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Bank of Japan

Outlook for Economic Activity and Prices

October 2016

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

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The Bank's View¹

Summary

- Japan's economy is likely to continue growing at a pace above its potential through the projection period -- that is, through fiscal 2018 -- on the back of highly accommodative financial conditions and the effects of the government's large-scale stimulus measures, as well as the recovery in overseas economies.
- The year-on-year rate of change in the consumer price index (CPI, all items less fresh food) is likely to be slightly negative or about 0 percent for the time being, and as the aggregate supply and demand balance (the output gap) improves and medium- to long-term inflation expectations rise, it is expected to increase toward 2 percent in the second half of the projection period.
- With regard to the risk balance, risks to both economic activity and prices are skewed to the downside. On the price front, the momentum toward achieving the price stability target of 2 percent seems to be maintained, but is somewhat weaker than the previous outlook, and thus developments in prices warrant careful attention going forward.
- As for the conduct of monetary policy, the Bank will continue with "Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control," 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 continue expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds 2 percent and stays above the target in a stable manner. The Bank will make policy adjustments as appropriate, taking account of developments in economic activity and prices as well as financial conditions, with a view to maintaining the momentum toward achieving the price stability target.

¹ The text of "The Bank's View" was decided by the Policy Board at the Monetary Policy Meeting held on October 31 and November 1, 2016.

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, exports have been more or less flat. 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. Housing investment has continued picking up, and the decline in public investment has leveled off. Reflecting these developments in demand both at home and abroad, industrial production has continued to be more or less flat. Business sentiment has generally stayed at a favorable level. 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) has been slightly negative. Inflation expectations have remained in a weakening phase.

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

A. Baseline Scenario of the Outlook for Economic Activity

With regard to the outlook, although sluggishness is expected to remain in exports and production for some time, Japan's economy is likely to expand moderately thereafter. Domestic demand is likely to follow an uptrend, with a virtuous cycle from income to spending being maintained in both the corporate and household sectors, on the back of highly accommodative financial conditions and fiscal spending through the government's large-scale stimulus measures. 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. Private consumption is expected to increase moderately as employee income continues to improve. Public investment is projected to increase through fiscal 2017, due mainly to the positive effects resulting from a set of stimulus measures, and thereafter remain at a relatively high level

with Olympic Games-related demand. Meanwhile, although overseas economies are projected to remain slightly subdued for some time, they are expected to gradually increase their growth rates as advanced economies continue growing steadily and emerging economies move out of their deceleration phase, on the back of the steady growth in advanced economies and the effects of policy measures taken by emerging economies. Against this background, exports are expected to start increasing moderately.

Reflecting this outlook, Japan's economy is likely to continue growing at a pace above its potential through the projection period -- that is, through fiscal 2018.² Comparing the current projections with the previous ones, the projected growth rates are more or less unchanged.

Looking at the financial conditions assumed in the above outlook, short- and long-term real interest rates are expected to be in negative territory through the projection period as the Bank pursues "QQE with Yield Curve Control."³ Financial institutions' proactive lending attitudes as well as favorable conditions for corporate bonds and CP issuance are both likely to be maintained and support firms' and households' activities from the financial side. Thus, financial conditions are likely to remain highly accommodative.⁴

The potential growth rate is expected to follow a moderate uptrend through the projection period against the backdrop of the following: 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;

² Japan's potential growth rate is estimated to be in the range of 0.0-0.5 percent under a specific methodology. 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.

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 for Economic Activity and Prices* (Outlook Report) and that of market participants in mind.

⁴ As for financial developments, see the Bank's *Financial System Report* (October 2016).

and steady progress in overcoming of deflation. Along with this, the natural rate of interest is projected to rise, thereby enhancing monetary easing effects.

B. Baseline Scenario of the Outlook for Prices

The outlook for prices is as follows. The year-on-year rate of change in the CPI is likely to be slightly negative or about 0 percent for the time being, due to the effects of the decline in energy prices, and as the output gap improves and medium- to long-term inflation expectations rise, it is expected to increase toward 2 percent in the second half of the projection period. Comparing the current projections with the previous ones, the projected rate of increase in the CPI is somewhat lower, mainly due to medium- to long-term inflation expectations having remained in a weakening phase. The timing of the year-on-year rate of change in the CPI reaching around 2 percent will likely be at the end of the projection period -- that is, around fiscal 2018.

The background to these projections is as follows. First, medium- to long-term inflation expectations can be regarded as consisting of two components: a forward-looking component, in which inflation expectations converge to the price stability target set by the central bank, and a backward-looking, or adaptive, component that reflects the observed inflation rate.⁵ Medium- to long-term inflation expectations have remained in a weakening phase since summer 2015 as the adaptive component has played a large role in their formation, with the observed inflation rate being about 0 percent or slightly negative. As for the outlook, based on the aforementioned projections, firms' price-setting stance is expected to revert to raising prices as private consumption is expected to head toward a moderate increase, and their wage-setting stance is likely to shift toward raising wages driven by the tightening of labor market conditions. Against this backdrop, because of the following two factors, medium- to long-term inflation expectations are likely to follow an increasing trend and gradually converge to around 2 percent: (1) in terms of the adaptive component, the observed inflation rate is expected to rise, mainly due to the dissipation of the downward pressure of energy prices going forward, and (2) in terms of the forward-looking component,

⁵ With regard to the mechanism of inflation expectation formation, see the Bank's *Comprehensive Assessment: Developments in Economic Activity and Prices as well as Policy Effects since the Introduction of Quantitative and Qualitative Monetary Easing (QQE)* released in September 2016.

the Bank will pursue monetary easing through its strong commitment to achieving the price stability target.

Second, 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, mainly against the background of the slowdown in emerging economies. Going forward, due in part to the effects resulting from the set of stimulus measures, the tightening of labor market conditions is likely to continue, and capacity utilization rates are expected to increase again as exports and production pick up. Against this backdrop, the output gap is expected to move into positive territory through the end of fiscal 2016 and widen further within that territory.

Third, through import prices, the past decline in international commodity prices including crude oil prices will exert downward pressure on consumer prices for the time being, but the effects of such pressure are expected to wane. The impact of foreign exchange rates on consumer prices through import prices is likely to restrain upward pressure on prices, due in part to the appreciation of the yen since the turn of the year.

III. Upside and Downside Risks to Economic Activity and Prices

A. Upside and Downside 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. Specifically, the following are considered as risks: developments in emerging and commodity-exporting economies, particularly China; developments in the U.S. economy and the impact of its monetary policy on global financial markets; the consequences stemming from the United Kingdom's vote to leave the European Union (EU) and their effects; prospects regarding the European debt problem, including the financial sector; and geopolitical risks.

Second, firms' and households' medium- to long-term growth expectations may be either raised or lowered depending on the following: efforts to address medium- to long-term issues such as the aging population; developments in regulatory and institutional reforms,

particularly in the labor market; innovation in the corporate sector; and the employment and income situation.

Third, 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 the rises in long-term interest rates associated with them. 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 concerns regarding the future are alleviated.

B. Upside and Downside Risks to Prices

Other than risks to economic activity, the specific 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. Amid the considerable uncertainties surrounding the economic outlook, mainly for overseas economies, there is a risk that firms' price- and wage-setting stance will remain cautious, strongly affected by developments in the observed inflation rate. In this context, how the labor-management wage negotiations next spring develop warrants particular attention.

The second factor is the fact that there are items for which prices are not particularly responsive to the output gap. There is a particular concern about the continued dull responses of administered prices and some services prices, even amid the tightening of labor market conditions. In addition, a decline in housing rent has accelerated recently, possibly constraining CPI inflation by more than projected.

Third, developments in foreign exchange rates and international commodity prices going forward, as well as the extent to which such developments will spread to import prices and 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.⁶

The first perspective concerns an examination of the baseline scenario for the outlook. The year-on-year rate of change in the CPI is likely to increase toward 2 percent in the second half of the projection period. The momentum toward achieving the price stability target seems to be maintained, but is somewhat weaker than the previous outlook, and thus developments in prices warrant careful attention going forward.

The second perspective involves an examination of the risks considered most relevant to the conduct of monetary policy. With regard to the outlook for economic activity, risks are skewed to the downside, particularly those regarding developments in overseas economies. With regard to the outlook for prices, risks are skewed to the downside, especially those concerning overseas economies and developments in medium- to long-term inflation expectations. Examining financial imbalances from a longer-term perspective, there is no sign so far of excessively bullish expectations in asset markets or in the activities of financial institutions. Furthermore, prolonged downward pressure on financial institutions' profits under the continued low interest rate environment could create risks of a gradual pullback in financial intermediation and of destabilizing the financial system. However, at this point, these risks are judged as not significant, mainly because financial institutions have sufficient capital bases.

As for the conduct of monetary policy, the Bank will continue with "QQE with Yield Curve Control," 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 continue expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds 2 percent and stays above the target in a stable manner. The Bank will make policy adjustments as appropriate, taking account of developments in economic activity and prices

⁶ 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."

as well as financial conditions, with a view to maintaining the momentum toward achieving the price stability target.

Forecasts of the Majority of Policy Board Members

y/y % chg.

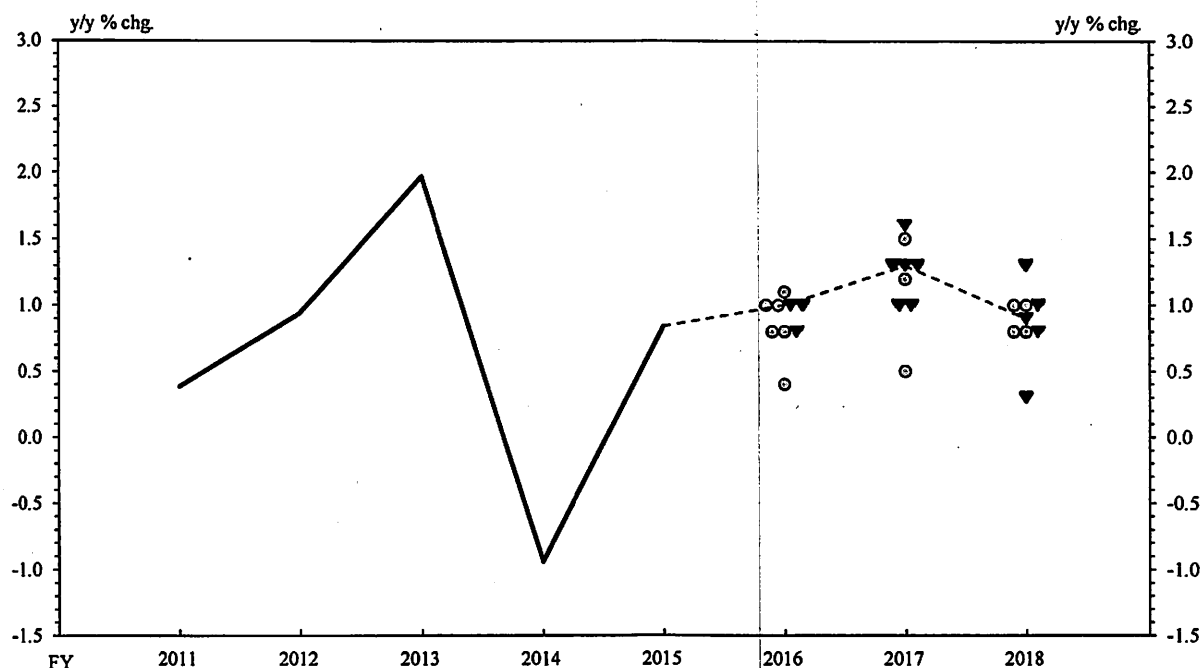
	Real GDP	CPI (all items less fresh food)
Fiscal 2016	+0.8 to +1.0 [+1.0]	-0.3 to -0.1 [-0.1]
Forecasts made in July 2016	+0.8 to +1.0 [+1.0]	0.0 to +0.3 [+0.1]
Fiscal 2017	+1.0 to +1.5 [+1.3]	+0.6 to +1.6 [+1.5]
Forecasts made in July 2016	+1.0 to +1.5 [+1.3]	+0.8 to +1.8 [+1.7]
Fiscal 2018	+0.8 to +1.0 [+0.9]	+0.9 to +1.9 [+1.7]
Forecasts made in July 2016	+0.8 to +1.0 [+0.9]	+1.0 to +2.0 [+1.9]

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

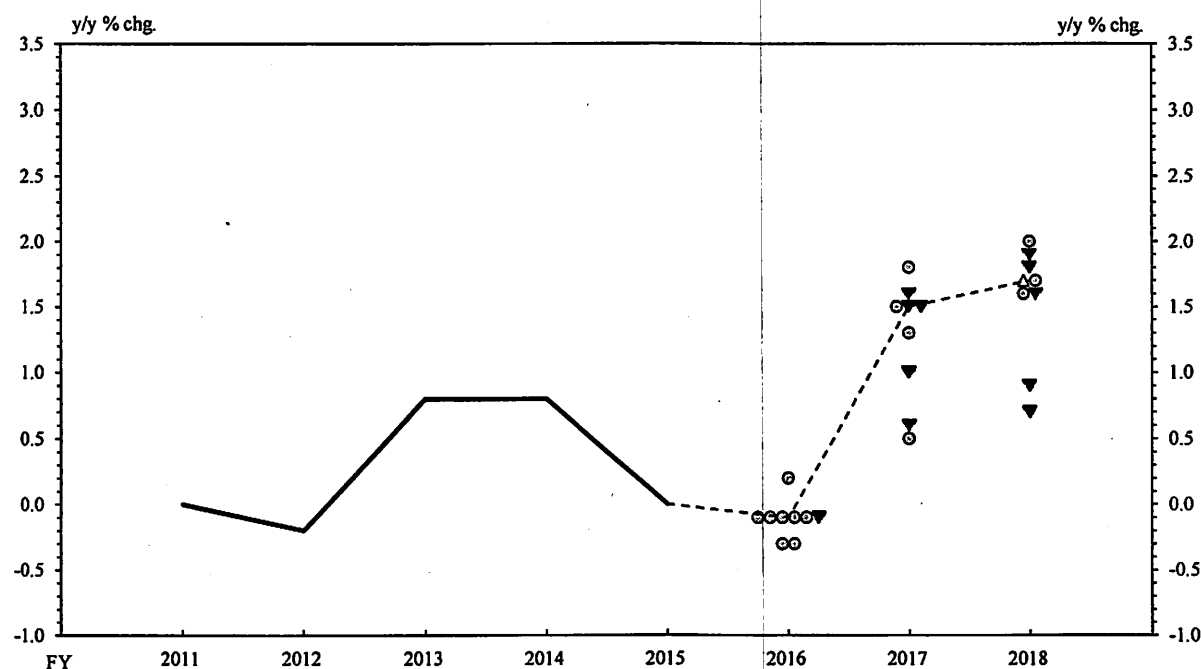
2. The forecasts of the majority of the Policy Board members are constructed as follows: each Policy Board member's forecast takes the form of a point estimate -- namely, the figure to which he or she attaches the highest probability of realization. These forecasts are then shown as a range, with the 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 50 U.S. dollars per barrel to the range of 55-60 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 approximately minus 0.6 percentage point for fiscal 2016. More specifically, the contribution is expected to lessen through the second half of fiscal 2016 and reach around 0 percentage point in early 2017.
5. Individual Policy Board members' forecasts are based on the assumption that the consumption tax will be raised to 10 percent in October 2019.

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 \oplus , Δ , and ∇ 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: \oplus indicates that a member assesses "upside and downside risks as being generally balanced," Δ indicates that a member assesses "risks are skewed to the upside," and ∇ 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 Background⁷

I. The Current Situation of Economic Activity and Its Outlook

A. Economic Developments

Looking back at Japan's economy since the July 2016 Outlook Report, it continued its moderate recovery trend, with a virtuous cycle from income to spending being maintained, although exports and production in particular were sluggish, due mainly to the slowdown in emerging economies. The real GDP growth rate saw a deceleration in the April-June quarter of 2016 from the January-March quarter but has remained at about the same level as the potential growth rate since 2015 when fluctuations are smoothed out (Chart 1). Real GNI -- representing the aggregate effect of income formations -- has maintained a faster pace of increase than that of real GDP growth, reflecting increases in trading gains, although its pace has slowed (Chart 2 [1] and [2]). The output gap -- which captures the utilization of labor and capital -- is more or less unchanged on the whole, at around 0 percent or in slightly negative territory (Chart 3 [1]).⁸ 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. The coincident index of the Indexes of Business Conditions has been more or less flat (Chart 2 [3]).

⁷ "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 October 31 and November 1, 2016.

⁸ Looking at this in detail, the negative output gap for the April-June quarter has widened somewhat from the previous quarter. This is mainly attributable to the fact that -- although industrial production registered a slight increase -- the manufacturing sector's capacity utilization for the April-June quarter registered minus 2.0 percent on a quarter-on-quarter basis, a somewhat large decline. Since the coverage of indices of capacity utilization is narrower and the number of items included is limited compared to indices of industrial production, indices of capacity utilization may exhibit large fluctuations, reflecting developments in some of the items. The significant decrease in production of small cars, particularly in the April-June quarter, due to a fuel-efficiency data scandal is likely to have substantially pushed down the level of indices of capacity utilization as a whole, because the weight of passenger cars in indices of capacity utilization is considerably larger relative to that in indices of industrial production -- with the weight per 10,000 being 1,938.5 and 763.7, respectively. Considering developments in industrial production, the output gap can be judged as actually being more or less flat.

As for the outlook, Japan's economy is highly likely to continue growing at a pace above its potential through the projection period, on the back of fiscal expansion through the large-scale stimulus measures and of the Bank's powerful monetary easing under "QQE with Yield Curve Control," although the slowdown in emerging economies and the past appreciation of the yen are likely to exert downward pressure for some time.^{9,10}

Details of the outlook for each fiscal year are as follows. The economy is projected to continue to see a slower recovery for some time in fiscal 2016, negatively affected by the past appreciation of the yen and the continued slowdown in overseas economies, mainly emerging economies. Exports and industrial production are expected to remain more or less flat generally, partly reflecting the anticipated dissipation of an acceleration of production to more than offset the impact of the Kumamoto Earthquake. Corporate profits as a whole are likely to be at high levels, although profits in the manufacturing sector are likely to decrease, as they will be adversely affected by the past appreciation of the yen. Against this backdrop, business fixed investment is projected to maintain its moderate increasing trend on the whole, although investment by manufacturers is likely to see a pause in its momentum. Meanwhile, the pick-up in private consumption is expected to generally become evident, supported by the increase in employee income including bonuses and by the government's provision of benefits to pensioners, albeit affected by weather conditions. Public investment is likely to start increasing moderately, mainly owing to measures for restoration and rebuilding following the earthquake, and underpin the economy.

Through the end of fiscal 2016, economic recovery is likely to gradually become robust. This is based on the projection that (1) as the effects of the slowdown in overseas

⁹ For details of the stimulative effects on economic activity brought about by the combination of monetary and fiscal policies, see Box 1.

¹⁰ Real GDP growth forecasts presented in this report are 2005 base-year series under the current 1993SNA. In December 2016, the GDP statistics are scheduled to shift to 2008SNA, which is the new global standard, and the base year is scheduled to be changed to 2011. The Cabinet Office has released an estimate that the level of nominal GDP for 2011 based on the new base year is projected to become large, increasing by 4.2 percent. This is mainly attributable to the fact that R&D investment, which had been excluded as intermediate consumption, will start to be recorded as the value added by gross fixed capital formation. Nevertheless, the effects of these changes on the GDP growth rate are uncertain at this point.

economies and of the past appreciation of the yen wane, exports and production will gradually return to an improving trend, and (2) domestic demand will gain further momentum, partly backed by the large-scale stimulus measures. Reflecting these developments, it is projected that the output gap will move into positive territory through the end of fiscal 2016 after being more or less unchanged at around 0 percent or in slightly negative territory.

In fiscal 2017, the economy is expected to continue expanding firmly -- driven by domestic demand -- owing to the set of stimulus measures and monetary easing. Turning to domestic demand, public investment is likely to continue rising on the back of measures for restoration and rebuilding following the earthquake and a variety of infrastructure enhancements, which are included in the set of stimulus measures. Moreover, private consumption is likely to increase moderately on the back of an improvement in disposable income, and business fixed investment is projected to maintain its solid increasing trend underpinned by the effects of monetary easing and those resulting from the set of stimulus measures such as projects conducted under the Fiscal Investment and Loan Program and tax reductions for capital investment. Meanwhile, exports are likely to start increasing moderately, reflecting an improvement in overseas economies. As a result of these economic developments, in fiscal 2017, the GDP growth rate is projected to clearly exceed the potential and the output gap is likely to widen further within positive territory.

In fiscal 2018, the economy is likely to maintain a moderate expansion with domestic and foreign demand increasing in a well-balanced manner. Looking at this in detail, the pace of increase in exports is projected to moderately climb, reflecting the improvement in overseas economies; domestic private demand, on the back of accommodative financial conditions and Olympic Games-related demand, is also expected to continue a steady increase. Meanwhile, public investment is likely to decline from the previous fiscal year because the positive effects resulting from the set of stimulus measures will diminish, but is projected to maintain its high level underpinned by Olympic Games-related demand. On this basis, the GDP growth rate for fiscal 2018 is projected to continue exceeding the potential, although weaken compared to the previous fiscal year, and the output gap is likely to continue improving.

B. Developments in Major Expenditure Items and Their Background

Government Spending

The decline in public investment has leveled off, partly supported by the supplementary budget for fiscal 2015 and earlier implementation of the budget for fiscal 2016 (Chart 4). Going forward, it is likely to rise moderately through the middle of the projection period, underpinned by (1) the first supplementary budget for fiscal 2016 approved in May and (2) the implementation of the second supplementary budget for fiscal 2016 approved in October, which reflects the latest large-scale stimulus measures. Thereafter, it is expected to start declining, due mainly to the diminishing of the positive effects resulting from the set of stimulus measures, but remain at a high level amid a gradual 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 decelerated somewhat, mainly in emerging economies (Chart 5). Meanwhile, the Global Manufacturing Purchasing Managers' Index (PMI) has been picking up somewhat of late, mainly reflecting the cyclical recovery in IT-related demand, although world trade volume has continued to be relatively subdued, especially in emerging and commodity-exporting economies (Charts 6 and 10 [1]). Looking at developments by major region, the U.S. economy has continued to be on a recovery trend on the back of a solid increase in household spending brought about by a steady improvement in the employment and income situation, although the industrial sector lacks momentum. The European economy also has continued to recover moderately, mainly in the household sector. The Chinese economy has remained slightly subdued, particularly in exports and production.* Other emerging economies and commodity-exporting economies as a whole also have remained subdued, although positive developments have been observed, reflecting the effects of economic stimulus measures and a recovery in IT-related demand.

In terms of the outlook, overseas economies are projected to remain slightly subdued for some time, and thereafter are expected to see a gradual increase in their growth rates, as it is likely that advanced economies will continue to realize steady growth and emerging

economies will move out of their deceleration phase on the back of the developments in advanced economies and emerging economies' policy effects. Compared to the time when the July 2016 Outlook Report was published, global growth projections by the International Monetary Fund (IMF) are more or less unchanged (Chart 5).

By major region, the U.S. economy is expected to continue to see firm growth driven by domestic private demand, underpinned by accommodative financial conditions, although the industrial sector is likely to lack momentum for the time being. The European economy is likely to generally follow a moderate recovery path, while uncertainty -- mainly associated with the United Kingdom's vote to leave the EU -- is likely to be a burden on the economy. The Chinese economy is likely to broadly follow a stable growth path as authorities proactively carry out measures to support economic activity, although sluggishness in the growth pace is expected to remain in the manufacturing sector. Despite the outlook that other emerging economies and commodity-exporting economies will remain subdued for some time, the growth rates are likely to increase gradually thereafter, due mainly to the effects of the economic stimulus measures and the spread of the effects of steady growth in advanced economies.

Exports and Imports

Exports, mainly automobile-related exports, to advanced economies have remained on a steady increasing trend, albeit with temporary fluctuations, whereas those to emerging economies have been sluggish, especially of capital goods such as machine tools and ships; therefore, exports as a whole have continued to be more or less flat (Charts 7, 8, and 9).

Exports are projected to generally remain more or less flat for the time being, due to downward pressure exerted by the slowdown in overseas economies and the past appreciation of the yen. From the turn of fiscal 2017, as the effects of the slowdown in overseas economies and the appreciation of the yen are expected to gradually wane, the world trade volume and Japan's share of exports are both likely to head toward improvement.¹¹ Thus, Japan's exports are projected to moderately increase (Chart 10).¹²

¹¹ The world trade volume is calculated by adding up real imports in each country.

Looking at the world trade volume and Japan's share of exports in world trade in more detail, the former has tended to grow at a slower pace than world economic growth since 2011, and thus its ratio to world GDP has followed a declining trend. It is likely that the world trade volume to GDP ratio will continue to decline moderately for some time, in a situation where the effects of the slowdown in emerging economies remain. Nevertheless, through the end of the projection period, as pressure to adjust capital stock overhang in emerging economies wanes, the ratio is likely to gradually stop declining. Japan's share of exports in world trade is likely to generally remain more or less flat at a low level for the time being, although it has increased somewhat of late, mainly reflecting an acceleration of transport equipment production to more than offset the impact of the earthquake and an increase in production of electronic parts for new smartphone products. From the middle of the projection period, its share is projected to modestly rise as exports of capital goods -- in which Japan has a comparative advantage -- gradually pick up with the effects of the slowdown in emerging economies waning, and as the downward pressure resulting from the past appreciation of the yen diminishes.

Meanwhile, the travel receipts (inbound demand), which are categorized as exports of services in the *Balance of Payments*, are seeing a pause in their momentum, mainly reflecting the effects of the past appreciation of the yen, China's increase in tariffs, and the earthquake (Chart 11 [1] and [2]). These receipts are likely to regain momentum as some of these negative effects diminish and as governmental measures to attract foreign tourists to Japan in view of the country hosting the 2020 Tokyo Olympics exert positive effects.

Imports have been more or less flat recently (Chart 7 [1]). Going forward, they are expected to increase moderately, mainly reflecting developments in domestic demand.

External Balance

The nominal current account surplus had followed an expanding trend, but the pace of its widening has slowed since the turn of 2016, due mainly to the decline in the surplus of the

¹² After the result of the United Kingdom's referendum in June 2016, uncertainties temporarily heightened globally to a significant level. For the effects of such heightening of uncertainties on global trade activity and Japan's exports, see Box 2.

primary income balance that reflects the appreciation of the yen (Chart 11 [3]). The nominal current account surplus is expected to follow a downtrend for the time being owing to the worsening in the income balance and to the slowdown of an improvement in the trade balance, both of which reflect the yen's appreciation. The nominal current account surplus will likely revert to a moderate expansion from the second half of the projection period as the trade and income balances are projected to head toward improvement, reflecting a recovery in overseas economies.

Industrial Production

Industrial production has continued to be more or less flat, against the background of the slowdown in emerging and commodity-exporting economies (Charts 12 [1] and 13). Transport equipment production has somewhat gained further momentum, with an increase in shipments to advanced economies and a shift of production sites from overseas back to Japan both exerting upward pressure, as well as with the recent recovery in production following the earthquake (Chart 12 [2]). The production of electronic parts and devices declined rather significantly in the first half of 2016, but has picked up recently due to an increase in production of parts for new smartphone products. In contrast, the production of machinery (i.e., "general-purpose, production and business oriented machinery" in the *Indices of Industrial Production*) as a whole has remained relatively weak; production of semiconductor production equipment has increased firmly, but a downtrend in the production of capital goods -- such as metal cutting machines -- to be exported to emerging economies has exerted downward pressure.

Industrial production is projected to generally remain more or less flat for the time being, due mainly to the effects of the slowdown in overseas economies.¹³ From the turn of fiscal 2017, as the effects of the slowdown in overseas economies wane and those of the set of

¹³ Based on interviews with firms, industrial production for the July-September quarter of 2016 is projected to increase by slightly more than 1.0 percent on a quarter-on-quarter basis, and that for the October-December quarter is likely to be more or less flat, due mainly to the dissipation of an acceleration of transport equipment production to more than offset the impact of the earthquake and to a halt in the momentum of production of electronic parts for new smartphone products.

stimulus measures become evident, it is likely to head toward a moderate increase, reflecting a rise in final demand at home and abroad.

Corporate Profits

Corporate profits have been at high levels. According to the *Financial Statements Statistics of Corporations by Industry, Quarterly* (FSSC), the ratio of profits to sales for all industries and company sizes is more or less unchanged at a level close to the record high, reflecting an improvement in the terms of trade resulting from the low crude oil prices, although profits of large manufacturing firms have been negatively affected by the slowdown in overseas economies and the yen's appreciation (Chart 14). Business sentiment has generally stayed at a favorable level on the back of corporate profits remaining at high levels (Chart 15). The diffusion index (DI) for business conditions in the September 2016 *Tankan* (Short-Term Economic Survey of Enterprises in Japan) suggested that the yen's appreciation exerted downward pressure whereas efforts toward restoration and rebuilding following the earthquake exerted upward pressure; therefore, business conditions are more or less unchanged on the whole from the previous survey.¹⁴

Although corporate profits are expected to remain more or less flat at high levels until around the end of fiscal 2016, resulting from the downward pressure of a slowdown in emerging economies and the past appreciation of the yen, they are projected to follow a steady increasing trend again thereafter, reflecting an expansion of the economy supported by a rise in demand at home and abroad.

Business Fixed Investment

Business fixed investment has been on a moderate increasing trend as corporate profits have been at high levels. Private non-residential investment (SNA basis) in real terms and business fixed investment (FSSC basis) in nominal terms have continued trending moderately upward, albeit with temporary fluctuations (Chart 16). According to the

¹⁴ With regard to retail sales and some services for individuals, bad weather events such as typhoons that hit Japan more times than in other years also have exerted downward pressure on the DIs for their business conditions.

September *Tankan*, firmness has continued to be seen in business fixed investment plans for fiscal 2016 as a whole, including those of large manufacturers, for which profit projections have deteriorated as the expected exchange rate has shifted toward appreciation of the yen (Charts 17 and 18). Business investment (on a basis close to GDP definition, this involves business investment -- including software investment but excluding land purchasing expenses -- for all company sizes and industries including the financial industry) increased by 4.3 percent in fiscal 2015 on a year-on-year basis, and business fixed investment plans for fiscal 2016 in the September *Tankan* saw a year-on-year rate of increase of 5.2 percent, which is a sufficiently positive figure (Chart 18 [2]). Reflecting firms' positive fixed investment stance, machinery orders and construction starts (in terms of planned expenses for private and nondwelling construction), as leading indicators, have continued a moderate increasing trend, albeit with some fluctuations (Chart 19).

Business fixed investment, mainly in manufacturing firms, is likely to be affected temporarily toward the end of fiscal 2016 by the slowdown in overseas economies and the past yen appreciation. However, throughout the projection period, it is likely to continue to see a moderate uptrend on the back of (1) corporate profits at high levels, (2) extremely stimulative financial conditions, such as low interest rates and accommodative lending attitudes, (3) the effects of fiscal measures including projects conducted under the Fiscal Investment and Loan Program and tax reductions for capital investment, and (4) moderate improvement in growth expectations. In relation to corporate profits, investment undertaken independently from temporary developments in corporate profits -- which is less responsive to the short-term fluctuations in profits induced by foreign exchange rates and crude oil prices -- is likely to underpin business fixed investment, particularly (1) for growth areas, in view of the 2020 Tokyo Olympics, (2) in labor-saving machinery and equipment in order to deal with labor shortages, and (3) for maintenance and replacement of equipment to address deterioration from aging.

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 somewhat exceeds growth potential as highly accommodative financial conditions continue under "QQE with Yield Curve Control" and Olympic Games-related demand increases gradually.¹⁵

The Employment and Income Situation

Supply-demand conditions in the labor market have continued to improve steadily and employee income has increased moderately. The rate of increase in the *Labour Force Survey*-based number of employees has remained at a high level of about 1.5 percent (Chart 21 [1]). Against this backdrop, the active job openings-to-applicants ratio has followed a steady uptrend, and a perception of labor shortage suggested by the employment conditions DI in the September *Tankan* has generally heightened; both indicators show a tightening at almost the same levels seen around 1991-1992 (Chart 21 [2] and [3]).¹⁶ The unemployment rate has continued on a moderate declining trend, albeit with some fluctuations, and has been about 3 percent recently, which is around the structural unemployment rate (Chart 22 [1] and [2]).¹⁷ Meanwhile, labor force participation rates -- especially those for women and the elderly -- have remained on an uptrend after bottoming out around the end of 2012 (Chart 22 [3]). As Japan's economy is likely to continue growing at a pace above its

¹⁵ Real interest rates, despite fiscal expansion through the set of stimulus measures, are projected to be contained at a level lower than the natural rate of interest, reflecting the Bank's powerful monetary easing.

¹⁶ The active job openings-to-applicants ratio is currently at a high level seen for the first time since August 1991, when it was 1.40. The employment conditions DI of all industries and company sizes in the September *Tankan* saw net "insufficient employment" for the first time since May 1992, when it marked minus 19.

¹⁷ The structural unemployment rate can be described in a variety of ways, but in Chart 22 (1), it is defined, based on the idea of the so-called Beveridge Curve, as one where the unemployment rate and the vacancy rate are equal to each other (i.e., when the aggregate supply-demand conditions in the labor market -- excluding unemployment arising from the mismatch between job openings and job applicants -- is judged as being in equilibrium). Therefore, the structural unemployment rate defined here differs from the concept of Non-Accelerating Inflation Rate of Unemployment (NAIRU), and does not show a direct relationship with prices or wages.

potential, the number of employees is anticipated to keep increasing and the supply-demand conditions in the labor market are expected to further tighten.

On the wage side, total cash earnings per employee have risen moderately, albeit with some fluctuations (Chart 23 [1]). Looking at this in detail, scheduled cash earnings have maintained their moderate increase although the rise in the ratio of part-time workers has continued to exert downward pressure (Chart 23 [2]). The year-on-year rate of increase in scheduled cash earnings of full-time employees has remained generally positive, although such earnings have seen somewhat of a slowdown in their rate of increase from the previous fiscal year, reflecting the latest base pay rise. Special cash earnings (of which those for the June-August period are equivalent to summer bonuses) have increased clearly, particularly in nonmanufacturers, reflecting high corporate profits in the latter half of fiscal 2015. The rise in hourly cash earnings has accelerated, albeit with fluctuations (Chart 23 [3]). Specifically, the year-on-year rate of change in hourly cash earnings of part-time employees, which are responsive to labor market conditions, has seen a relatively high increase, being in the range of around 1.5-2.0 percent when fluctuations are smoothed out. Meanwhile, the year-on-year rate of increase in real wages has clearly accelerated recently, reflecting an increase in cash earnings; in addition, consumer prices have slightly declined (Chart 25 [1]).

With regard to the outlook for wages, the pace of increase in full-time employees' cash earnings is expected to accelerate, as corporate profits improve and a heightening of inflation expectations becomes evident. The rate of increase in hourly cash earnings of part-time employees is also likely to accelerate steadily in response to the marked tightening of labor market conditions and an increase in minimum wages. Under this situation, the rate of increase in overall employees' hourly cash earnings is projected to accelerate moderately at almost the same pace as trend labor productivity growth in nominal terms (Chart 43 [2]).¹⁸

In light of the aforementioned employment and wage conditions, employee income has increased solidly, recently reaching the level of high growth last seen in 2005 (Charts 24 [1]

¹⁸ The labor share is likely to be more or less flat, somewhat below the long-term average, through the projection period (Chart 24 [2]).

and 25 [2]). Going forward, through the projection period, the rate of increase in employee income is expected to continue rising at around the same rate as nominal GDP growth.

Household Spending

Private consumption has been resilient against the background of steady improvement in the employment and income situation, although relatively weak developments have been seen in some indicators. From the viewpoint of gauging consumption activity in a comprehensive manner, the Consumption Activity Index (CAI, adjusting travel balance) -- which is calculated by combining various sales and supply-side statistics -- had been somewhat weak in the first half of 2016, because of the negative wealth effects brought about by the decline in stock prices and of heightened uncertainties, but has started to pick up recently on the back of resilience in stock prices and a steady improvement in employee income, despite being affected by such weather conditions as typhoons and frequent rain (Charts 26 and 27 [1]).¹⁹

Turning to individual indicators, the aggregate supply of consumer goods -- that is, the supply-side statistics -- is more or less unchanged, albeit with fluctuations (Chart 27 [2]). According to various sales statistics, retail sales value has been picking up after hitting a bottom at the start of 2016 (Chart 28). Sales at department stores had continued to show somewhat weak developments against the backdrop of (1) a decrease in sales to the wealthy, reflecting the decline in stock prices since the turn of the year, and (2) a sluggish increase in demand from foreign visitors to Japan, reflecting the appreciation trend of the yen and China's increase in tariffs; however, they have started to level off recently. On the other hand, although bad weather has been exerting downward pressure recently, sales at supermarkets and convenience stores as a whole have been resilient. Turning to durable goods, while sales of automobiles are more or less unchanged when smoothing out fluctuations, those of household electrical appliances have increased recently on the back of a rise in air conditioner sales due to heat waves and of the effects of the release of new

¹⁹ At the beginning of October, improvements were made in the release contents of the CAI and its compilation methodology was partly revised. For details, see the Bank's research paper "The Consumption Activity Index: Improvements of Release Contents and Revisions of Compilation Methodology" released in October 2016.

models of smartphones (Chart 29 [1]). With regard to services consumption, dining-out is on a moderate uptrend, whereas travel has been weak recently due to concerns over terrorist attacks (for overseas travel) and to the effects of the earthquake (for domestic travel) (Chart 29 [2]). Looking at confidence indicators related to private consumption, the Consumer Confidence Index has picked up moderately, and its figure for September was at a high level last seen in September 2013; that is, prior to the consumption tax hike (Chart 30). The *Economy Watchers Survey* and the DIs for business conditions of industries related to private consumption in the *Tankan* represented cautiousness, reflecting the effects of the earthquake and a sluggish increase in demand from foreign visitors to Japan, but they have been picking up recently on the whole, albeit with the effects of weather conditions.

