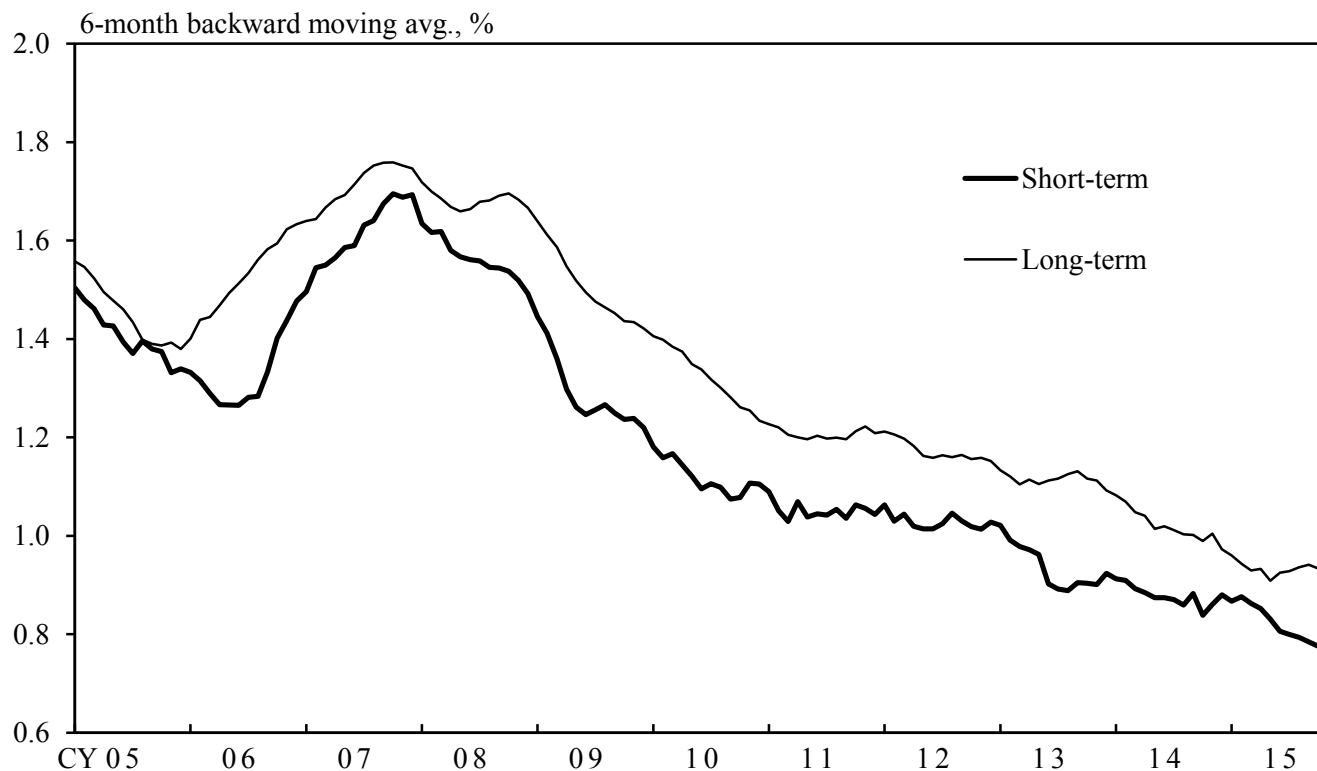


- Notes:
1. The issuance spreads for corporate bonds are the issuance rate of these bonds minus the government bond yield.
  2. Figures are the averages of domestically issued bonds launched on a particular date.
  3. Bonds issued by banks and securities companies, etc., are excluded.
  4. Bonds are classified based on the highest rating among the ratings from Moody's, S&P, R&I, and JCR.
  5. Breaks in a line indicate periods when bonds were not issued for six or more months.

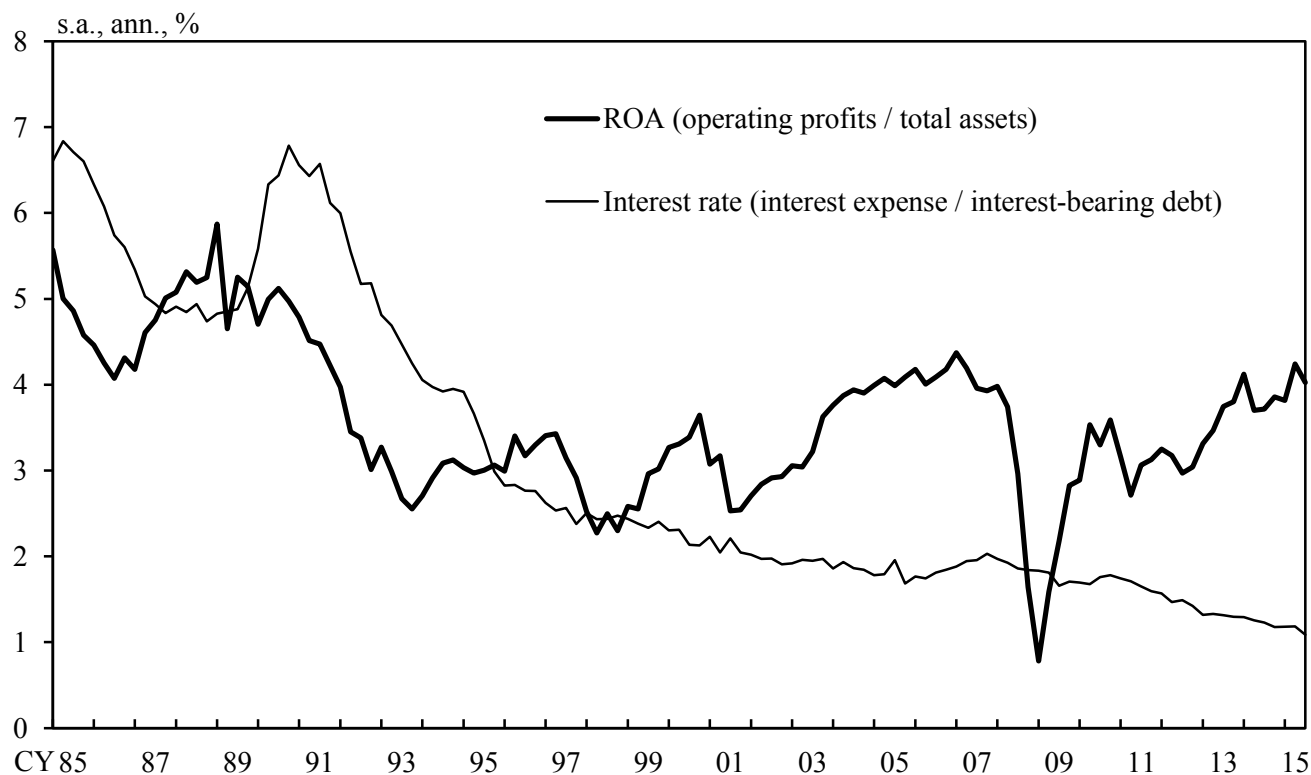
Sources: Bank of Japan; Japan Securities Depository Center; Capital Eye; I-N Information Systems; Bloomberg.

## Bank Lending Rates

(1) Average Contract Interest Rates on New Loans and Discounts



(2) ROA and Interest Rate



Notes: 1. Figures are taken from the "Financial Statements Statistics of Corporations by Industry, Quarterly," and are the total for enterprises of all sizes and in all industries. The finance and insurance industry is excluded.

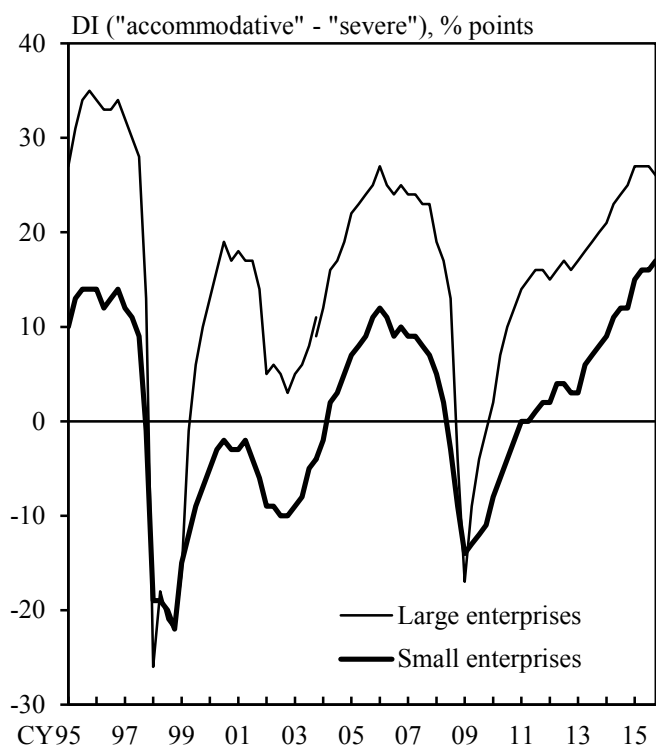
2. Interest-bearing debt is the sum of long- and short-term borrowings, corporate bonds, and bills receivable discounted outstanding.

Sources: Bank of Japan; Ministry of Finance.

