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Bank of Japan

# **Outlook for Economic Activity and Prices**

April 2016

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

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### Summary

- Japan's economy has continued its moderate recovery trend, although exports and production have been sluggish due mainly to the effects of the slowdown in emerging economies. The outlook through fiscal 2018 envisages that, although sluggishness is expected to remain in exports and production for the time being, 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 beginning of fiscal 2017.<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 during 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 through fiscal 2017 with the previous ones, GDP growth is somewhat lower, influenced mainly by weaker exports that reflect the slowdown in overseas economies. The projected rate of increase in the CPI for fiscal 2016 is lower, mainly reflecting downward revisions in projections for GDP growth and wage developments.
- As for the conduct of monetary policy, the Bank will continue with "Quantitative and Qualitative Monetary Easing (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.

<sup>1</sup> The text of "The Bank's View" was decided by the Policy Board at the Monetary Policy Meeting held on April 27 and 28, 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; that is, fiscal 2018. 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 0.8 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 around the middle of 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 April 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 its moderate recovery trend, although exports and production have been sluggish due mainly to the effects of the slowdown in emerging economies. Overseas economies have continued to grow at a moderate pace, but the pace of growth has somewhat decelerated mainly in emerging economies. In this situation, the pick-up in exports has recently paused. On the domestic demand side, business fixed investment has been on a moderate increasing trend as corporate profits have been at high levels. Against the background of steady improvement in the employment and income situation, private consumption has been resilient, although relatively weak developments have been seen in some indicators. Meanwhile, the pick-up in housing investment has recently paused and public investment has been on a moderate declining trend, albeit remaining at a high level. Reflecting these developments in demand both at home and abroad, industrial production has continued to be more or less flat, and most recently it has been somewhat affected by the Kumamoto Earthquake. Business sentiment has generally stayed at a favorable level but has become cautious, mainly reflecting the slowdown in emerging economies. Financial conditions are highly 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. Although inflation expectations appear to be rising on the whole from a somewhat longer-term perspective, they have recently weakened.

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

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

Looking ahead, although sluggishness is expected to remain in exports and production for the time being, 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.

Against the backdrop of such outlook, the growth rate during the projection period is expected to be generally above its potential, although fluctuations due to a front-loaded



increase and subsequent decline in demand prior to and after the consumption tax hike planned in April 2017 are expected.<sup>5</sup>

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 highly accommodative, with real interest rates being negative throughout the projection period, and continue stimulating the economy.<sup>6</sup>

Second, overseas economies are projected to remain in a state of slight deceleration for the time being, but 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 has been on a moderate declining trend but is expected to gradually level off, mainly reflecting the earlier implementation of the budget for fiscal 2016, and then, from the middle of the projection period, it is likely to be more or less flat, partly because investment related to hosting the Olympic Games will become large.

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.

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<sup>5</sup> Japan's potential growth rate is estimated to be in the range of 0.0-0.5 percent 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.

<sup>6</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.

Given these assumptions, economic activity during the projection period can be elaborated on as follows. In fiscal 2016, although exports are likely to continue exhibiting sluggishness for the time being, they are expected to head toward a moderate increase thereafter on the back of emerging economies moving out of their deceleration phase. Corporate profits are expected to maintain their uptrend, especially in the nonmanufacturing sector, and be at record levels. In this situation, business fixed investment is projected to continue its uptrend, additionally pushed up by a further decline in real interest rates with the Bank's monetary easing. Private consumption is projected to rise moderately, led by steady improvement in the employment and income situation including continued tightening of labor market conditions and by the positive effects of energy price declines through raising real income. In addition, in the second half of the fiscal year, the front-loaded increase in demand prior to the consumption tax hike scheduled in April 2017 is likely to push up domestic private demand.<sup>7</sup> Reflecting these developments in demand at home and abroad, the economic growth rate is expected to be above its potential.

In fiscal 2017, while household spending is likely to be negatively affected by the front-loaded spending prior to the consumption tax hike, exports are projected to continue increasing moderately owing to overseas economic growth, and business fixed investment is likely to maintain its moderate increasing trend, supported by accommodative financial conditions, heightened growth expectations, and increases in Olympic Games-related demand. Reflecting these developments, the economy is projected to maintain somewhat positive growth, although at around a level below the potential growth rate.

In fiscal 2018, the growth rate is expected to exceed its potential again, as exports are expected to increase moderately and domestic private demand is likely to increase, while the effects of the demand decline after the consumption tax hike will dissipate.

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<sup>7</sup> The quantitative effects of the two rounds of consumption tax hikes on GDP growth in each fiscal year are re-estimated, partly because of the publication of the *Annual Report on National Accounts* for fiscal 2014: an increase of around 0.8 percentage point for fiscal 2013, a decrease of around 1.3 percentage points for fiscal 2014, around 0.0 percentage point for fiscal 2015, an increase of around 0.4 percentage point for fiscal 2016, a decrease of around 0.6 percentage point for fiscal 2017, and an increase of around 0.1 percentage point for fiscal 2018. 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.

Through the projection period, Japan's potential growth rate is expected to follow a moderate increasing trend, pushing up the economy's growth pace in the medium to long term.

Comparing the current projections through fiscal 2017 with the previous ones, GDP growth is somewhat lower, influenced mainly by weaker exports that reflect the slowdown in overseas economies.

## **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 beginning of fiscal 2017. 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 during fiscal 2017.<sup>8</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 through fiscal 2017 with the previous ones, the projected rate of increase in the CPI for fiscal 2016 is lower, mainly reflecting downward revisions in projections for GDP growth and wage developments.

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, is more or less unchanged, as the tightening of labor market conditions has continued while an improvement in manufacturers' capacity utilization rates has been delayed against the background of the slowdown in emerging

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<sup>8</sup> On a simple assumption that the rise in the consumption tax scheduled in April 2017 will be fully passed on to taxable items, its effect on the year-on-year rate of change in the CPI for fiscal 2017 is estimated to be 1.0 percentage point.

economies.<sup>9</sup> Going forward, the tightening of labor market conditions is likely to continue, accompanied by a moderate decline in the unemployment rate, and upward pressure on wages such as part-time employees' hourly cash earnings is projected to heighten. Capacity utilization rates also are expected to increase again as exports and production are likely to pick up. Against this backdrop, the output gap is expected to move into positive territory and gradually increase further from the second half of fiscal 2016, albeit with fluctuations due to the front-loaded increase in demand prior to the consumption tax hike. Thus, upward pressure on wages and prices due to the tightening of supply-demand conditions is likely to steadily increase.

Second, medium- to long-term inflation expectations have weakened recently, although they appear to be rising on the whole from a somewhat longer-term perspective. Market indicators and survey results regarding inflation expectations have weakened recently. On the other hand, firms have maintained their willingness to increase prices since last year in spite of low all-item CPI inflation due to the decline in energy prices. Consumers seem to be accepting the price increases, benefitting from an improvement in the employment and income situation. Against this backdrop, the year-on-year rate of change in the CPI for all items excluding fresh food and energy has remained positive for 30 consecutive months, and been above 1 percent recently. In the meantime, this year's labor-management wage negotiations are likely to result in a base-pay rise for the third consecutive year, but one that would be somewhat less than last year's rise, mainly at large firms, due mainly to the low all-item CPI inflation. Nonetheless, employees have benefitted from the high corporate profits mainly through bonuses, and wage increases have been spreading to small firms on the back of the tightening of labor market conditions. These developments indicate that the high corporate profits have continued to positively affect employee income, and the mechanism in which inflation rises moderately accompanied by wage increases has been operating steadily. Nevertheless, given that corporate profits have been at record high levels

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<sup>9</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.

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

Third, through import prices, low international commodity prices including crude oil prices will exert downward pressure on consumer prices. The past yen depreciation is likely to continue to have positive effects on CPI inflation indirectly through an improvement in the output gap and a rise in inflation expectations, while its direct positive effects are likely to wane gradually.

### **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. Developments in emerging and commodity-exporting economies including China are especially uncertain, due in part to negative effects of low commodity prices. Against this backdrop, global financial markets have remained volatile and due attention still needs to be paid to the possibility that business confidence will be negatively affected. 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. It is likely that 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 will

depend 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 invest their ample cash flow arising from their profits at record levels; for example, 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, it is uncertain how the pace of increase in wages and inflation expectations will be affected during a prolonged period of low energy prices and no visible rises in annual all-item CPI inflation. On this point, it is crucial how firms' price-setting stance will develop in this fiscal year, depending on consumers' perception of wage developments and their associated attitude toward price increases.

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 particular concern about the continued dull responses of administered prices, some services prices, and housing rent, which might 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>10</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 during fiscal 2017 and thereafter gradually shift to a growth path that sustains such inflation in a stable manner.

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. At the same time, a risk of a gradual pullback in financial intermediation brought about by downward pressure on financial institutions' profits due to

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<sup>10</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."

low interest rates is judged as not significant, because financial institutions have sufficient capital bases that will allow them to continue healthy risk taking.<sup>11</sup> However, 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 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>11</sup> For more details, see the April 2016 issue of the Bank's *Financial System Report*.



## Forecasts of the Majority of Policy Board Members

y/y % chg.

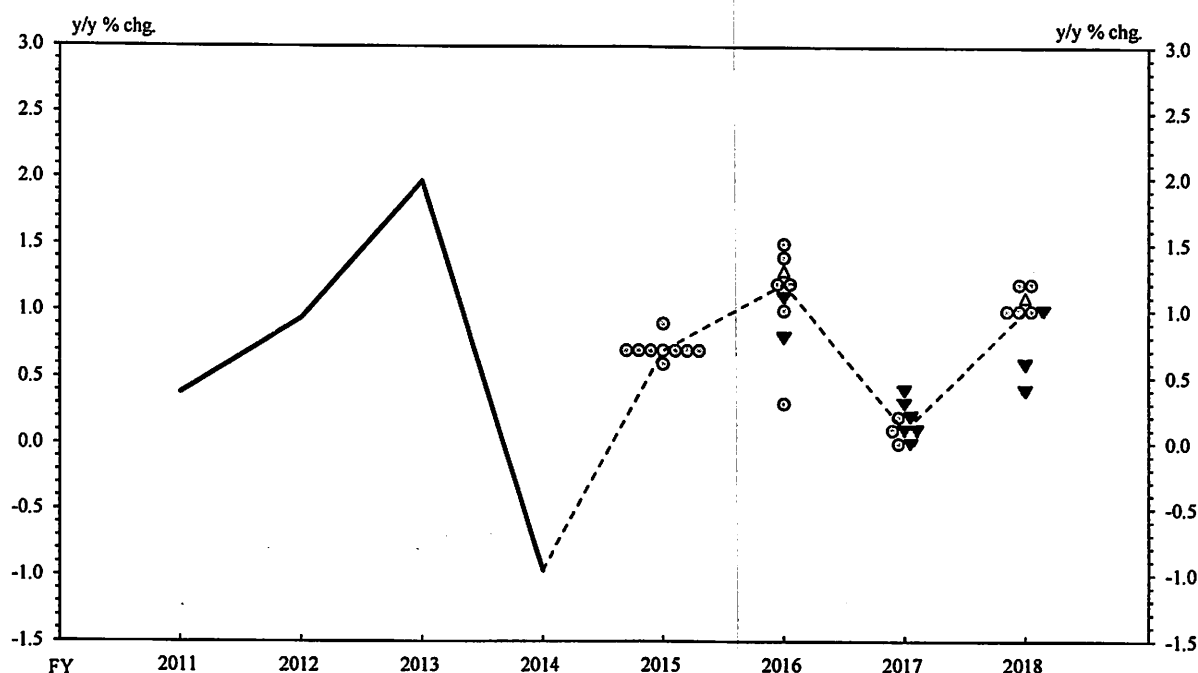
	Real GDP	CPI (all items less fresh food)	Excluding the effects of the consumption tax hikes
Fiscal 2015	+0.7 to +0.7 [+0.7]	0.0	
Forecasts made in January 2016	+1.0 to +1.3 [+1.1]	0.0 to +0.2 [+0.1]	
Fiscal 2016	+0.8 to +1.4 [+1.2]	0.0 to +0.8 [+0.5]	
Forecasts made in January 2016	+1.0 to +1.7 [+1.5]	+0.2 to +1.2 [+0.8]	
Fiscal 2017	0.0 to +0.3 [+0.1]	+1.8 to +3.0 [+2.7]	+0.8 to +2.0 [+1.7]
Forecasts made in January 2016	+0.1 to +0.5 [+0.3]	+2.0 to +3.1 [+2.8]	+1.0 to +2.1 [+1.8]
Fiscal 2018	+0.6 to +1.2 [+1.0]	+1.0 to +2.1 [+1.9]	

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

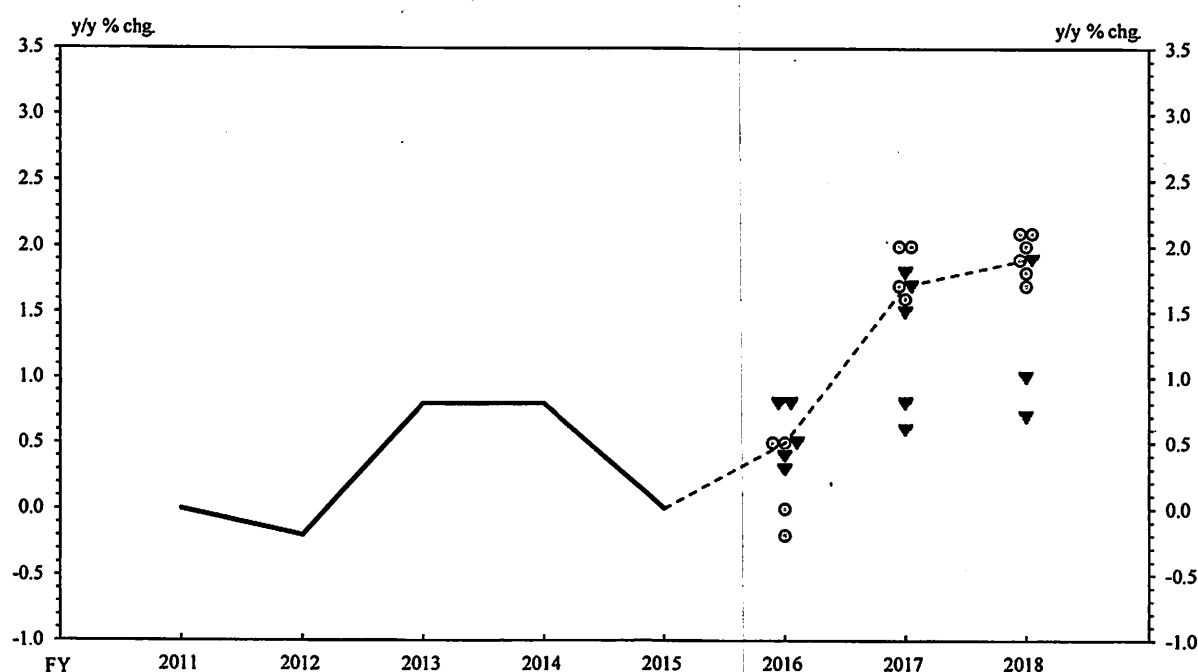
2. The forecasts of the majority of the Policy Board members are constructed as follows: each Policy Board member's forecast takes the form of a point estimate -- namely, the figure to which he or she attaches the highest probability of realization. These forecasts are then shown as a range, with the 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.
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; that is, fiscal 2018. 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 0.8 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 around the middle of 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 simply 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.
6. The CPI (all items less fresh food) for fiscal 2015 is an actual figure.

## 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  $\odot$ ,  $\Delta$ , and  $\nabla$  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:  $\odot$  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  $\nabla$  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>12</sup>**

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

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

Looking back at Japan's economy since the January 2016 Outlook Report, it continued its moderate recovery trend, although exports and production were sluggish due mainly to the effects of the slowdown in emerging economies, with a virtuous cycle from income to spending being maintained. Real GDP increased in the July-September quarter of 2015 by an annualized rate of 1.4 percent but decreased in the October-December quarter by an annualized rate of minus 1.1 percent, due mainly to the declines in private consumption and exports (Chart 1).<sup>13</sup> The output gap -- which captures the utilization of labor and capital -- is more or less unchanged at around 0 percent. The labor input gap has been on a moderate improving trend due to the tightening of labor market conditions, while the capital input gap (i.e., the manufacturing sector's capacity utilization gap) has been negative, reflecting the slowdown in emerging economies (Chart 3).

The projections for GDP growth, particularly for fiscal 2016, are revised somewhat downward from the January Outlook Report, in light of the negative effects of the overseas economies' slowdown brought about mainly by emerging economies and volatile developments in financial markets, such as the appreciation of the yen and fall in stock prices. Nevertheless, the underlying scenario is unchanged and envisages that the virtuous cycle in the economy should continue, driven by corporate profits at record high levels supported by low crude oil prices. A further decline in real interest rates following the introduction of "QQE with a Negative Interest Rate" and an increase in Olympic Games-related demand are also expected to help the virtuous cycle continue. Thus, in spite

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<sup>12</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 April 27 and 28, 2016.

<sup>13</sup> By GDP component, private consumption contracted substantially due to sluggish sales of seasonal merchandise resulting from the irregularly warm winter and to the sample bias of the *Family Income and Expenditure Survey*, which constitutes source data for GDP consumption. Exports also have shown weaker developments, mainly in capital goods and parts and IT-related goods (specifically, parts for new models of smartphones). Meanwhile, real GNI has increased at a faster pace than real GDP, mainly because low crude oil prices have brought about increases in trading gains (Chart 2).

of the downward revisions, mainly in projections for foreign demand and the manufacturing sector's activity, Japan's economy is expected to generally follow a growth path that is above its potential, driven by domestic demand and the nonmanufacturing sector's activity, albeit with fluctuations due to the consumption tax hike.<sup>14</sup>

Details of the outlook for each fiscal year are as follows. The economy is projected to continue to see a slower recovery during the first half of fiscal 2016, mainly because of the overseas economies' slowdown driven by emerging economies. Exports and industrial production are expected to tend to be more or less flat, with some fluctuations resulting from the earthquake and from supply-chain disruptions for automobiles this past winter. Corporate profits are likely to remain at high levels, although their pace of improvement, particularly in the manufacturing sector, is likely to slow down temporarily. Against this backdrop, business fixed investment is projected to maintain its moderate increasing trend, underpinned by nonmanufacturers, but investment by manufacturers is likely to show relatively weak developments temporarily. Private consumption is expected to be resilient, supported by the improvement in employee income and the decline in energy prices. The government also supports private consumption by providing temporary benefits to pensioners. In the second half of fiscal 2016, the GDP growth rate is projected to accelerate, because (1) the effects of the slowdown in emerging economies are expected to gradually wane and exports and corporate profits are expected to gradually return to an improving trend, and (2) the front-loaded increase in demand prior to the consumption tax hike is expected in household spending (private consumption and housing investment) and a part of business fixed investment. Reflecting these developments, it is projected that the output gap will be more or less unchanged at around 0 percent for some time, but then move into positive territory and increase further toward the end of fiscal 2016.

In fiscal 2017, exports are expected to continue their moderate increase on the back of economic recovery overseas, and business fixed investment is projected to maintain its

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<sup>14</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 real GDP. For details, see Box 1.

moderate increasing trend underpinned by the monetary easing effects and Olympic Games-related demand. Meanwhile, household spending is likely to markedly decline, reflecting the negative effects of the front-loaded spending prior to the consumption tax hike and the effects of the decline in real income. Therefore, overall growth is likely to slow down significantly from the previous fiscal year, registering only slight positive growth that is below the potential. Reflecting these developments, the output gap is expected to remain positive but slightly deteriorate temporarily, particularly in the first half of the fiscal year.

In fiscal 2018, export growth is likely to accelerate somewhat due to the improvement in overseas economies. Domestic private demand is projected to increase firmly, driven by the positive effects of the monetary easing and Olympic Games-related demand and by the dissipation of the negative effects of the front-loaded spending prior to the consumption tax hike. Reflecting these increases in demand at home and abroad, the GDP growth rate is projected to exceed the potential again and the output gap is likely to increase in positive territory.

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

### ***Government Spending***

Public investment has been on a moderate declining trend, albeit remaining at a high level (Chart 4). Going forward, it is likely to gradually level off, albeit with some fluctuations, reflecting the progress of the disaster relief construction planned in the supplementary budget for fiscal 2015 and the earlier implementation of the budget for fiscal 2016. Thereafter, it is expected to remain more or less flat, albeit with some fluctuations, due to a gradual increase in demand for maintenance and replacement of social infrastructure and an increase in investment related to hosting the Olympic Games.

### ***Overseas Economies***

Overseas economies have continued to grow at a moderate pace, but the pace of growth has somewhat decelerated mainly in emerging economies (Chart 5). The Purchasing Managers' Index (PMI) and global trade volume indicate that manufacturers' economic activity has

been relatively weak recently, especially in emerging and commodity-exporting economies (Charts 6 and 10 [1]). Looking at developments by major region, the U.S. economy has been on a recovery trend on the back of firmness in household spending supported by a favorable employment and income situation, although the industrial sector has lacked momentum. The European economy also has continued to recover moderately, supported by an increase in private consumption. 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 state of deceleration, as the low commodity prices have been protracted and as an increase in IT-related demand has been tepid. In some of these economies, however, the effects of economic stimulus measures have materialized.

In terms of the outlook, overseas economies are projected to remain in a state of slight deceleration, mainly reflecting the slowdown in emerging economies, through the first half of fiscal 2016. Thereafter, the pace of growth in overseas economies is expected to accelerate moderately as the positive effects of the recovery in advanced economies spread to emerging economies and as adjustments in excess production capacity in emerging economies gradually progress. However, given that the potential (or 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>15</sup> Thus, firms' restrained stance toward fixed investment expenditure is likely to be seen globally toward the second half of the projection period. Compared to the time when the January 2016 Outlook Report was published, global growth projections by the International Monetary Fund (IMF) have been revised downward (Chart 5).

By major region, the U.S. economy is expected to continue its firm recovery driven by domestic private demand, reflecting accommodative financial conditions, although the industrial sector is likely to lack momentum for the time being. The European economy is

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<sup>15</sup> In particular, there appears to be considerable excess in capital stock in the energy sector, which had accumulated when commodity prices rose or remained at high levels since 2000.

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, driven mainly by the nonmanufacturing sector, as authorities proactively carry out both fiscal and financial measures to support economic activity, although the growth pace is expected to be somewhat slower, reflecting the manufacturing sector's deceleration. Other emerging economies and commodity-exporting economies are expected to remain in a state of deceleration for the time being, but then the growth rates are likely to gradually increase, due mainly to the effects of the economic stimulus measures and the recovery in advanced economies.

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

The pick-up in exports has paused recently due to the effects of the slowdown in emerging economies (Chart 7 [1]). While automobile-related exports, mainly those to the United States and Europe, have increased firmly, albeit with fluctuations resulting from the supply-chain disruptions caused by a steel plant accident, capital goods exports have continued to be relatively weak because of capital stock overhang in emerging economies such as China and commodity-exporting economies. IT-related export growth also has been sluggish recently, mainly due to weakness in smartphone-related exports to East Asia (Charts 7 [2], 8, and 9).

Exports as a whole are projected to remain more or less flat through the first half of fiscal 2016, mainly due to the slowdown in overseas economies, the recent appreciation of the yen, and the effects of the earthquake. While automobile-related exports are likely to continue increasing firmly -- albeit with temporary fluctuations -- reflecting manufacturers' shift of production sites back to Japan and an increase in shipments to advanced economies, capital goods exports and IT-related exports, particularly to emerging and commodity-exporting economies, are projected to be relatively weak (Chart 9). From the second half of fiscal 2016, the effects of the slowdown in emerging economies are expected to gradually wane and global trade volume and Japan's export share are both likely to head toward

improvement.<sup>16</sup> Thus, Japan's exports are projected to moderately increase again (Chart 10).

Looking at the global trade volume and Japan's export share in more detail, the global trade volume has tended to grow at a slower pace than global economic growth since 2011, and thus its ratio to global GDP has followed a declining trend. It is likely that the global trade ratio will continue falling for some time, given the excess production capacity in emerging economies such as China and commodity-exporting economies and accompanying globally weak developments in the manufacturing sector. Through the end of the projection period, however, China's "rebalance" from investment- and manufacturing sector-driven growth to consumption- and service sector-driven growth is expected to progress. The capital stock overhang in commodity-exporting economies is likely to gradually recede. Thus, the global trade ratio is likely to gradually stop declining. Japan's export share in global trade is also likely to modestly rise after being more or less unchanged for the time being. This is because demand for capital goods, in which Japan has a comparative advantage, is expected to recover after being relatively weak globally, as the effects of the slowdown in emerging economies are likely to gradually wane. The automakers' shift of production sites back to Japan will also support Japan's exports. However, Japan's exports are expected to tend to mark a fall rather than a clear increase throughout the projection period, because the decline in expected growth in emerging and commodity-exporting economies, protracted low commodity prices, and the resulting excess in material- and energy-related production capacity are likely to continue exerting downward pressure on global demand, especially for capital goods.

Meanwhile, the travel receipts that are categorized as exports of services in the *Balance of Payments* have followed a clear improving trend on the back of a robust increase in the number of foreign visitors (Chart 11 [1] and [2]). These receipts are likely to maintain their moderate improving trend and continue underpinning exports, supported by governmental

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<sup>16</sup> The volume of global trade is calculated by adding up real imports in each country.



measures to attract foreign tourists to Japan in view of the country hosting the 2020 Tokyo Olympics.<sup>17</sup>

Imports have remained on a moderate increasing trend (Chart 7 [1]). In the outlook, they are expected to maintain this trend, mainly reflecting developments in domestic demand, albeit with temporary fluctuations due to the consumption tax hike.

### ***External Balance***

The nominal current account surplus has continued its expanding trend, reflecting a substantial surplus in the income balance and an improvement in the nominal trade balance due to the low crude oil prices (Chart 11 [3]).<sup>18,19</sup> It is expected to maintain this trend, reflecting an improvement in the nominal trade balance in line with the aforementioned developments in exports and imports and also reflecting a moderate increase in the surplus of the income balance.<sup>20</sup>

### ***Industrial Production***

Industrial production has continued to be more or less flat, against the background of the slowdown in emerging economies, inventory adjustments, and the supply-chain disruptions

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<sup>17</sup> For the economic impact of hosting the 2020 Tokyo Olympics on Japan's economy, see the Bank's research paper "Economic Impact of the Tokyo 2020 Olympic Games" released in January 2016.

<sup>18</sup> The income balance consists of the primary income balance, which includes employee income and investment income (e.g., dividends and interest), and the secondary income balance, which includes income transfers among the governments and households (e.g., donated capital and funds transfer). The main contributor to the increase in the income balance in recent years is the primary income balance boosted by investment income.

<sup>19</sup> The surplus in the income balance has declined somewhat recently, reflecting the recent developments in the foreign exchange market.

<sup>20</sup> Regarding the outlook for the domestic saving-investment balance, which by definition equals the current account balance, the deficit in the general government is expected to decrease markedly, partly due to an increase in tax revenue after the consumption tax hike, while relatively large excess saving in the private sector will be more or less unchanged, particularly in the corporate sector. Therefore, excess saving as a whole is expected to follow a rising trend through the projection period.

caused by a steel plant accident (Charts 12 [1] and 13). Most recently, it has been somewhat affected by the earthquake. Transport equipment production has been on a pick-up trend with an increase in shipments to the United States and Europe and a shift of production sites from overseas back to Japan, despite being affected temporarily by the earthquake and the supply-chain disruptions due to a steel plant accident (Chart 12 [2]). In contrast, the production of machinery (i.e., "general-purpose, production and business oriented machinery" in the *Indices of Industrial Production*) and electronic parts and devices has been relatively weak recently, due mainly to the slowdown in emerging economies.

Industrial production is projected to remain more or less flat for the time being due to continued effects of the slowdown in emerging economies, but thereafter is likely to follow a moderate increasing trend, reflecting an increase in final demand at home and abroad, although with some fluctuations resulting from the consumption tax hike.

### ***Corporate Profits***

Corporate profits have been at high levels. According to the *Financial Statements Statistics of Corporations by Industry, Quarterly*, while an improvement in manufacturers' profits has paused due to the effects of the slowdown in overseas economies and the current appreciation of the yen, nonmanufacturers' profits have followed a clear rising trend, partly because the decline in crude oil prices has led to an improvement in the terms of trade (Chart 14). Thus, the ratio of current profits to sales as a whole has been at a record high level. Business sentiment has generally stayed at a favorable level on the back of corporate profits remaining at high levels, but large manufacturing firms in particular, which are vulnerable to the slowdown in emerging economies, have become cautious (Chart 15).

The pace of improvement in corporate profits is expected to temporarily slow down through the first half of fiscal 2016, especially in the manufacturing sector, because the slowdown in overseas economies will lead to sluggish exports and the recent appreciation of the yen will restrain dividend and interest income from overseas business. Thereafter, albeit with some fluctuations due to the consumption tax hike, corporate profits are projected to follow an improving trend, given that the improvement in the terms of trade due to the past decline in

crude oil prices will continue to have positive effects and a rise in demand at home and abroad is expected to raise sales volume growth.

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

Business fixed investment has been on a moderate increasing trend as corporate profits have been at high levels. While the aggregate supply of capital goods, a coincident indicator, is more or less unchanged with temporary fluctuations, 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*, another coincident indicator, shows that business fixed investment in nominal terms has been trending moderately upward (Chart 16).<sup>21</sup> According to the March 2016 Short-Term Economic Survey of Enterprises in Japan (*Tankan*), although the slowdown in emerging economies has negatively affected business sentiment and corporate profits, especially in the manufacturing sector, firms including manufacturers have generally continued to plan to increase fixed investment firmly (Charts 17 and 18). For example, it is likely that business investment increased by 7.3 percent in fiscal 2015 (on the basis close to GDP definition; business investment -- including software investment, but excluding land purchasing expenses -- in all industries including the financial industry) (Chart 18 [2]). This provisional result is the highest among past March *Tankan* surveys since fiscal 2006. Business fixed investment plans for fiscal 2016 are generally in line with the average of plans for the coming fiscal year released in March *Tankan* surveys (Chart 17). Reflecting the firms' positive fixed investment stance, machinery orders and construction starts (in terms of planned expenses for private and non dwelling construction), as leading indicators, maintain a firm increasing trend when temporary fluctuations are smoothed out (Chart 19).

Business fixed investment, mainly in large manufacturing firms, is likely to be affected by the slowdown in overseas economies through the first half of fiscal 2016. However, throughout the projection period, it is projected to continue to see a moderate uptrend on the

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<sup>21</sup> The aggregate supply of capital goods measures business fixed investment for which shipments are completed. The *Financial Statements Statistics of Corporations by Industry, Quarterly* records assets in a construction in progress (CIP) account as business fixed investment, regardless of the status of shipments.

back of (1) corporate profits at high levels, (2) extremely stimulative financial conditions such as low interest rates and accommodative lending attitudes, and (3) improvement in growth expectations, although business fixed investment corresponding to the capital stock cycle is projected to see a gradual slowing in its pace toward the end of the projection period.<sup>22</sup> In light of corporate profits or cash flow, firms are judged as having maintained their restrained fixed investment stance due to sluggish growth expectations since the global financial crisis, but their stance is expected to gradually become more positive through the second half of the projection period in response to a modest rise in growth expectations.<sup>23</sup>

From the viewpoint of the capital stock cycle, which is 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, it is deemed that capital stock has been increasing moderately at a pace consistent with the expected growth rate, which is about the same as the recent growth potential estimate in the range of 0.0-0.5 percent (Chart 20). The projected pace of accumulation is consistent with the expected growth rate that slightly exceeds growth potential and reflects the continued highly accommodative financial conditions under "QQE with a Negative Interest Rate" and a gradual increase in Olympic Games-related demand.

### ***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, 22, 24, and 25). The pace of increase in the *Labour Force Survey*-based number of employees has become somewhat higher recently. 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 March *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, which is close to the

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<sup>22</sup> For recent developments in business fixed investment by enterprise size, see Box 2.

<sup>23</sup> For the background to firms' prolonged cautious fixed investment stance despite their profits at record high levels, see "Corporate Profits and Business Fixed Investment: Why are Firms So Cautious about Investment?" Bank of Japan Review Series (2016-E-2).

structural unemployment rate.<sup>24</sup> Labor force participation rates -- especially those for women and the elderly -- have increased moderately 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, the number of employees is likely to continue increasing and the supply-demand conditions in the labor market are expected to further tighten.

On the wage side, total cash earnings per employee excluding special cash earnings have risen moderately (Chart 23).<sup>25</sup> Although there is continued downward pressure from an increase in the ratio of part-time workers, the year-on-year rate of increase in scheduled cash earnings as a whole has accelerated moderately, as the rate of increase in scheduled cash earnings of full-time employees has accelerated at a moderate pace. Hourly cash earnings are also assessed as continuing a moderate improving trend, disregarding fluctuations in special cash earnings. In particular, hourly cash earnings of part-time employees, which are responsive to labor market conditions, have continued to show relatively high growth, additionally supported by an increase in minimum wages.

In the spring annual labor-management wage negotiations, which have large impacts on full-time employees' cash earnings, base pay is expected to be revised upward for the third consecutive year but to somewhat less of an extent than last year, especially in large firms,

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<sup>24</sup> A 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.

For developments in long-term unemployment, see "Long-Term Unemployment in Japan," Bank of Japan Research Laboratory Series (No. 16-E-1).

<sup>25</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 and wage-related statistics other than the *Monthly Labour Survey*, there seems to have been no significant change in the uptrend of wages, including winter bonuses in fiscal 2015.

mainly because of the low all-item CPI inflation, reflecting energy price declines. Nevertheless, nominal cash earnings for overall employees for fiscal 2016 are likely to continue increasing moderately, although at a somewhat slower pace than envisaged in the January Outlook Report, considering that (1) firms are eager to reward their employees with bonuses and other compensation in view of their profits being at high levels and (2) full-time employees' cash earnings at small firms and hourly cash earnings of part-time employees are more responsive to supply-demand conditions in the labor market than full-time employees' cash earnings at large firms.<sup>26</sup> From fiscal 2017, a rise in base pay is expected to accelerate again against the backdrop of an improvement in inflation expectations, which partly reflects the leveling off of energy prices, and hourly cash earnings of part-time employees are also projected to increase further in response to the marked tightening of labor market conditions. Under this situation, the rate of increase in overall employees' hourly cash earnings is likely to accelerate moderately. At the end of the projection period, it is expected to accelerate to almost the same level as trend labor productivity growth in nominal terms (Chart 42 [2]).<sup>27</sup>

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 positive effects of energy price declines on real income, although relatively weak developments have been seen in some indicators. The major factors that have brought about some weakness in private consumption since the end

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<sup>26</sup> For determinants of wages of full-time employees by industry and enterprise size, see Box 3.

<sup>27</sup> The decline in labor share is expected to gradually level off toward the end of the projection period (Chart 24 [2]). However, firms' expected growth rates have risen 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.

of last year are temporary: the *Family Income and Expenditure Survey* suffered from a temporary sample bias; the irregularly warm winter led to sluggish sales of seasonal merchandise; and a steel plant accident disrupted the automobile supply-chain. When excluding such temporary factors, private consumption is judged as generally remaining resilient.

The synthetic consumption index compiled by the Cabinet Office and the "consumption activity index," which is calculated by combining various sales and supply-side statistics, both gauge consumption activity in a comprehensive manner and have been more or less unchanged when disregarding the aforementioned temporary factors such as weather (Chart 26).<sup>28</sup> Turning to individual indicators, the supply-side statistics indicate that the aggregate supply of consumer goods has increased moderately (Chart 27 [2]). With regard to sales at retail stores including department stores, supermarkets, and convenience stores, the effects of the irregularly warm winter have remained in some components.<sup>29</sup> Increasing cautiousness in consumer sentiment and declining stock prices also appear to affect those sales (Chart 28).<sup>30</sup> With regard to durable goods sales, automobile sales have been affected by supply-chain disruptions, and sales of household electrical appliances are judged as being more or less unchanged when smoothing out fluctuations (Chart 29 [1]). Services consumption such as dining-out and travel has been increasing firmly recently (Chart 29 [2]). On the other hand, the index of consumption expenditure (excluding some items such as housing-related expenditure) in the *Family Income and Expenditure Survey* has continued to show relatively weak developments reflecting the sample bias, thus deviating from the supply-side statistics and sales statistics (Chart 27 [2]). Confidence indicators related to private consumption have deteriorated somewhat, due in part to the decline in stock prices since the beginning of the year (Chart 30).

In the outlook, the propensity to consume is expected to be more or less unchanged, when smoothing out the fluctuations stemming from the consumption tax hike, and private

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<sup>28</sup> For details, see the Bank's research paper "The Consumption Activity Index" to be released in May 2016.

<sup>29</sup> For the effects of weather conditions on private consumption, see Box 4.

<sup>30</sup> Retail sales value reported in the *Current Survey of Commerce* includes automobile sales by dealers; thus, supply-chain disruptions for automobiles affect the retail sales value.

consumption is projected to generally remain resilient, reflecting the developments in real disposable income (Chart 26). Specifically, in fiscal 2016, the decline in stock prices since the beginning of the year will exert negative wealth effects on private consumption. However, real disposable income is likely to increase, because of a rise in employee income, public provisions of temporary benefits to pensioners, and the decline in energy prices. In addition, the front-loaded increase in demand prior to the consumption tax hike is likely to grow, mainly in the second half of the fiscal year. Thus, private consumption growth in fiscal 2016 is expected to be relatively high. In fiscal 2017, private consumption is likely to turn to a decline, albeit smaller than that seen in fiscal 2014, because of a subsequent decline in demand and a drop in real income after the consumption tax hike. In fiscal 2018, private consumption is projected to increase steadily as real disposable income is likely to rise again, mainly driven by employee income.

The pick-up in housing investment has paused recently, partly reflecting a sluggish increase in demand for condominiums due to higher prices (Chart 31). Housing investment is expected to resume its pick-up amid the continued steady improvement in the employment and income situation. It also is supported by the front-loaded spending prior to the consumption tax hike and a decline in interest rates on housing loans due to the introduction of "QQE with a Negative Interest Rate."<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

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<sup>31</sup> Among the effects of the consumption tax hike planned in April 2017, the front-loaded increase and subsequent decline in housing investment is likely to be smaller than that accompanying the consumption tax hike in April 2014, given that (1) a part of the front-loaded demand responding to 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.



rate of increase in the services producer price index (SPPI, excluding international transportation) has decelerated somewhat, mainly for fixed investment-related items, and currently is in the range of 0.0-0.5 percent (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: the further decline in energy prices due to the decline in crude oil prices and the further increase in non-energy prices (Charts 34 and 38 [1]). Looking at this in detail, developments in prices for goods as a whole have been improving moderately, as the contribution of prices for food products, durable goods, and clothes has continued to be positive and the negative contribution of petroleum product prices has lessened recently, albeit marginally. The rate of increase in general service prices has continued its moderate accelerating trend, albeit with some fluctuations. This is because, while housing rent has continued to decline slightly, prices for other services -- including accommodation and housework-related services -- have increased, mainly reflecting the recent wage increases. 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.

The recent developments in the indicators for capturing the underlying trend in the CPI are as follows (Chart 35).<sup>32</sup> The year-on-year rate of increase in the CPI for all items excluding energy in addition to fresh food had continued its steady rising trend since last spring, and has been above 1 percent recently. The rate of increase in the trimmed mean has been around 0.5 percent recently, albeit with some fluctuations.<sup>33</sup> Looking at annual price changes across all items (less fresh food), the share of price-increasing items minus the share of price-decreasing items has been at a relatively high level, clearly surpassing the recent peak in 2008. The mode has continued rising moderately after bottoming out at the beginning of 2013, while the weighted median has been more or less flat, albeit slightly

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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 simply 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).

positive.<sup>34</sup> The latter is relatively susceptible to a decline in housing rent because of its large weight (Chart 36).

The year-on-year rate of change in the GDP deflator has been around 1.5-2.0 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 continued to be around 0 percent, due in part to the effects of the decline in energy prices.

### *The Environment surrounding Prices*

In the outlook for prices, the main factors that determine inflation rates are assessed as follows. First, the output gap has been more or less unchanged at around 0 percent recently (Charts 3 [1] and 38 [2]). It is likely to remain so for the time being, due mainly to sluggishness in the capital input gap (i.e., the manufacturing sector's capacity utilization gap). In the second half of fiscal 2016, the output gap is expected to move into positive territory and clearly increase further, owing to both labor and capital factors, with an improvement in exports and production as well as an increase in domestic demand resulting from the front-loaded increase in demand prior to the consumption tax hike. In the first half of fiscal 2017, the output gap is projected to slightly deteriorate temporarily, reflecting the negative effects of the front-loaded spending prior to the consumption tax hike; from the second half, however, it is likely to resume its increase within positive territory, with the economic growth rate being above its potential.

Second, medium- to long-term inflation expectations have weakened recently, although they appear to be rising on the whole from a somewhat longer-term perspective. Market indicators and survey results regarding inflation expectations have weakened recently (Charts 39 and 40). On the other hand, as suggested by the indicators of the underlying trend in the CPI inflation, firms have maintained their willingness to increase prices since last year in spite of low all-item CPI inflation due to the decline in energy prices.

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<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.

Consumers seem to be accepting the price increases, benefitting from an improvement in the employment and income situation. These developments indicate that the mechanism in which inflation rises moderately accompanied by wage increases has been operating steadily. 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 -- that is, fiscal 2018 -- and this is 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 slightly more than minus 1 percentage point in the first half of fiscal 2016, and then the negative contribution is estimated to start to lessen in the second half and reach around 0 percentage point around the middle of 2017. As for the effects of foreign exchange rates on consumer prices, the first-round pass-through -- i.e., the direct positive effects of the past yen depreciation on the prices of items that are responsive to exchange rates, such as food products and durable goods -- is likely to moderately wane, due in part to the present appreciation of the yen. On the other hand, the full pass-through -- i.e., the effects including those through indirect channels such as an improvement in the output gap and a rise in inflation expectations -- is likely to operate sustainably.<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 change in the CPI (all items less fresh food and energy) is projected to remain positive at around the current level for some time, and then steadily accelerate to around 2 percent, because the wage-driven cost increase is expected to be

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<sup>35</sup> For the effects of the yen's depreciation on the CPI, see Box 4 in the January 2016 Outlook Report.

reflected in a wide range of prices including services 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 likely to fluctuate around 0 percent in the first half of fiscal 2016, because the positive contributions of items other than fresh food and energy and the negative contributions of energy items are likely to mostly offset each other.<sup>37</sup> Subsequently, it is likely to increase firmly, and reach around 2 percent during fiscal 2017, as the negative contributions of energy items are expected to decrease clearly and the CPI inflation excluding fresh food and energy is projected to accelerate. Thereafter, the rate of change is likely to be around 2 percent on average.

Such projections are made under the same baseline scenario as before that the inflation rate will respond fairly clearly to the improvement in the output gap compared to the past and the Phillips curve will gradually shift upward, reflecting a rise in medium- to long-term inflation expectations (Chart 41). However, compared to the projection made in the January Outlook Report, the projected rate of increase in the CPI for fiscal 2016 is lower, mainly reflecting downward revisions in projections for GDP growth (the output gap) and wage developments.

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: firms try to pass on cost increases due to nominal wage increases by raising sales prices and 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 --

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<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.

<sup>37</sup> In August 2016, the base year for the CPI is scheduled to be changed from 2010 to 2015, and the annual CPI inflation for January 2016 onward will be retroactively revised. Given the recent developments in the Laspeyres chain index calculated by using the weights based on the *Family Income and Expenditure Survey* for 2015, no substantial change will likely be seen in the annual CPI inflation excluding fresh food between the 2010 base and the 2015 base.

are expected to rise moderately, reflecting the tightening of labor market conditions and the rise in inflation expectations. 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 highly accommodative.

With the Bank pursuing "QQE with a Negative Interest Rate," the monetary base has been increasing at a high year-on-year growth rate in the range of 25-30 percent (Chart 43).

Firms' funding costs have been hovering at extremely low levels. The issuance rates for CP and corporate bonds declined further with the Bank pursuing "QQE with a Negative Interest Rate," and have remained at extremely low levels (Chart 44). As for lending rates, while the average interest rates on new loans and discounts have been at historical low levels, benchmark rates for business lending are currently declining and the diffusion index (DI) in the March *Tankan* show a clear decline in borrowing rates in a wide range of firms (Chart 45 [1], [2], and [3]). In these circumstances, interest payments by firms have been at sufficiently low levels compared with their profits (Chart 45 [4]).

With regard to the availability of funds for firms, financial institutions' lending attitudes -- as perceived by large as well as small firms -- have been improving further (Chart 46 [1]). In the March *Tankan*, the DI for large firms exceeded the recent peak of around 2006 and has improved to the level of the second half of the 1990s, whereas the DI for small firms has been at a high level last seen at the end of 1980s. Firms' financial positions have been favorable for both large and small firms (Chart 46 [2]). Various DIs have improved to 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 also has 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 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 remained negative, partly due to a decrease in funding by commodity-related firms of working capital, despite an improvement in issuing conditions due to a decline in interest rates. The year-on-year rate of change in the amount outstanding of corporate bonds has remained negative, partly resulting from the fact that issuers hold ample liquidity and that financial institutions' lending attitudes have been active, although super-long-term corporate bonds have been issued due to the decline in interest rates.

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, risk aversion continued to heighten until mid-February 2016, mainly reflecting the decline in crude oil prices and uncertainty over the Chinese economy. Thereafter, however, global financial markets have regained some calmness, reflecting a rise in crude oil prices following the decline, abatement of uncertainty over the policy actions by the Chinese authorities, and expectations that the pace of the policy interest rate hike in the United States will be more moderate.

Looking at respective financial markets, stock prices declined until mid-February, reflecting the heightening of investors' risk aversion; thereafter, however, they have risen on the whole against the background of the rise in crude oil prices following the decline, the solid U.S. economic indicators, and expectations that the pace of the policy interest rate hike in the United States will be more moderate (Chart 49 [1]).

Yields on 10-year government bonds in the United States had declined toward mid-February; they increased somewhat toward mid-March as a result of the rise in crude oil prices following the decline and a slight abatement of investors' risk aversion. Currently, they are at a level lower than in late January, reflecting expectations over the pace of future rate hikes by the Federal Reserve (Chart 50 [1]). Those in Germany have been declining, albeit with fluctuations, with the additional monetary easing by the European Central Bank (ECB) being implemented. The LIBOR-OIS spreads in the U.S. dollar and euro have generally remained at low levels (Chart 51 [3]). Meanwhile, Japanese banks do not face quantitative constraints on foreign currency funding at this moment, although premiums for U.S. dollar funding through the dollar/yen foreign exchange swap market have been at high levels compared with those seen before last summer due to the tightening in the supply-demand balance (Chart 51 [2]).

Looking at financial markets in Japan, short-term interest rates -- on both overnight and term instruments -- have decreased due to the introduction of the Bank's "QQE with a Negative Interest Rate" and been at about 0 percent or in negative territory (Chart 51 [1]). Yields on treasury discount bills (T-Bills) have declined, remaining in negative territory. Meanwhile, 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 due to the introduction of the Bank's "QQE with a Negative Interest Rate" and have been in negative territory (Chart 50).

Stock prices had fallen relatively substantially toward mid-February, reflecting the heightening of investors' risk aversion, but then increased -- mainly led by a rise in overseas stock prices -- albeit with fluctuations (Chart 49 [1]). In the Japan real estate investment trust (J-REIT) market, prices have increased in response to the decline in long-term interest rates (Chart 49 [2]).

In foreign exchange markets, the yen has appreciated against the U.S. dollar, reflecting the heightening of investors' risk aversion and expectations that the pace of the policy interest

rate hike in the United States will be more moderate (Chart 52). The yen has appreciated against the euro, reflecting the heightening of investors' risk aversion.

### ***Land Prices***

Land prices as a whole have almost stopped declining, and commercial land prices in particular have started to increase. Looking at the *Land Market Value Publication* for 2016 (as of January 1), commercial land prices have started to increase for the first time in eight years (Chart 53). In the three major metropolitan areas (Tokyo, Osaka, and Nagoya), the rate of increase in commercial land prices has accelerated and residential land prices have continued to increase marginally. In nonmetropolitan areas, land prices have continued to decline, but the paces of decline in both commercial and residential land prices have been narrowing.



### **(Box 1) Effects of the Consumption Tax Hikes on Real GDP**

The consumption tax hikes will affect the real GDP 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]). This Outlook Report re-estimates the former effect on private consumption, based on the revised GDP data for fiscal 2014 and the new data accumulated over time, and makes small revisions to the estimates reported in the January 2016 Outlook Report.

Specifically, a simple consumption function is estimated by regressing real consumption of durable goods, which are most affected by a front-loaded increase and subsequent decline in demand prior to and after a consumption tax hike, on the following variables: real income; real net financial assets; and dummy variables that indicate the period of the front-loaded increase in demand and the period of the subsequent decline (on which coefficient restrictions are imposed such that the total front-loaded increase in demand and the total subsequent decline in demand are equal) (Box Chart 1 [2]). The estimation results reveal that (1) the front-loaded increase and subsequent decline in demand for durable goods with respect to the consumption tax hike in 2014 was more sizable than the estimated effects of the consumption tax hike in 1997, even taking account of the difference in the scale of the tax rate hike, and (2) the subsequent decline in demand after the consumption tax hike in 2014 lasted for about two years, substantially longer than formerly supposed. The reasons for such a sizable front-loaded increase in demand and prolonged subsequent decline in demand with respect to the consumption tax hike in 2014 would be that (1) the expiration of support for some widely used computer operating systems also caused demand fluctuations around that time, and (2) a portion of the front-loaded increase in demand prior to the second tax rate hike from 8 percent to 10 percent, which had been scheduled to take place in October 2015, materialized prior to the consumption tax hike in 2014. Both factors are likely to restrain the front-loaded increase in demand that will arise prior to the consumption tax hike scheduled to take place in 2017.

Based on the regression results, this Outlook Report reassesses the prior recognition of the effects of the consumption tax hikes, mainly on durable goods consumption, as follows: (1) the scale of the front-loaded increase and the subsequent decline in demand prior to and after the consumption tax hike in April 2014 was somewhat larger; (2) accordingly, the scale of the front-loaded increase and the subsequent decrease in demand prior to and after the second consumption tax hike in April 2017 will be smaller; and (3) the subsequent decline in demand is prolonged (Box Chart 1 [1]).<sup>38</sup> As a result, it is estimated that the consumption tax hikes will push up the real GDP growth rate for fiscal 2016 by 0.4 percentage point (0.3 percentage point in the January 2016 Outlook Report), push down that for fiscal 2017 by 0.6 percentage point (0.7 percentage point in January 2016), and push up that for fiscal 2018 by 0.1 percentage point.<sup>39</sup> It should be noted that these estimates are subject to a considerable margin of error, given that (1) the above estimation is significantly constrained by the availability of data and is subject to an estimation error, and (2) the effects of the scheduled consumption tax hike in April 2017 are considerably uncertain because the response of households to the consumption tax hike depends on consumer sentiment at the time, product cycles, and many institutional factors.

---

<sup>38</sup> Specifically, taking account of the difference in the scale of the tax rate hike, the front-loaded increase and the subsequent decline in demand prior to and after the consumption tax hike in April 2017 would have been two thirds of the estimated effects of the consumption tax hike in April 2014, but this Outlook Report estimates this at about a half instead of two thirds.

<sup>39</sup> The effects of pushing up the real GDP growth rate for fiscal 2016 are estimated to be larger, compared to the estimation in the January 2016 Outlook Report, because the dissipation of the subsequent decline after the consumption tax hike in April 2014 is partly supposed to occur in fiscal 2016, instead of 2015, and its positive effect on the real GDP growth is expected to somewhat exceed the scale of the downward revision of the front-loaded increase in demand prior to the scheduled consumption tax hike in April 2017.

### **(Box 2) Recent Developments in Business Fixed Investment by Enterprise Size**

Business fixed investment has been increasing steadily over the past three years under large-scale monetary easing with the real interest rate having been lowered significantly below the natural interest rate (Box Chart 2 [1]). By enterprise size, the increase in business fixed investment by large enterprises, having a relatively close relationship with overseas economies, has stalled somewhat, while that by small and medium-sized enterprises, having a close relationship with domestic demand, has been solid (Box Chart 2 [2]). With regard to funding, bank lending for business fixed investment has been clearly increasing, particularly for nonmanufacturing small and medium-sized enterprises, under the accommodative conditions where financial institutions' lending attitude as perceived by firms has improved to the level seen in 1989 in the "asset bubble" period (Chart 46 and Box Chart 2 [3]).

As detailed in the April 2016 *Regional Economic Report* (Section II, "A Viewpoint from the Region," available in Japanese only), the stance of small and medium-sized enterprises toward labor-saving investment has become positive, taking advantage of a variety of investment subsidies and investment-enhancing tax incentives, against the backdrop of a severe labor shortage compared to large enterprises (Box Chart 2 [4]). This positive stance of small and medium-sized enterprises toward business fixed investment is projected to improve further, supported by the negative real interest rate, with the increases in demand related to hosting the Olympic Games in 2020 and in inbound foreign visitors prevailing across the country.

### **(Box 3) Determinants of Wages, by Industry and Enterprise Size**

Wages are affected by many factors, including supply-demand conditions in the labor market and inflation expectations. In order to quantify the determinants of wages by industry and enterprise size, a simple wage function is estimated by regressing scheduled cash earnings of regular employees, data for which are from the *Basic Survey on Wage Structure*, on the following variables: labor market tightness (measured by the employment conditions DI in the *Tankan*); the inflation rate (i.e., the year-on year rate of increase in the all-item CPI excluding fresh food) in the previous fiscal year; and the margin (measured by the difference between the DIs for changes in output prices and in input prices in the *Tankan*) (Box Chart 3 [1]).

The estimation results reveal the following, although it should be noted that the estimation is subject to a considerable margin of error: (1) the effect of labor market tightness is statistically significant on wages of small and medium-sized enterprises, both manufacturing and nonmanufacturing, where the mobility of the labor force is relatively active, whereas it is not significant on those of large enterprises; (2) the inflation rate in the previous fiscal year has a statistically significant effect on wages in the manufacturing sector; and (3) the effect of the margin is statistically significant irrespective of the industry and enterprise size.

These estimation results suggest that it is highly probable, particularly for small and medium-sized enterprises in the nonmanufacturing sector, of which employees consist of around 60 percent of all employees, that upward pressure on wages will steadily increase through the tightening of labor market conditions and the increase in the margin due to the improvement of the terms of trade (Box Chart 3 [2] and [3]).

#### **(Box 4) Weather Effects and Private Consumption**

Weather conditions, such as temperature and precipitation, have a large influence on consumption of seasonal merchandise, such as clothing and air conditioners. Indeed, a strong link between weather conditions and consumption developments is often referred to in the Bank's interviews with firms and comments in the *Economy Watchers Survey*.