In the outlook, private consumption is expected to increase moderately, on the back of a rise in real disposable income supported in part by the set of stimulus measures. Specifically, in addition to the expectation that employee income will continue to improve steadily, the following factors are projected to push up private consumption through the projection period: (1) the government's provision of benefits to low-income pensioners; (2) a bounce-back from a fall in private consumption (mainly of seasonal goods) owing to the irregular weather last winter; (3) a reduction in contribution rates of employment insurance; and (4) the government's provision of simple benefits.²⁰ Of the four, (1) and (2) are likely to be seen in the latter half of fiscal 2016 while (3) and (4) are likely to be seen from fiscal 2017. The propensity to consume has declined considerably, reflecting sluggish consumption -- especially of durable goods -- after the consumption tax hike, but is expected to rise very moderately through the projection period (Chart 26 [2]).

Housing investment has continued to pick up, mainly in terms of housing for rent, which meets the increased demand for asset management and tax saving, on the back of accommodative financial conditions (Chart 31). Against the backdrop of the continued steady improvement in the employment and income situation, housing investment is likely to continue picking up, also supported by low housing loan rates.

²⁰ As income lessens, the marginal propensity to consume tends to see a relative heightening; thus, income support measures for low-income households are considered to be effective in underpinning consumption to a certain degree. For details, see Box 3.

II. The Current Situation of Prices and Their Outlook

Developments in Prices

The rate of decline in the producer price index (PPI, adjusted for the effects of seasonal changes in electricity rates) relative to three months earlier has been on a downtrend when fluctuations are smoothed out, reflecting developments in international commodity prices and foreign exchange rates (Charts 32 and 33 [1]). Turning to the services producer price index (SPPI, excluding international transportation), as an acceleration in the rate of increase in prices for items related to selling, general and administrative expenses and a deceleration in the rate of increase in other prices, such as for fixed investment-related items, offset each other, the year-on-year rate of change in the SPPI has been around 0.5 percent or lower on the whole (Chart 33 [2]).

The year-on-year rate of increase in the CPI (all items less fresh food and energy) has remained on a decelerating trend recently, following the peak of 1.3 percent in December 2015 (Chart 35 [1]).²¹ Looking at this in detail, the rate of increase in prices of goods as a whole has decelerated clearly, as (1) more firms this year are putting off price increases for food products and others (goods related to daily necessities) than last year, reflecting sluggish private consumption, and (2) prices for durable goods such as household electrical appliances have turned to a clear decline recently against the background of the appreciation of the yen since the middle of 2015 (Charts 34 and 39 [1]).²² Although prices have been

²¹ As the base year for the CPI was changed from 2010 to 2015, the annual CPI inflation for January 2016 onward was retroactively revised. As assumed in the past few rounds of the Outlook Report, the results of revision suggested no substantial change in the annual CPI inflation between the 2010 base and the 2015 base. Specifically, the 2015-base annual CPI inflation excluding fresh food was unchanged from the 2010 base for both the January-March quarter and the April-June quarter. On the other hand, that excluding fresh food and energy declined by 0.2 percentage point for the January-March quarter and by 0.1 percentage point for the April-June quarter, compared to the 2010 base. The reason for the annual CPI inflation excluding fresh food and energy showing smaller figures than that excluding fresh food is that it is not affected by the decline in the negative contribution due to resetting the index level for electricity prices to the new base year, but rather that it was largely influenced by the decline in the positive contribution due to a change in the model formula to compile the price index for overseas package tours.

²² As for the effects of foreign exchange rates on prices for durable goods such as household electrical appliances, see Box 4.

raised for several general services, such as housework-related services, reflecting the labor shortage, the rate of increase in prices for general services as a whole has been on a decelerating trend since the beginning of the year, with downward pressure from (1) a sluggish increase in foreign visitors to Japan leading to a slowdown in the rate of increase in accommodation fees, and (2) the further decrease in housing rent reflecting a deterioration in supply and demand conditions for housing for rent and aging of its stock.

The year-on-year rate of change in the CPI (all items less fresh food) has declined from around 0 percent at the end of 2015 to around minus 0.5 percent, reflecting the deceleration in the rate of increase in the CPI for all items less fresh food and energy, with a relatively large decline in energy prices continuing (Charts 34 and 36).

The recent developments in the indicators for capturing the underlying trend in the CPI are as follows (Chart 35).²³ The rate of increase in the trimmed mean has decelerated since the beginning of the year, and is currently at around 0 percent.²⁴ 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 maintained its historically high level, but is on a declining trend at present. The mode has decelerated slightly since the beginning of the year, and the weighted median has been at around 0 percent (Chart 37).²⁵

The year-on-year rate of change in the GDP deflator is currently in the range of 0.5-1.0 percent, mainly due to the decline in the import deflator arising from the fall in international commodity prices (Chart 38 [1]). In contrast, the year-on-year rate of change in the domestic demand deflator has been in the range of around minus 0.5 to minus 1.0 percent, due in part to the effects of the decline in energy prices (Chart 38 [2]).

²³ 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).

²⁴ 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).

²⁵ The mode is the inflation rate with the highest density in the distribution. The weighted median is the weighted average of the inflation rates of the items at around the 50 percentile point of the distribution.

The Environment surrounding Prices

In the outlook for prices, the main factors that determine inflation rates are assessed as follows. First, medium- to long-term inflation expectations have remained in a weakening phase since summer 2015 as the adaptive component has played a large role in their formation, with the observed inflation rate being about 0 percent or slightly negative. As for the outlook, based on the aforementioned projections, firms' price-setting stance is expected to revert to raising prices as private consumption is expected to head toward a moderate increase, and their wage-setting stance is likely to shift toward raising wages driven by the tightening of labor market conditions. Against this backdrop, because of the following two factors, medium- to long-term inflation expectations are likely to follow an increasing trend and gradually converge to around 2 percent: (1) in terms of the adaptive component, the observed inflation rate is expected to rise, mainly due to the dissipation of the downward pressure of energy prices going forward, and (2) in terms of the forward-looking component, the Bank will pursue monetary easing through its strong commitment to achieving the price stability target.

Second, the output gap is more or less unchanged at around 0 percent or in slightly negative territory (Charts 3 [1] and 39 [2]). It is likely to remain so for the time being, due mainly to sluggish improvement in the manufacturing sector's capacity utilization gap, but is projected to start increasing into slightly positive territory at around the end of fiscal 2016 as the effects of the slowdown in overseas economies, as well as of the past appreciation of the yen, will wane and the effects resulting from the set of stimulus measures will become evident. From fiscal 2017, the output gap is projected to continue expanding steadily in positive territory owing to both the capital and labor factors, as domestic and foreign demand increase in a well-balanced manner.

The third factor is developments in import prices (Charts 32 and 36 [2]). The Bank assumes that Dubai crude oil prices will rise moderately from the recent 50 U.S. dollars per barrel to the range of 55-60 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 be negative at around minus 1 percentage point in the first half of fiscal 2016, and then the negative contribution is estimated to clearly lessen through the second half and reach around 0 percentage point in early 2017. As for the effects of foreign exchange rates on consumer prices, the appreciation of the yen since 2015 will likely constrain the upward pressure mainly on prices of items that are responsive to exchange rates -- specifically durable goods -- for a while through the decline in input prices.

The Outlook for Prices

The outlook for prices is as follows. The year-on-year rate of increase in the CPI (all items less fresh food and energy) is projected to remain at around the current level for some time, with the past appreciation of the yen exerting downward pressure mainly on durable goods and accommodations amid strong downward pressure, particularly on food products and goods related to daily necessities, stemming from the price setting following the price rises seen in 2015. Thereafter, the year-on-year rate of change in the CPI, mainly for items that are responsive to the business cycle, is expected to start picking up gradually on the back of the pick-up in private consumption and a rise in wages of part-time employees. In the second half of the projection period, the year-on-year rate of change in the CPI is likely to increase toward 2 percent due to an improvement in the output gap and a rise in medium- to long-term inflation expectations.

The year-on-year rate of change in the CPI (all items less fresh food) is likely to be slightly negative or around 0 percent until around the end of 2016, as the negative contribution of energy prices is projected to somewhat exceed the positive contribution of the CPI for items other than energy (the CPI for all items less fresh food and energy). Subsequently, it is expected to increase toward 2 percent in the second half of the projection period, as the negative contribution of energy items is expected to dissipate and the CPI inflation excluding fresh food and energy is projected to accelerate.

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 that the Phillips curve will gradually shift upward as inflation expectations rise through both

the forward-looking and adaptive expectation formation mechanisms (Charts 39 [2] and 42). However, compared to the projection made in the July Outlook Report, the projected rate of increase in the CPI is somewhat lower, reflecting the past appreciation of the yen, a recent weakness in housing rent, and the lower-than-expected adaptive inflation expectations.²⁶

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 43 [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. Under this baseline scenario, hourly cash earnings -- especially scheduled cash earnings -- are expected to rise moderately, reflecting the tightening of labor market conditions and the rise in inflation expectations. 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.

Under "QQE with Yield Curve Control" introduced at the Monetary Policy Meeting held in September, the yield curve for Japanese government bonds (JGBs) has been in line with the current guideline for market operations, in which the short-term policy interest rate is set at minus 0.1 percent and the target level of 10-year JGB yields is around 0 percent (Chart 44 [1]). That is, the yields for relatively short maturities have been stable in negative territory above minus 0.5 percent, and the 10-year JGB yields have been stable generally at around 0 percent in negative territory. Meanwhile, the 20-year JGB yields have been stable generally at around 0.5 percent. The monetary base has been increasing at a high year-on-year growth

²⁶ Relatively weak developments have continued to be seen in administered prices and housing rent, both of which have a certain weight in the CPI, and this constrains the acceleration of the CPI inflation as a whole (Chart 39 [1]). For further details, see Box 4 in the July 2016 Outlook Report.

rate in the range of 20-25 percent, and its amount outstanding as of end-September was 413 trillion yen, of which the ratio to nominal GDP was 82 percent (Chart 44 [2]).²⁷

With such long- and short-term JGB yields, firms' funding costs have been hovering at extremely low levels. Issuance rates for CP have remained at extremely low levels (Chart 45 [1]).²⁸ Conditions for CP issuance have been favorable, as suggested by the DI in the September *Tankan* registering the highest figure since 2008, which is when it was introduced in the *Tankan*. Issuance rates for corporate bonds have remained at extremely low levels (Chart 45 [2]). Lending rates (the average interest rates on new loans and discounts) have been around historical low levels (Chart 46 [1]). In these circumstances, interest payments by firms have been at considerably low levels compared with their profits (Chart 46 [2]).

With regard to the availability of funds for firms, financial institutions' lending attitudes -- as perceived by large as well as small firms -- have been highly accommodative (Chart 47 [1]). In the *Tankan*, the DIs for large firms and small firms have been at high levels last seen in the second half of the 1990s and at the end of the 1980s, respectively. Firms' financial positions have been favorable for both large and small firms (Chart 47 [2]). In the *Tankan*, the DIs for both large and small firms have been at high levels that are almost the same as those seen around 1990.

Demand for funds related to mergers and acquisitions of firms, as well as for funds for business fixed investment, has continued to increase moderately. In these circumstances, the year-on-year rate of change in the amount outstanding of bank lending has been around 2 percent (Chart 48 [1]). Meanwhile, the year-on-year rate of increase in the aggregate amount outstanding of CP and corporate bonds has accelerated, mainly due to a significant increase in the amount of issuance of corporate bonds, including super-long-term ones (Chart 48 [3]).

²⁷ It is assumed that the figure for nominal GDP is unchanged from the April-June quarter of 2016.

²⁸ Regarding issuance rates for CP, the release of the statistics by the Japan Securities Depository Center has been suspended since late March 2016. According to anecdotal information and other sources, issuance rates for CP seem to be at extremely low levels on the whole.

The year-on-year rate of change in the money stock (M2) has been around 3.5 percent, as bank lending has increased (Chart 49 [1]). The ratio of M2 to nominal GDP has been on a moderate increasing trend (Chart 49 [2]).

Developments in Financial Markets

In global financial markets, investors' risk aversion -- which had increased in response to the result of the United Kingdom's referendum in late June -- has eased gradually, and the timing of a possible policy rate hike in the United States has drawn attention.

Under such circumstances, yields on 10-year government bonds in the United States have increased, mainly due to a waning of investors' risk aversion and to speculation over a possible policy rate hike by the Federal Reserve (Chart 50 [1]). In Germany, yields on 10-year government bonds were negative but have turned positive again amid reduced speculation over additional monetary easing by the European Central Bank (ECB).

With regard to credit spreads on interbank transactions, the LIBOR-OIS spreads for major currencies show the following developments: those for the U.S. dollar have increased to some extent, as lenders have become somewhat cautious about providing funds in view of the implementation of money market fund (MMF) reform in the United States, while those for the euro and the yen have remained at low levels (Chart 51 [3]). Premiums for U.S. dollar funding through the dollar/yen foreign exchange swap market have been at relatively high levels, due to the tight supply-demand conditions, compared with those seen before last summer (Chart 51 [2]). Japanese banks, however, do not face quantitative constraints on foreign currency funding at this moment.

Stock prices in the United States have been at around historically high levels, and those in Europe have risen moderately as the euro has depreciated somewhat against the U.S. dollar (Chart 52 [1]). Japanese stock prices have risen, against the background that investors' risk aversion has waned and the yen has reverted to depreciation against the U.S. dollar. In the Japan real estate investment trust (J-REIT) market, prices have declined, as long-term interest rates have been somewhat higher than before (Chart 52 [2]).

In foreign exchange markets, the yen appreciated against the U.S. dollar at one point, but has reverted to depreciation thereafter amid the market speculation of a possible policy rate hike in the United States (Chart 53). The yen has been more or less flat against the euro.

Land Prices

Land prices as a whole have almost stopped declining. According to the *Land Price Research by Prefectural Governments* for 2016 (as of July 1), in the three major metropolitan areas (Tokyo, Osaka, and Nagoya), the year-on-year rate of change in commercial land prices has increased further and that in residential land prices has been positive, albeit slightly (Chart 54). In nonmetropolitan areas, the year-on-year rate of decline in both commercial and residential land prices has decelerated for five consecutive years.

(Box 1) Effects of a Policy Mix

The baseline scenario assumes that Japan's economy is likely to continue growing at a pace above its potential on the back of synergy effects, stimulating economic activity, produced by the combination of expansionary fiscal policy through the large-scale stimulus measures and powerful monetary easing under "QQE with Yield Curve Control" -- the so-called policy mix.

Generally speaking, in the case where the government raises funds through increased issuance of government bonds and expands its spending, upward pressure on longer-term market rates will restrain private investment -- the so-called crowding-out -- and lessen the stimulative effects on economic activity. On the other hand, in the case where a central bank continues with monetary easing amid fiscal expansion, upward pressure on interest rates resulting from the issuance of government bonds will be contained, and the stimulative effects on economic activity will become strengthened due to the synergy effects of fiscal expansion and monetary easing. The baseline scenario assumes that real long-term interest rates will be at levels well below the natural rate of interest on the back of the Bank's powerful monetary easing, even amid expansionary fiscal policy through the set of stimulus measures. Based on such assumption, crowding-out resulting from fiscal expansion will be avoided and domestic private demand -- such as that for business fixed investment and housing investment -- that is responsive to interest rates is expected to continue increasing steadily through the projection period.

In order to empirically assess the effects of a policy mix, a simulation exercise on the effects of public investment is conducted based on the macroeconomic model Q-JEM developed at the Research and Statistics Department, Bank of Japan. In this exercise, the simulation is conducted in two cases: one where nominal long-term interest rates are endogenously determined, which will produce the rise in interest rates and the yen's appreciation, and one where they are exogenously fixed. The result shows that, in the case where nominal interest rates are fixed, business fixed investment is not contained through crowding-out; in addition, real exports are not reduced because yen appreciation resulting from the rise in interest rates is avoided (Box Chart 1). Consequently, real GDP increases

more than in the case where interest rates are endogenously determined, and the effects of pushing up the CPI inflation will be somewhat larger. In light of this, a fiscal multiplier, which is defined as the cumulative increase in real GDP divided by the increase in public investment, is 1.4 two years after such increase in the case where interest rates are fixed, and thus larger than 1.1 in the case where interest rates are endogenously determined.²⁹

²⁹ The effects of fiscal policy, particularly whether a fiscal multiplier can exceed 1 or not, have been the subject of numerous debates within economics academia, and this is yet to be settled. However, in recent years, the assertion that a fiscal multiplier can exceed 1 because crowding-out is avoided with a zero lower bound seems to attract support to some degree in both theory and practice.

(Box 2) The Effects of a Heightening of Global Uncertainties on Trade Activity

After the result of the United Kingdom's referendum in June 2016, uncertainties heightened globally to a significant level, and financial markets exhibited volatile developments temporarily (Box Chart 2 [1]). Nevertheless, uncertainties declined thereafter and financial markets seemed to have regained stability through summer.

In order to empirically assess the effects of these developments in global uncertainties on the world trade volume and Japan's exports, a vector autoregression (VAR) model was estimated, consisting of the following five variables: (1) the economic policy uncertainty index for the United States and Europe; (2) the financial conditions index (FCI) for the United States and Europe; (3) the world trade volume; (4) the yen's real effective exchange rate; and (5) Japan's real exports (Box Chart 2 [2]).³⁰ The estimated impulse response suggests that heightening uncertainties in the United States and Europe will likely lead to (i) a decline in the world trade volume through the postponement of business fixed investment and durable goods consumption globally and, simultaneously, (ii) an appreciation of the yen -- which is often regarded as a safe currency -- and the tightening of financial conditions, thereby temporarily exerting downward pressure on Japan's exports.

³⁰ The economic policy uncertainty index quantitatively measures the extent of uncertainties people perceive based particularly on the amount of coverage in major newspapers relating to uncertainties regarding economic policy and on dispersions in economists' outlook on economic activity and prices. For the details in compiling the index, see Scott R. Baker, Nicholas Bloom, and Steven J. Davis, "Measuring Economic Policy Uncertainty," *Quarterly Journal of Economics*, 131 (4), 2016, pp. 1593-1636.

(Box 3) Marginal Propensity to Consume by Income Class

The government's latest economic policy package includes income support measures that aim to accelerate the process toward achieving a society in which all citizens are dynamically engaged, such as (1) the provision of simple benefits and (2) the shortening of the qualifying period for pension benefits. In order to assess the extent to which these measures can stimulate private consumption, marginal propensity to consume by income class was estimated using household panel data surveyed by Osaka University. Specifically, marginal propensity to consume was calculated by (1) estimating the income elasticity of consumption expenditure by household income class and (2) multiplying this by average propensity to consume (Box Chart 3 [1]).

The estimation results suggest the following (Box Chart 3 [2] and [3]). First, the lower the household income, the higher the marginal propensity to consume; for example, marginal propensity to consume reaches around 0.4 for households with annual income of less than 2 million yen. Second, when focusing on households not only with lower income in terms of flow but also with fewer financial asset holdings, marginal propensity to consume tends to be even higher. In recent years, the weight of households with annual income of less than 4 million yen is rising, mainly reflecting the aging population and an increase in the number of non-regular employees (Box Chart 3 [4]). Taking this into consideration, income support measures for low-income households, whose marginal propensity to consume is relatively high, are expected to have certain underpinning effects on private consumption.

(Box 4) Exchange Rates and Prices of Durable Goods

Prices for durable goods in the CPI have turned to a decline recently, and this is considered to be largely attributable to the appreciation of the yen since the middle of 2015 (Box Chart 4 [1] and [2]). In particular, household electrical appliances, mainly white goods, are hardly successful in product differentiation in recent years, due to inactive technological innovation, and thus are subject to fierce competition from the products made in emerging economies. Furthermore, the import penetration ratio has increased significantly on the back of the shift to overseas production sites resulting from the sharp appreciation of the yen since the global financial crisis (Box Chart 4 [3] and [4]). As a result, household electrical appliances seem to be subject to a rise in pass-through of exchange-rate changes to their prices in recent years. In fact, in the yen's depreciation phases, which occurred twice since the introduction of QQE, a clear rise in prices for household electrical appliances was observed, whereas in the yen's appreciation phase since the latter half of 2015, the prices have been on a declining trend.

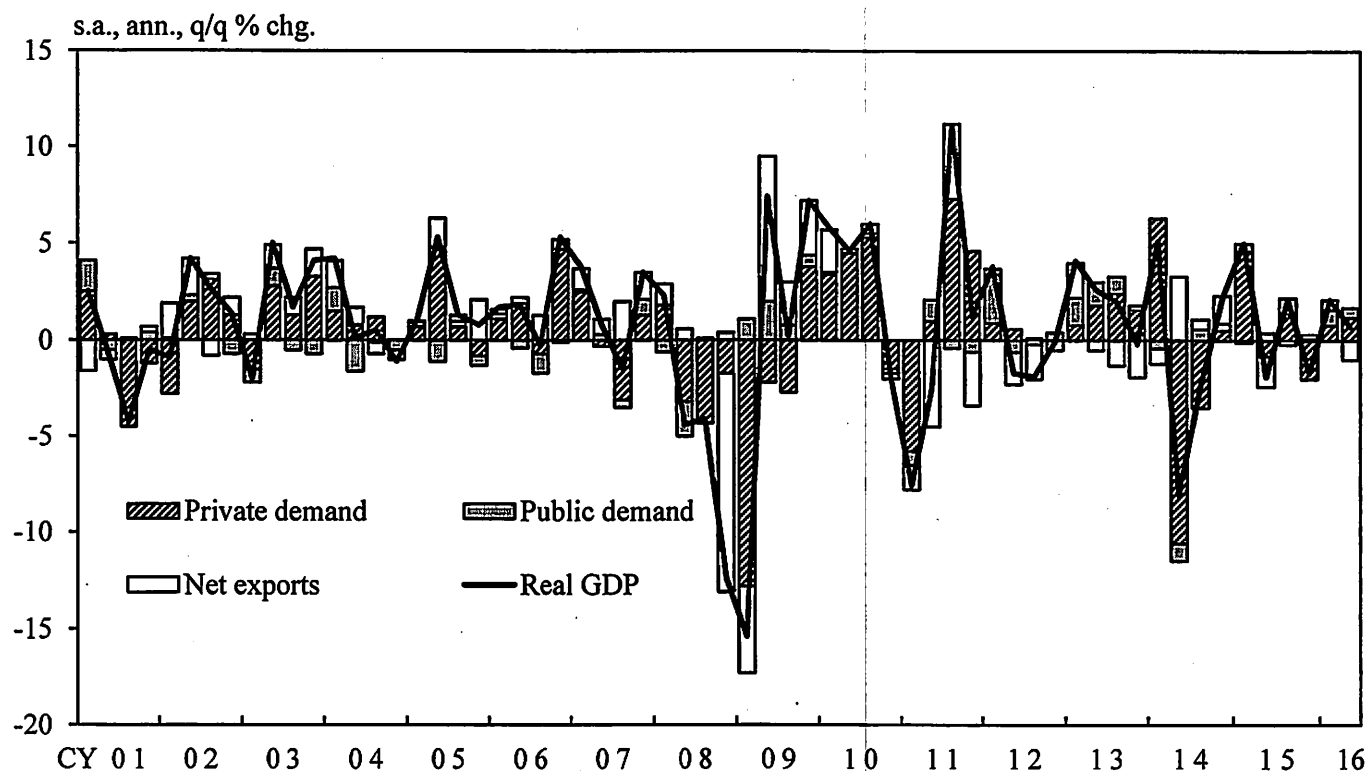
In order to empirically confirm the points above, a simple VAR model was estimated, consisting of the four variables of (1) crude oil prices, (2) exchange rates, (3) the output gap, and (4) the CPI. An assessment was made on how the effects of exchange rates on the CPI have changed in recent years. The time series developments of the responses of the CPI to exchange rate shocks show that the effects of exchange rates on the CPI -- for example, the rise in pass-through ratio -- have become clearer in recent years, and this tendency is particularly evident for durable goods (Box Chart 5).

Charts

Chart 1	Real GDP	Chart 32	Import Prices and International Commodity Prices
Chart 2	Aggregate Income Formation and Indexes of Business Conditions	Chart 33	Producer Price Index and Services Producer Price Index
Chart 3	Output Gap and Potential Growth Rate	Chart 34	Consumer Price Index
Chart 4	Public Investment	Chart 35	Measures of Underlying Inflation
Chart 5	Overseas Economies	Chart 36	Consumer Price Index and Energy Prices
Chart 6	Environment Surrounding Exports	Chart 37	Distributions of Price Changes and Measures of Underlying Inflation
Chart 7	Real Exports and Real Imports	Chart 38	GDP Deflator
Chart 8	Real Exports	Chart 39	Consumer Price Index and Output Gap
Chart 9	Overseas Motor Vehicle Sales and Exports of Capital Goods	Chart 40	Inflation Expectations (1)
Chart 10	World Trade Volume and Japan's Share of Exports in World Trade	Chart 41	Inflation Expectations (2)
Chart 11	Services Balance and Current Account	Chart 42	Output Gap and Inflation Rate
Chart 12	Production, Shipments, and Inventories	Chart 43	Prices and Wages
Chart 13	Shipment-Inventory Balance	Chart 44	Yield Curve and Monetary Base
Chart 14	Corporate Profits, by Industry and Enterprise Size	Chart 45	Issuance Conditions for CP and Corporate Bonds
Chart 15	Business Conditions	Chart 46	Bank Lending Rates
Chart 16	Coincident Indicators of Business Fixed Investment	Chart 47	Corporate Finance-Related Indicators
Chart 17	Business Fixed Investment Plans, by Industry and Enterprise Size	Chart 48	Amount Outstanding of Bank Lending, CP, and Corporate Bonds
Chart 18	Planned and Actual Business Fixed Investment	Chart 49	Money Stock
Chart 19	Leading Indicators of Business Fixed Investment	Chart 50	Nominal Benchmark Yields
Chart 20	Expected Growth Rate and Capital Stock Cycles	Chart 51	Money Market Rates
Chart 21	Employment and Labor Market Conditions	Chart 52	Stock Prices and REIT Prices
Chart 22	Unemployment Rate and Labor Force Participation Rate	Chart 53	Exchange Rates
Chart 23	Nominal Wages	Chart 54	Land Prices
Chart 24	Employee Income	Box Chart 1	Simulation of the Effects of Public Investment by Macroeconomic Model
Chart 25	Real Wages and Real Employee Income	Box Chart 2	Impact of Global Uncertainty Shock on Trade Activities
Chart 26	Private Consumption	Box Chart 3	Marginal Propensity to Consume
Chart 27	Private Consumption by Type and Supply and Demand Side Statistics	Box Chart 4	Exchange Rates and Consumer Durable Goods Prices
Chart 28	Sales Statistics (Current Survey of Commerce)	Box Chart 5	Effects of Exchange Rates on the CPI
Chart 29	Consumption of Durable Goods and Services	Reference	Economic Assessment by Region (Regional Economic Report)
Chart 30	Confidence Indicators Related to Private Consumption		
Chart 31	Housing Investment		

Real GDP

(1) Real GDP



(2) Components

		2015			2016	
		Q2	Q3	Q4	Q1	Q2
Real GDP		-0.5	0.5	-0.4	0.5	0.2
	[Annual rate]	[-1.9]	[2.1]	[-1.7]	[2.1]	[0.7]
Domestic demand		-0.1	0.3	-0.5	0.4	0.4
Private demand		-0.2	0.4	-0.5	0.2	0.3
Private consumption		-0.4	0.3	-0.5	0.4	0.1
Non-resid. investment		-0.1	0.1	0.2	-0.1	-0.0
Residential investment		0.0	0.0	-0.0	-0.0	0.1
Private inventory		0.3	-0.0	-0.2	-0.1	0.1
Public demand		0.1	-0.0	0.0	0.2	0.1
Public investment		0.0	-0.1	-0.2	0.0	0.1
Net exports of goods and services		-0.4	0.2	0.1	0.1	-0.3
Exports		-0.8	0.5	-0.2	0.0	-0.3
Imports		0.4	-0.3	0.2	0.1	0.0
Nominal GDP		-0.1	0.6	-0.3	0.8	0.3

y/y % chg.

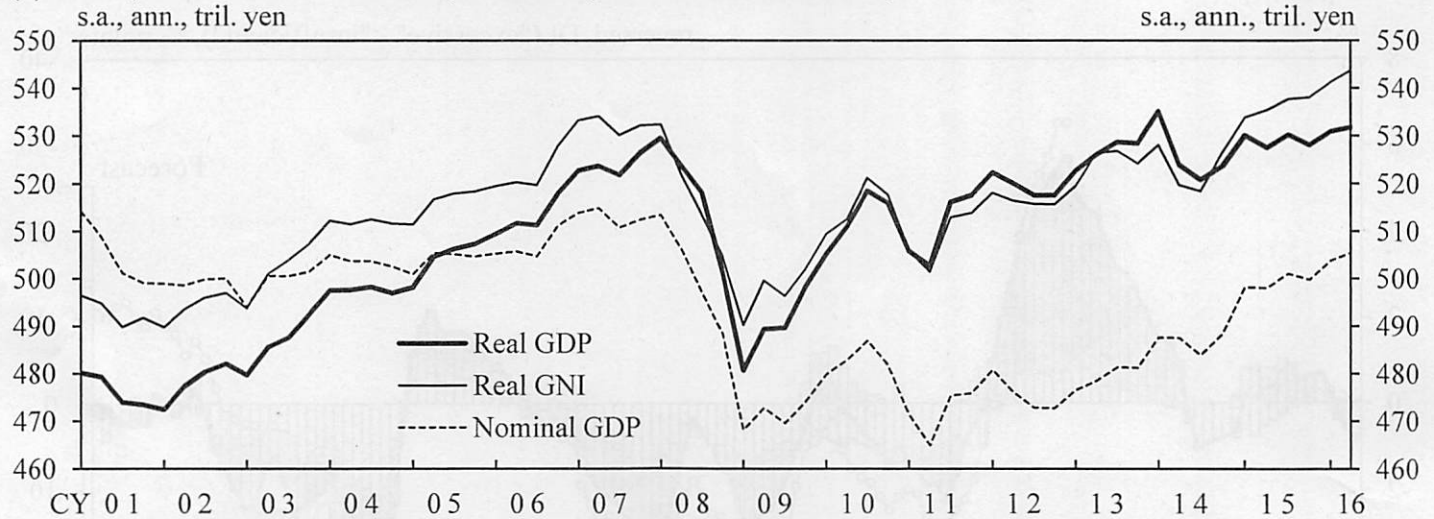
		2015			2016	
		Q2	Q3	Q4	Q1	Q2
GDP deflators		1.4	1.8	1.5	0.9	0.7
Domestic demand deflators		0.0	-0.1	-0.2	-0.5	-0.7

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

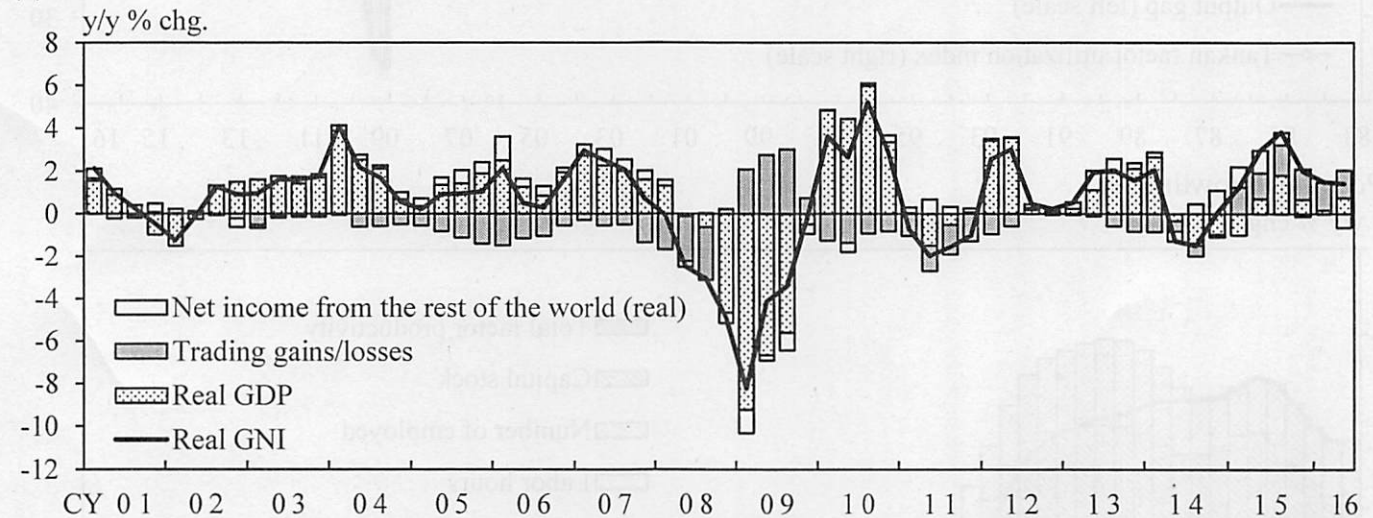
(1) GDP (Gross Domestic Product) and GNI (Gross National Income)



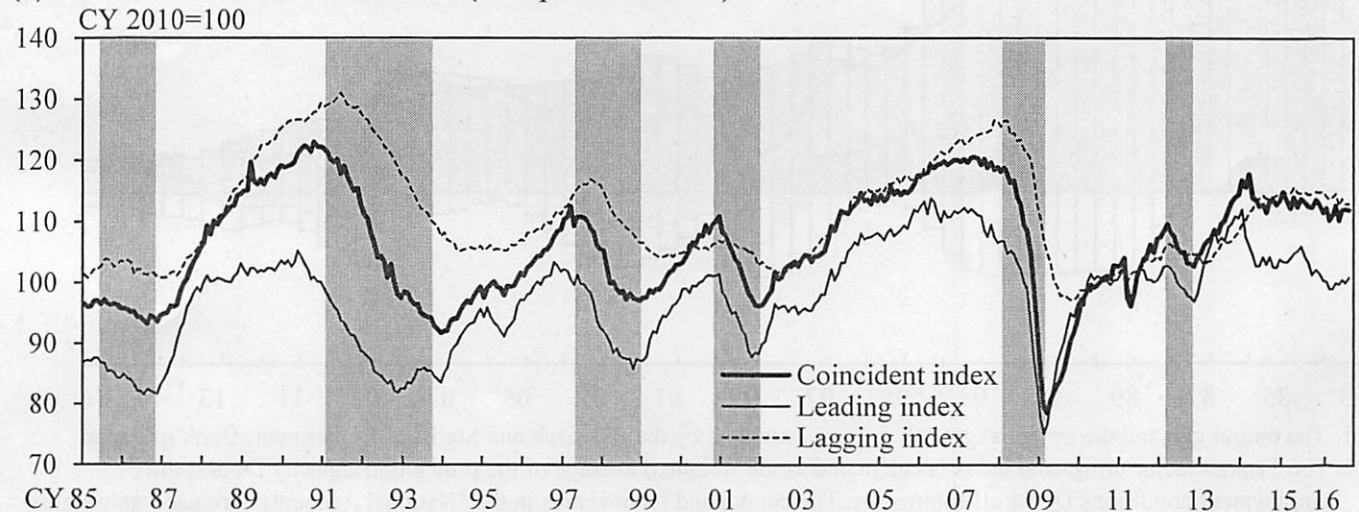
Note: Real GNI = real GDP + trading gains/losses + net income from the rest of the world (real)

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)

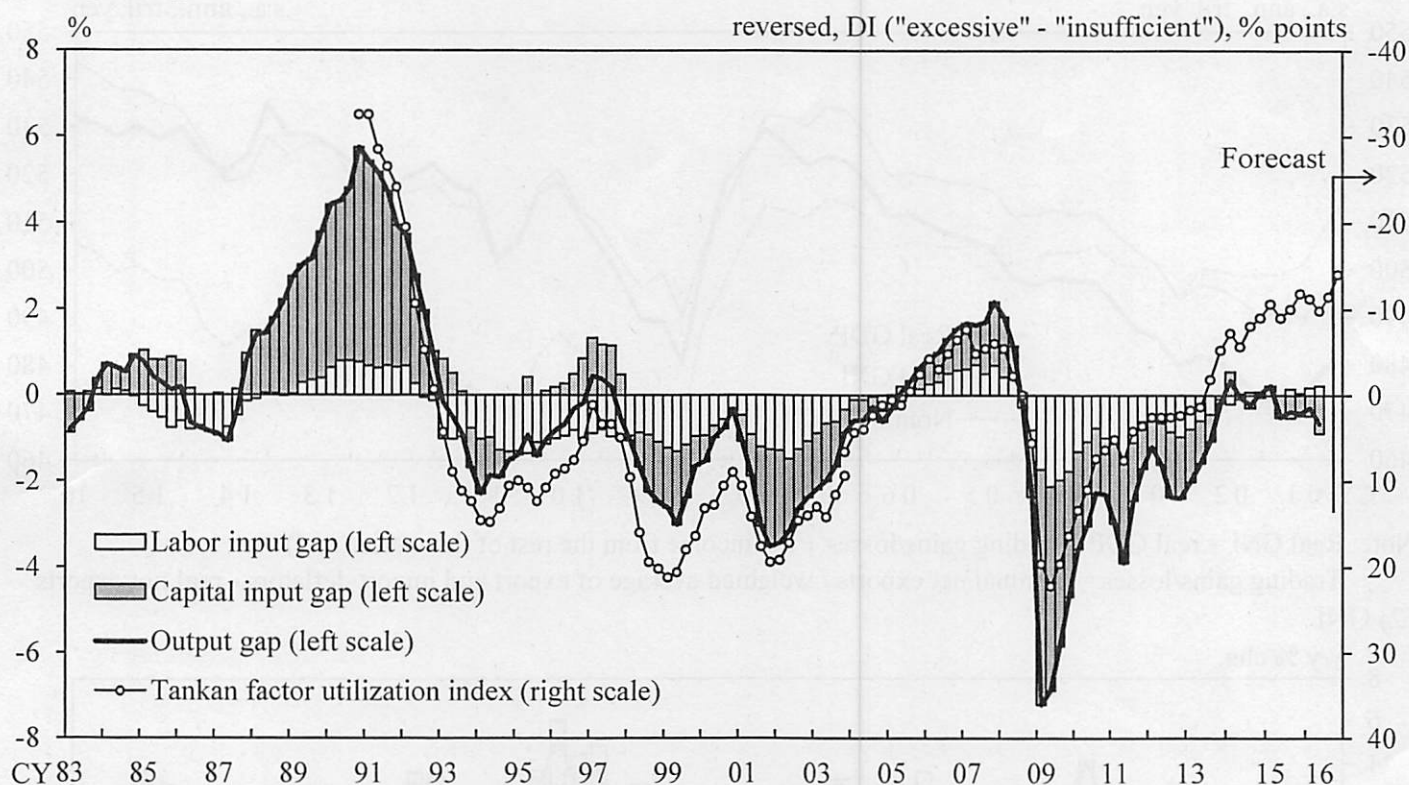


Note: Shaded areas indicate recession periods.