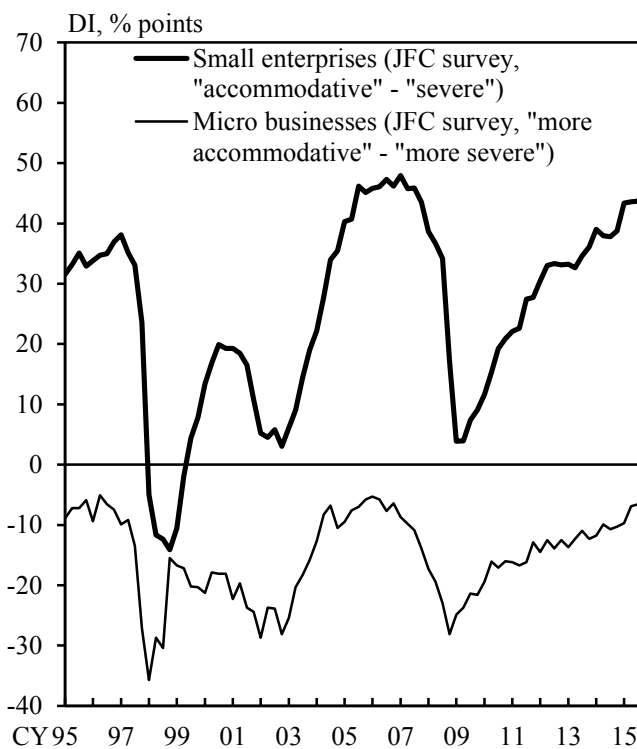
## Corporate Finance-Related Indicators

### (1) Lending Attitude of Financial Institutions as Perceived by Firms

#### (a) *Tankan*

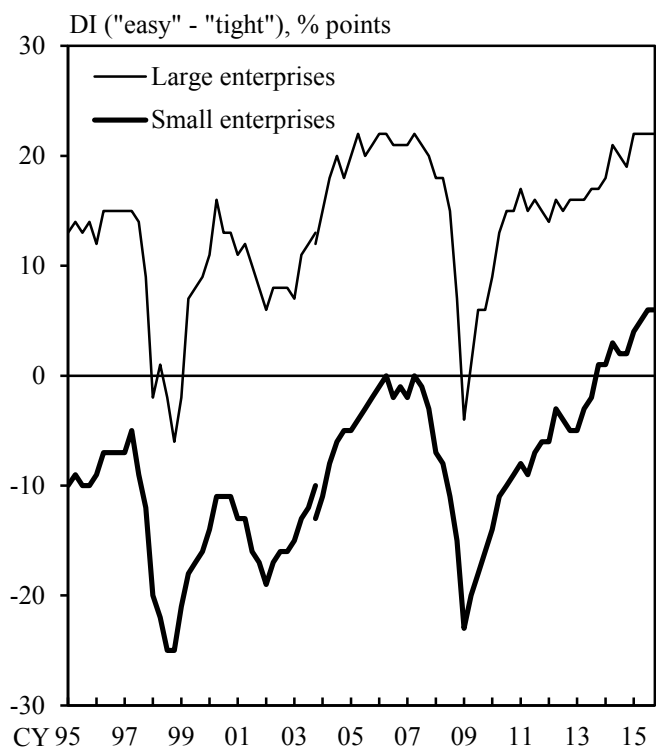


#### (b) Other Surveys

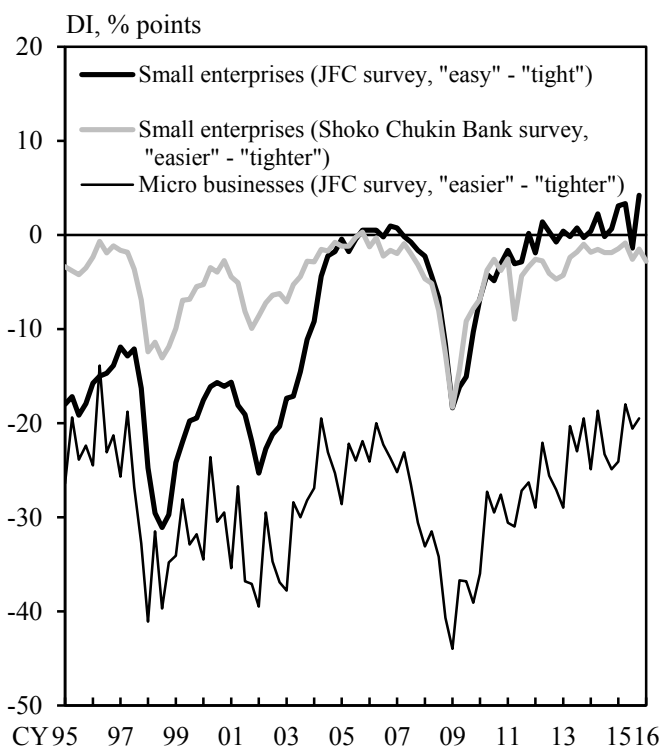


### (2) Financial Position

#### (a) *Tankan*



#### (b) Other Surveys



Notes: 1. Data from the "Tankan" are based on all industries. There is a discontinuity in the data in December 2003 due to a change in the survey framework.

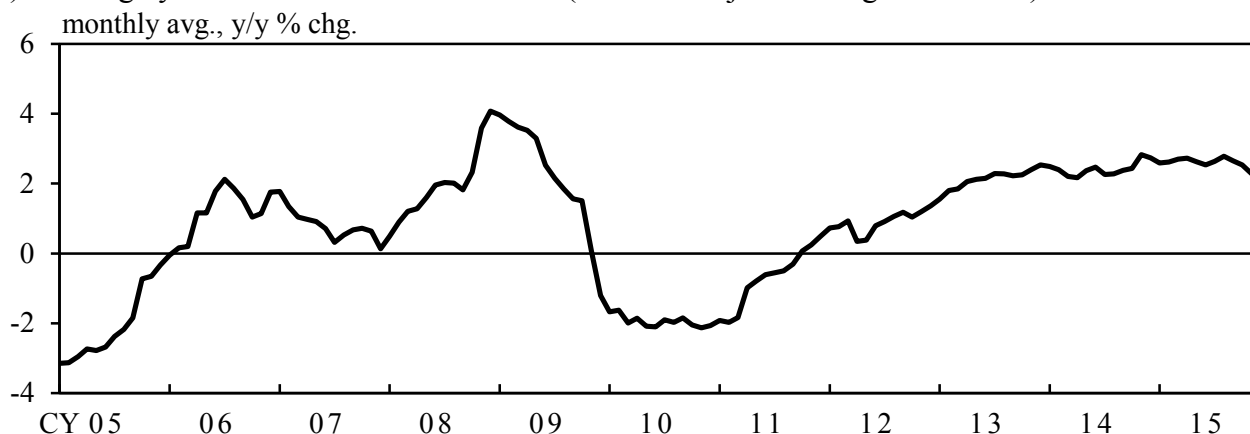
2. The figure for 2016/Q1 is that of January.

Sources: Bank of Japan; Shoko Chukin Bank; Japan Finance Corporation (JFC).

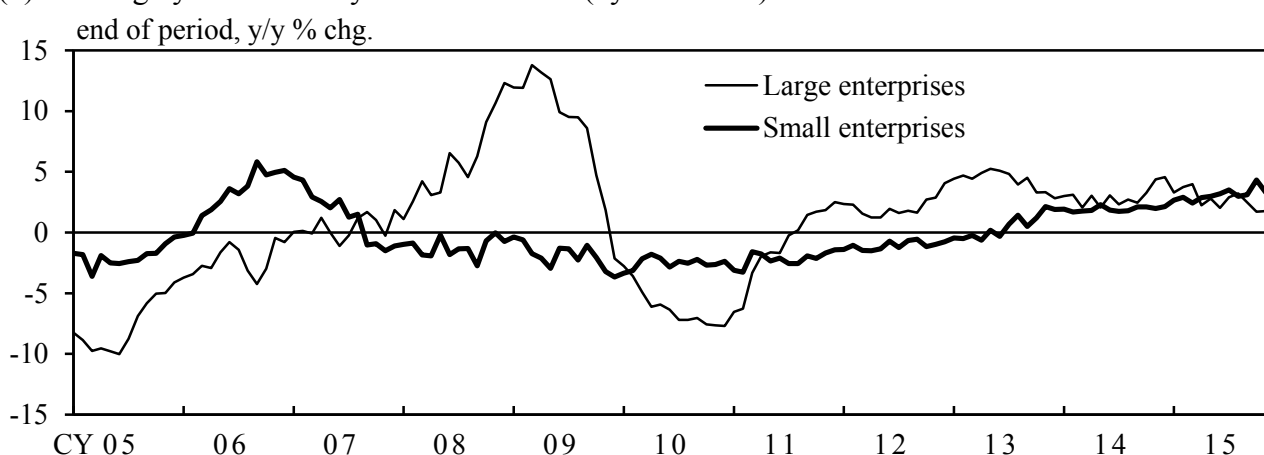


## Amount Outstanding of Bank Lending, CP, and Corporate Bonds

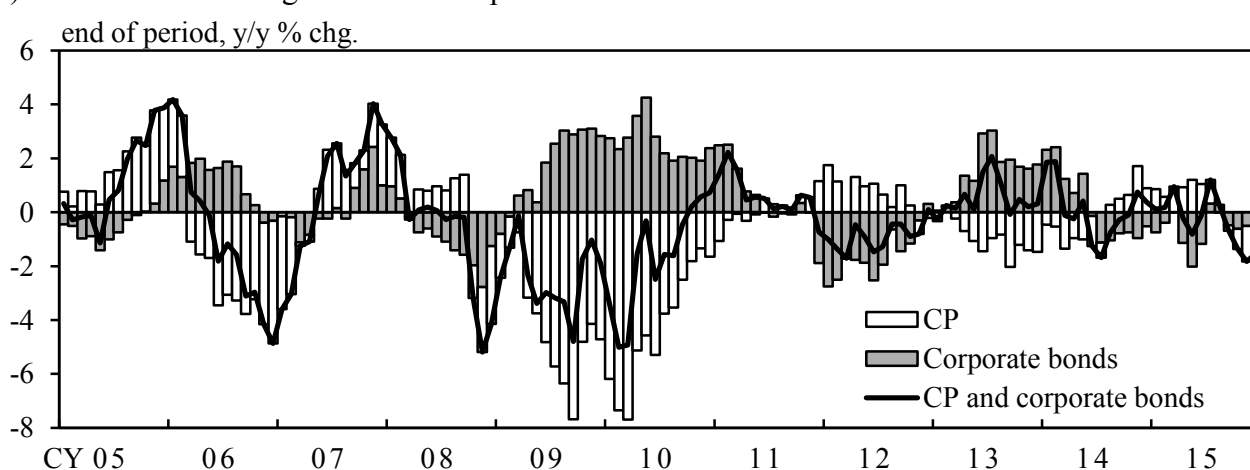
### (1) Lending by Domestic Commercial Banks (Total of Major and Regional Banks)



### (2) Lending by Domestically Licensed Banks (by Firm Size)



### (3) Amount Outstanding of CP and Corporate Bonds



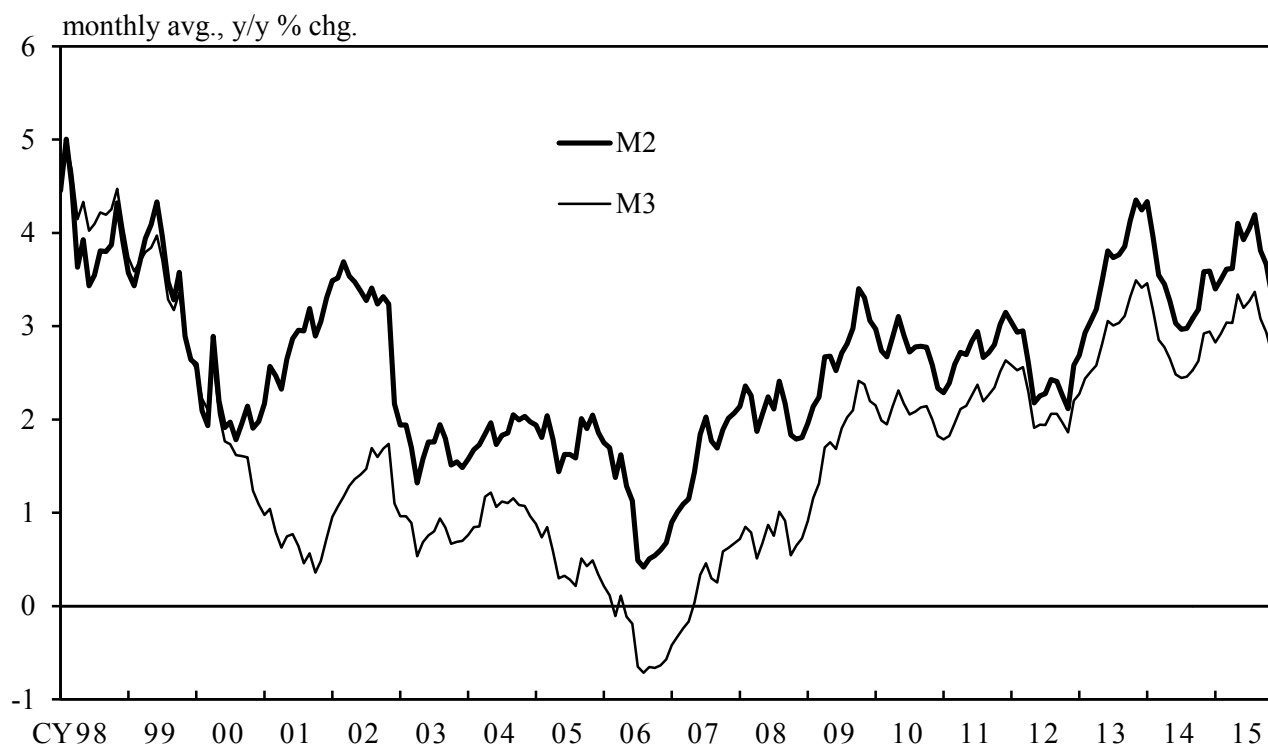
Notes: 1. Figures for CP are those for short-term corporate bonds registered under the book-entry transfer system. Those issued by banks, securities companies, and others such as foreign corporations are excluded; ABCP is included. Figures up to March 2008 are those compiled by the Bank of Japan.

2. Figures for corporate bonds are calculated based on the sum of straight bonds issued in both domestic and overseas markets. Bonds issued by banks and insurance companies are excluded. Domestic bonds are those registered under the book-entry transfer system. The figures for corporate bonds are obtained by splicing figures up to April 2008 published by the Japan Securities Dealers Association with figures from May 2008 published by the Japan Securities Depository Center. Figures up to April 2008 are adjusted to be consistent with figures from May 2008.