This link could be quantitatively examined by estimating a simple consumption function where regional real retail sales are a dependent variable and explanatory variables include wages, regional temperatures (measured by deviations from normal temperatures), and regional precipitation (measured by deviations from normal precipitation) (Box Chart 4 [1]). The regression equation takes into account the possibility that the response of private consumption could be asymmetric between high and low temperatures and between high and low precipitation, relative to the past averages.

The estimation results show that the effects of weather conditions on private consumption are statistically significant especially in June, September, and November, which correspond to the timing of seasonal transitions in Japan. A rough evaluation of the weather effects in past years based on the regression results shows that irregular weather negatively affected private consumption in the April-June and October-December quarters of 2015 (Box Chart 4 [2]). In particular, the contribution of weather effects on quarterly real retail sales growth in the October-December quarter was about minus 0.7 percentage point, the largest negative figure in the past decade, suggesting that the high temperature and heavy rainfall at that time of the year considerably pushed down private consumption.

Goods consumption, which is measured by the retail sales, constitutes about 50 percent of private consumption (GDP consumption, all items less imputed rent basis); thus, the irregular weather dampened quarterly real private consumption growth in the October-December quarter of 2015 by about 0.4 percentage point. The growth rate of the consumption activity index for the October-December quarter of 2015 was minus 0.5 percent, but when the negative contribution of minus 0.4 percentage point is excluded, the

rate turns out to be minus 0.1 percent. This number indicates that real private consumption would have been more or less unchanged if the irregular weather had not hit the economy.

### **(Box 5) Wealth Effects on Private Consumption**

Wealth effects refers to increases in the value of assets such as stocks having positive effects on private consumption (vice versa). The effects normally are measured in terms of the marginal propensity to consume; that is, the yen change in private consumption in response to the 100 yen change in households' financial assets due to stock price fluctuations.

Existing studies that estimate wealth effects of households' financial assets in Japan suggest that a 100 yen change in the asset value leads to about a 2-4 yen change in private consumption (Box Chart 5 [1]). These results make it possible to roughly evaluate wealth effects due to changes in stock prices. For example, if stock prices fell by about 10 percent and the amount outstanding of stocks and investment trusts (195 trillion yen as of end-December 2015) declined by about 20 trillion yen, private consumption would fall by about 400-800 billion yen (private consumption per year is about 280-290 trillion yen) (Box Chart 5 [2]).

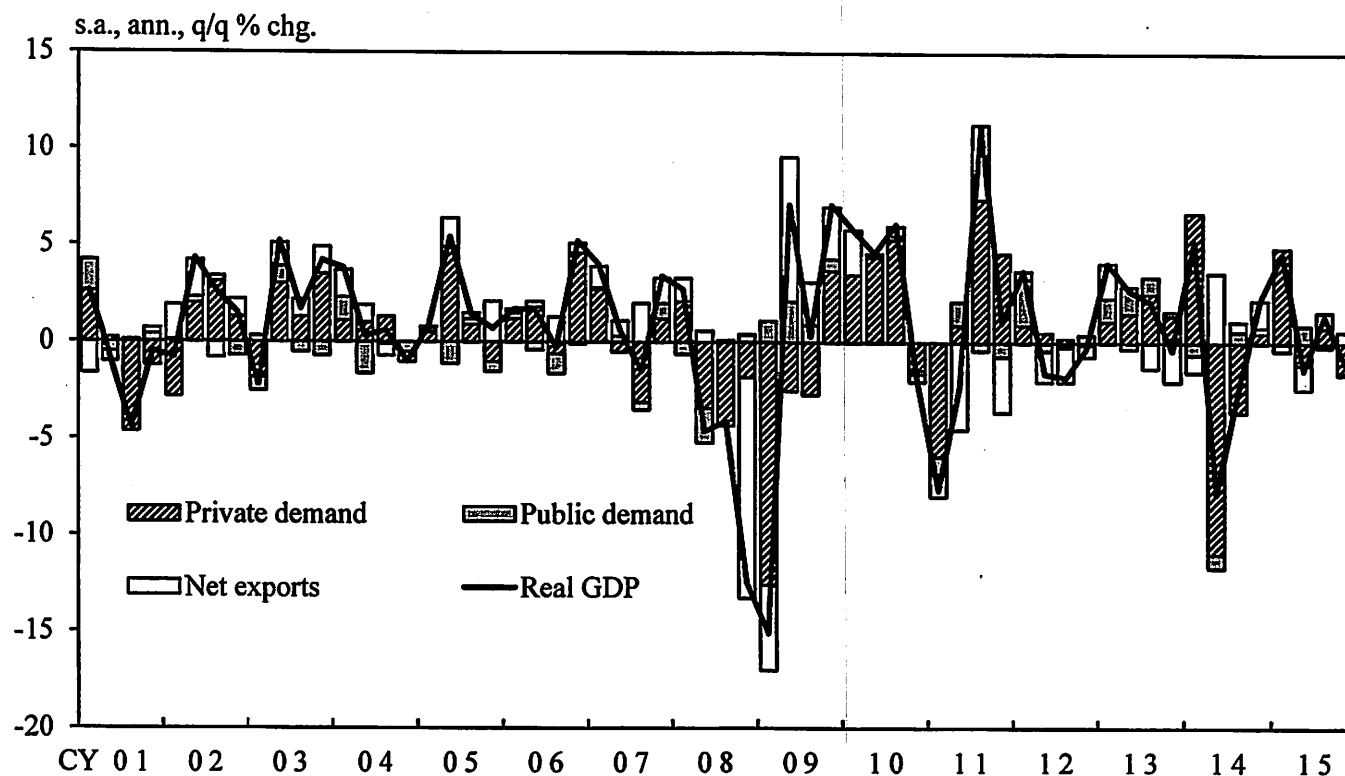
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## Real GDP

## (1) Real GDP



## (2) Components

s.a., q/q % chg.

	2014	2015			
	Q4	Q1	Q2	Q3	Q4
Real GDP	0.5	1.1	-0.4	0.3	-0.3
[Annual rate]	[2.2]	[4.6]	[-1.4]	[1.4]	[-1.1]
Domestic demand	0.2	1.1	-0.1	0.1	-0.4
Private demand	0.1	1.2	-0.3	0.2	-0.4
Private consumption	0.4	0.1	-0.5	0.2	-0.5
Non-resid. investment	-0.0	0.4	-0.2	0.1	0.2
Residential investment	-0.0	0.1	0.1	0.0	-0.0
Private inventory	-0.3	0.6	0.3	-0.2	-0.0
Public demand	0.1	-0.1	0.2	-0.1	-0.0
Public investment	0.0	-0.1	0.2	-0.1	-0.2
Net exports of goods and services	0.3	-0.0	-0.3	0.2	0.1
Exports	0.6	0.4	-0.9	0.5	-0.2
Imports	-0.2	-0.4	0.5	-0.3	0.3
Nominal GDP	0.9	2.0	-0.1	0.6	-0.2

y/y % chg.

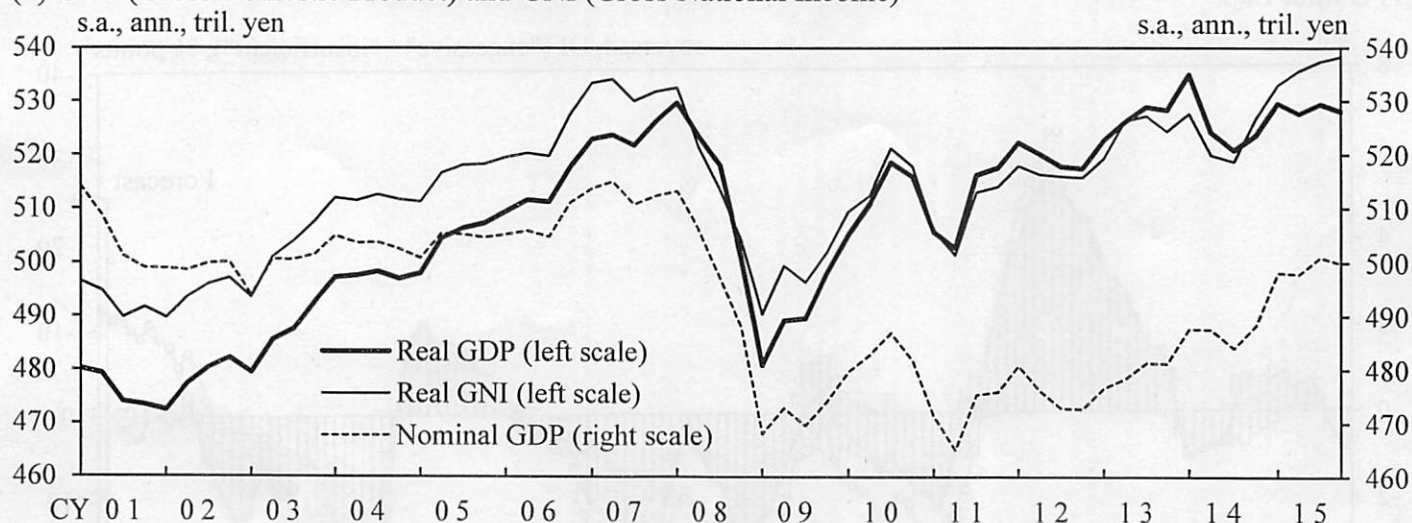
	2014	2015			
	Q4	Q1	Q2	Q3	Q4
GDP deflators	2.3	3.3	1.5	1.8	1.5
Domestic demand deflators	2.1	1.4	0.0	0.0	-0.2

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

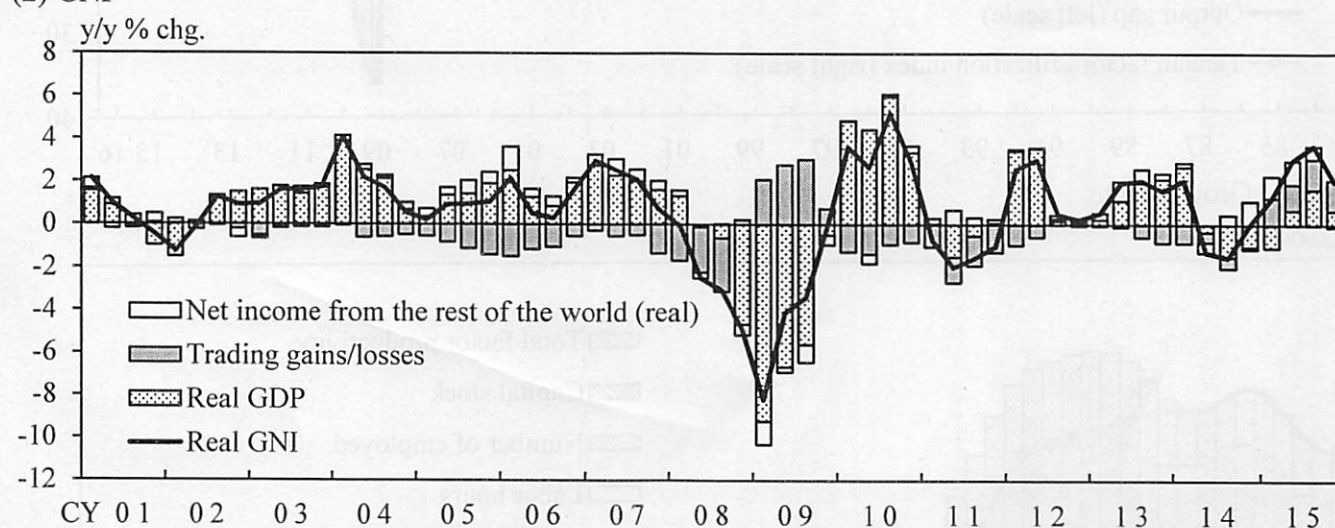
## (1) GDP (Gross Domestic Product) and GNI (Gross National Income)



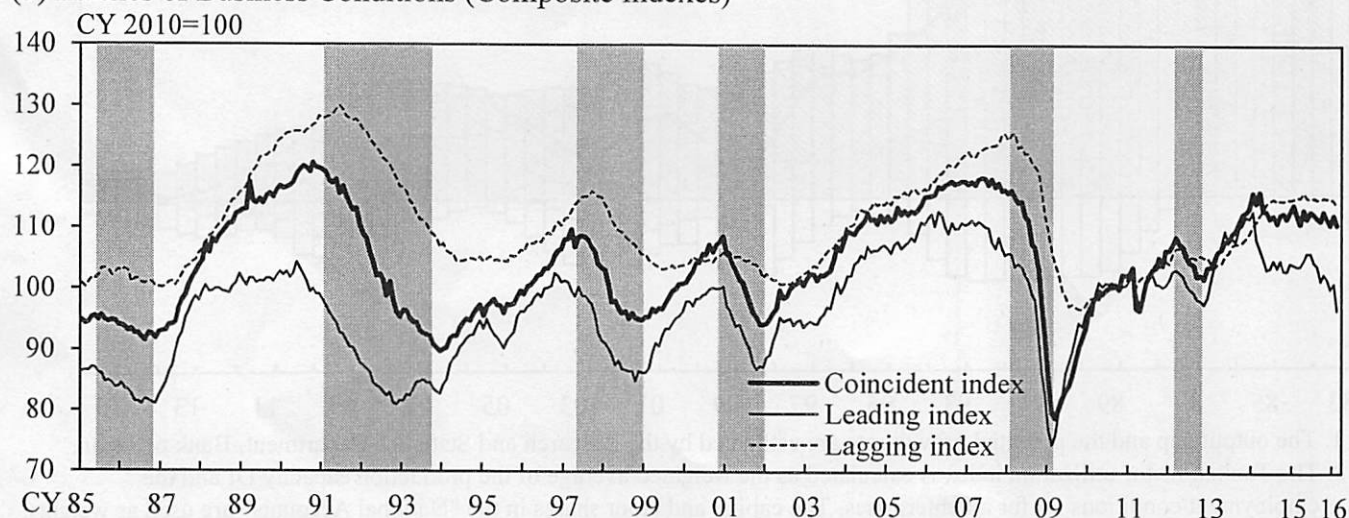
Note: Real GNI = real GDP + trading gains/losses + net income from the rest of the world (real)

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)

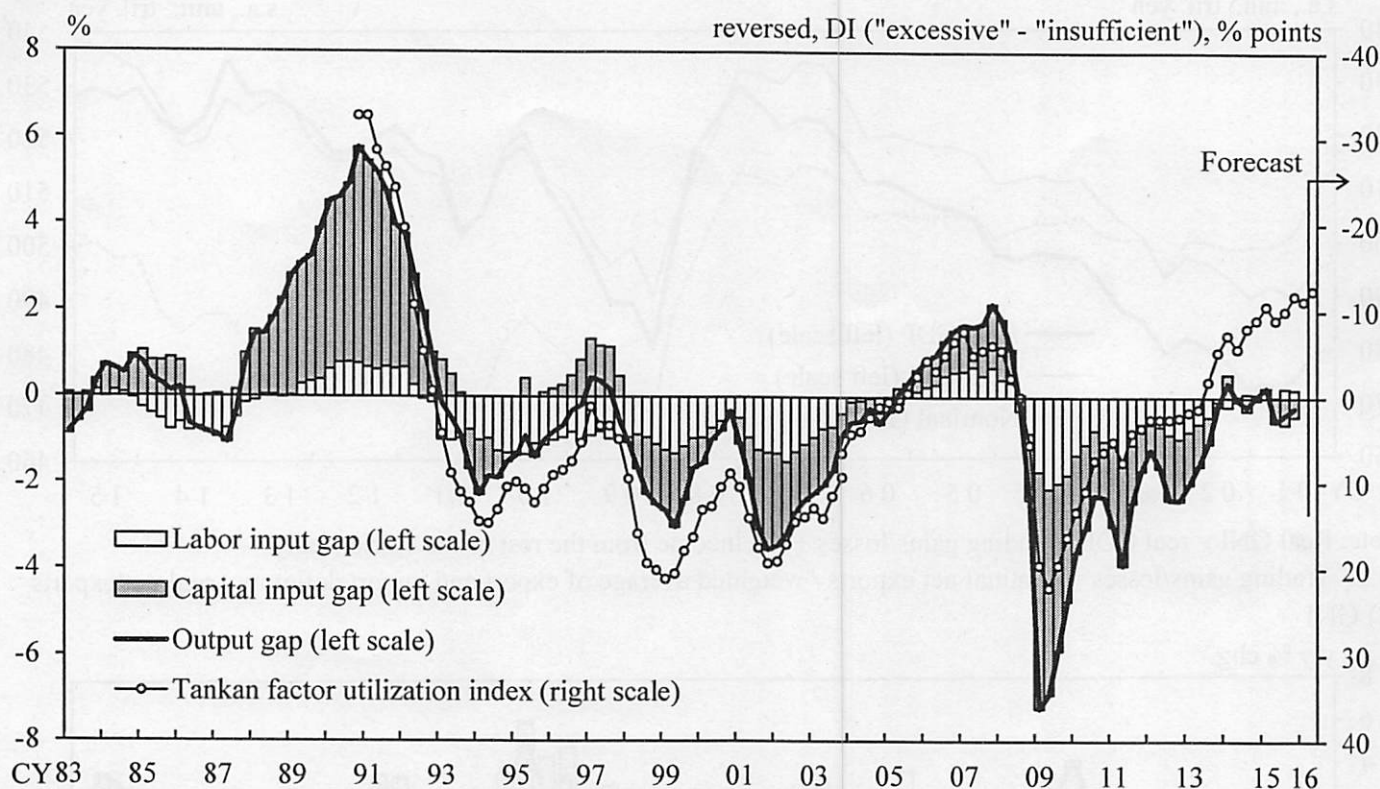


Note: Shaded areas indicate recession periods.

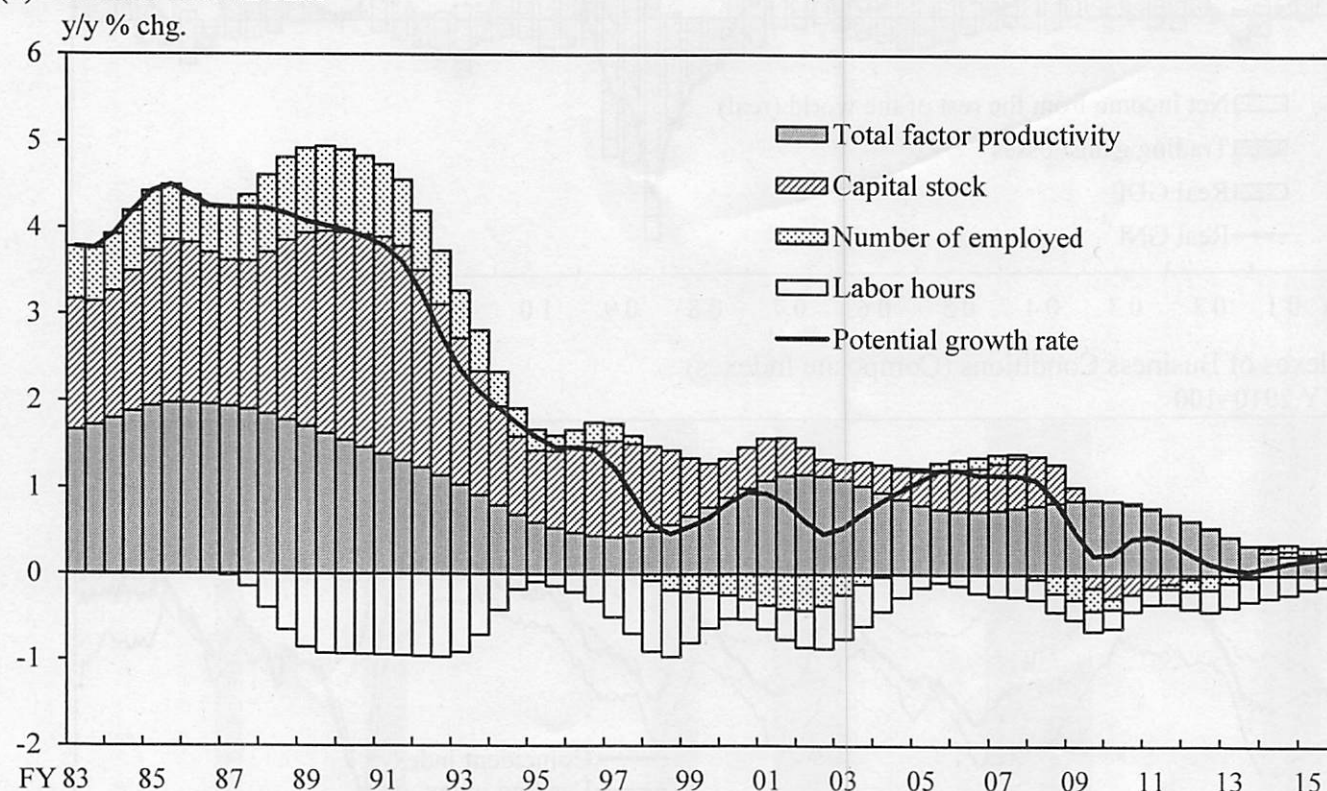
Source: Cabinet Office.

## 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.

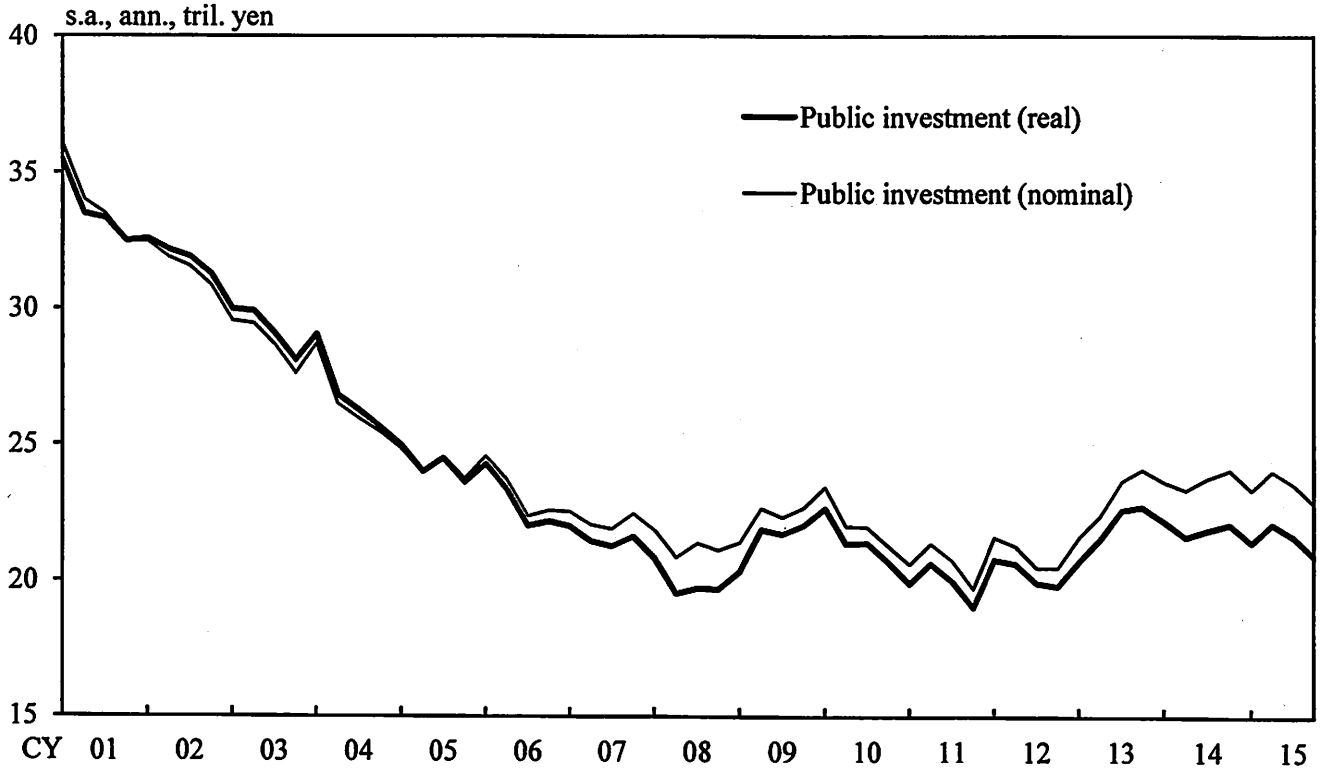
2. The Tankan factor utilization index is calculated as the weighted average of the production capacity DI and the employment conditions DI for all enterprises. The capital and labor shares in the "National Accounts" are used as weights. There is a discontinuity in the data in December 2003 due to a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

3. Figures for the second half of fiscal 2015 are those of 2015/Q4.

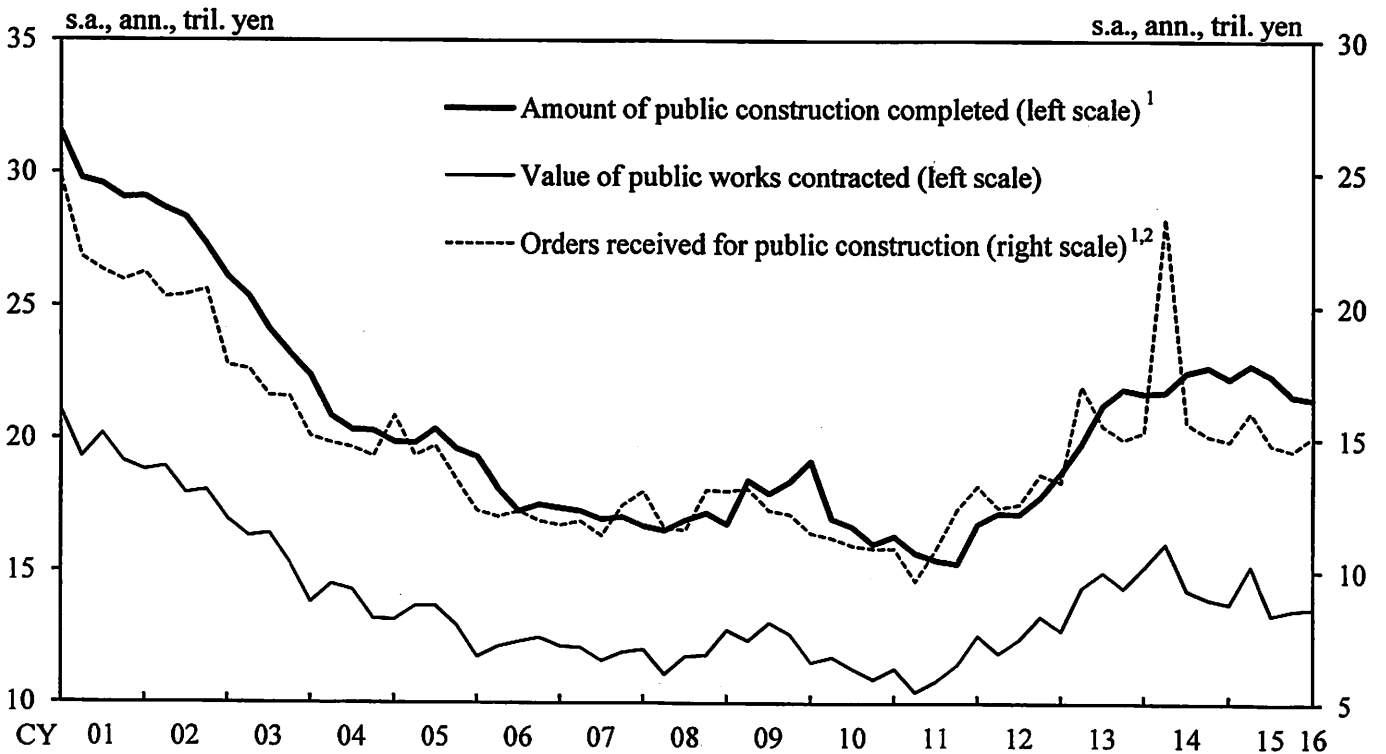
Sources: Cabinet Office; Bank of Japan; Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry; Research Institute of Economy, Trade and Industry.

# Public Investment

## (1) Public Investment (SNA Basis)



## (2) Indicators of Public Investment



Notes: 1. Figures for 2016/Q1 are January-February averages.

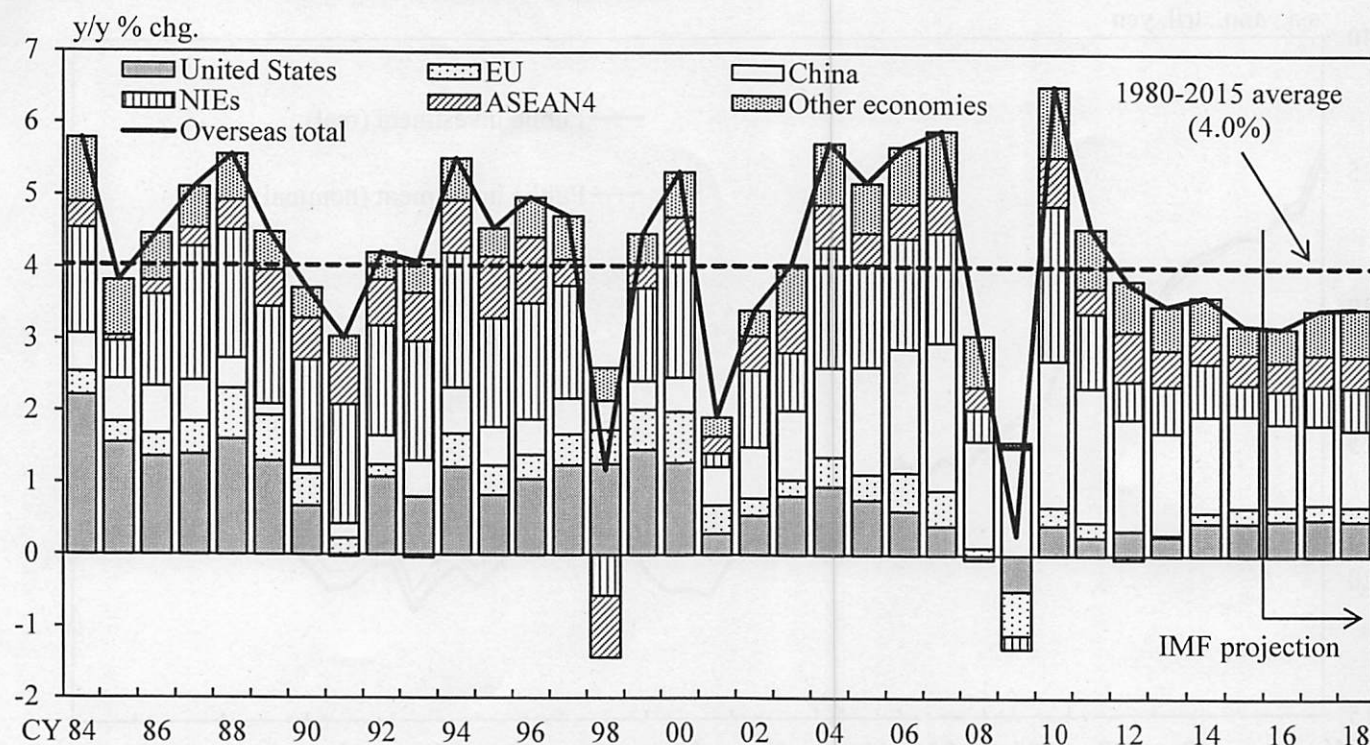
2. Figures up to 2011/Q4 are adjusted to reflect changes in estimation methods.

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.)			
	2015 Q1	Q2	Q3	Q4	2016 Q1	2015 Actual	2016 IMF Projection	2017	2018
Overseas total						3.2	3.2 (3.5)	3.4 (3.6)	3.5
Major economies <79.7>	2.8	3.2	3.6	3.3	n.a.	3.5	3.3 (3.6)	3.5 (3.6)	3.4
United States <20.1>	0.6	3.9	2.0	1.4	n.a.	2.4	2.4 (2.6)	2.5 (2.6)	2.4
EU <10.6>	2.4	1.8	1.5	1.6	n.a.	1.9	1.8 (2.0)	1.9 (2.0)	1.9
East Asia <49.0>	3.7	3.2	4.7	4.4	n.a.	4.2	4.1 (4.4)	4.2 (4.4)	4.2
China <17.5>	5.7	7.4	7.4	6.1	4.5	6.9	6.5 (6.3)	6.2 (6.0)	6.0
NIEs <21.7>	2.4	-0.7	2.5	2.6	n.a.	2.0	2.1 (2.9)	2.5 (3.1)	2.7
ASEAN4 <9.8>	3.0	4.0	4.4	5.0	n.a.	4.1	4.1 (4.2)	4.4 (4.5)	4.4
Other economies <20.3>						2.1	2.5 (2.9)	3.3 (3.6)	3.6

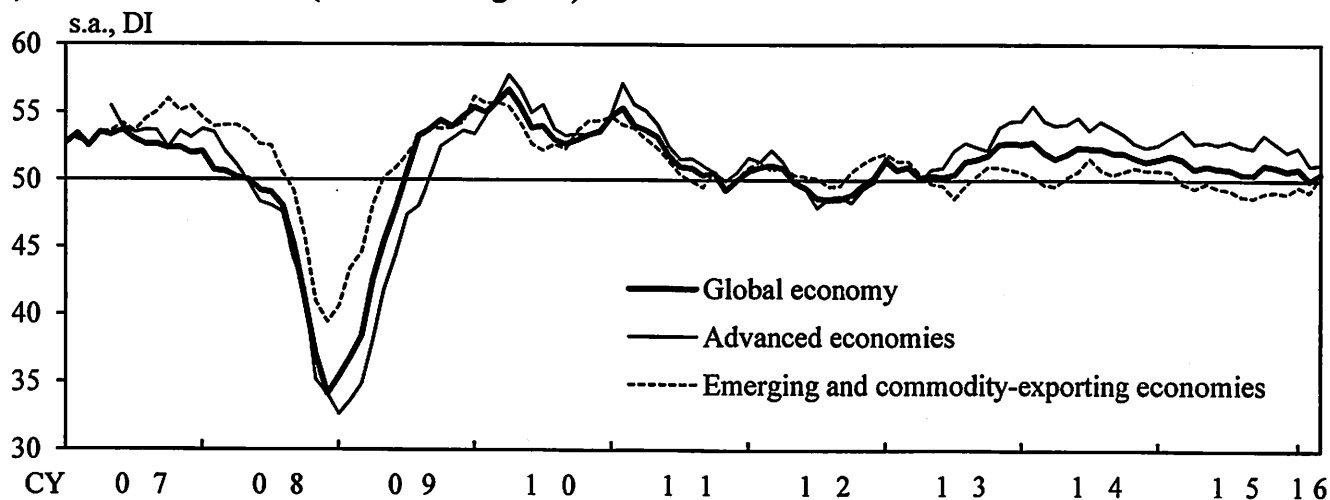
Notes: 1. Figures are the weighted averages of real GDP growth rates using countries' share in Japan's exports as weights. Annual GDP growth rates are from the "World Economic Outlook (WEO)" as of April 2016, while figures in parentheses are as of January 2016. Since for some countries and regions the IMF does not provide projections in the January WEO, some figures in parentheses are imputed using information provided in the October 2015 and April 2016 WEOs.

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

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

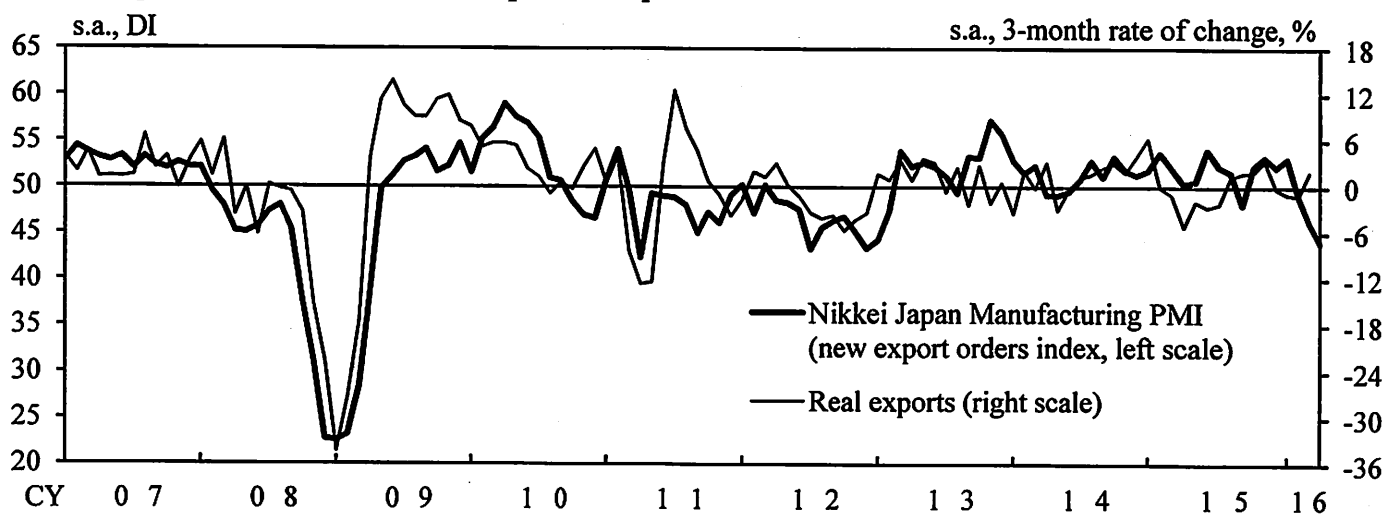
## Environment Surrounding Exports

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

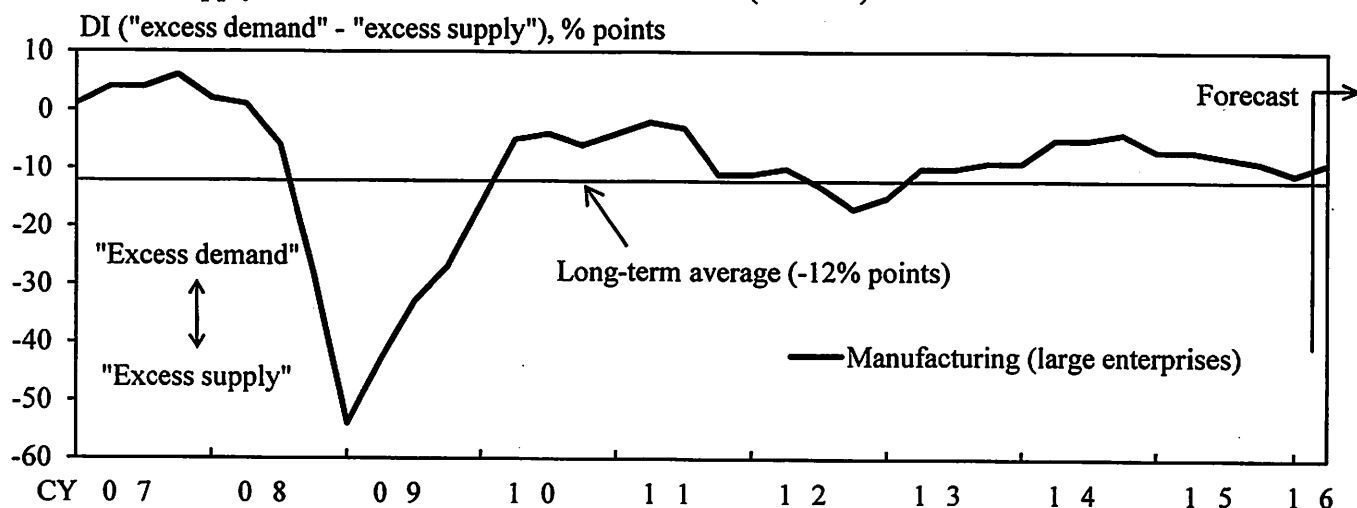


Note: Figures for the global economy are the J.P.Morgan Global Manufacturing PMI. Figures for advanced economies as well as emerging and commodity-exporting economies are calculated as the weighted averages of the Manufacturing PMI using PPP-adjusted GDP shares of world total GDP from the IMF as weights. 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 of Japan

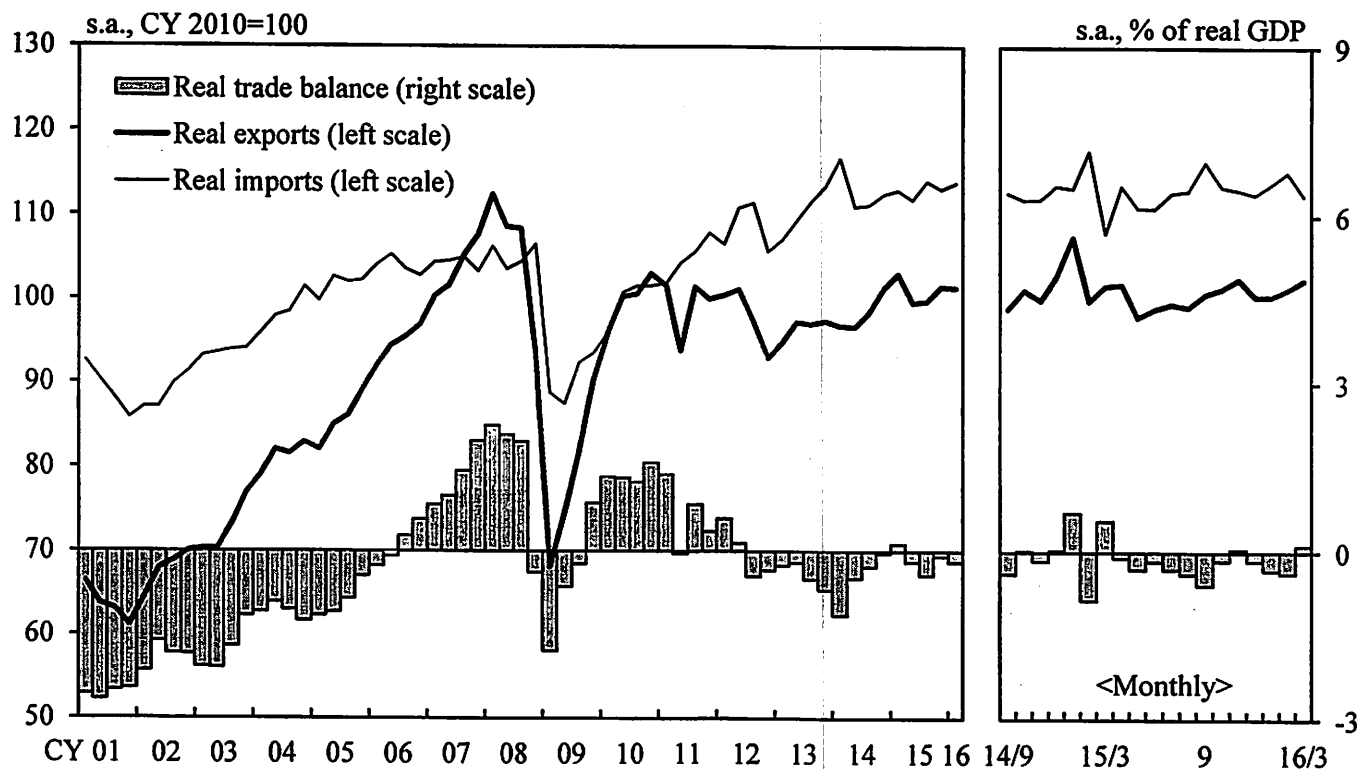


### (3) Overseas Supply and Demand Conditions for Products (*Tankan*)



## Real Exports and Real Imports

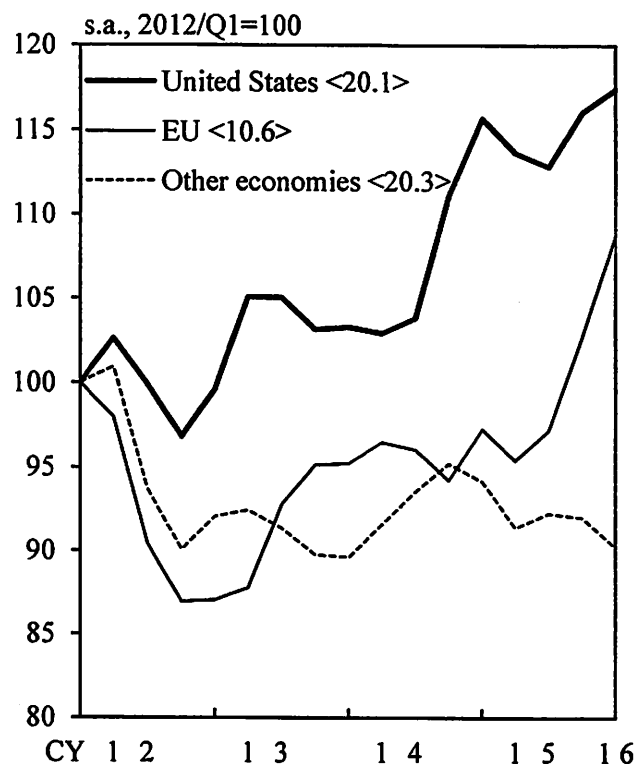
### (1) Real Exports and Real Imports



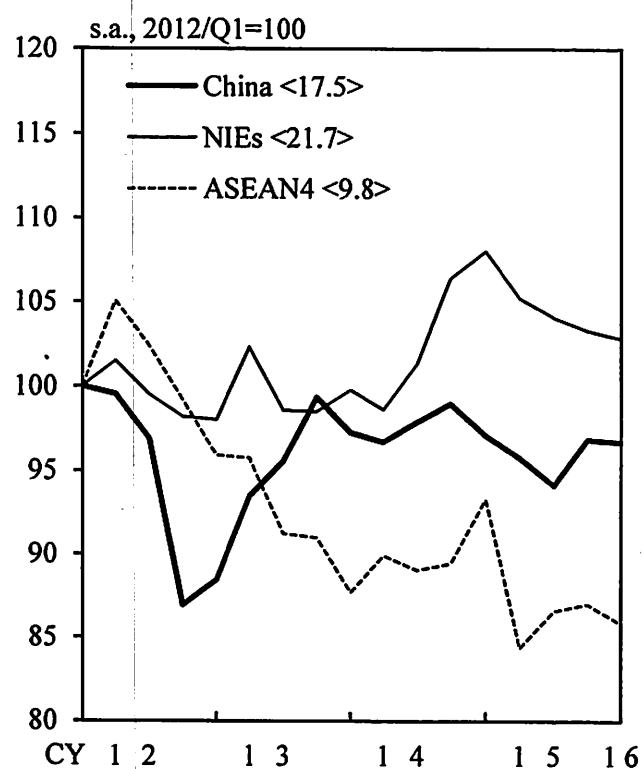
Note: Figures for the real trade balance (as a ratio of real GDP) from January 2016 onward are calculated using real GDP for 2015/Q4.

### (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	2015 Q1	Q2	Q3	Q4	2016 Q1	2016 Jan.	Feb.	Mar.
United States	<20.1>	1.8	9.1	4.1	-1.8	-0.7	2.8	1.2	-0.0	0.1	0.2
EU	<10.6>	5.2	3.0	3.2	-1.9	1.9	5.7	5.9	-1.0	5.5	8.0
East Asia	<49.0>	1.1	0.6	0.8	-3.6	-0.6	0.8	-0.5	1.8	-0.8	-0.5
China	<17.5>	3.5	-2.0	-1.9	-1.4	-1.7	2.9	-0.2	1.1	-0.5	-1.1
NIEs	<21.7>	2.0	3.6	1.5	-2.6	-1.1	-0.7	-0.5	2.1	-1.4	1.1
ASEAN4	<9.8>	-4.7	-1.4	4.3	-9.6	2.6	0.5	-1.3	2.3	0.0	-3.0
Others	<20.3>	1.2	-0.0	-1.1	-2.9	0.9	-0.3	-2.0	-0.2	0.4	1.0
Real exports		1.7	2.7	1.7	-3.3	0.2	1.7	-0.1	-0.1	0.9	1.1

### (2) Breakdown by Goods

		y/y % chg.		s.a., q/q % chg.					s.a., m/m % chg.		
		CY 2014	2015	2015 Q1	Q2	Q3	Q4	2016 Q1	2016 Jan.	Feb.	Mar.
Intermediate goods	<19.8>	0.1	-0.3	1.2	-3.8	0.0	1.4	-1.6	0.7	-0.1	-4.3
Motor vehicles and their related goods	<24.4>	-1.4	1.3	0.8	-2.2	2.3	4.8	-5.0	-5.1	0.3	2.8
IT-related goods	<10.6>	3.6	-1.4	-0.1	-4.1	-2.0	-0.9	0.2	5.7	-4.1	2.6
Capital goods and parts	<27.5>	3.1	-1.5	-1.5	-4.0	-0.9	-0.6	1.0	0.4	3.4	-0.8
Real exports		1.7	2.7	1.7	-3.3	0.2	1.7	-0.1	-0.1	0.9	1.1

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.

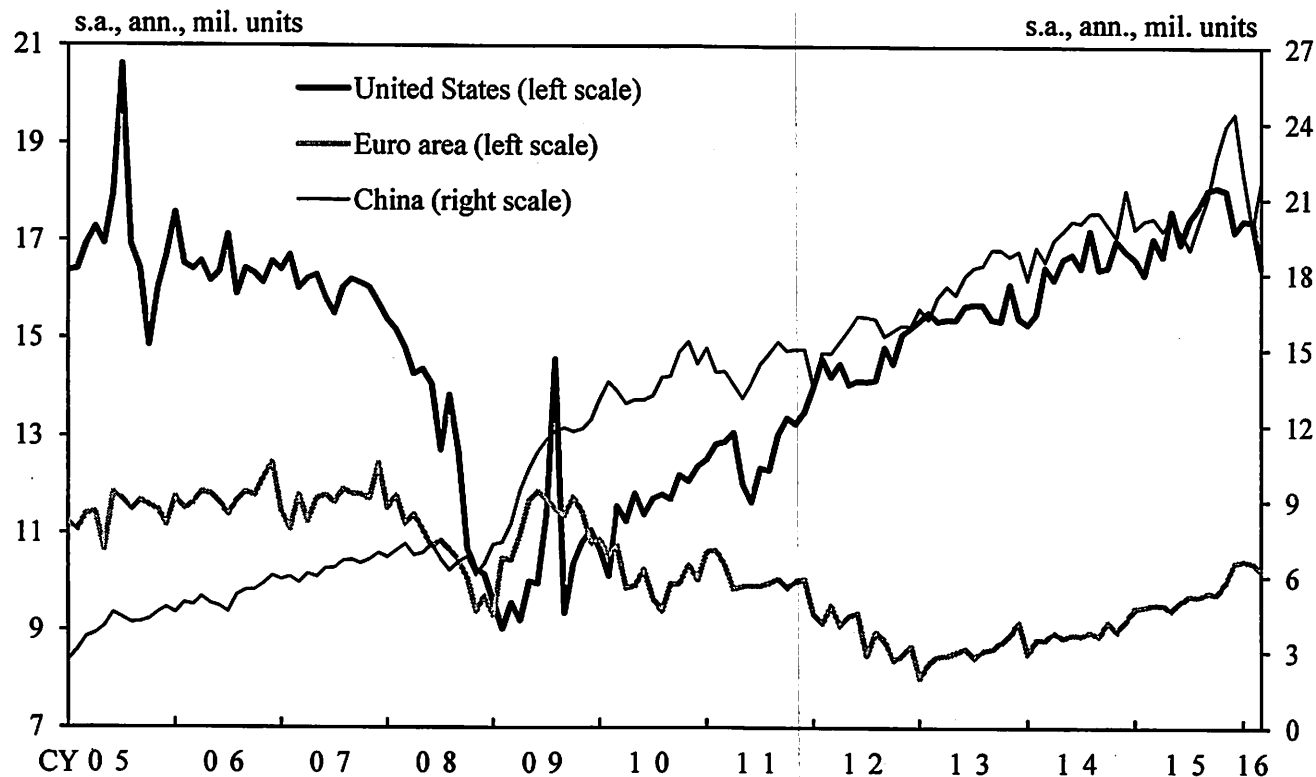
3. Capital goods and parts exclude IT-related goods, power generating machinery, and parts of motor vehicles.

Sources: Ministry of Finance; Bank of Japan.