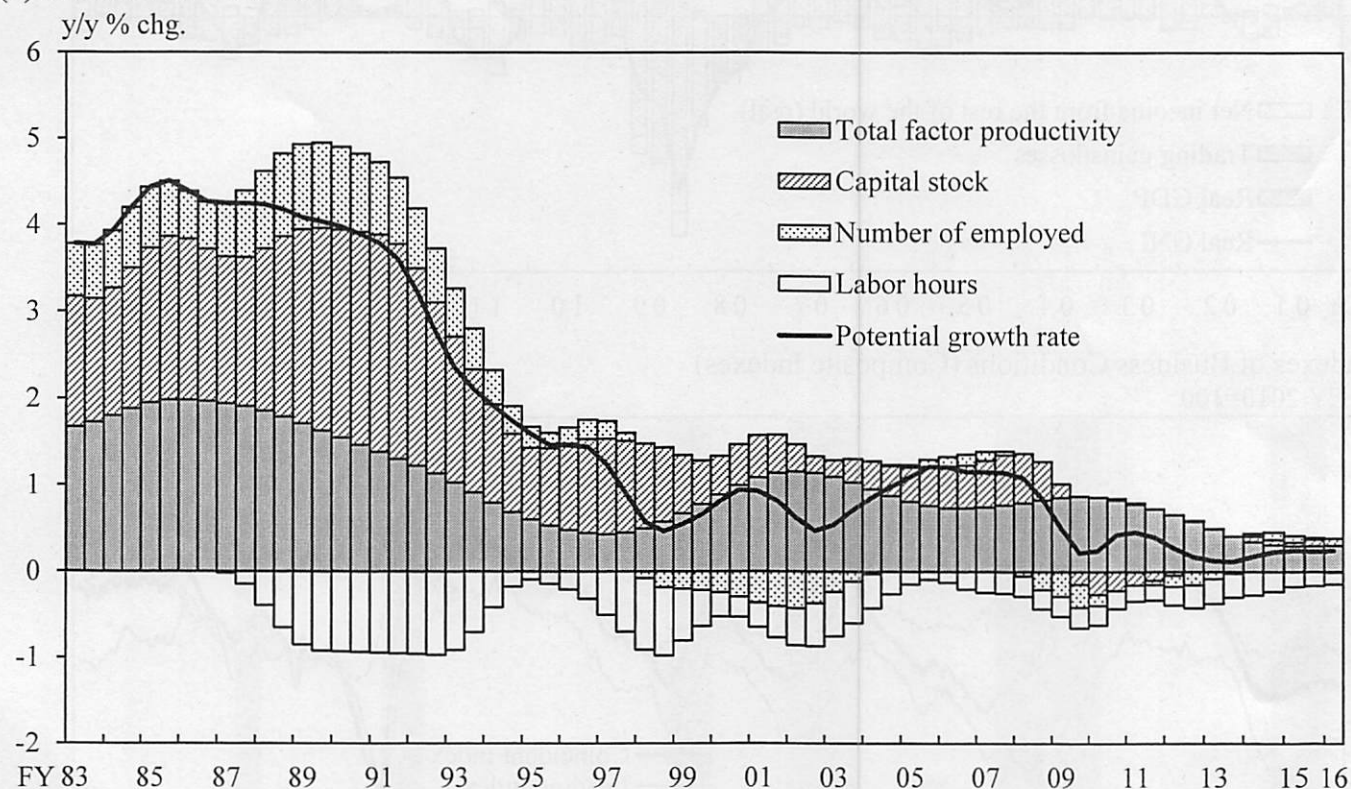
Source: Cabinet Office.

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.

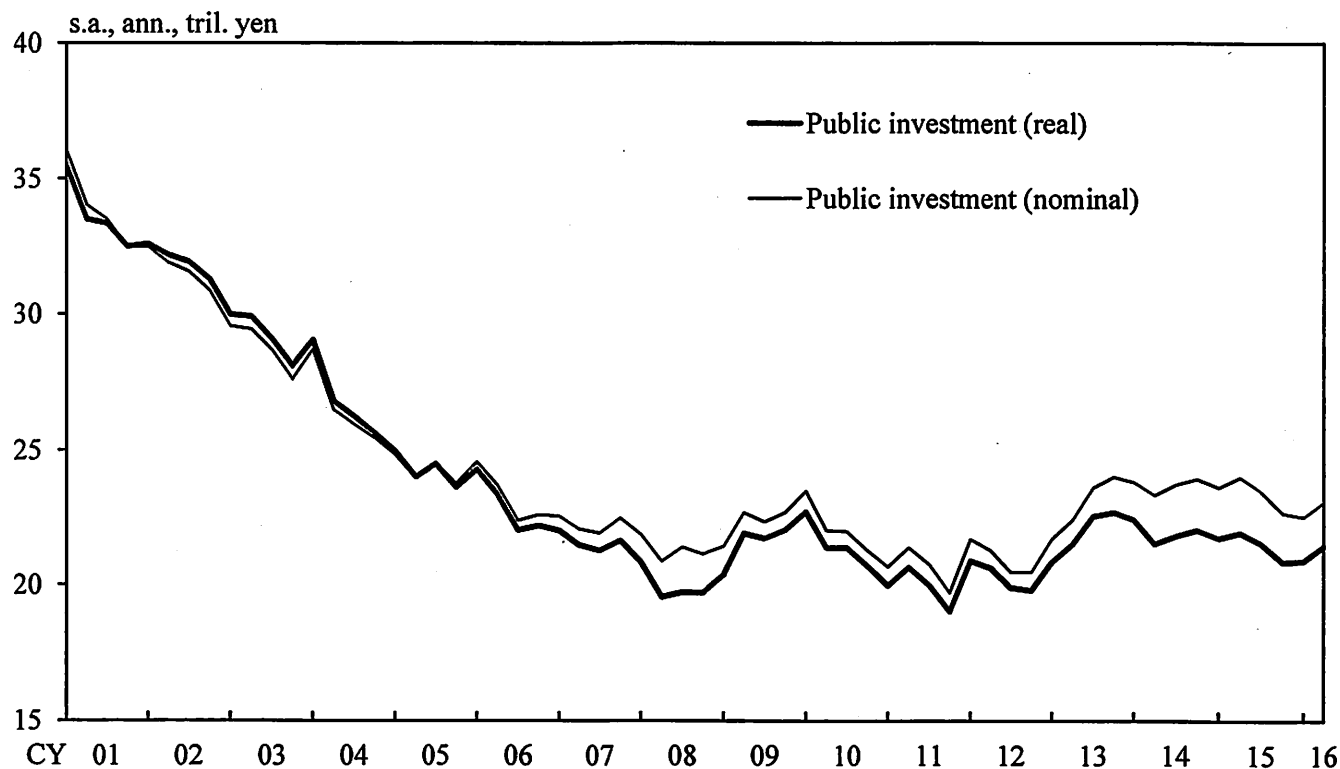
2. The Tankan factor utilization index is calculated as the weighted average of the production capacity DI and the employment conditions DI for all enterprises. The capital and labor shares in the "National Accounts" are used as weights. There is a discontinuity in the data in December 2003 due to a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

3. Figures for the first half of fiscal 2016 are those of 2016/Q2.

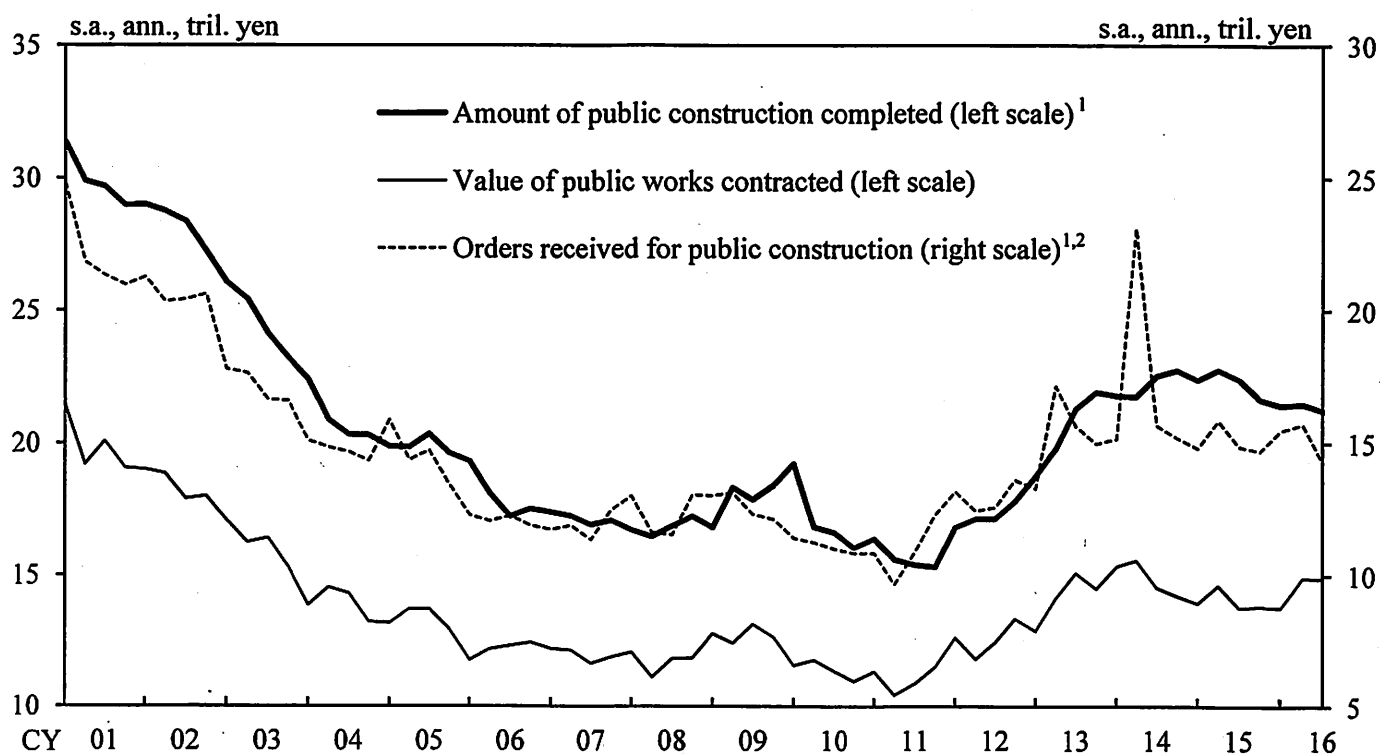
Sources: Cabinet Office; Bank of Japan; Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry; Research Institute of Economy, Trade and Industry.

Public Investment

(1) Public Investment (SNA Basis)



(2) Indicators of Public Investment



Notes: 1. Figures for 2016/Q3 are July-August averages.

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

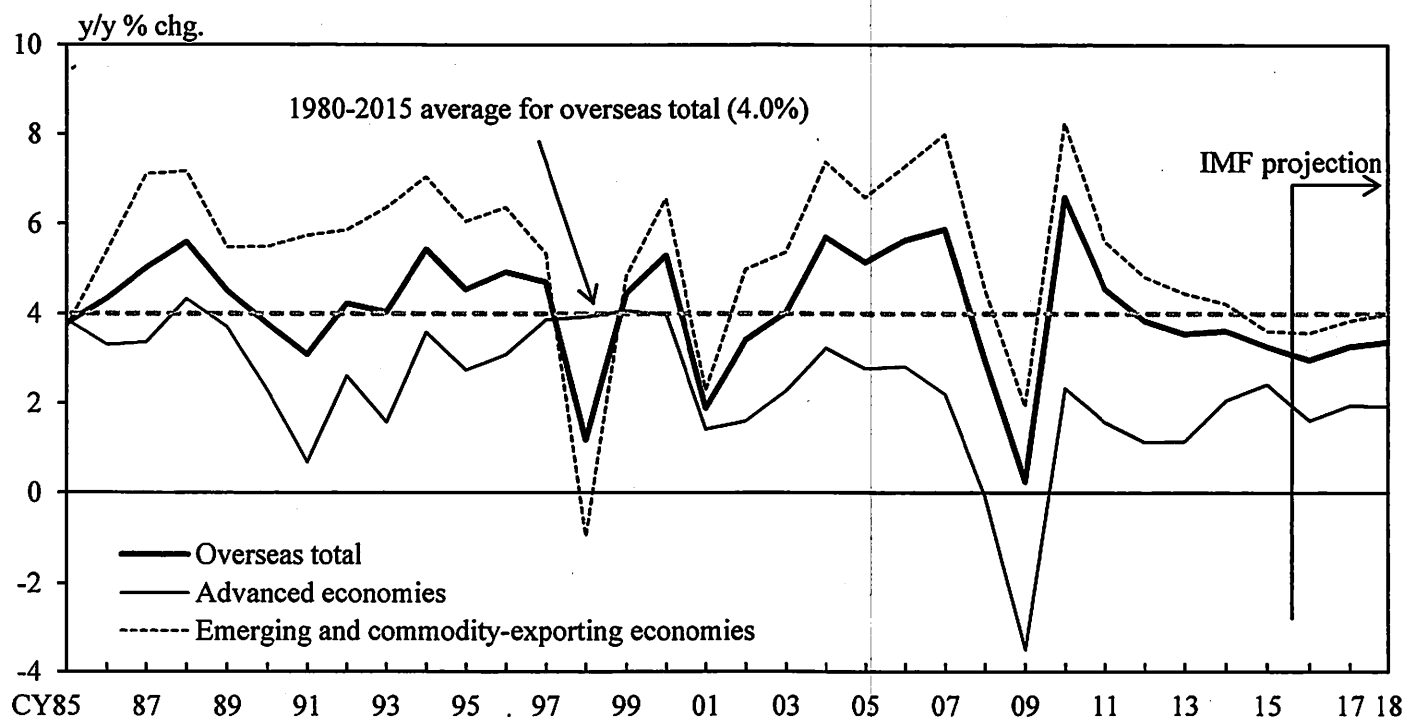
Sources: Cabinet Office; Ministry of Land, Infrastructure, Transport and Tourism;
East Japan Construction Surety etc., "Public Works Prepayment Surety Statistics."

Overseas Economies

(1) 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 Q3	2016 Q4	2016 Q1	2016 Q2	2016 Q3	2015 Actual	2016 IMF Projection	2017	2018
Overseas total						3.3	3.0 (3.1)	3.3 (3.4)	3.4
Major economies <78.7>	3.5	3.2	2.3	3.6	n.a.	3.6	3.1 (3.3)	3.3 (3.4)	3.3
United States <20.1>	2.0	0.9	0.8	1.4	2.9	2.6	1.6 (2.2)	2.2 (2.5)	2.1
Euro area and U.K. <9.5>	1.4	2.0	2.0	1.5	1.5	2.1	1.7 (1.6)	1.4 (1.4)	1.6
East Asia <49.0>	4.4	4.3	3.0	4.9	n.a.	4.2	4.0 (4.1)	4.1 (4.2)	4.2
China <17.5>	7.0	6.6	4.9	7.8	7.4	6.9	6.6 (6.6)	6.2 (6.2)	6.0
NIEs <21.7>	2.3	2.2	1.1	2.8	n.a.	2.0	1.8 (2.1)	2.2 (2.5)	2.6
ASEAN4 <9.8>	4.4	5.0	4.1	4.2	n.a.	4.1	4.3 (4.1)	4.5 (4.4)	4.4
Other economies <21.3>						2.1	2.5 (2.5)	3.2 (3.3)	3.5

(2) Real GDP Growth Rates of Overseas Economies

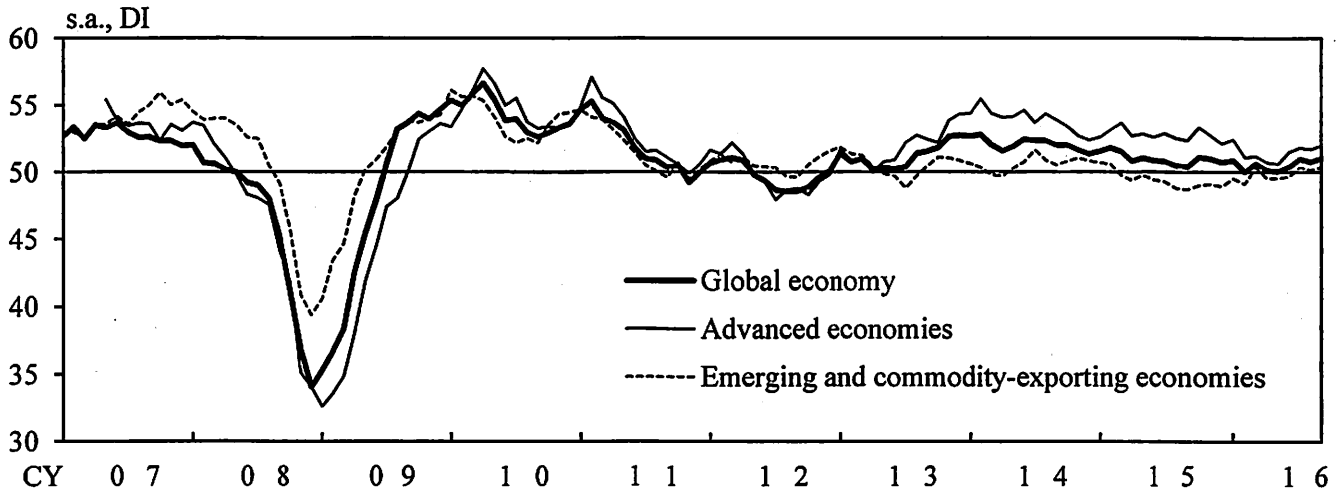


- Notes: 1. Figures are the weighted averages of real GDP growth rates using countries' share in Japan's exports as weights. Annual GDP growth rates are from the "World Economic Outlook (WEO)" as of October 2016, while figures in parentheses are as of July 2016. Since for some countries and regions the IMF does not provide projections in the July WEO, some figures in parentheses are imputed using information provided in the April WEO.
2. Figures in angular brackets show the share of each country or region in Japan's total exports in 2015.
3. Advanced economies consist of the United States, the euro area, and the United Kingdom. Emerging and commodity-exporting economies consist of the rest of the world economy.

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

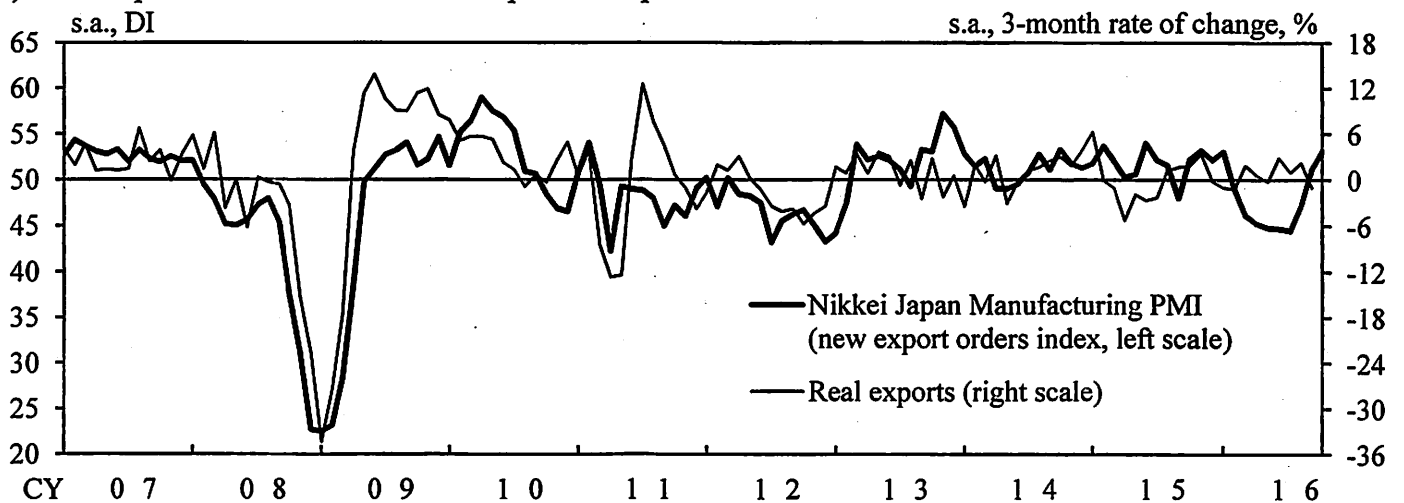
Environment Surrounding Exports

(1) Business Confidence (Manufacturing PMI)

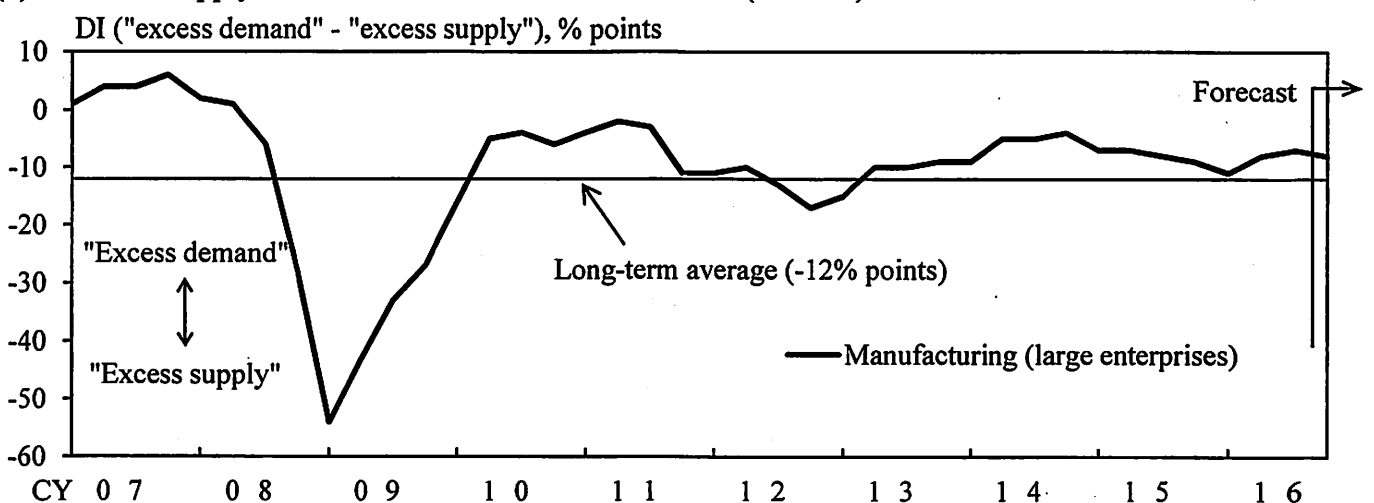


Note: Figures for the global economy are the J.P.Morgan Global Manufacturing PMI. Figures for advanced economies as well as emerging and commodity-exporting economies are calculated as the weighted averages of the Manufacturing PMI using PPP-adjusted GDP shares of world total GDP from the IMF as weights. Advanced economies consist of the United States, the euro area, the United Kingdom, and Japan. Emerging and commodity-exporting economies consist of 17 countries and regions, such as China, South Korea, Taiwan, Russia, and Brazil.

(2) New Export Orders PMI and Real Exports of Japan

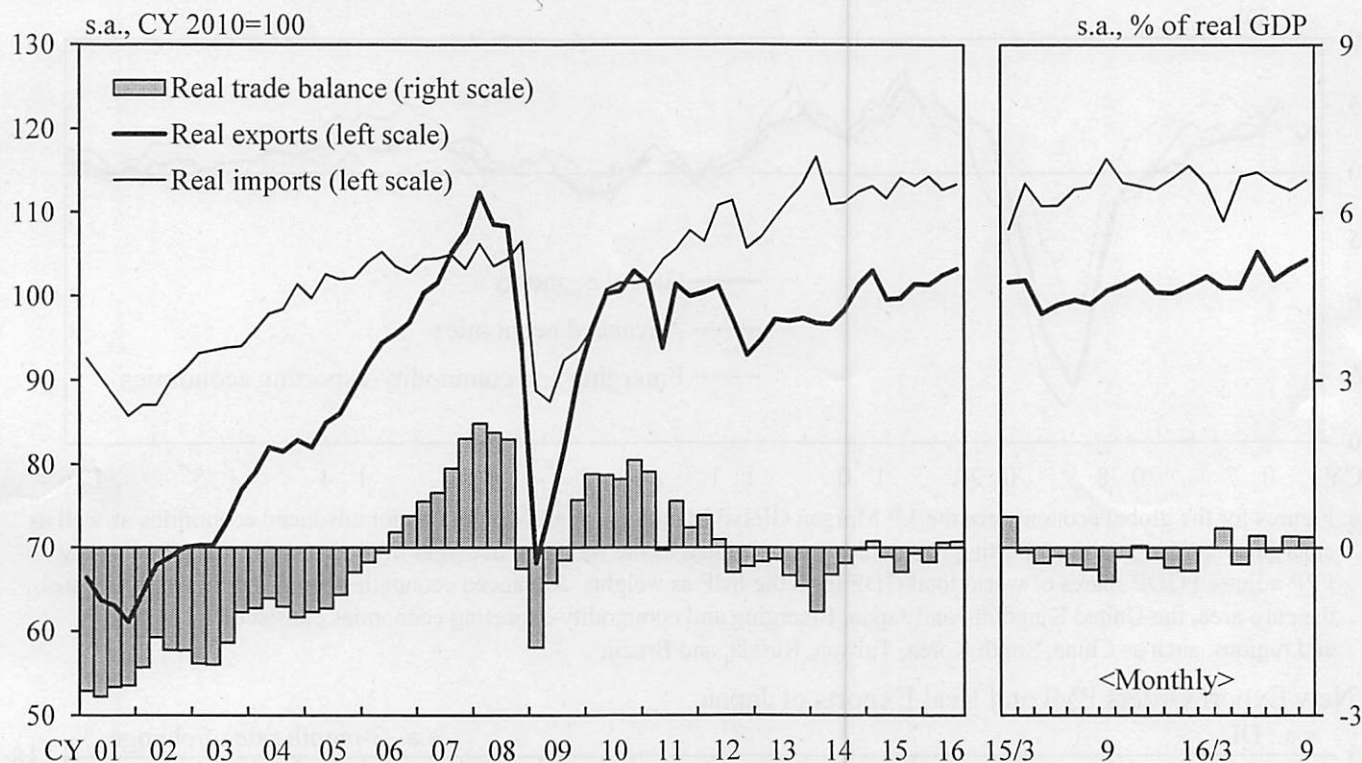


(3) Overseas Supply and Demand Conditions for Products (*Tankan*)



Real Exports and Real Imports

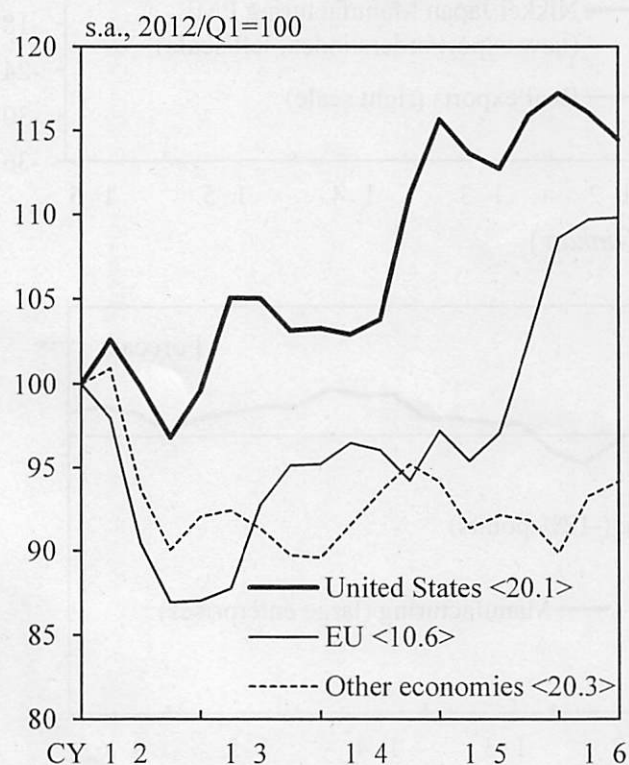
(1) Real Exports and Real Imports



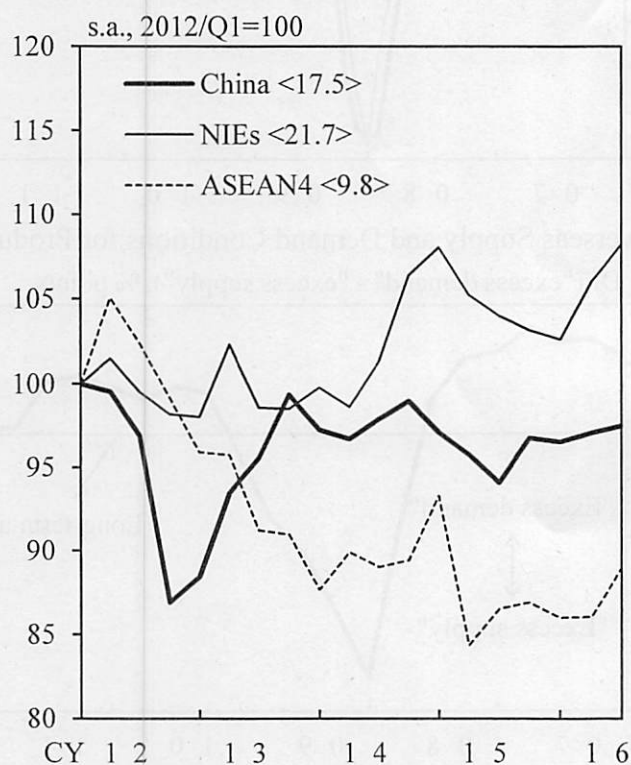
Note: Figures for the real trade balance (as a ratio of real GDP) from July 2016 onward are calculated using real GDP for 2016/Q2.

(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 Q3	2016 Q4	2016 Q1	Q2	Q3	2016 July	Aug.	Sept.
United States	<20.1>	1.8	9.0	-0.8	2.8	1.2	-1.0	-1.4	0.1	-7.5	3.3
EU	<10.6>	5.2	3.0	1.8	5.7	5.8	1.0	0.1	-0.2	-0.4	-0.6
East Asia	<49.0>	1.1	0.5	-0.7	0.7	-0.5	1.7	1.8	0.8	-0.2	0.5
China	<17.5>	3.5	-2.0	-1.8	2.9	-0.2	0.5	0.4	2.1	-3.9	0.7
NIEs	<21.7>	2.0	3.5	-1.2	-0.8	-0.5	3.3	2.1	-2.5	2.2	1.1
ASEAN4	<9.8>	-4.7	-1.4	2.6	0.4	-1.0	0.1	3.4	6.6	1.3	-1.5
Others	<20.3>	1.2	-0.1	0.8	-0.3	-2.2	3.8	0.9	-13.3	12.2	0.2
Real exports		1.7	2.7	0.2	1.7	-0.1	1.1	0.7	-3.2	1.3	1.0

(2) Breakdown by Goods

		y/y % chg.		s.a., q/q % chg.					s.a., m/m % chg.		
		CY 2014	2015	2015 Q3	2016 Q4	2016 Q1	Q2	Q3	2016 July	Aug.	Sept.
Intermediate goods	<19.8>	0.1	-0.5	-0.0	1.4	-1.6	1.0	0.4	2.1	-4.7	-0.3
Motor vehicles and their related goods	<24.4>	-1.4	1.3	2.2	4.8	-5.1	1.9	3.5	-1.0	-0.1	2.3
IT-related goods	<10.6>	3.6	-1.3	-2.1	-1.2	0.3	0.2	1.7	-0.8	2.6	-1.5
Capital goods and parts	<27.5>	3.1	-1.4	-0.9	-0.6	1.0	2.1	0.5	-3.8	4.2	-0.6
Real exports		1.7	2.7	0.2	1.7	-0.1	1.1	0.7	-3.2	1.3	1.0

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.

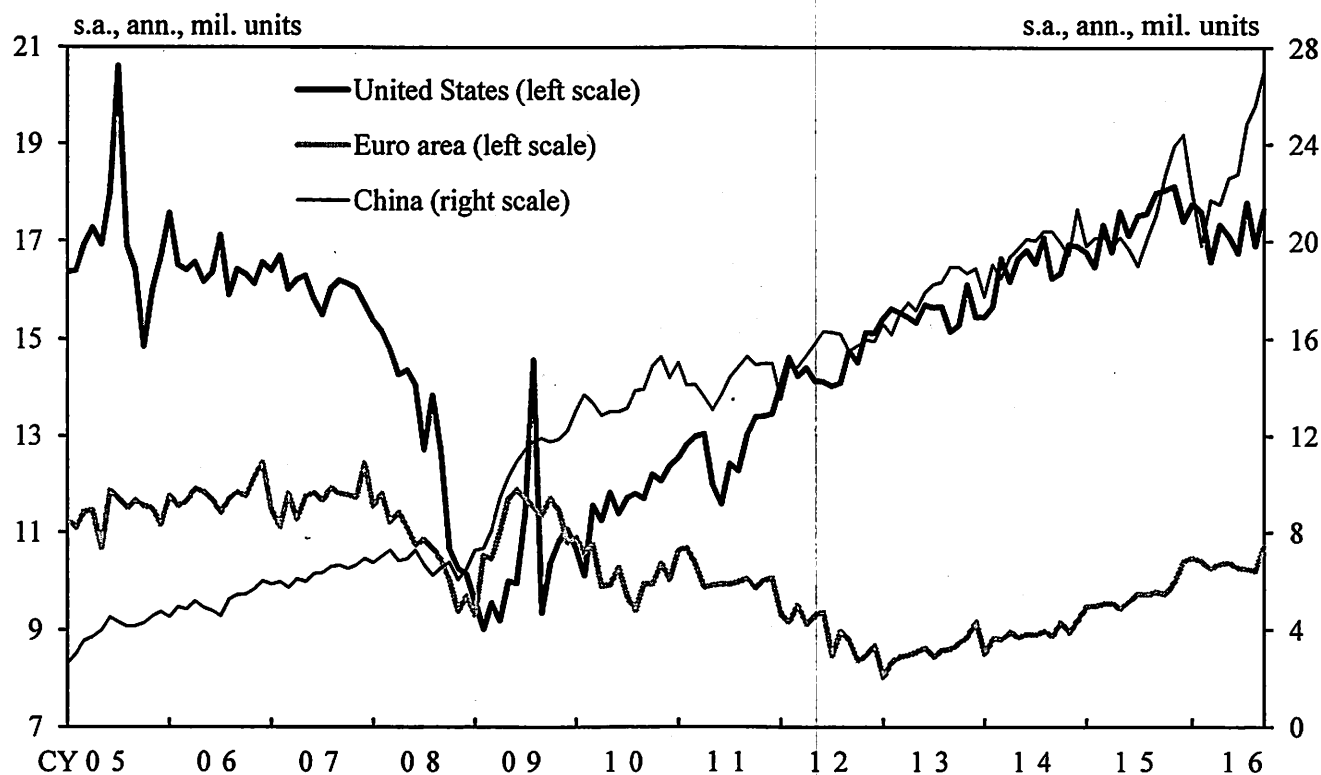
2. IT-related goods consist of computers and units, telecommunication machinery, integrated circuits, visual apparatus, audio apparatus, and medical and optical instruments.

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

Sources: Ministry of Finance; Bank of Japan.

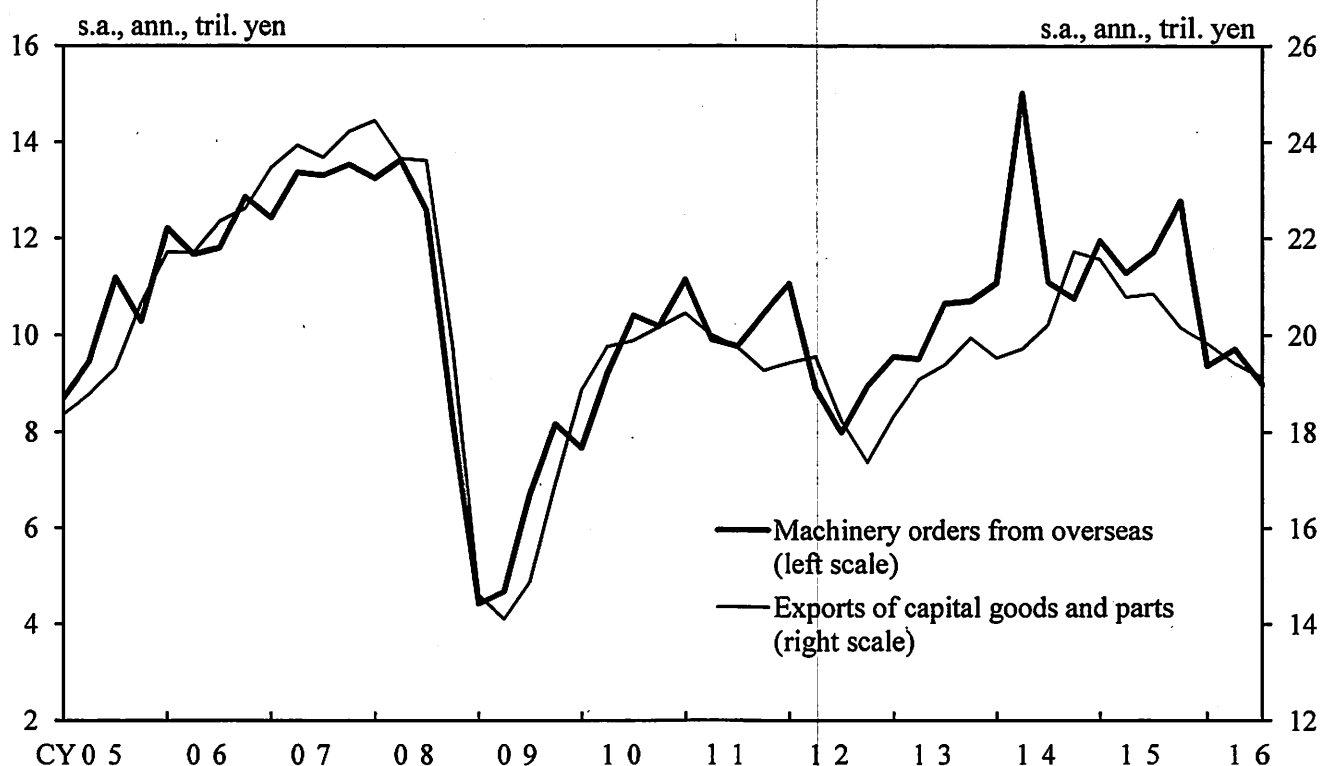
Overseas Motor Vehicle Sales and Exports of Capital Goods

(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/Q3 is the July-August average.