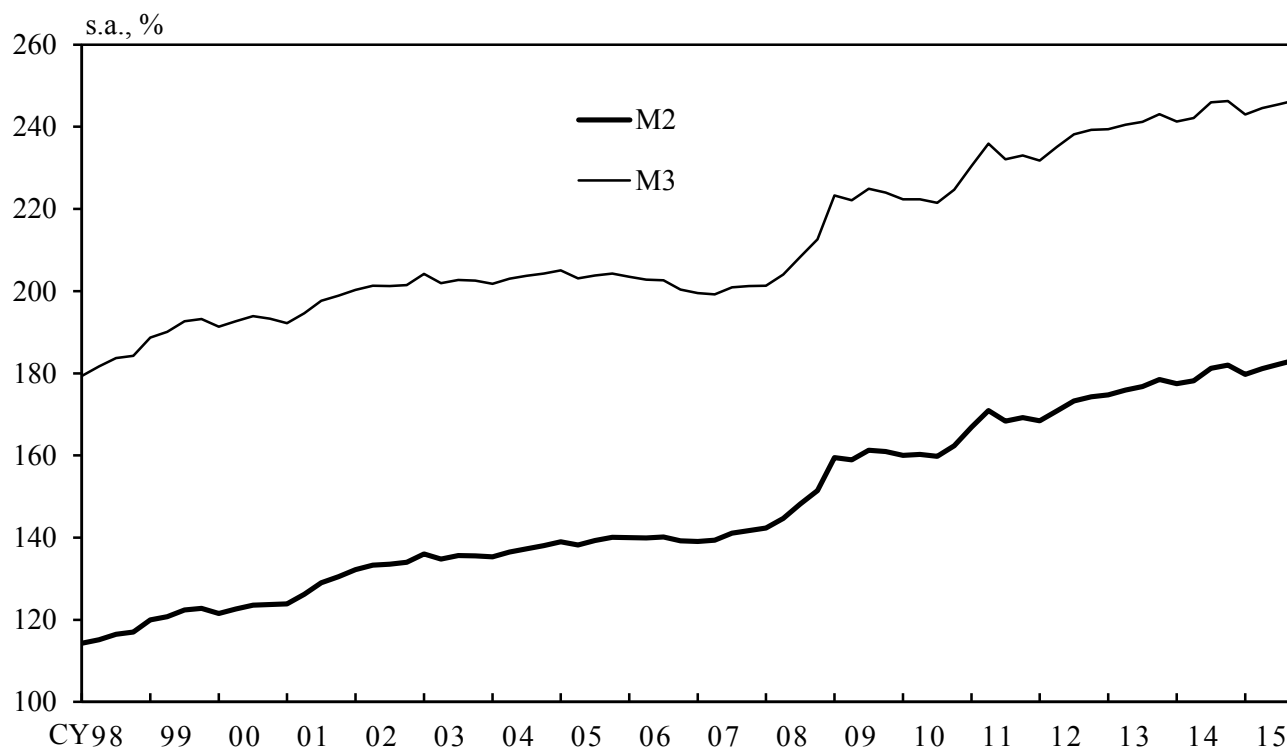
Sources: Bank of Japan; Japan Securities Depository Center; Japan Securities Dealers Association; I-N Information Systems.

## Money Stock

### (1) Changes from a Year Earlier



### (2) Ratio of Money Stock to Nominal GDP



Notes: 1. Figures for M2 up to March 2003 are the former series of the figures for M2+CDs.

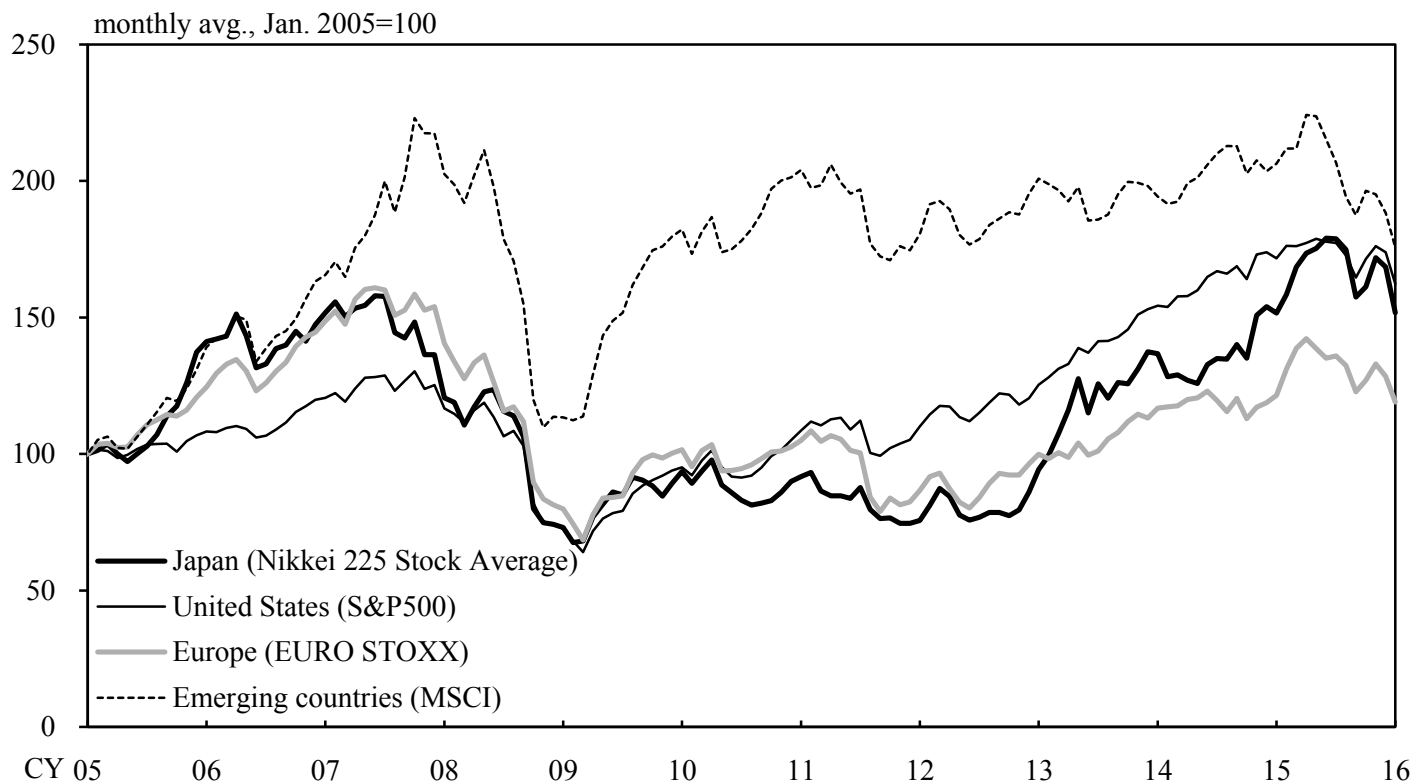
2. Figures for M3 up to March 2003 are the former series of the figures for M3+CDs minus the figures for pecuniary trusts.

3. The figure for nominal GDP in 2015/Q4 is assumed to be unchanged from the previous quarter.

Sources: Bank of Japan; Cabinet Office.

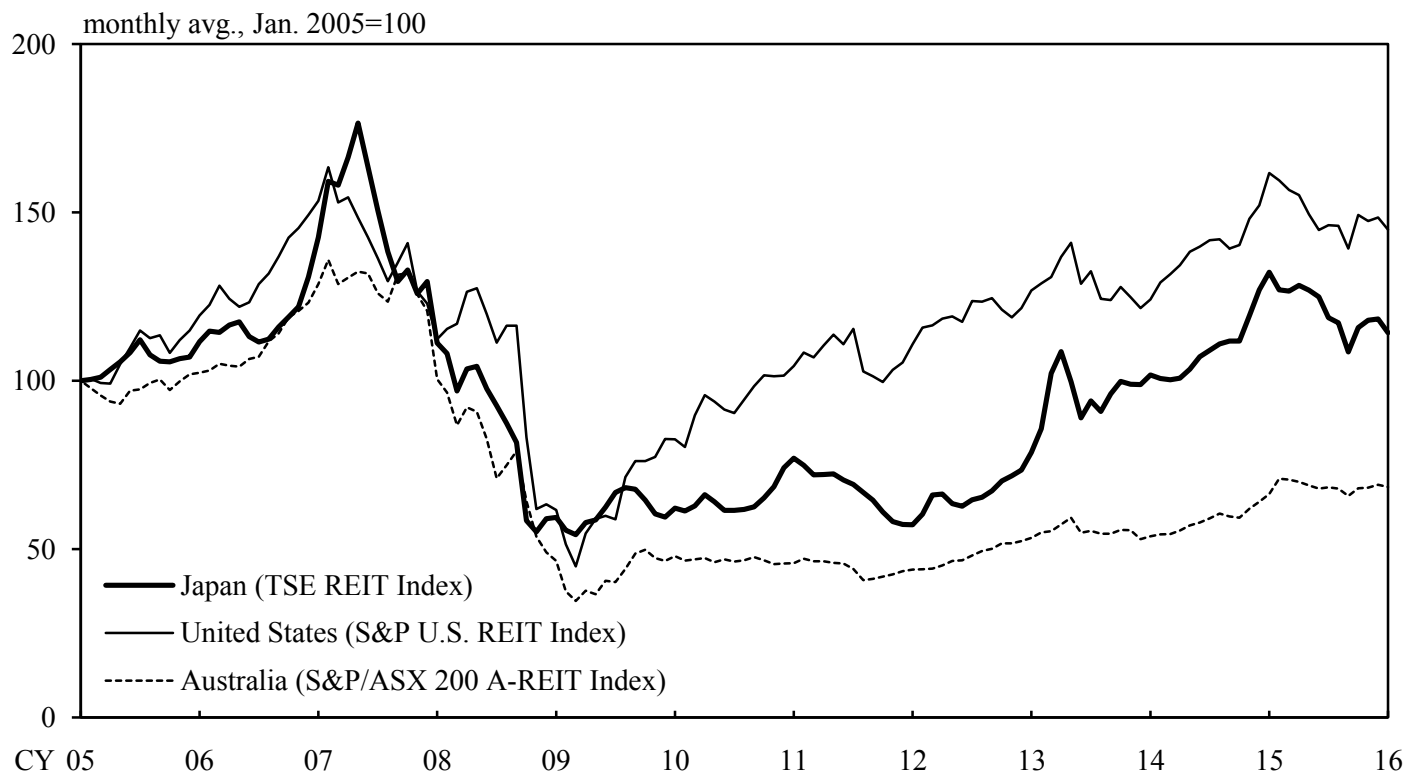
## Stock Prices and REIT Prices

### (1) Selected Stock Prices



Note: Figures for emerging countries are based on the MSCI Emerging Markets Index calculated in the local currencies.