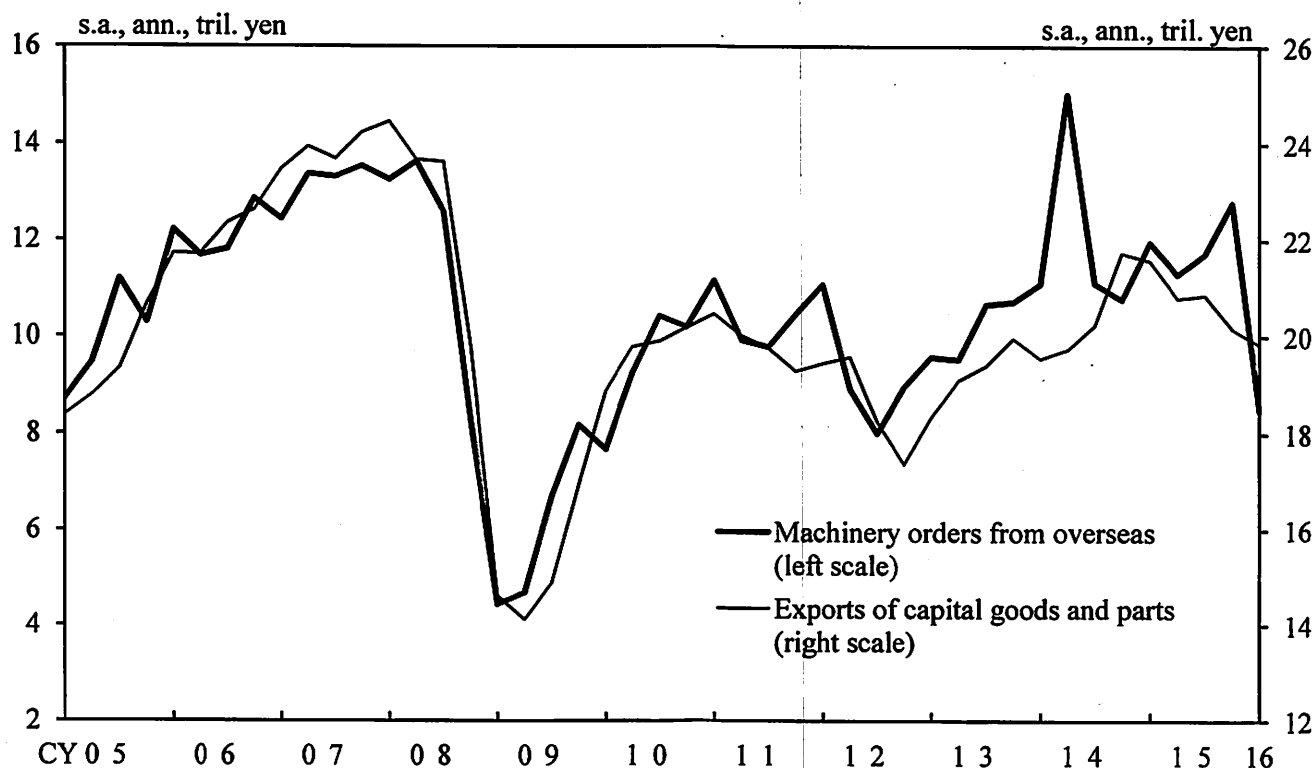
## Overseas Motor Vehicle Sales and Exports of Capital Goods

### (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 2016/Q1 is the January-February average.

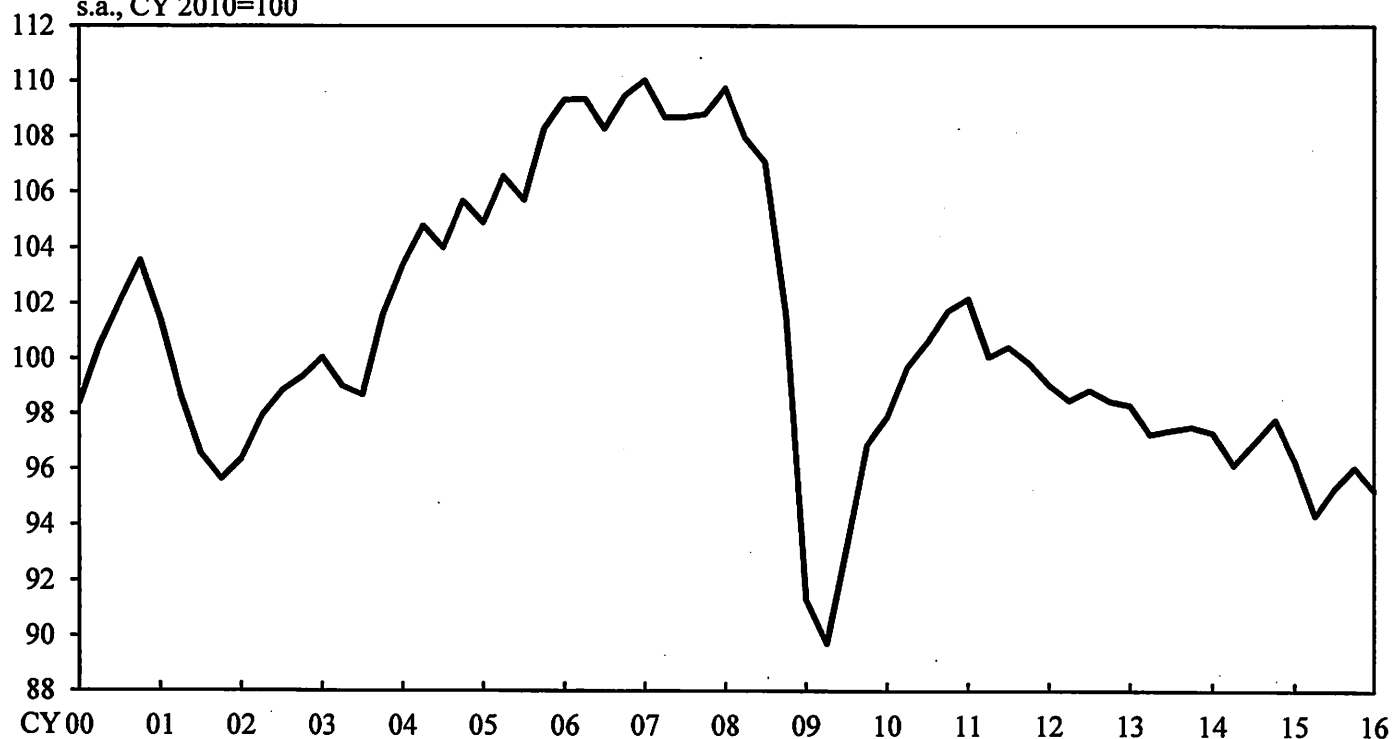
Sources: BEA; ECB; China Association of Automobile Manufacturers; Ministry of Finance; Cabinet Office.

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

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

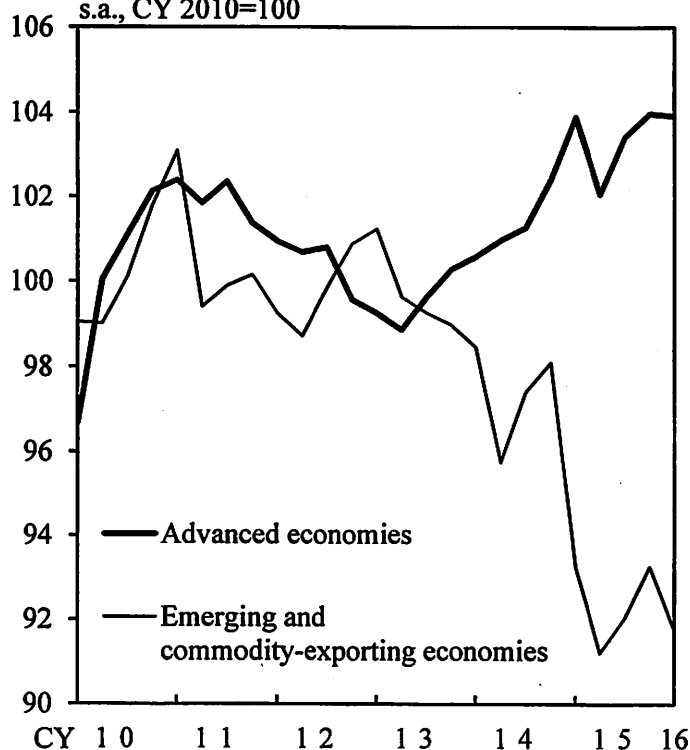
#### (a) World Economy

s.a., CY 2010=100



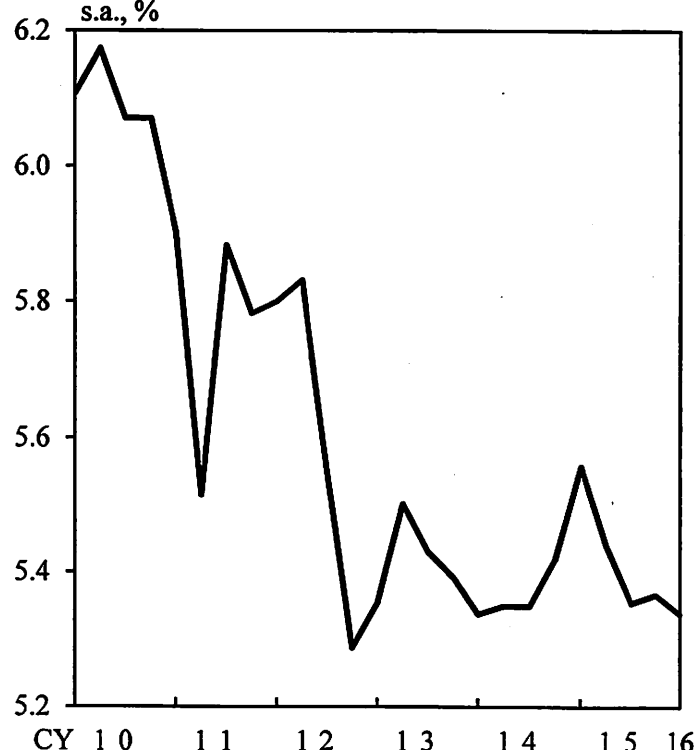
#### (b) Advanced Economies and Emerging and Commodity-Exporting Economies

s.a., CY 2010=100



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

s.a., %



Notes: 1. Figures for 2016/Q1 are January-February averages.

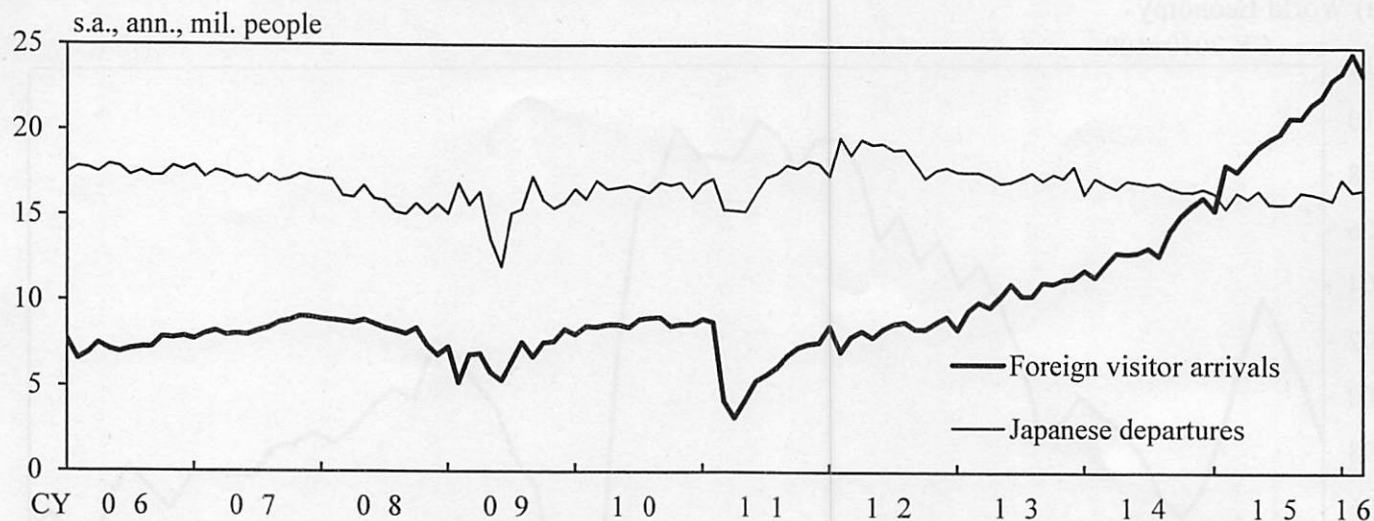
2. Trade volume/real GDP is obtained by dividing real imports by real GDP. Advanced economies are the United States, the EU, and Japan. Emerging and commodity-exporting economies consist of the rest of the world economy. Figures for real GDP for 2016/Q1 are estimated using IMF projections for CY 2016.

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

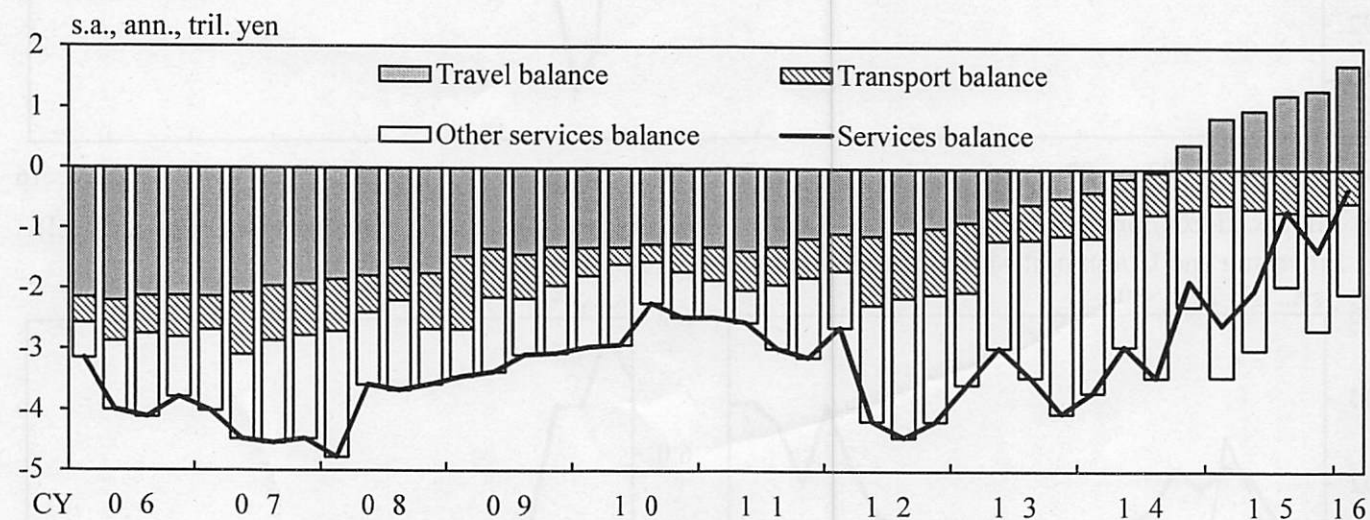
Sources: CPB Netherlands Bureau for Economic Policy Analysis; IMF; Eurostat, etc.

## Services Balance and Current Account

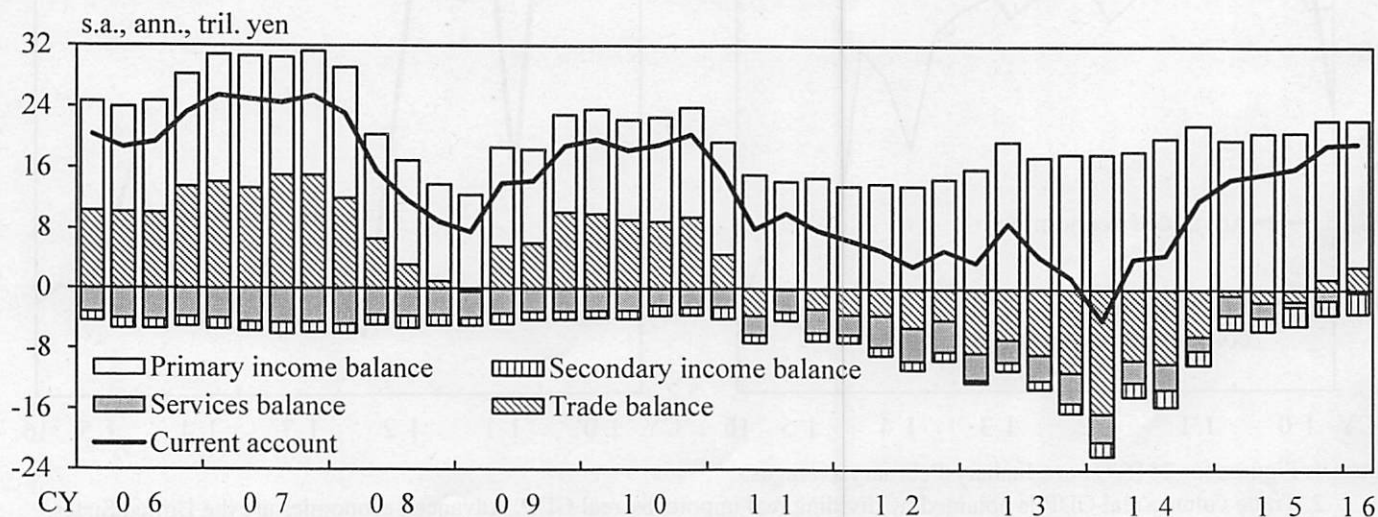
### (1) Foreign Visitor Arrivals and Japanese Departures



### (2) Services Balance



### (3) Current Account

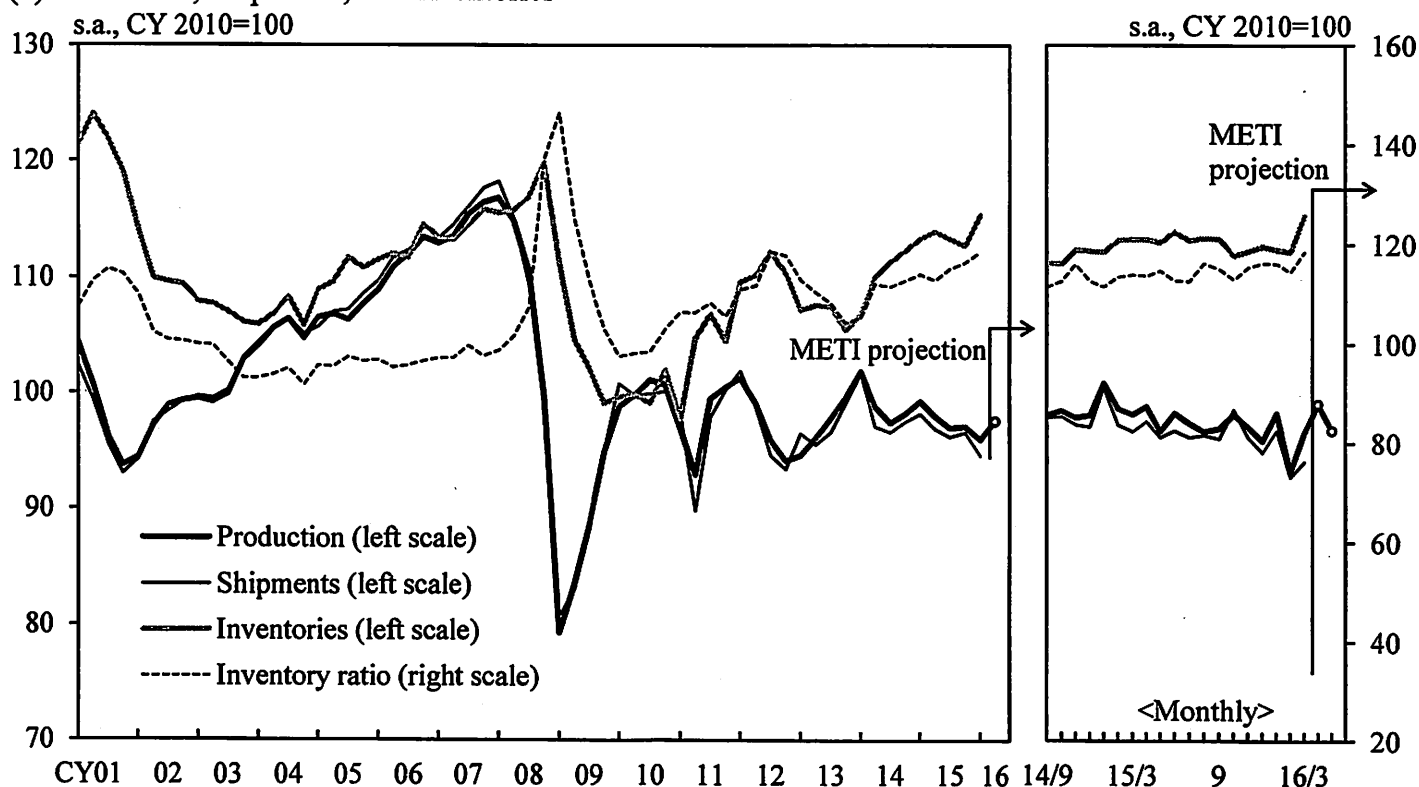


Note: Figures for 2016/Q1 are January-February averages.

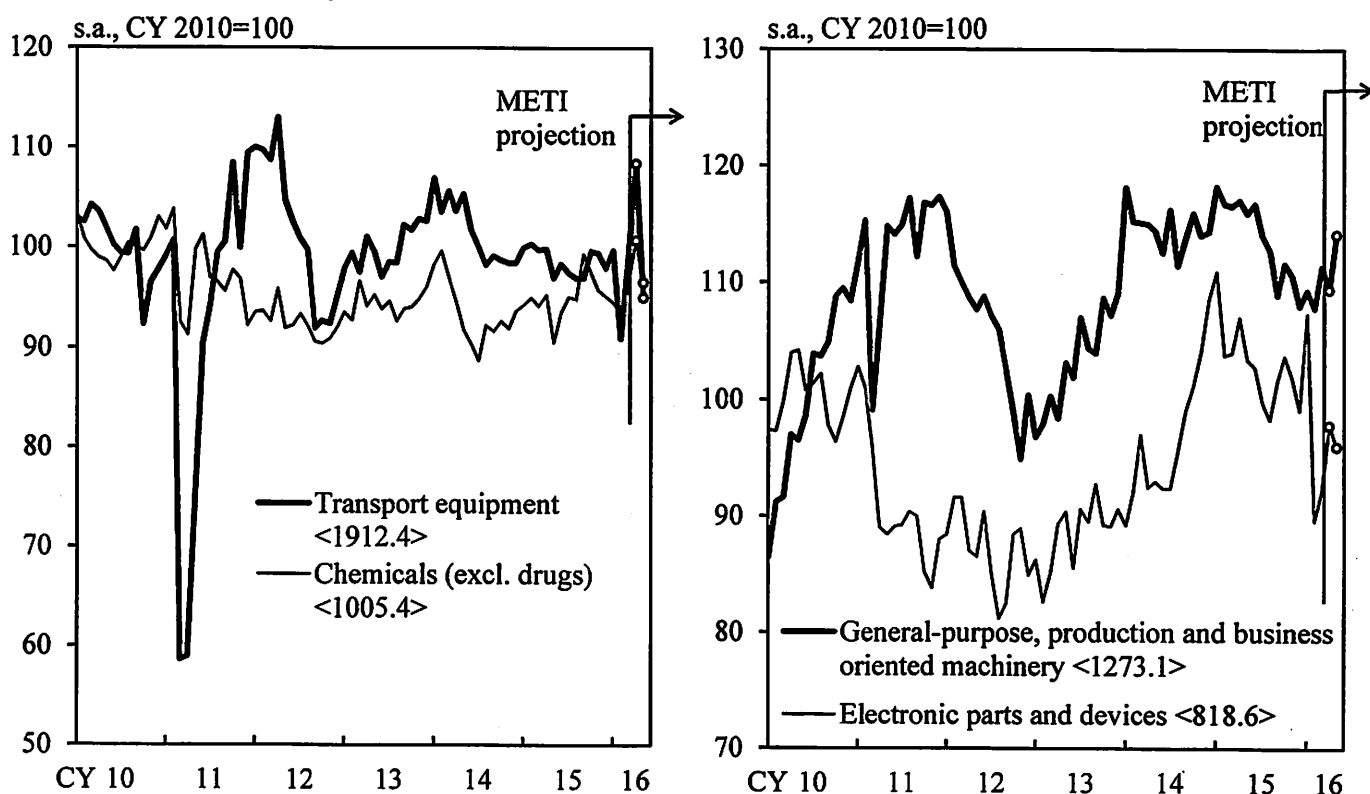
Sources: Japan National Tourism Organization (JNTO); Ministry of Finance and Bank of Japan.

## Production, Shipments, and Inventories

### (1) Production, Shipments, and Inventories



### (2) Production by Industry



Notes: 1. Figures for 2016/Q2 and April and May 2016 are calculated based on METI projections.

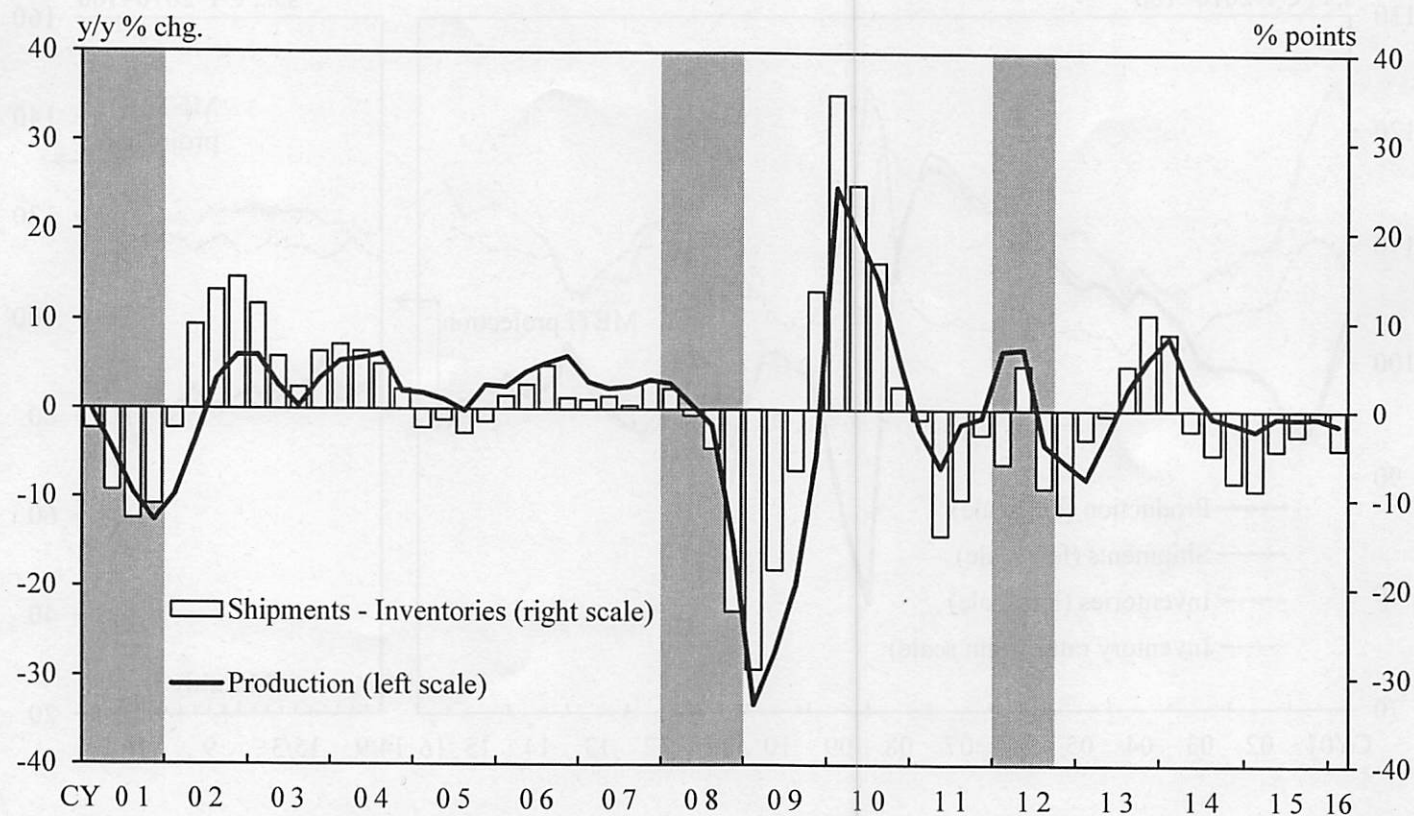
The figure for 2016/Q2 is based on the assumption that the production level in June is the same as May.

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

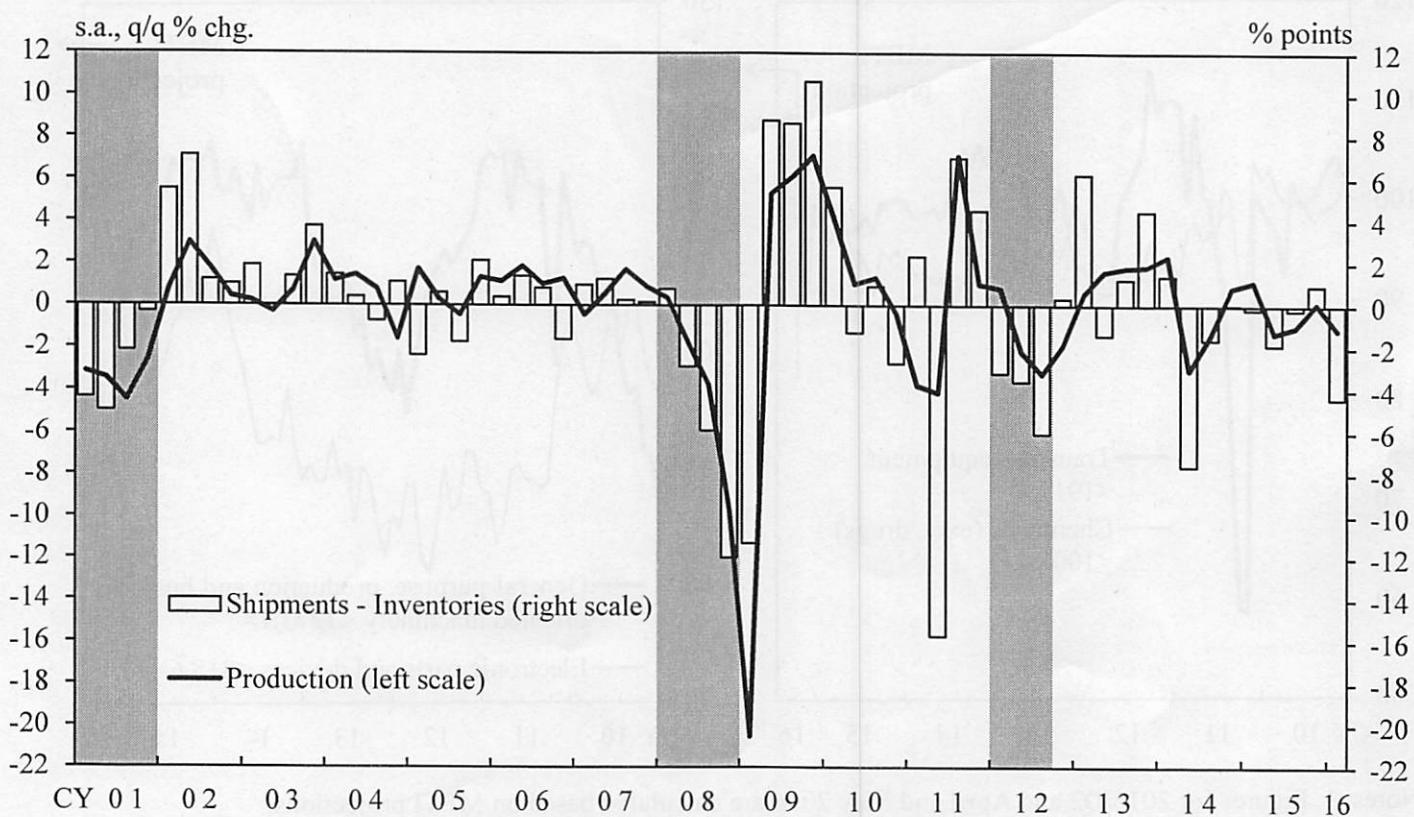
Source: Ministry of Economy, Trade and Industry (METI).

# Shipment-Inventory Balance

## (1) Changes from the Previous Year



## (2) Changes from the Previous Quarter

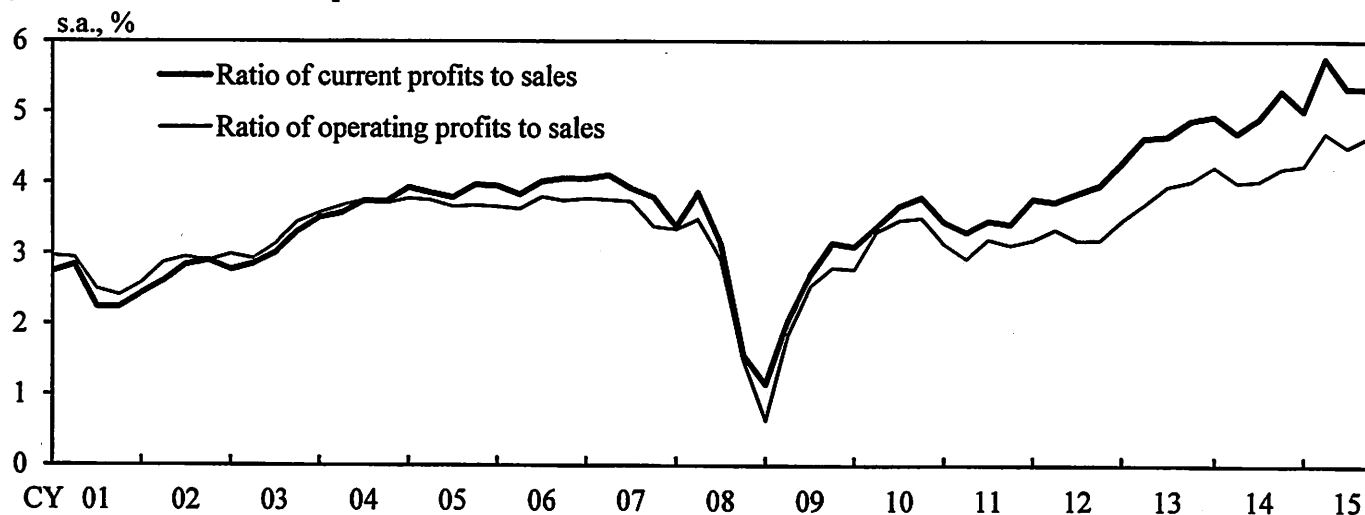


Note: Shaded areas indicate recession periods.

Source: Ministry of Economy, Trade and Industry.

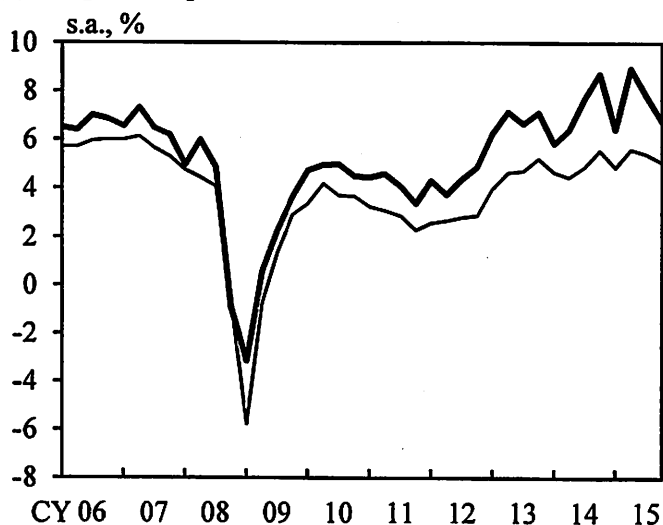
# Corporate Profits, by Industry and Enterprise Size

## (1) All Industries and Enterprises

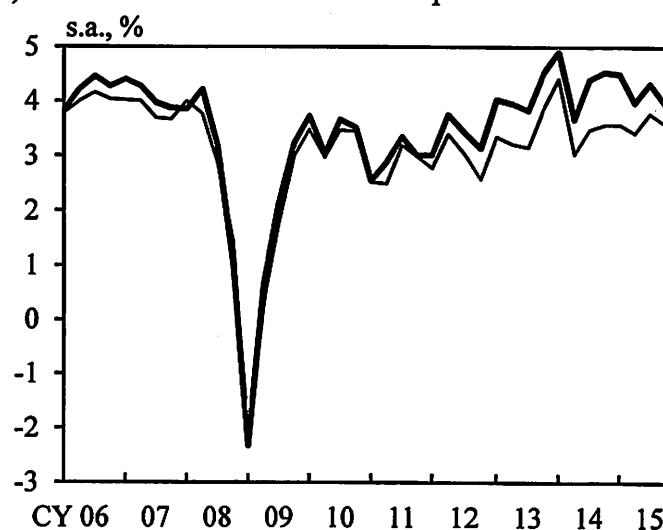


## (2) Manufacturing

### (a) Large Enterprises

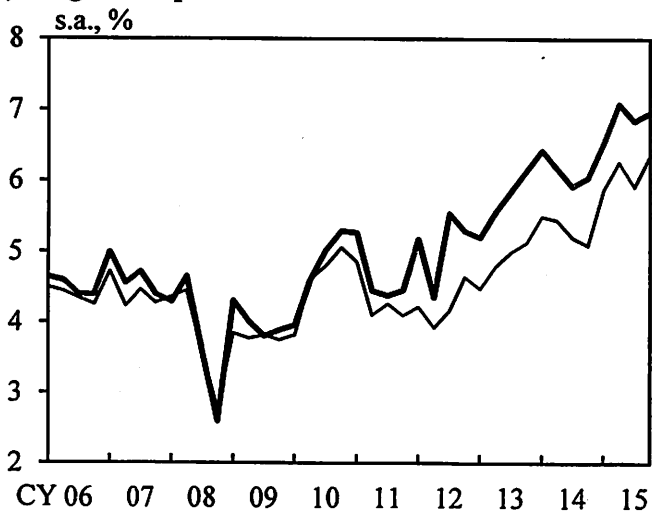


### (b) Small and Medium-Sized Enterprises

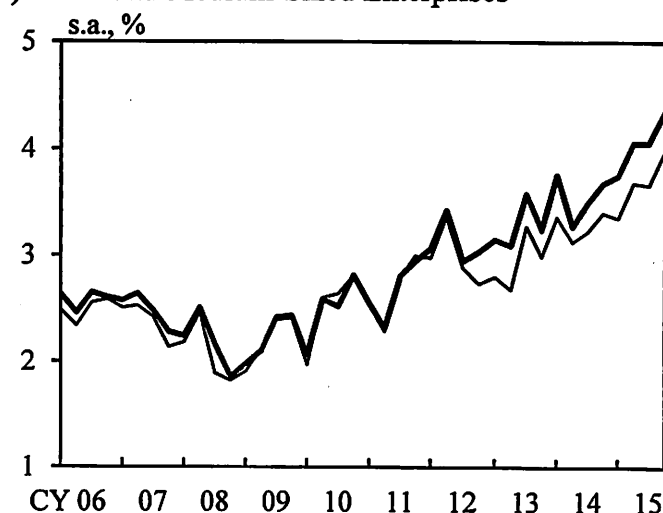


## (3) Nonmanufacturing

### (a) Large Enterprises



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



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

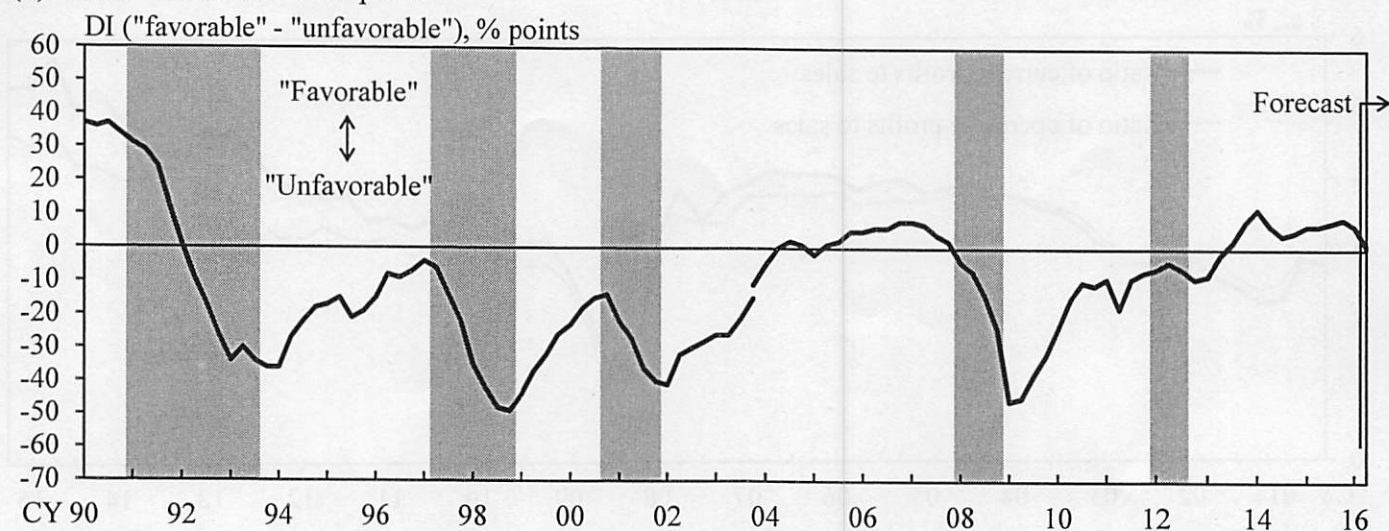
Excluding "Finance and Insurance."

Source: Ministry of Finance.

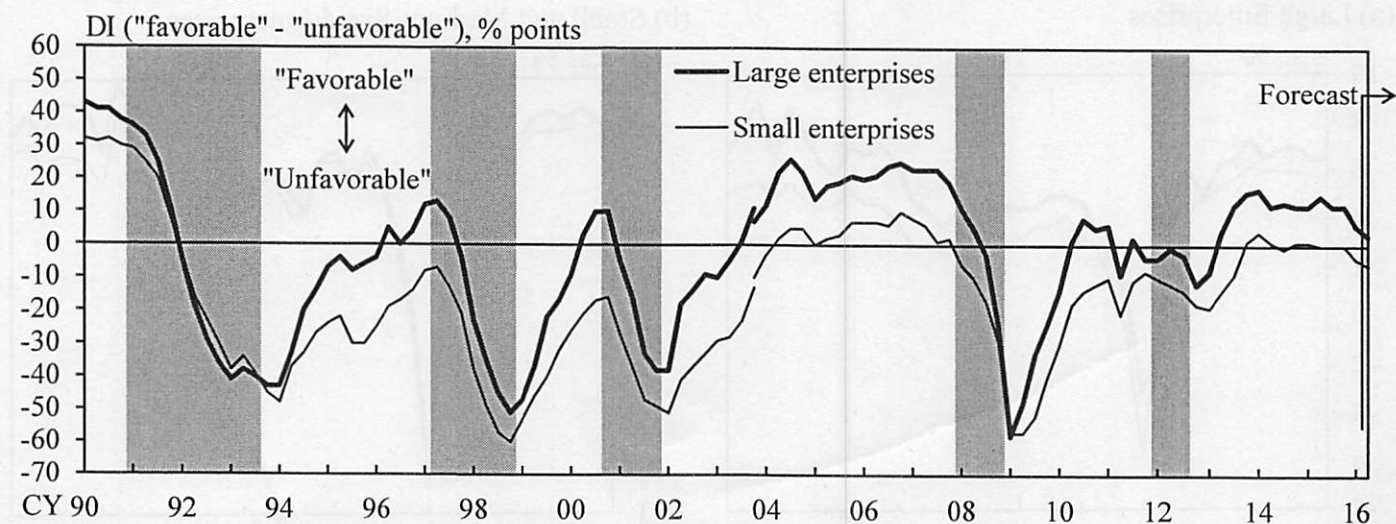


## Business Conditions

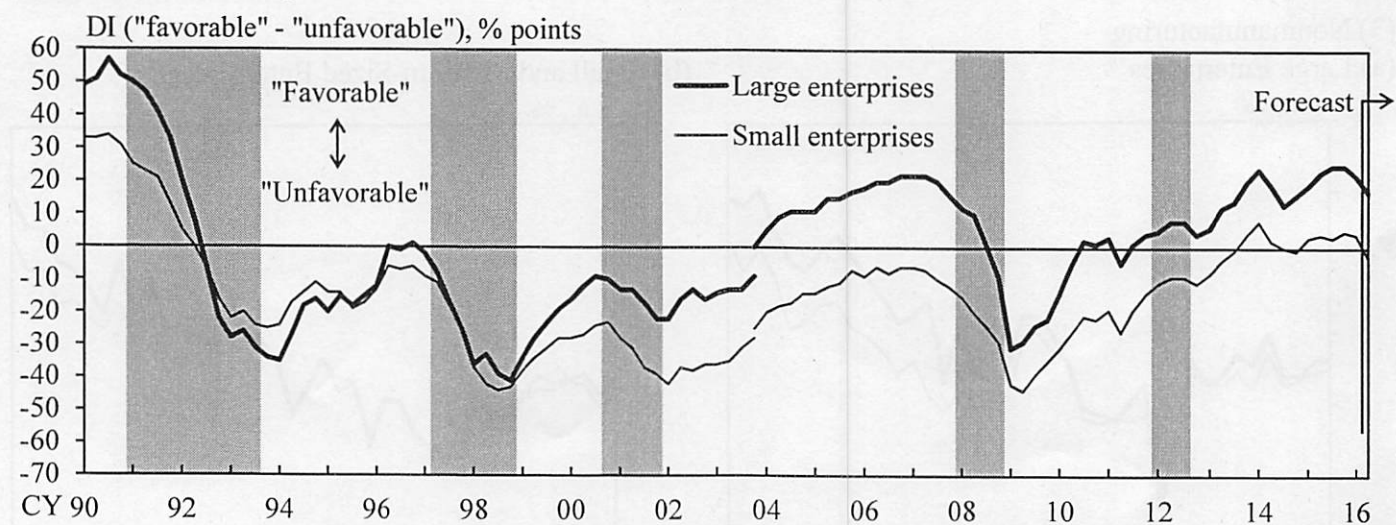
## (1) All Industries and Enterprises



## (2) Manufacturing



## (3) Nonmanufacturing



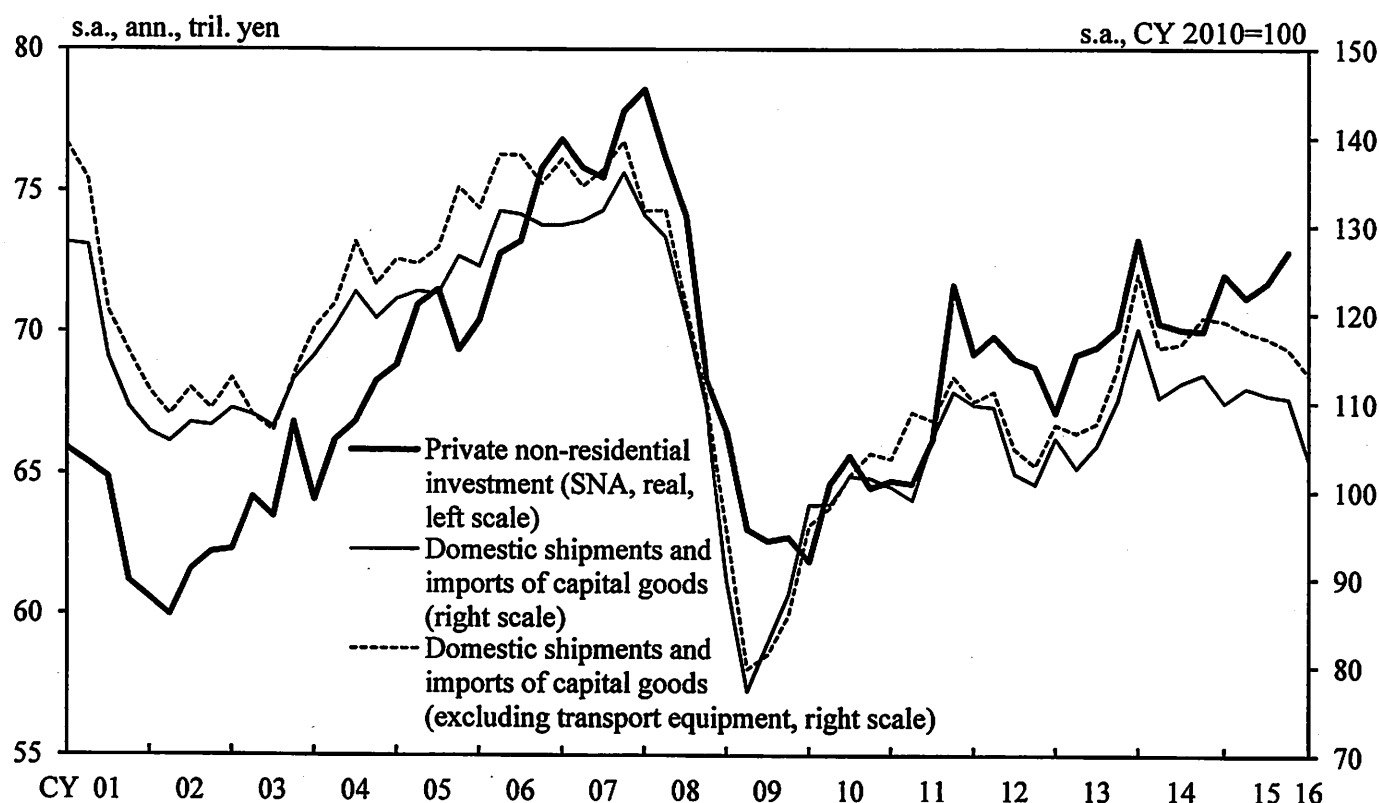
Notes: 1. Based on the *Tankan*. Shaded areas indicate recession periods.

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

Source: Bank of Japan.

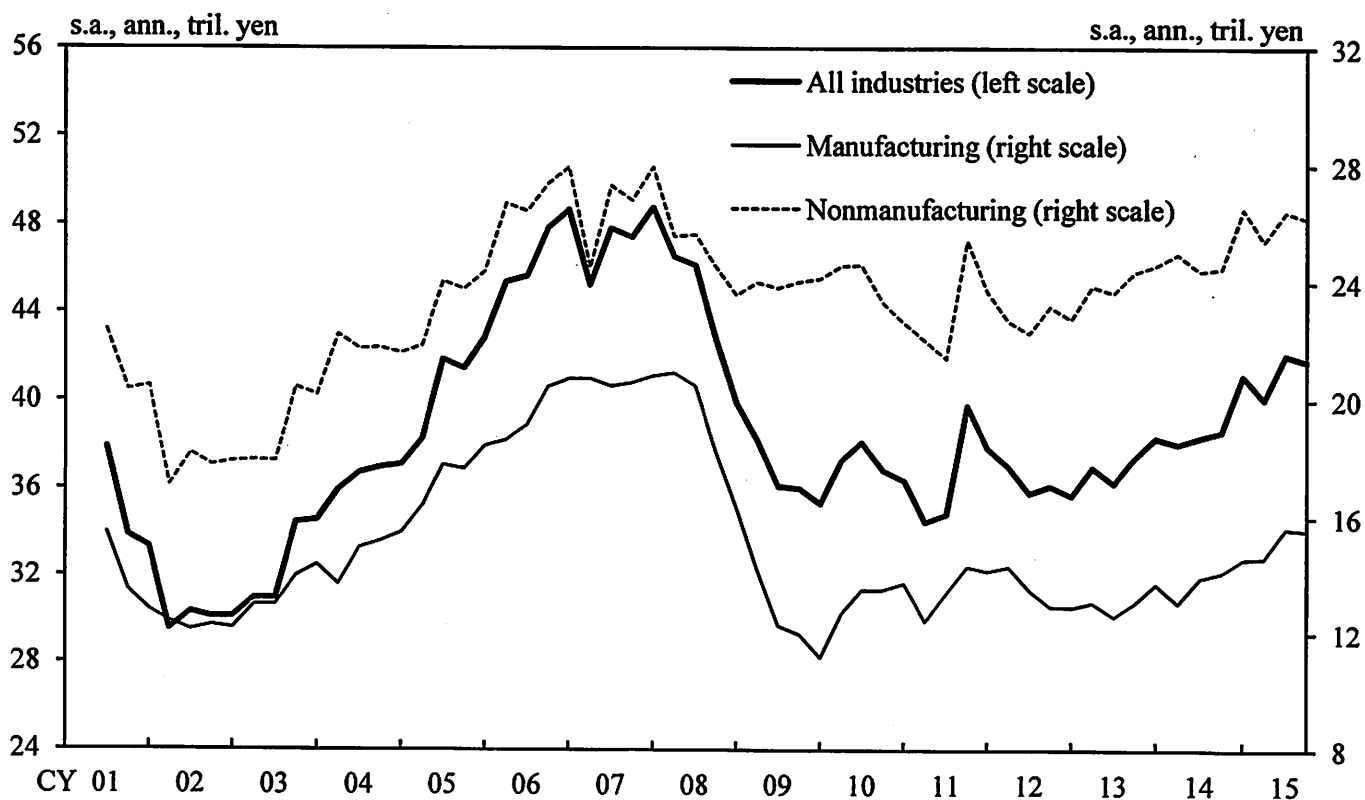
## Coincident Indicators of Business Fixed Investment

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



Note: Figures for 2016/Q1 are January-February averages.

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



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

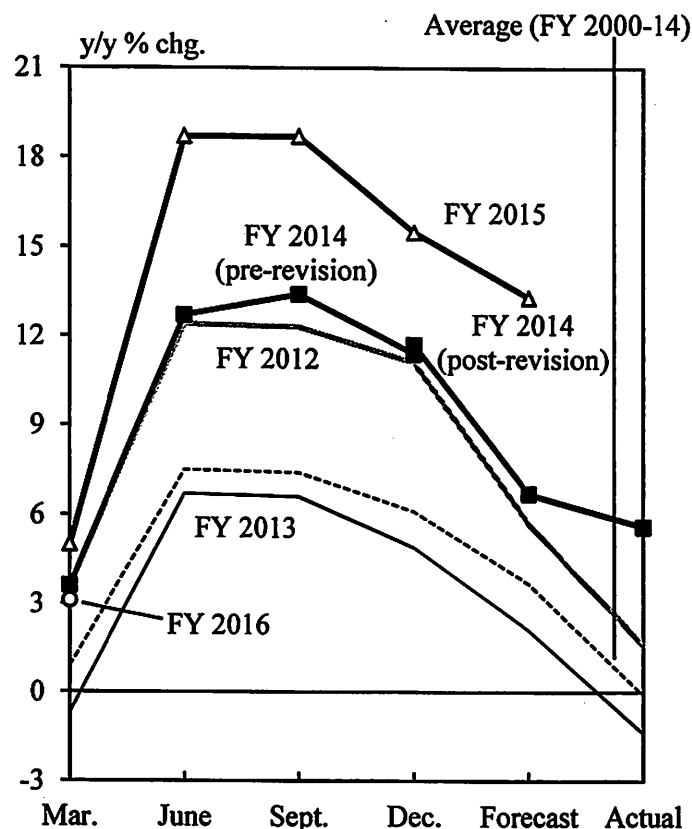
Excluding "Finance and Insurance" and "Goods Rental and Leasing," and including software investment.

Sources: Cabinet Office; Ministry of Economy, Trade and Industry; Ministry of Finance.