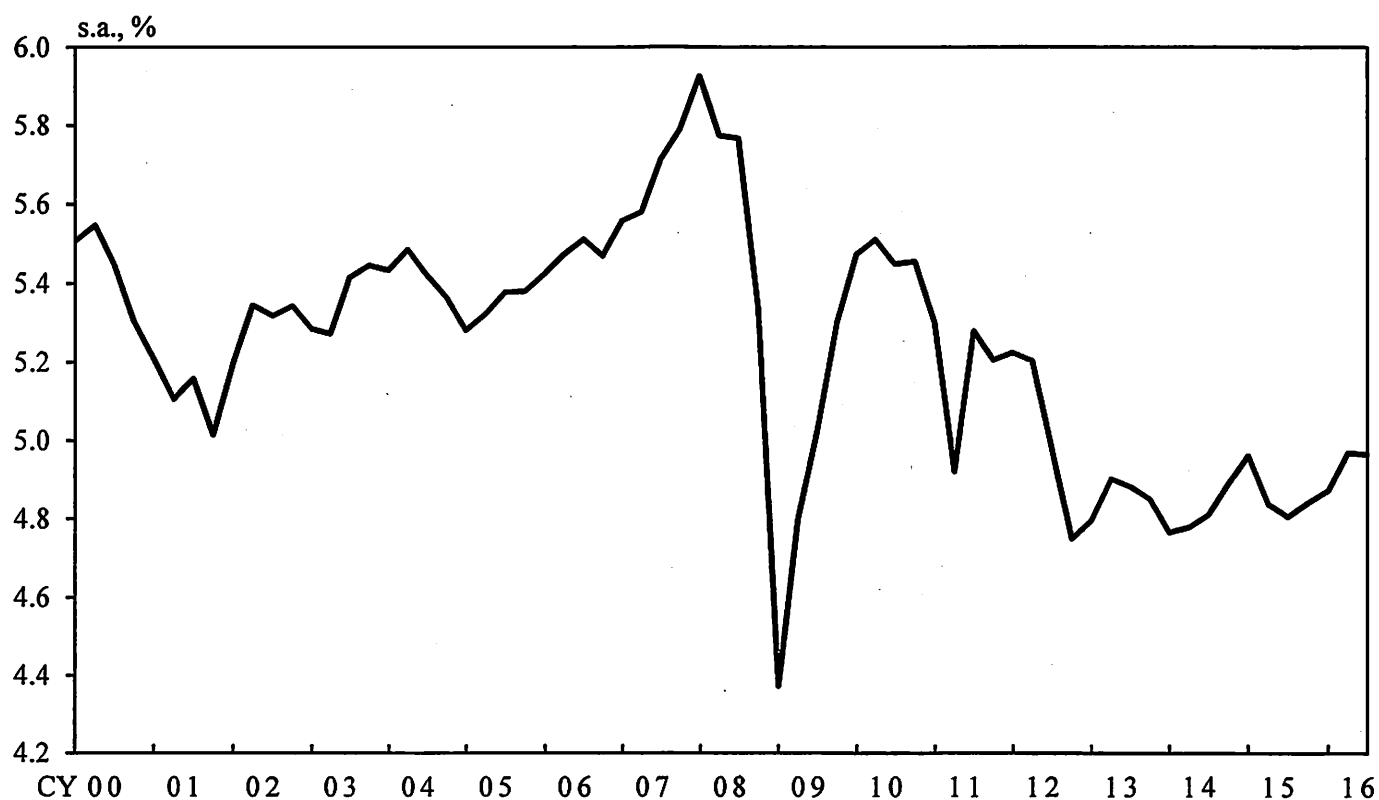
Sources: BEA; ECB; China Association of Automobile Manufacturers; Ministry of Finance; Cabinet Office.

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

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



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



Notes: 1. Figures for 2016/Q3 are July-August averages.

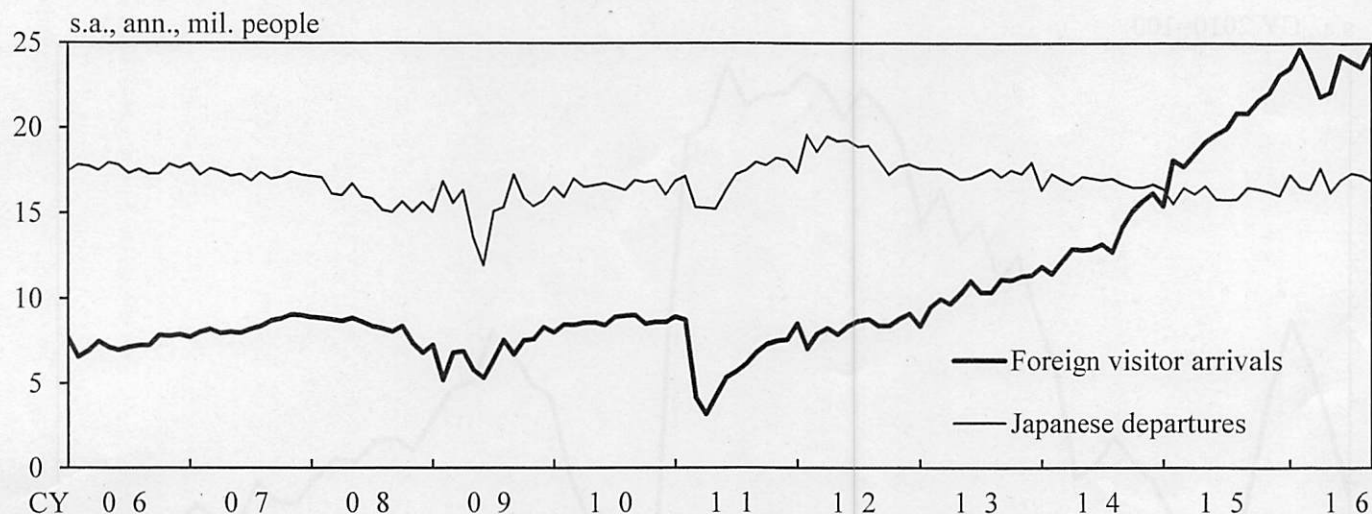
2. Trade volume/real GDP is obtained by dividing real imports by real GDP. The figure for real GDP for 2016/Q3 is estimated using figures for 2016/Q1-Q2 and the IMF projection for CY 2016.

3. Japan's share of exports in world trade is obtained by dividing Japan's real exports by world real imports (2010 prices).

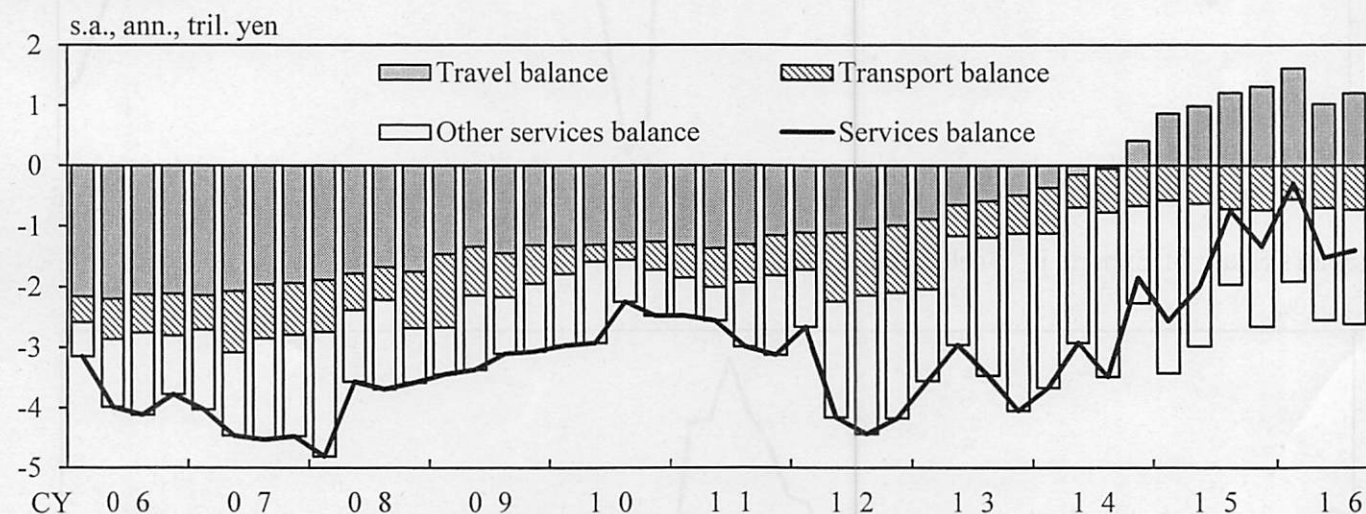
Sources: CPB Netherlands Bureau for Economic Policy Analysis; IMF, etc.

Services Balance and Current Account

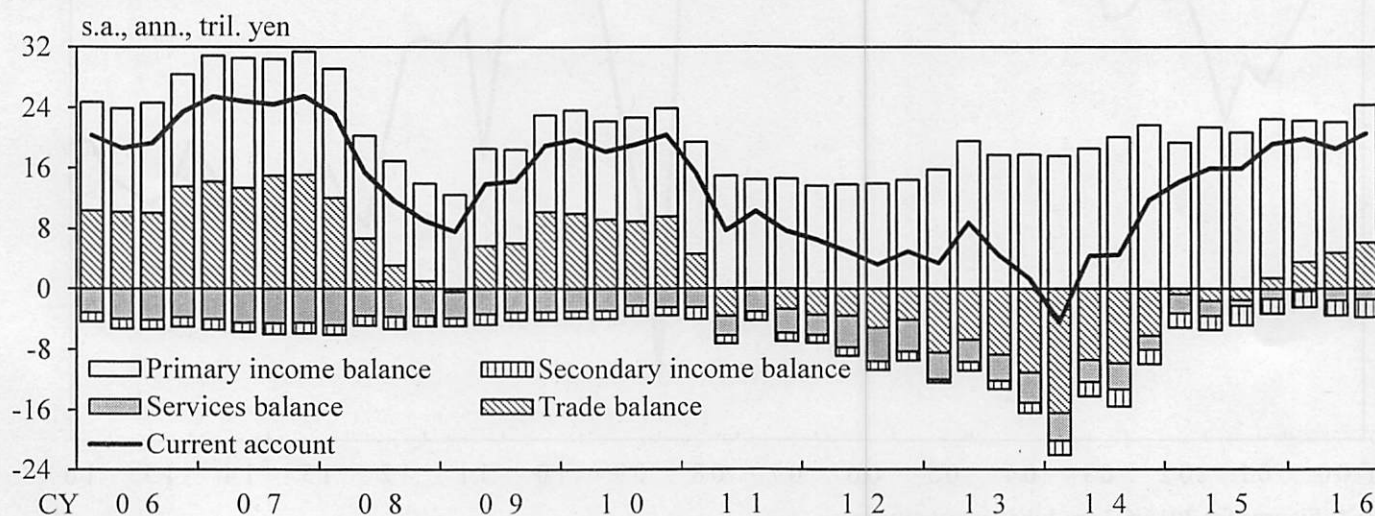
(1) Foreign Visitor Arrivals and Japanese Departures



(2) Services Balance



(3) Current Account

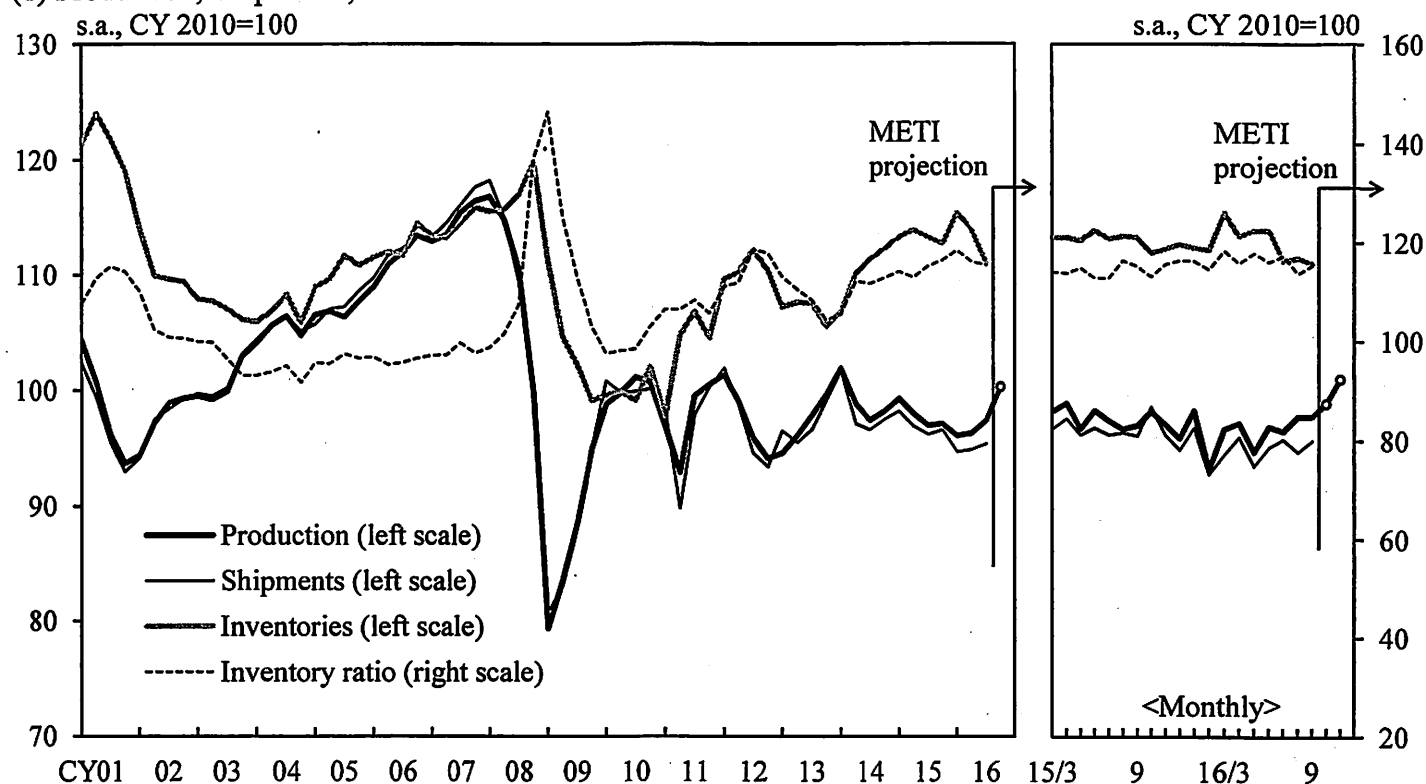


Note: Figures for 2016/Q3 are July-August averages.

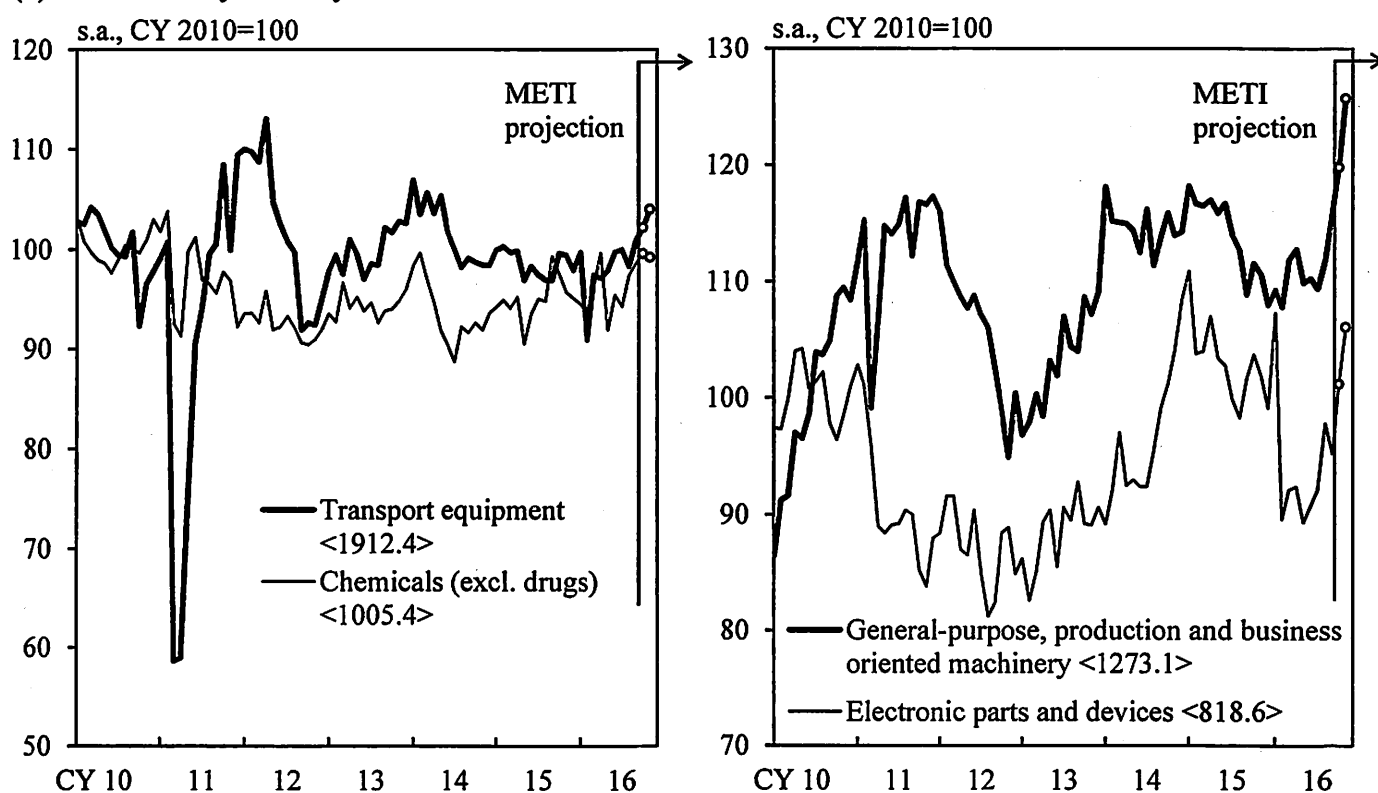
Sources: Japan National Tourism Organization (JNTO); Ministry of Finance and Bank of Japan.

Production, Shipments, and Inventories

(1) Production, Shipments, and Inventories



(2) Production by Industry



Notes: 1. Figures for 2016/Q4 and October and November 2016 are calculated based on METI projections.

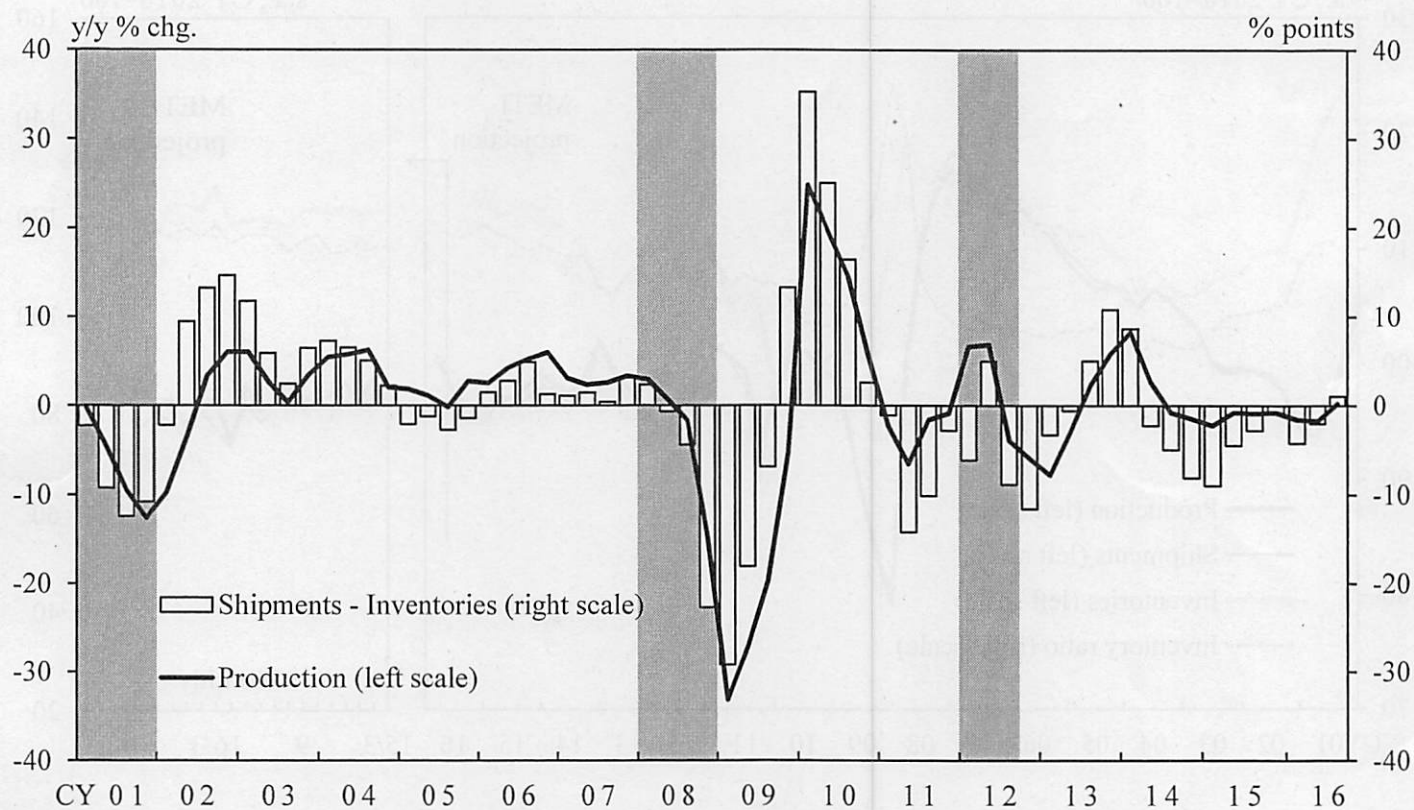
The figure for 2016/Q4 is based on the assumption that the production level in December is the same as November.

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

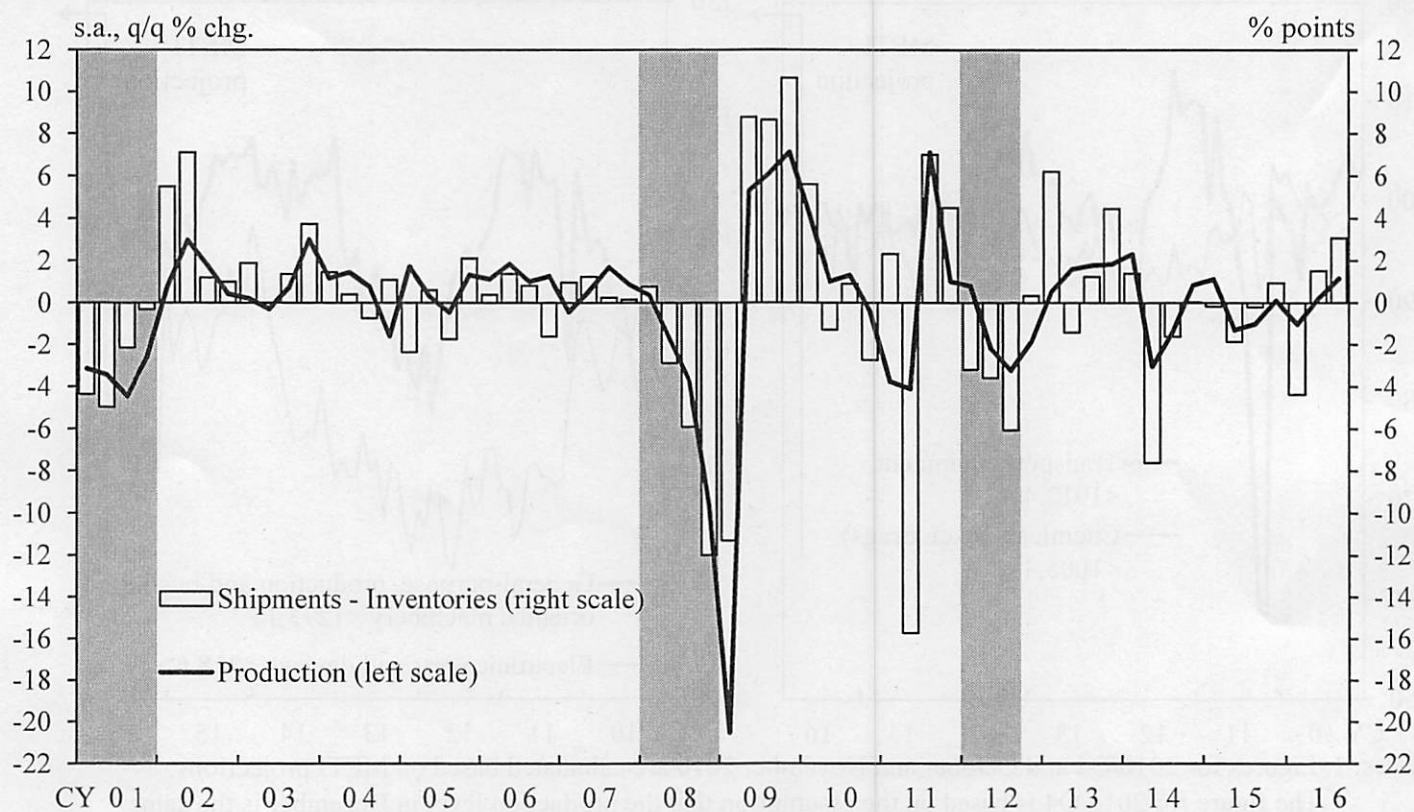
Source: Ministry of Economy, Trade and Industry (METI).

Shipment-Inventory Balance

(1) Changes from the Previous Year



(2) Changes from the Previous Quarter

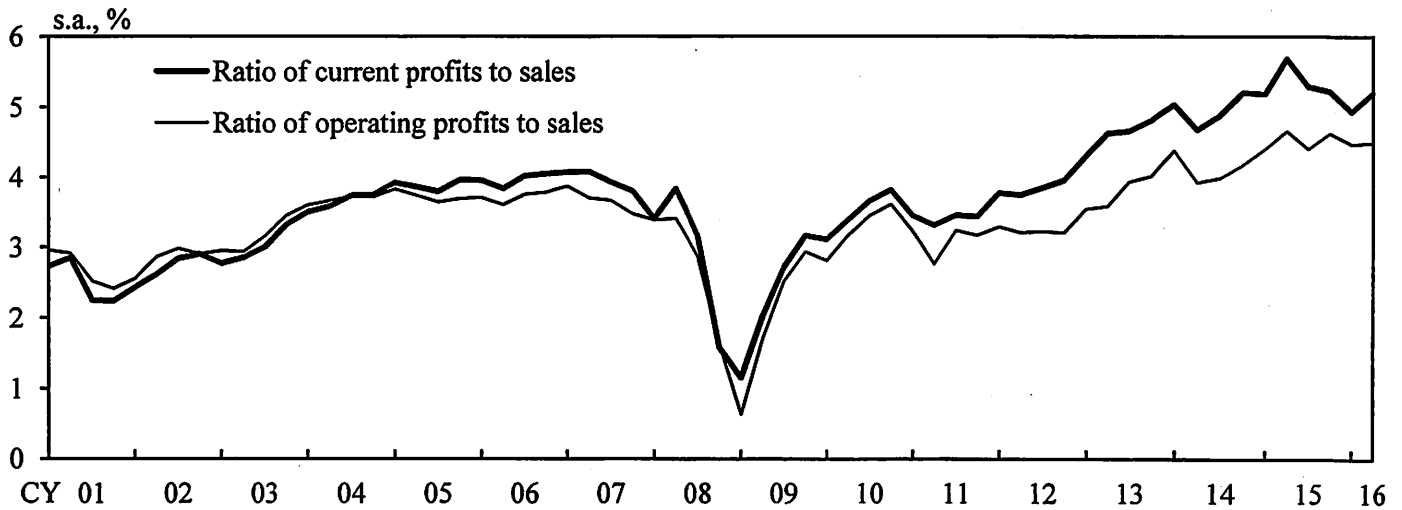


Note: Shaded areas indicate recession periods.

Source: Ministry of Economy, Trade and Industry.

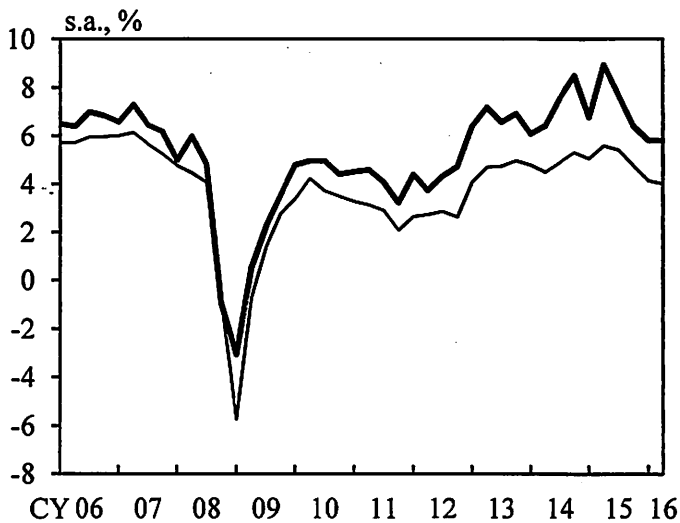
Corporate Profits, by Industry and Enterprise Size

(1) All Industries and Enterprises

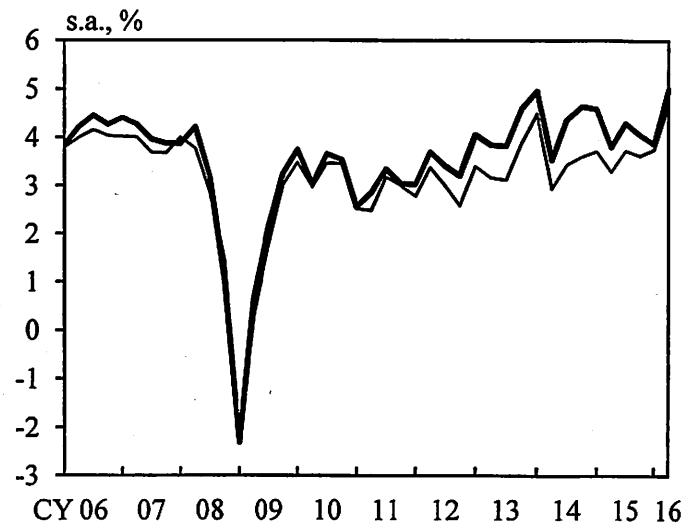


(2) Manufacturing

(a) Large Enterprises

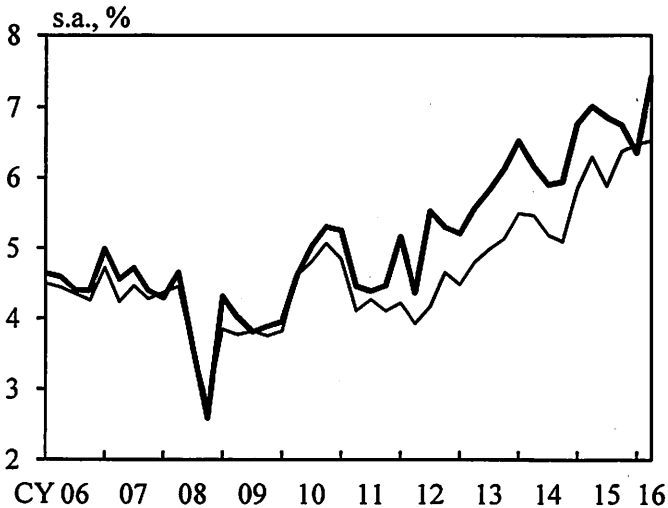


(b) Small and Medium-Sized Enterprises

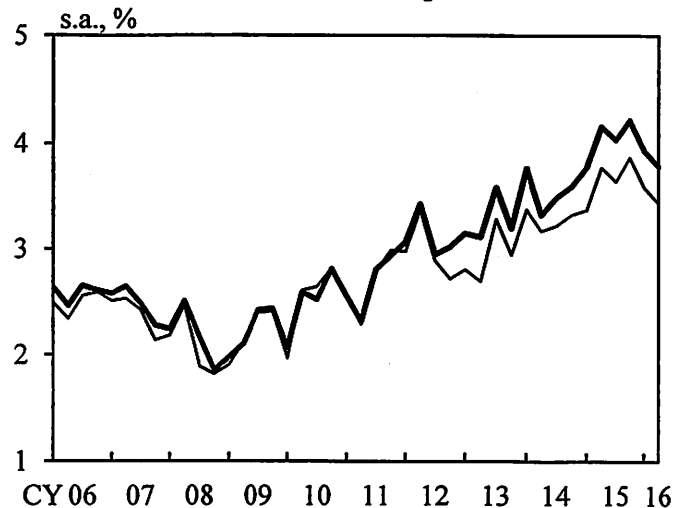


(3) Nonmanufacturing

(a) Large Enterprises



(b) Small and Medium-Sized Enterprises



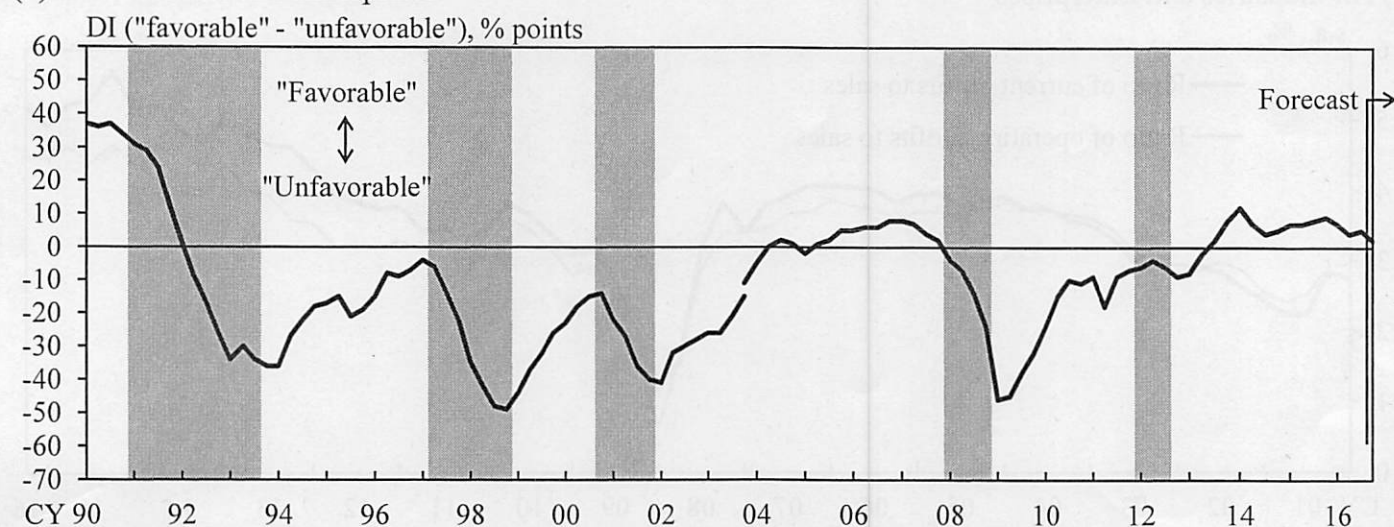
Note: Based on the "Financial Statements Statistics of Corporations by Industry, Quarterly."

Excluding "Finance and Insurance."

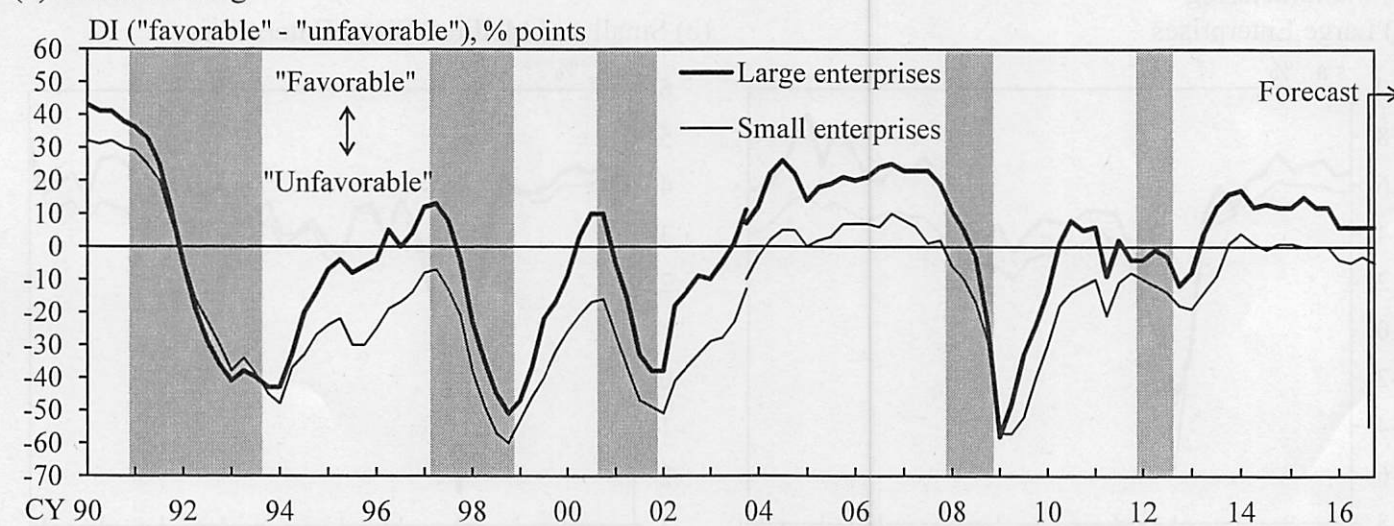
Source: Ministry of Finance.