### (2) Selected REIT Indexes

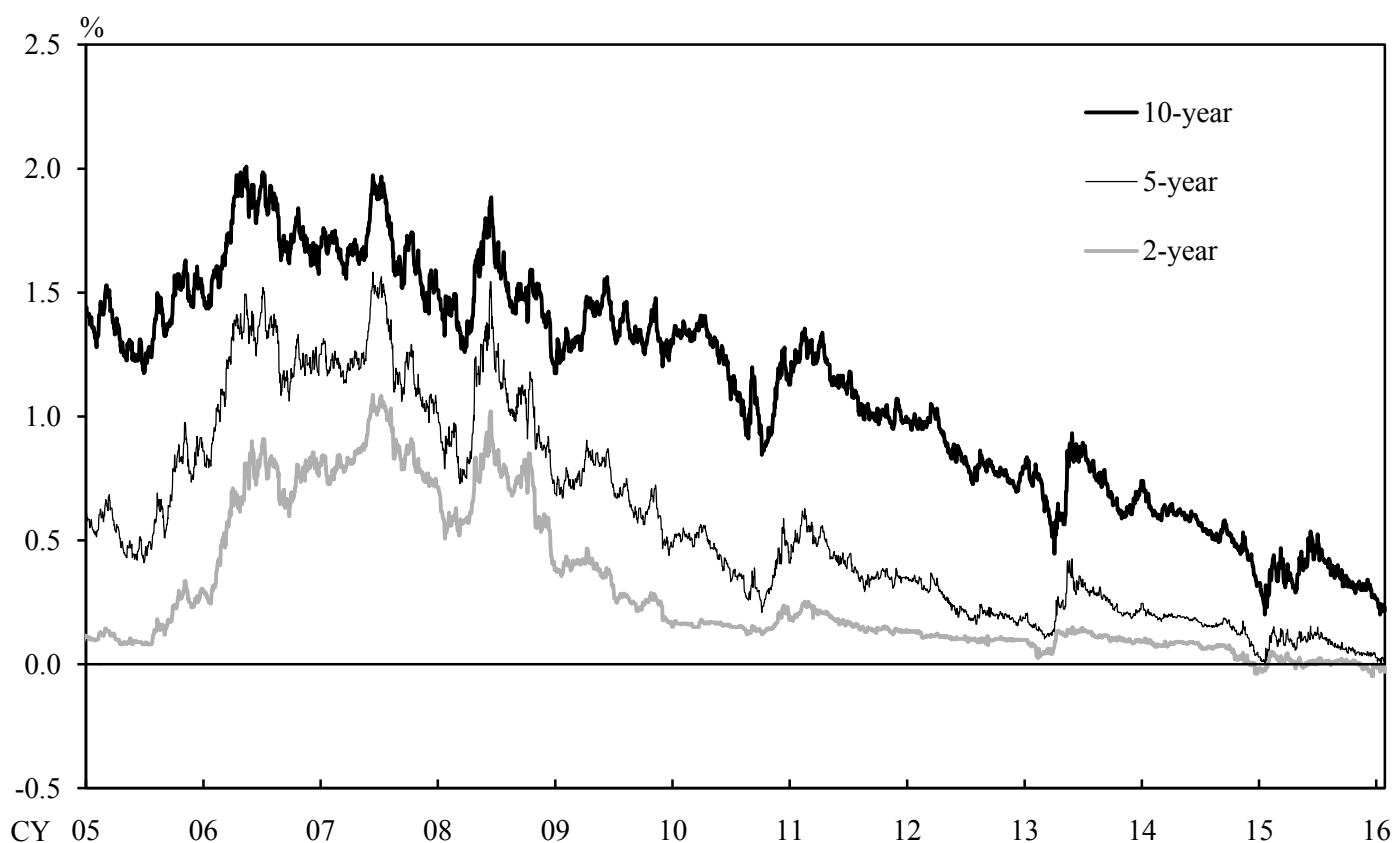


## Nominal Benchmark Yields

(1) 10-Year Government Bond Yields in Selected Advanced Economies



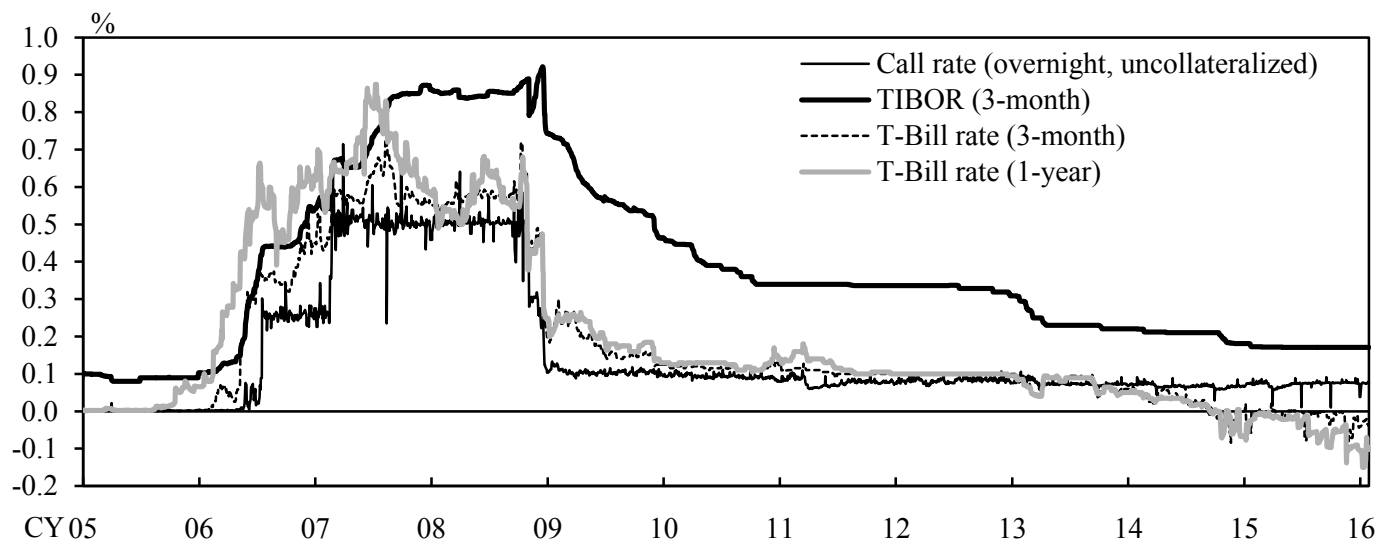
(2) JGB Yields



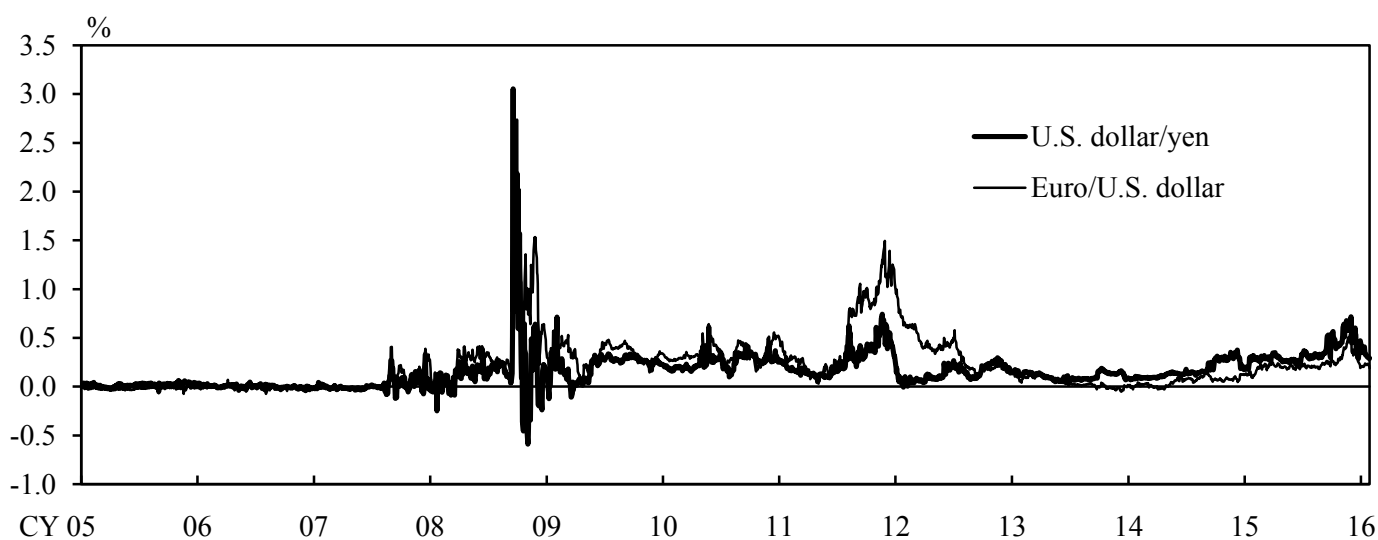
Source: Bloomberg.

## Money Market Rates

### (1) Short-Term Interest Rates

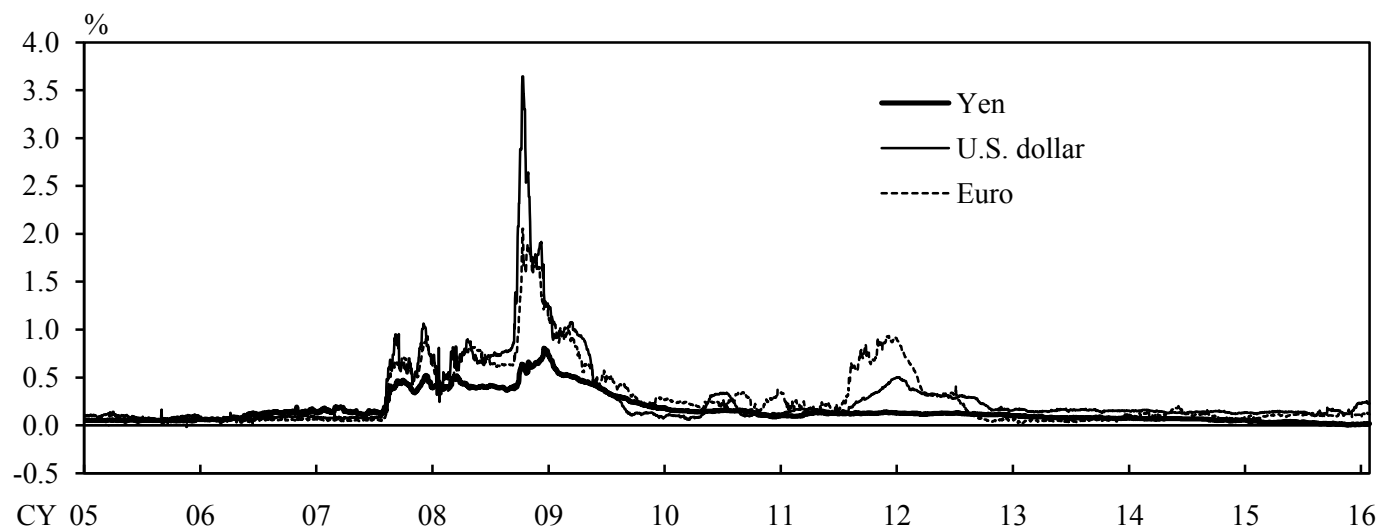


### (2) Dollar Funding Premiums through Foreign Exchange Swaps



Note: U.S. dollar funding rate from yen or euro minus 3-month dollar LIBOR.

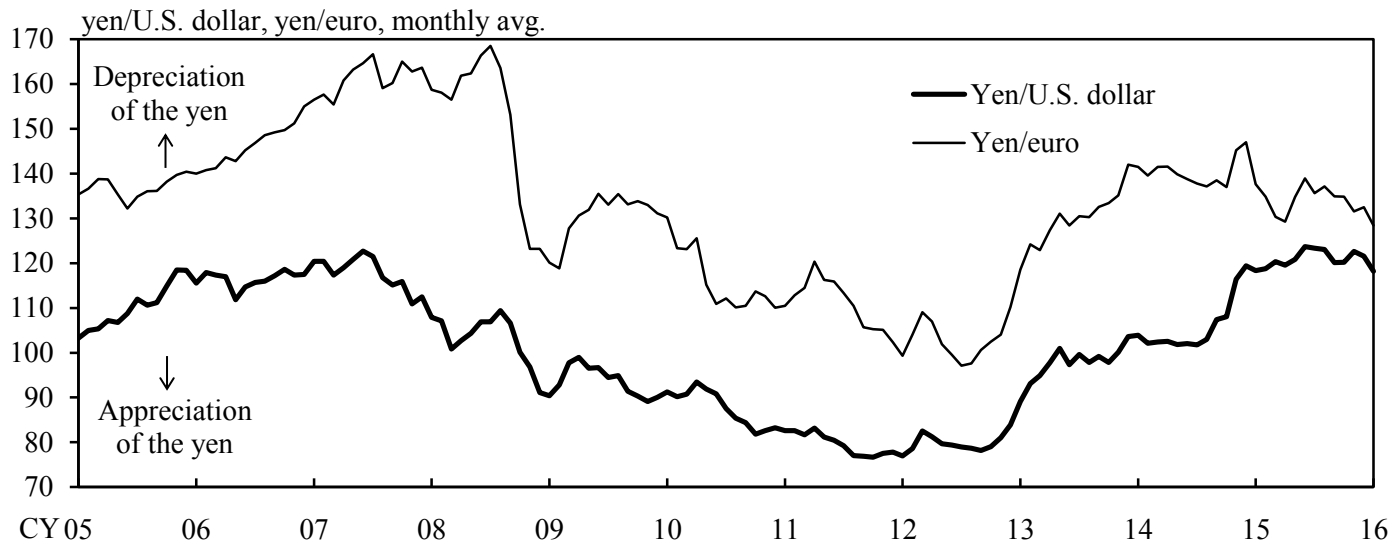
### (3) Credit Spreads for Yen-, Dollar-, and Euro-Denominated Term Instruments



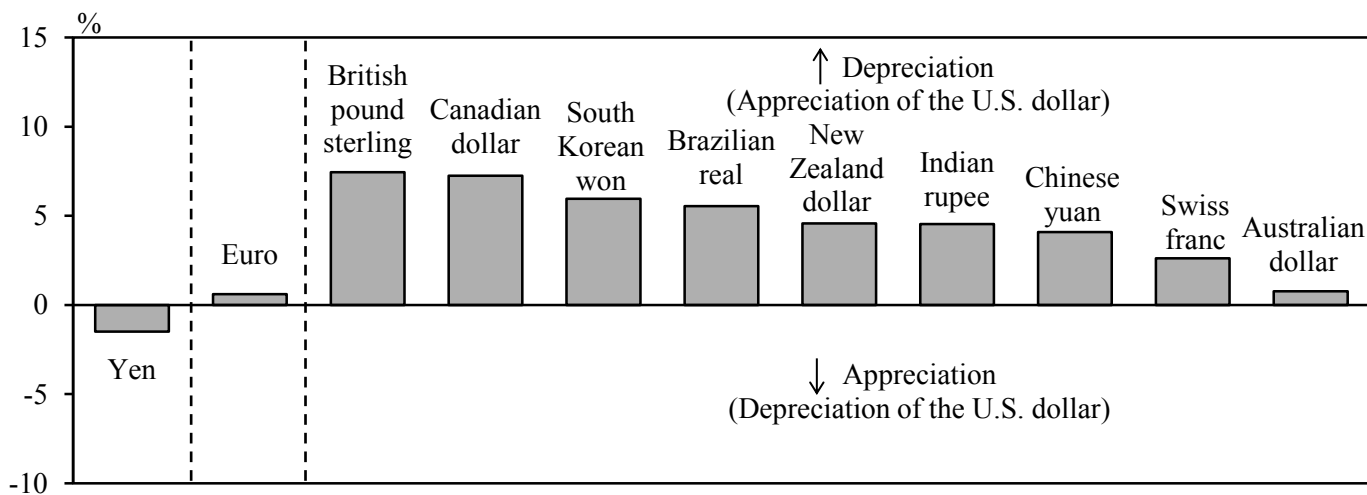
Note: The credit spreads for term instruments are LIBOR (3-month) minus yields on overnight index swaps (3-month).  
Sources: Bank of Japan; Bloomberg.