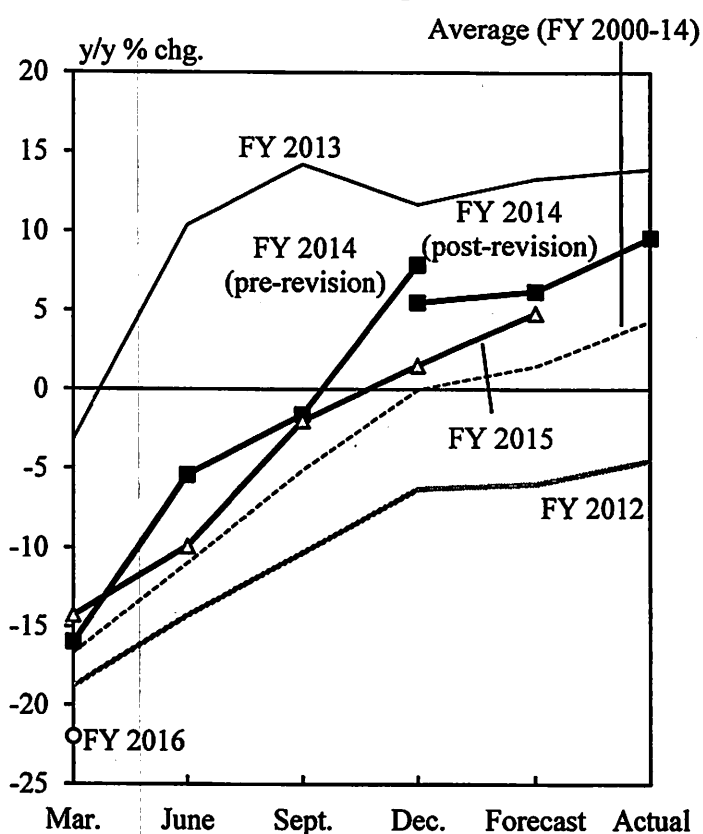


# Business Fixed Investment Plans, by Industry and Enterprise Size

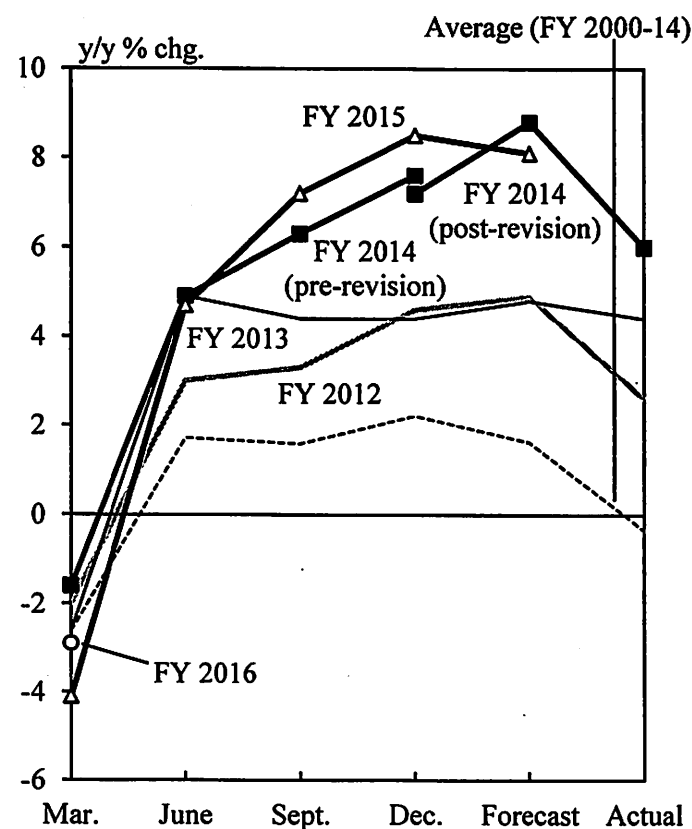
(1) Large Manufacturing Enterprises



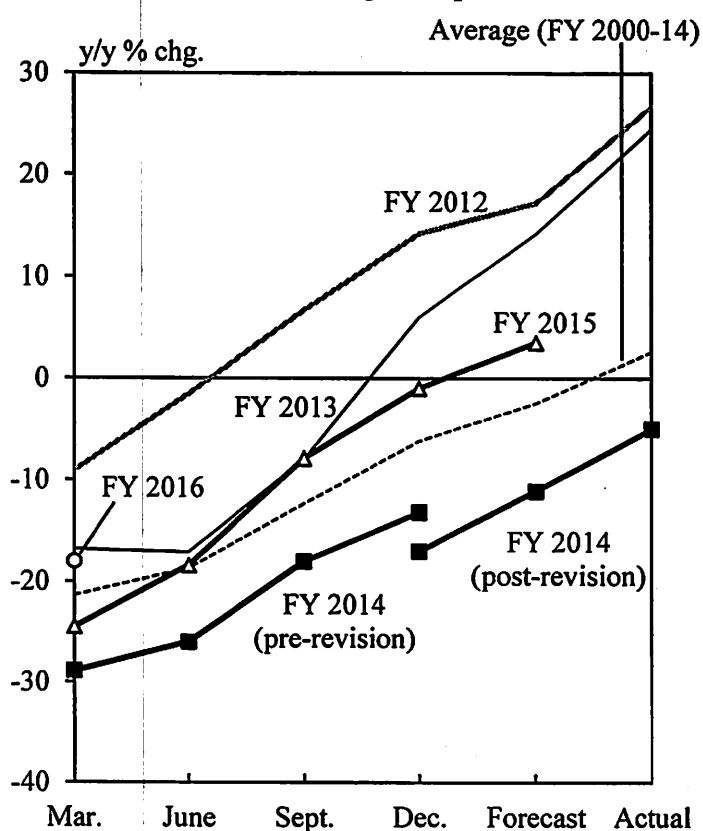
(2) Small Manufacturing Enterprises



(3) Large Nonmanufacturing Enterprises



(4) Small Nonmanufacturing Enterprises



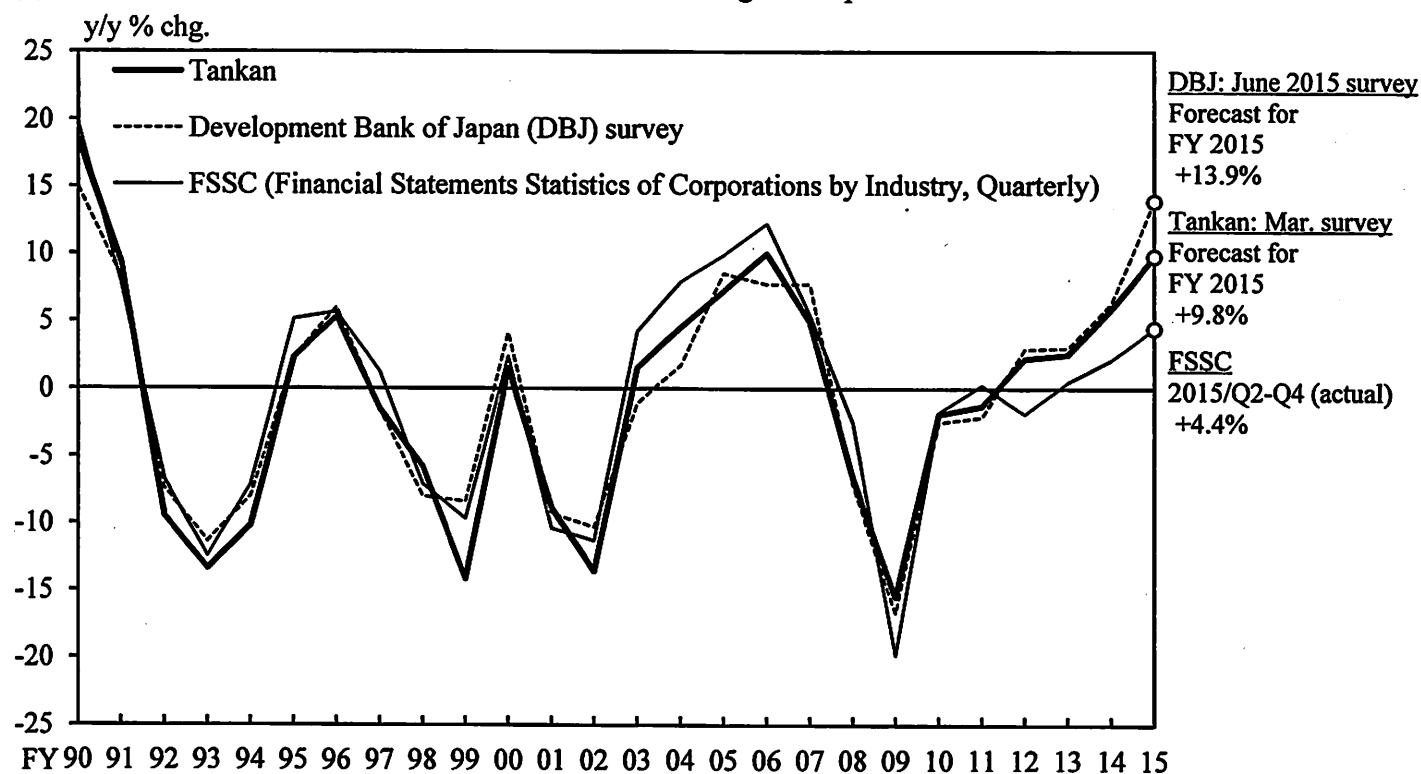
Notes: 1. Based on the *Tankan*. Figures include land purchasing expenses and exclude software investment.

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

Source: Bank of Japan.

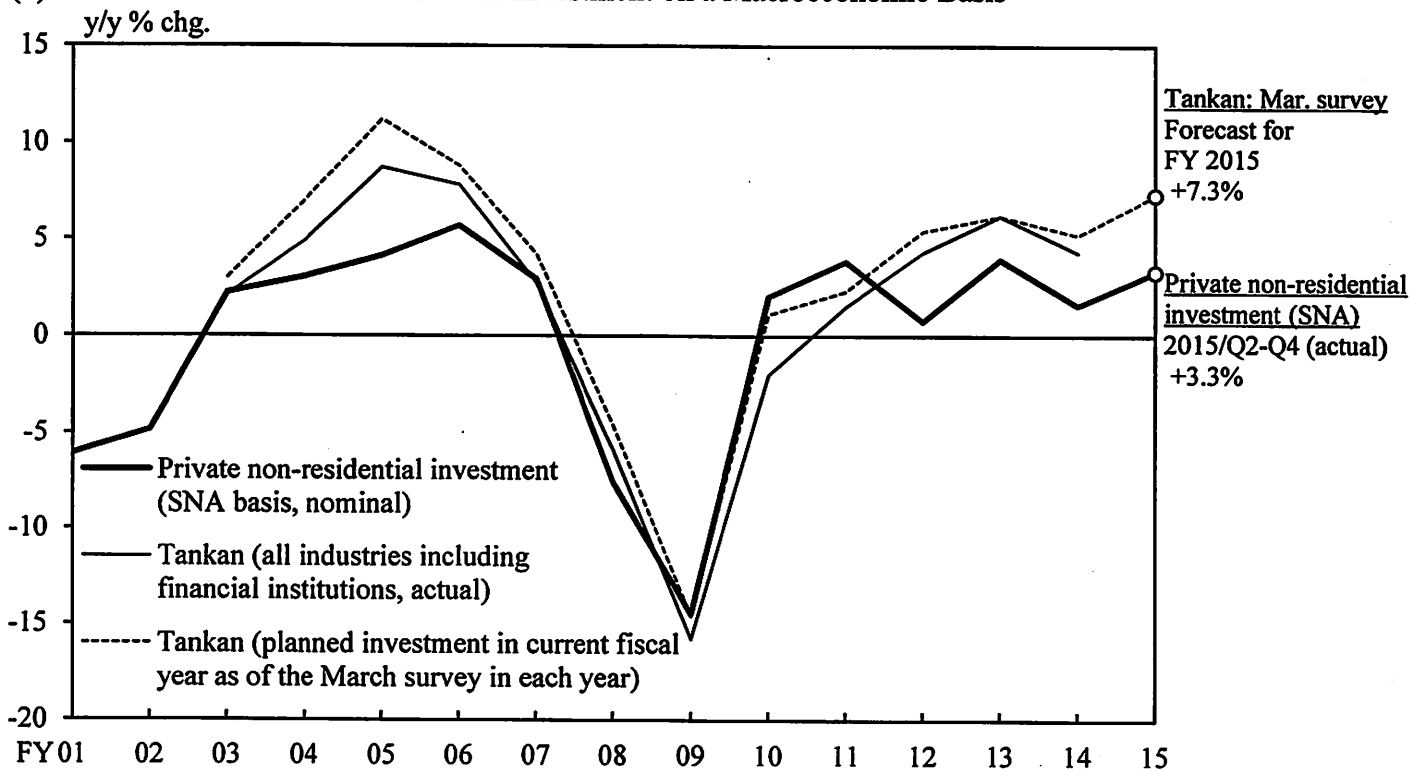
## Planned and Actual Business Fixed Investment

### (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

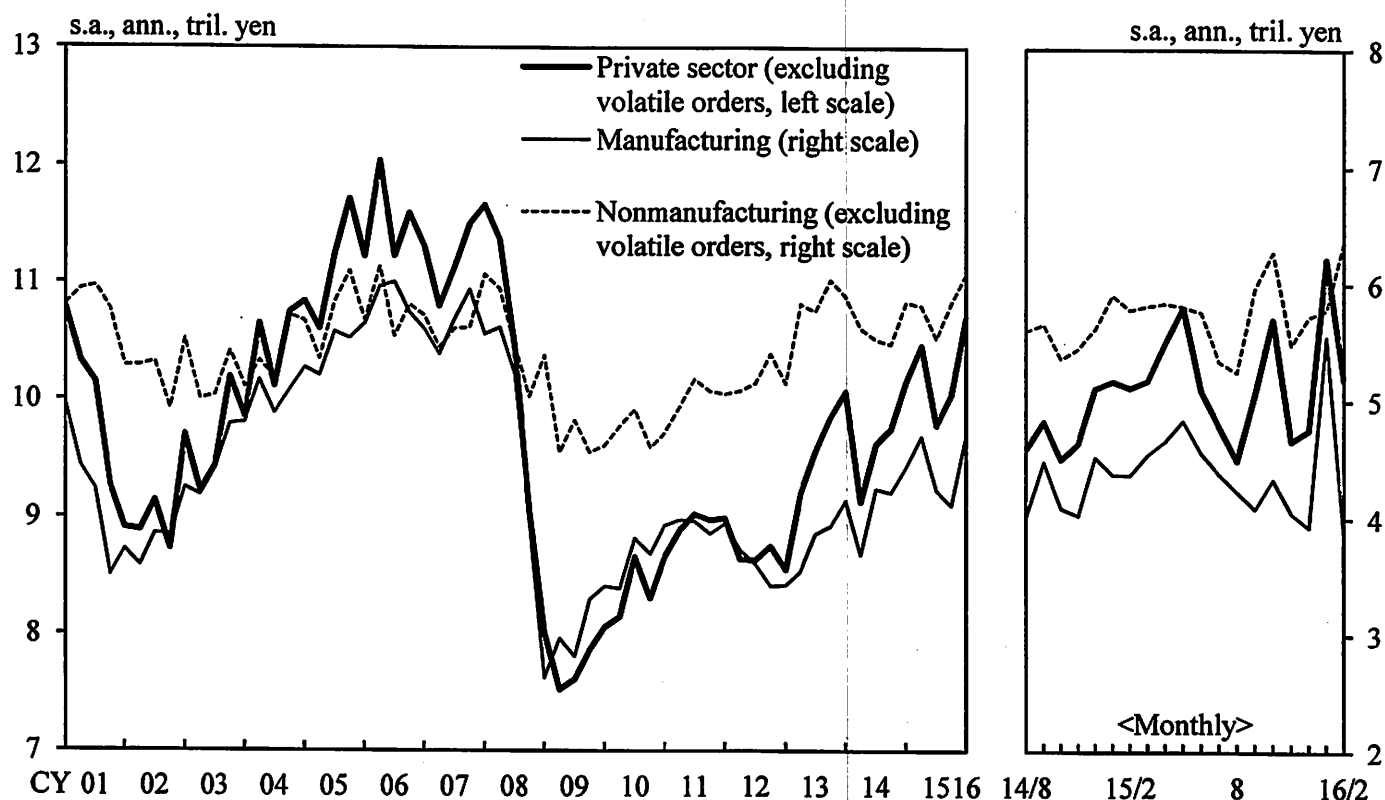


Note: Figures for the *Tankan* include software investment and exclude land purchasing expenses.

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

# Leading Indicators of Business Fixed Investment

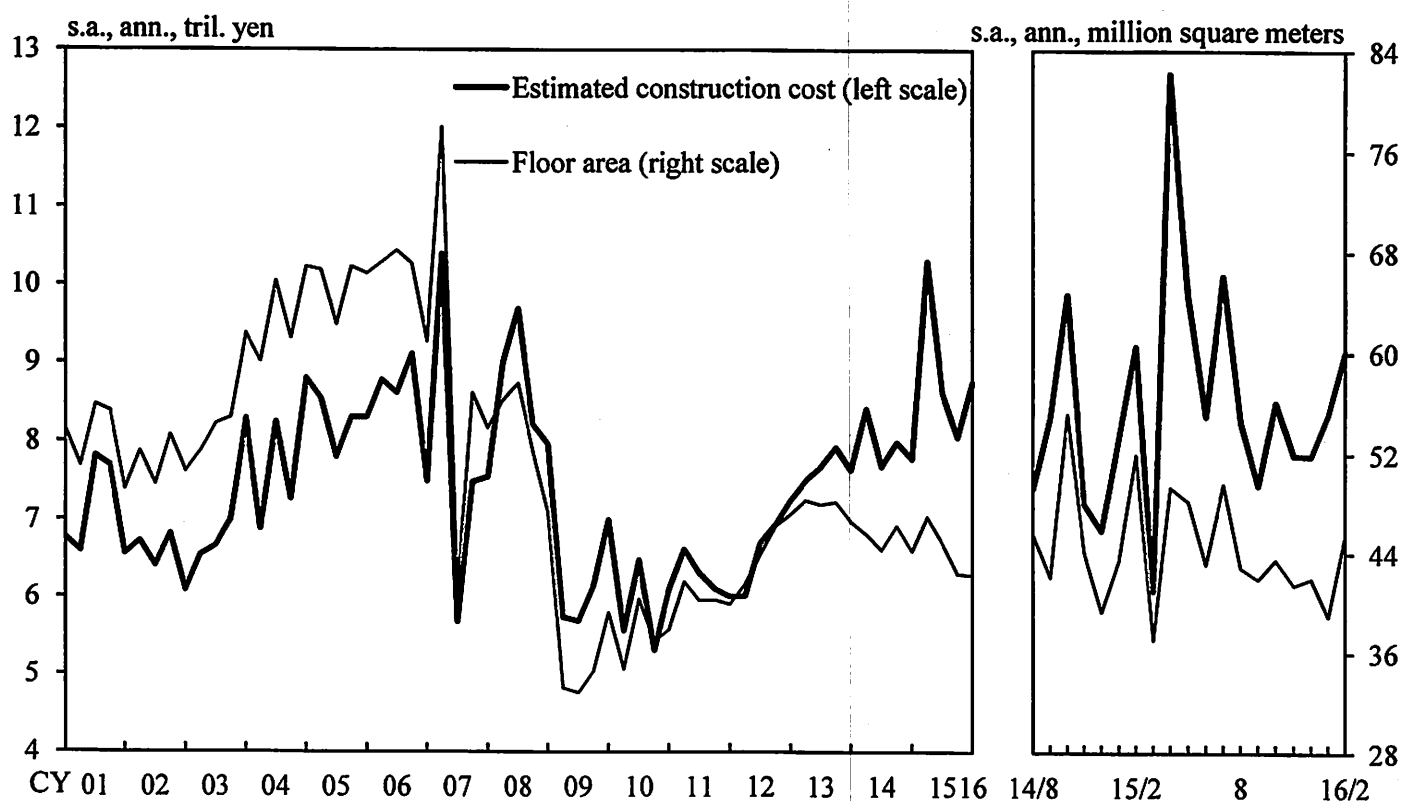
## (1) Machinery Orders



Notes: 1. Volatile orders: orders for ships and orders from electric power companies.

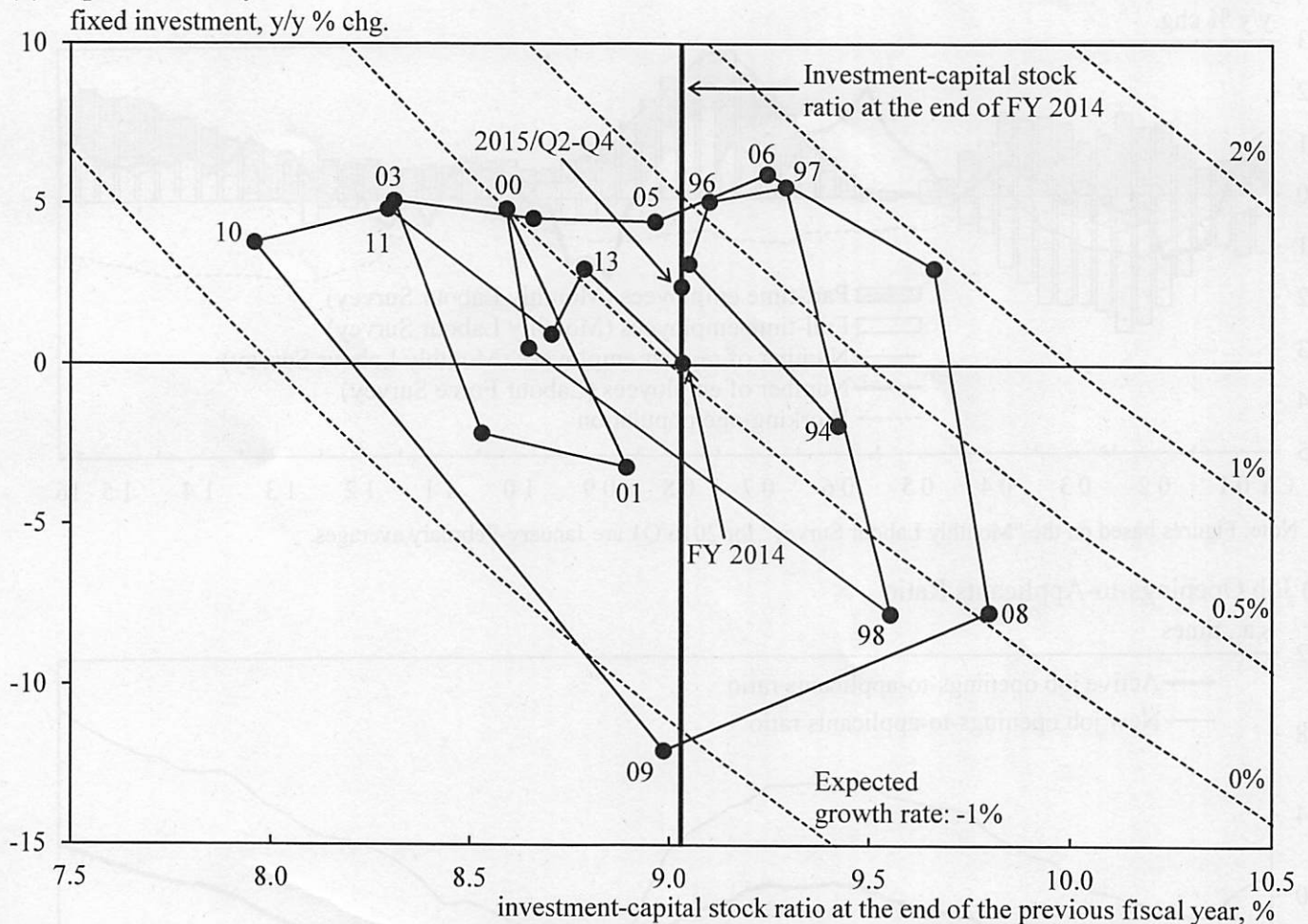
2. Figures for 2016/Q1 are January-February averages. The same applies to the chart below.

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



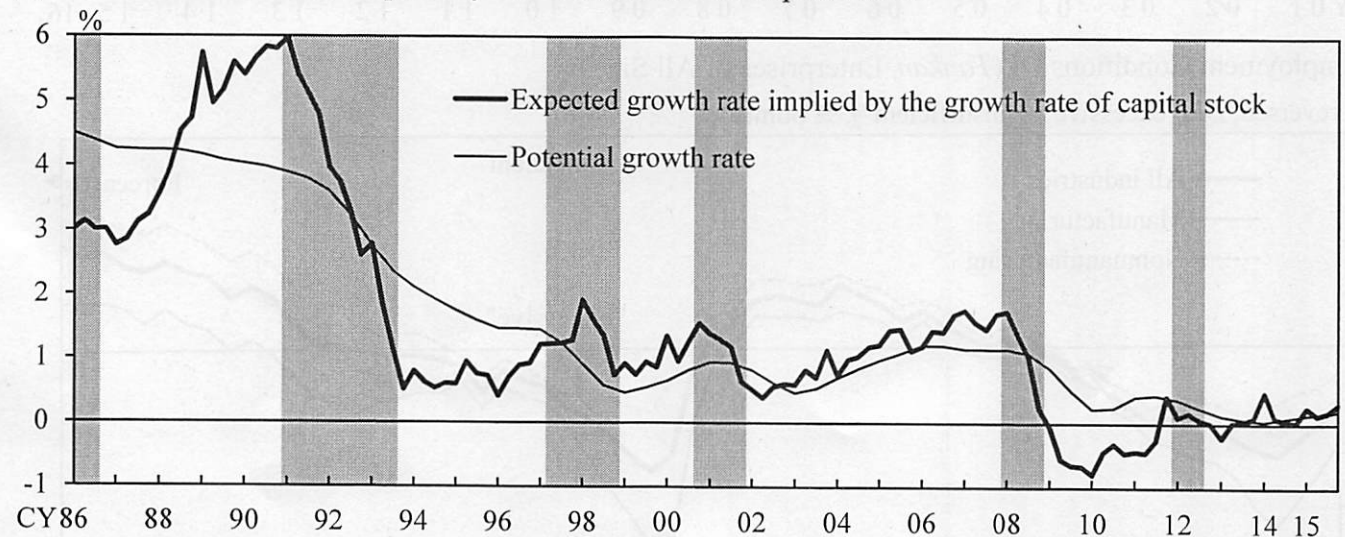
## Expected Growth Rate and Capital Stock Cycles

### (1) 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).

### (2) Expected Growth Rate Implied by the Growth Rate of Capital Stock



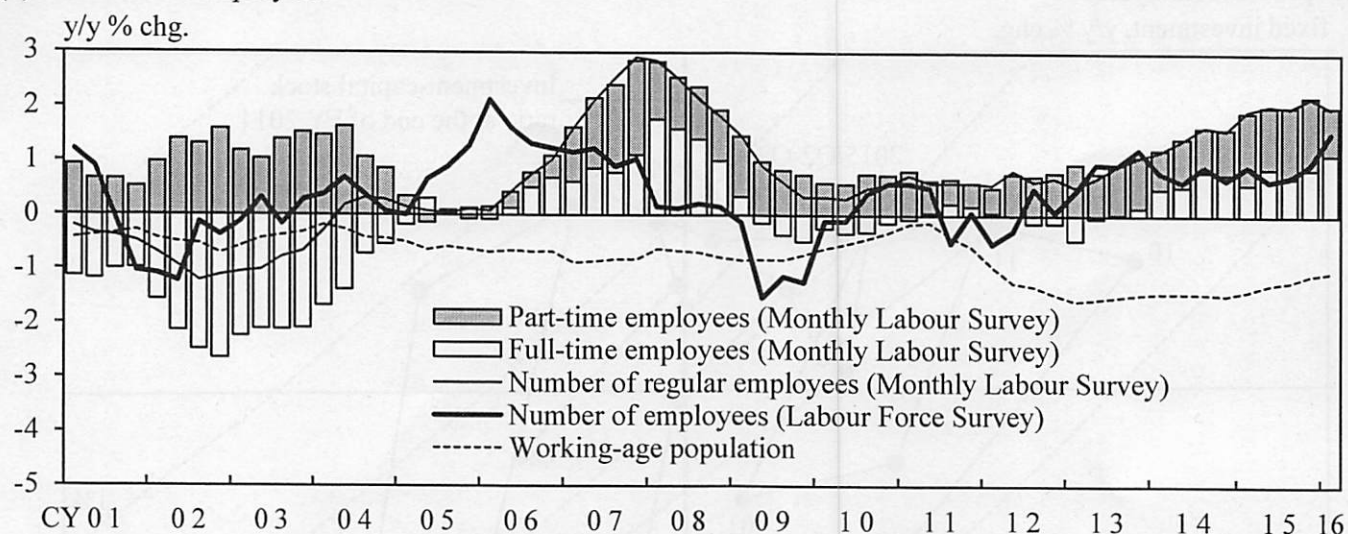
Notes: 1. The expected growth rate implied by the growth rate of capital stock is estimated based on the rate of change in fixed investment as well as the investment-capital stock ratio, the depreciation rate, and the trend growth rate of capital coefficient at each point. The potential growth rate is estimated by the Research and Statistics Department, Bank of Japan.

2. Shaded areas indicate recession periods.

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

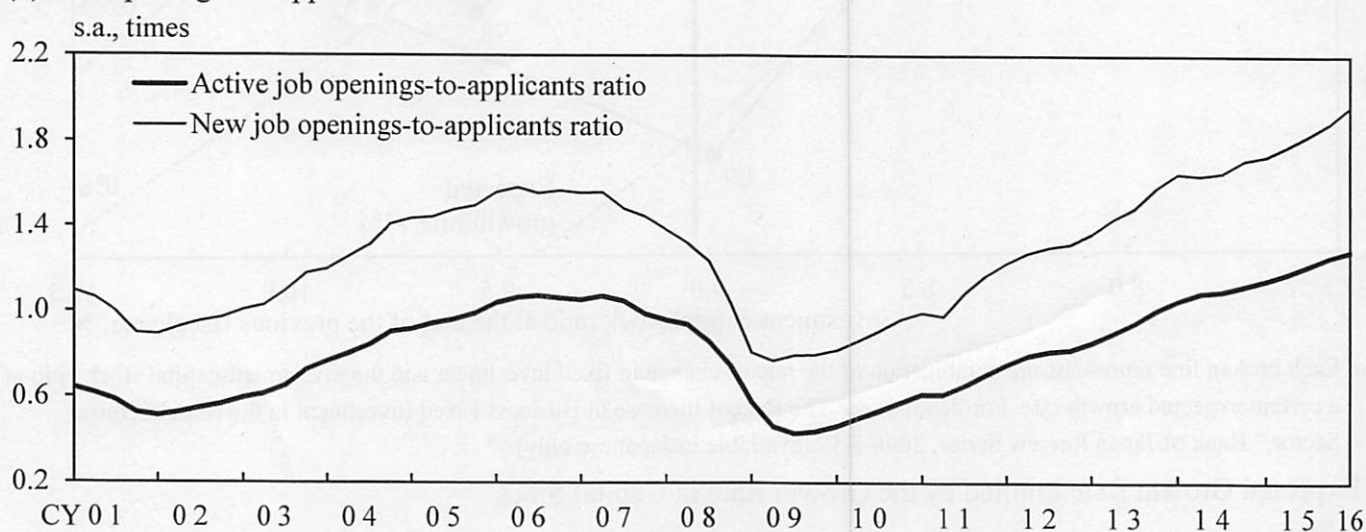
# Employment and Labor Market Conditions

## (1) Number of Employees

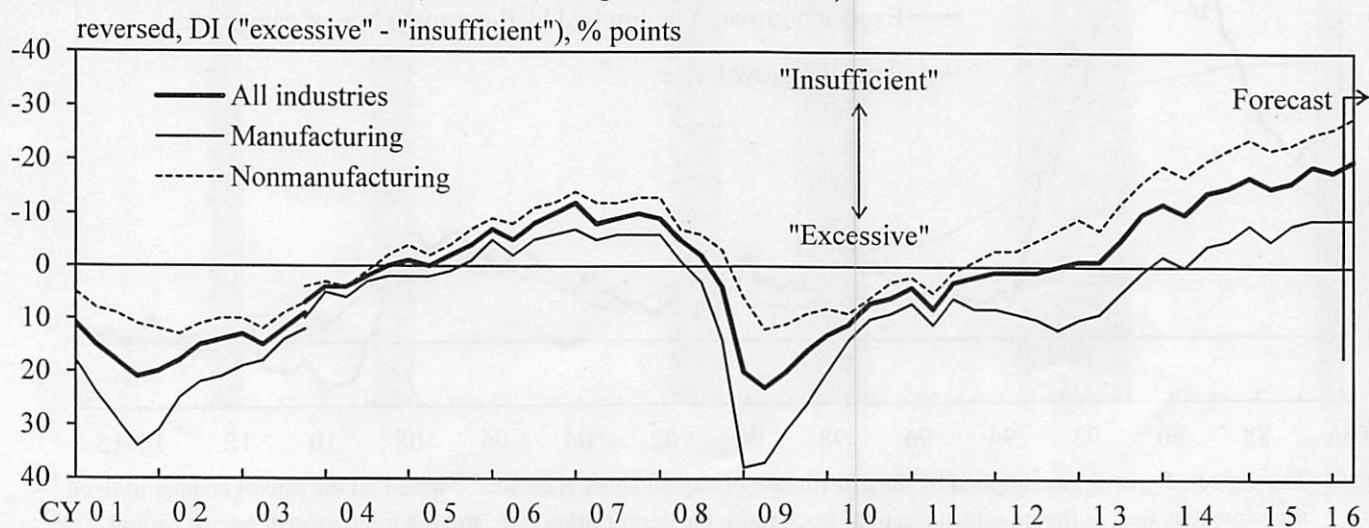


Note: Figures based on the "Monthly Labour Survey" for 2016/Q1 are January-February averages.

## (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.

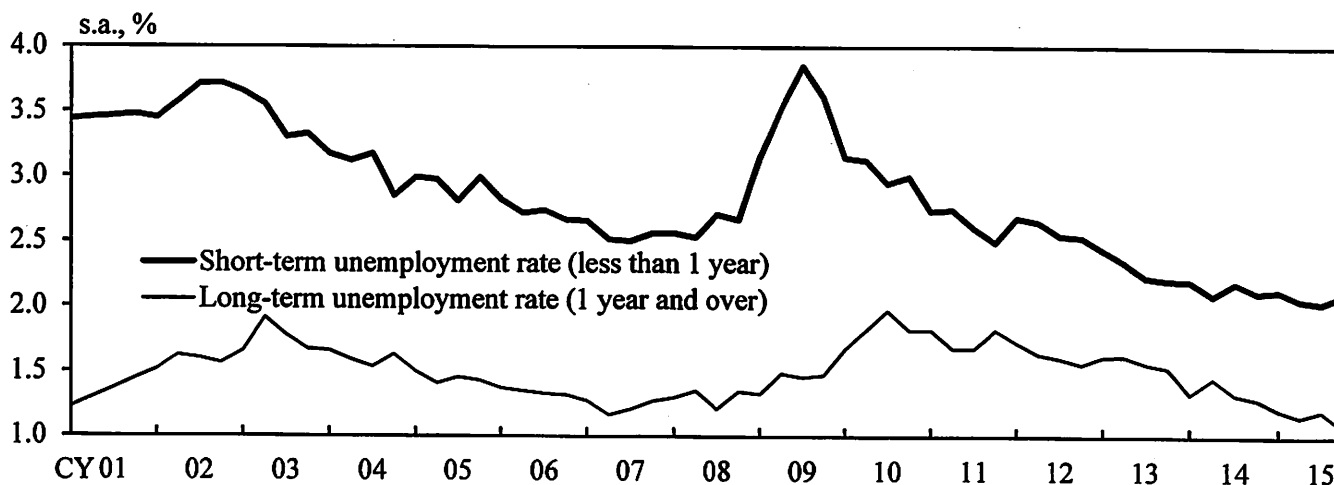
## Unemployment Rate and Labor Force Participation Rate

### (1) Unemployment Rate



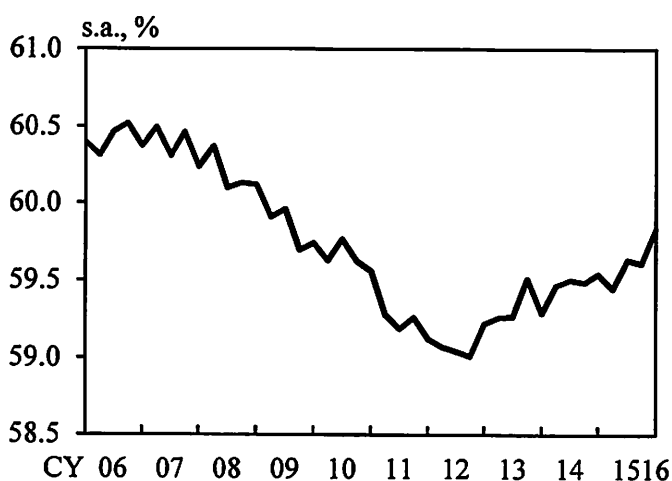
Note: The structural unemployment rate is estimated by the Research and Statistics Department, Bank of Japan.

### (2) Unemployment Rate by Duration

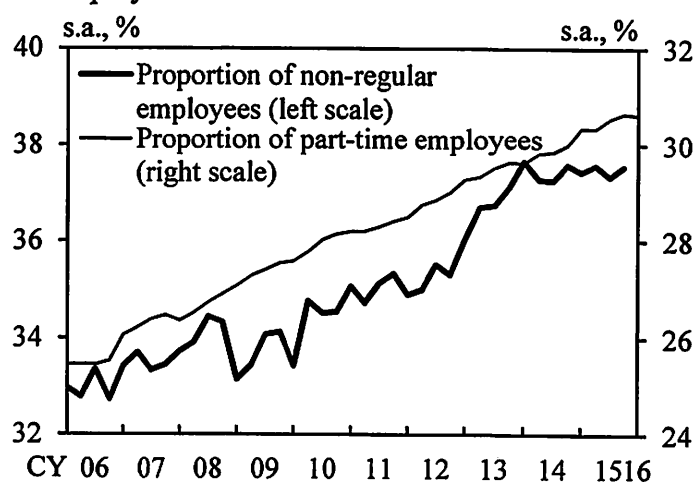


Note: Figures for unemployed persons by duration up through CY 2001 are not seasonally adjusted, since they are on a semiannual basis.

### (3) Labor Force Participation Rate



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



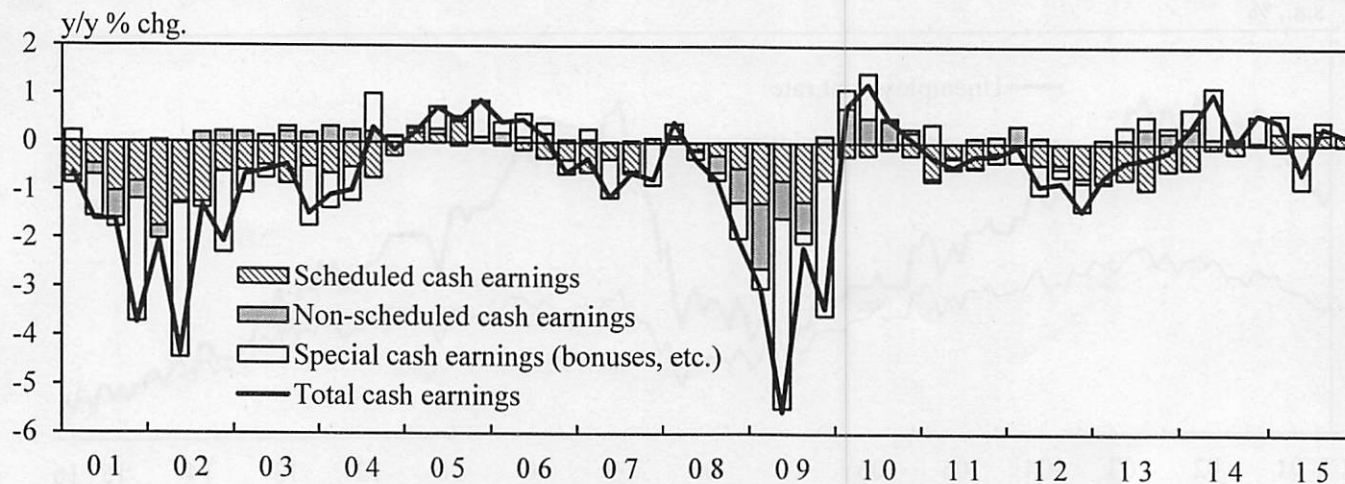
Note: Figures for the proportion of non-regular employees are based on the "detailed tabulation" in the "Labour Force Survey." The figure for the proportion of part-time employees for 2016/Q1 is the January-February average.

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



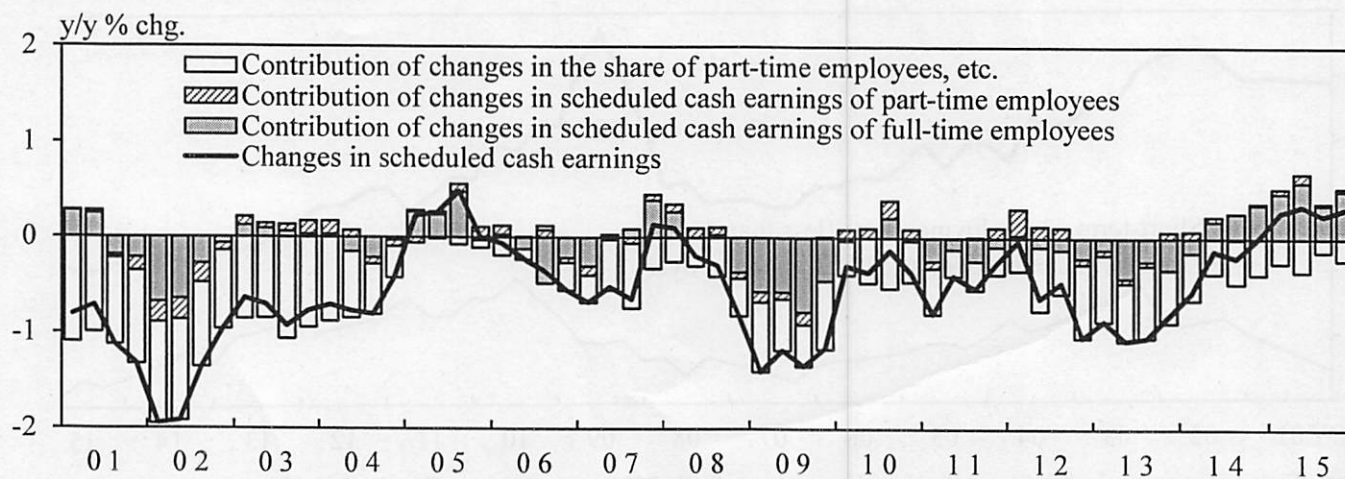
## Nominal Wages

## (1) Total Cash Earnings



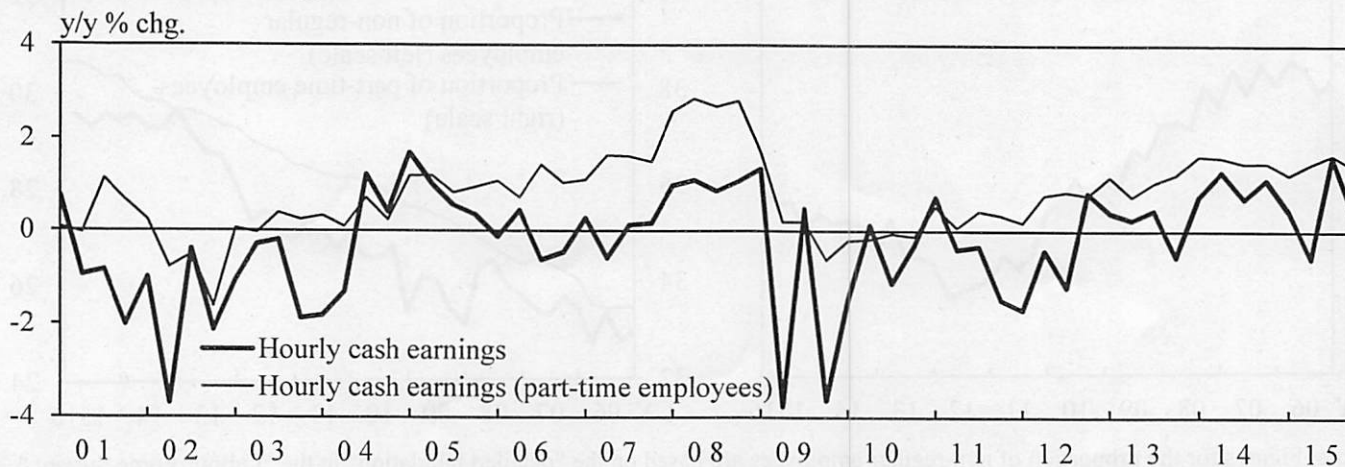
Note: Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.  
The same definition applies to the charts below.

## (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.

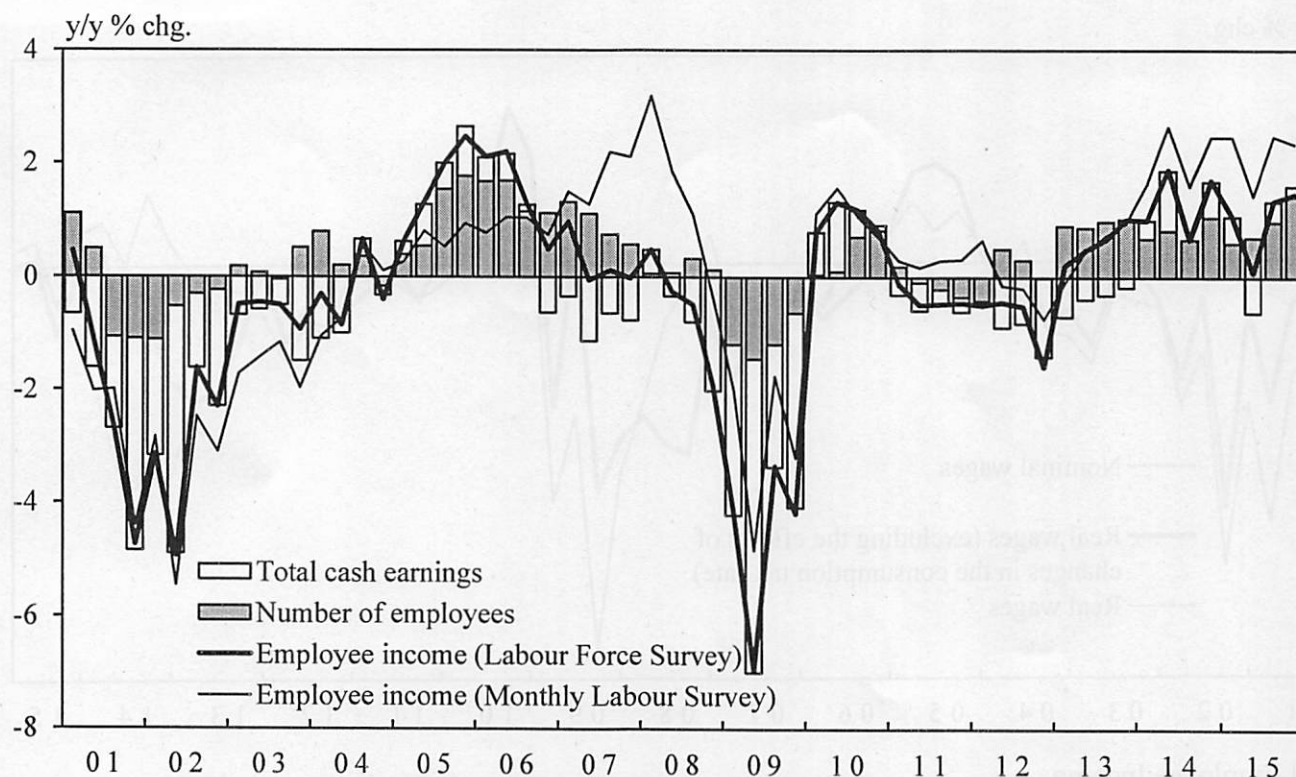
## (3) Hourly Cash Earnings



Source: Ministry of Health, Labour and Welfare.

## Employee Income

## (1) Employee Income

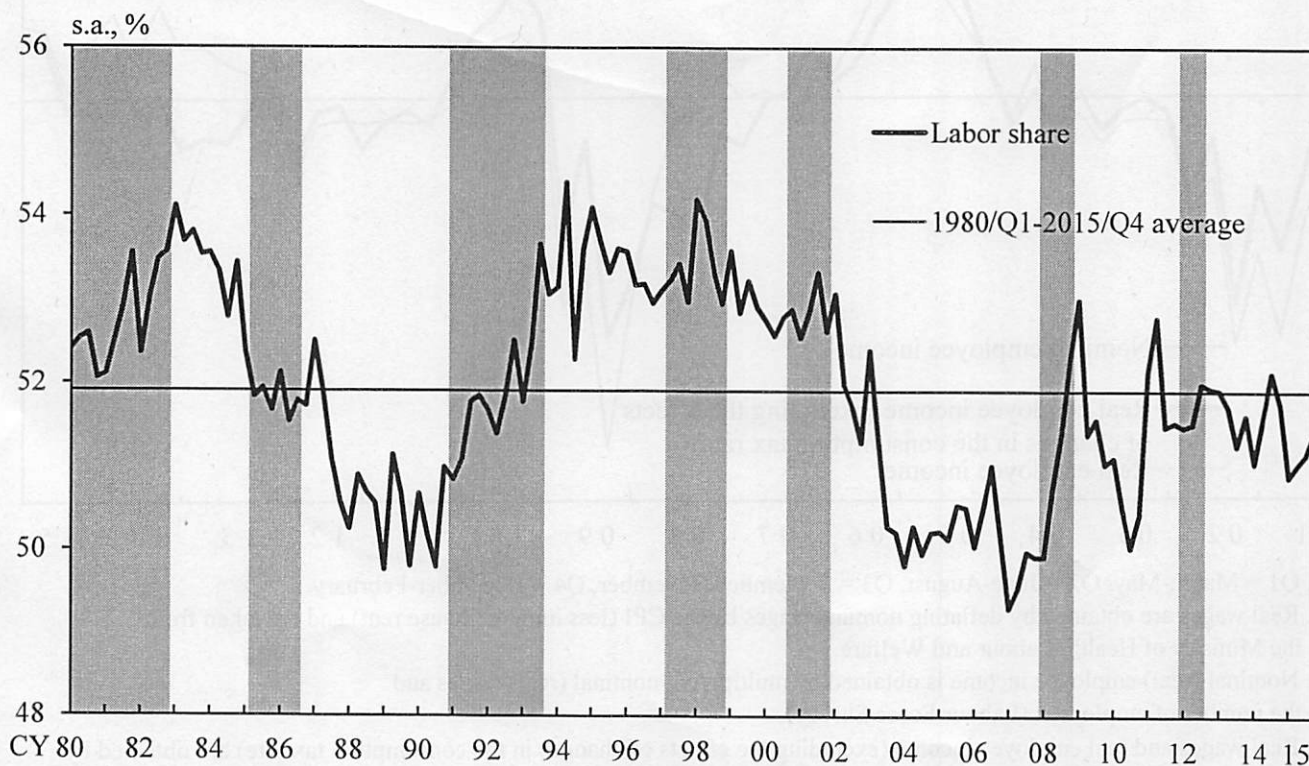


Notes: 1. Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.

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

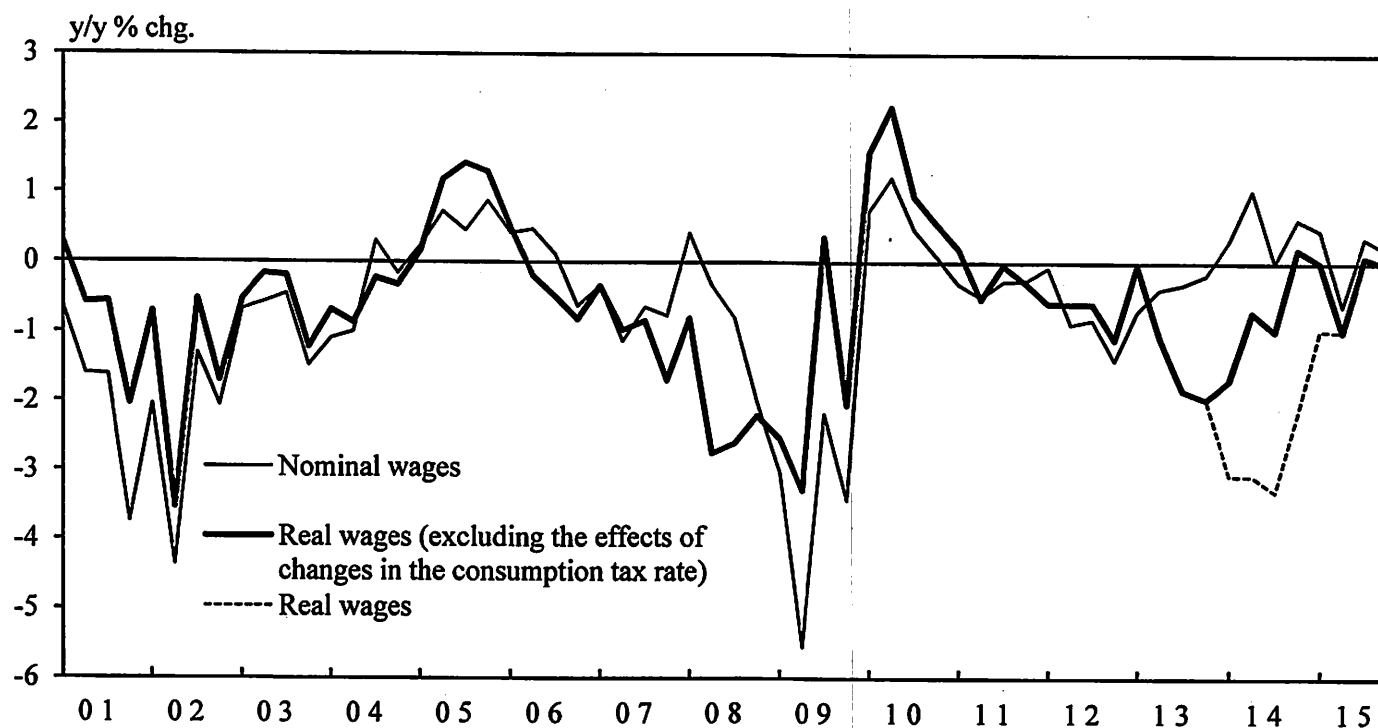
2. Shaded areas indicate recession periods.