Business Conditions

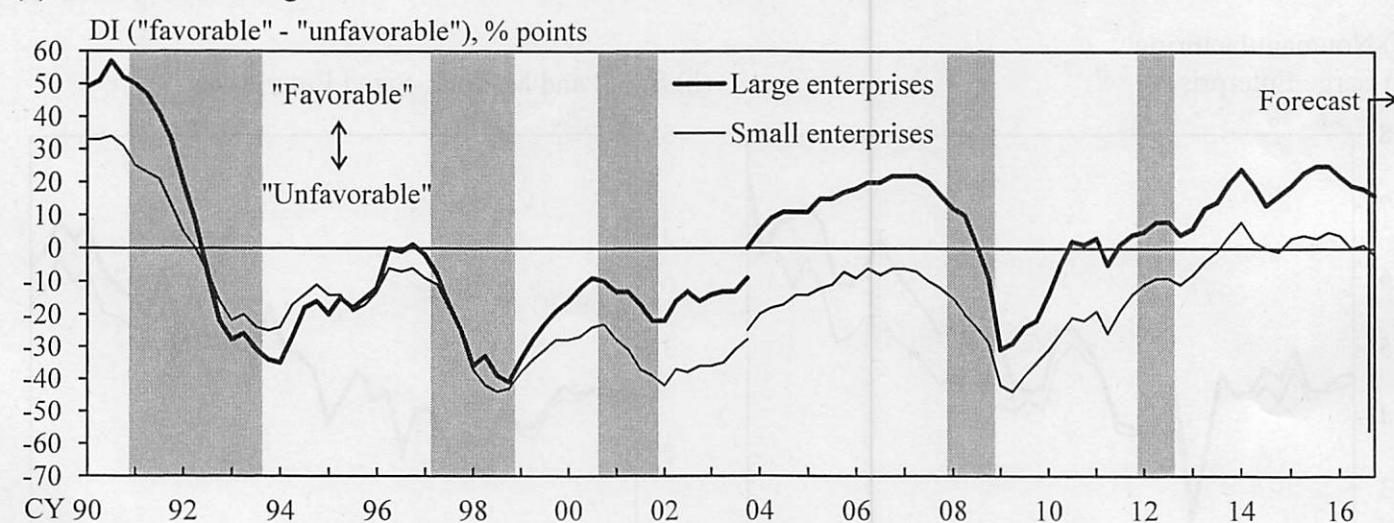
(1) All Industries and Enterprises



(2) Manufacturing



(3) Nonmanufacturing



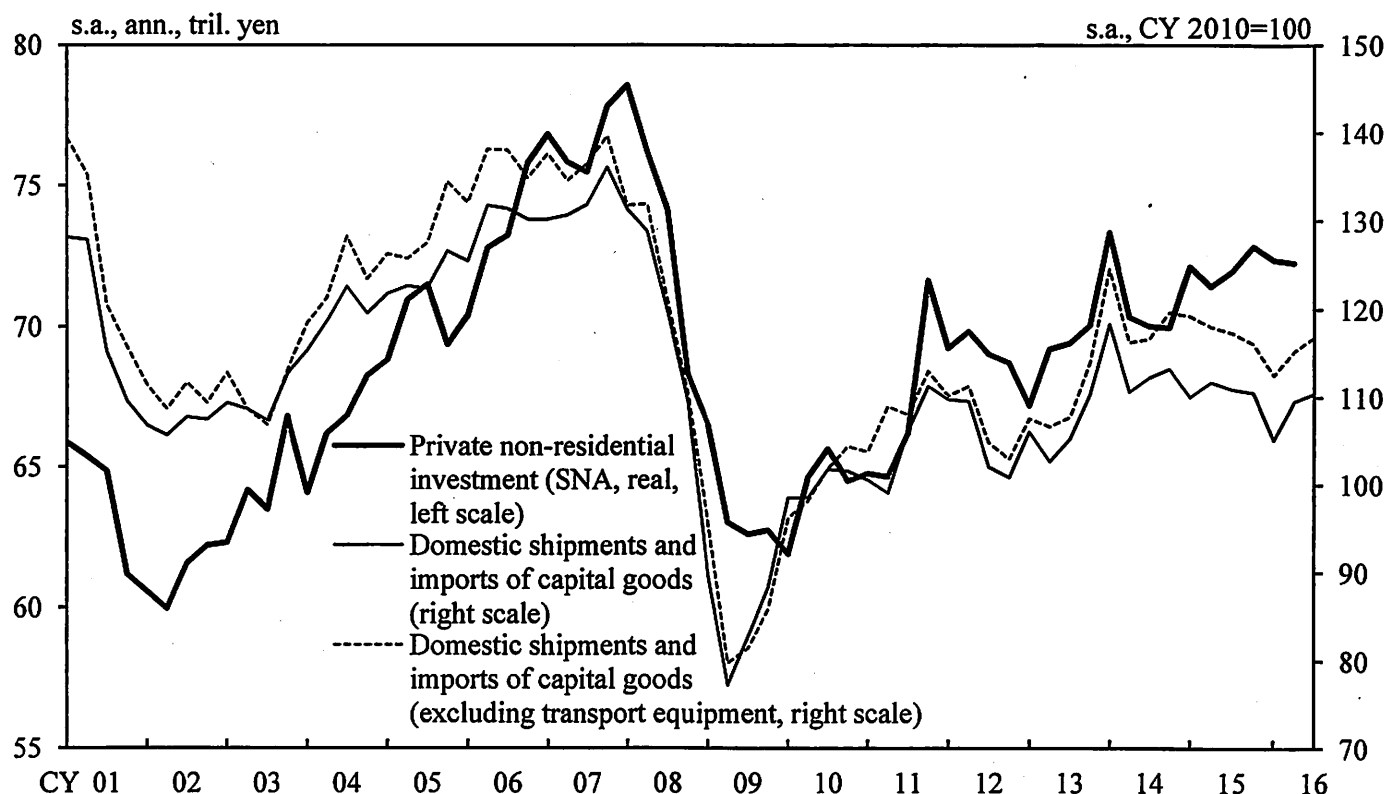
Notes: 1. Based on the *Tankan*. Shaded areas indicate recession periods.

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

Source: Bank of Japan.

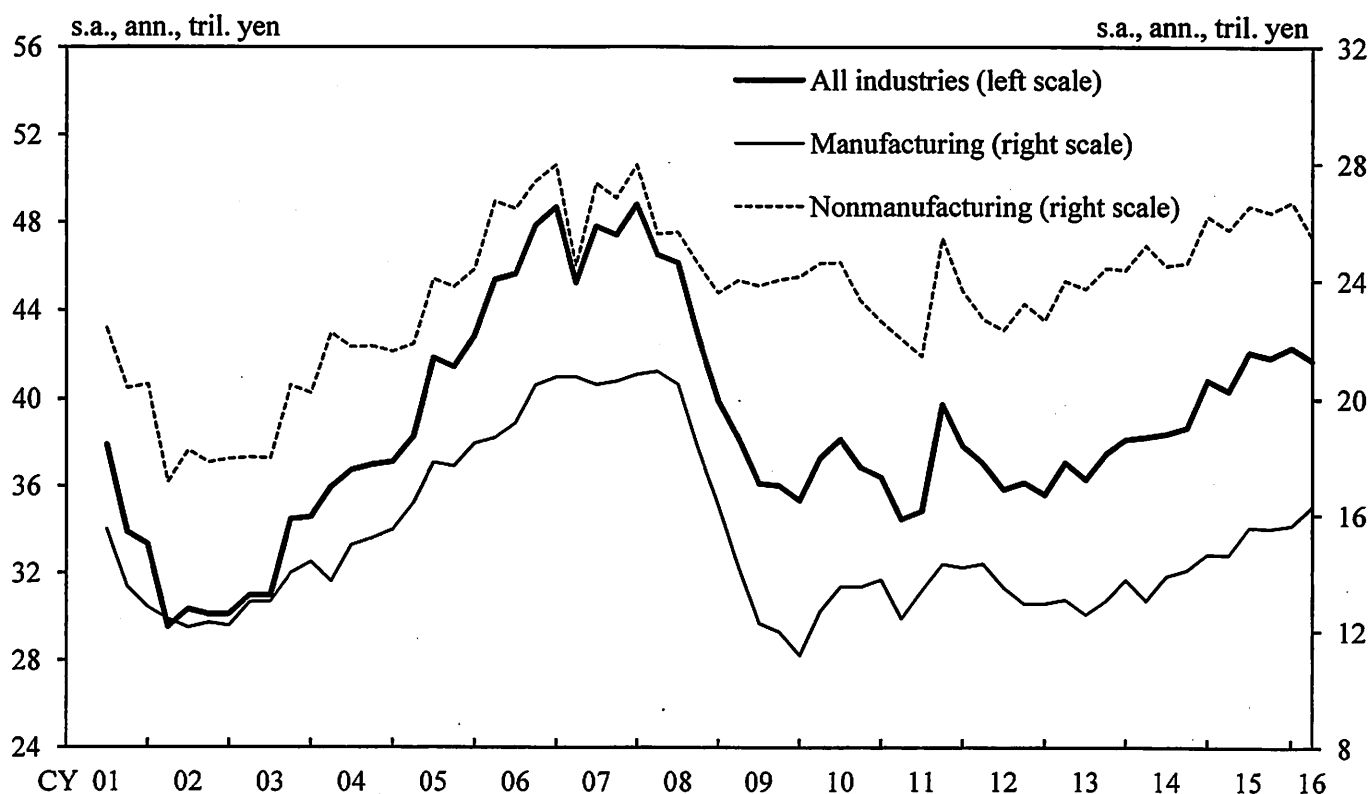
Coincident Indicators of Business Fixed Investment

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



Note: Figures for 2016/Q3 are July-August averages.

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



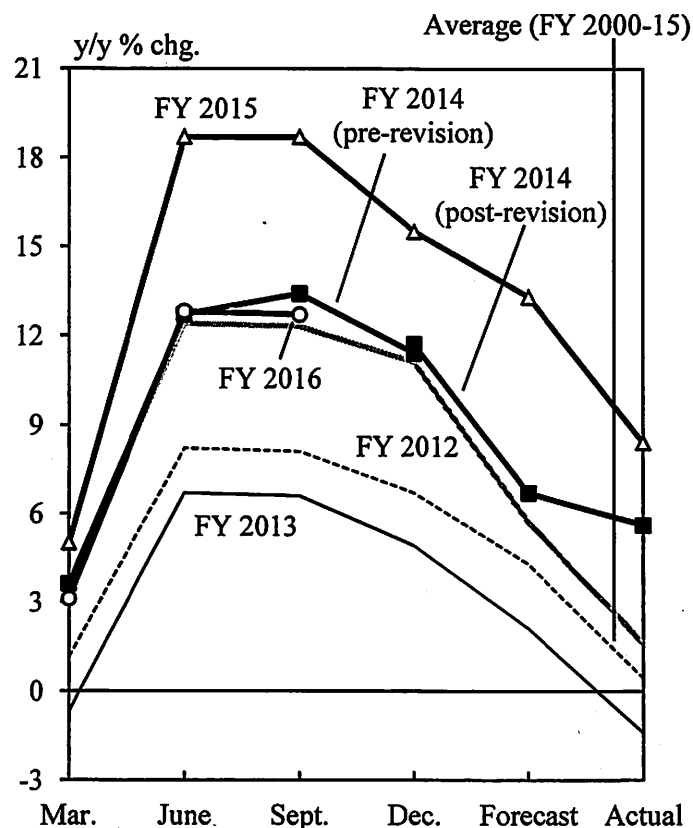
Note: Based on the "Financial Statements Statistics of Corporations by Industry, Quarterly."

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

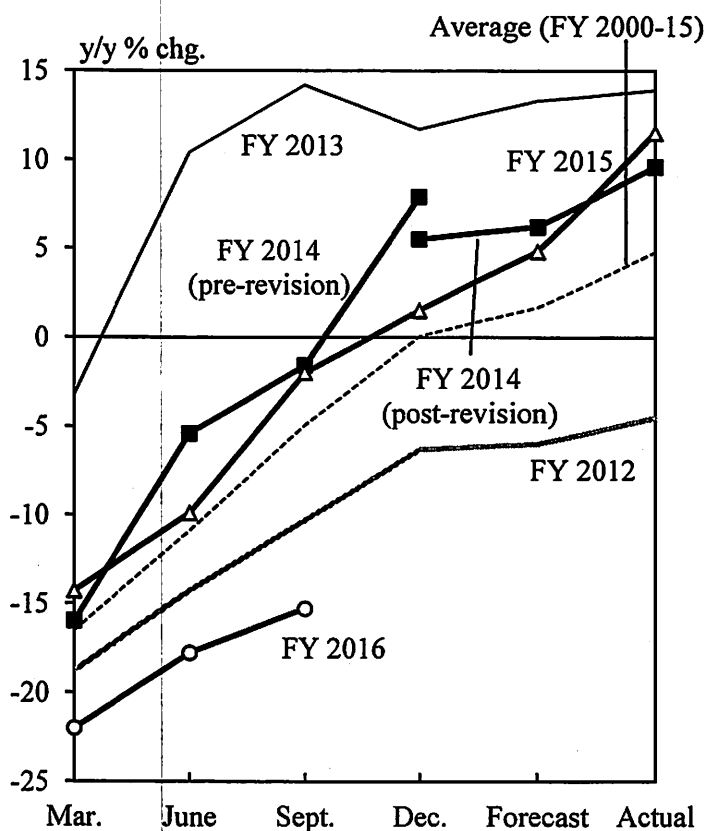
Sources: Cabinet Office; Ministry of Economy, Trade and Industry; Ministry of Finance.

Business Fixed Investment Plans, by Industry and Enterprise Size

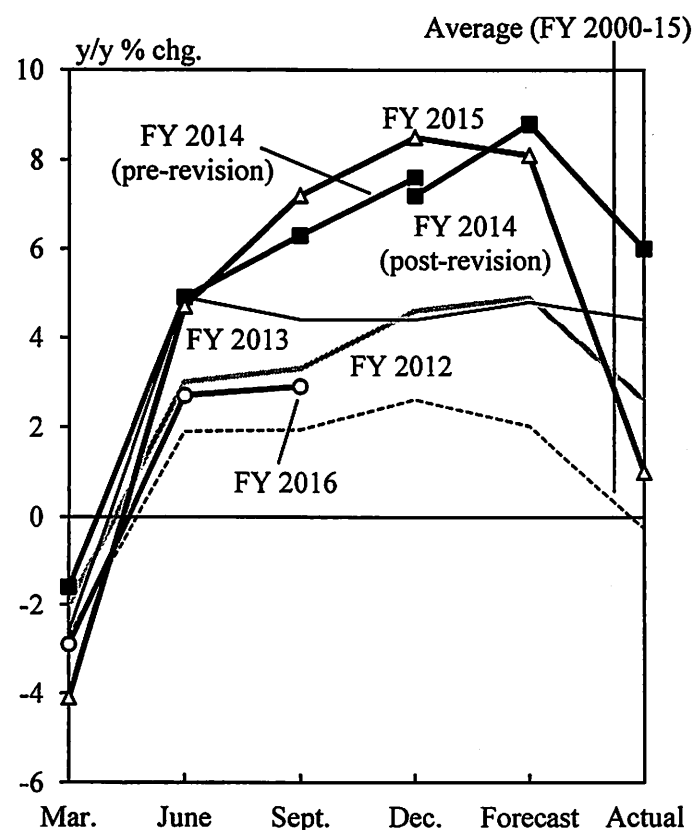
(1) Large Manufacturing Enterprises



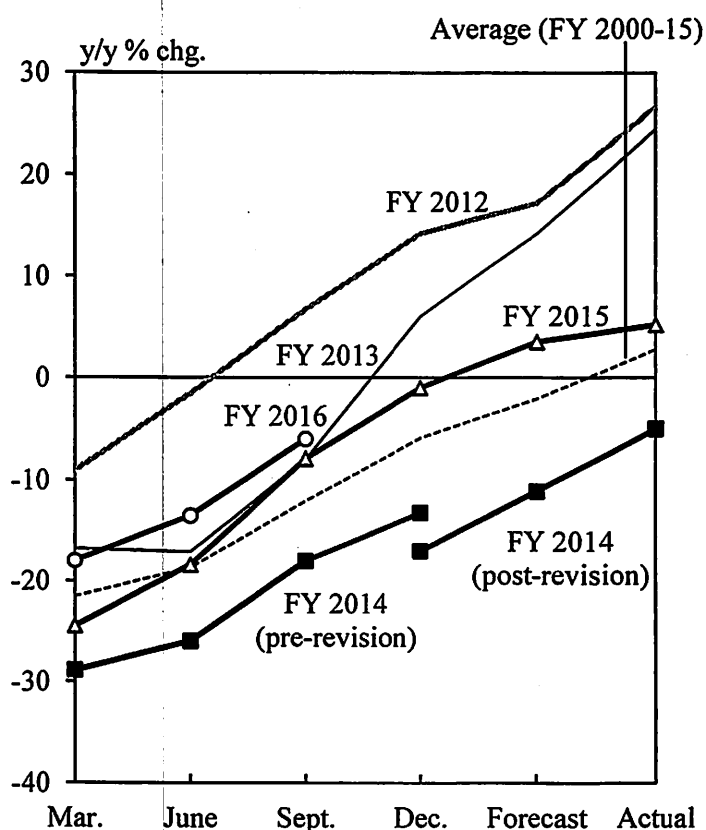
(2) Small Manufacturing Enterprises



(3) Large Nonmanufacturing Enterprises



(4) Small Nonmanufacturing Enterprises



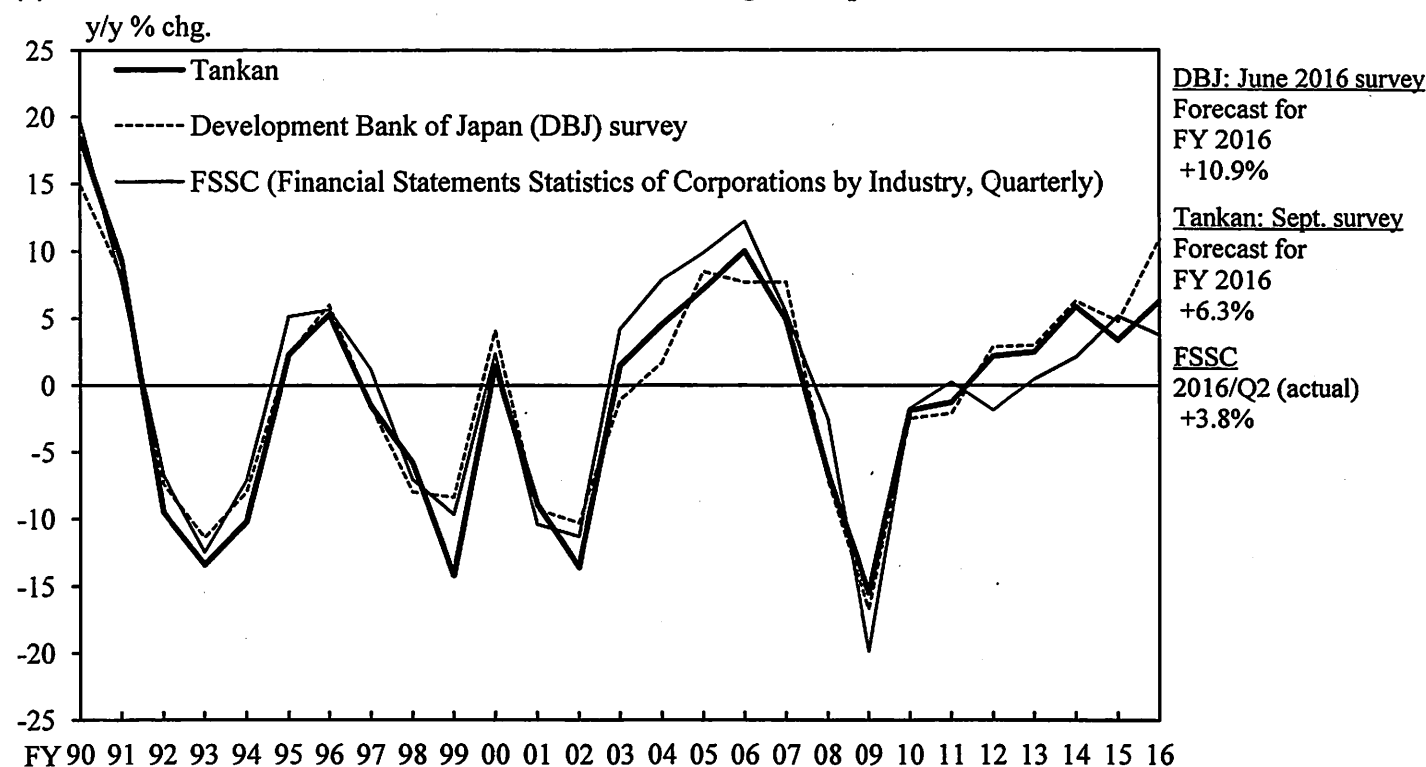
Notes: 1. Based on the *Tankan*. Figures include land purchasing expenses and exclude software investment.

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

Source: Bank of Japan.

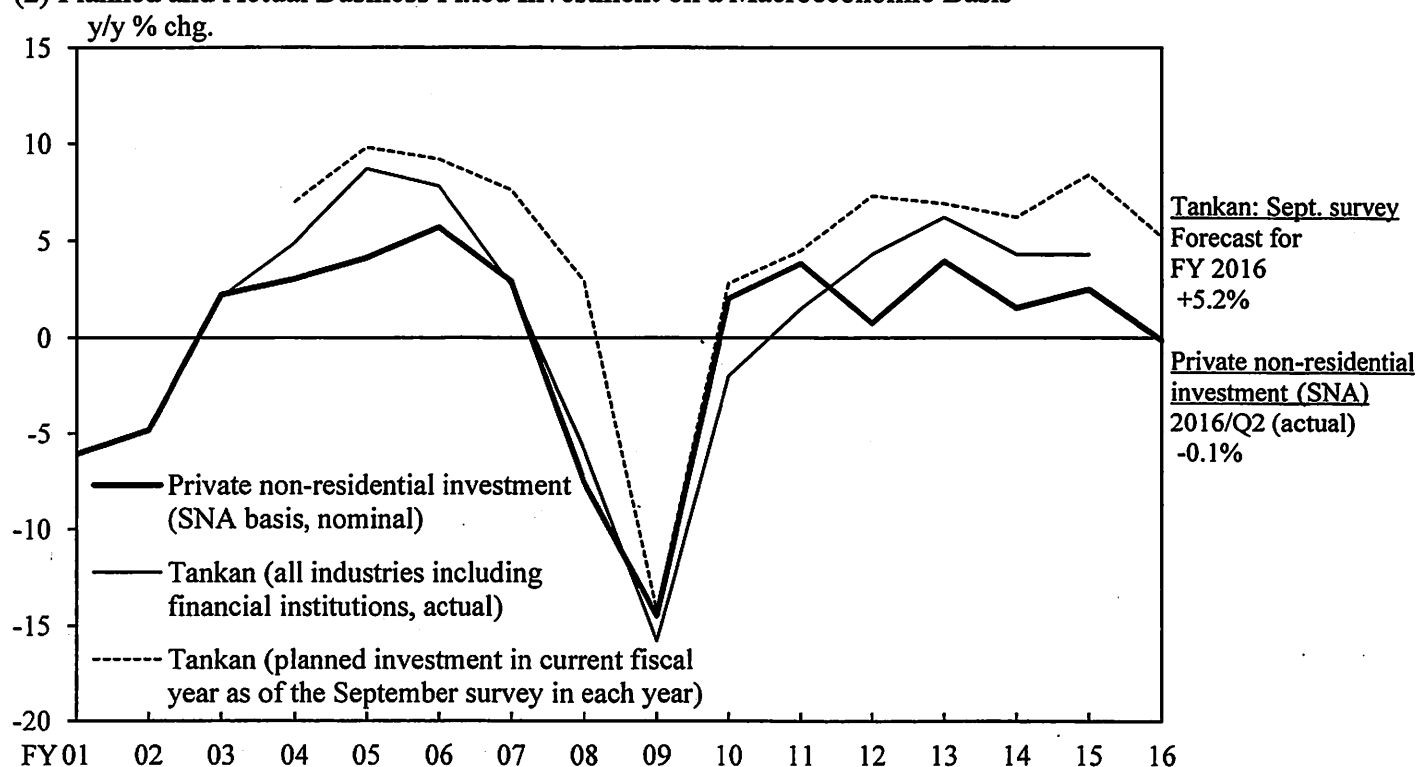
Planned and Actual Business Fixed Investment

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



Note: Data up to fiscal 2015 are actual changes from the previous fiscal year. Figures are for all industries (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

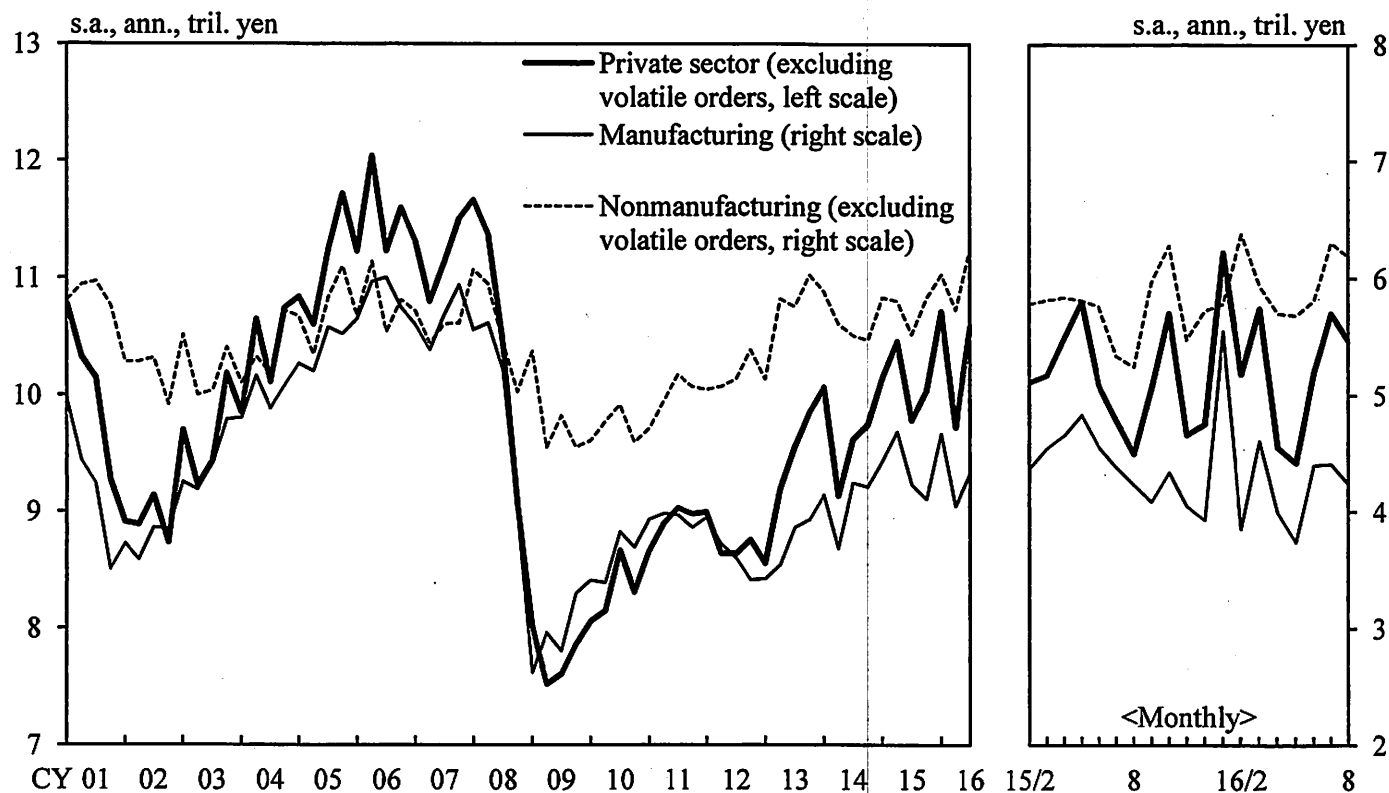


Note: Figures for the *Tankan* include software investment and exclude land purchasing expenses.

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

Leading Indicators of Business Fixed Investment

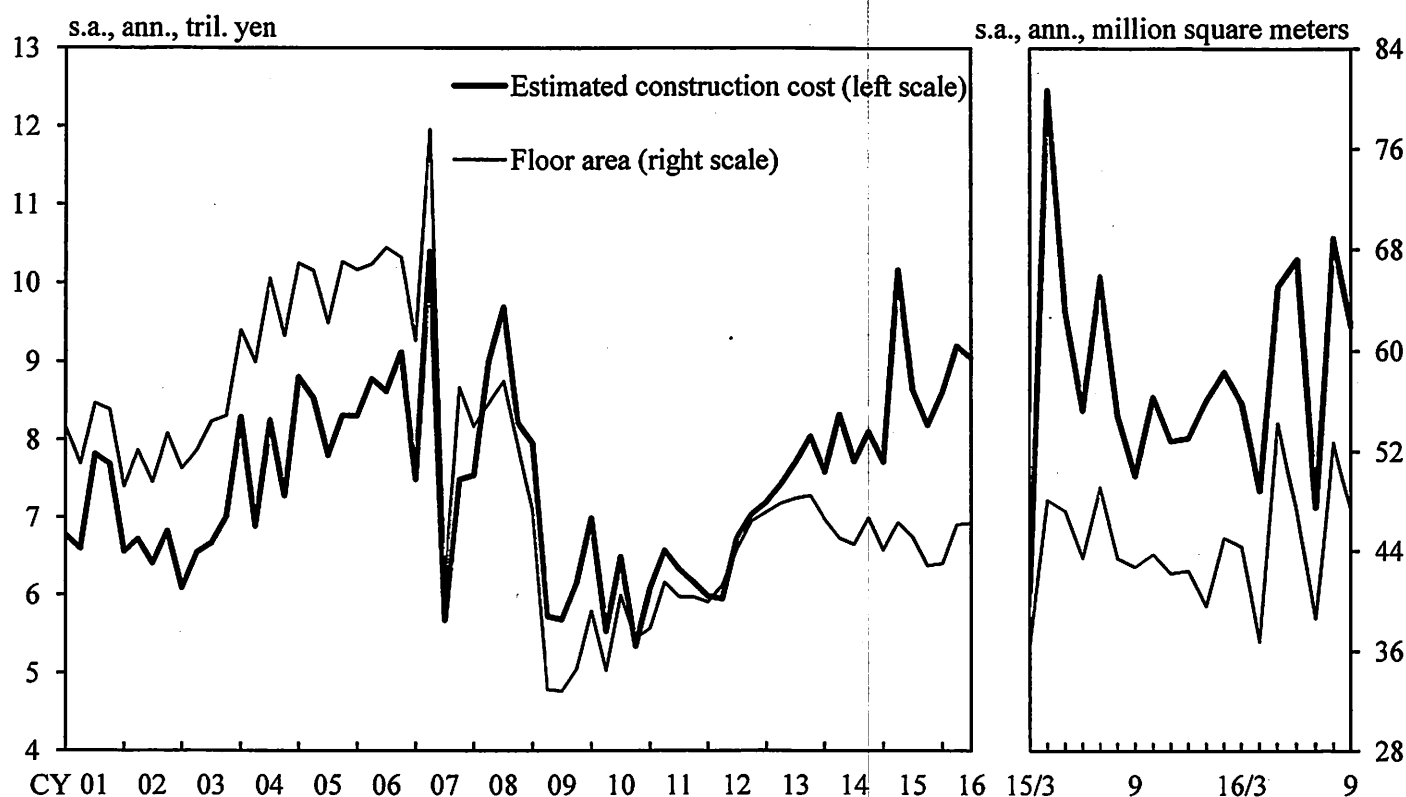
(1) Machinery Orders



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

2. Figures for 2016/Q3 are July-August averages.

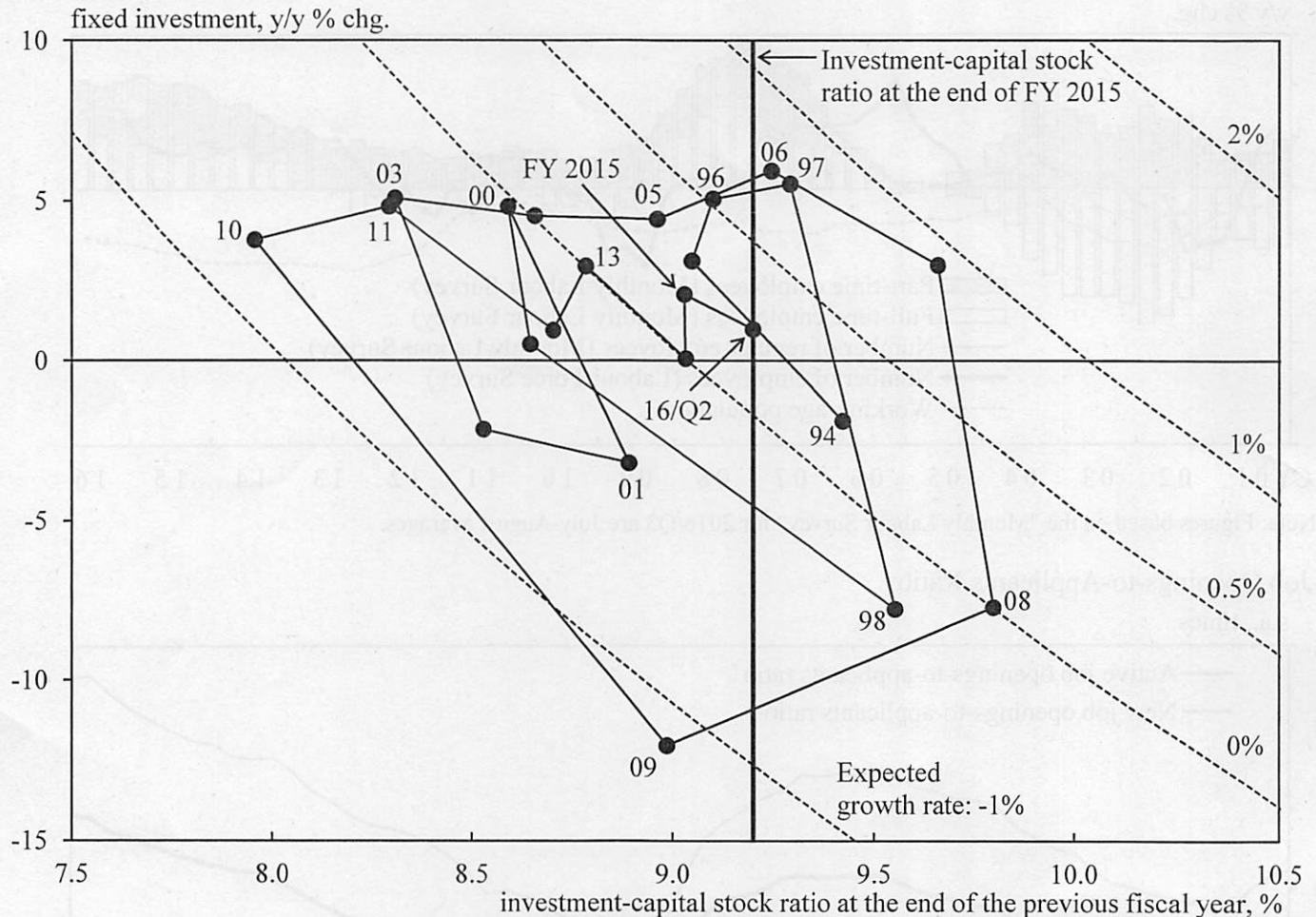
(2) Construction Starts (Private, Nondwelling Use)



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

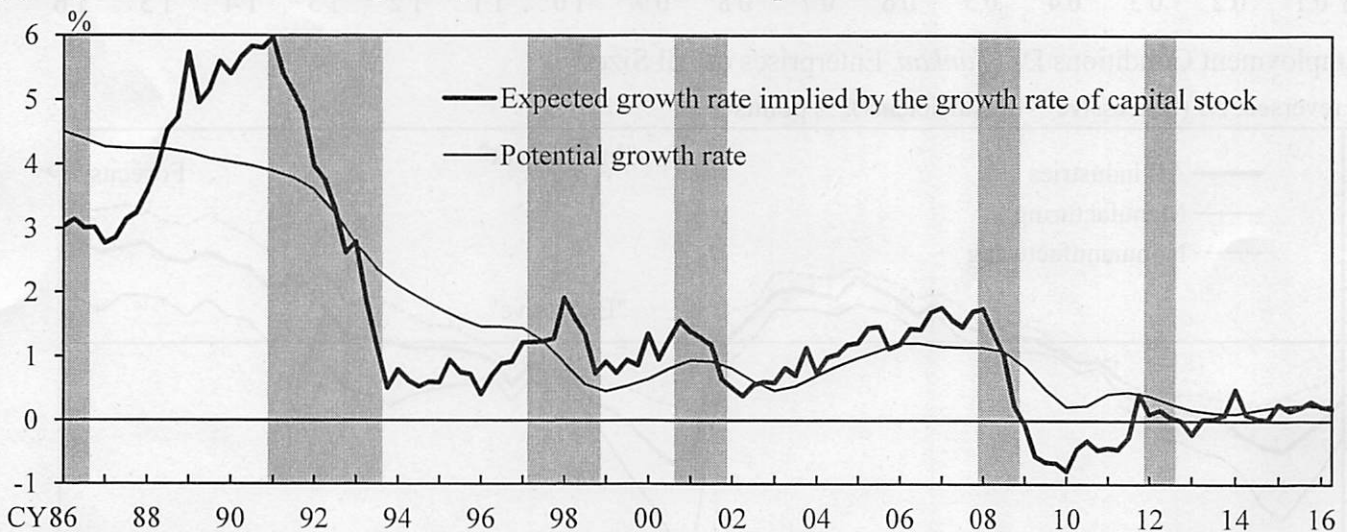
Expected Growth Rate and Capital Stock Cycles