## Exchange Rates

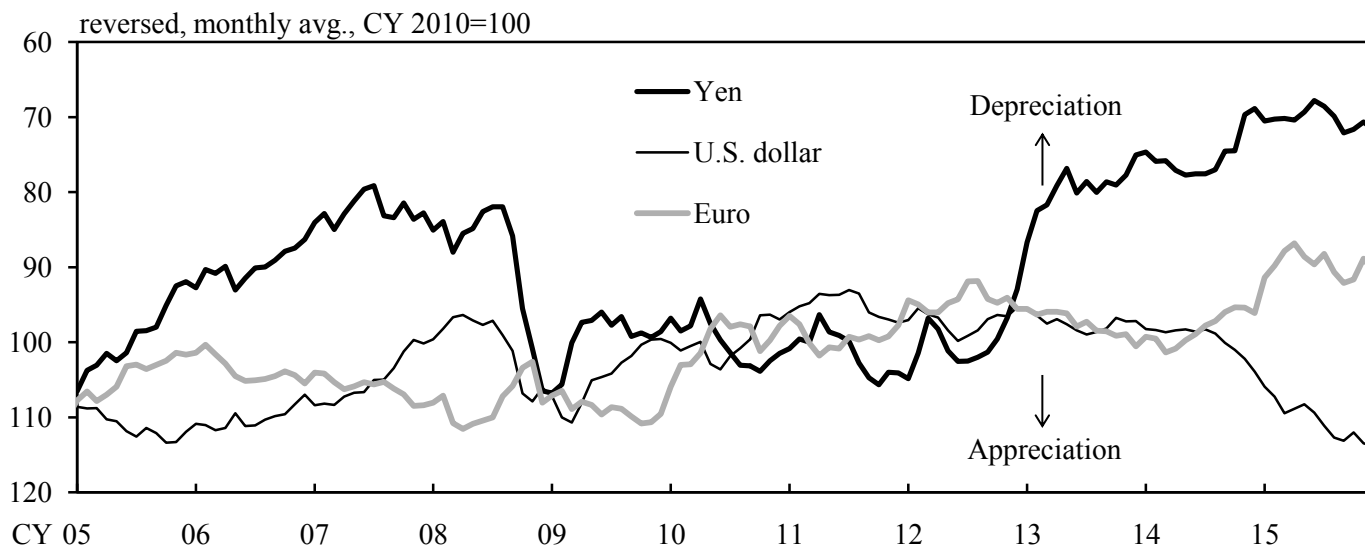
(1) Yen/U.S. Dollar and Yen/Euro



(2) Rates of Change in Selected Currencies against the U.S. Dollar (Since the End of October 2015)



(3) Real Effective Exchange Rates

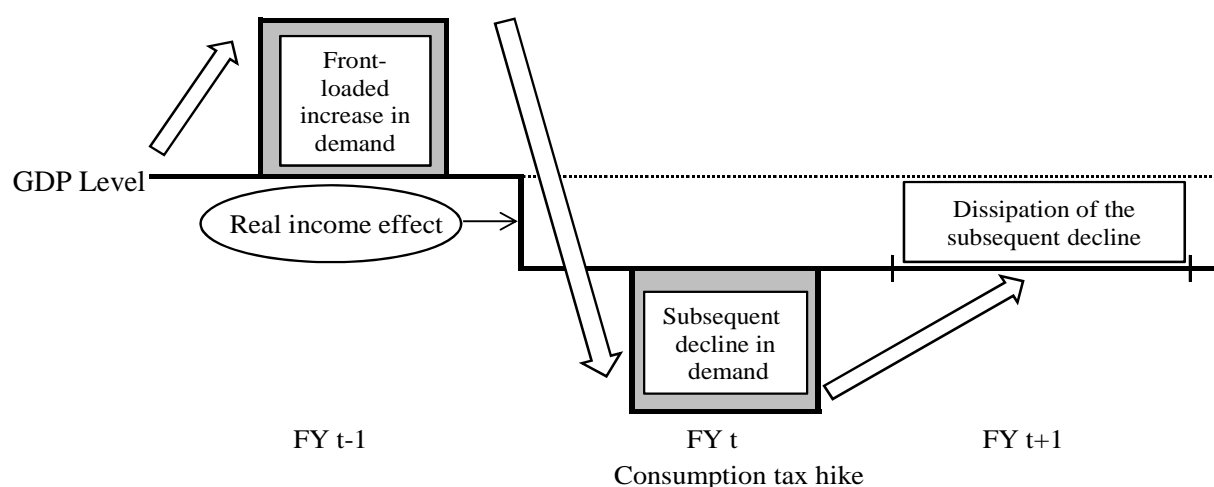


Note: The real effective exchange rates are based on the broad indices of the BIS effective exchange rate.  
Sources: Bank for International Settlements (BIS); Bloomberg.

## Effects of the Consumption Tax Hikes and the Introduction of Reduced Tax Rate

### (1) Effects on Real GDP

(a) Conceptual Diagram (Effects on the Level of Real GDP; Arrows Represent Effects on Growth Rates)



(b) Estimated Effects of the FY 2014 and FY 2017 Consumption Tax Hikes on GDP Growth Rate

contribution to the real GDP growth rate, % points

With/without the reduced tax rate	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Without	0.5	-1.2	0.3	0.3	-0.8
With				0.3	-0.7

### (2) Effects on Prices

(a) Share of Items by Tax Rate Applied and Estimated Effects on the CPI

With/without the reduced tax rate	Share of items by tax rate applied (%)			Effects of the consumption tax hike (from 8% to 10%) on the year-on-year rate of increase in the CPI (% points)			
	10%	8%	Tax-exempt	All items	All items (less fresh food)	All items (less fresh food and energy)	All items (less food and energy)
Without	72	—	28	1.3	1.3	1.3	1.1
With	52	20	28	1.0	1.0	0.9	1.1

(b) Categories and Items Not Expected to be Subject to the 10% Consumption Tax Rate

Reduced tax rate (8%)	Tax-exempt
Cereals, fish & seafood, meats, dairy products & eggs, vegetables & seaweeds, fruits, oils, fats & seasonings, cakes & candies, cooked food, beverages (not including alcoholic beverages), newspapers	Rent, medical treatment, delivery fees in national & public hospital, nursing care, school fees (including kindergarten fees and PTA membership fees), school textbooks, package tours to overseas, insurance premiums, charges (registered stamps, permanent registration, passport, driving license)

Notes: 1. Figures in (2) (a) are calculated using items and weights in the 2010-base CPI and assuming that the tax hike is fully passed on to prices.

2. In addition to categories and items listed as tax-exempt under the Consumption Tax Act, the right column in (2) (b) includes package tours to overseas, since a large part of services making up the price of such tours are not domestic transactions, and PTA membership fees, which are not considered compensation.

Sources: Cabinet Office; Ministry of Internal Affairs and Communications.

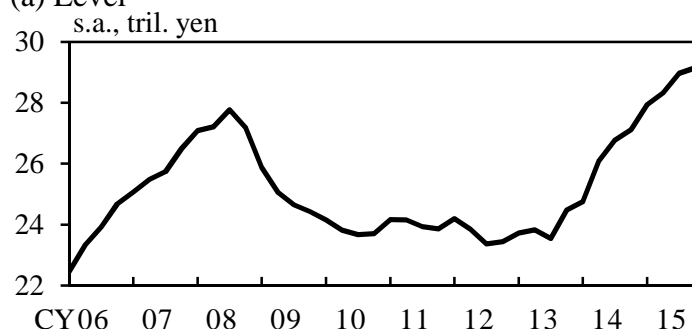
## Lags Between Orders and Shipments for Business Fixed Investment

(1) Type of Machinery in the Machinery Orders by Shipment Lead Time

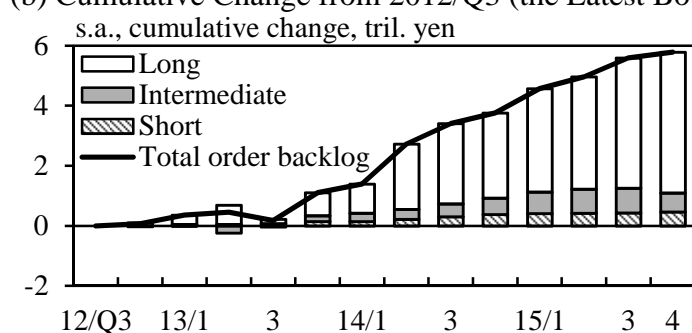
Classification	Shipment lead time	Example of type of machinery	Share in CY 2014
Long	More than 6 months	Boilers and power units, generators, aircraft, ships, railway vehicles	46.9%
Intermediate	2 to 4 months	Construction machinery, metal cutting machines, internal combustion engines, semiconductor making equipment	38.4%
Short	0 to 1 month	Associated electronic equipment, pneumatic and hydraulic equipment, motor vehicles	14.8%

(2) Total Order Backlog in the Machinery Orders

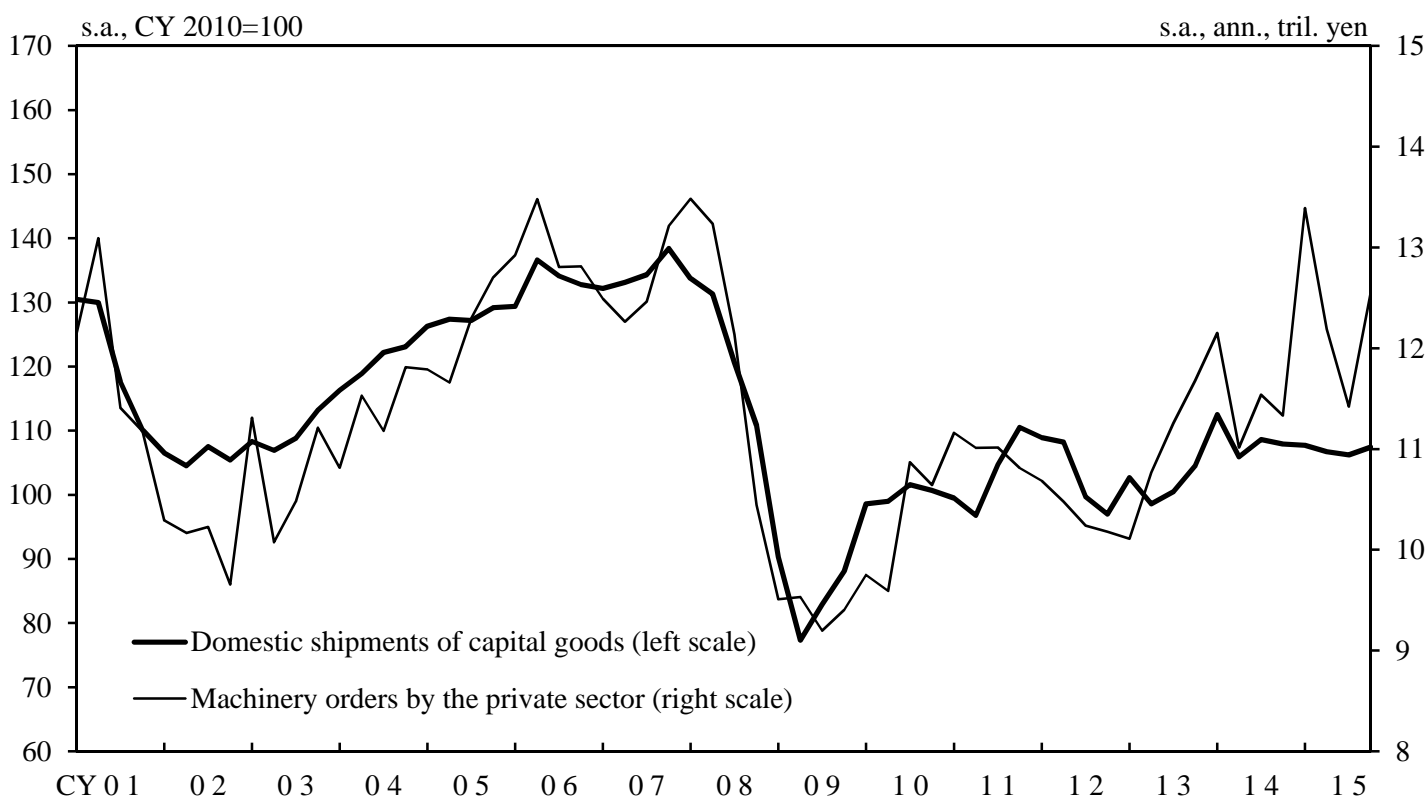
(a) Level



(b) Cumulative Change from 2012/Q3 (the Latest Bottom)