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

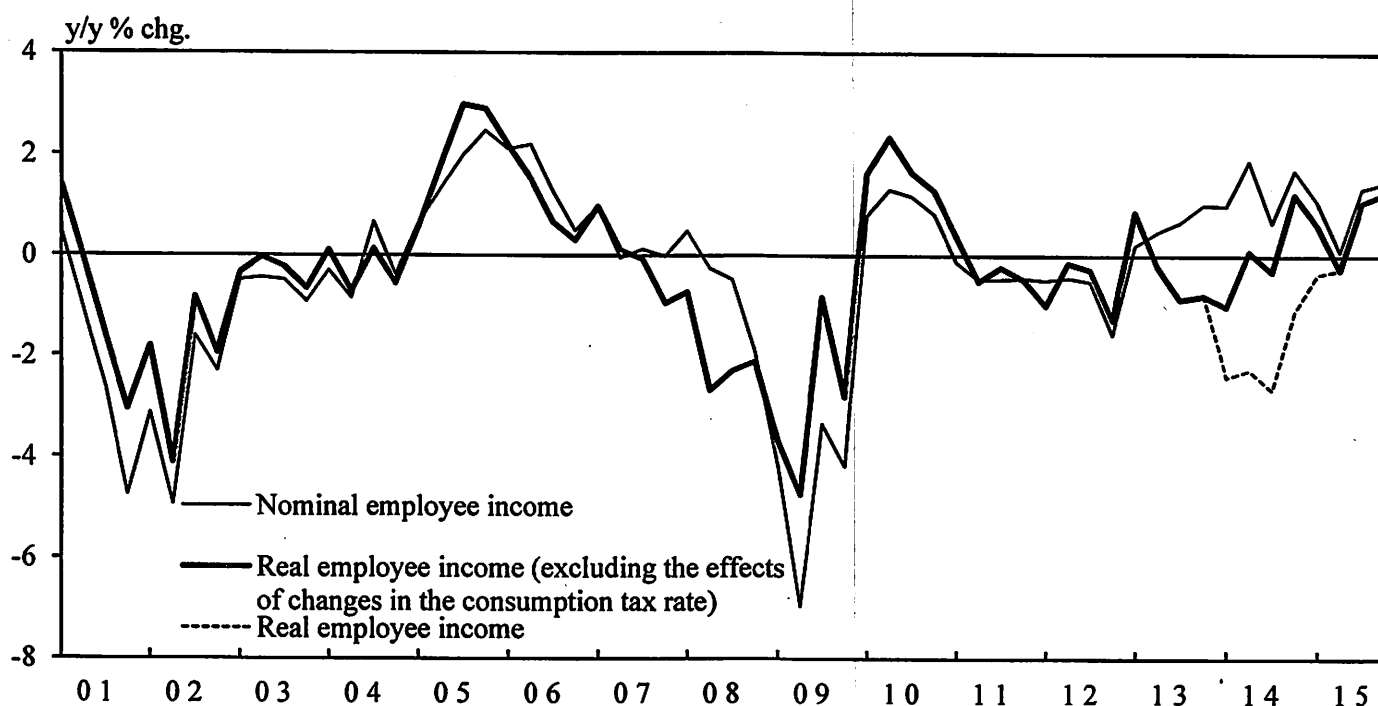


# Real Wages and Real Employee Income

## (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.

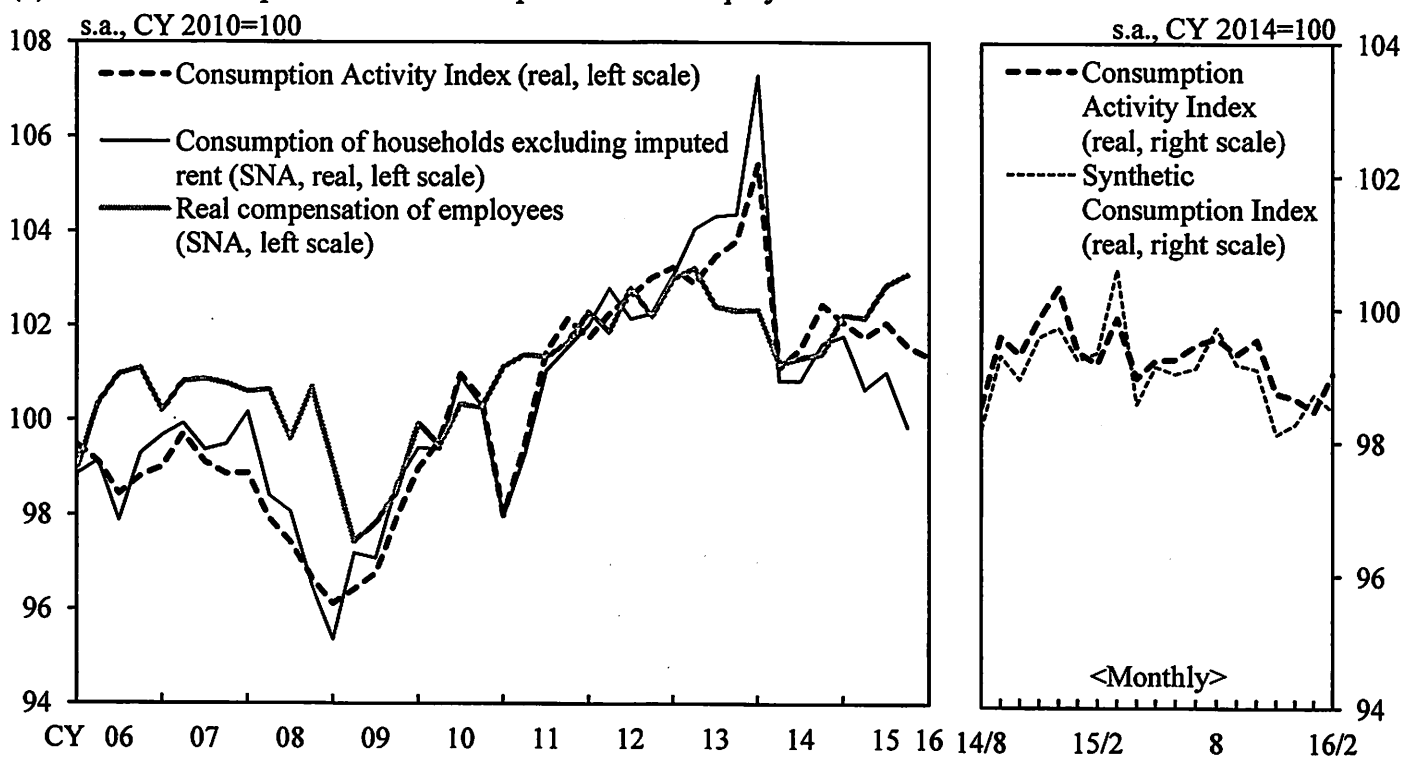
3. Nominal (real) employee income is obtained by multiplying nominal (real) wages and the number of employees (Labour Force Survey).

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

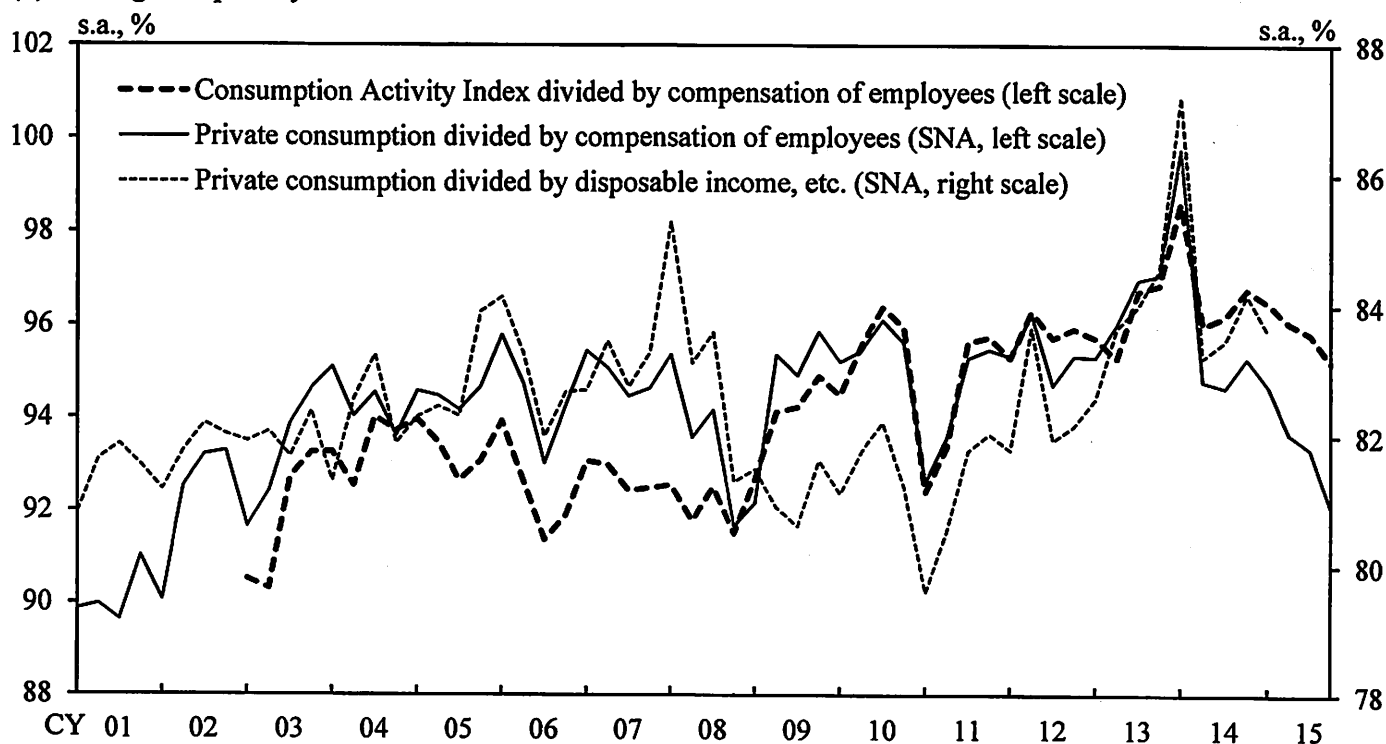
### (1) Private Consumption and Real Compensation of Employees



Notes: 1. Figures for the Consumption Activity Index exclude inbound tourism consumption and include outbound tourism consumption.

2. The figure for 2016/Q1 is the January-February average.

### (2) Average Propensity to Consume



Notes: 1. For the calculation, the Consumption Activity Index (nominal index, excluding inbound tourism consumption and including outbound tourism consumption) is converted into nominal values using SNA-based private consumption in 2010.

2. Private consumption is consumption of households excluding imputed rent.

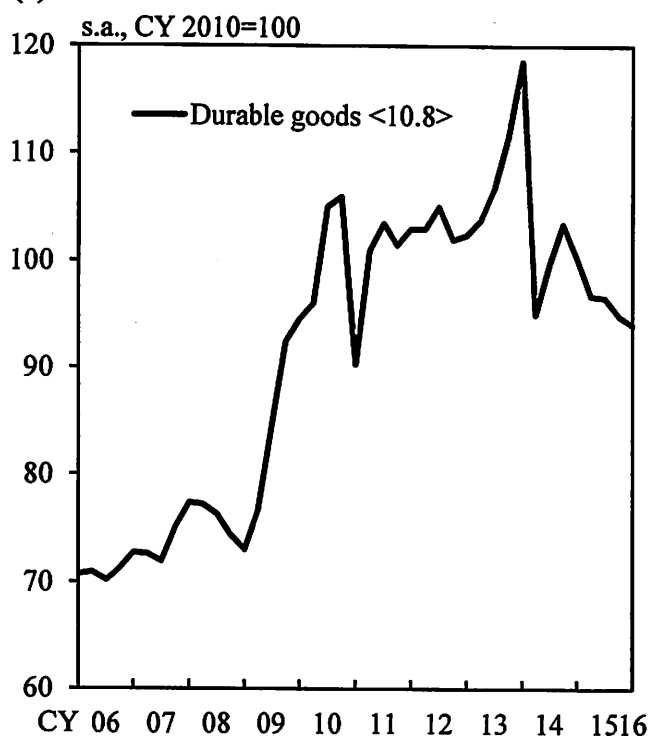
3. "Disposable income, etc." is obtained by adding changes in pension reserves in pension funds to disposable income.

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

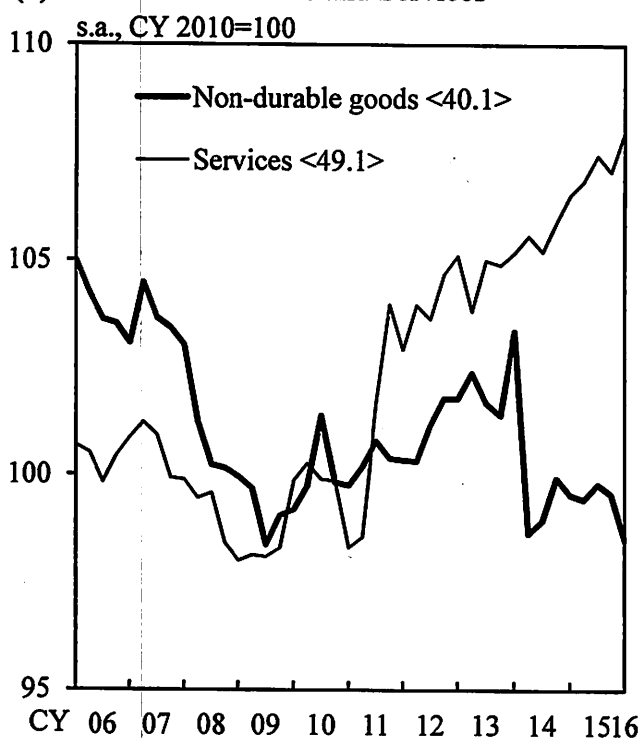
# Private Consumption by Type and Supply and Demand Side Statistics

## (1) Private Consumption by Type in the Consumption Activity Index (Real)

### (a) Durable Goods

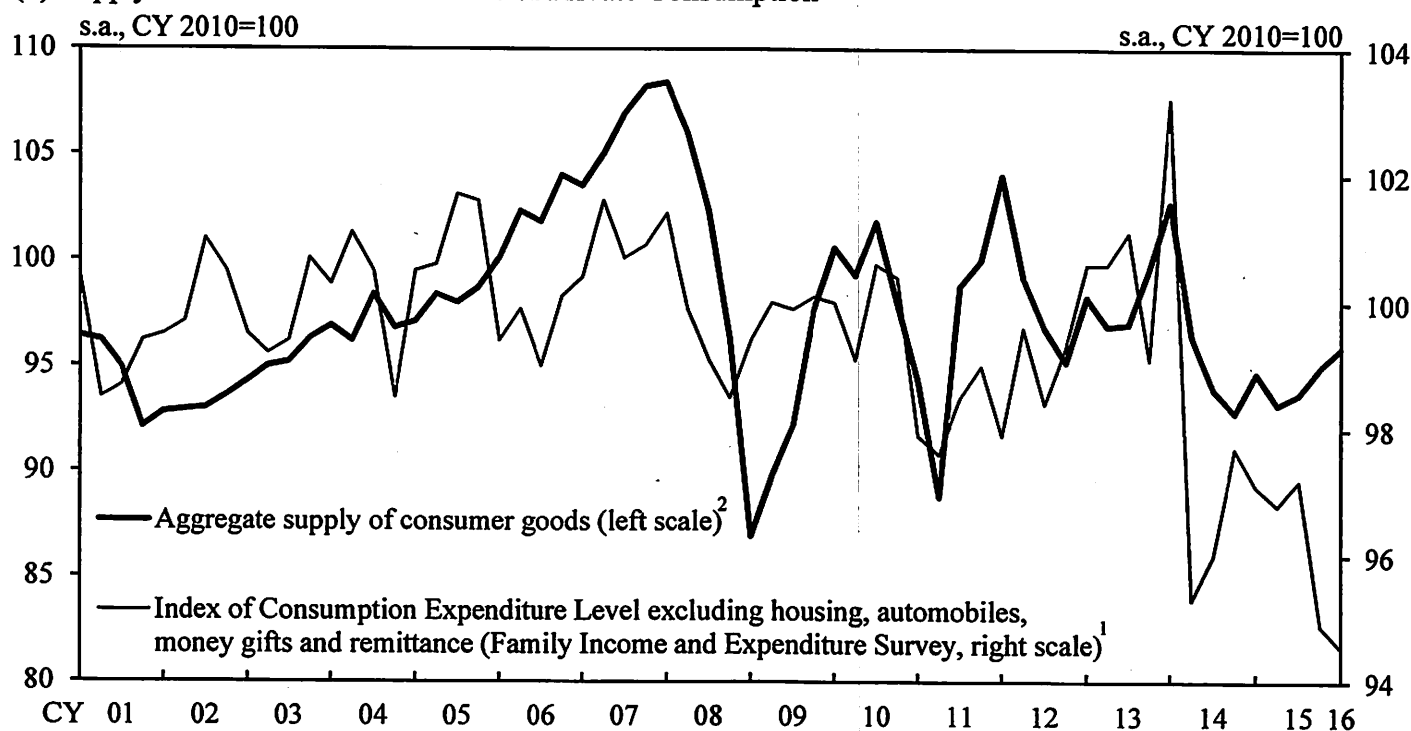


### (b) Non-Durable Goods and Services



- Notes: 1. Figures in angular brackets show the weights in the Consumption Activity Index.  
2. Non-durable goods include goods classified as "semi-durable goods" in the SNA.  
3. Figures for 2016/Q1 are January-February averages.

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

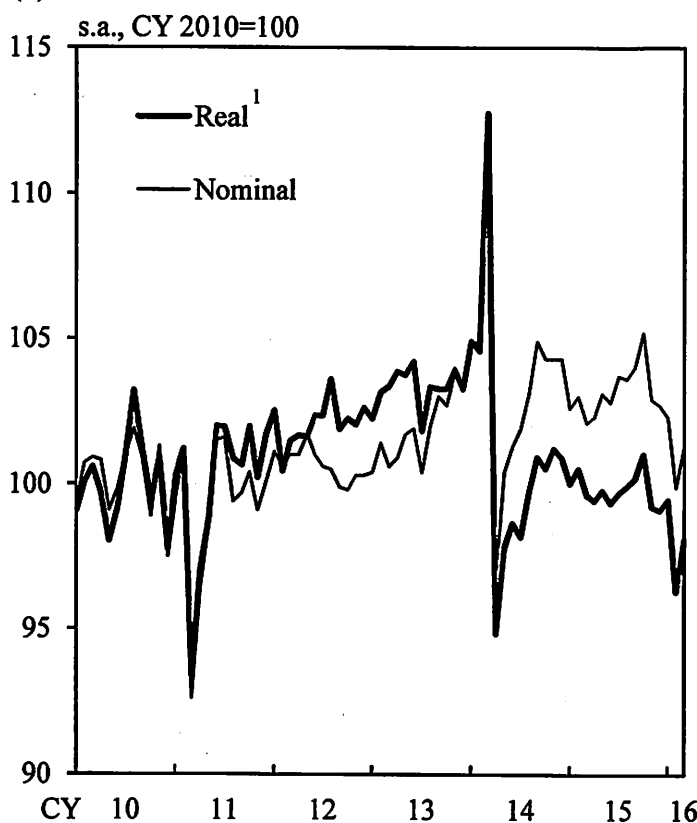


- Notes: 1. Figures are based on households with two or more persons and are adjusted using the distribution of households by number of household members and age group of the household head.  
2. The figure for 2016/Q1 is the January-February average.

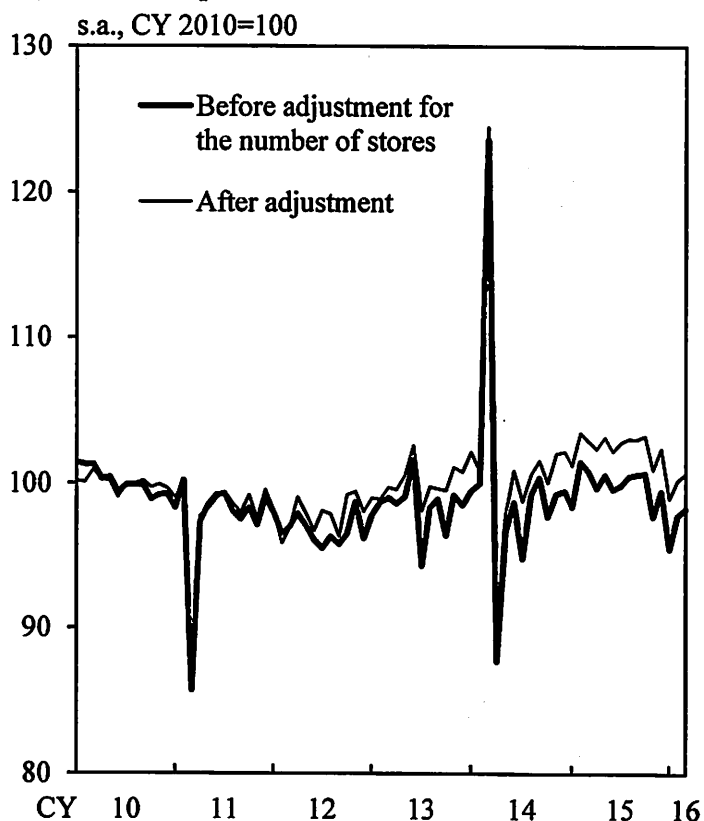
Sources: Cabinet Office; Bank of Japan; Ministry of Economy, Trade and Industry; Ministry of Internal Affairs and Communications, etc.

## Sales Statistics (Current Survey of Commerce)

(1) Sales at Retail Stores

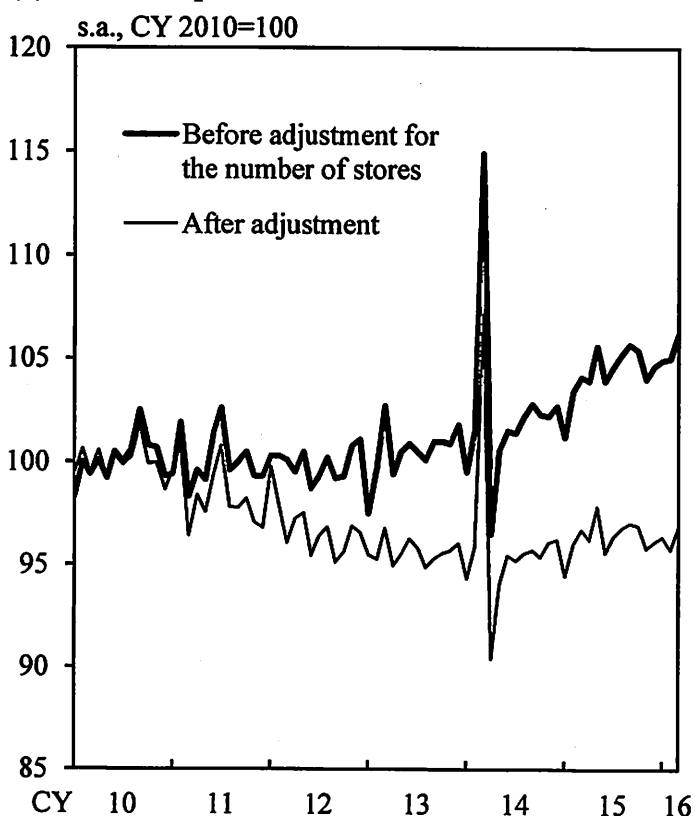


(2) Sales at Department Stores

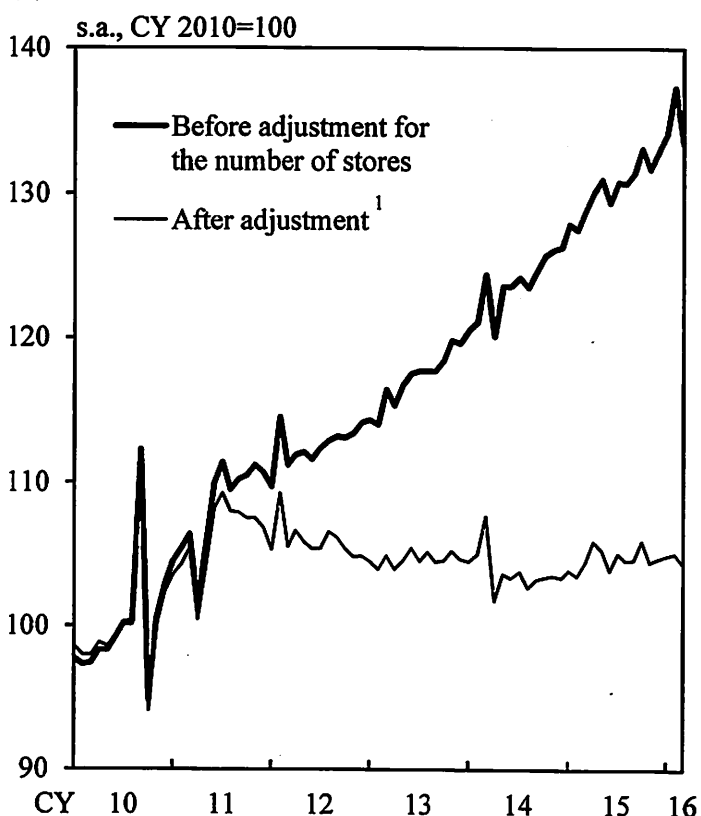


Note: 1. Real sales are obtained by deflating nominal sales by the CPI for goods (excluding electricity, gas & water charges).

(3) Sales at Supermarkets



(4) Sales at Convenience Stores



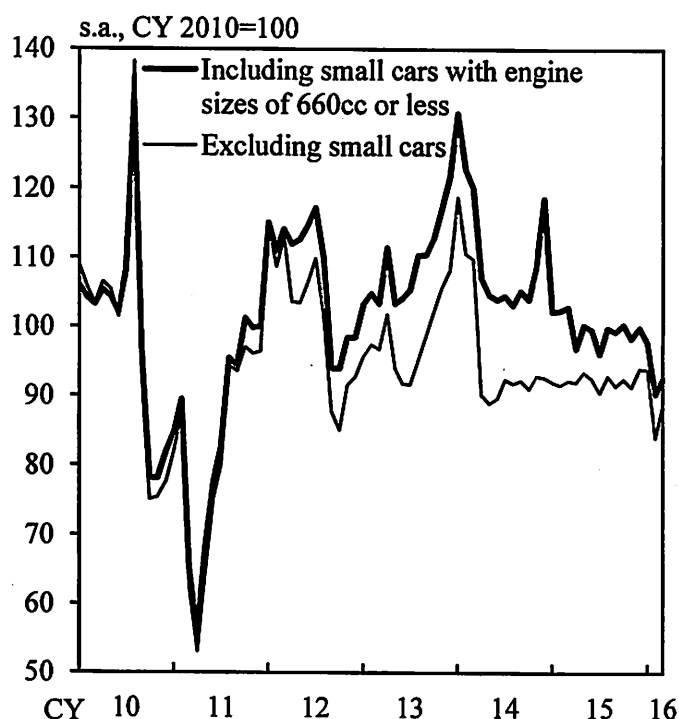
Note: 1. Figures are based on data published by the Japan Franchise Association.

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

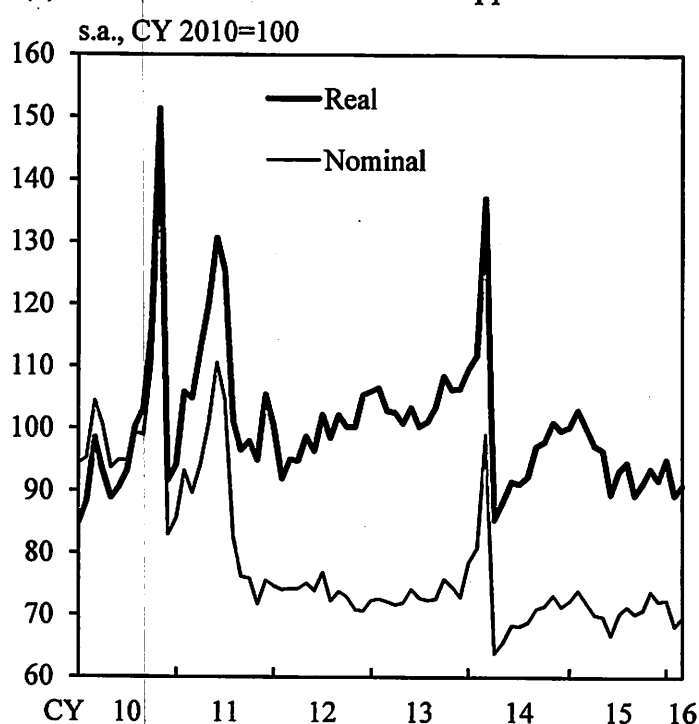
# Consumption of Durable Goods and Services

## (1) Consumption of Durable Goods

### (a) New Passenger Car Registrations

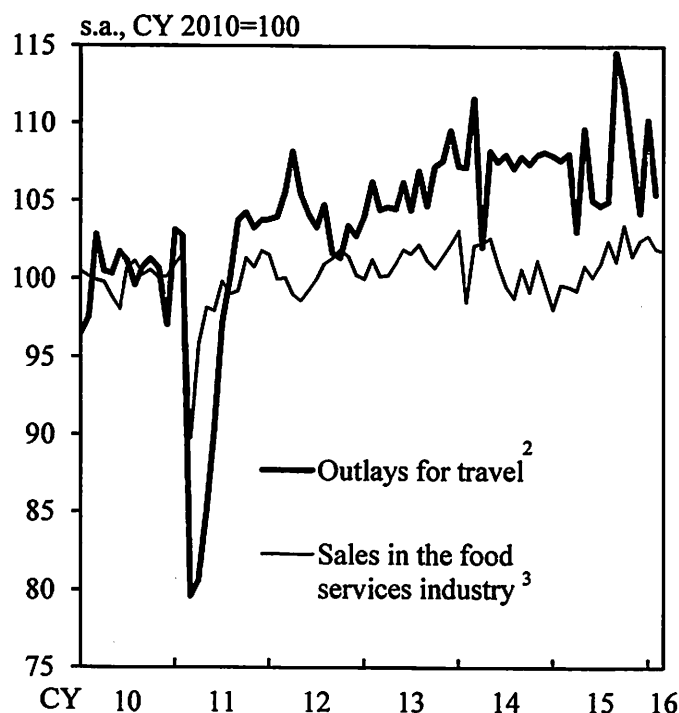


### (b) Sales of Household Electrical Appliances<sup>1</sup>

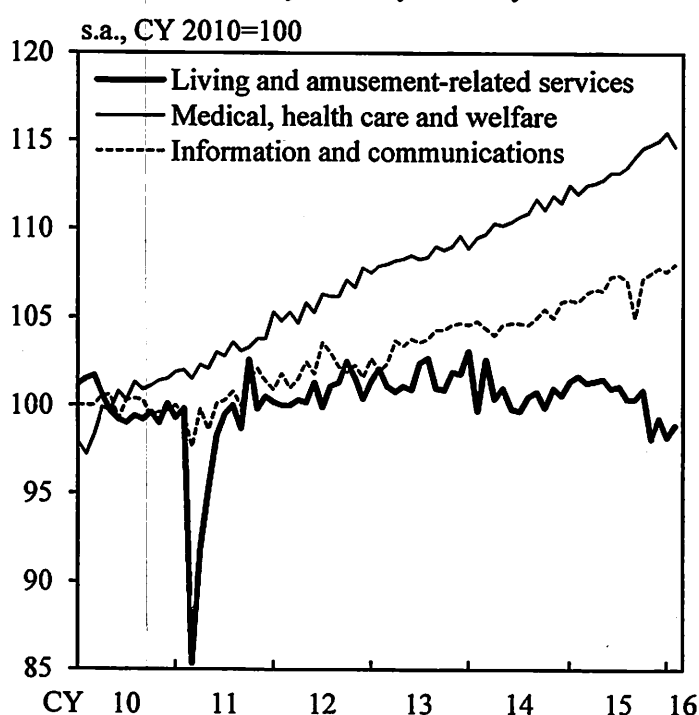


## (2) Consumption of Services

### (a) Travel and Food Services (Nominal)



### (b) Indices of Tertiary Industry Activity



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.

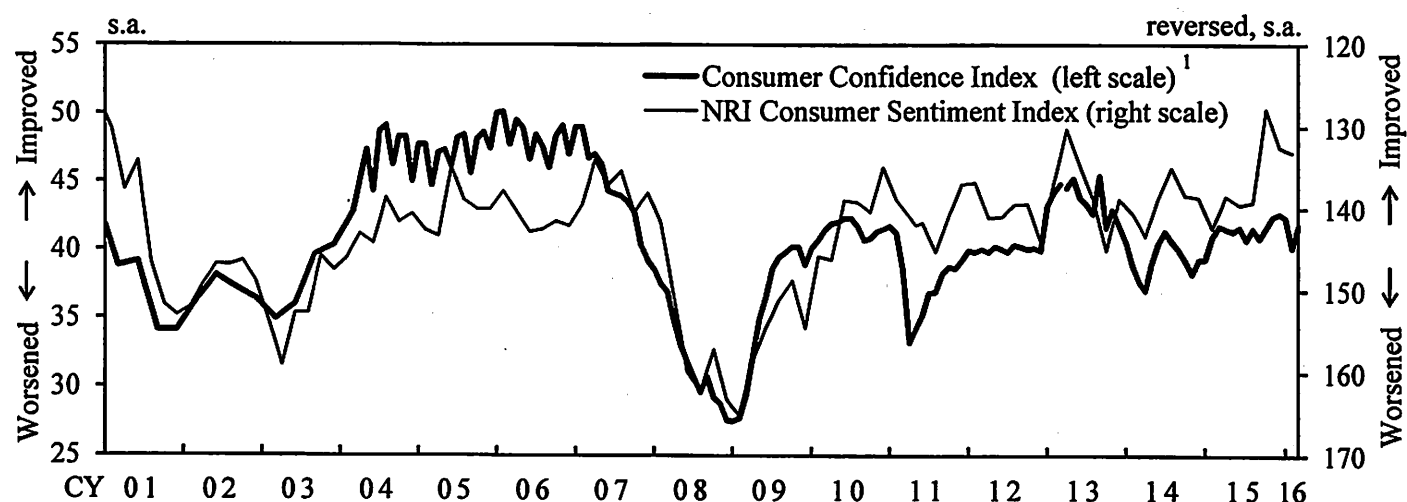
3. Figures are calculated using the year-on-year rates of change released by the Japan Food Service Association.

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."

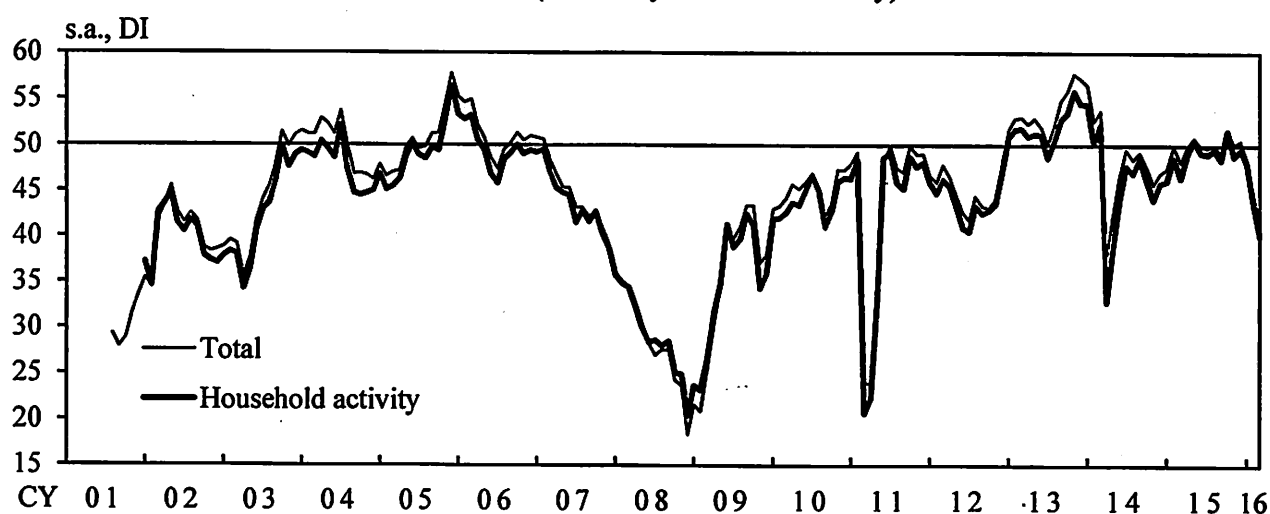
## Confidence Indicators Related to Private Consumption

### (1) Consumer Confidence Index and NRI Consumer Sentiment Index

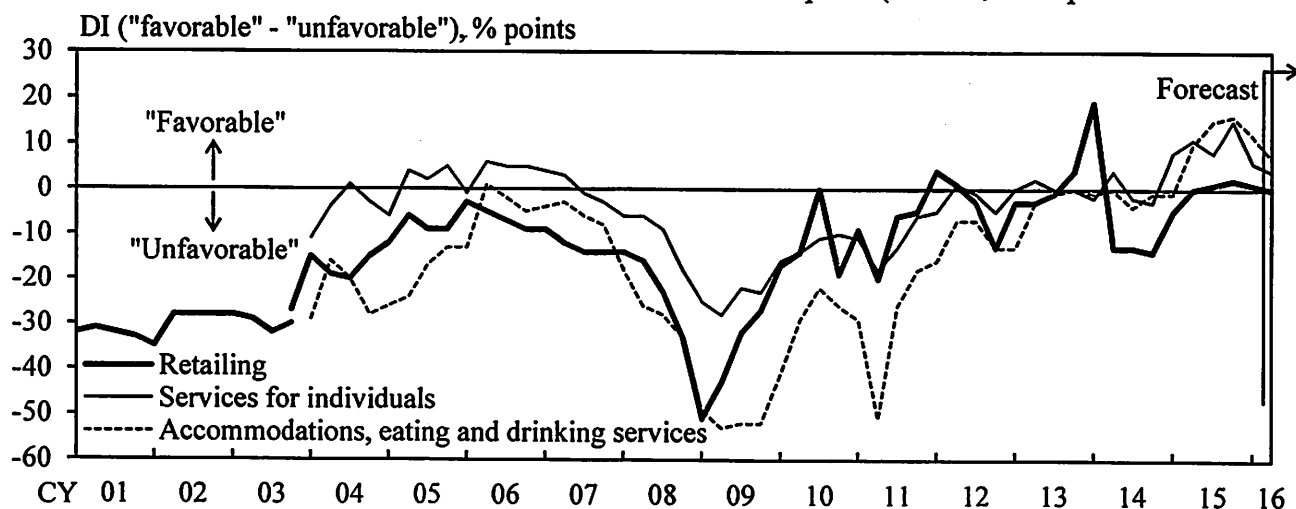


Note: 1. There is a discontinuity in the data in April 2013 due to a change in the survey method.

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



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

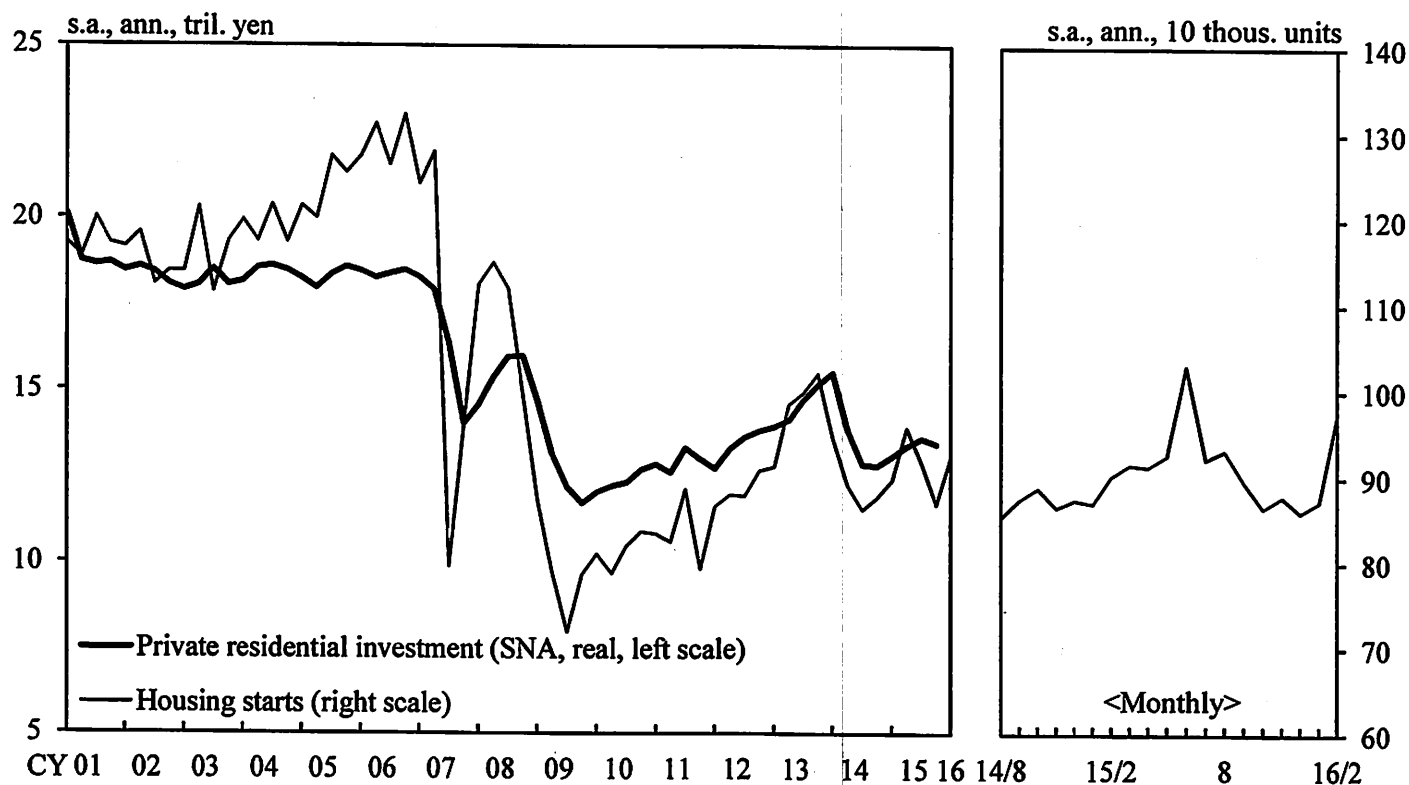


Note: There is a discontinuity in the data in December 2003 due to a change in the survey framework.

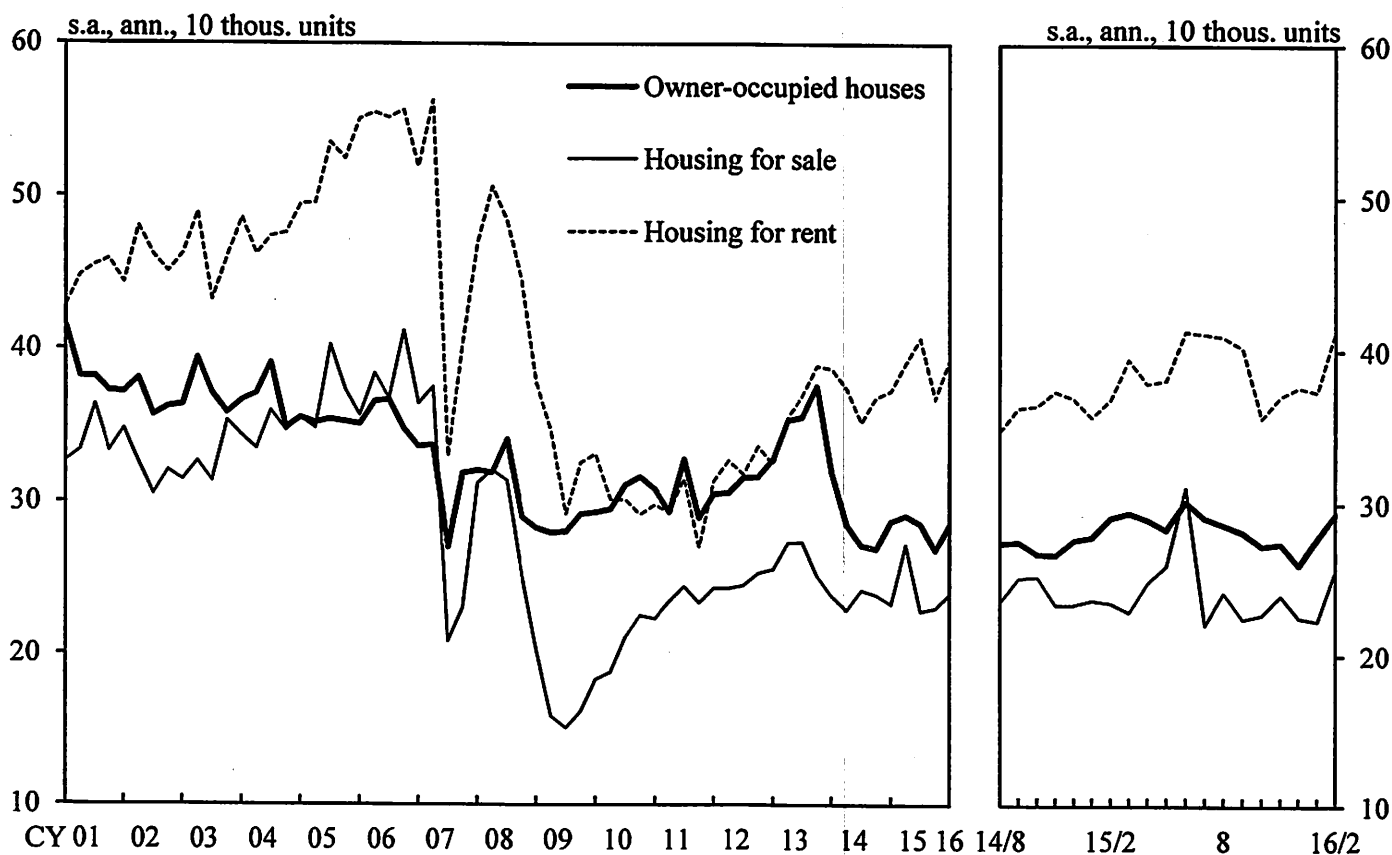
Sources: Cabinet Office; Bank of Japan; Nippon Research Institute (NRI), "Consumer Sentiment Survey."

## Housing Investment

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



### (2) Composition of Housing Starts

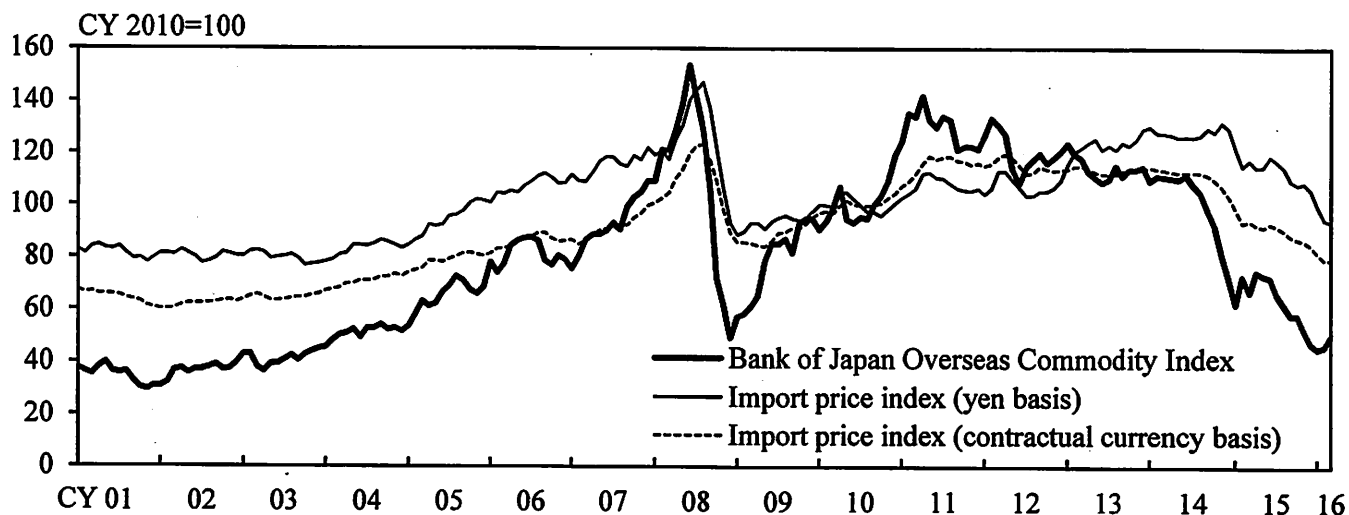


Note: Figures for housing starts for 2016/Q1 are January-February averages.

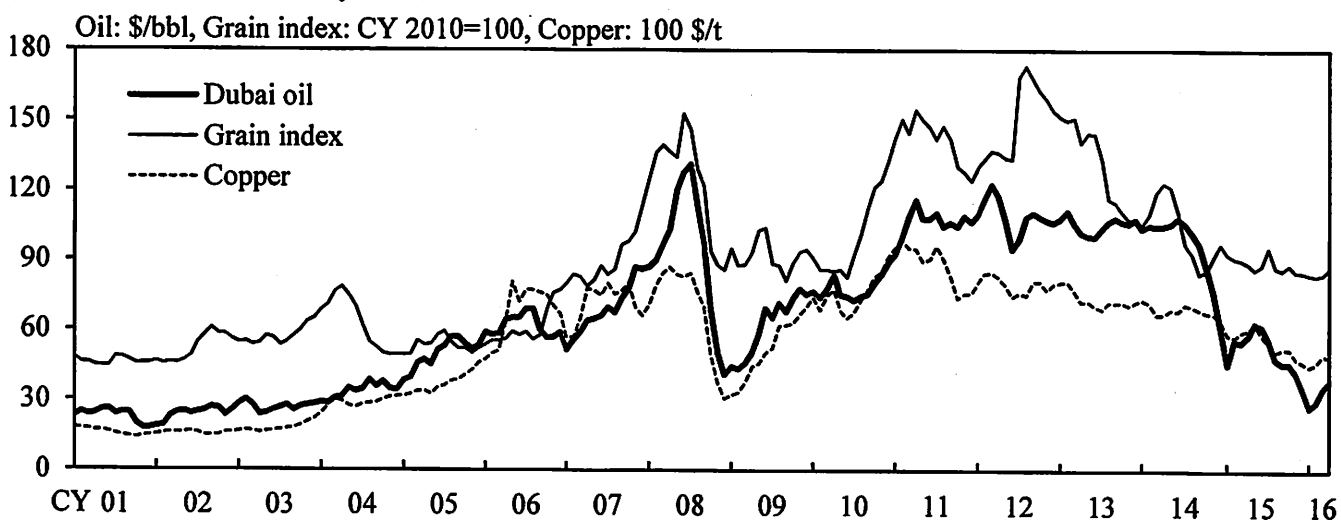
Sources: Cabinet Office; Ministry of Land, Infrastructure, Transport and Tourism.

## Import Prices and International Commodity Prices

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

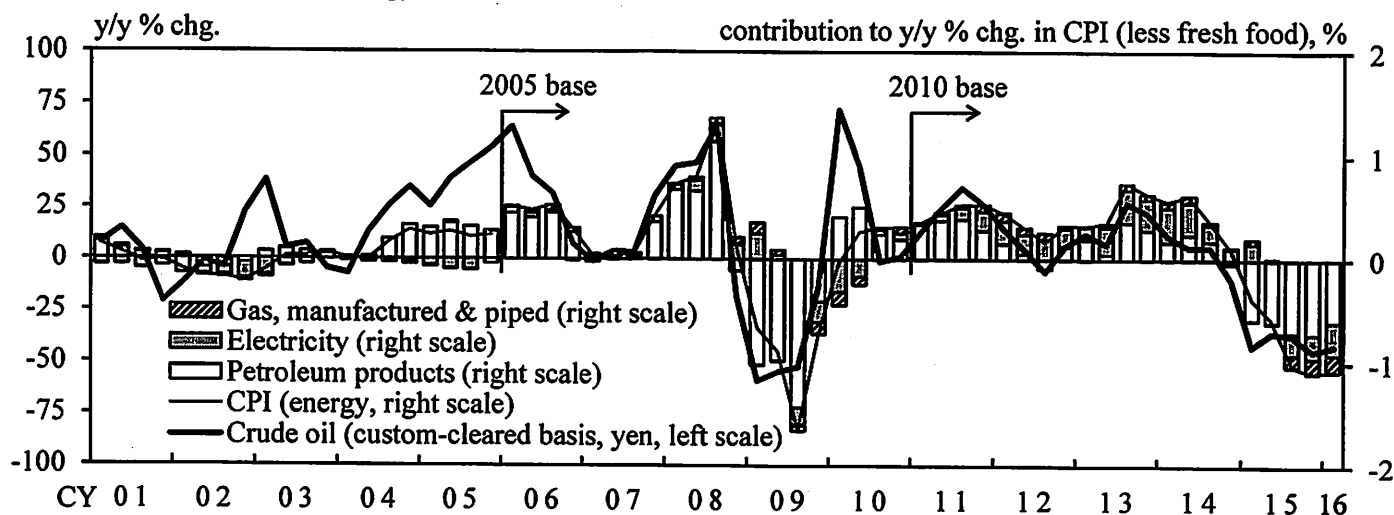


### (2) International Commodity Prices



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



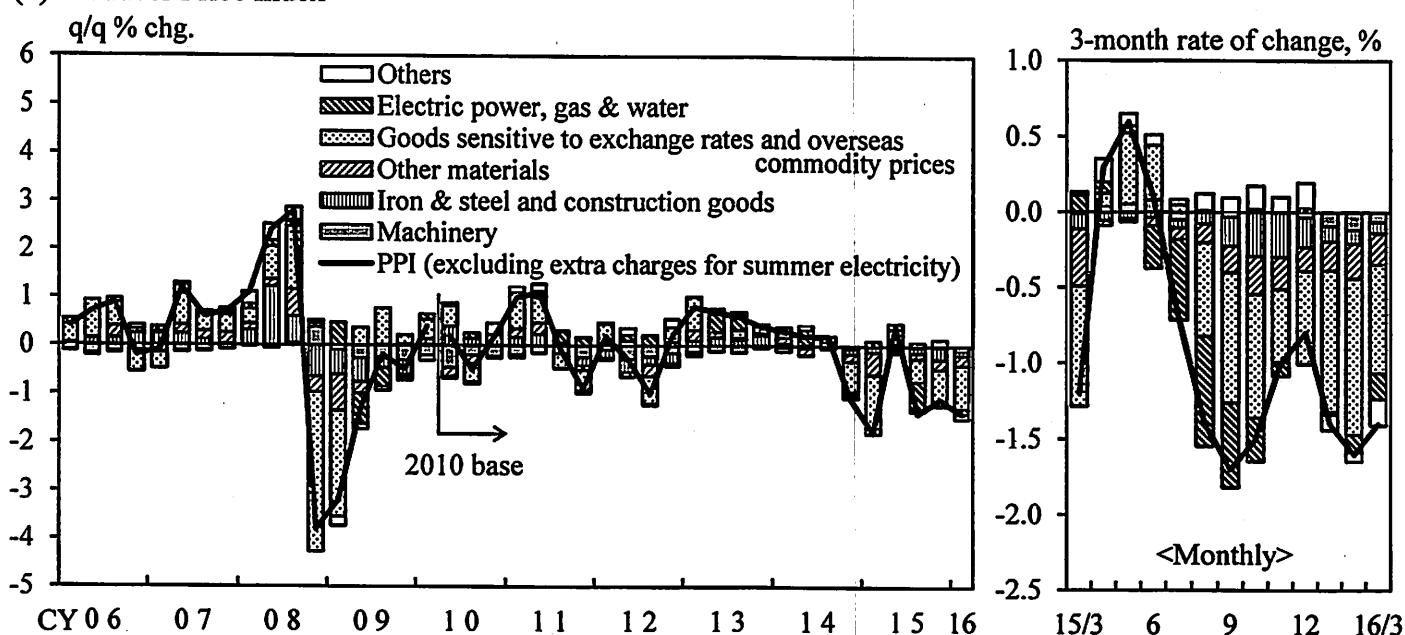
Notes: 1. Figures for the CPI (energy) up to 2005/Q4 are calculated using the year-on-year rate of price change of each component.  
2. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate.

Sources: Ministry of Internal Affairs and Communications; Ministry of Finance; Nikkei Inc.; Bloomberg; Bank of Japan.