(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



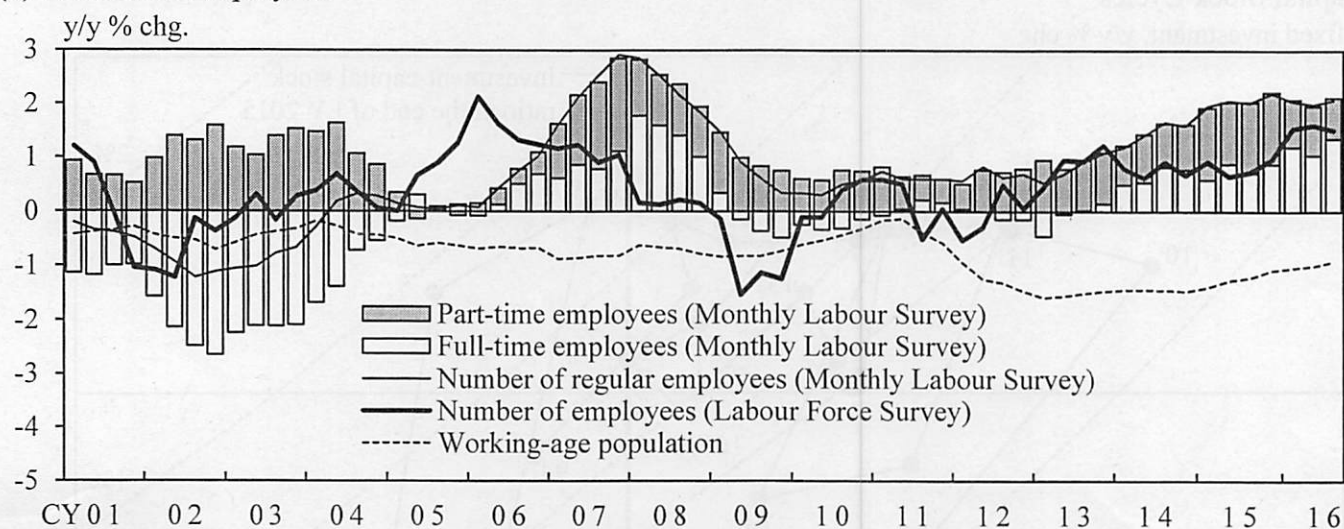
Notes: 1. The expected growth rate implied by the growth rate of capital stock is estimated based on the rate of change in fixed investment as well as the investment-capital stock ratio, the depreciation rate, and the trend growth rate of capital coefficient at each point. The potential growth rate is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

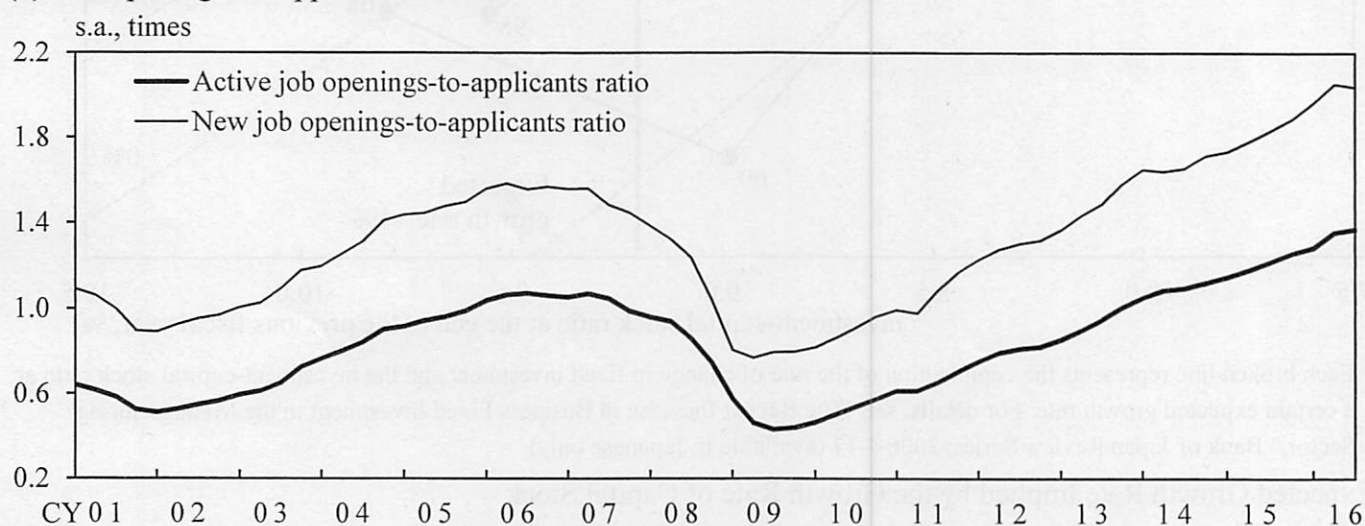
Employment and Labor Market Conditions

(1) Number of Employees

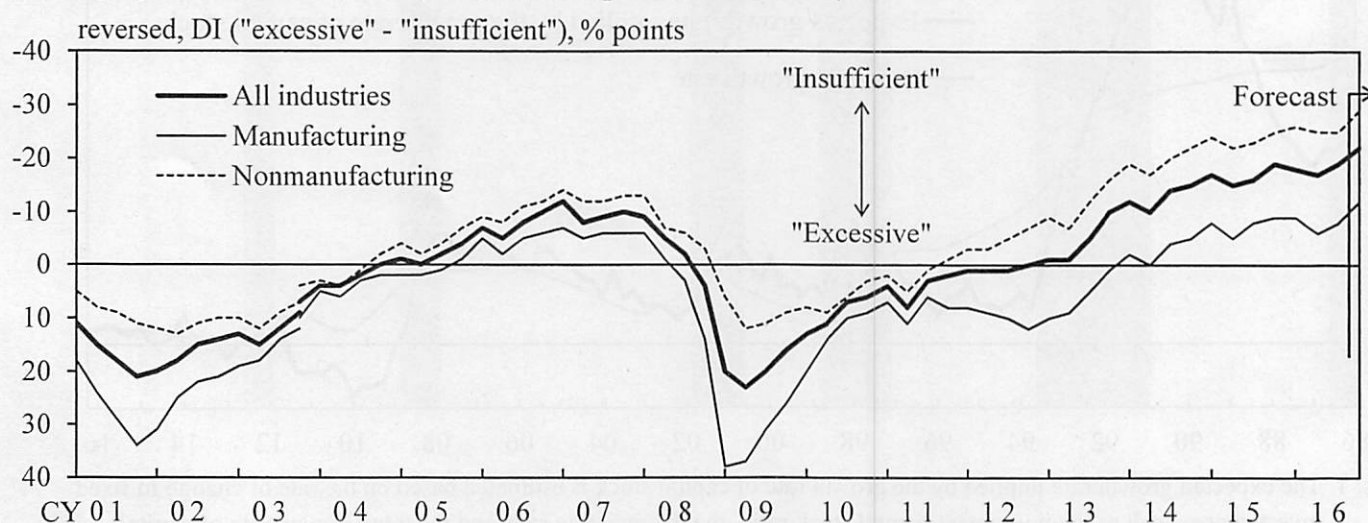


Note: Figures based on the "Monthly Labour Survey" for 2016/Q3 are July-August averages.

(2) Job Openings-to-Applicants Ratio



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

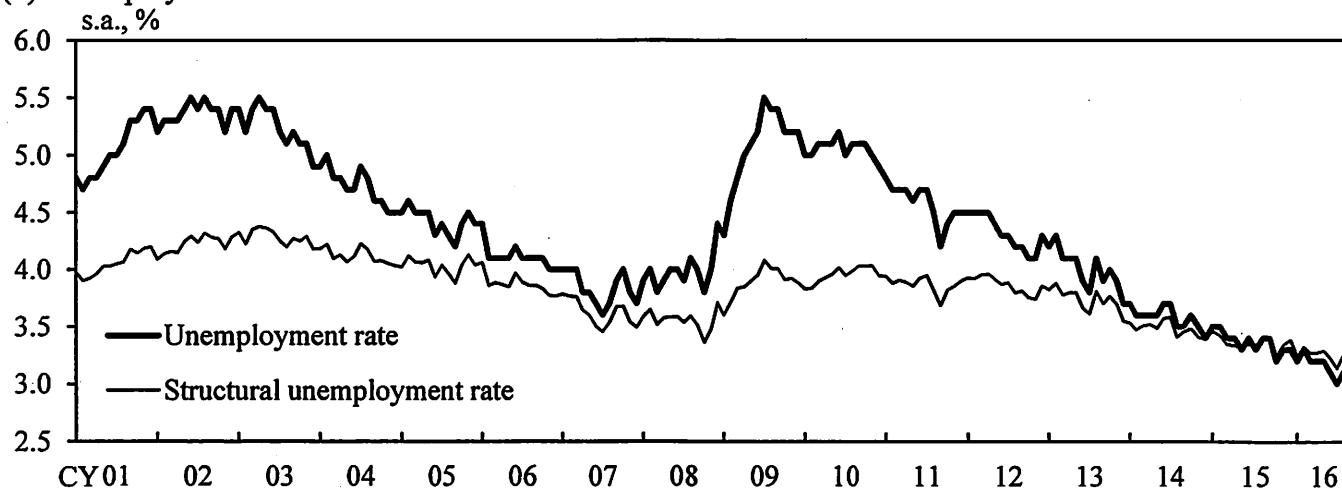


Note: There is a discontinuity in the data in December 2003 due to a change in the survey framework.

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

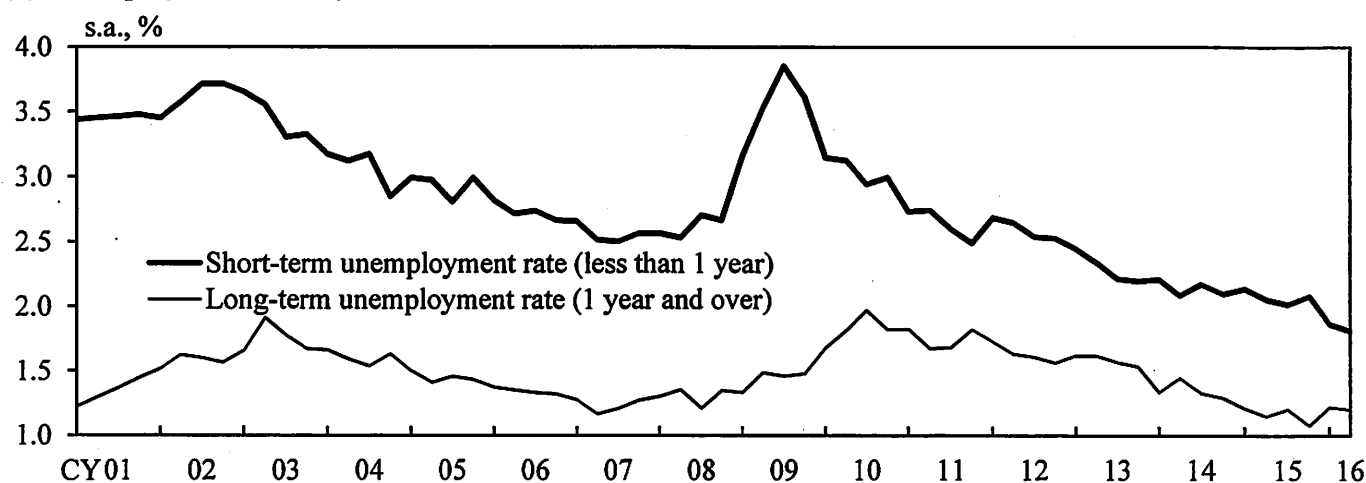
Unemployment Rate and Labor Force Participation Rate

(1) Unemployment Rate



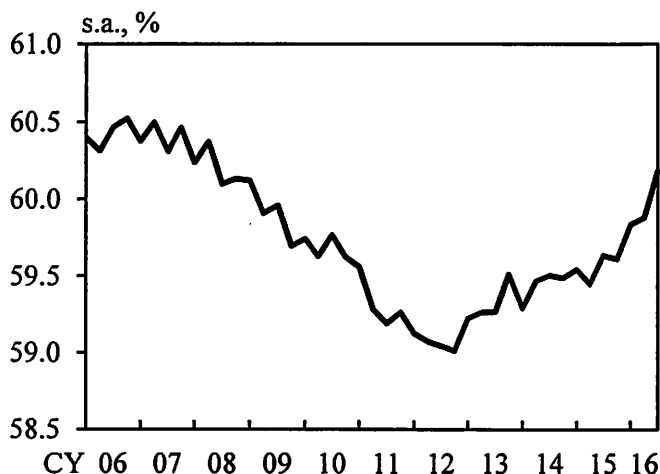
Note: The structural unemployment rate is estimated by the Research and Statistics Department, Bank of Japan.

(2) Unemployment Rate by Duration

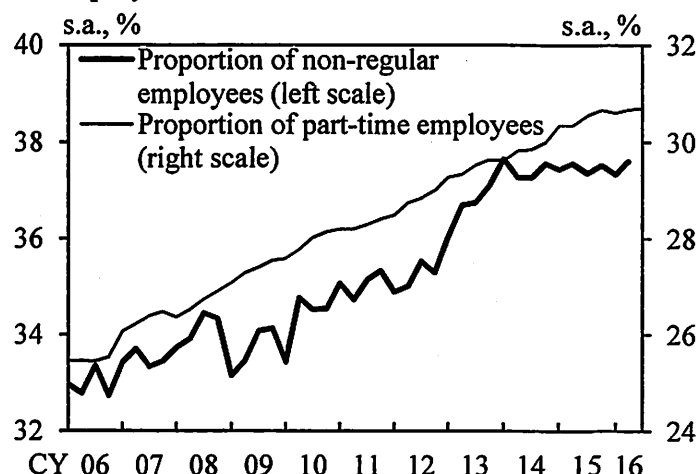


Note: Figures for unemployed persons by duration up through CY 2001 are not seasonally adjusted, since they are on a semiannual basis.

(3) Labor Force Participation Rate



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

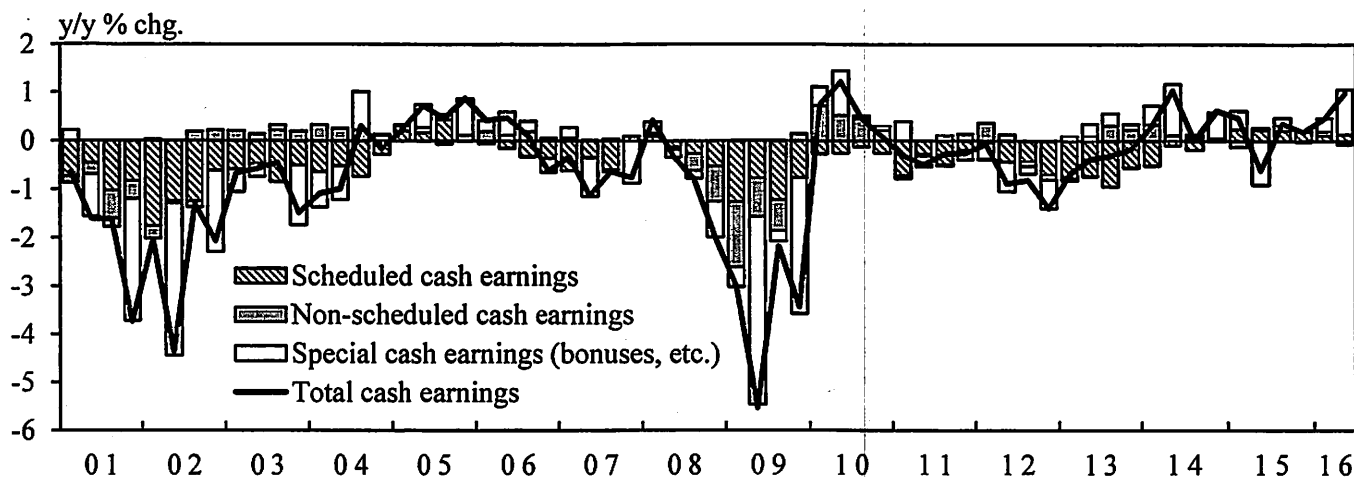


Note: Figures for the proportion of non-regular employees are based on the "detailed tabulation" in the "Labour Force Survey." The figure for the proportion of part-time employees for 2016/Q3 is the July-August average.

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

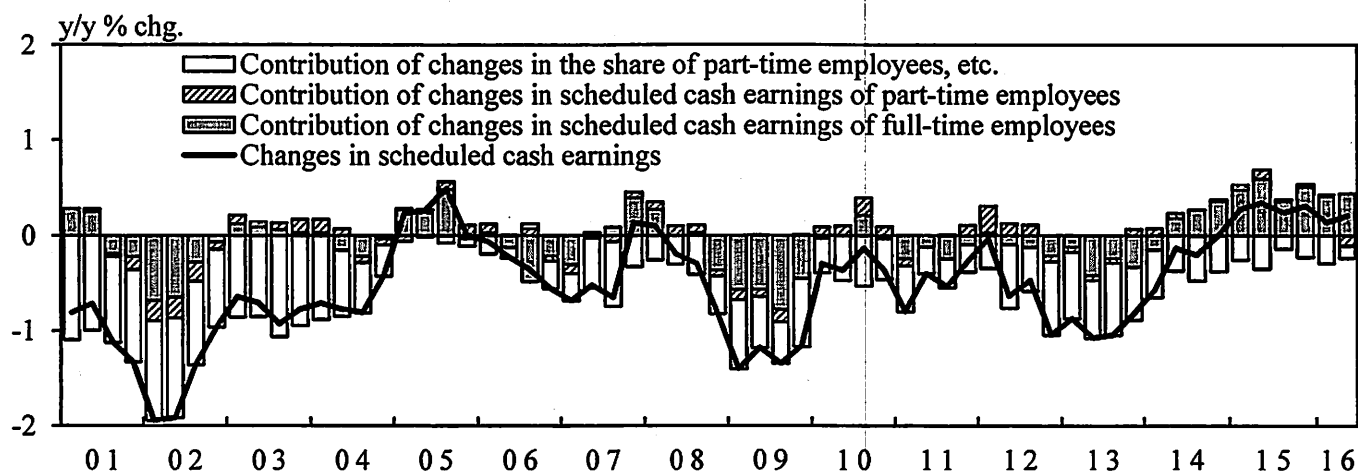
Nominal Wages

(1) Total Cash Earnings



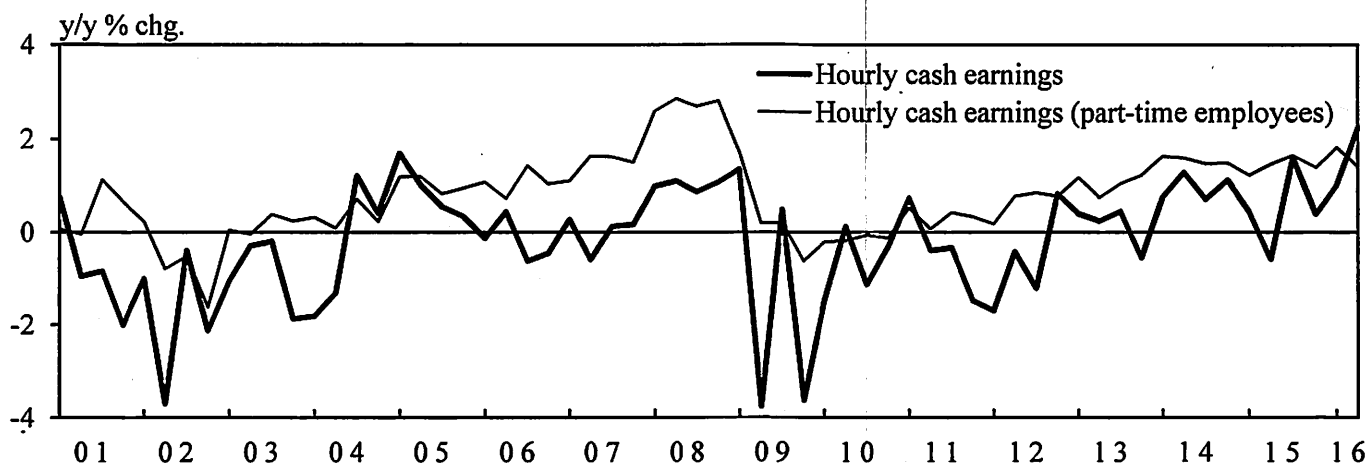
Note: Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.
The same definition applies to the charts below.

(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.

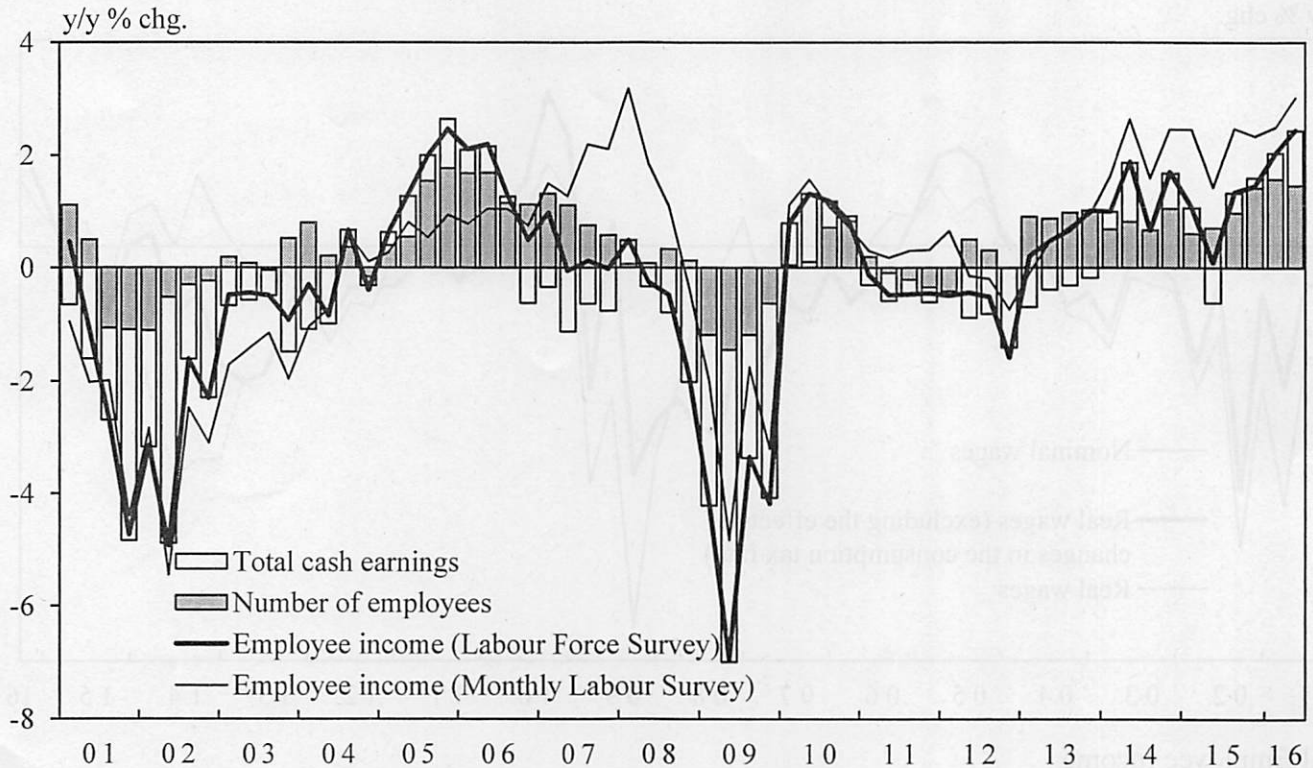
(3) Hourly Cash Earnings



Source: Ministry of Health, Labour and Welfare.

Employee Income

(1) Employee Income

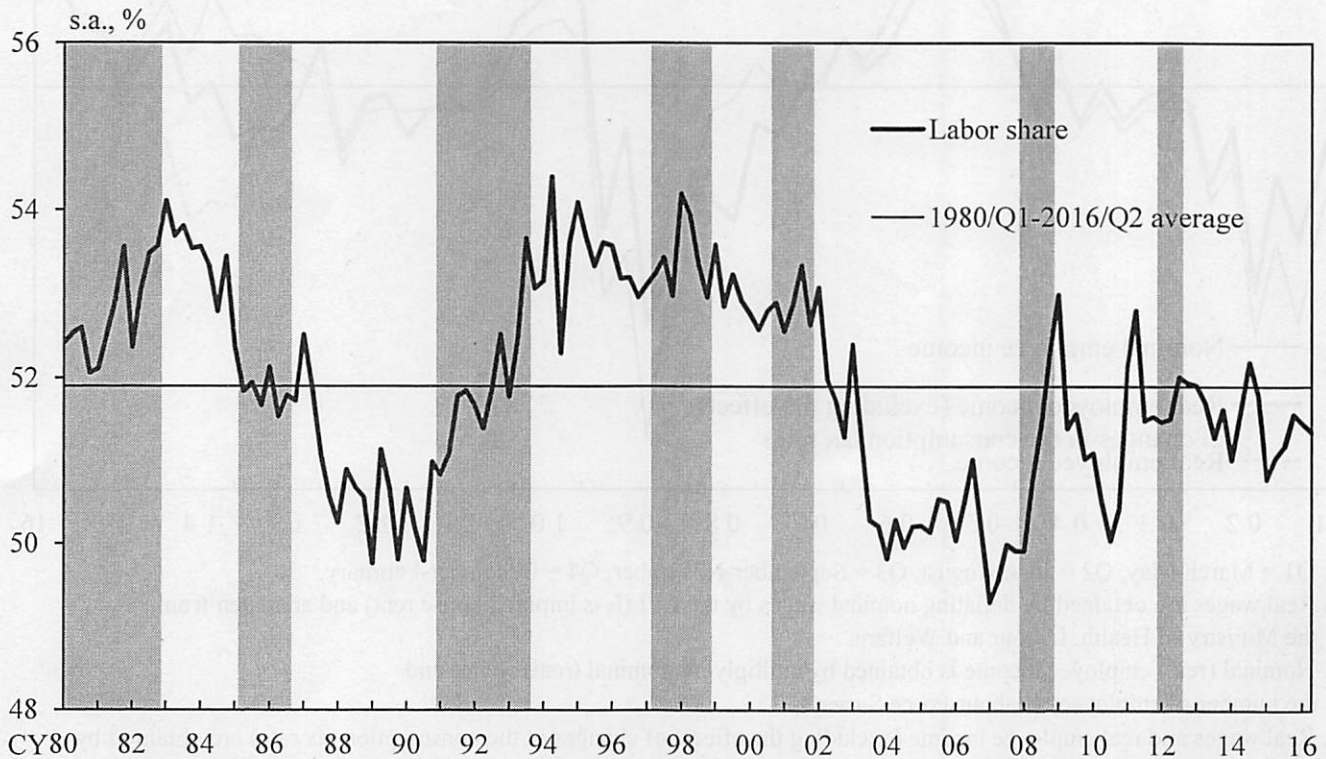


Notes: 1. Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.

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)



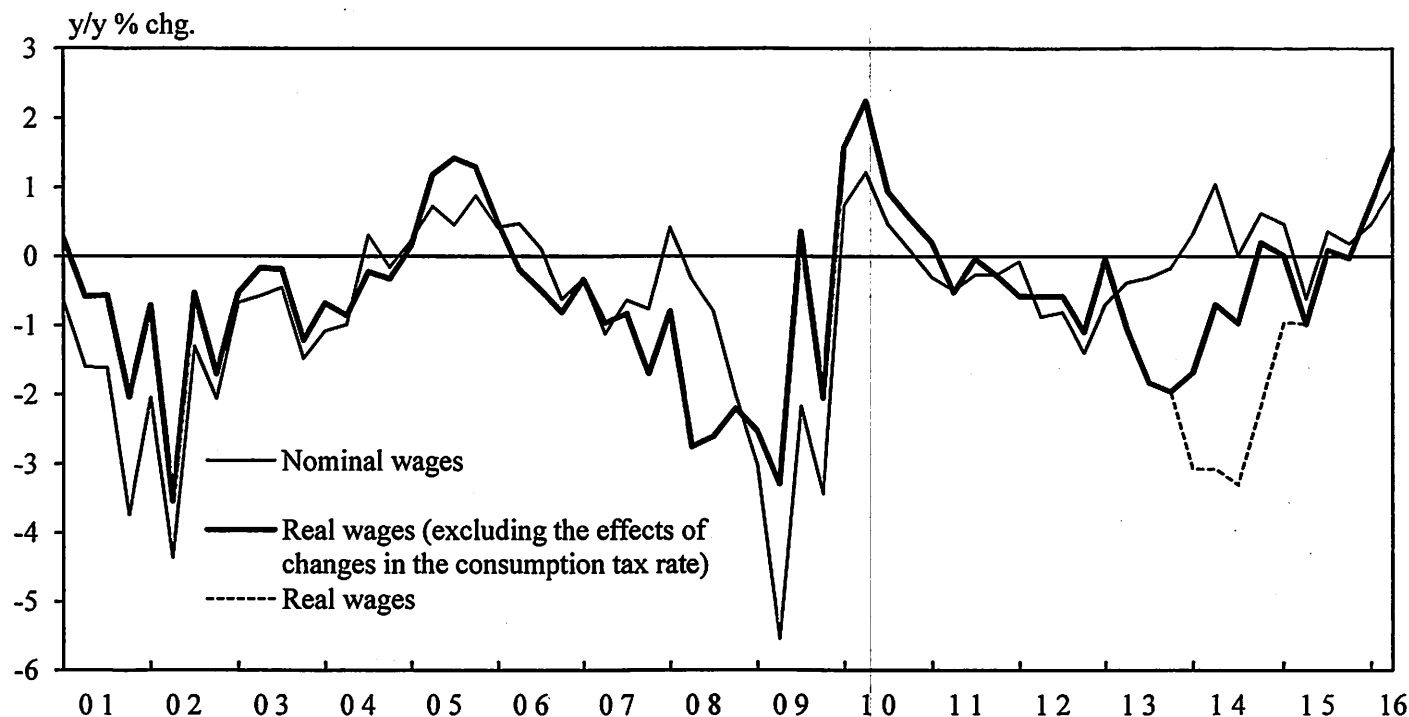
Notes: 1. Labor share = compensation of employees / nominal GDP × 100

2. Shaded areas indicate recession periods.

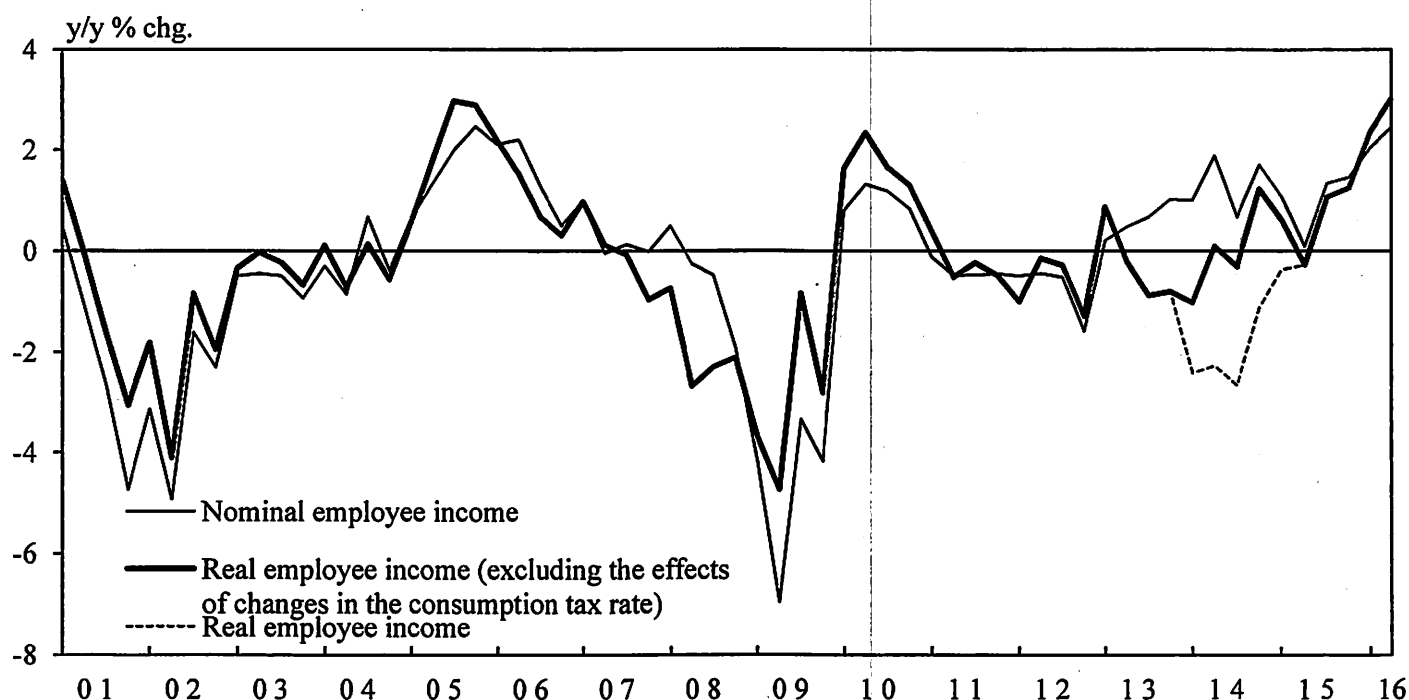
Sources: Ministry of Health, Labour and Welfare; Ministry of Internal Affairs and Communications; Cabinet Office.

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.

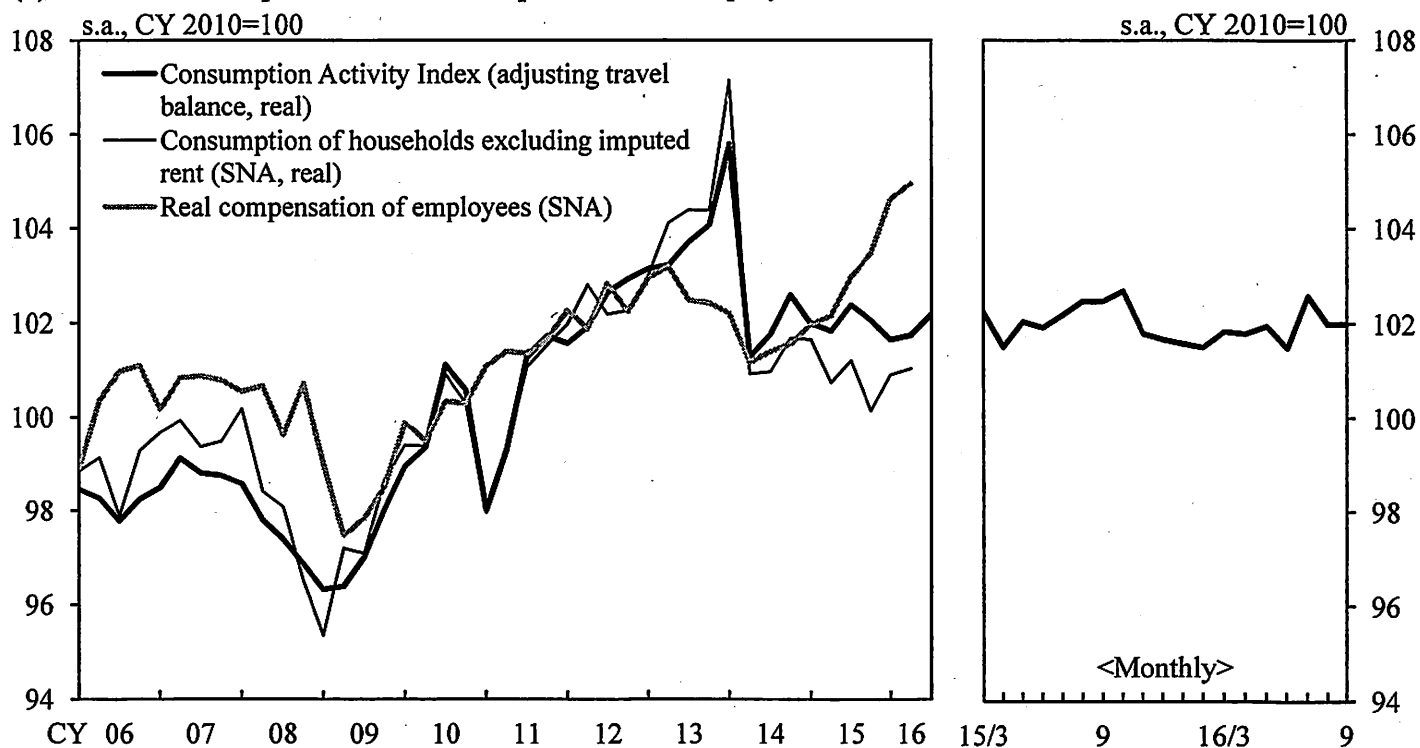
3. Nominal (real) employee income is obtained by multiplying nominal (real) wages and the number of employees (Labour Force Survey).

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.