(3) Machinery Orders by the Private Sector and Domestic Shipments of Capital Goods



Notes: 1. Shipment lead times in (1) are based on Hori *et al.* (2014), "Business Fixed Investment Implied by Leading Indicators" (available in Japanese only). Shares in CY 2014 are in terms of total order.

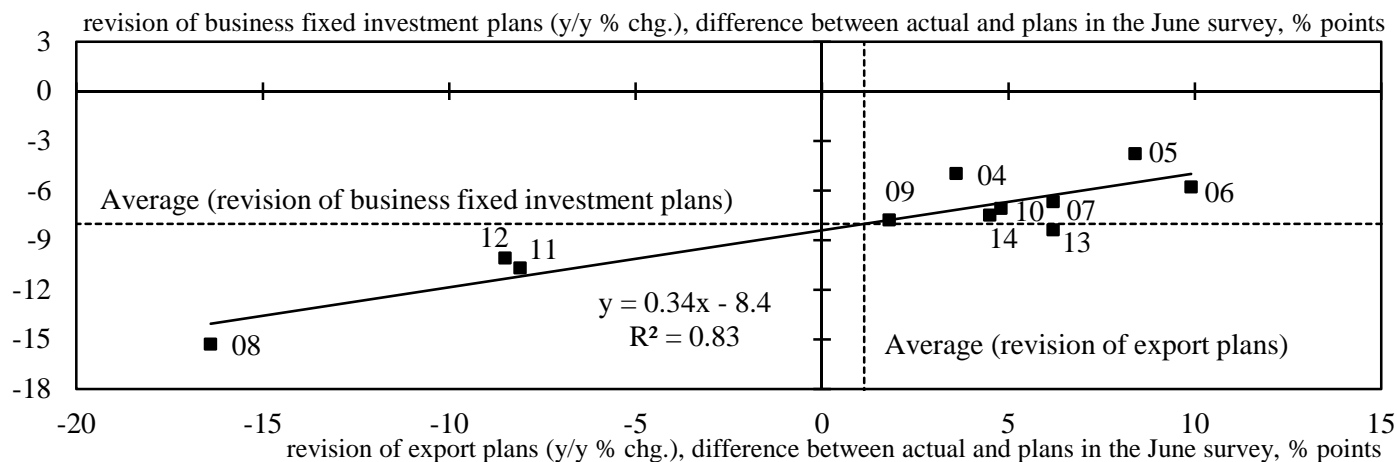
2. Figures for 2015/Q4 are October-November averages.

Sources: Cabinet Office; Ministry of Economy, Trade and Industry; Hori *et al.* (2014), "Business Fixed Investment Implied by Leading Indicators" (in Japanese).

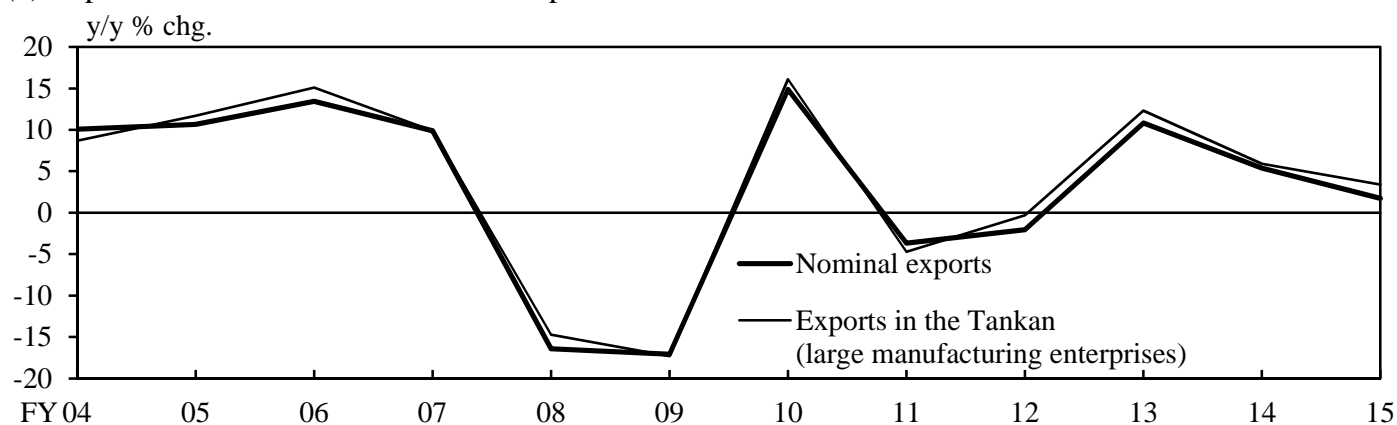


## Revision Patterns of Export and Investment Plans (Large Manufacturing Enterprises)

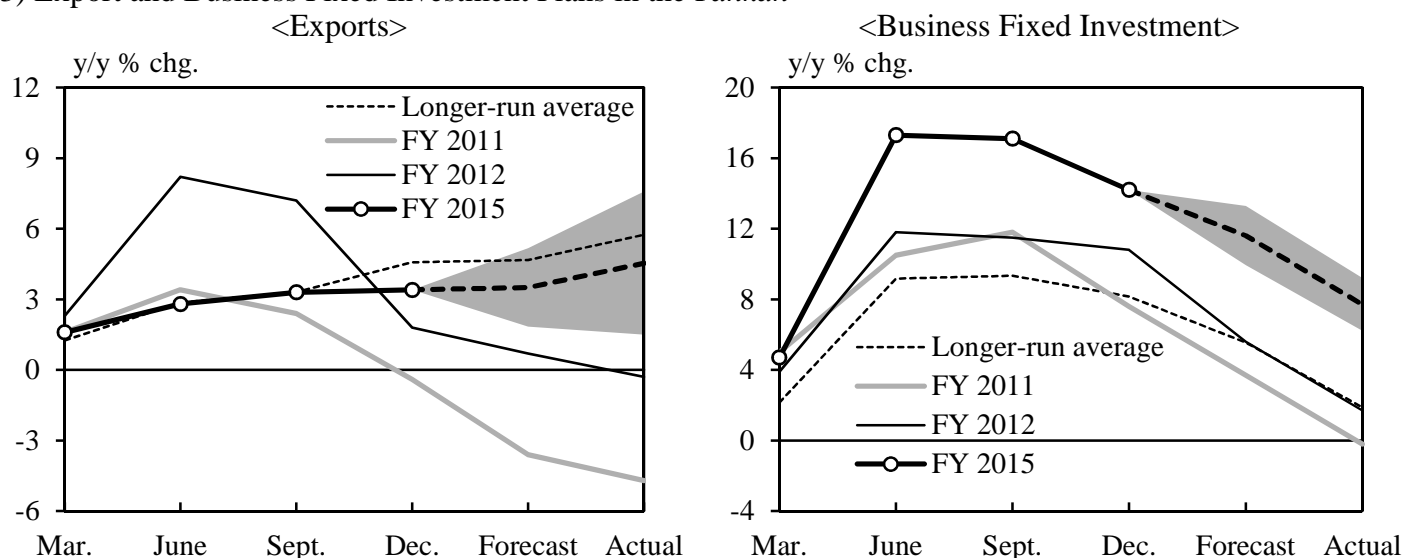
### (1) Revision Patterns of Export and Business Fixed Investment Plans in the *Tankan* (FY 2004-14)



### (2) Exports in the *Tankan* and Nominal Exports in the Trade Statistics



### (3) Export and Business Fixed Investment Plans in the *Tankan*



Notes: 1. Figures for business fixed investment include software investment and exclude land purchasing expenses.

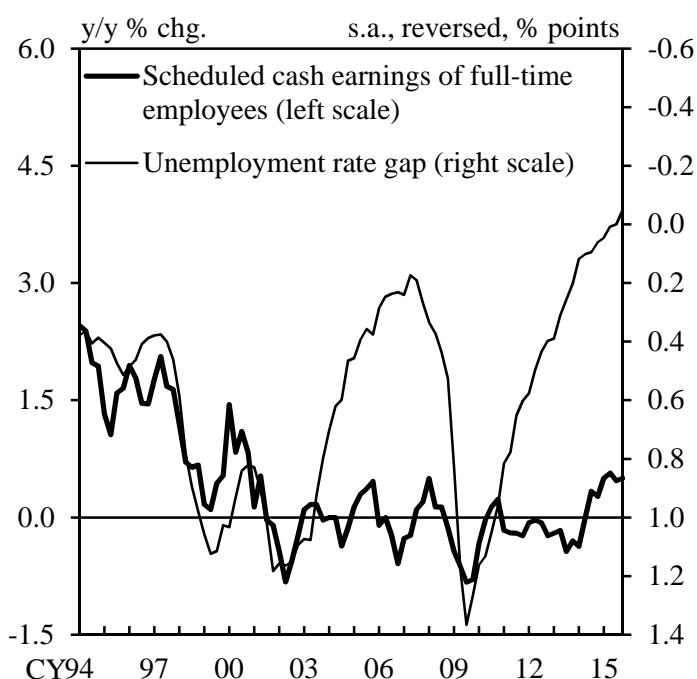
2. In (2), the figure for nominal exports for fiscal 2015 is the April-December average, and the figure for exports in the *Tankan* for fiscal 2015 is based on plans in the December survey.

3. Forecast and Actual figures for fiscal 2015 are estimates based on regressing either Forecast (figures in the March survey of the following year) or Actual (figures in the June survey of the following year) on plans in the December survey. The observation period is fiscal 2004-14, and fiscal 2008 is excluded as an outlier.

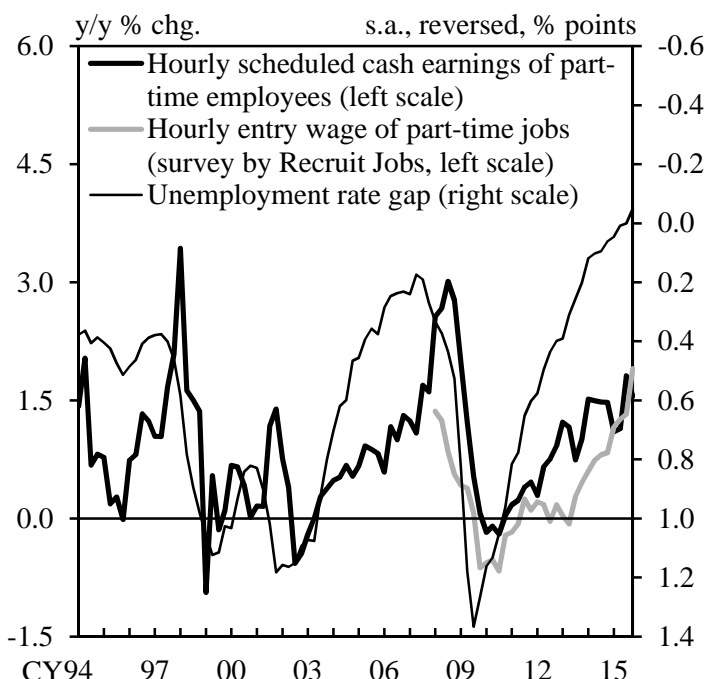
Longer-run averages are based on the values in the observation period. Shaded areas indicate 1 standard error bands.