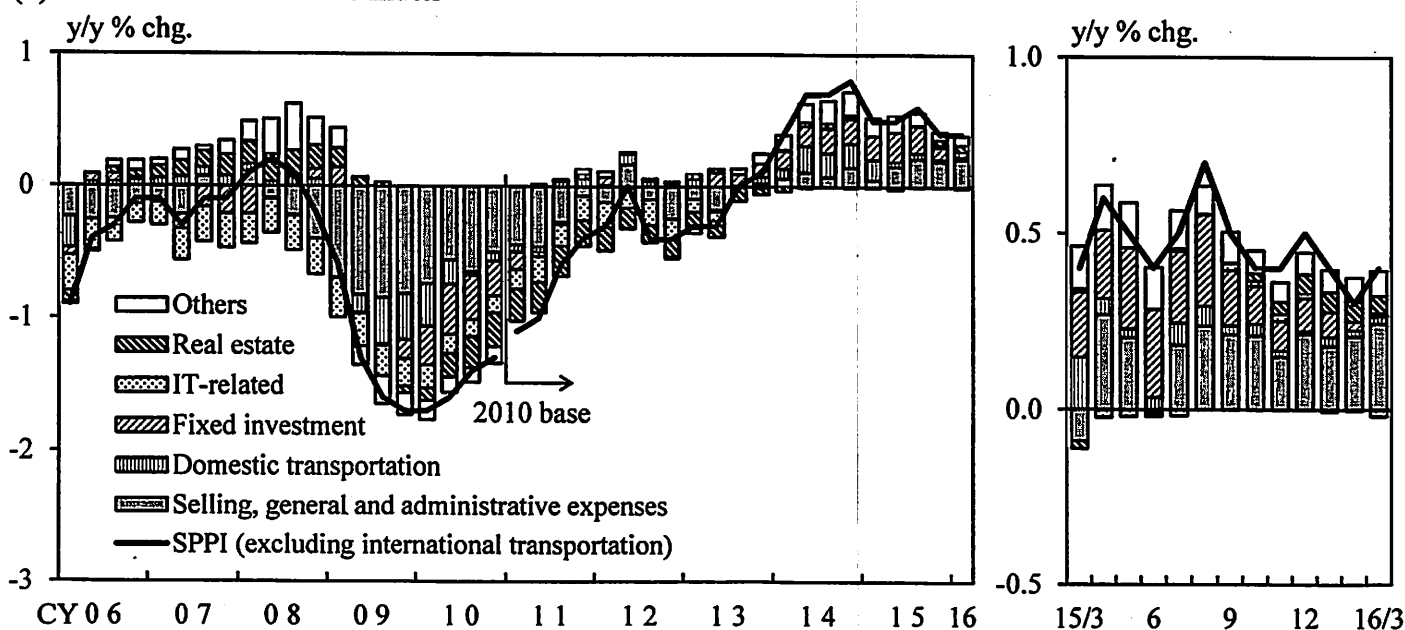
# Producer Price Index and Services Producer Price Index

## (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.

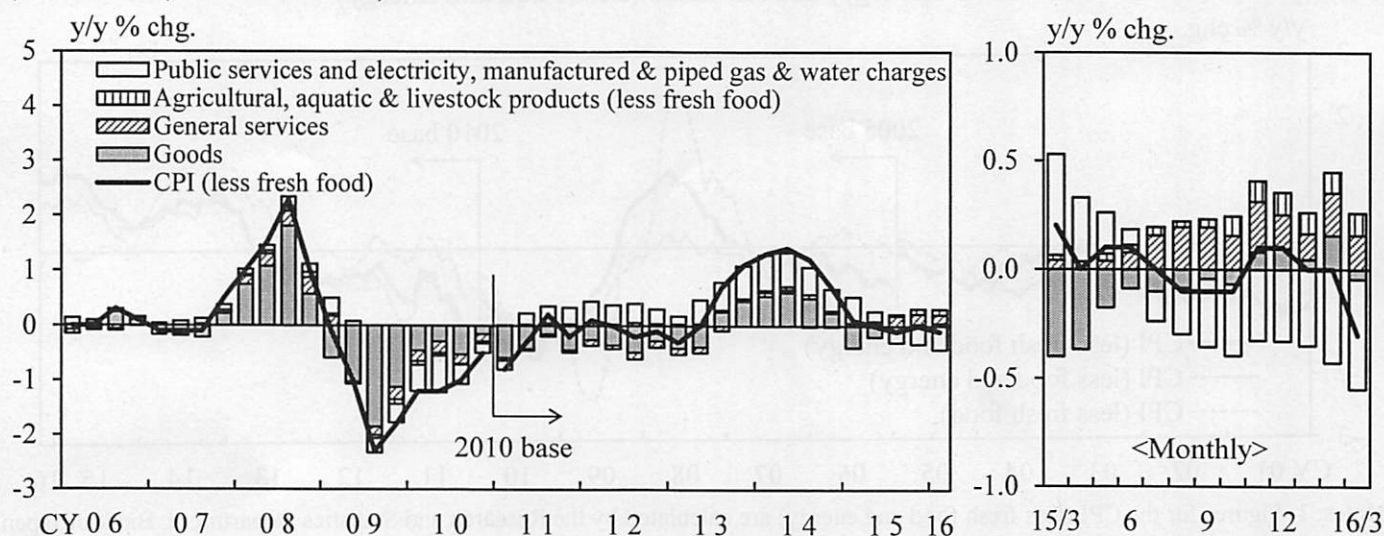
## (2) Services Producer Price Index



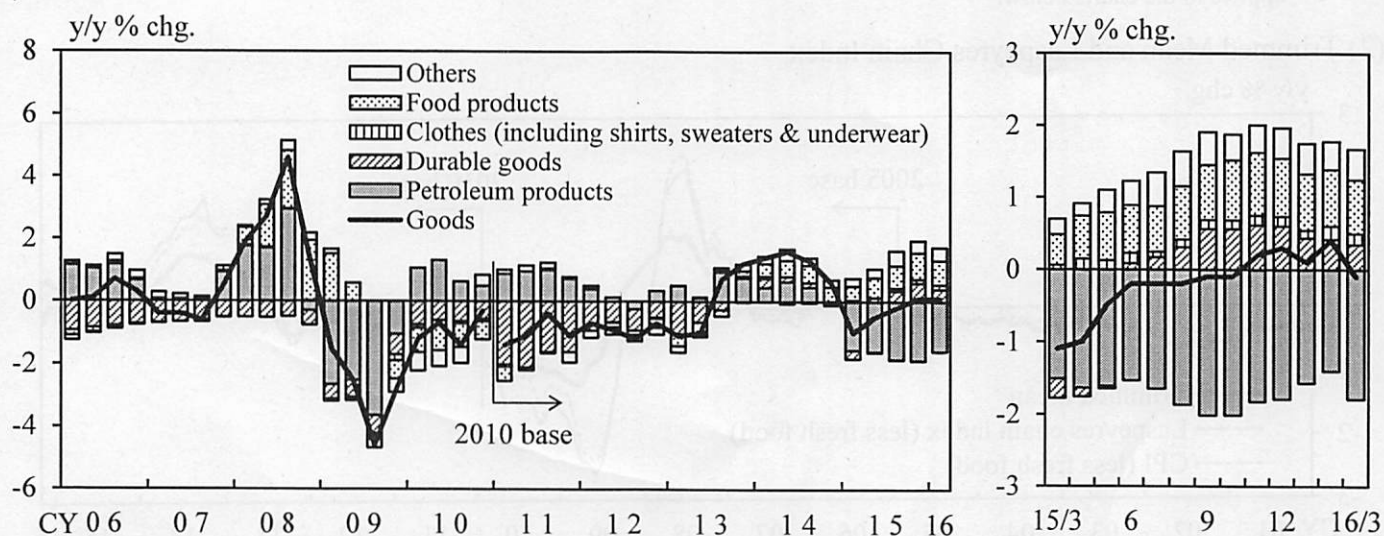
- Notes:
1. Selling, general and administrative expenses: information and communications (excluding newspapers and publishing), advertising services, other services (excluding plant engineering, and civil engineering and architectural services).
  2. Domestic transportation: transportation and postal 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

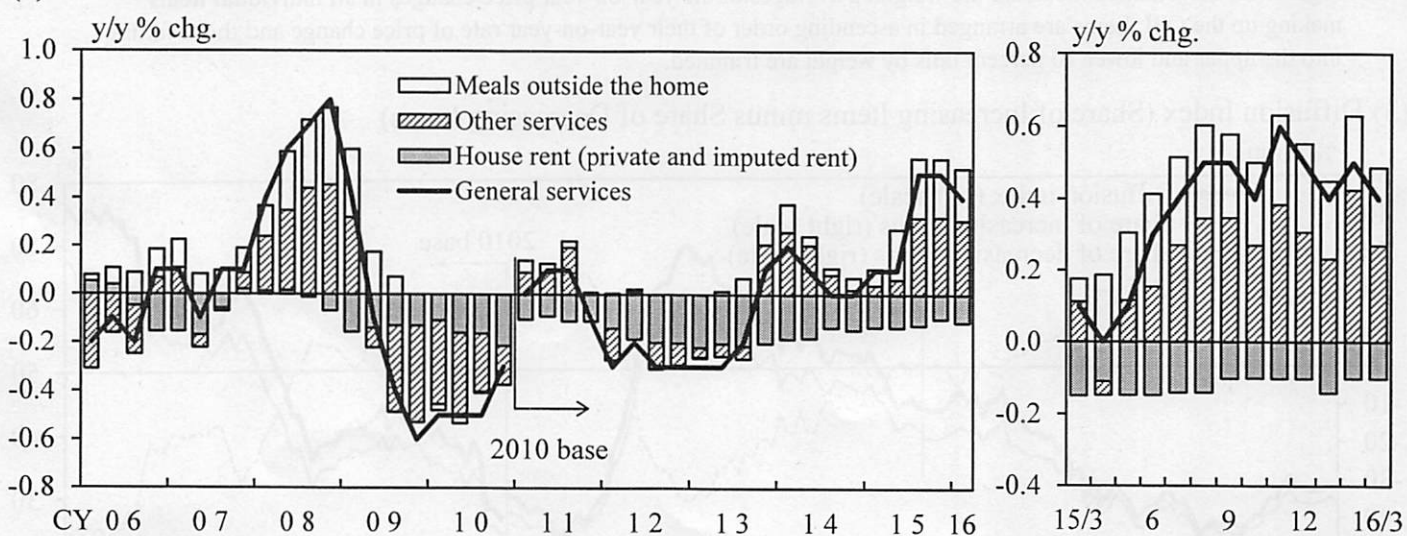
## (1) All Items (Less Fresh Food)



## (2) Goods



## (3) General Services



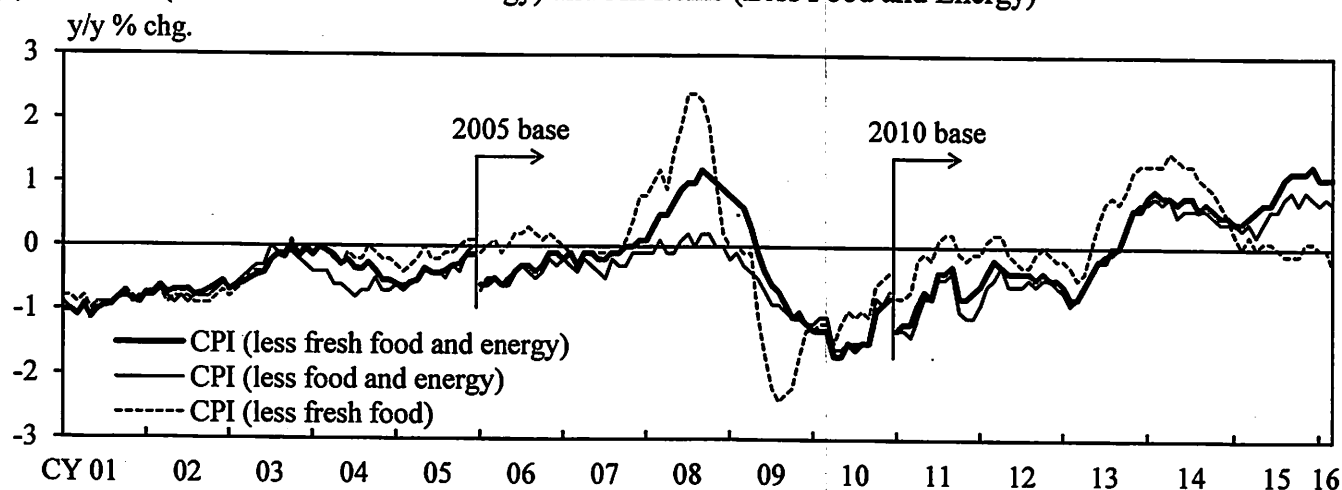
Notes: 1. Figures for goods exclude agricultural, aquatic & livestock products and electricity, manufactured & piped gas & water charges.

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

Source: Ministry of Internal Affairs and Communications.

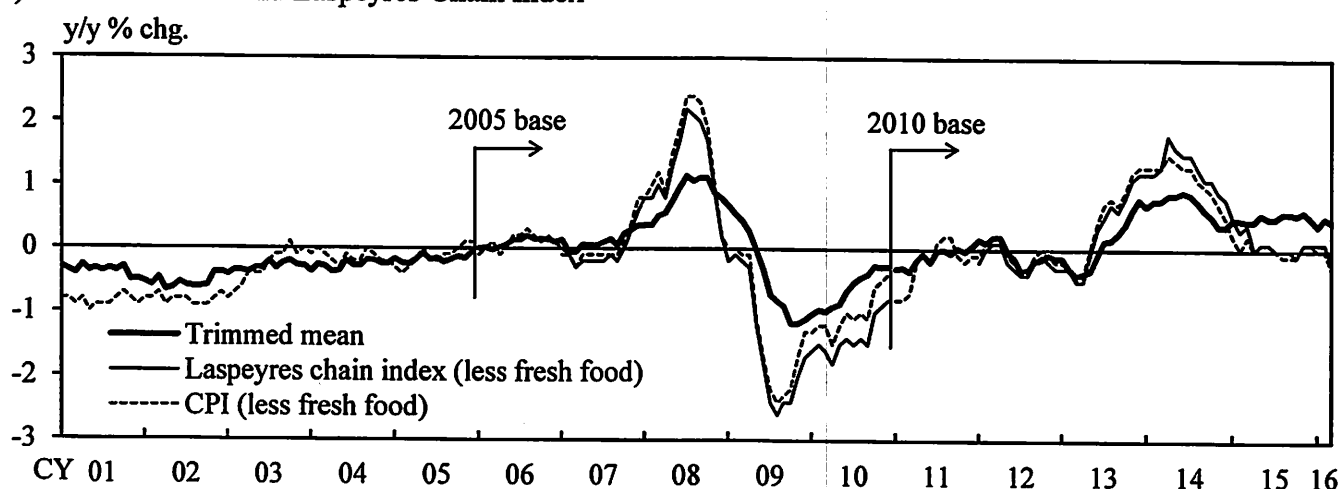
## Measures of Underlying Inflation

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



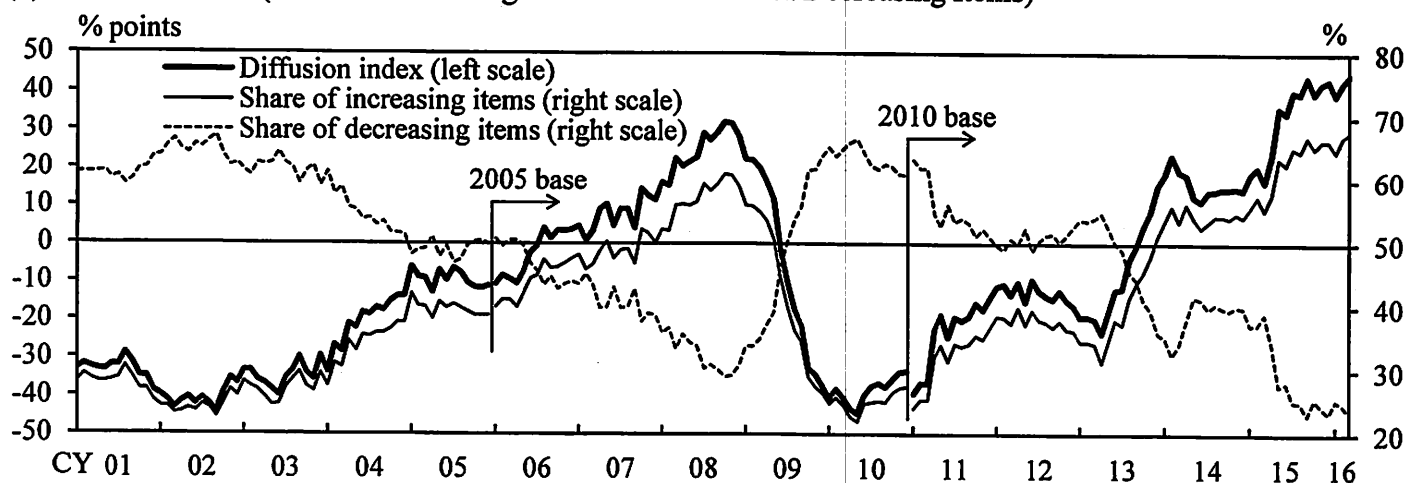
Notes: 1. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.  
2. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate. The same applies to the charts below.

### (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)

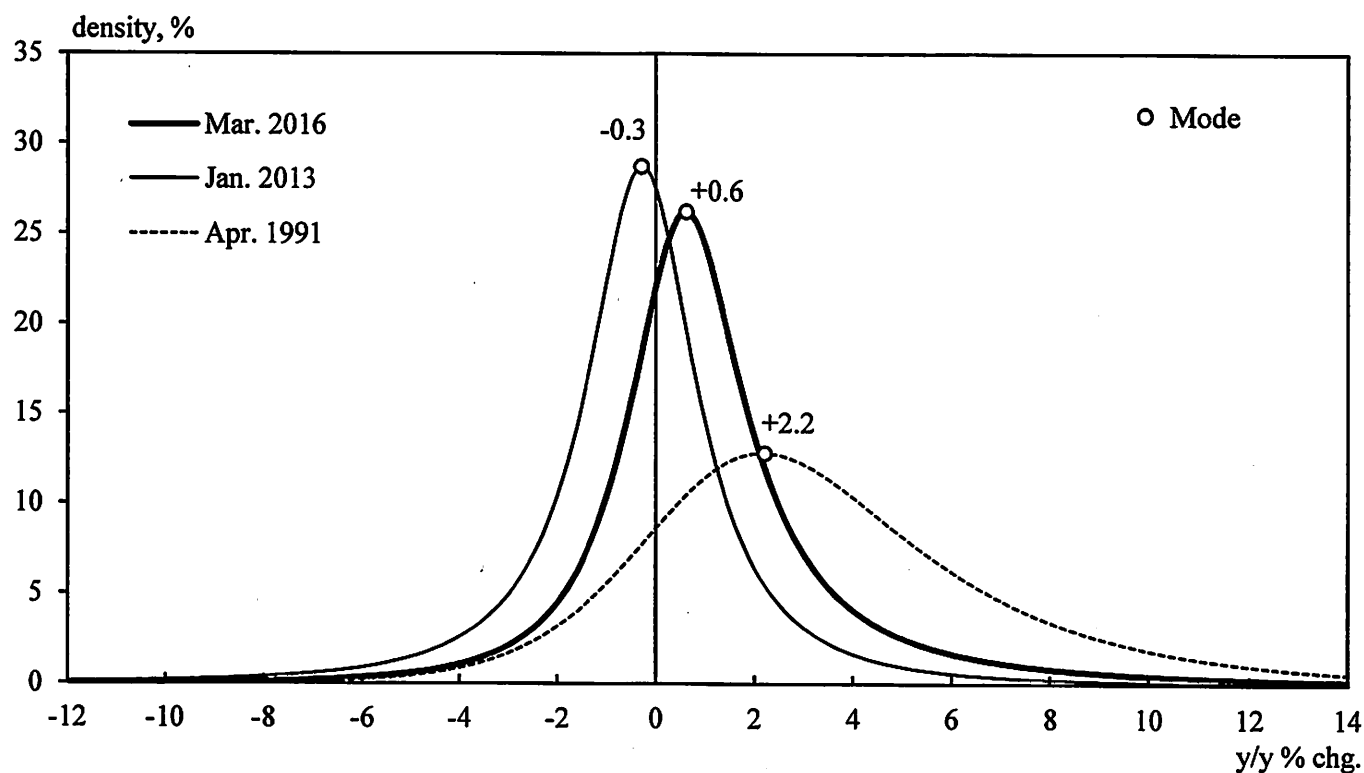


Note: The share of increasing/decreasing items is the share of items in the CPI (less fresh food) whose price indices increased/decreased from a year earlier.

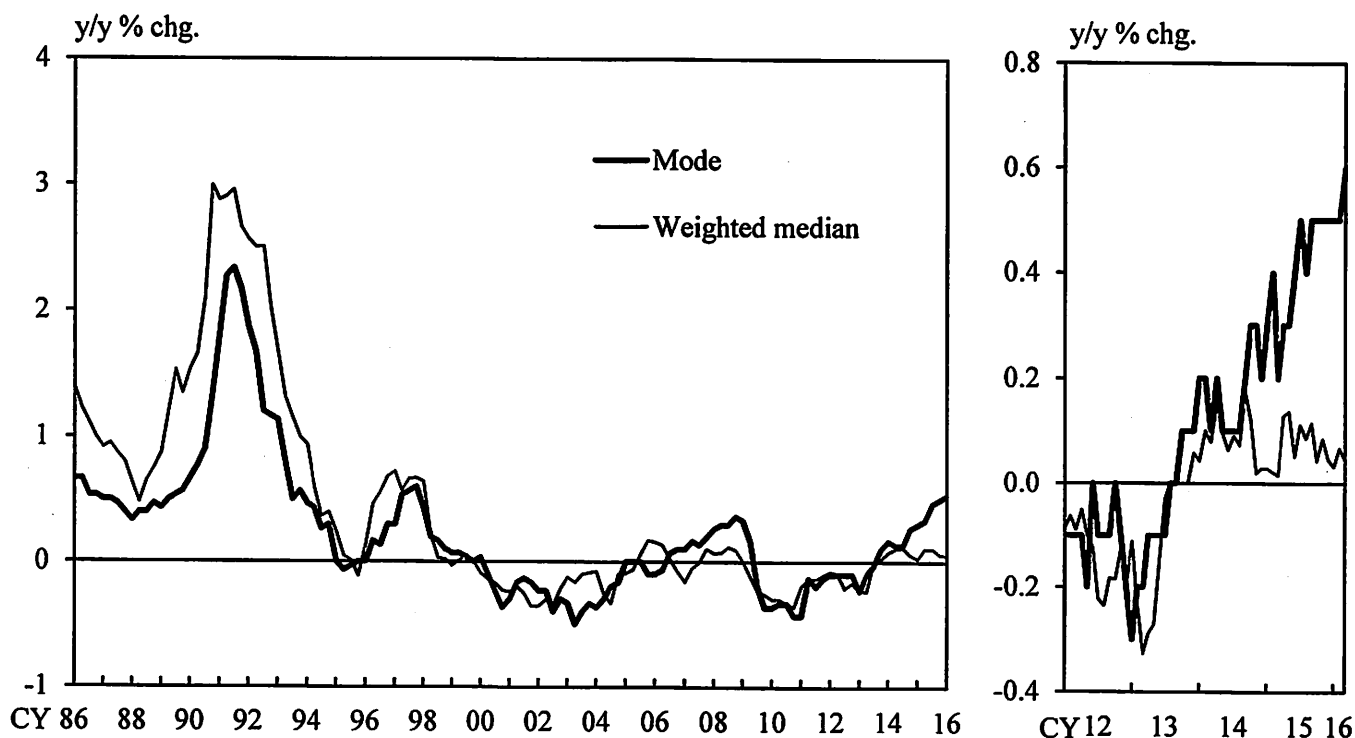
Source: Ministry of Internal Affairs and Communications.

## 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.

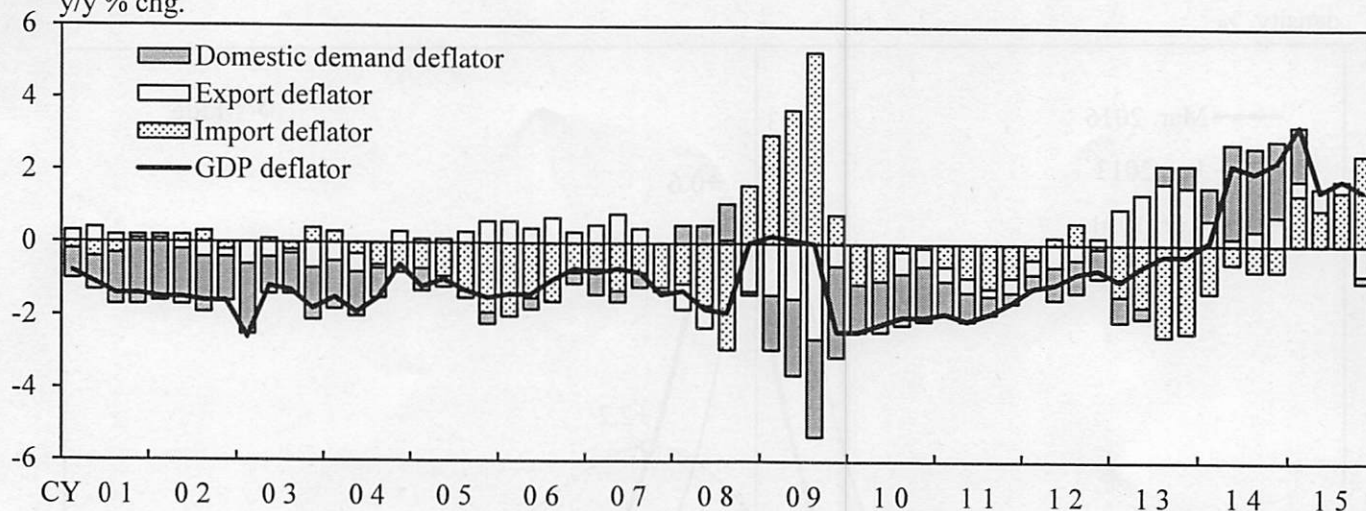
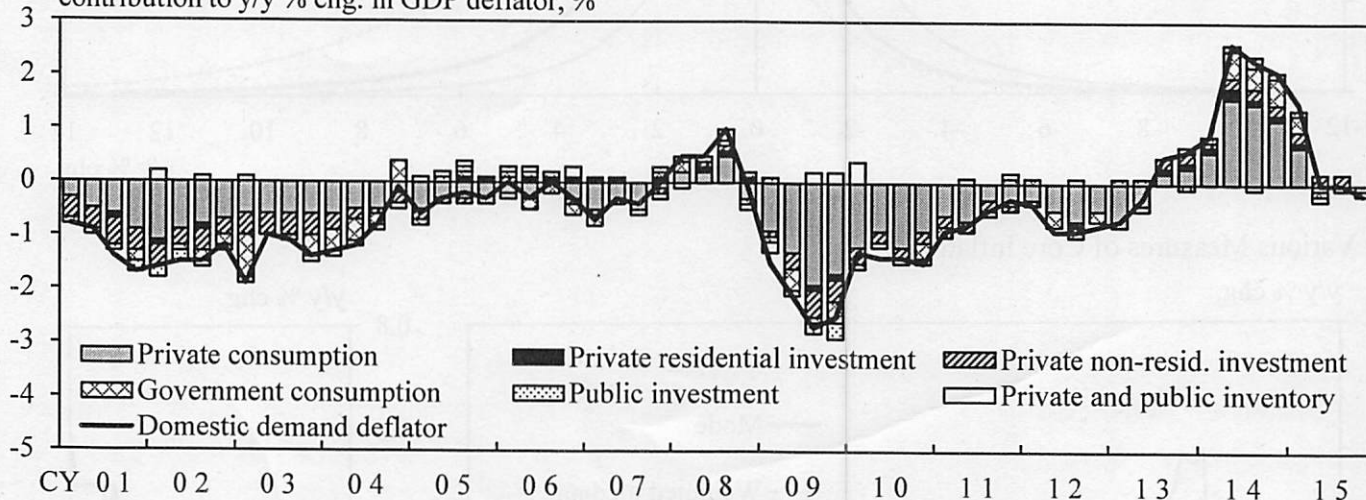
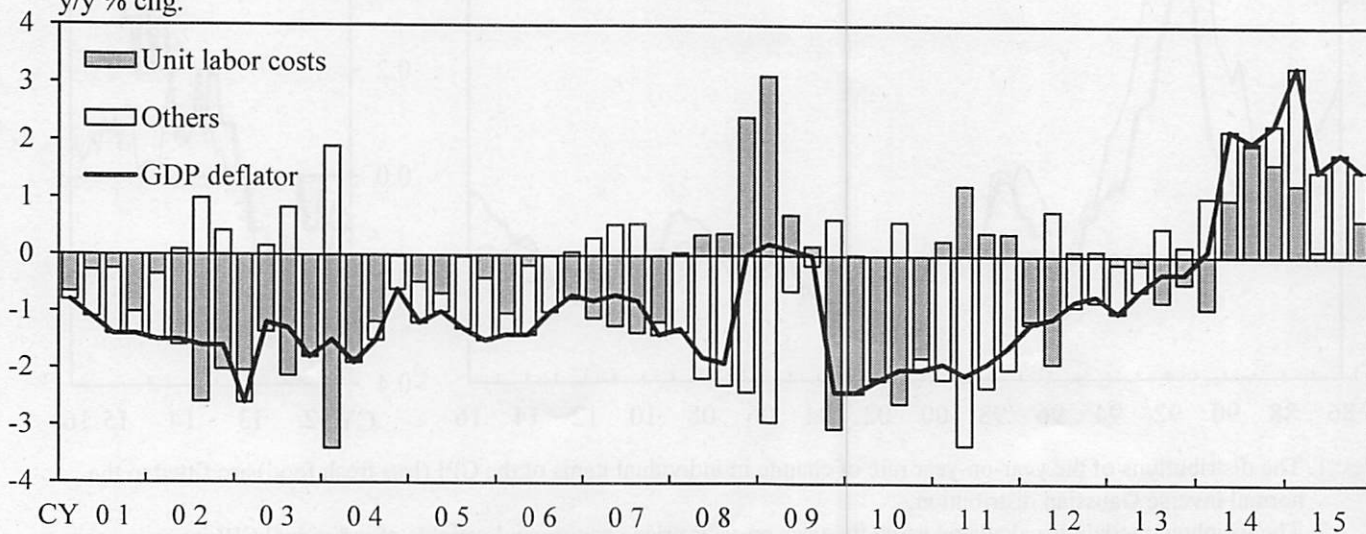
2. The weighted median is calculated using the year-on-year price changes and weights of individual CPI items in each base year. For the period before 2005, the year-on-year price changes of minor groups and subgroups are used.

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.

Source: Ministry of Internal Affairs and Communications.

## GDP Deflator

(1) GDP Deflator  
y/y % chg.(2) Domestic Demand Deflator  
contribution to y/y % chg. in GDP deflator, %(3) GDP Deflator and Unit Labor Costs  
y/y % chg.

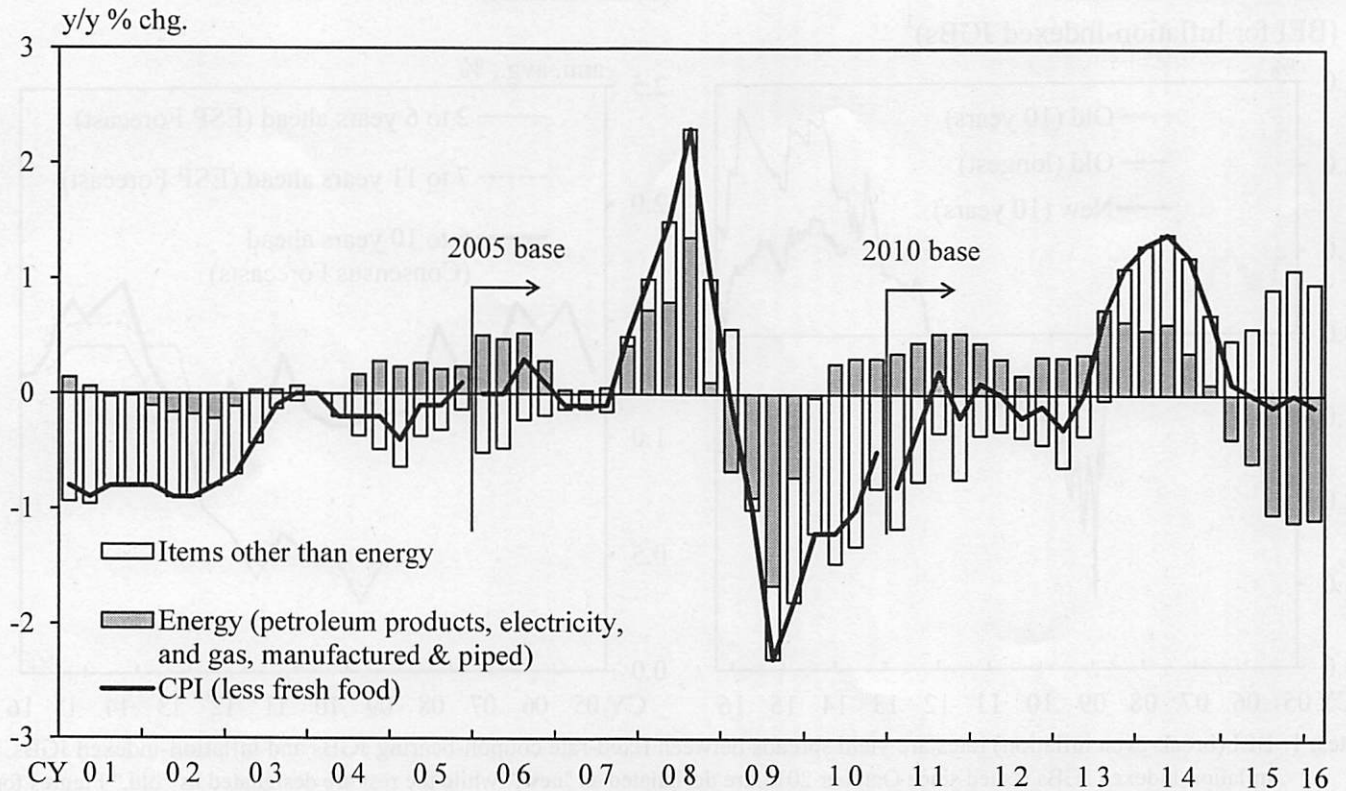
Note: Unit labor costs = nominal compensation of employees / real GDP

Source: Cabinet Office.



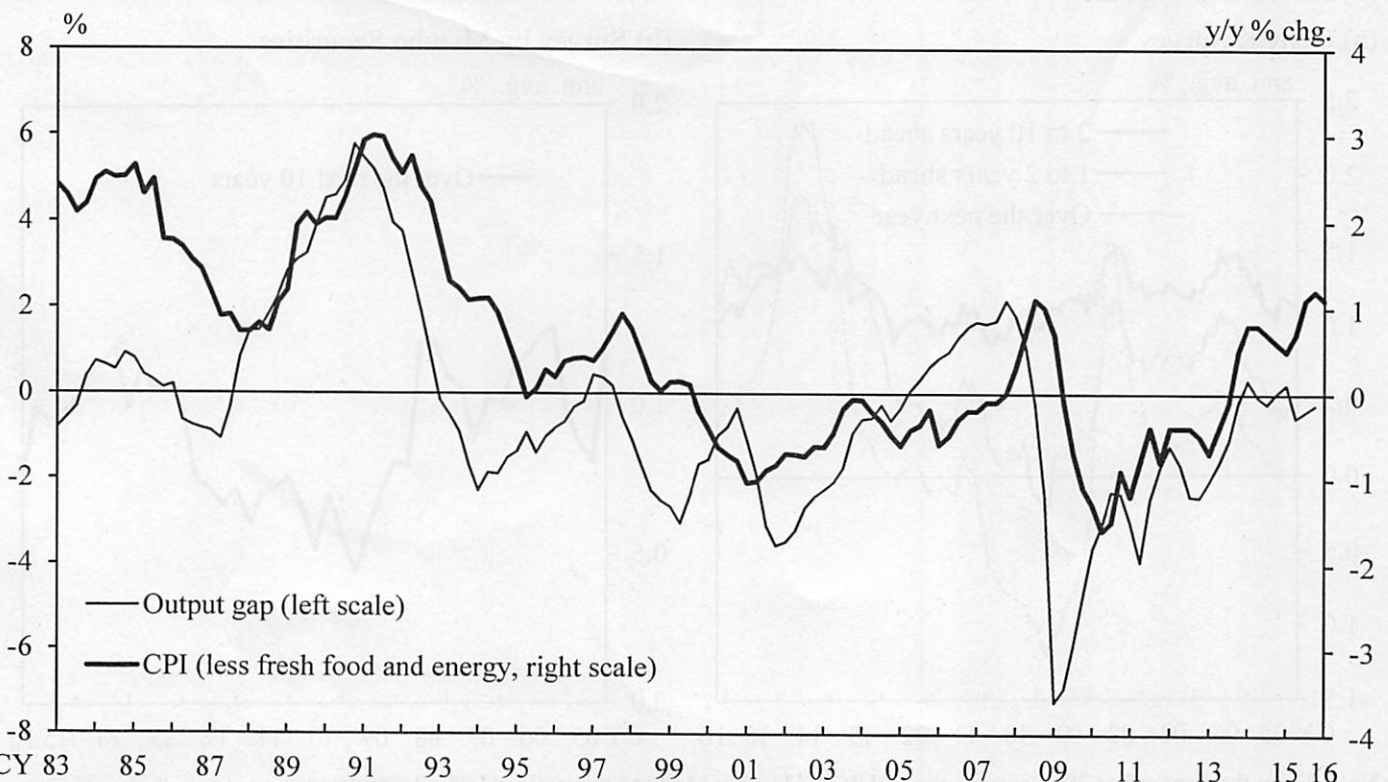
# Consumer Price Index and Output Gap

## (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

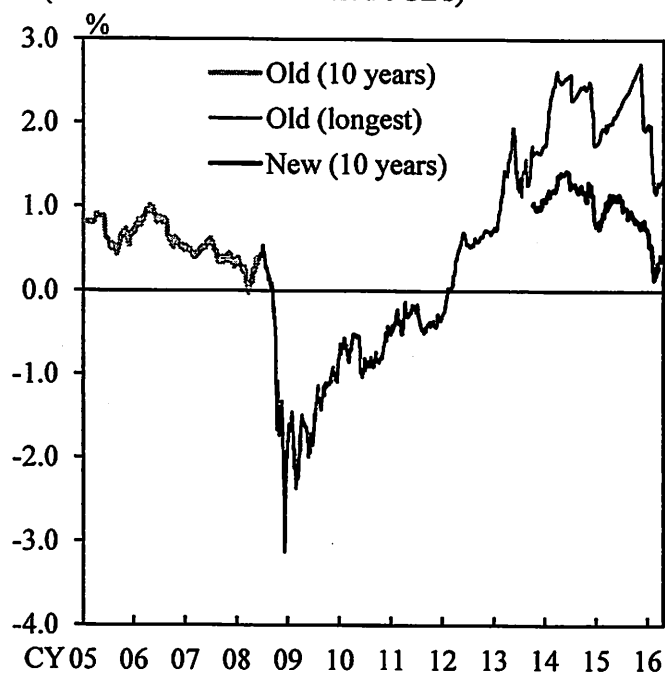
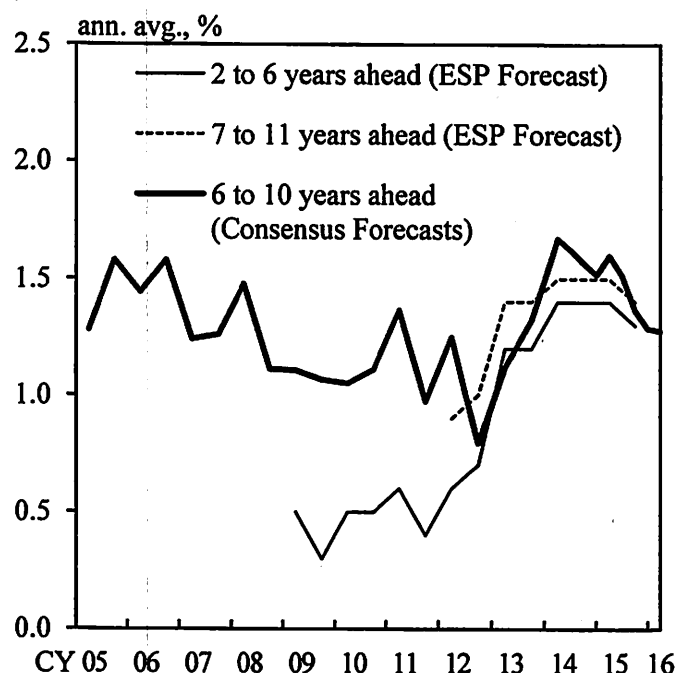


Notes: 1. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.  
 2. The output gap is estimated by the Research and Statistics Department, Bank of Japan.

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

## Inflation Expectations (1)

## (1) Market Participants

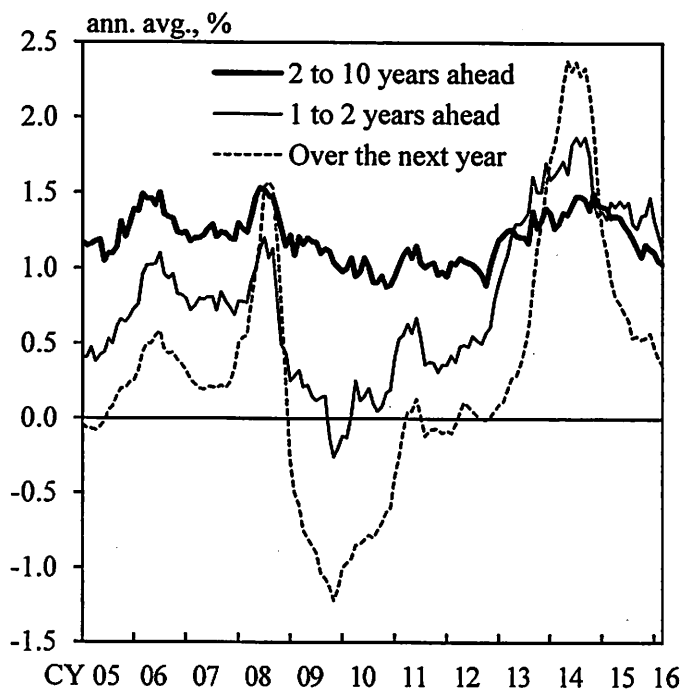
(BEI for Inflation-Indexed JGBs)<sup>1</sup>(2) Economists<sup>2</sup>

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.

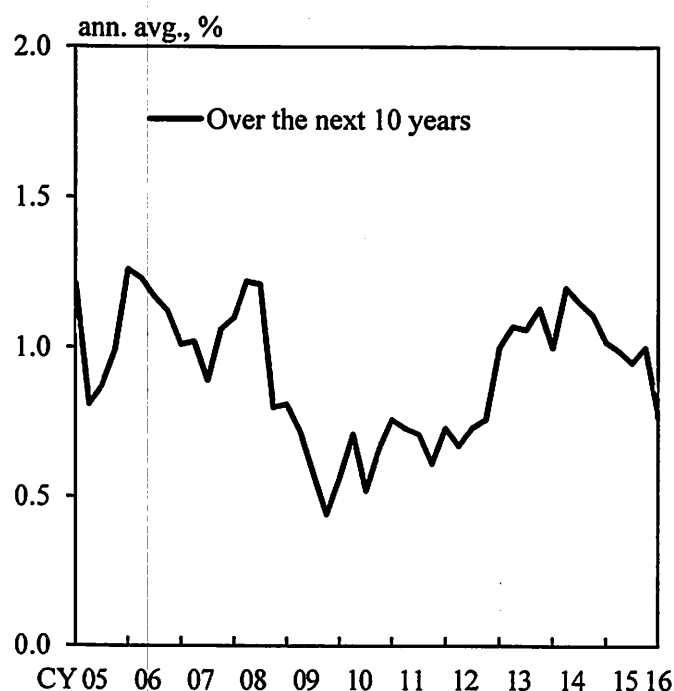
2. Figures for the "Consensus Forecasts" are compiled every January, April, July, and October. Those up through April 2014 were compiled every April and October. Figures for the "ESP Forecast" are compiled every June and December, and exclude the effects of the consumption tax hikes.

## (3) Market Participants

## (a) QUICK Survey



## (b) Survey by Mizuho Securities

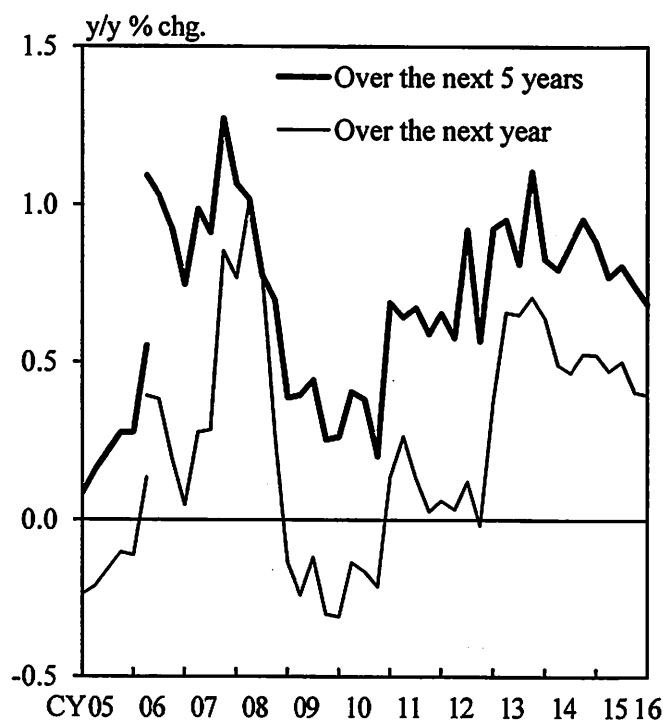
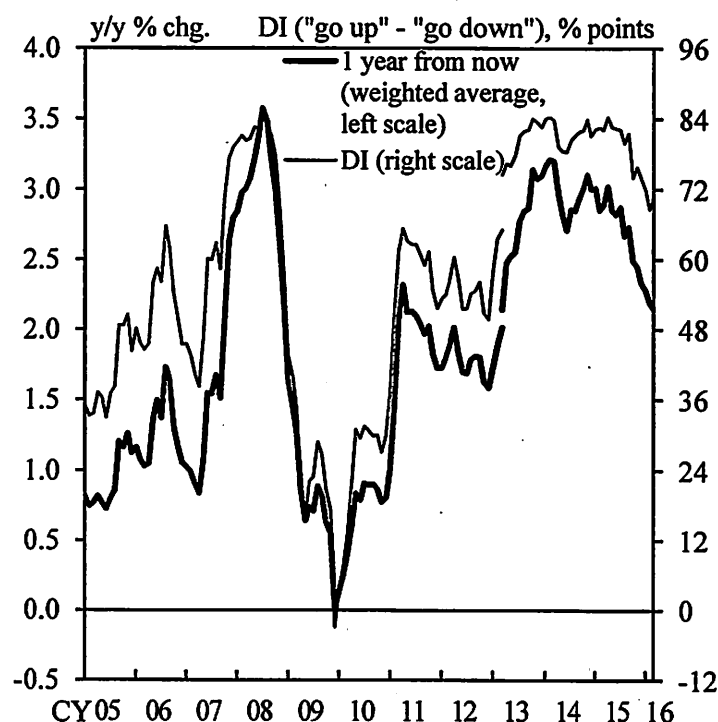


Note: From the September 2013 survey, the "QUICK Monthly Market Survey (Bonds)" asks respondents to include the effects of the consumption tax hikes. Figures for the survey by Mizuho Securities exclude the effects of the consumption tax hikes.

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.

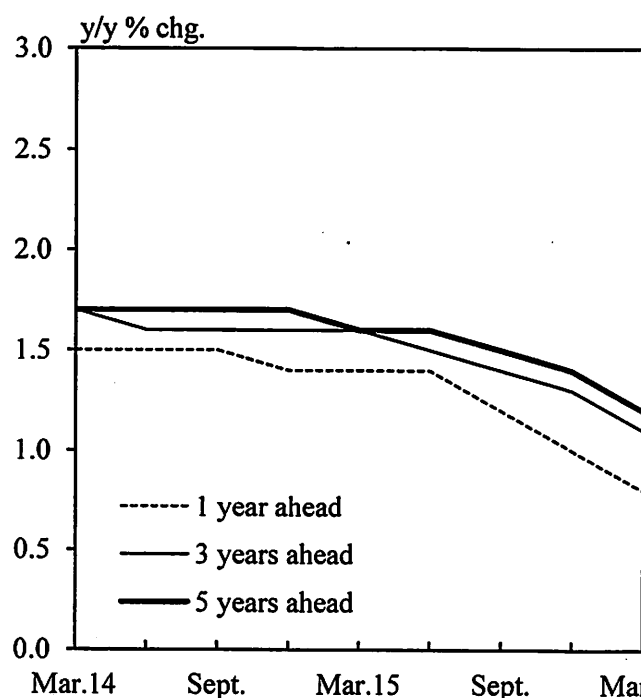
2. From the June 2013 survey, the "Opinion Survey" asks respondents to exclude the effects of the consumption tax hikes.

3. Figures are for all households.

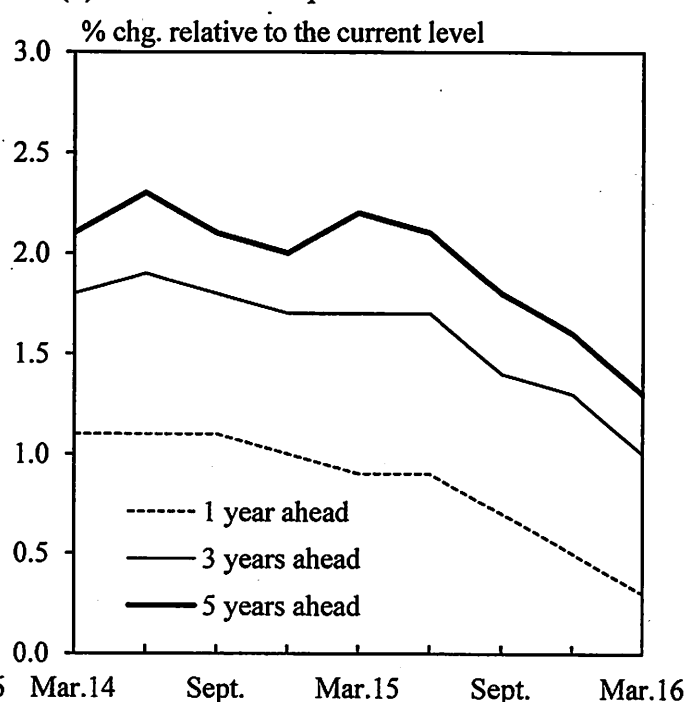
4. The weighted average is calculated based on the following assumption: survey responses chosen by households as their expected inflation rates -- "-5% or below," "from -5% to -2%," "from -2% to 0%," "from 0% to +2%," "from +2% to +5%," and "+5% or above" -- indicate expected inflation rates of -5%,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



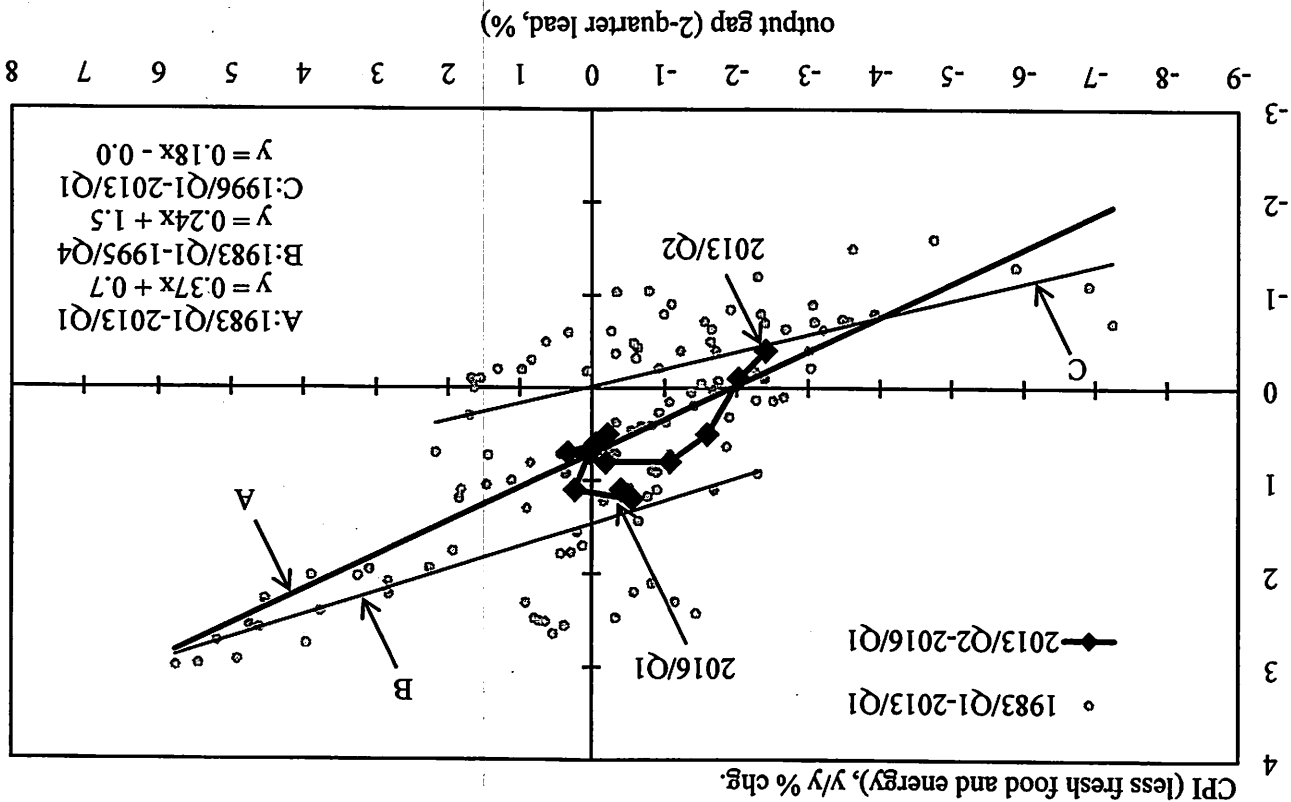
Note: Figures exclude the effects of the consumption tax hikes.