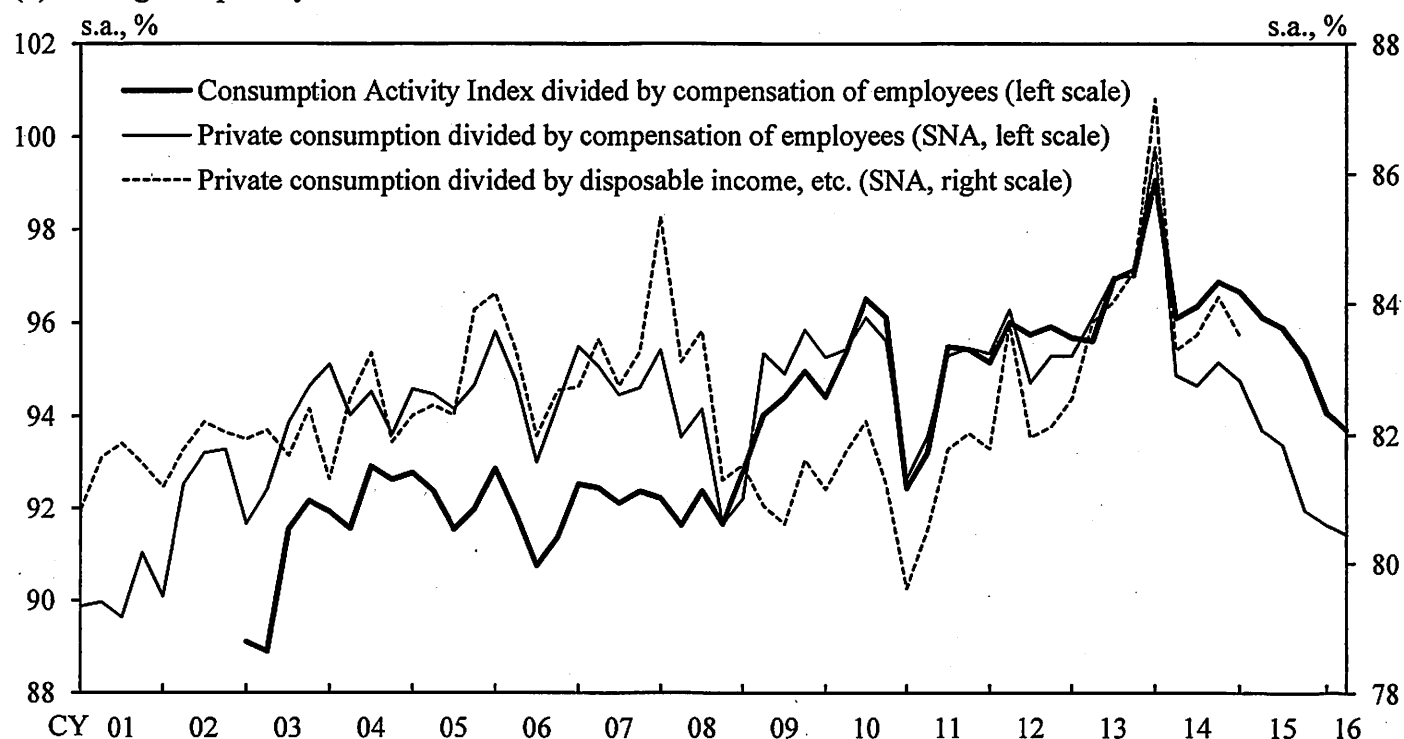
Private Consumption

(1) Private Consumption and Real Compensation of Employees



Note: Figures for the Consumption Activity Index (adjusting travel balance) exclude inbound tourism consumption and include outbound tourism consumption. Figures are as of October 31.

(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.

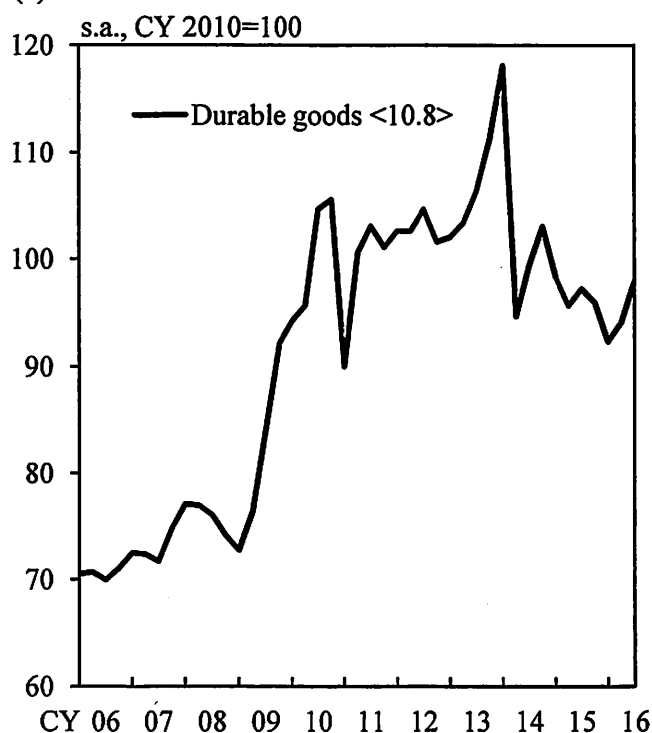
3. "Disposable income, etc." is obtained by adding changes in pension reserves in pension funds to disposable income.

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

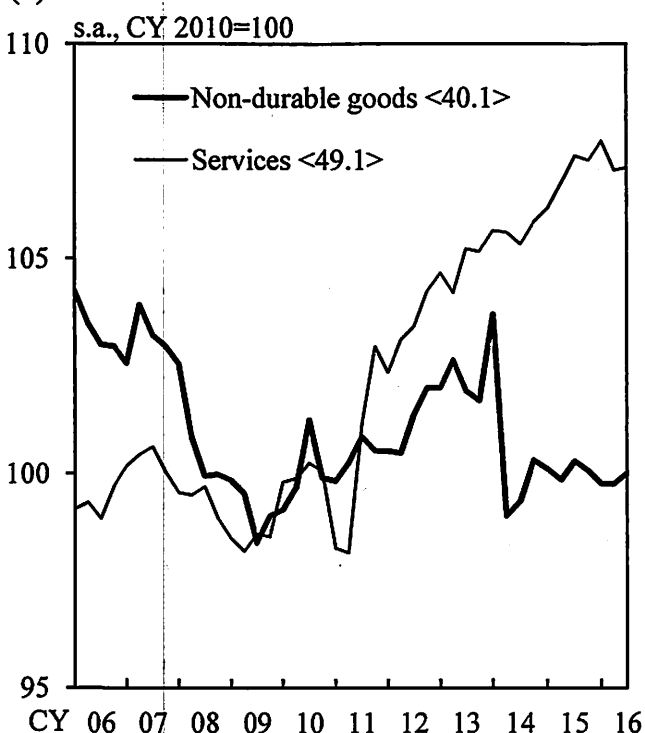
Private Consumption by Type and Supply and Demand Side Statistics

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

(a) Durable Goods



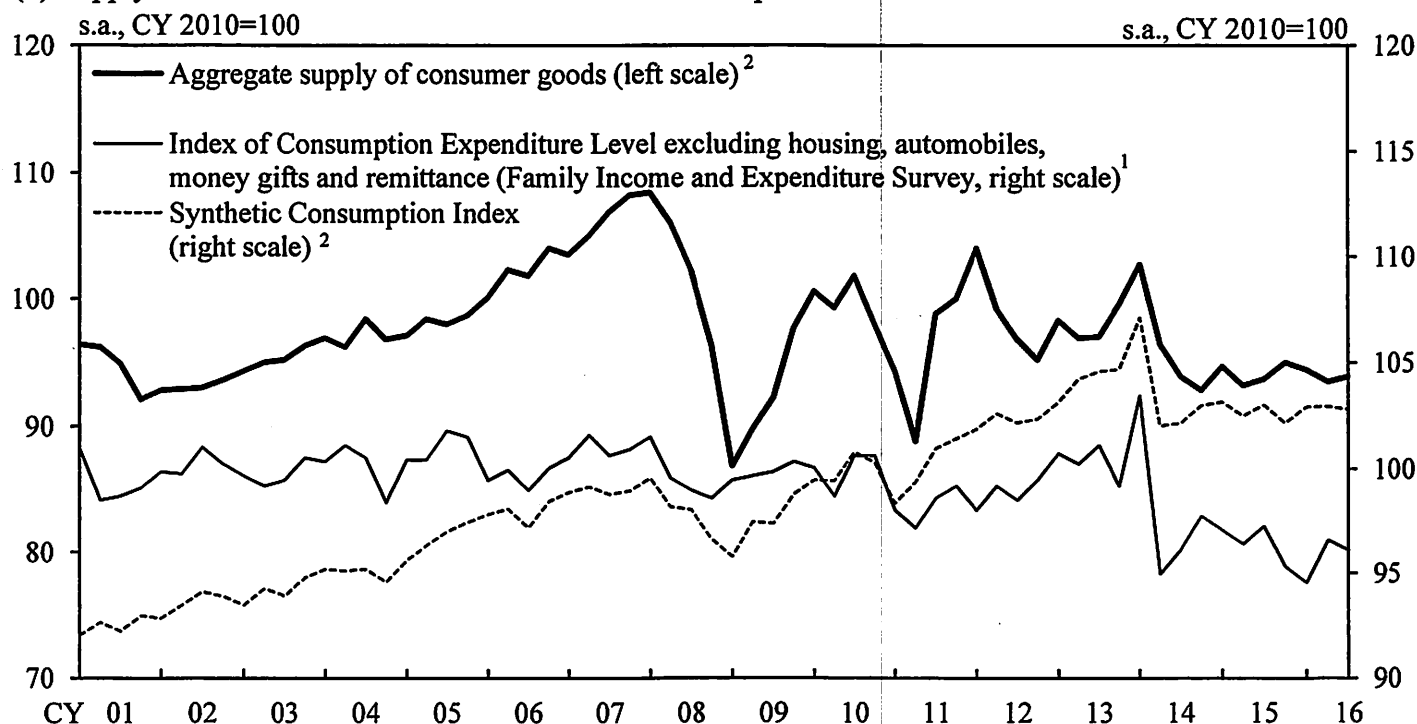
(b) Non-Durable Goods and Services



Notes: 1. Figures are as of October 31. 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.

(2) Supply and Demand Side Statistics of Private Consumption



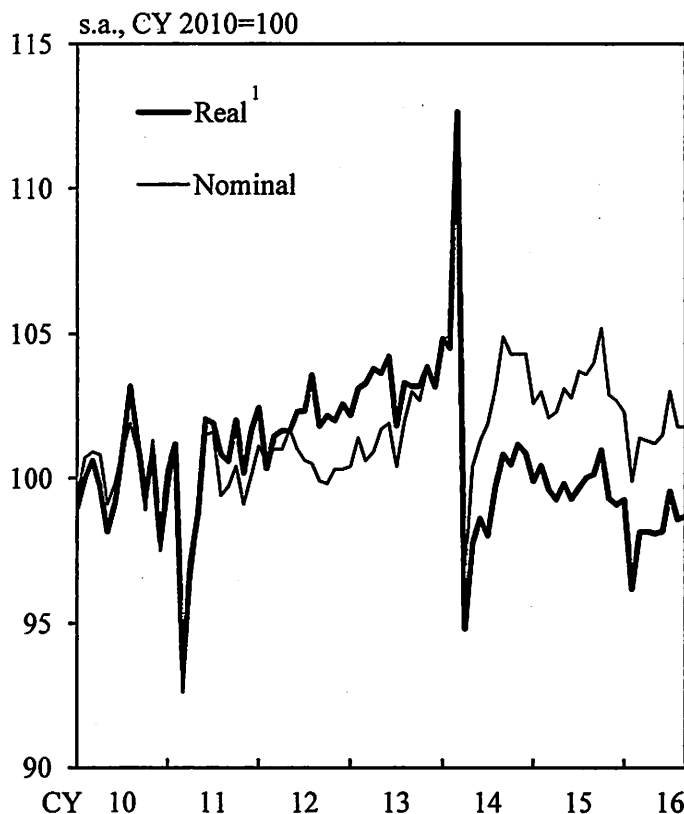
Notes: 1. Figures are based on households with two or more persons and are adjusted using the distribution of households by number of household members and age group of the household head.

2. Figures for 2016/Q3 are July-August averages.

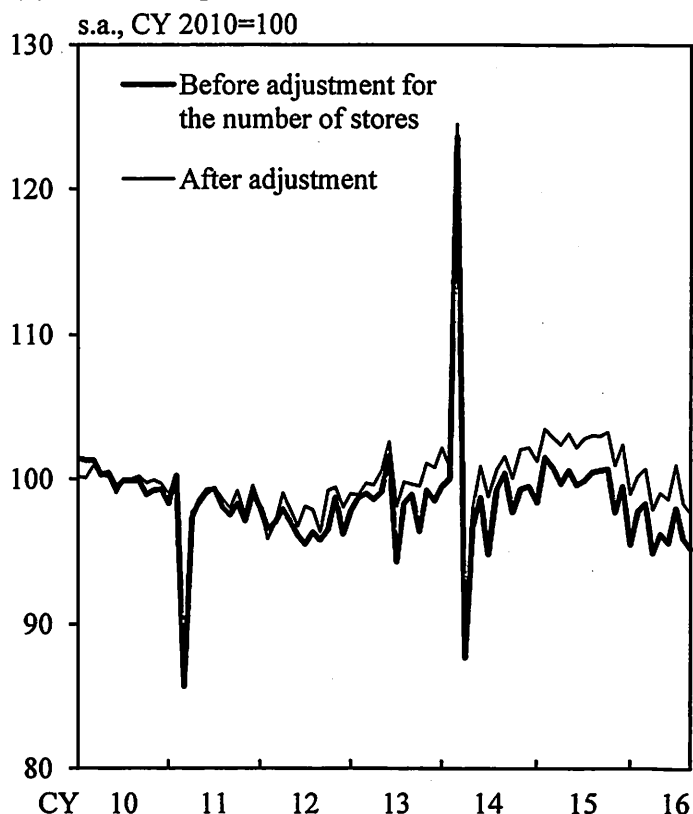
Sources: Cabinet Office; Bank of Japan; Ministry of Economy, Trade and Industry; Ministry of Internal Affairs and Communications, etc.

Sales Statistics (Current Survey of Commerce)

(1) Sales at Retail Stores

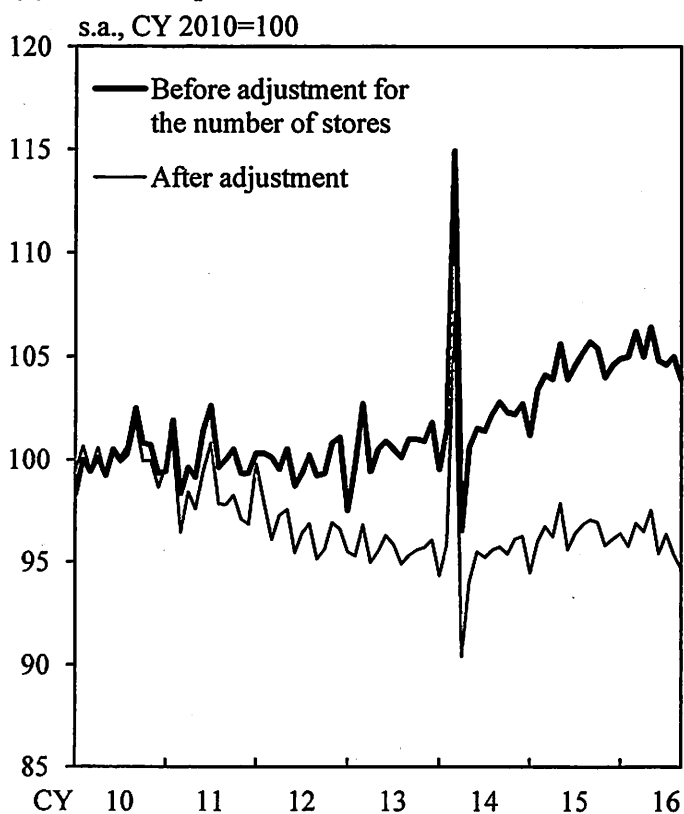


(2) Sales at Department Stores

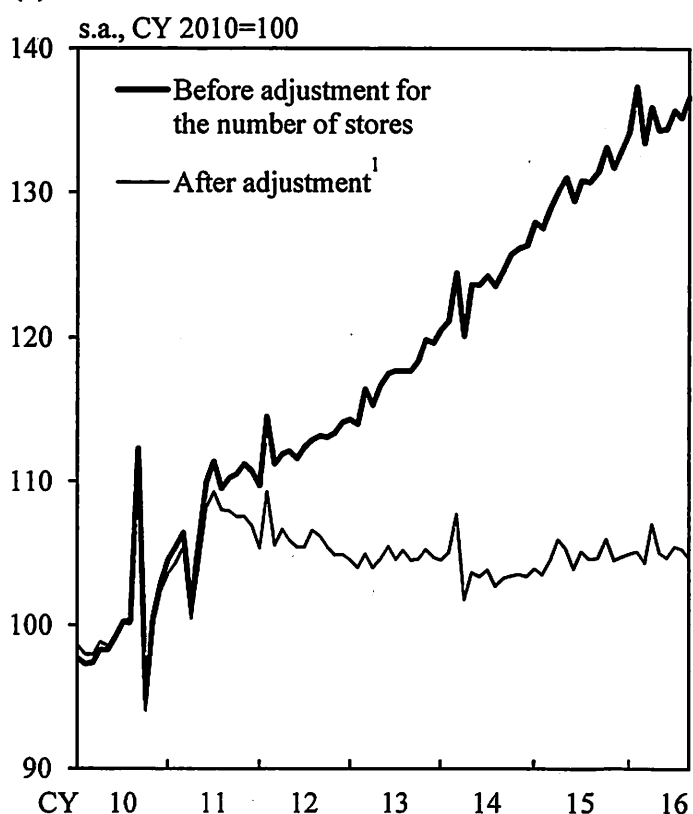


Note: 1. Real sales are obtained by deflating nominal sales by the CPI for goods (excluding electricity, gas & water charges).

(3) Sales at Supermarkets



(4) Sales at Convenience Stores



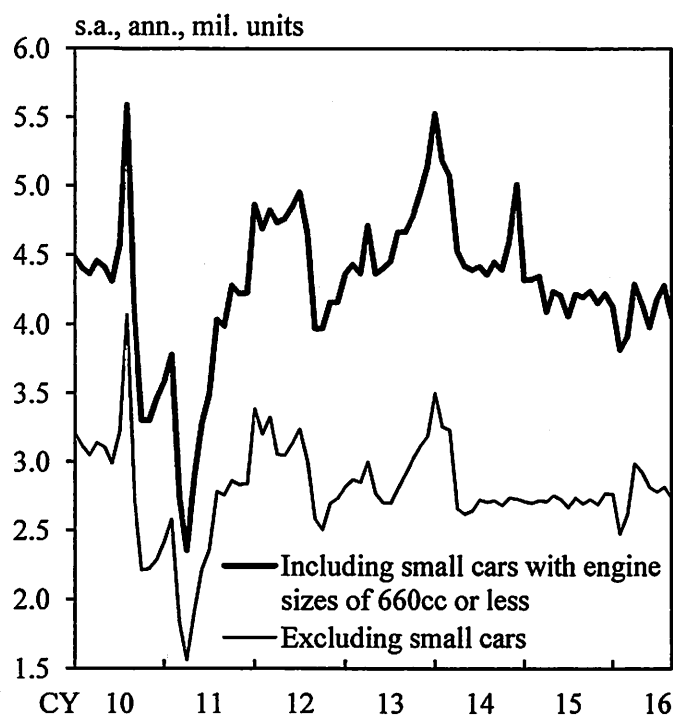
Note: 1. Figures are based on data published by the Japan Franchise Association.

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

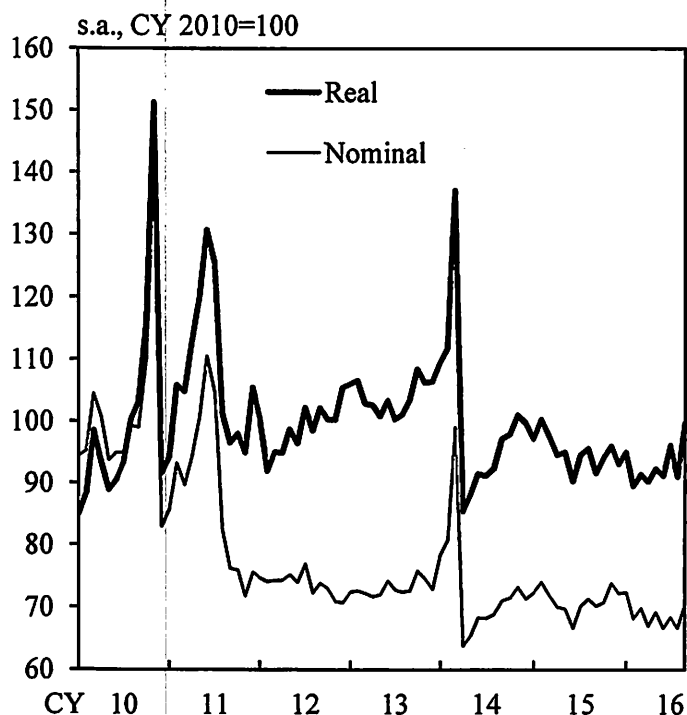
Consumption of Durable Goods and Services

(1) Consumption of Durable Goods

(a) New Passenger Car Registrations

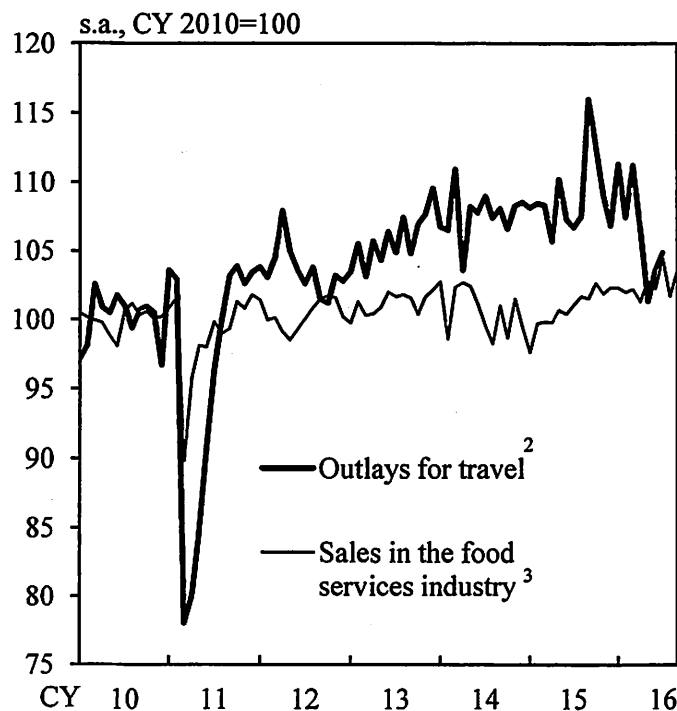


(b) Sales of Household Electrical Appliances¹

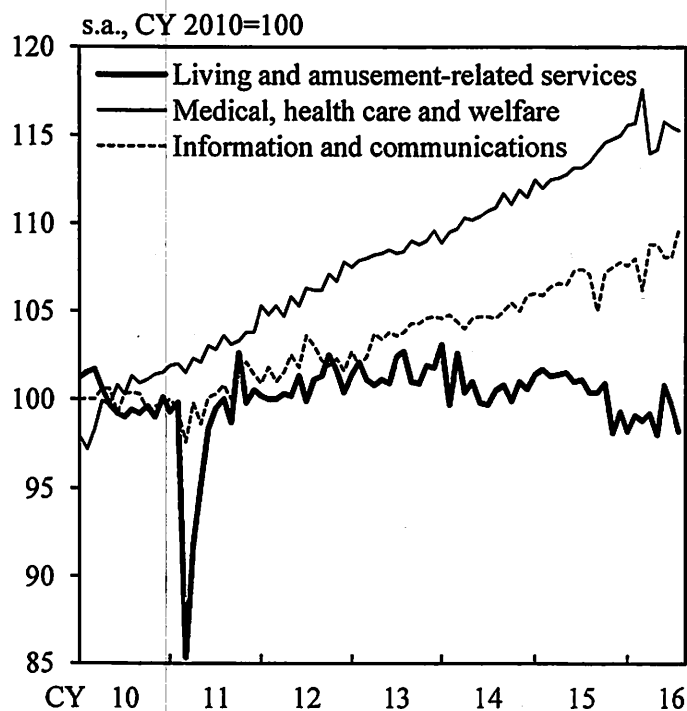


(2) Consumption of Services

(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.

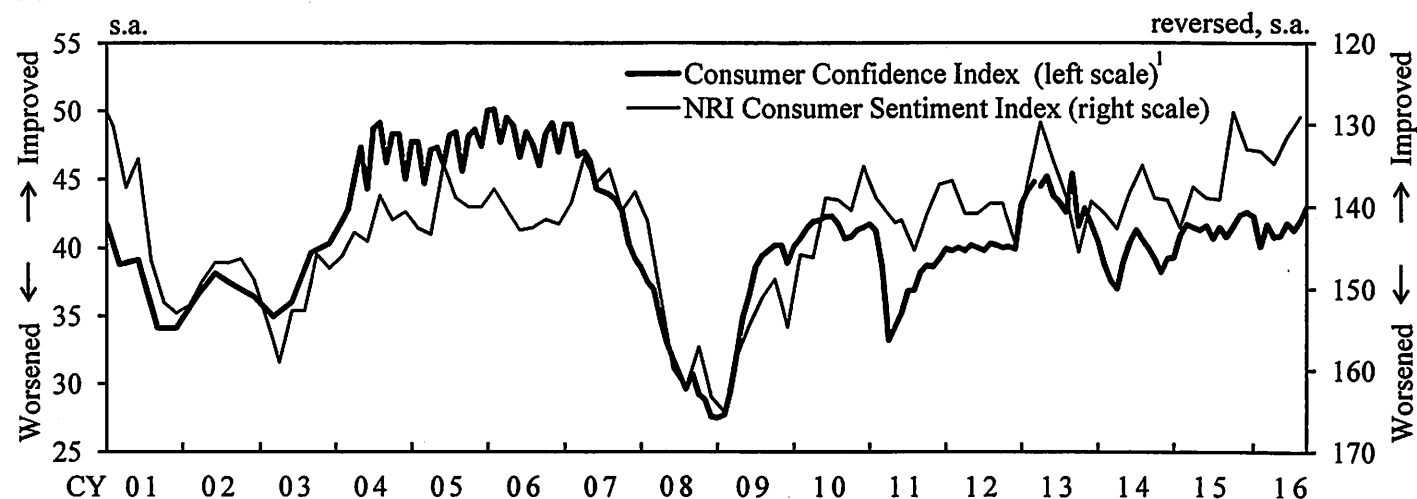
2. Excluding those by foreign travelers. Figures are calculated using the year-on-year rates of change released by the Japan Tourism Agency.

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."

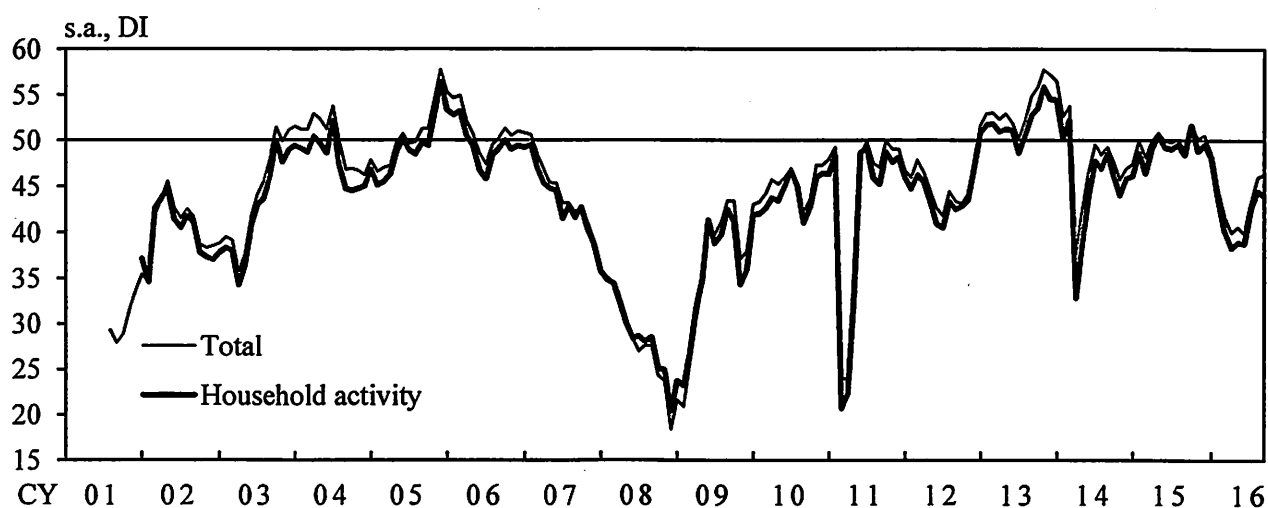
Confidence Indicators Related to Private Consumption

(1) Consumer Confidence Index and NRI Consumer Sentiment Index

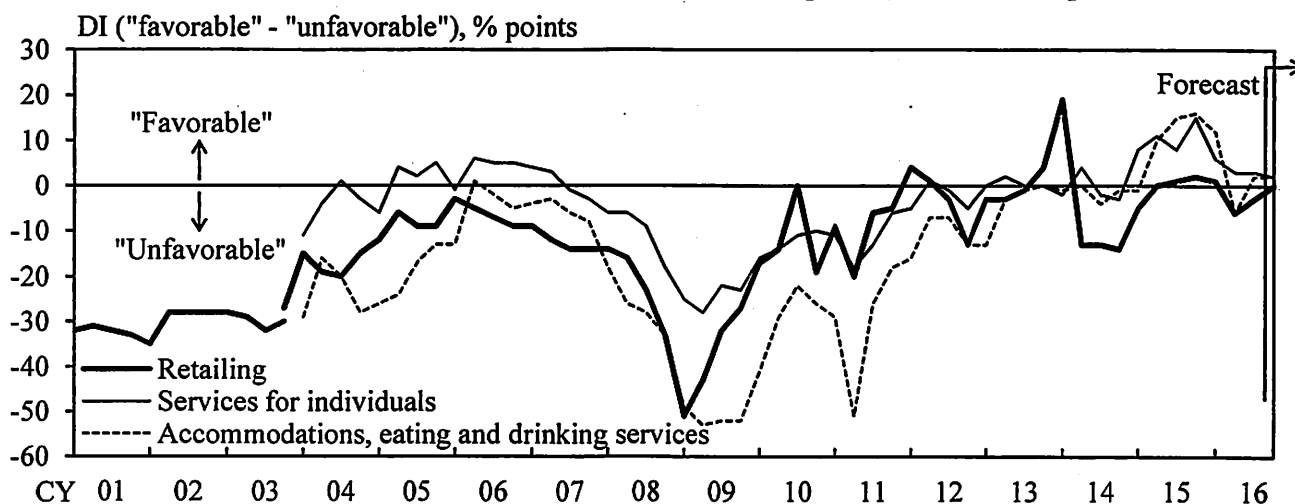


Note: 1. There is a discontinuity in the data in April 2013 due to a change in the survey method.

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



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

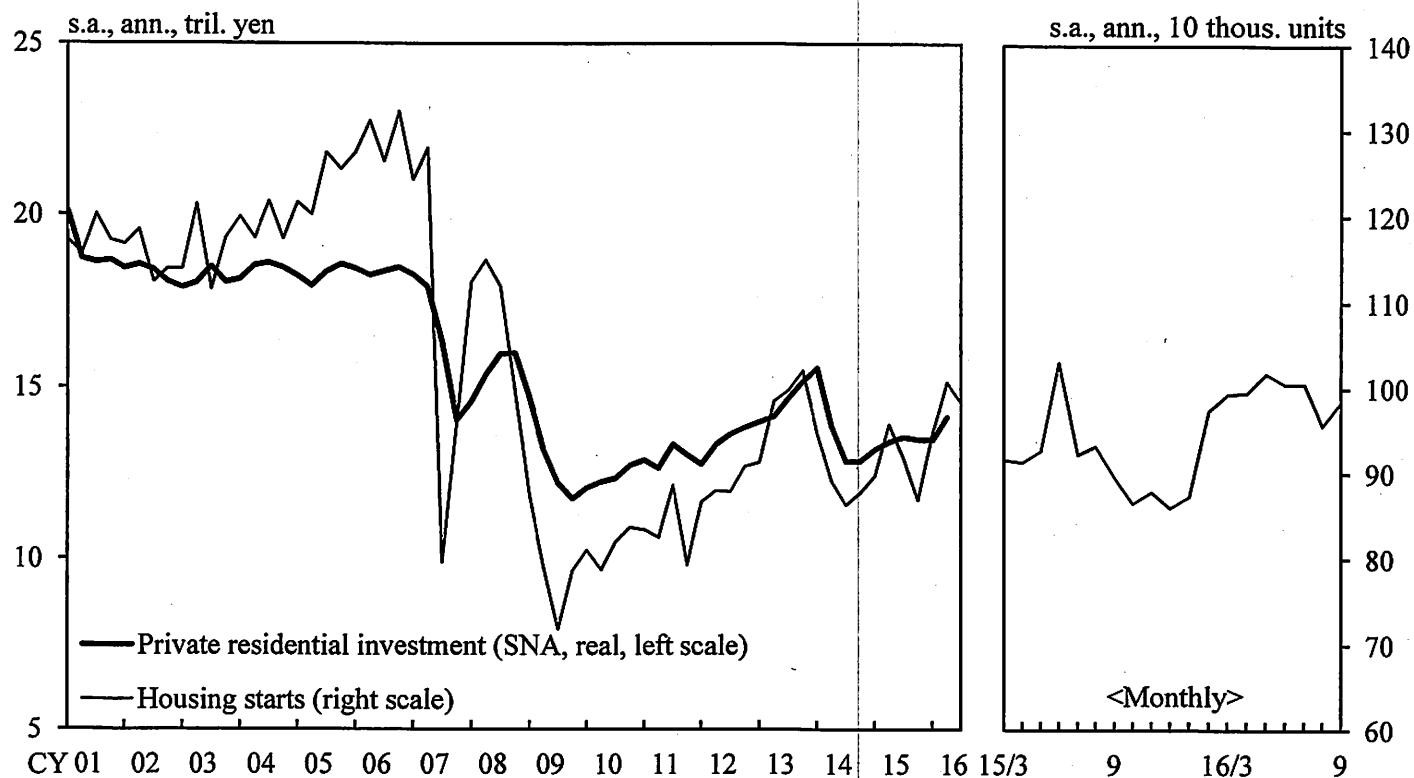


Note: There is a discontinuity in the data in December 2003 due to a change in the survey framework.

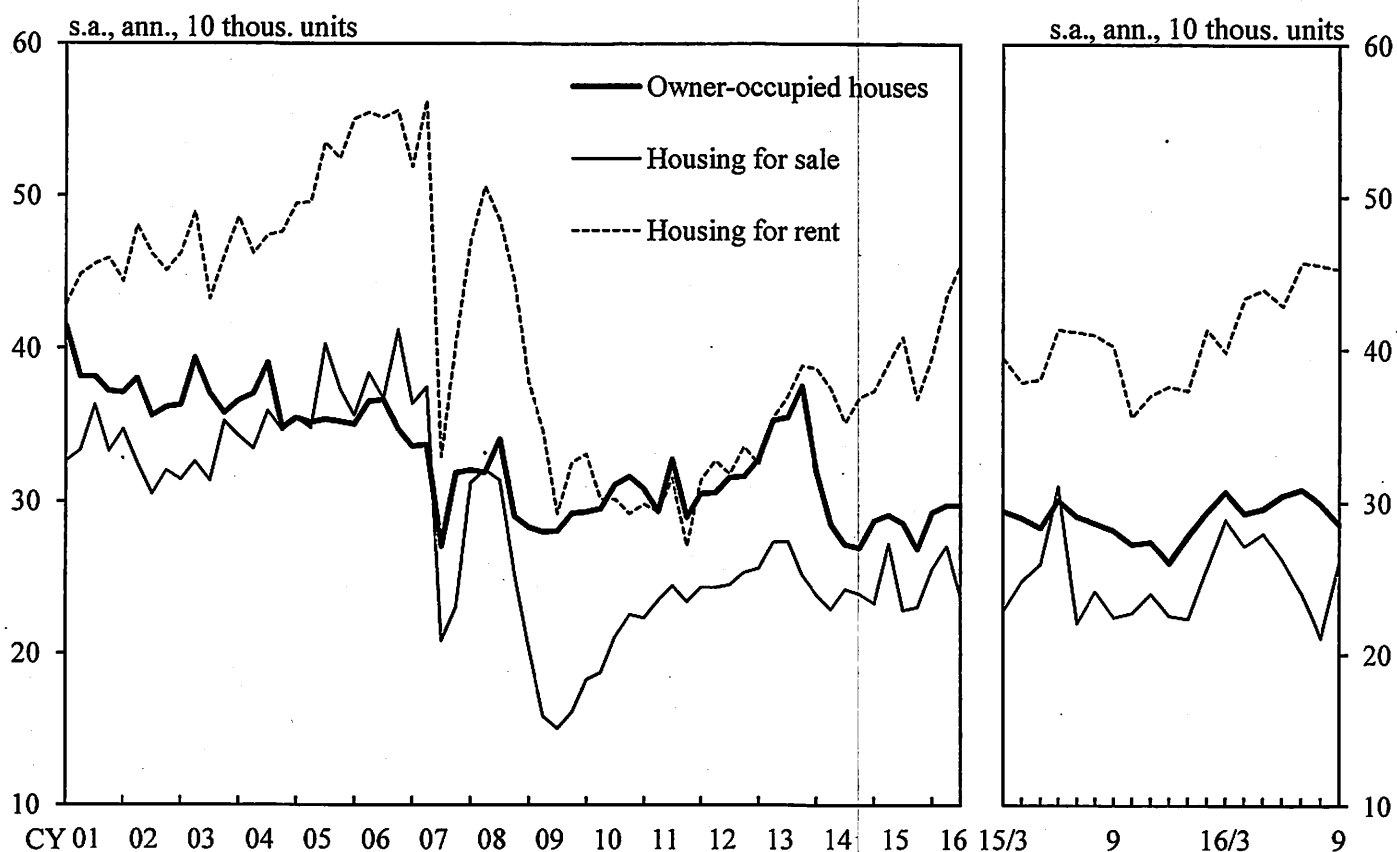
Sources: Cabinet Office; Bank of Japan; Nippon Research Institute (NRI), "Consumer Sentiment Survey."