## Labor Market Tightness and Wages

(1) Labor Market Tightness and Scheduled Cash Earnings of Full-Time Employees

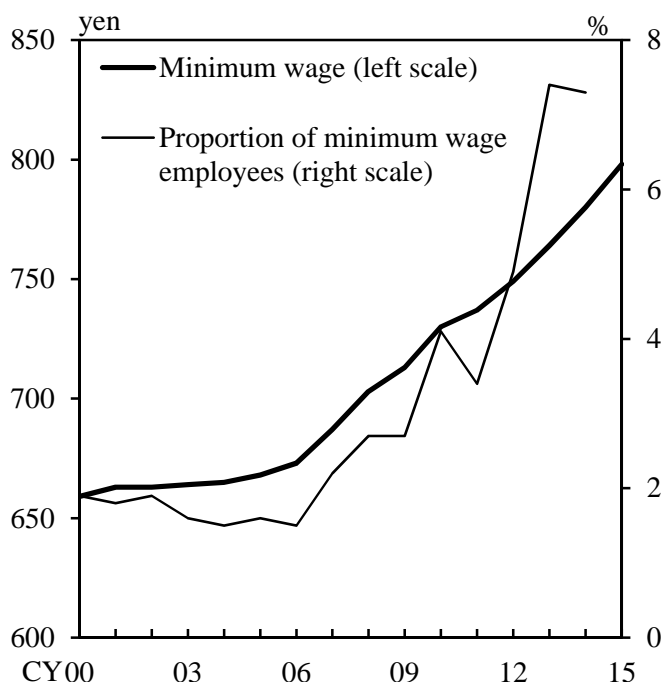


(2) Labor Market Tightness and Hourly Scheduled Cash Earnings of Part-Time Employees

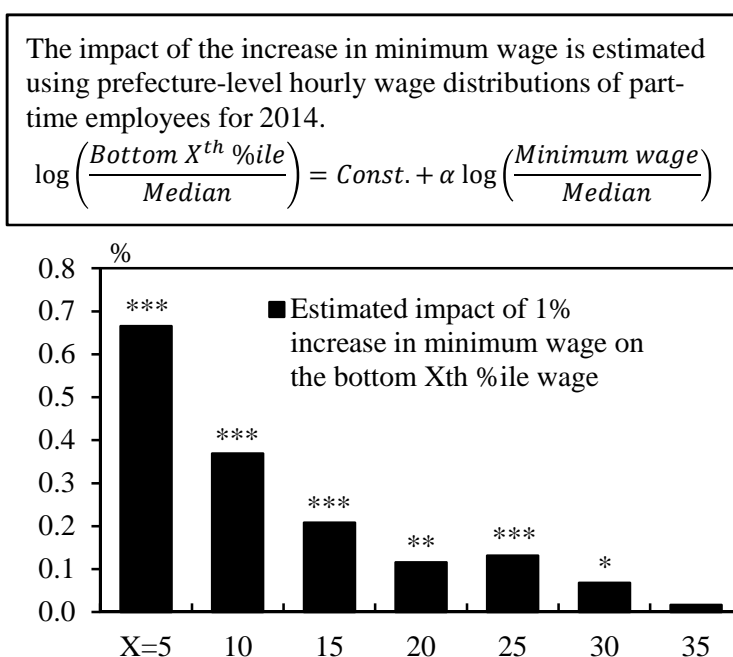


Notes: 1. Figures based on the Monthly Labour Survey for 2015/Q4 are October-November averages.  
 2. The unemployment rate gap is estimated by the Research and Statistics Department, Bank of Japan.  
 3. The hourly entry wage of part-time jobs (survey by Recruit Jobs) is for the three largest metropolitan areas.

(3) Minimum Wage and Proportion of Minimum Wage Employees



(4) Estimated Impact of a Minimum Wage Increase



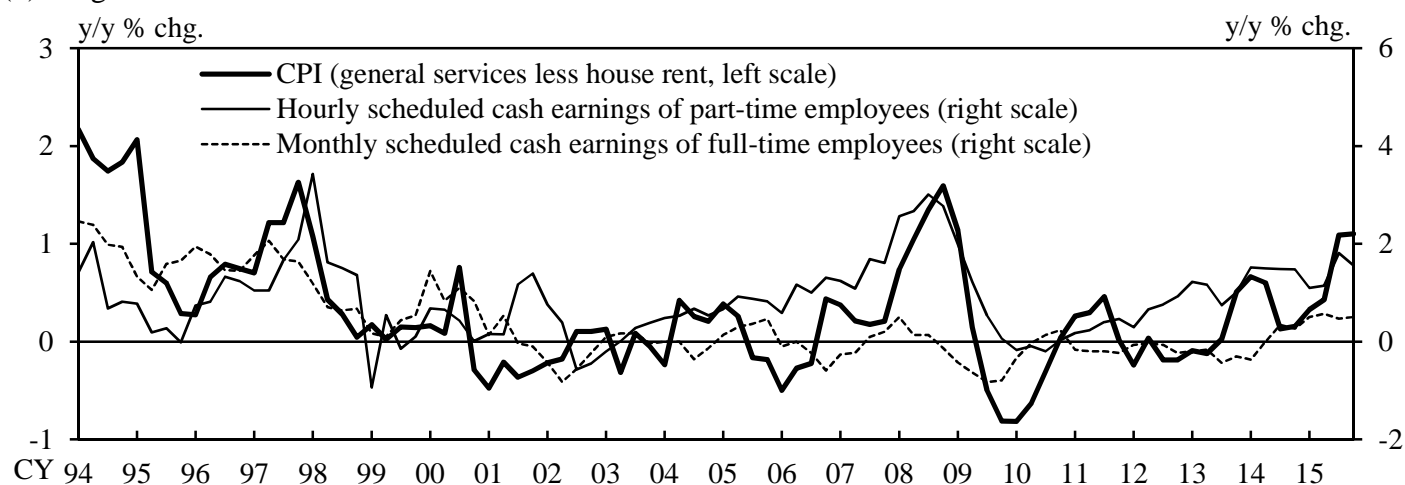
Notes: 1. The proportion of minimum wage employees is defined as the proportion of employees whose wages in a particular year were below the new minimum wage level set later in that year. Figures are based on (a) establishments with fewer than 30 employees for most industries, and (b) establishments with fewer than 100 employees for other industries, including manufacturing.

2. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

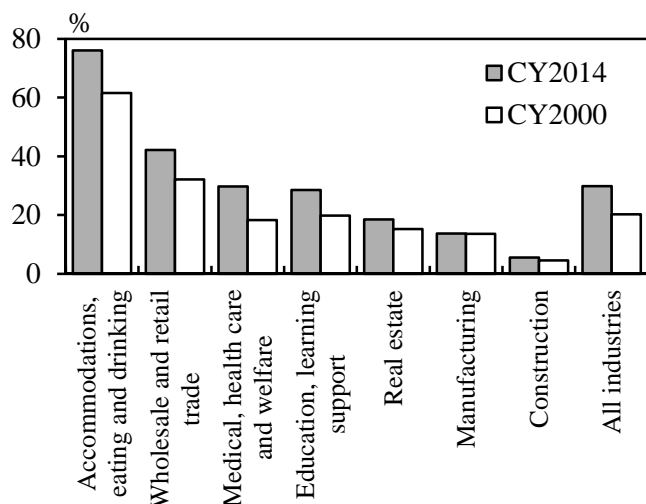
Sources: Ministry of Health, Labour and Welfare; Ministry of Internal Affairs and Communications; Recruit Jobs Co., Ltd., "Report of Average Hourly Wage for Part-Time Job When Recruiting."

## Wages of Part-Time Employees and Service Prices

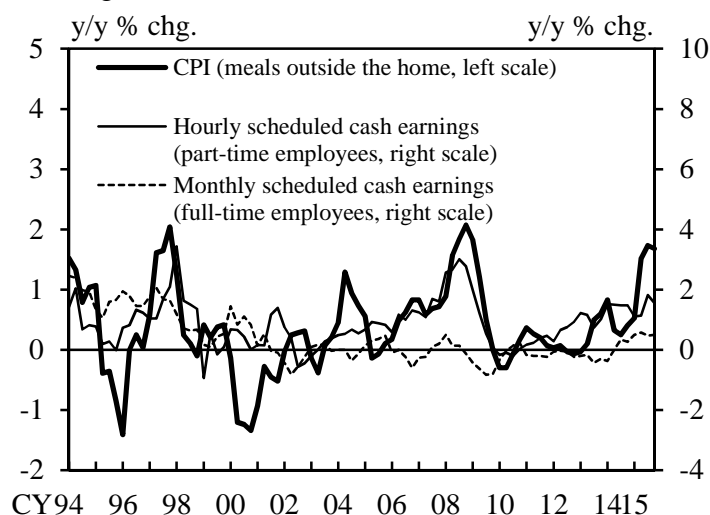
### (1) Wages and Service Prices in the Private Sector



### (2) Share of Part-Time Employees by Industry



### (3) Wages and Food Service Prices



### (4) Correlations Between Wages and Service Prices in the Private Sector

CPI general services subcategory	CPI weight (per 10,000)	Correlation coefficient (1994/Q1-2015/Q3)		Correlation coefficient (2004/Q1-2015/Q3)	
		Hourly scheduled cash earnings of part-time employees	Scheduled cash earnings of full-time employees	Hourly scheduled cash earnings of part-time employees	Scheduled cash earnings of full-time employees
Services related to clothing	27	0.71	0.18	0.86	0.11
Meals outside the home	532	0.59	0.04	0.72	0.05
Admission & game charges	138	0.42	0.35	0.41	0.13
Service charges for repairs & maintenance	185	0.35	0.64	0.62	0.25
Hotel charges	107	0.32	0.27	0.27	0.50
Lesson fees	106	0.25	0.64	0.79	0.08
Tutorial fees	97	0.13	0.56	0.38	0.12
Personal care services	118	0.12	0.86	0.17	0.16
General services (less house rent)	2,043	0.53	0.63	0.78	0.24

Notes: 1. The correlation coefficients in (4) are calculated using the year-on-year rates of change in the quarterly data for each service subcategory and scheduled cash earnings for part-time/full-time employees in all industries. Scheduled cash earnings for part-time employees are on an hourly basis.

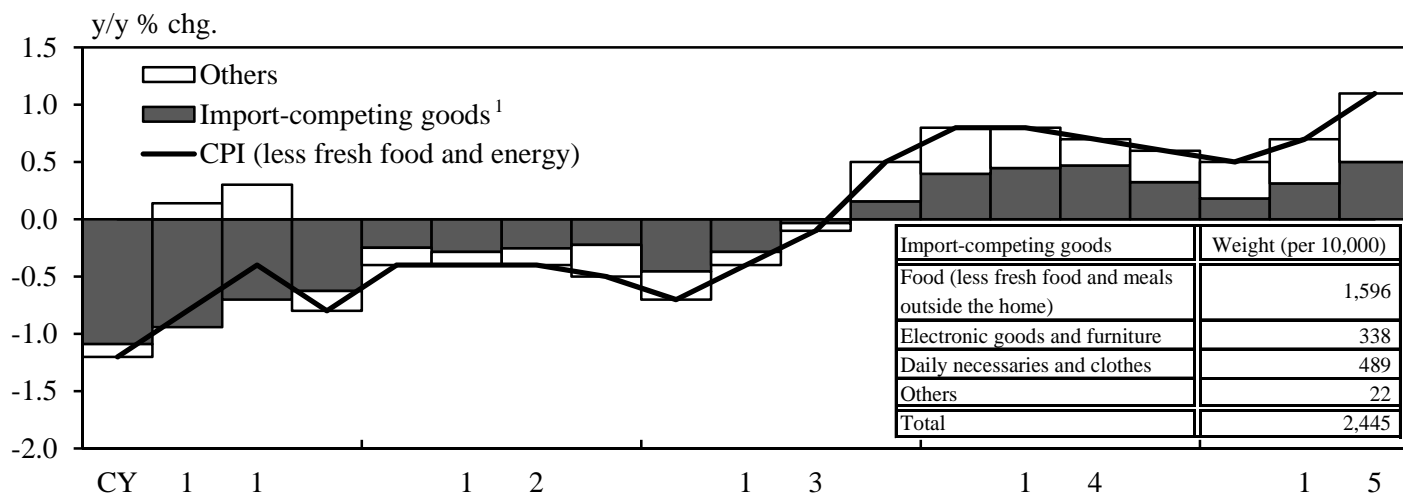
2. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate.