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

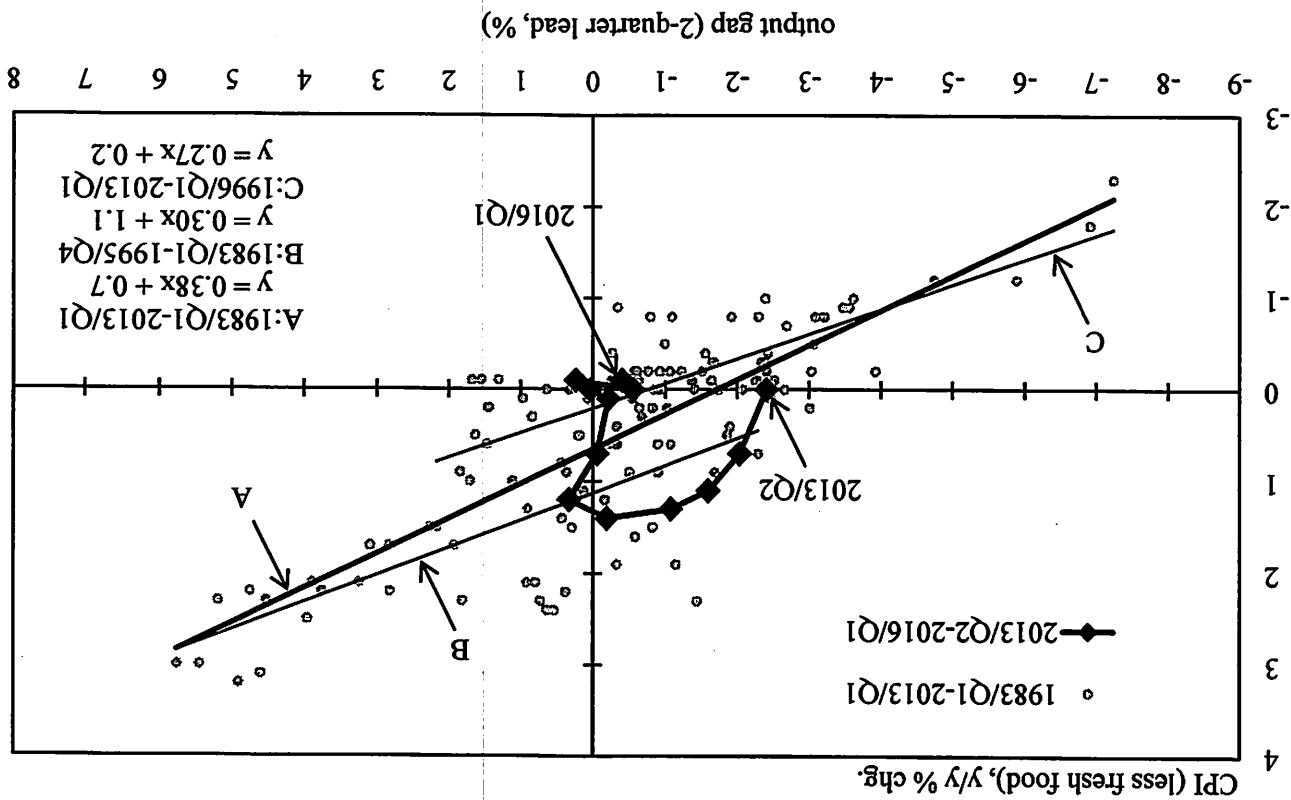


# Output Gap and Inflation Rate

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



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

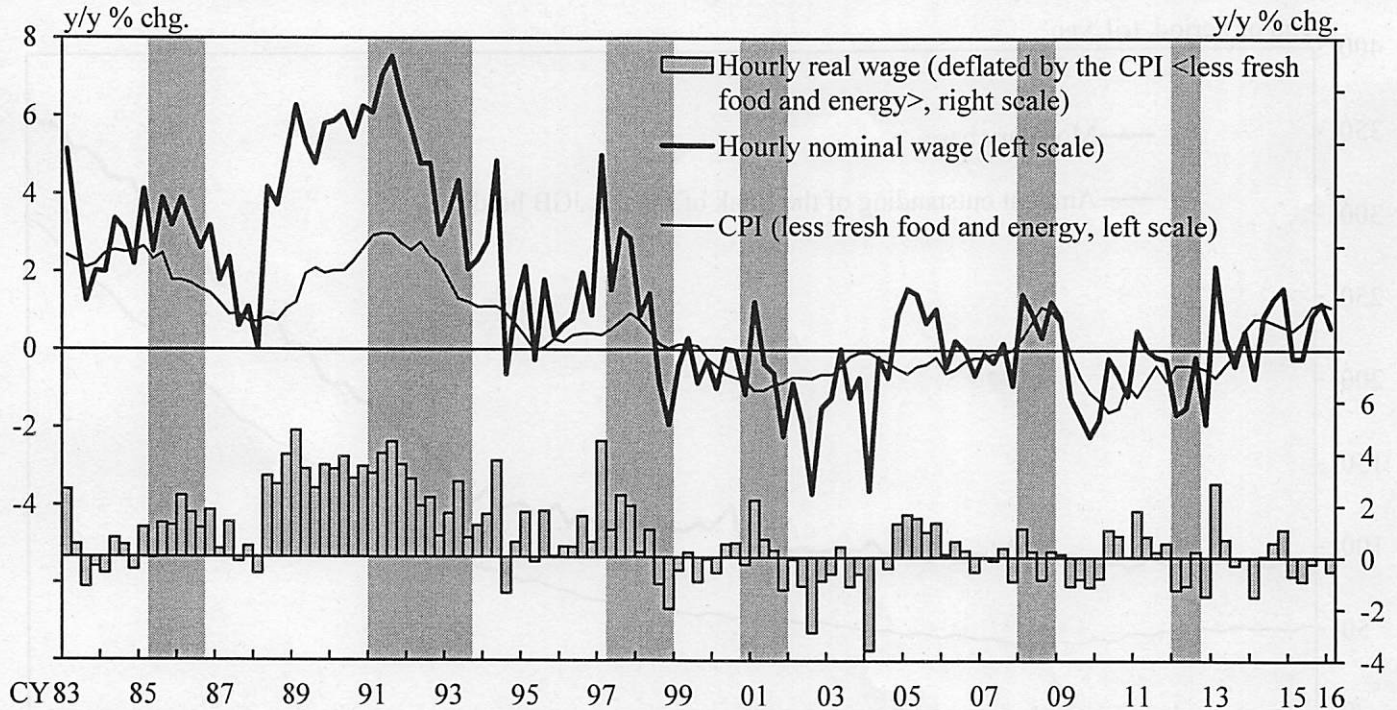


Notes: 1. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.  
 2. The output gap is estimated by the Research and Statistics Department, Bank of Japan.  
 3. Figures for the CPI are adjusted to exclude the estimated effects of changes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

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

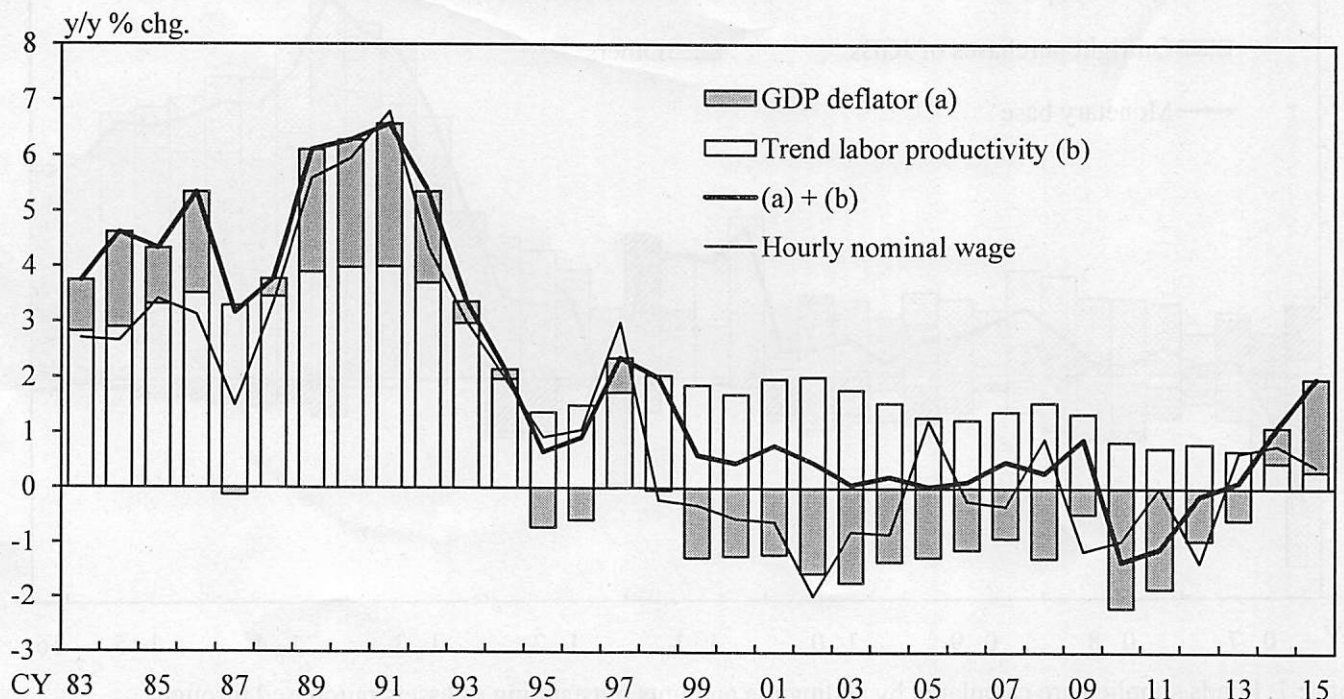
## Prices and Wages

## (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 2016/Q1 are January-February averages.

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

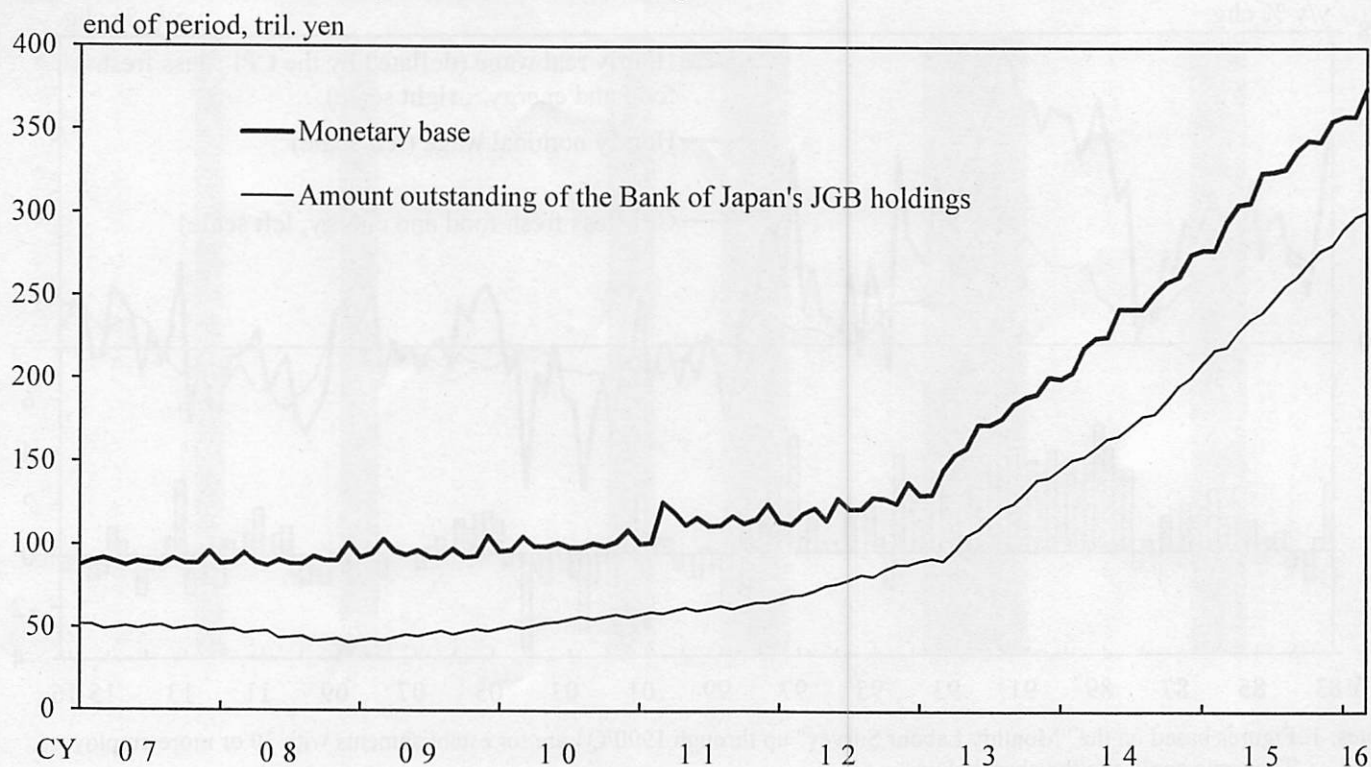


- Notes: 1. The trend labor productivity is estimated by the Research and Statistics Department, Bank of Japan.  
 2. Figures for the GDP deflator are adjusted to exclude the effects of the consumption tax hike in 2014. This adjustment is based on estimates by the Cabinet Office in January 2016.

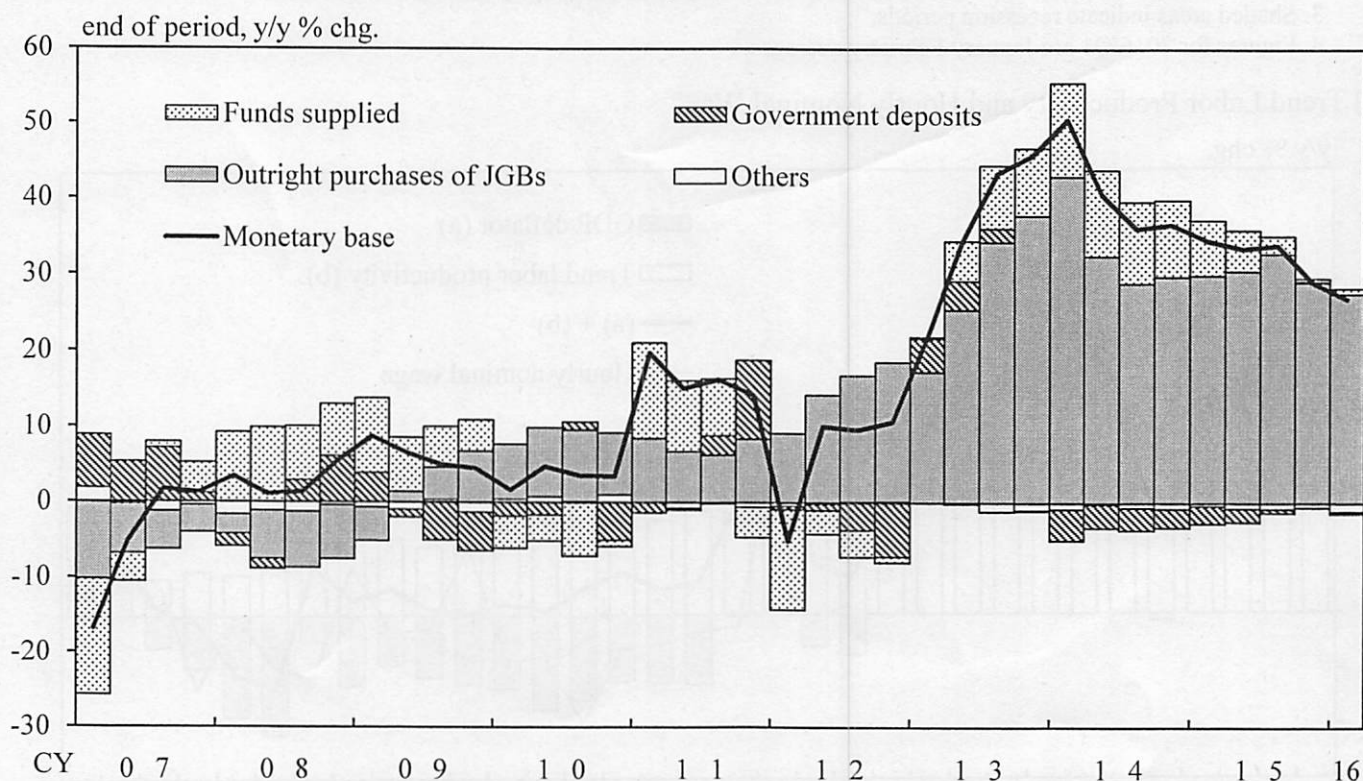
Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Cabinet Office.

# 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.

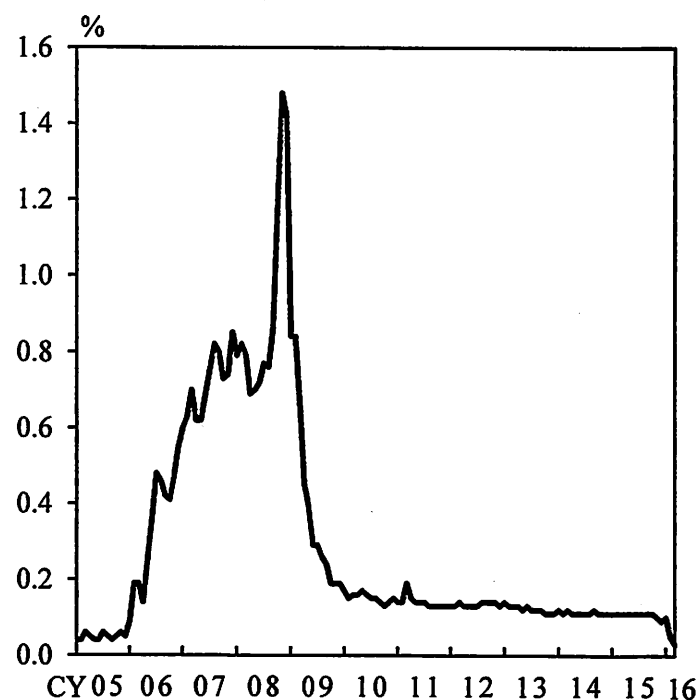
2. Government deposits mainly include sales of JGBs to the government under repurchase agreements and T-Bills underwritten by the Bank of Japan.

Source: Bank of Japan.

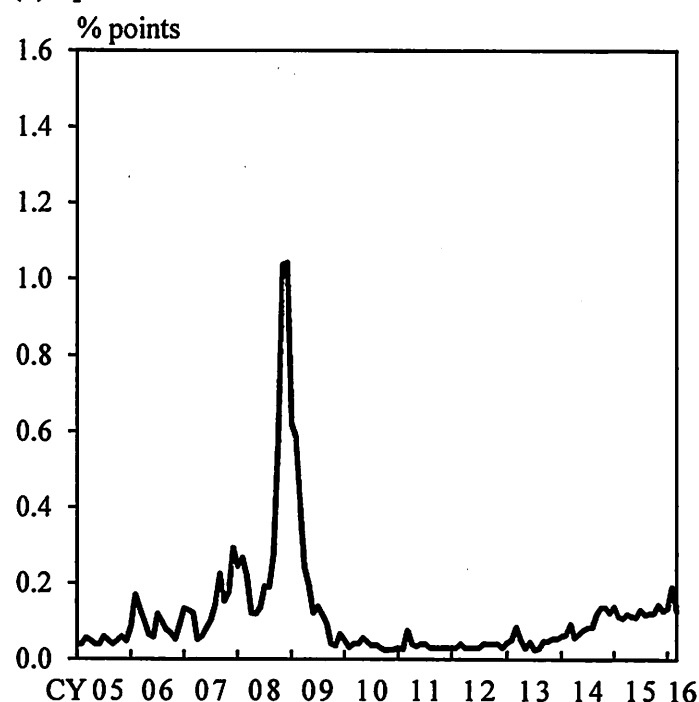
## Yields of CP and Corporate Bonds

### (1) Issuance Yields and Spreads for CP

#### (a) Yields (3-month)



#### (b) Spreads

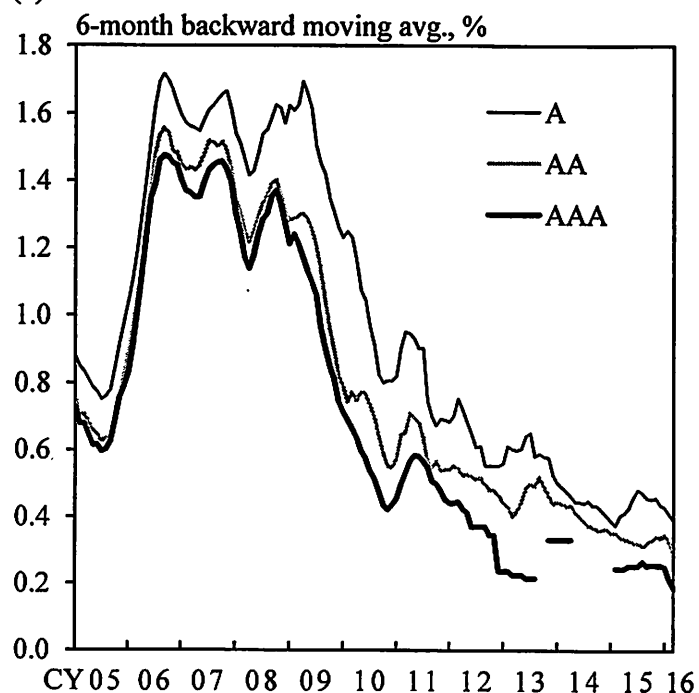


Notes: 1. Figures up to September 2009 are the average issuance rate of CP (3-month, rated a-1 or higher) minus the yield on T-Bills (3-month). Figures from October 2009 are the average issuance rate of CP (3-month, rated a-1) minus the yield on T-Bills (3-month).

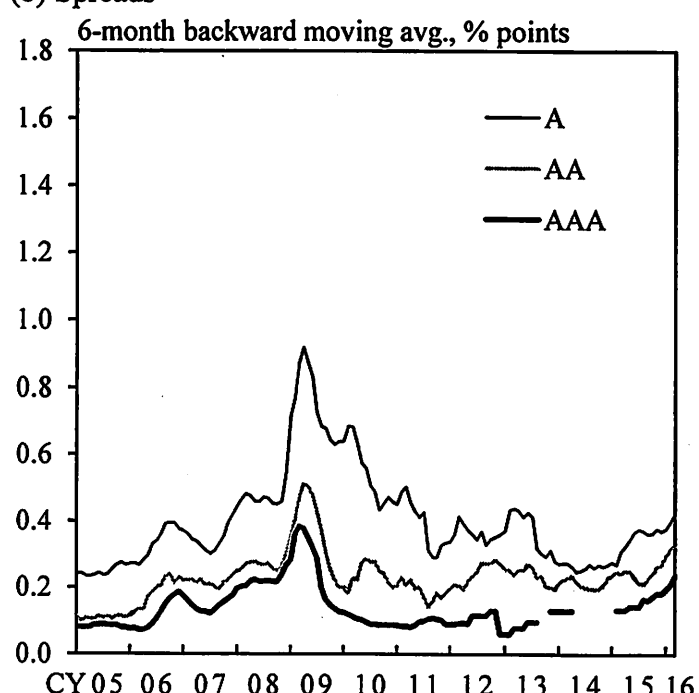
2. Figures for March 2016 are averages of weekly data up to March 18.

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

#### (a) Yields



#### (b) Spreads



Notes: 1. Figures are the averages for domestically issued bonds launched on a particular date.

2. Bonds issued by banks and securities companies, etc., are excluded.

3. The issuance spreads for corporate bonds are the issuance rate of these bonds minus the government bond yield.

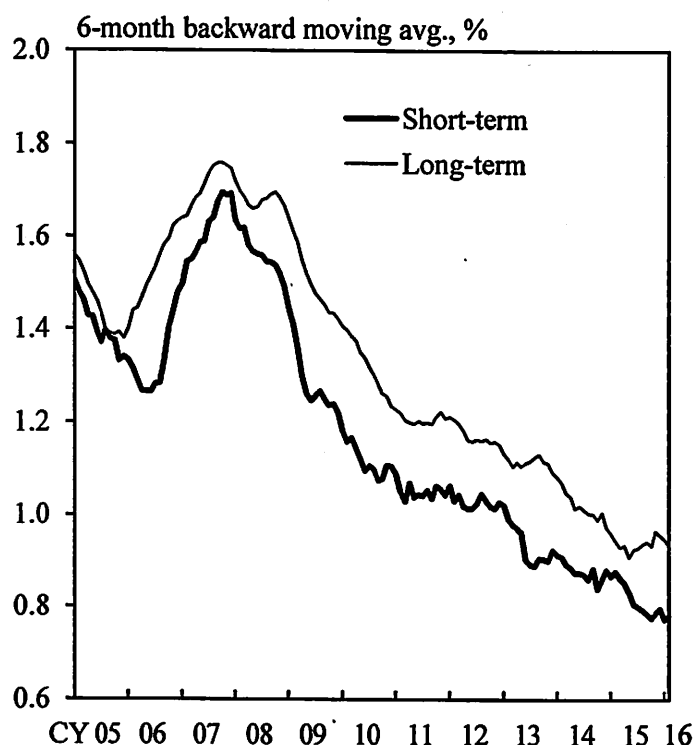
4. Bonds are classified based on the highest rating among the ratings from Moody's, S&P, R&I, and JCR.

5. Breaks in a line indicate periods when bonds were not issued for six or more months.

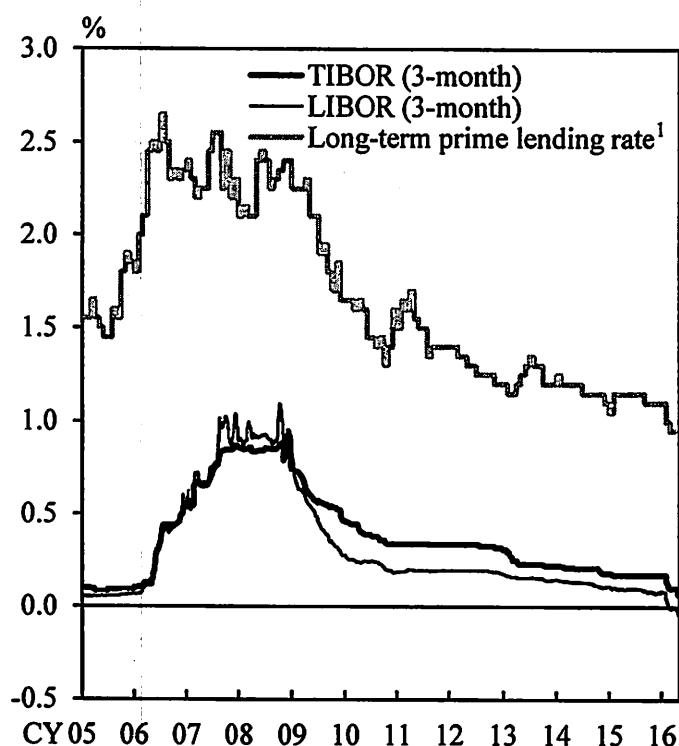
Sources: Bank of Japan; Japan Securities Depository Center; Capital Eye; I-N Information Systems; Bloomberg.

## Bank Lending Rates

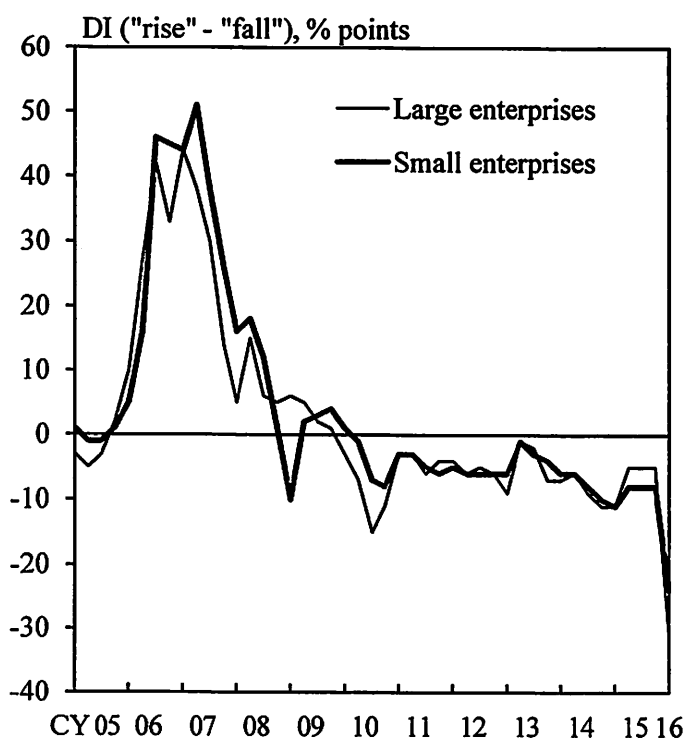
(1) Average Contract Interest Rates on New Loans and Discounts



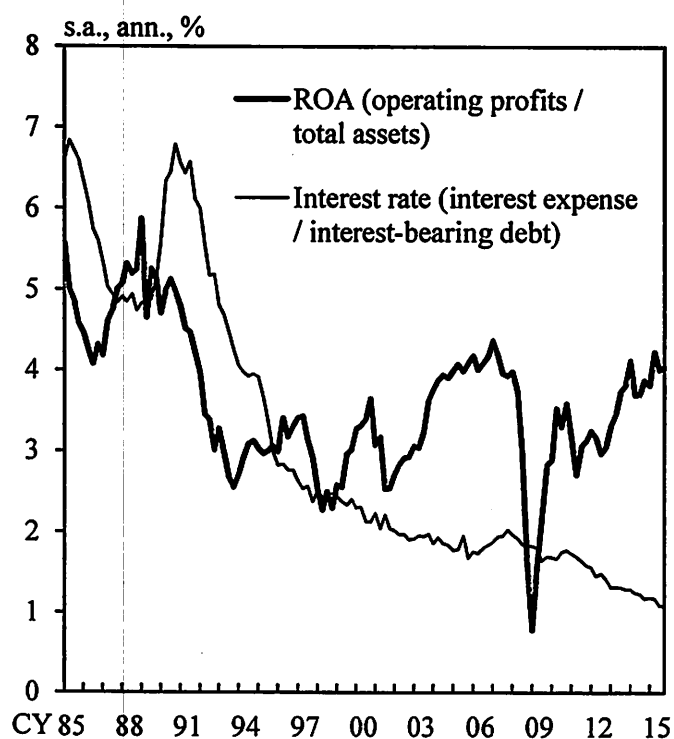
(2) Benchmark Rates for Lending



(3) Change in Interest Rate on Loans (*Tankan*)<sup>2</sup>



(4) ROA and Interest Rate<sup>3,4</sup>



Notes: 1. Data are at end of period.

2. Data from the *Tankan* are based on all industries.

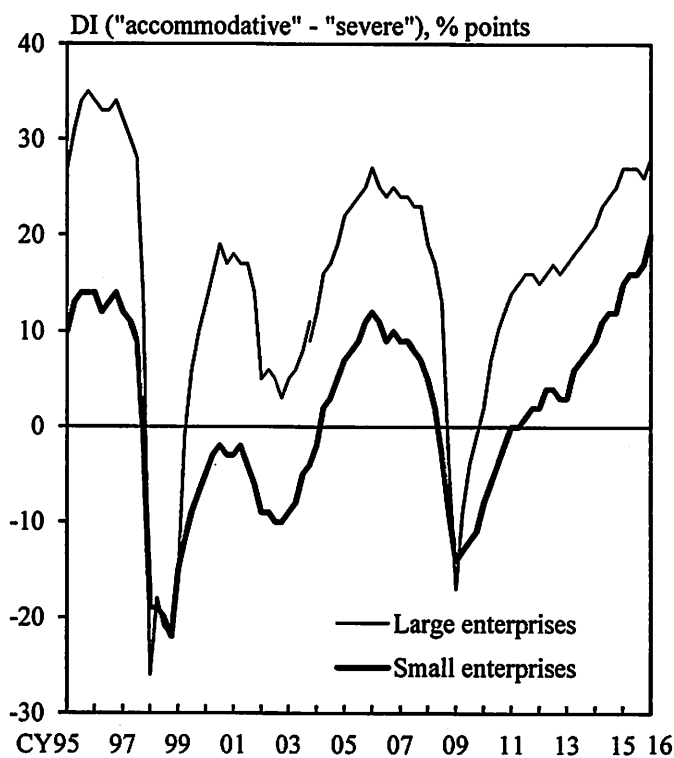
3. Figures are taken from the "Financial Statements Statistics of Corporations by Industry, Quarterly," and are the total for enterprises of all sizes and in all industries. The finance and insurance industry is excluded.

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

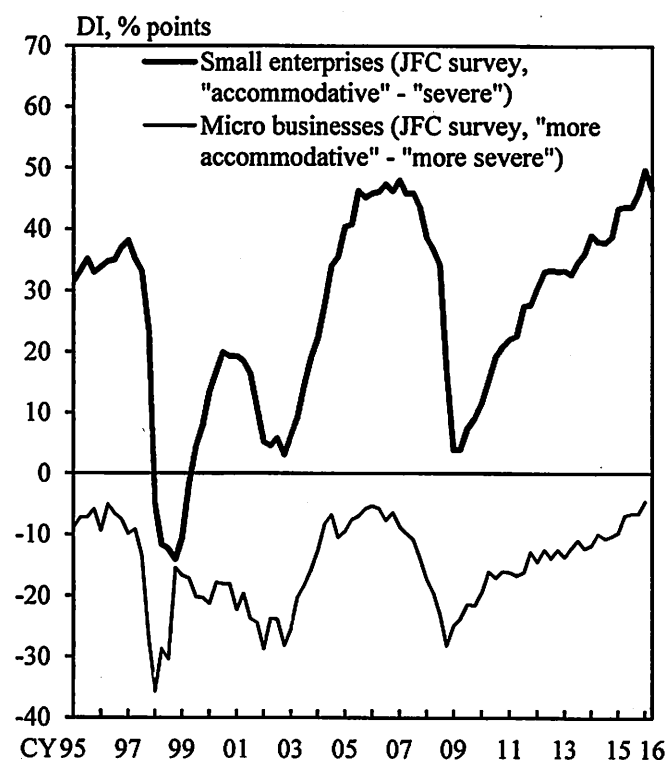
Sources: Mizuho Bank; Bank of Japan; Ministry of Finance; Bloomberg.

## Corporate Finance-Related Indicators

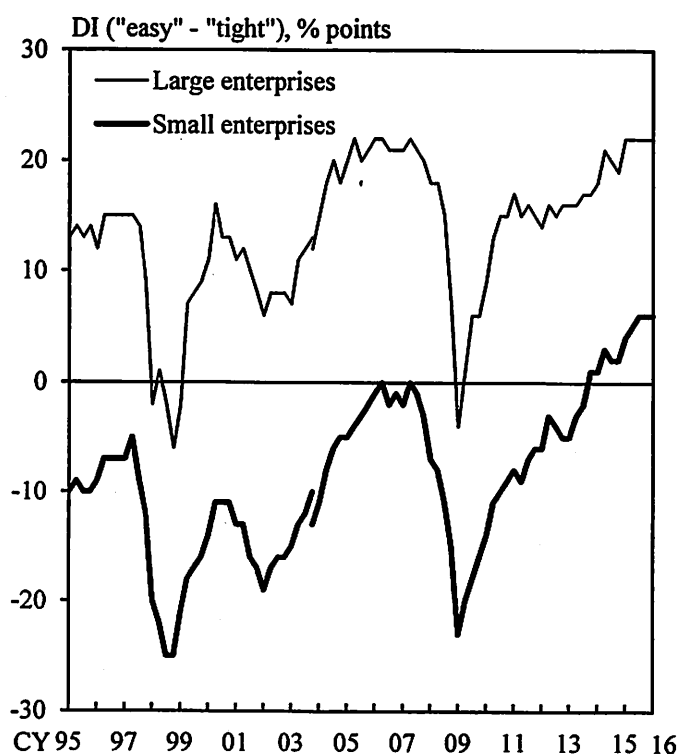
## (1) Lending Attitude of Financial Institutions as Perceived by Firms

(a) *Tankan*

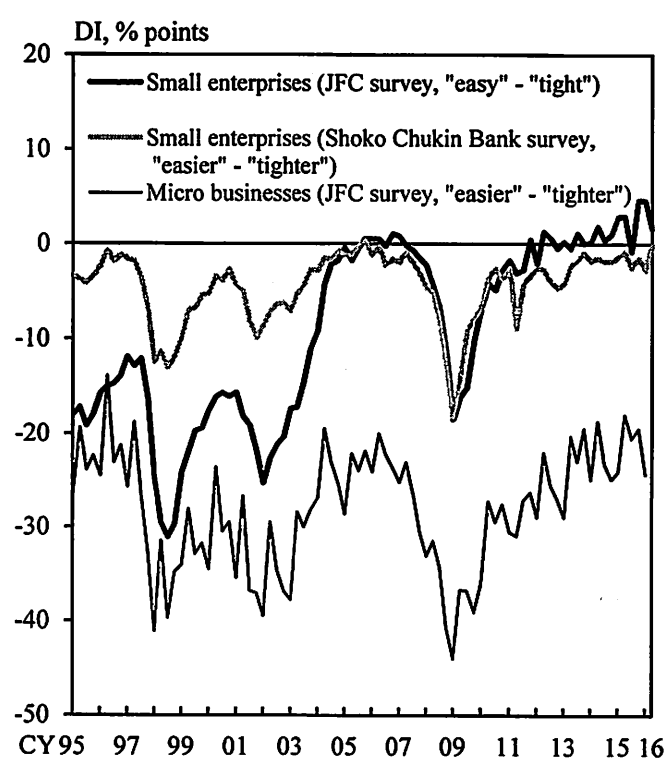
## (b) Other Surveys



## (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.

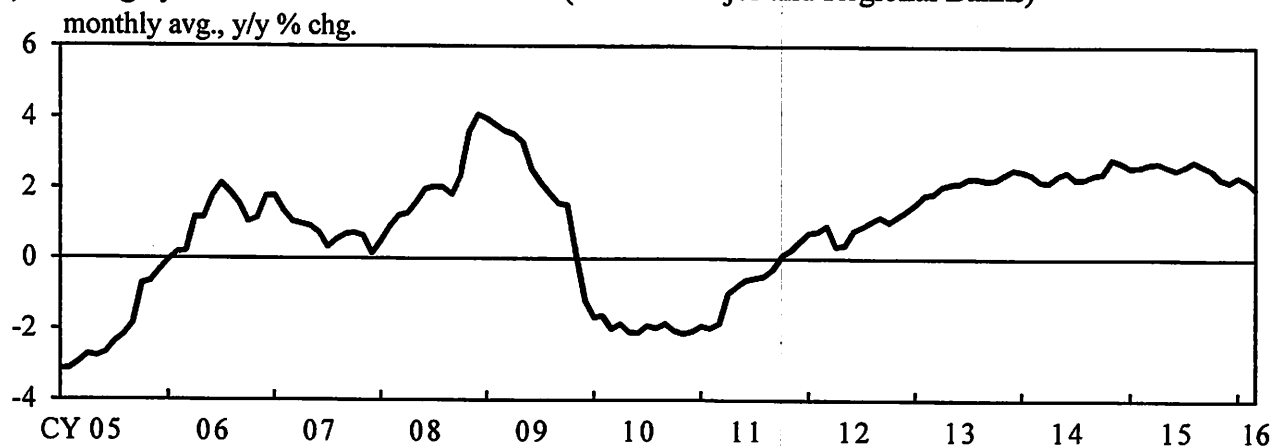
2. The figure for 2016/Q2 is that of April.

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

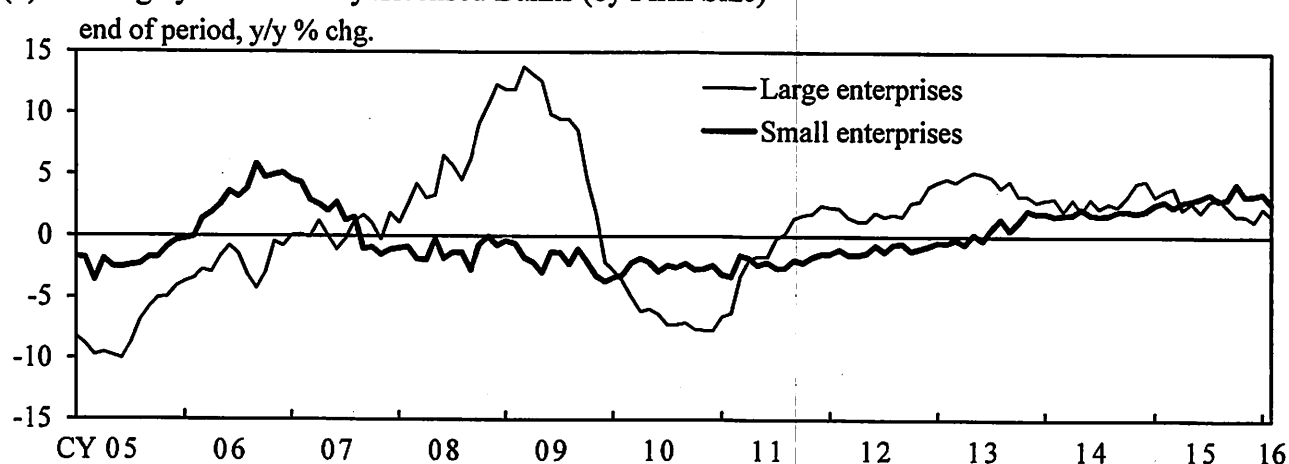


## Amount Outstanding of Bank Lending, CP, and Corporate Bonds

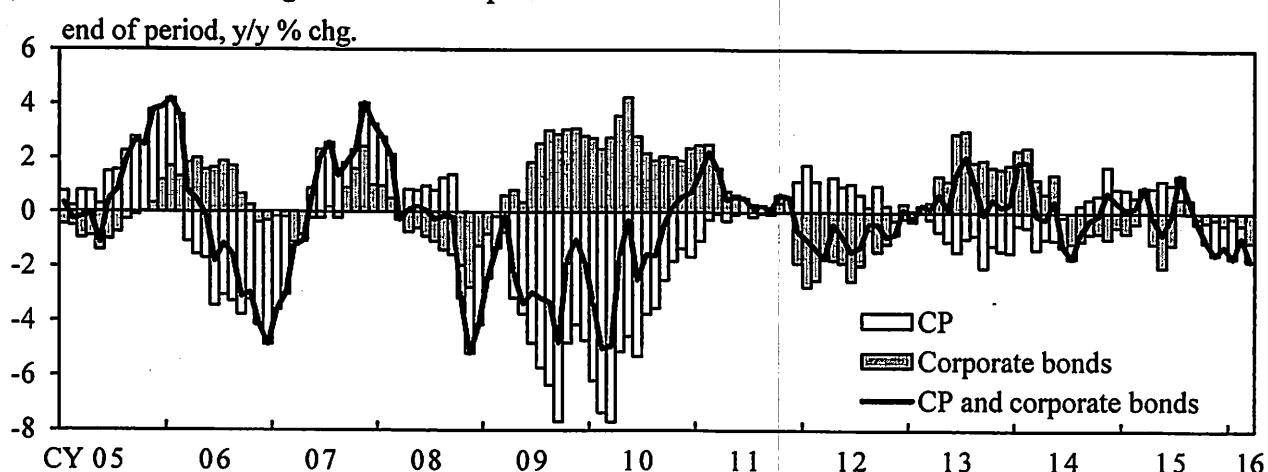
### (1) Lending by Domestic Commercial Banks (Total of Major and Regional Banks)



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



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



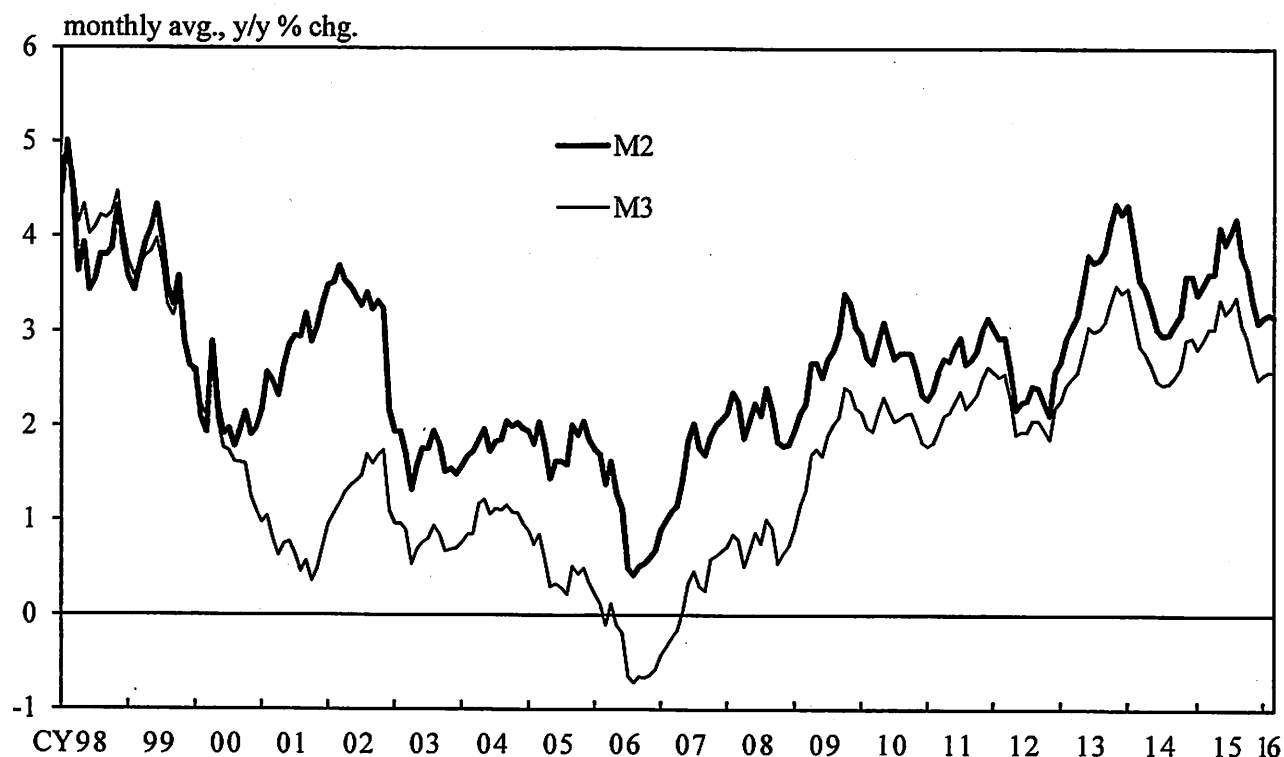
Notes: 1. Figures for CP are those for short-term corporate bonds registered under the book-entry transfer system. Those issued by banks, securities companies, and others such as foreign corporations are excluded; ABCP is included. Figures up to March 2008 are those compiled by the Bank of Japan.

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.

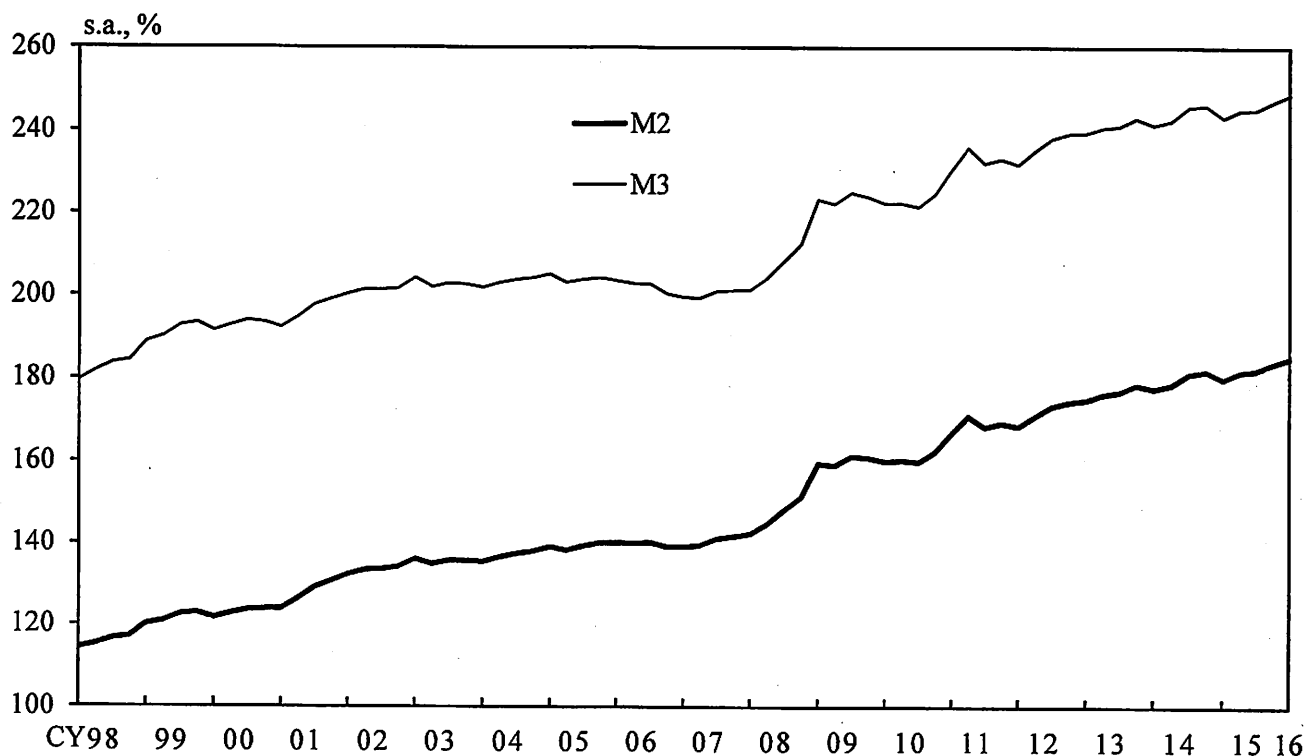
Sources: Bank of Japan; Japan Securities Depository Center; Japan Securities Dealers Association; I-N Information Systems.

# 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.

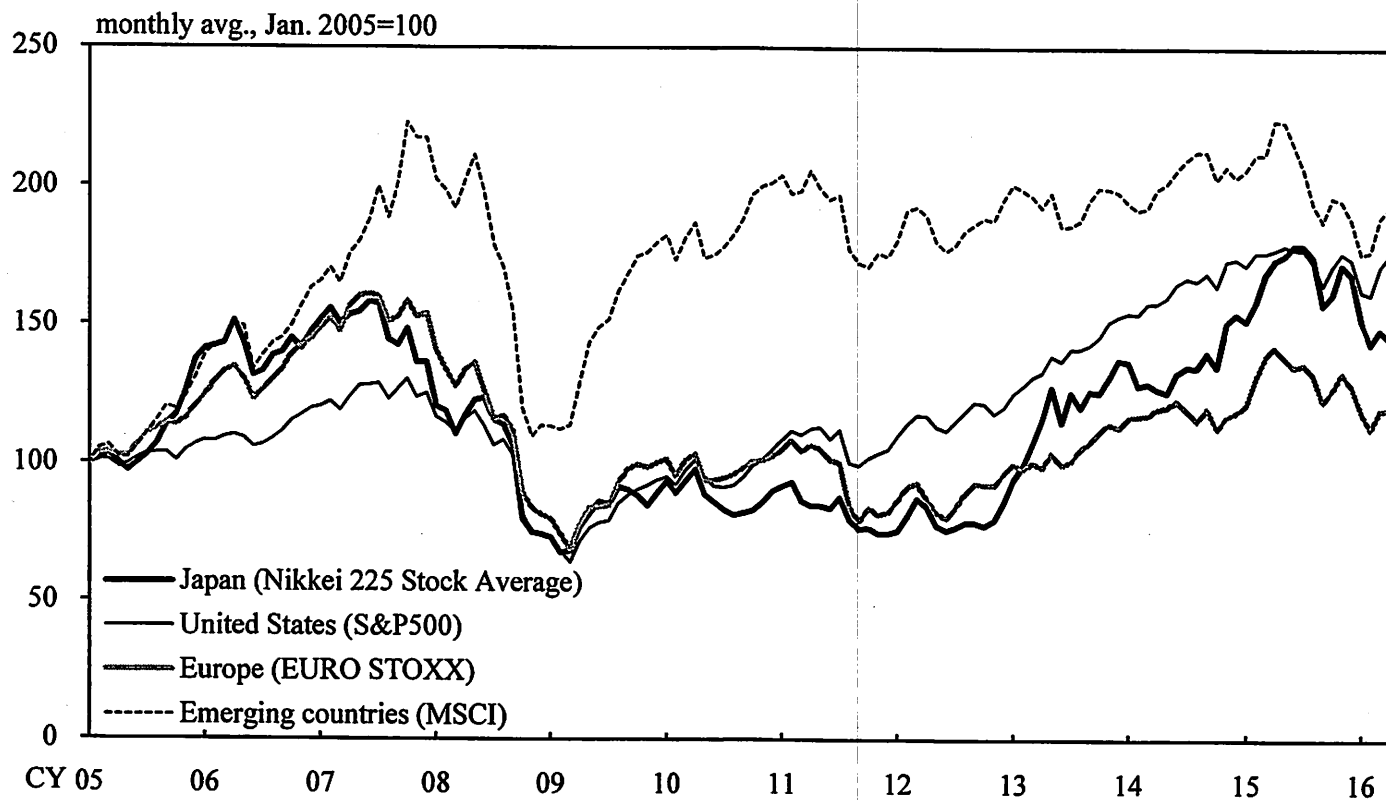
3. The figure for nominal GDP in 2016/Q1 is assumed to be unchanged from the previous quarter.

Sources: Bank of Japan; Cabinet Office.