3. Figures for 2015/Q4 are October-November averages.

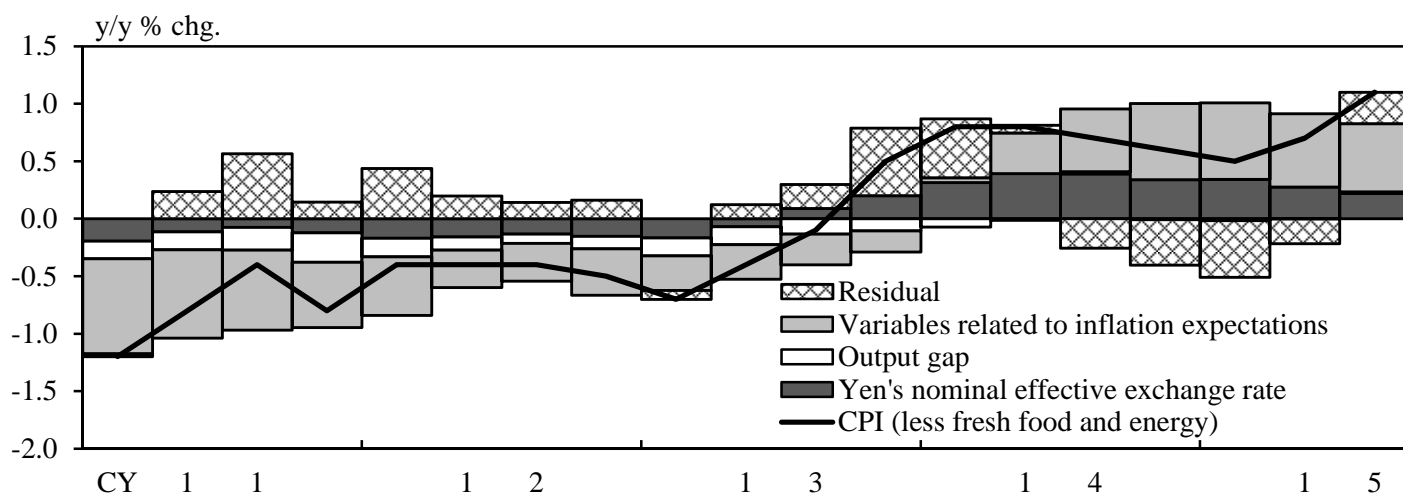
Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare.

## Effects of Exchange Rates on the CPI (1)

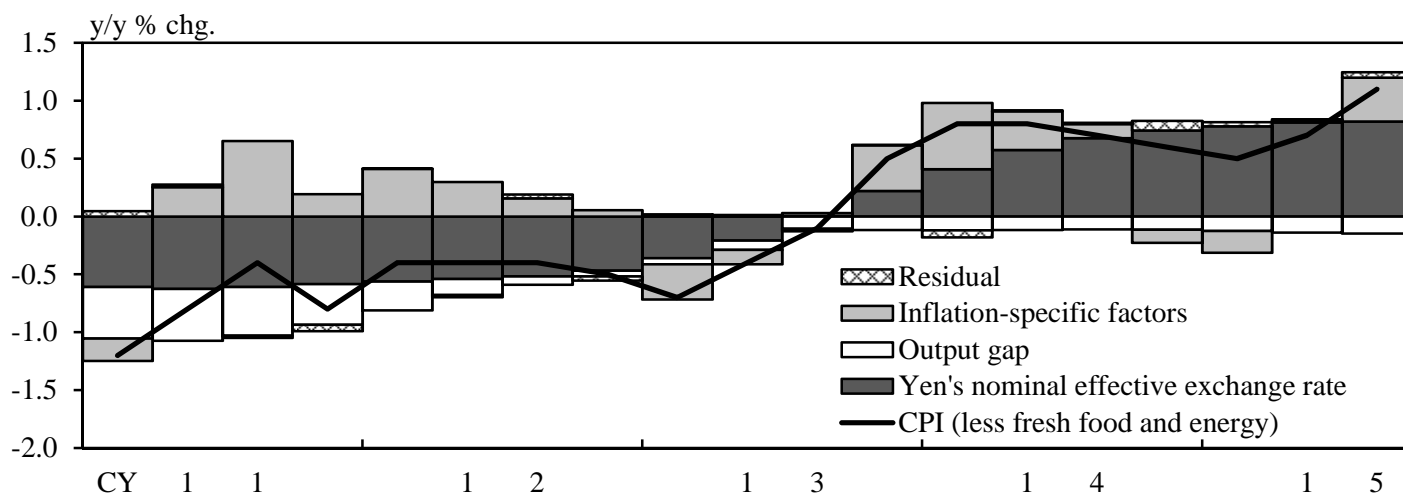
(1) Breakdown of Changes in the CPI (Less Fresh Food and Energy)



(2) Single Equation Approach<sup>2</sup>



(3) VAR Model Approach<sup>3</sup>



Notes: 1. Goods categories whose import share or pass-through rate of input prices is above 20%.  
 2. Figures are calculated using the estimation results shown in Box Chart 7 (1). The variables related to inflation expectations consist of inflation expectations, lag of the dependent variable, and a constant.  
 3. Figures are calculated using the VAR model estimated in Box Chart 7 (2).  
 4. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.  
 5. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate.

Sources: Ministry of Internal Affairs and Communications; Cabinet Office; BIS; Consensus Economics Inc., "Consensus Forecasts," etc.

## Effects of Exchange Rates on the CPI (2)

(1) Single Equation Approach<sup>1</sup>

&lt; Estimation Equation &gt;

CPI (less fresh food and energy)  
(y/y % chg.)

= c (constant)

+  $\alpha$  × output gap (2-quarter lag, %)

+  $\beta$  × medium- to long-term inflation expectations  
(6 to 10 years ahead, %)

+  $(1-\beta)$  × lag of the dependent variable  
(4-quarter average, %)

+  $(\gamma) \times (-1)$  yen's nominal effective exchange rate  
(q/q, Almon lag, %)

&lt; Estimation Results &gt;

	CPI (less fresh food and energy)	
c	-0.31 ***	-0.37 ***
$\alpha$	0.07 ***	0.11 ***
$\beta$	0.32 ***	0.37 ***
$1-\beta$	0.68 ***	0.63 ***
$\gamma$	0.10 ***	-
Adj. R <sup>2</sup>	0.90	0.87
S.E.	0.31	0.36

The estimation period is 1991/Q1 - 2015/Q3.

\*\*\* denotes statistical significance at the 1% level.

(2) VAR Model Approach<sup>2</sup>

(Estimation Model: Trivariate VAR)

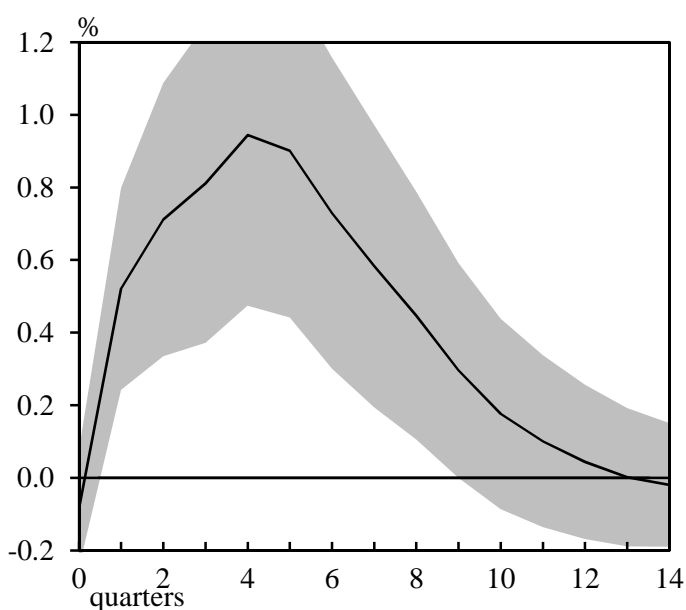
Shock identification is based on Cholesky decomposition in the following order.

&lt; 1. Yen's nominal effective exchange rate, 2. Output gap, 3. CPI (less fresh food and energy) &gt;

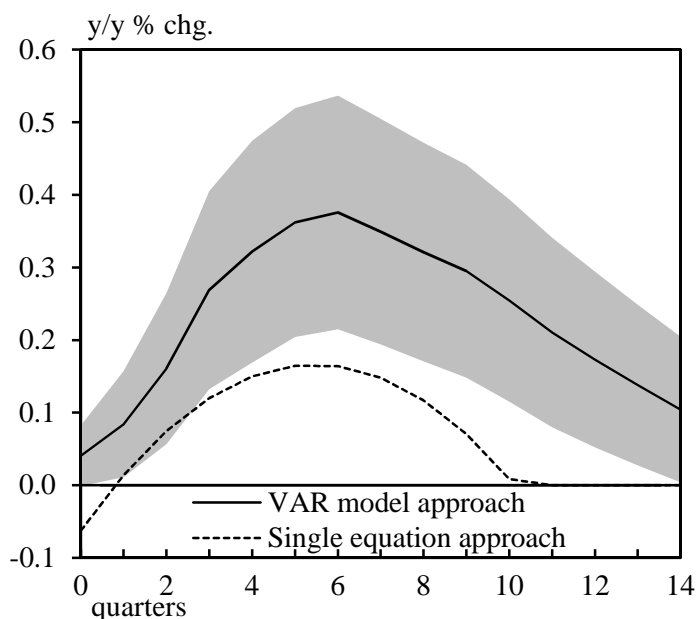
The estimation period is 1991/Q1 - 2015/Q3.

Responses to a 10-percent yen depreciation shock

(a) Output Gap



(b) CPI (Less Fresh Food and Energy)



Notes: 1. The maximum lag length for the yen's nominal effective exchange rate is 10 quarters. The parameter  $\gamma$  is the sum of parameters estimated for lags from 0 to 10 quarters.

2. Except for the output gap, variables in the estimation are quarter-on-quarter changes.

Shaded areas indicate 75% percentile bands.

3. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.

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

Sources: Ministry of Internal Affairs and Communications; Cabinet Office; BIS;

Consensus Economics Inc., "Consensus Forecasts," etc.

## Economic Assessment by Region (Regional Economic Report)

Region	Assessment in October 2015	Changes from the previous assessment	Assessment in January 2016
Hokkaido	The economy has been recovering moderately.	⇒	The economy has been recovering moderately.
Tohoku	The economy has been recovering moderately.	⇒	The economy has continued to recover moderately, although production has been affected mainly by the slowdown in emerging economies.
Hokuriku	The economy has continued to recover.	⇒	The economy has continued to recover.
Kanto-Koshinetsu	The economy has continued to recover moderately, although exports and production have been affected mainly by the slowdown in emerging economies.	⇒	The economy has continued to recover moderately, although exports and production have been affected mainly by the slowdown in emerging economies.
Tokai	The economy has continued to recover steadily, due to a significant increase in business fixed investment and to a pick-up in housing investment and private consumption, although exports and production have been affected mainly by the slowdown in emerging economies.	↗	The economy has been expanding at a moderate pace.
Kinki	The economy has been recovering, although exports and production have been affected by the slowdown in emerging economies.	↘	The economy has been recovering moderately, although exports and production have been affected by the slowdown in emerging economies.
Chugoku	The economy has been recovering moderately.	⇒	The economy has been recovering moderately.
Shikoku	The economy has continued to recover moderately.	⇒	The economy has continued to recover moderately.
Kyushu-Okinawa	The economy has been recovering moderately.	⇒	The economy has been recovering moderately.

Note: The Regional Economic Report (Summary) is available on the Bank of Japan's web site (<http://www.boj.or.jp/en/research/brp/rer/rer160118.htm/>).

Source: Bank of Japan.