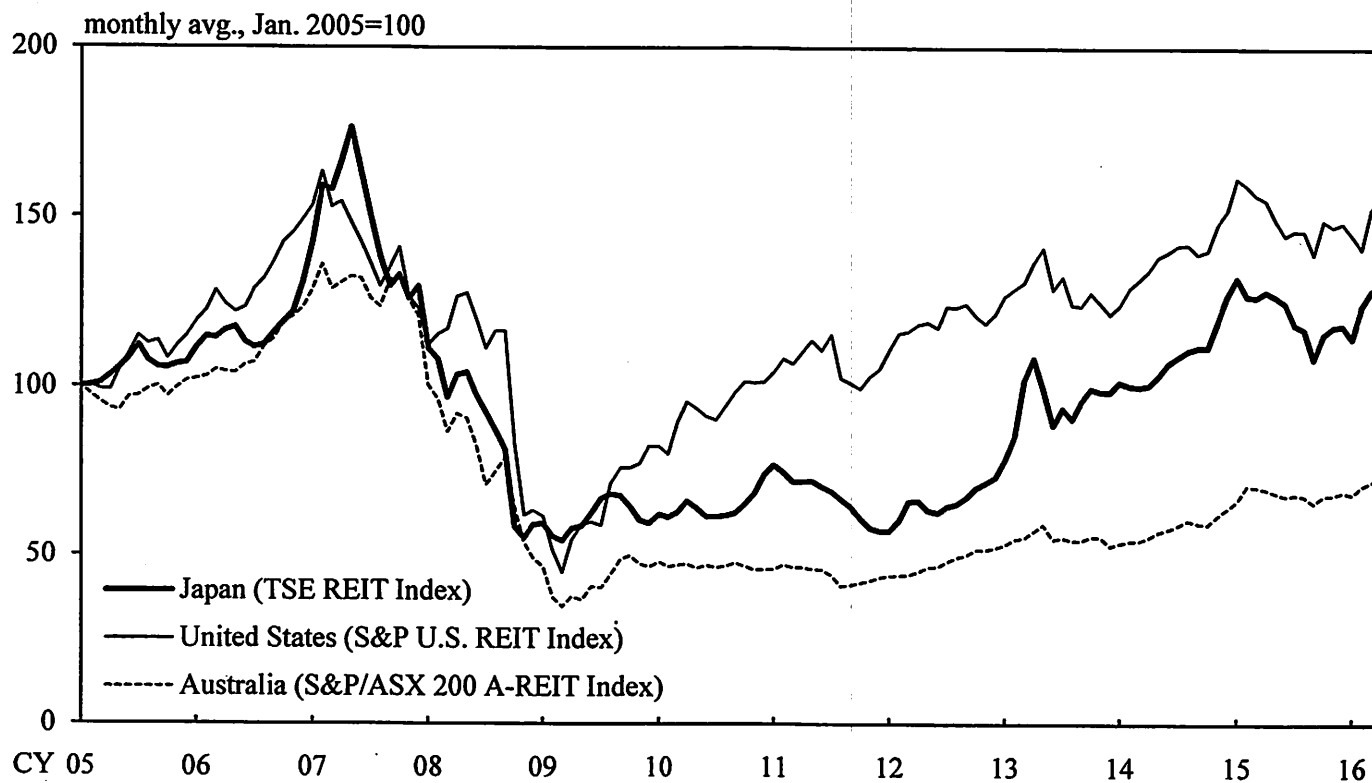
## Stock Prices and REIT Prices

### (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

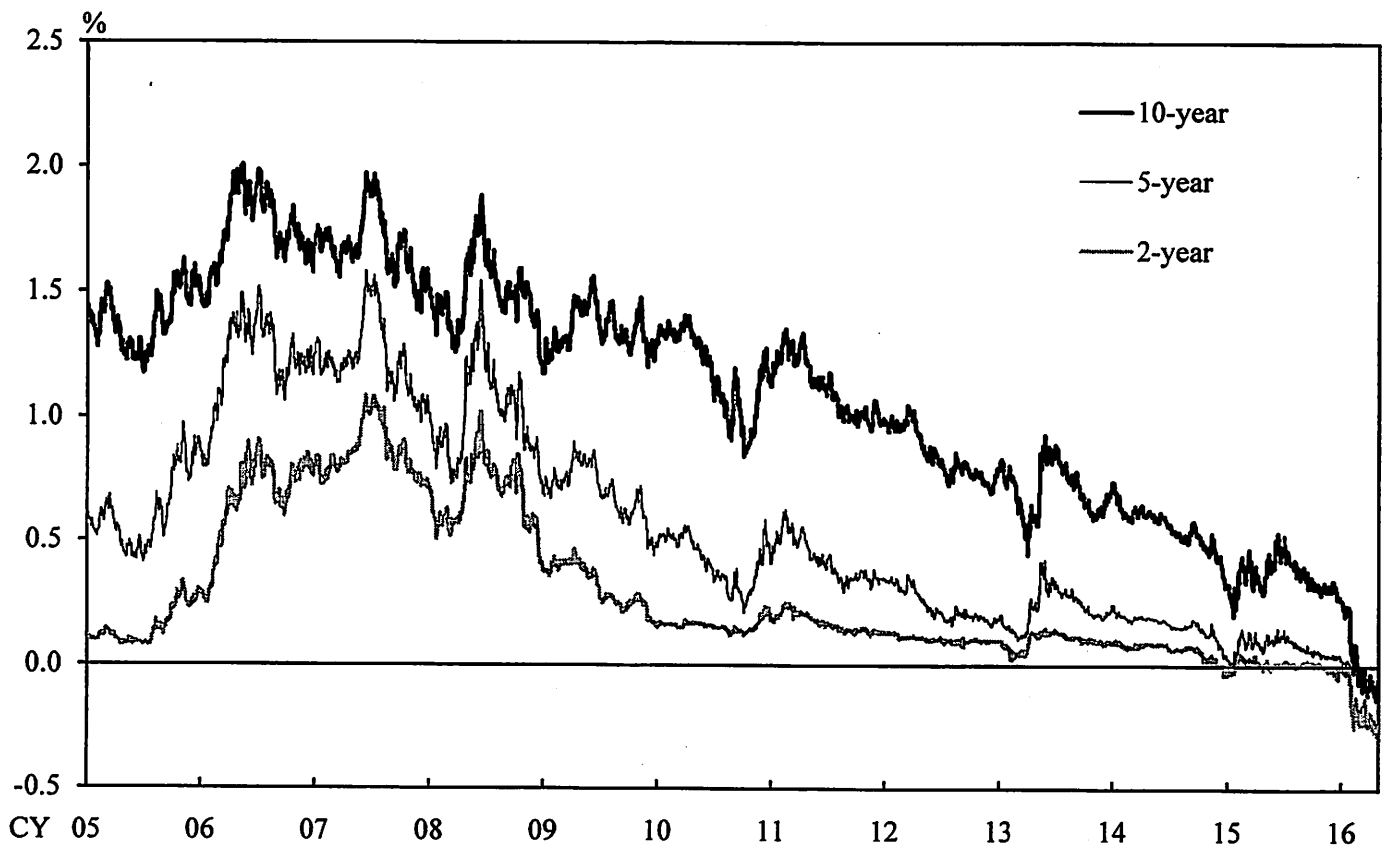


## Nominal Benchmark Yields

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



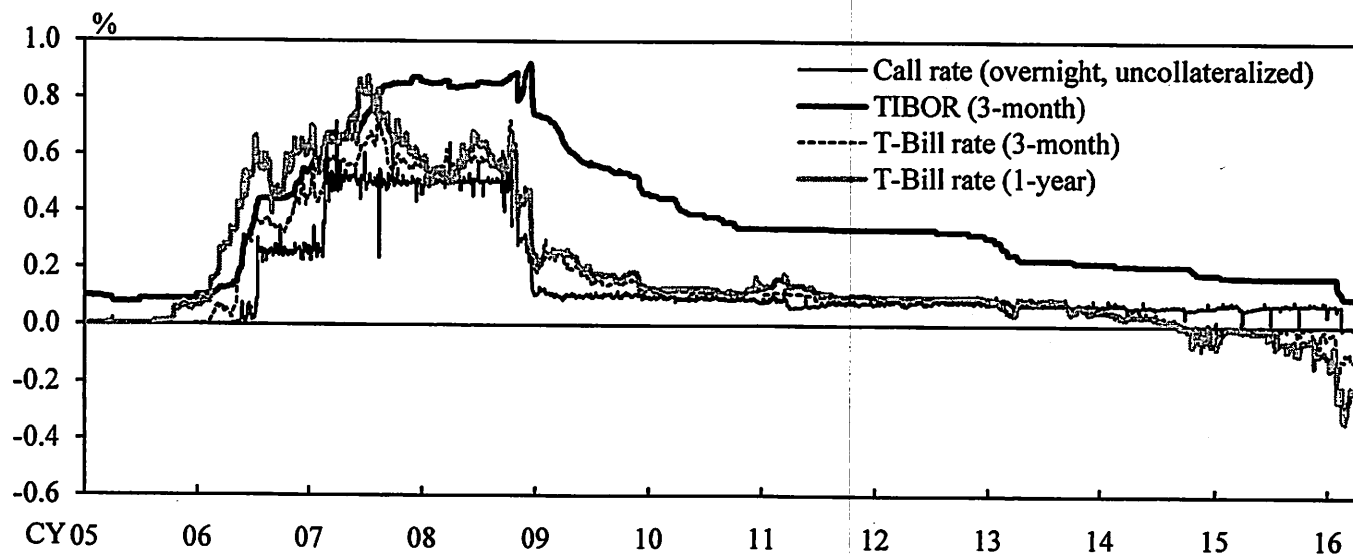
(2) JGB Yields



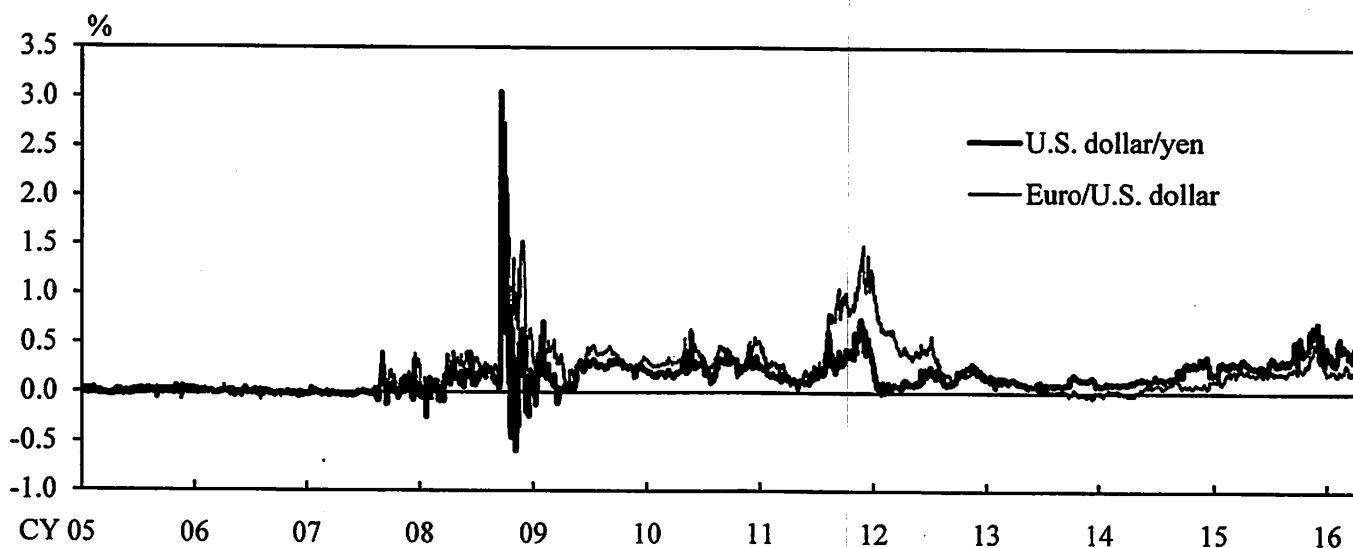
Source: Bloomberg.

# Money Market Rates

## (1) Short-Term Interest Rates

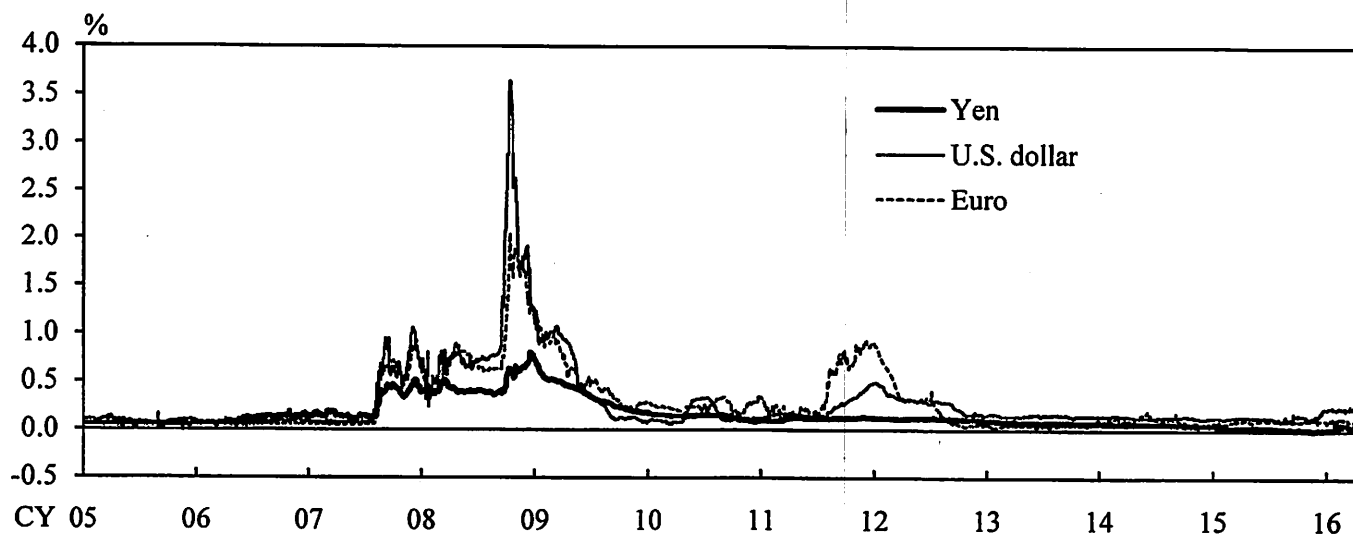


## (2) Dollar Funding Premiums through Foreign Exchange Swaps



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

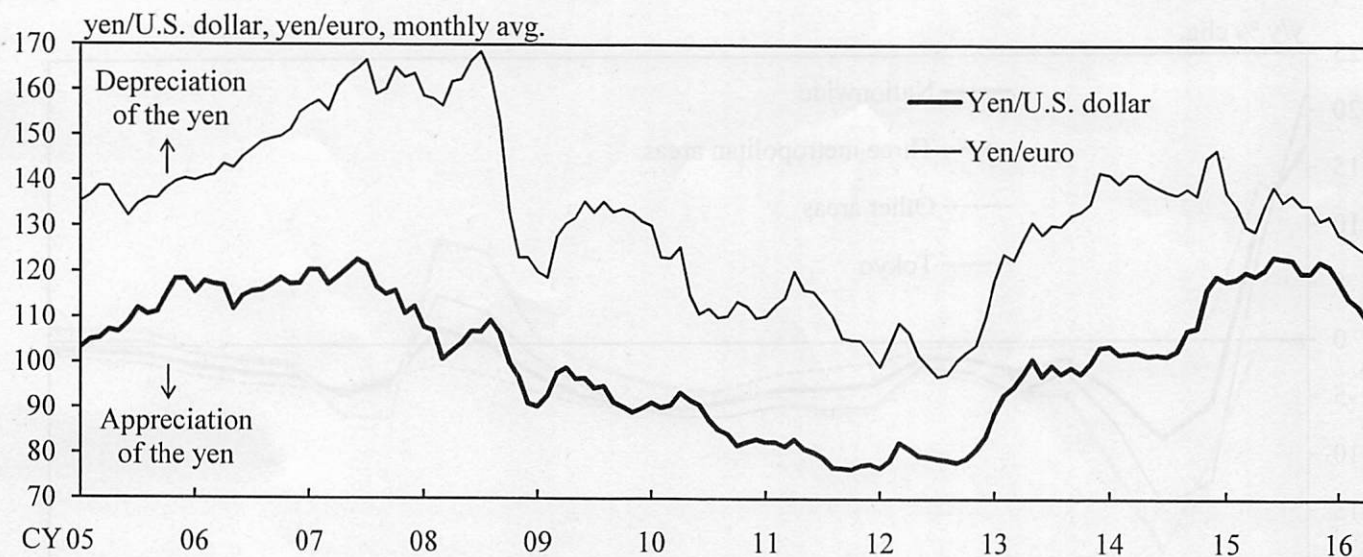
## (3) Credit Spreads for Yen-, Dollar-, and Euro-Denominated Term Instruments



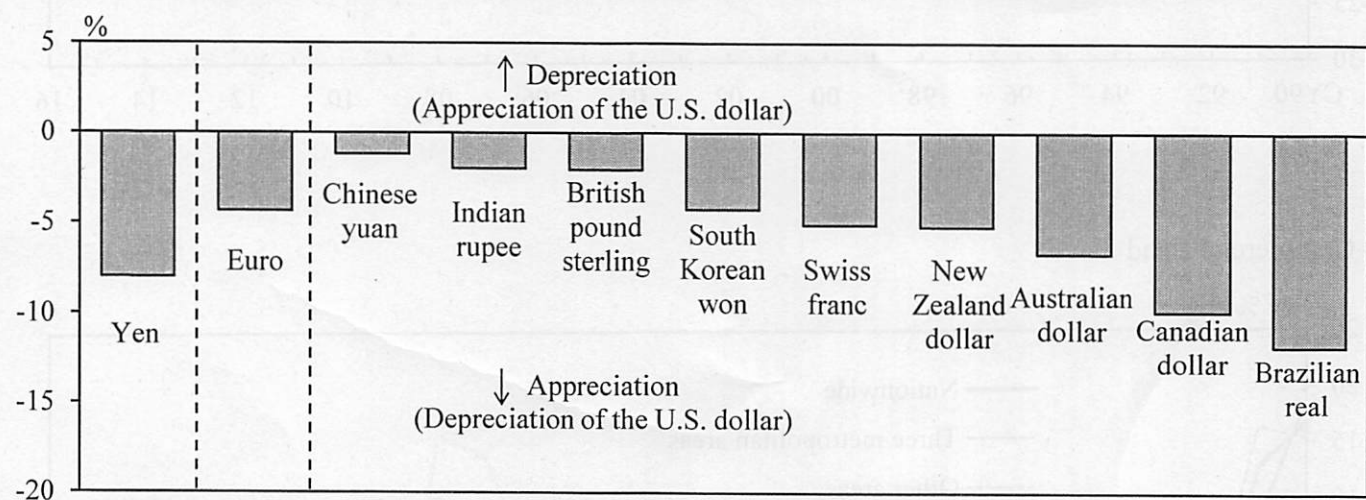
Note: The credit spreads for term instruments are LIBOR (3-month) minus yields on overnight index swaps (3-month).  
Sources: Bank of Japan; Bloomberg.

## Exchange Rates

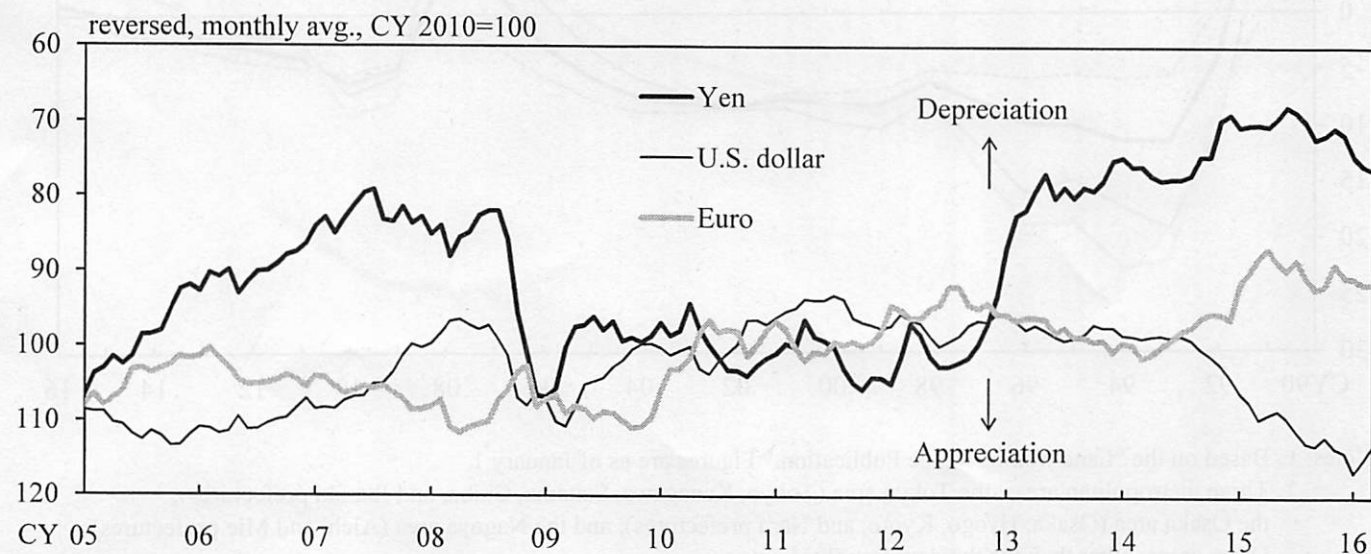
### (1) Yen/U.S. Dollar and Yen/Euro



### (2) Rates of Change in Selected Currencies against the U.S. Dollar (Since the End of January 2016)



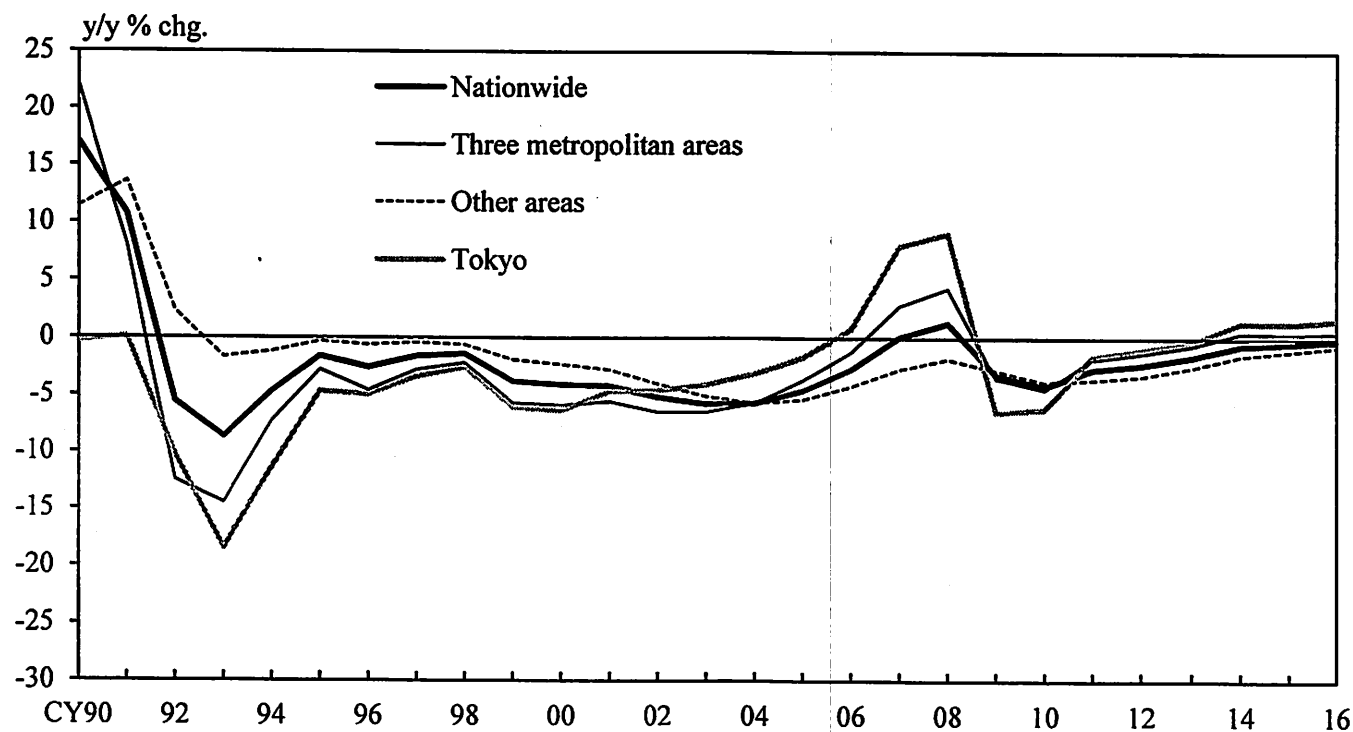
### (3) Real Effective Exchange Rates



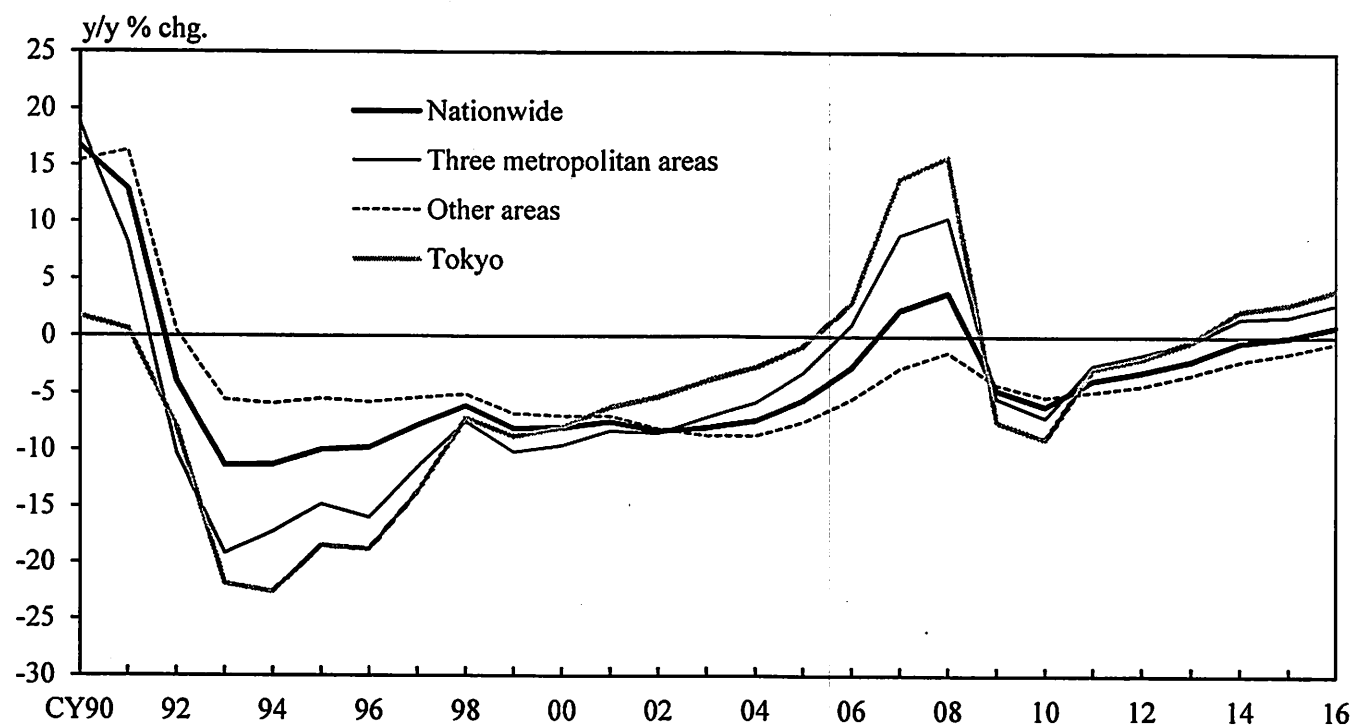
Note: The real effective exchange rates are based on the broad indices of the BIS effective exchange rate.  
Sources: Bank for International Settlements (BIS); Bloomberg.

## Land Prices

## (1) Residential Land



## (2) Commercial Land



Notes: 1. Based on the "Land Market Value Publication." Figures are as of January 1.

2. Three metropolitan areas: the Tokyo area (Tokyo, Kanagawa, Saitama, Chiba, and Ibaraki prefectures), the Osaka area (Osaka, Hyogo, Kyoto, and Nara prefectures), and the Nagoya area (Aichi and Mie prefectures). Other areas: other than the three metropolitan areas.

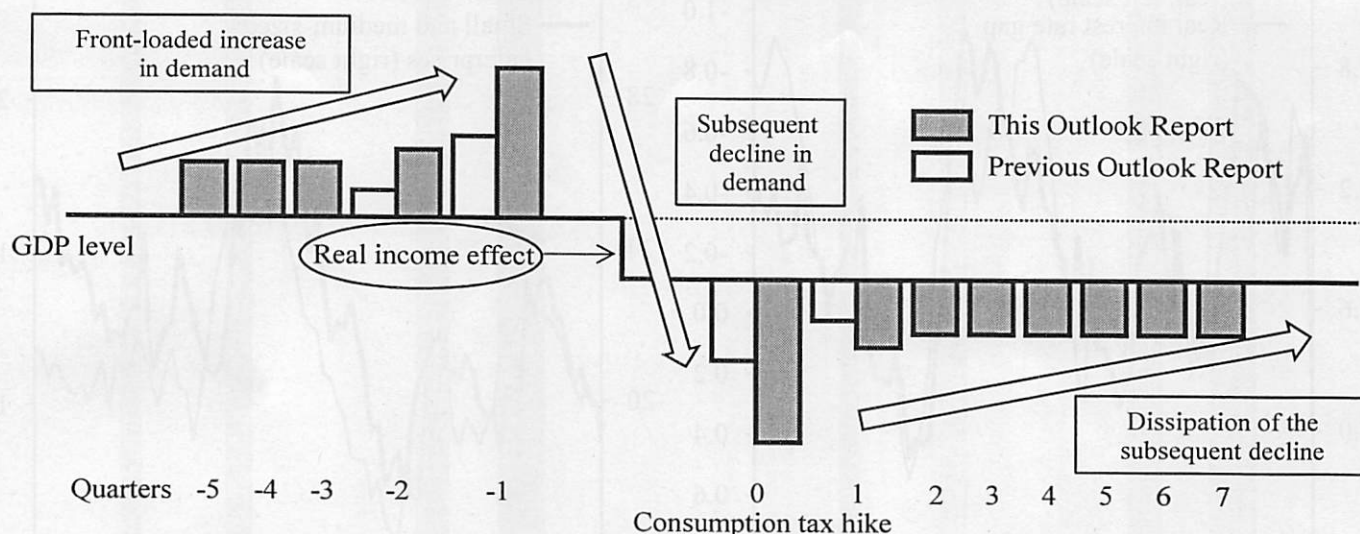
Source: Ministry of Land, Infrastructure, Transport and Tourism.

## Effects of the Consumption Tax Hikes on Real Economy

### (1) Effects on Real GDP

#### (a) Illustration of the Expected Effect of the Consumption Tax Hike on Real GDP

(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

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
This Outlook Report	0.8	-1.3	0.0	0.4	-0.6	0.1
Previous Outlook Report	0.5	-1.2	0.3	0.3	-0.7	

### (2) Estimated Effects on the Consumption of Durable Goods

#### (a) Estimation Methodology

Regression of real consumption of durable goods (logarithm) on the following variables:

- (1) Real income
  - (2) Real net financial assets
  - (3) Dummy variable for the front-loaded increase in demand prior to the consumption tax hike
  - (4) Dummy variable for the subsequent decline in demand after the consumption tax hike
- Coefficient restrictions on the dummy variables are imposed such that the total front-loaded increase in demand and the subsequent decline in demand are equal.

#### (b) Estimation Results

	Coefficient	t-statistic
Real income	0.2	1.6
Real net financial assets	1.5	23.4
Dummy variable #1 for the front-loaded increase in demand (2013/Q1-2013/Q4)	0.1	1.7
Dummy variable #2 for the front-loaded increase in demand (2014/Q1)	0.2	2.5
Dummy variable for the subsequent decline in demand (2014/Q2-2015/Q4)	-0.1	-2.9
Estimation period	1980/Q2-2015/Q4	

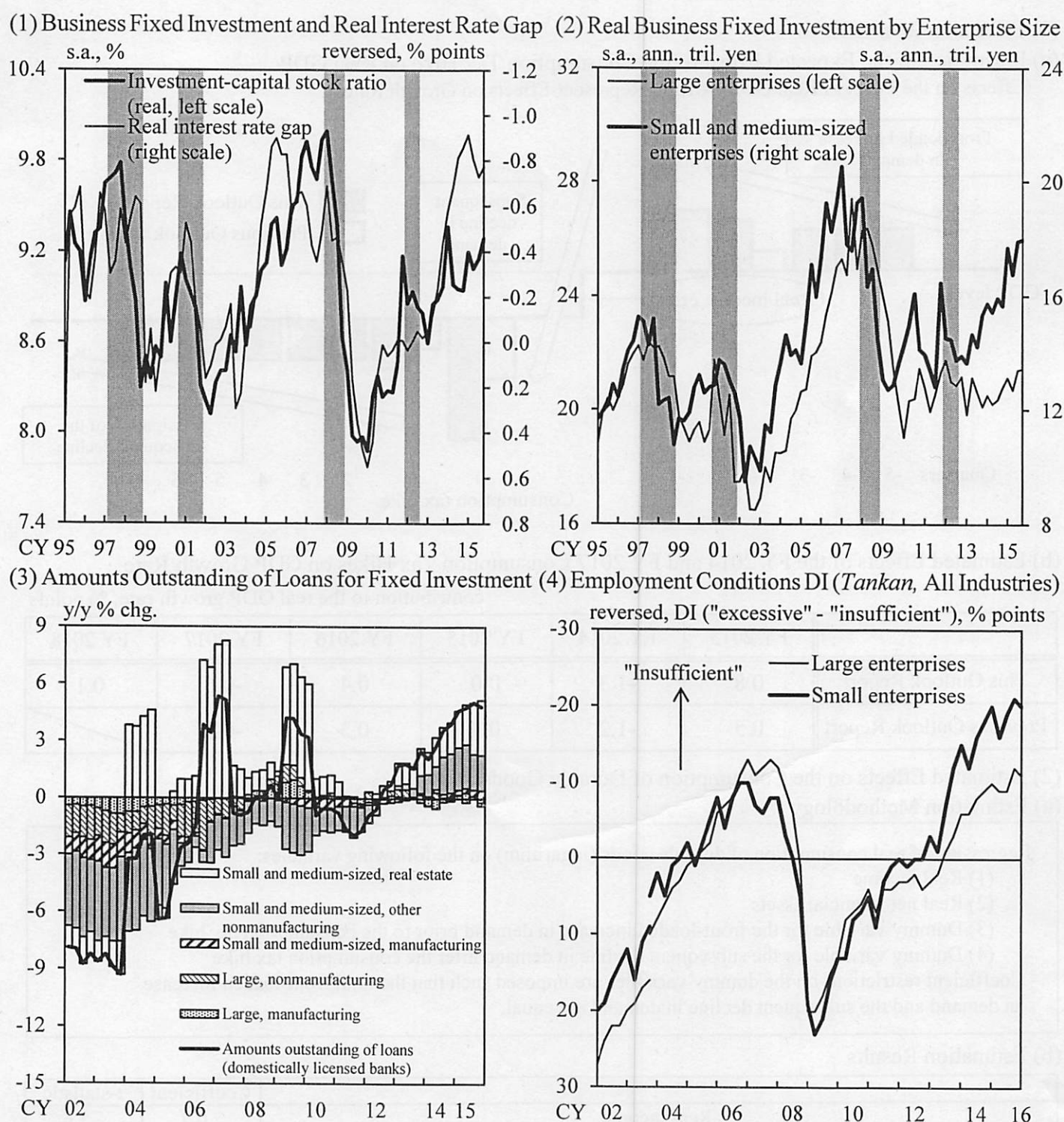
Notes: 1. In the estimation in (2)(b), dummy variables for the front-loaded increase and subsequent decline in demand prior to and after the consumption tax hike in 1997 and a constant are included as explanatory variables in addition to the variables shown in the table.

2. In the estimation in (2)(b), the following coefficient restriction is imposed:  $4 \times \text{"the coefficient of the dummy variable \#1 for the front-loaded increase in demand"} + \text{"the coefficient of the dummy variable \#2 for the front-loaded increase in demand"} = 8 \times \text{"the coefficient of the dummy variable for the subsequent decline in demand."}$

Sources: Cabinet Office; Bank of Japan, etc.



# Developments in Business Fixed Investment by Enterprise Size



- Notes: 1. In (1), real interest rate gap = real interest rate - natural interest rate (both are based on 10-year JGB yields). For details, see "The Natural Yield Curve: Its Concept and Measurement," Bank of Japan Working Paper Series, 15-E-5.
2. In (2), real business fixed investment by enterprise size is obtained by deflating nominal business fixed investment (all industries excluding "Finance and Insurance" and "Goods Rental and Leasing," and excluding software investment) from the "Financial Statements Statistics of Corporations by Industry, Quarterly," by the SNA business fixed investment deflator.
3. In both (1) and (2), shaded areas indicate recession periods.
4. Figures in (3) are based on the "Loans and Bills Discounted by Sector." The real estate sector includes loans for "House and Room Lending by Households." There are some discontinuities in the data in 2004/Q1, 2006/Q3, and 2009/Q2 due to changes in the way firms are classified by financial institutions.
5. In (4), there is a discontinuity in the data in December 2003 due to a change in the survey framework.

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

# Determinants of Wages, by Industry and Enterprise Size

## (1) Determinants of Wages

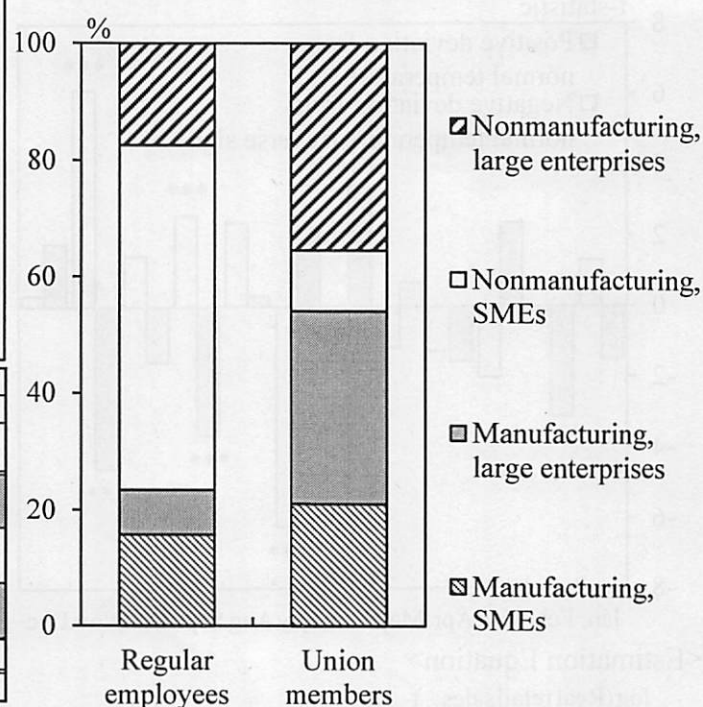
Dependent variable: Scheduled cash earnings of regular employees (y/y % change, based on "Basic Survey on Wage Structure")

Explanatory variables:

1. Labor market tightness ("employment conditions DI," "insufficient"- "excessive," *Tankan*)
2. Inflation rate (previous year, CPI all items less fresh food)
3. Margin (difference between "change in output prices DI" and "change in input prices DI," *Tankan*)

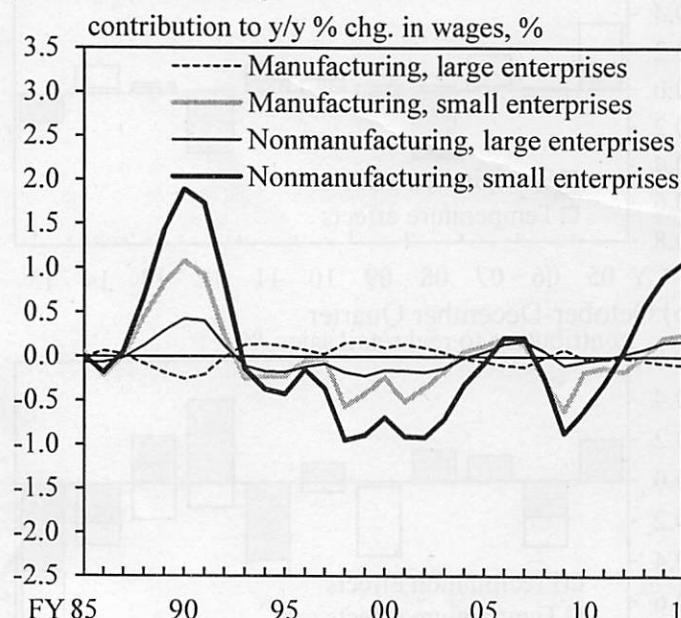
		Estimation period: FY1985-2015			
Industry	Size	Manufacturing		Nonmanufacturing	
		Large	Small, Medium	Large	Small, Medium
Labor market tightness		-0.11 (0.27)	0.39* (0.21)	0.17 (0.26)	0.76*** (0.19)
Inflation rate (previous year, %)		0.59** (0.26)	0.46** (0.20)	0.17 (0.27)	0.28 (0.20)
Margin		1.39** (0.66)	1.22*** (0.42)	1.84*** (0.43)	1.09*** (0.24)
		Adj. R <sup>2</sup>		0.53	
		S.E. of regression		1.34	

## (2) Regular Employees in the Labour Force Survey and Union Members of *Rengo*

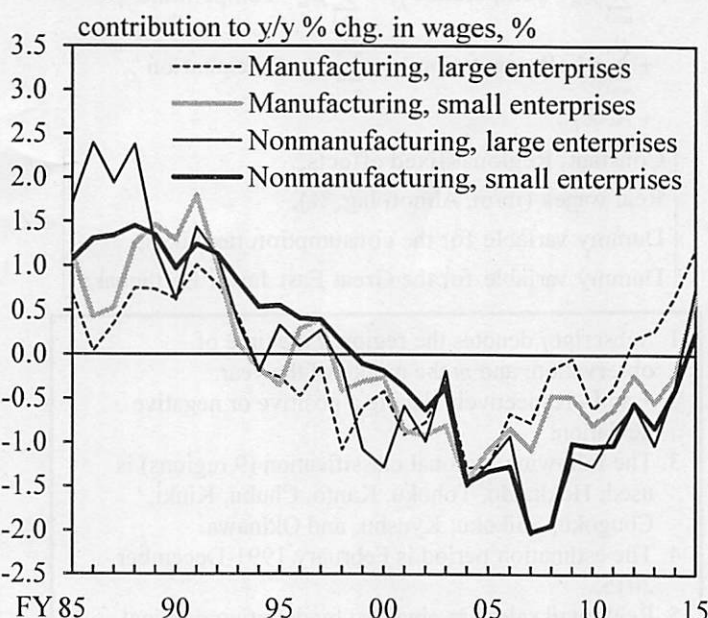


## (3) Contribution of Each Determinant to Changes in Wages

### (a) Labor Market Tightness



### (b) Margin



Notes: 1. Except in the *Tankan*, enterprise sizes are defined as follows: large enterprises = 1,000 or more employees; medium-sized enterprises = 100-999 employees; small enterprises = fewer than 100 employees. The size classification in the "Basic Survey on Wage Structure" follows this pattern, but is for establishments.

2. The figures in parentheses in the table in (1) represent standard errors.

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

3. The share distribution of regular employees in (2) shows the average for CY 2015 and is based on the "detailed tabulation" in the "Labour Force Survey." The share distribution of *Rengo* union members is based on *Rengo*'s report on the fiscal 2015 *shunto* (spring wage negotiations).

4. The figures based on the *Tankan* are normalized to mean 0 and standard deviation 1.

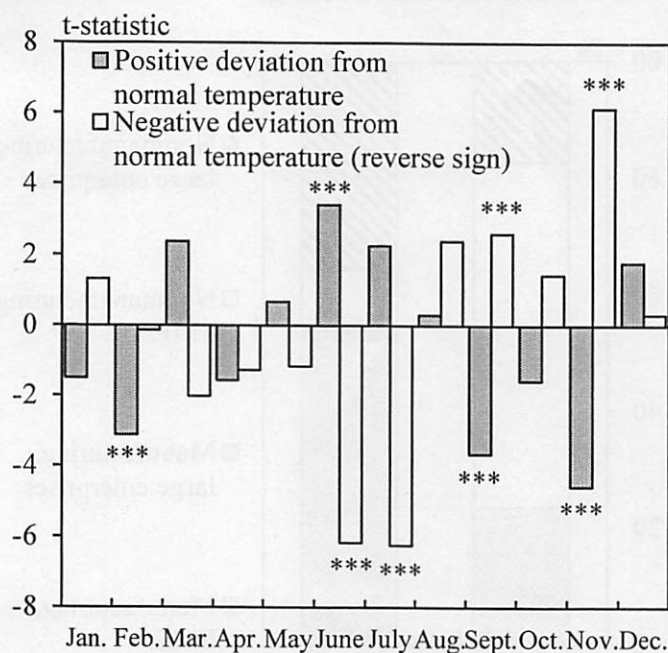
Sources: Ministry of Health, Labour and Welfare; Bank of Japan; Ministry of Internal Affairs and Communications; Japanese Trade Union Confederation (*Rengo*).



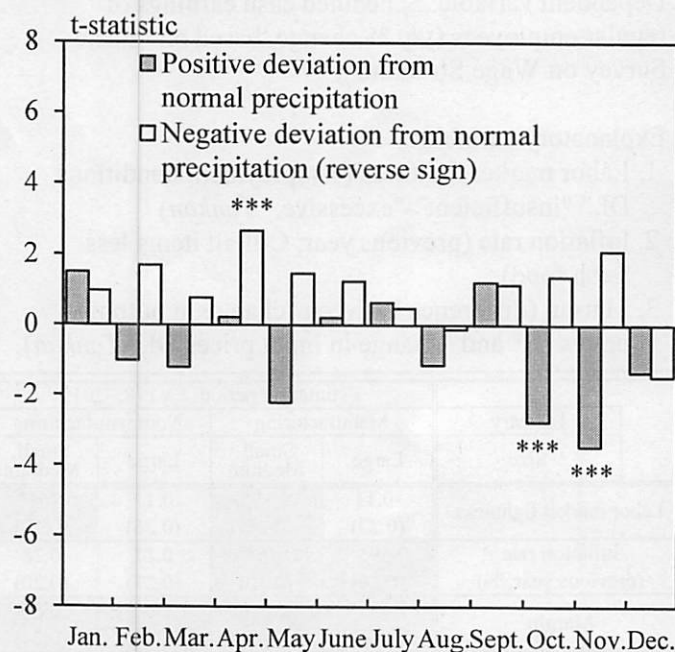
## Weather Effects on Private Consumption

### (1) Statistical Significance of the Parameter Estimates for Temperature and Precipitation Effects

#### (a) Temperature



#### (b) Precipitation



#### <Estimation Equation>

$$\begin{aligned} \log(\text{Real retail sales}_{j,t}) &= \rho \cdot \text{Lagged dependent variable}_{j,t-1} \\ &+ \sum_{m=1}^{12} \beta_m^+ \cdot \text{Temperature}_{j,t}^+ + \sum_{m=1}^{12} \beta_m^- \cdot \text{Temperature}_{j,t}^- \\ &+ \sum_{m=1}^{12} \gamma_m^+ \cdot \text{Precipitation}_{j,t}^+ + \sum_{m=1}^{12} \gamma_m^- \cdot \text{Precipitation}_{j,t}^- \\ &+ A \cdot Z_t \end{aligned}$$

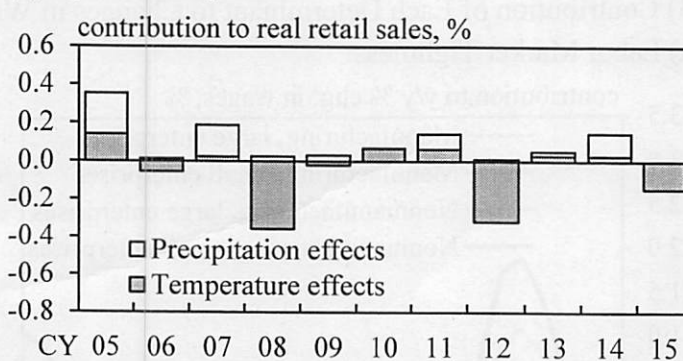
Constant, Regional fixed effects,  
Real wages (m/m, Almon lag, %),  
Dummy variable for the consumption tax hikes,  
Dummy variable for the Great East Japan Earthquake

∈ Z

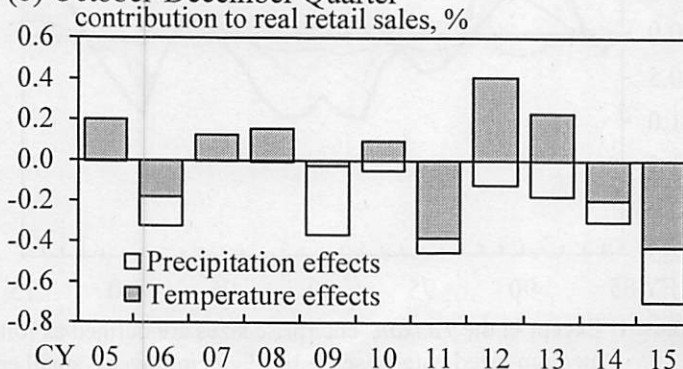
1. Subscript  $j$  denotes the region,  $t$  the time of observation, and  $m$  the month of the year.
2. + and - respectively denote a positive or negative deviation.
3. The following regional classification (9 regions) is used: Hokkaido, Tohoku, Kanto, Chubu, Kinki, Chugoku, Shikoku, Kyushu, and Okinawa.
4. The estimation period is February 1991-December 2015.
5. Real retail sales are obtained by deflating nominal sales at department stores and supermarkets by the CPI for goods (excluding electricity, gas & water charges).

### (2) Weather Effects in Past Years

#### (a) April-June Quarter



#### (b) October-December Quarter



Notes: 1. In the estimation in (1), deviations from the normal temperature are calculated using the 10-year average for the observation month to take the effects of global warming into account.

2. \*\*\* in (1) denotes statistical significance at the 1% level.

3. Figures in (2) are calculated using statistically significant (at the 1% level) parameters of temperature and precipitation in (1) and actual meteorological data.

Sources: Ministry of Economy, Trade and Industry; Ministry of Internal Affairs and Communications;  
Ministry of Health, Labour and Welfare; Japan Meteorological Agency.

## Wealth Effects on Private Consumption

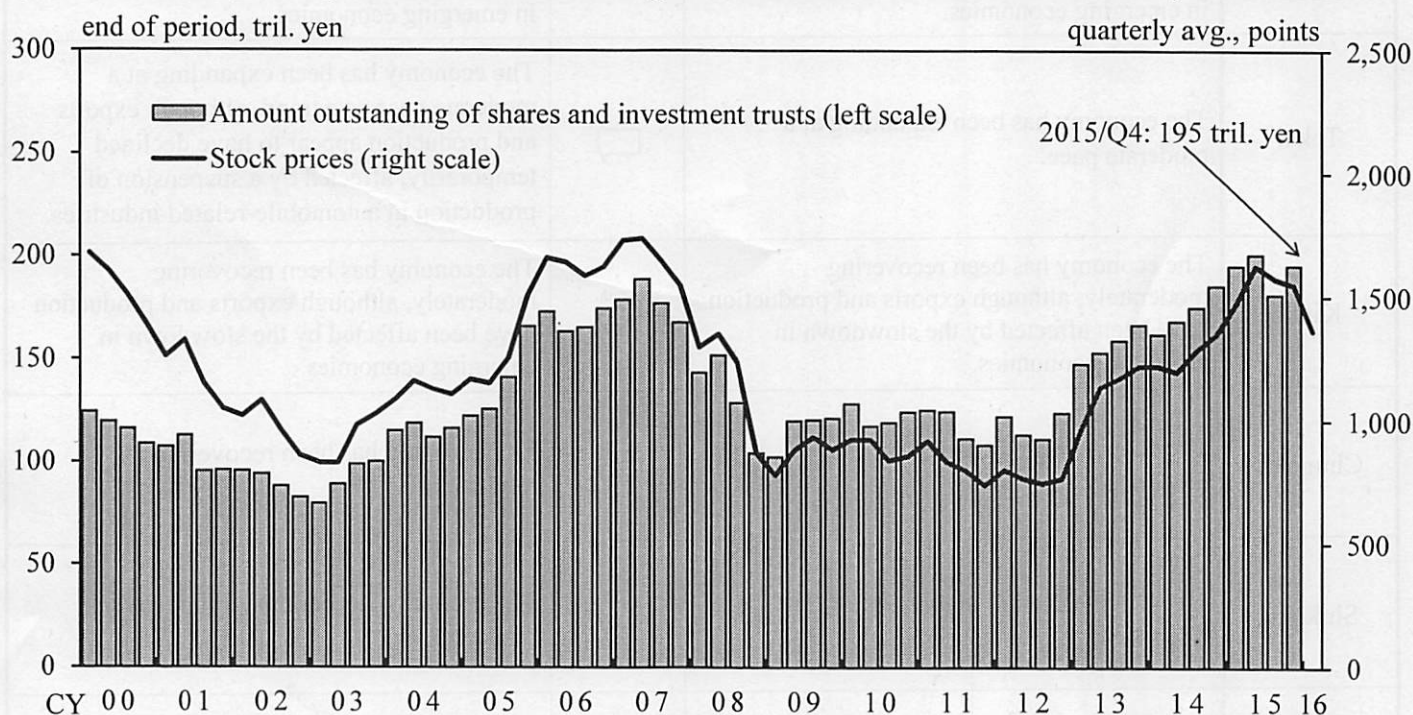
### (1) Studies on Financial Wealth Effects in Japan

	Estimation period	Financial wealth effect
Mutoh, Kawai and Sano (1993)	1955-1991	0.0
Horioka (1996)	1955-1993	2.9
Boone, Giorno and Richardson (1998)	1979/Q1-1996/Q2	3.8
Ogawa and Kitasaka (1998)	1980, 1985, 1990	4.9
Ludwig and Slok (2002)	1960/Q1-1999/Q4	4.0
Cabinet Office (2009)	1980-2006	3.5
Unayama and Komura (2014)	November 2012-May 2013	2.2

Notes: 1. The figures for the financial wealth effect show the change in yen in private consumption as a result of a 100-yen change in the value of financial assets held by households.

2. In some of the studies, the wealth effect is calculated using the reported asset price elasticity multiplied by the ratio of private consumption to the value of financial assets held by households.

### (2) Stock Prices (TOPIX) and Amount Outstanding of Shares and Investment Trusts Held by Households



Note: Shares and investment trusts = listed shares + investment trust beneficiary certificates ("Flow of Funds" basis)

Sources: Mutoh, Kawai and Sano (1993) "Private Consumption and Negative Wealth Effects" (available in Japanese only); Ogawa and Kitasaka (1998) "Asset Markets and Business Cycle Fluctuations" (available in Japanese only); Cabinet Office (2009) "Annual Report on the Japanese Economy and Public Finance 2009;" Unayama and Komura (2014) "Impact of Stock Price Changes on Private Consumption: Measuring Wealth Effects During the Abenomics Period" (available in Japanese only); Horioka (1996) "Capital Gains in Japan: Their Magnitude and Impact on Consumption;" Boone, Giorno and Richardson (1998) "Stock Market Fluctuations and Consumption Behaviour: Some Recent Evidence;" Ludwig and Slok (2002) "The Impact of Changes in Stock Prices and House Prices on Consumption in OECD Countries;" Bloomberg; Bank of Japan.

## Economic Assessment by Region (Regional Economic Report)

Region	Assessment in January 2016	Changes from the previous assessment	Assessment in April 2016
Hokkaido	The economy has been recovering moderately.	⇒	The economy has been recovering moderately.
Tohoku	The economy has continued to recover moderately, although production has been affected mainly by the slowdown in emerging economies.	⇒	The economy has continued its moderate recovery trend, as production has continued to be somewhat weak, 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 been expanding at a moderate pace.	⇒	The economy has been expanding at a moderate pace as a trend, although exports and production appear to have declined temporarily, affected by a suspension of production in automobile-related industries.
Kinki	The economy has been recovering moderately, 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 continued to recover moderately, albeit being affected mainly by the slowdown in emerging economies.

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/rer160407.htm/>).

Source: Bank of Japan.