Housing Investment

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

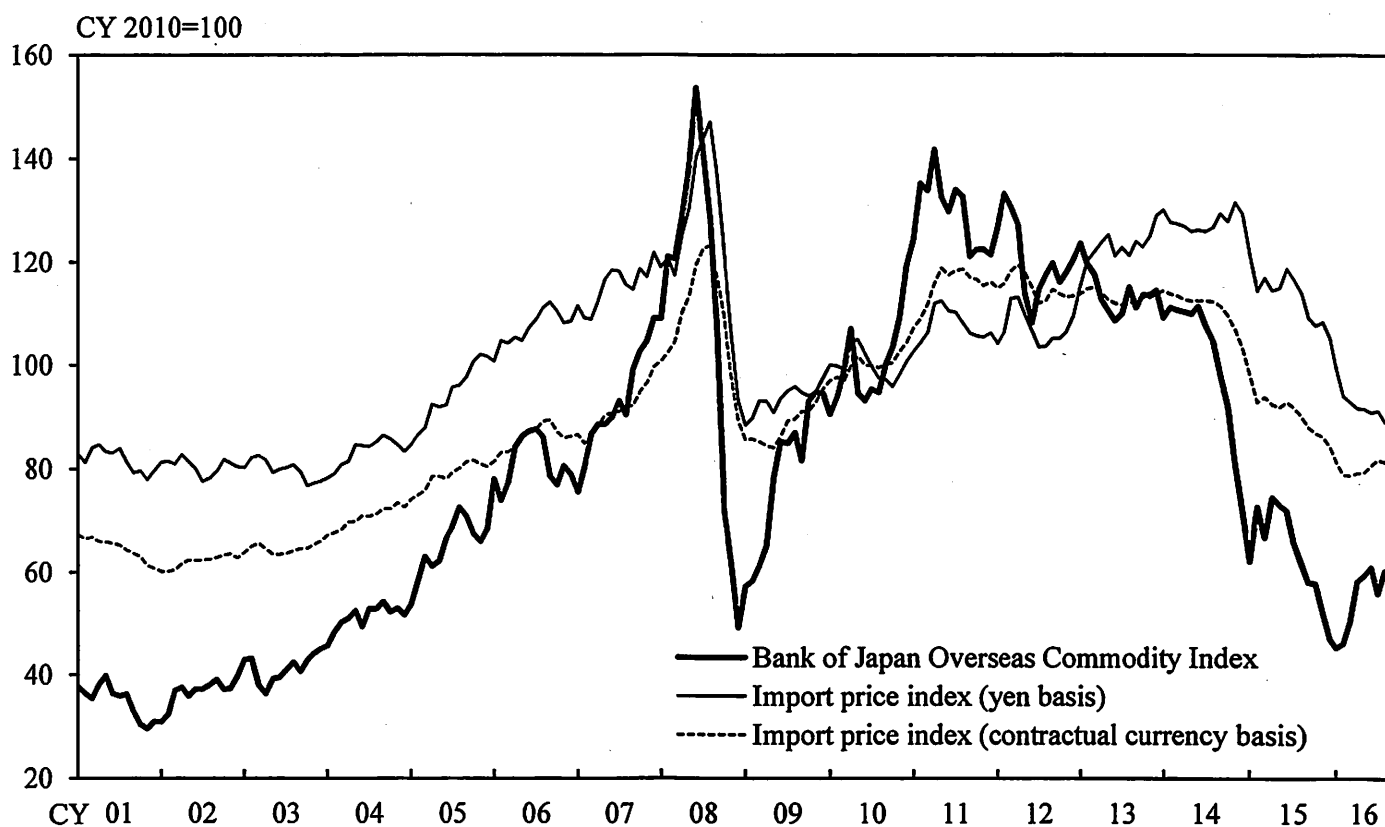


(2) Composition of Housing Starts

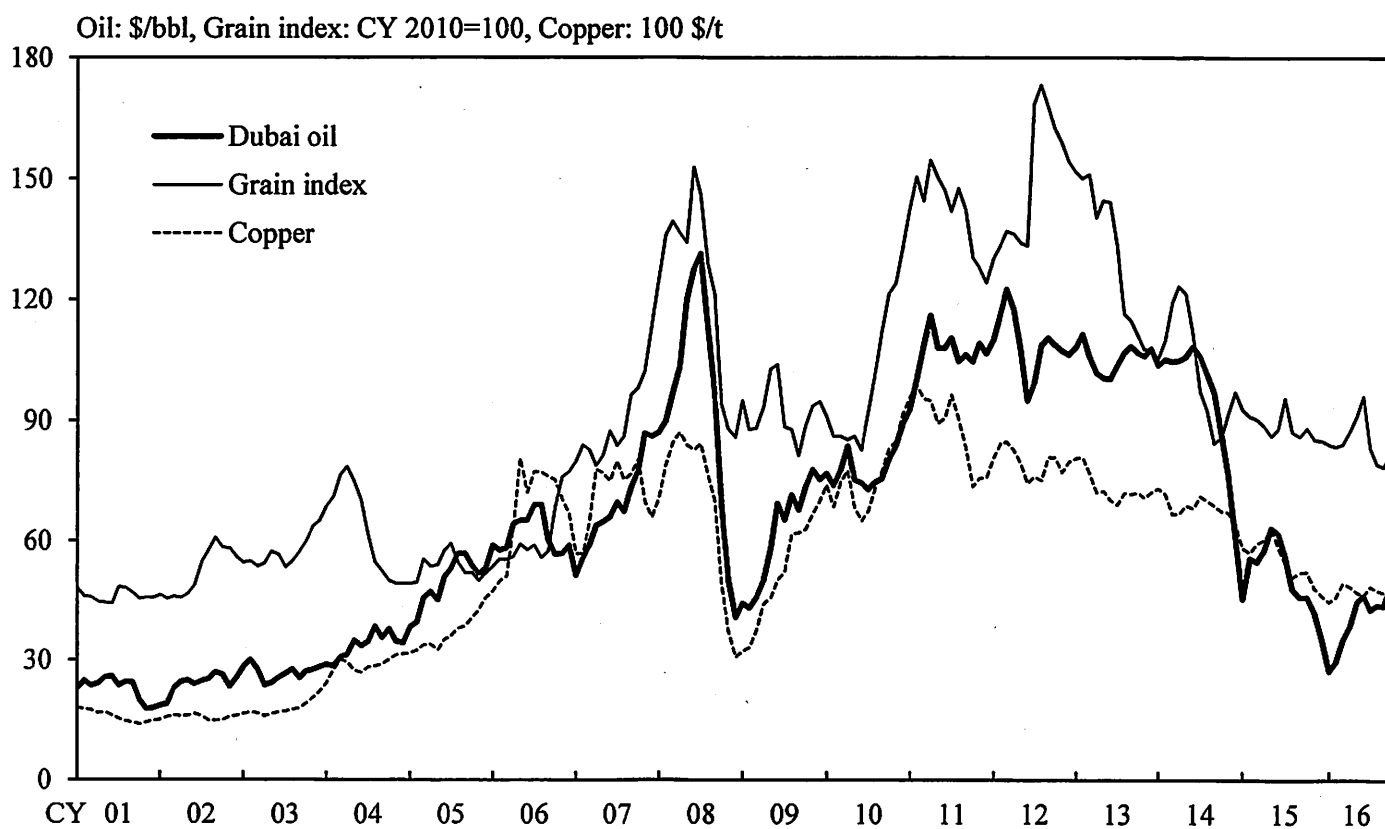


Import Prices and International Commodity Prices

(1) Import Price Index and Overseas Commodity Index



(2) International Commodity Prices

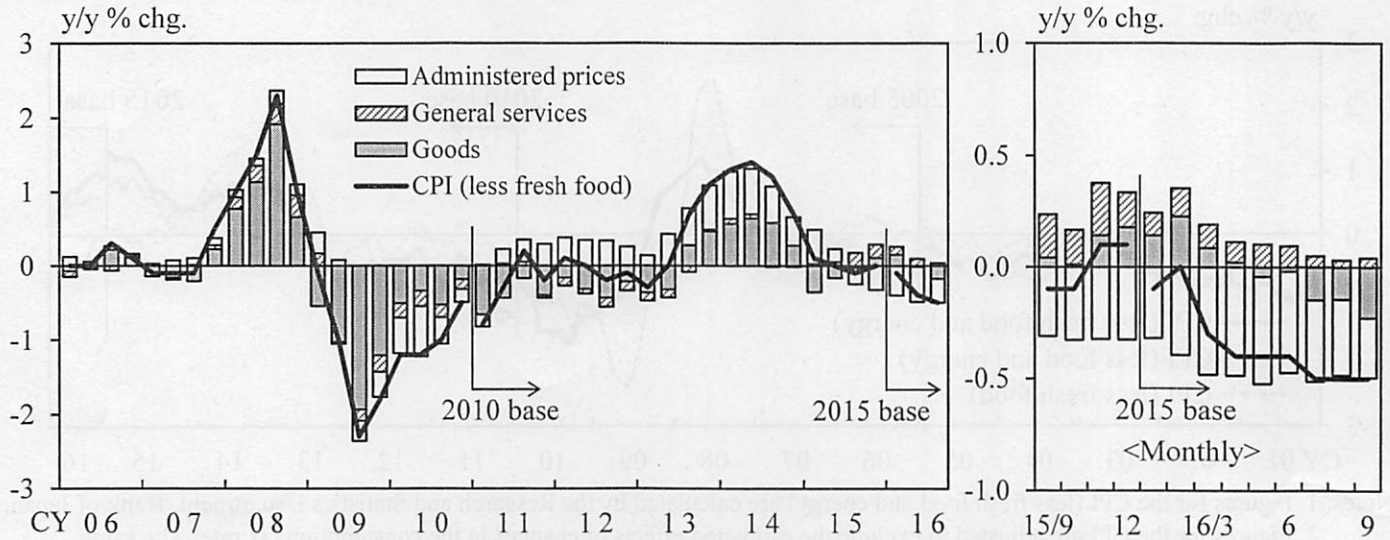


Note: Monthly averages. The grain index is the weighted average of the prices of three selected items (wheat, soybeans, and corn) in overseas commodity markets. The weights are based on the value of imports in the "Trade Statistics."

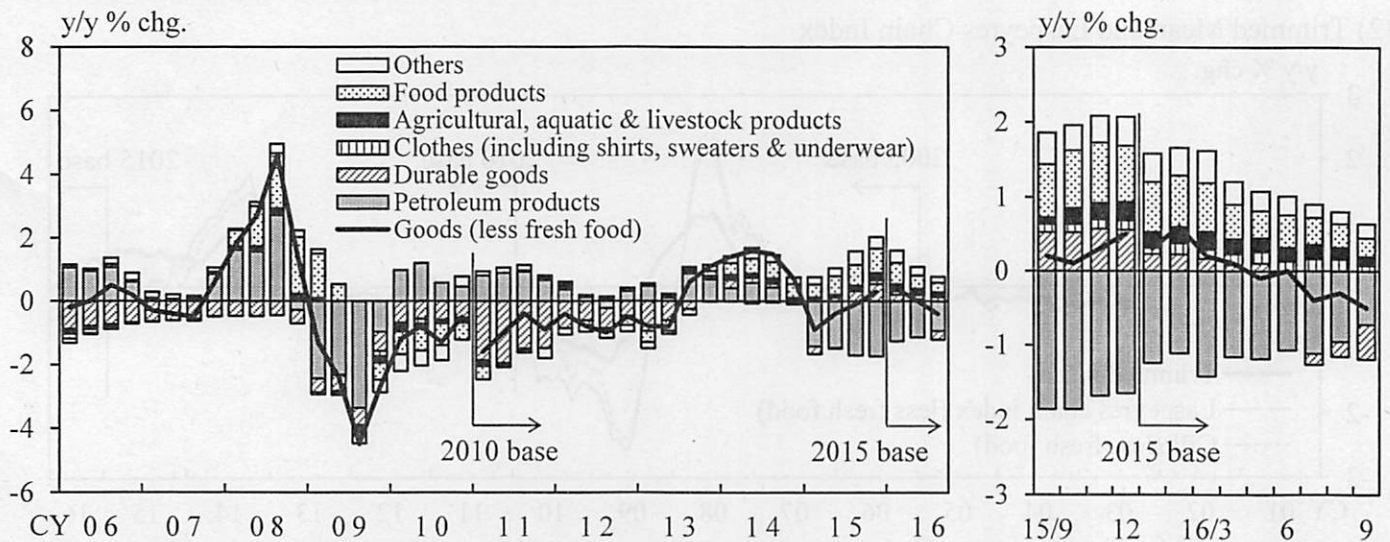
Sources: Nikkei Inc.; Bloomberg; Ministry of Finance; Bank of Japan.

Consumer Price Index

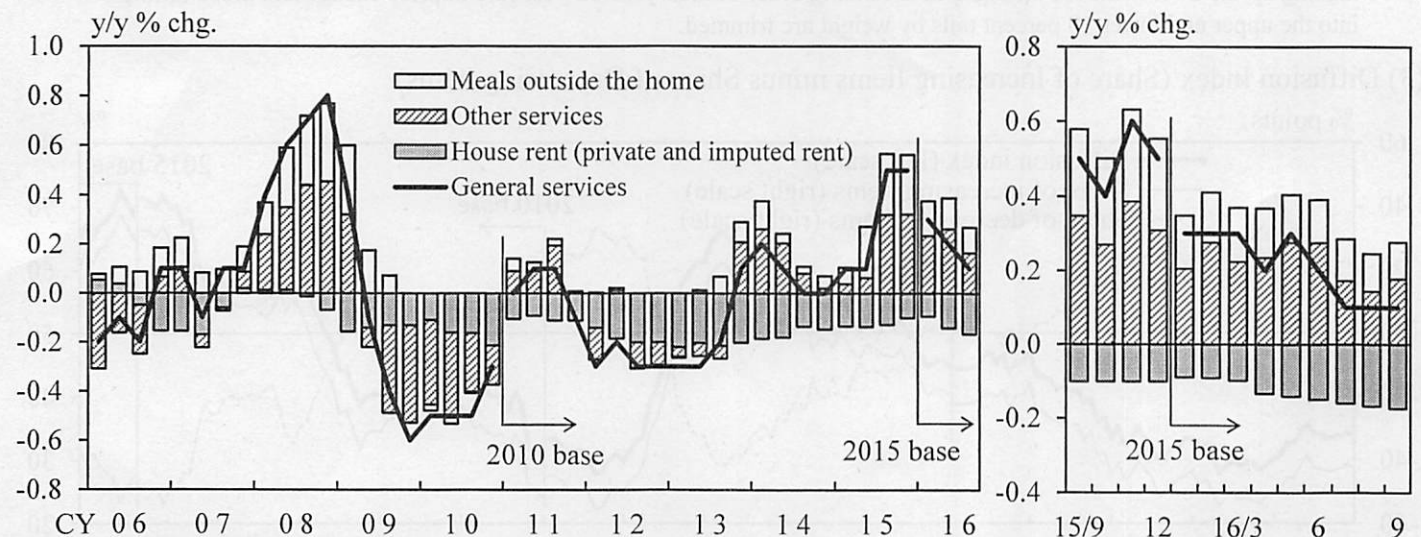
(1) All Items (Less Fresh Food)



(2) Goods (Less Fresh Food)



(3) General Services



Notes: 1. Figures for goods exclude electricity, manufactured & piped gas & water charges.

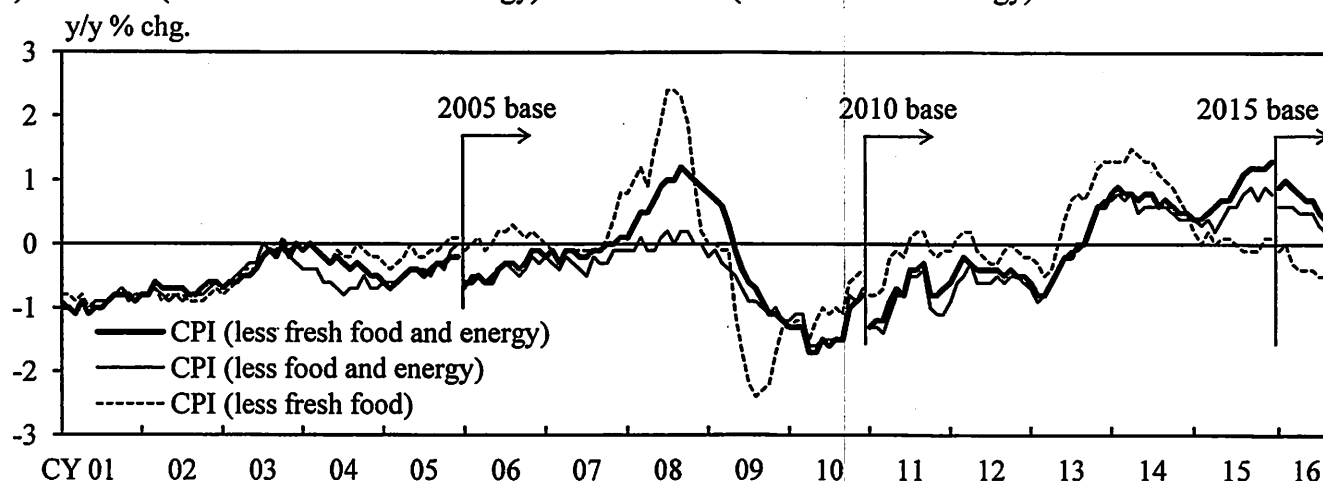
2. Administered prices consist of public services and electricity, manufactured & piped gas & water charges.

3. 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.

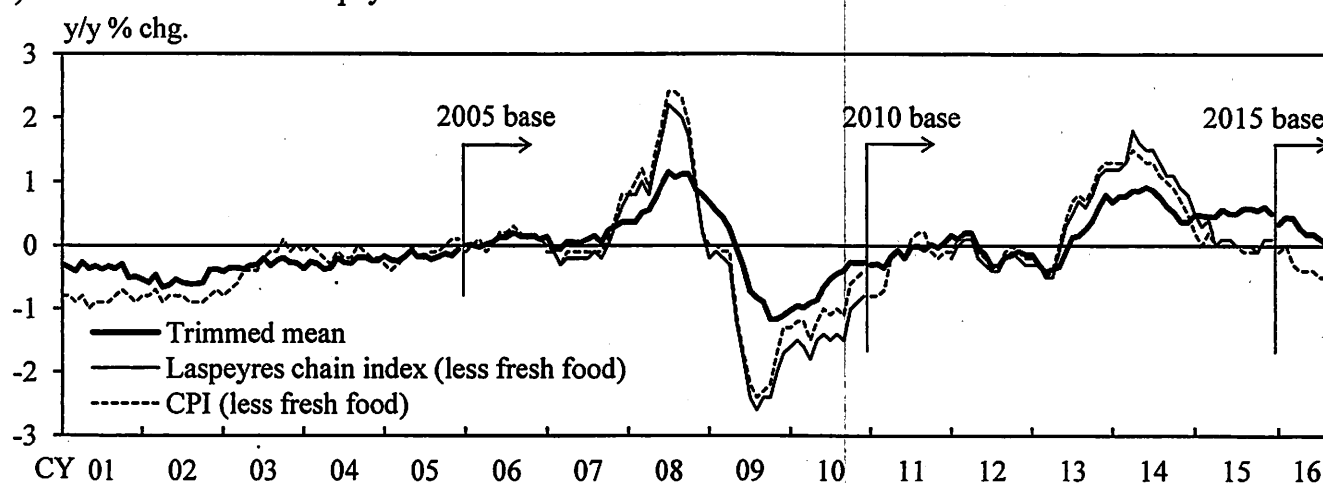
Measures of Underlying Inflation

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



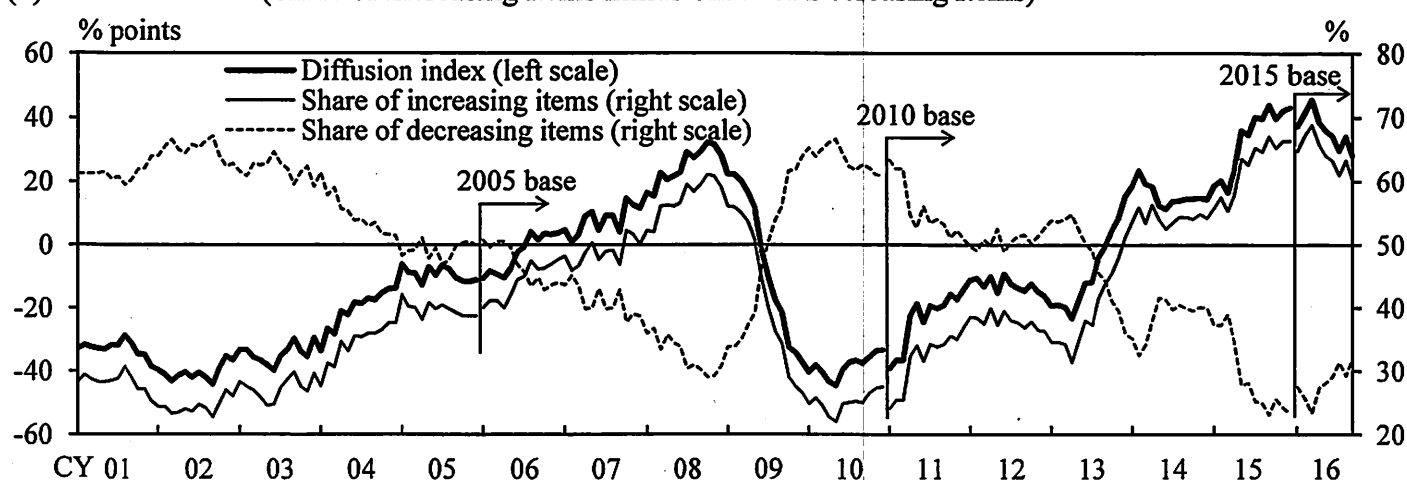
Notes: 1. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.
2. Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate. The same applies to the charts below.

(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)

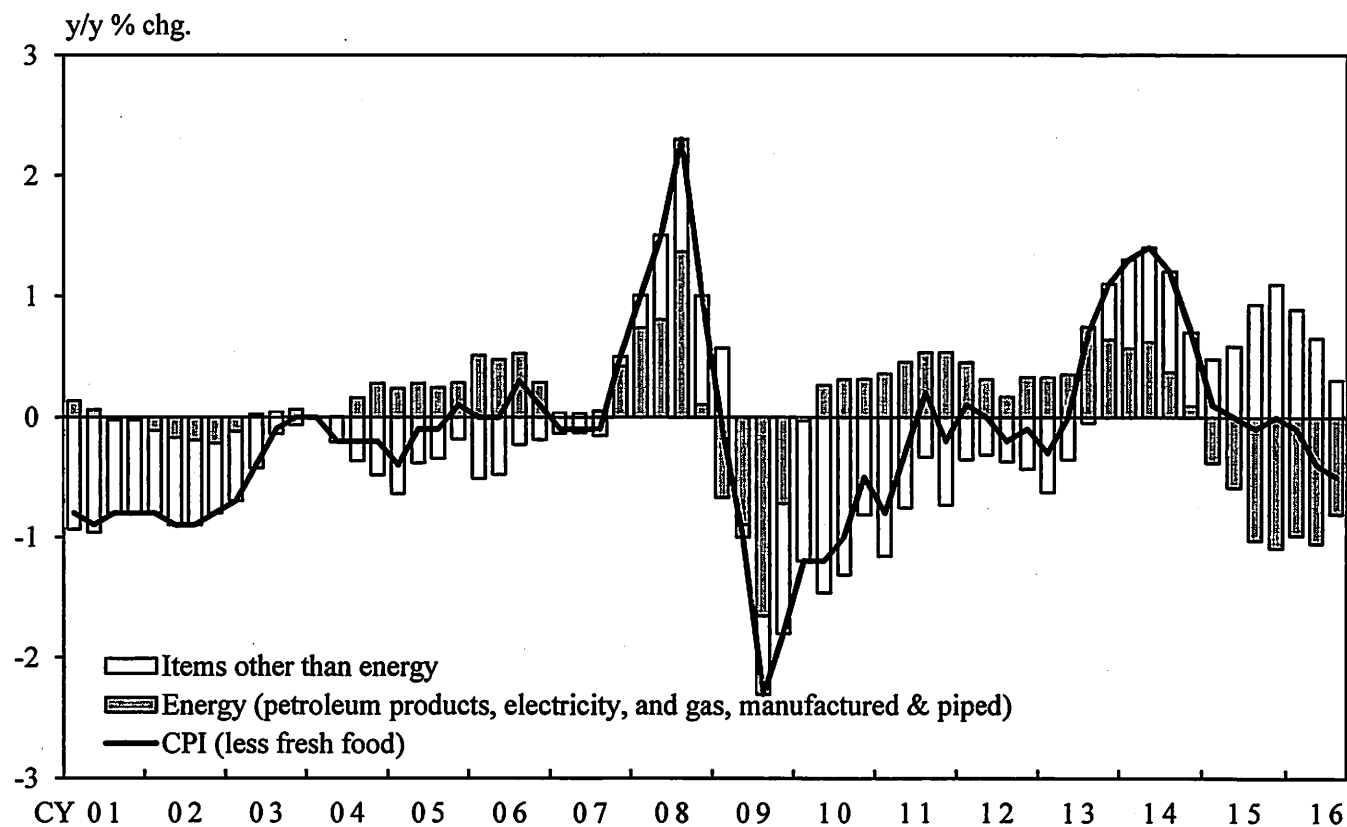


Note: The share of increasing/decreasing items is the share of items in the CPI (less fresh food) whose price indices increased/decreased from a year earlier.

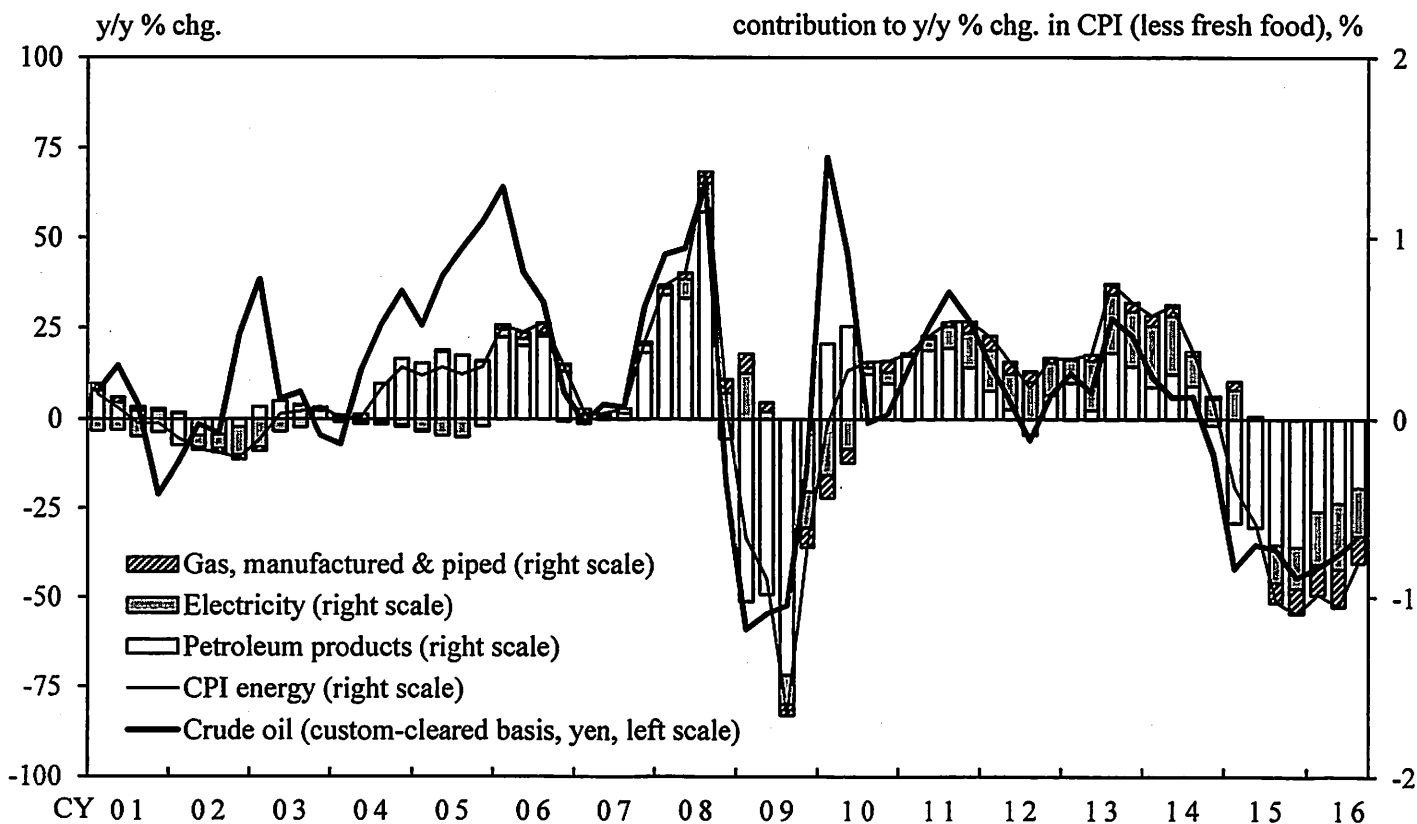
Source: Ministry of Internal Affairs and Communications.

Consumer Price Index and Energy Prices

(1) Consumer Price Index



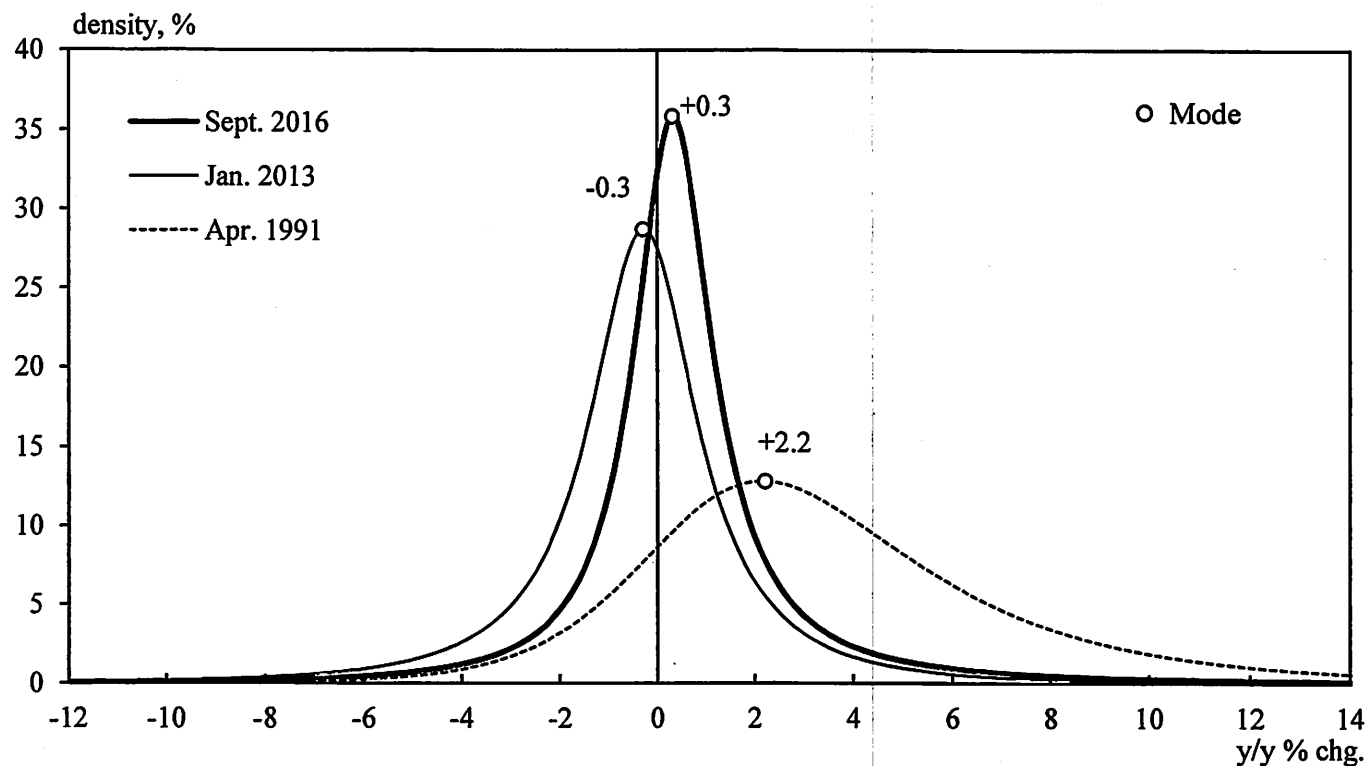
(2) Crude Oil Prices and Energy Prices



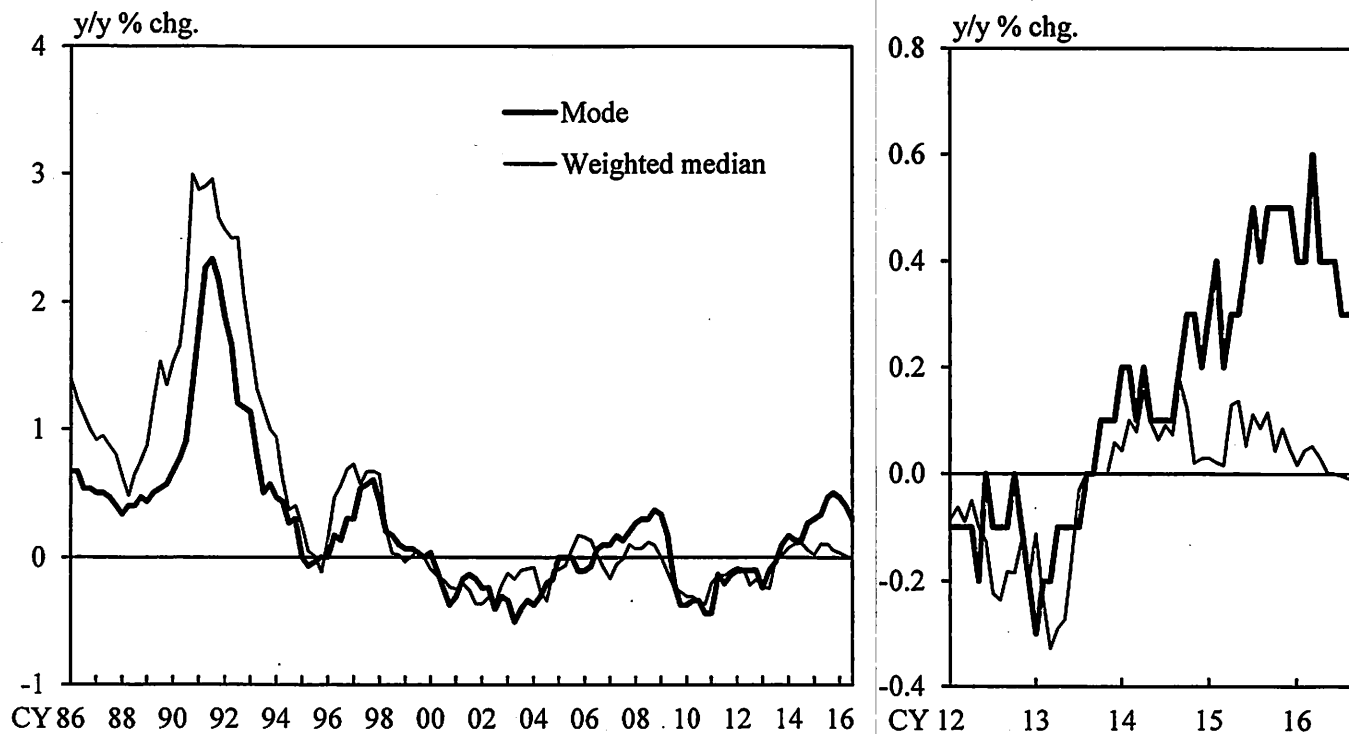
Note: Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate.
Sources: Ministry of Internal Affairs and Communications; Ministry of Finance.

Distributions of Price Changes and Measures of Underlying Inflation

(1) Distributions of Price Changes in Individual CPI Items

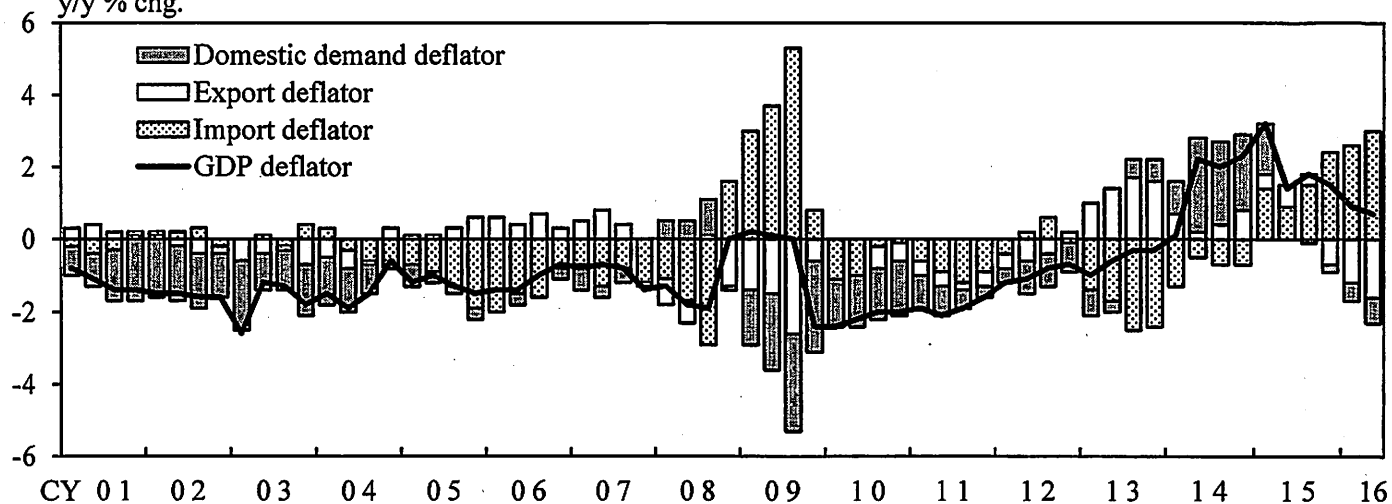
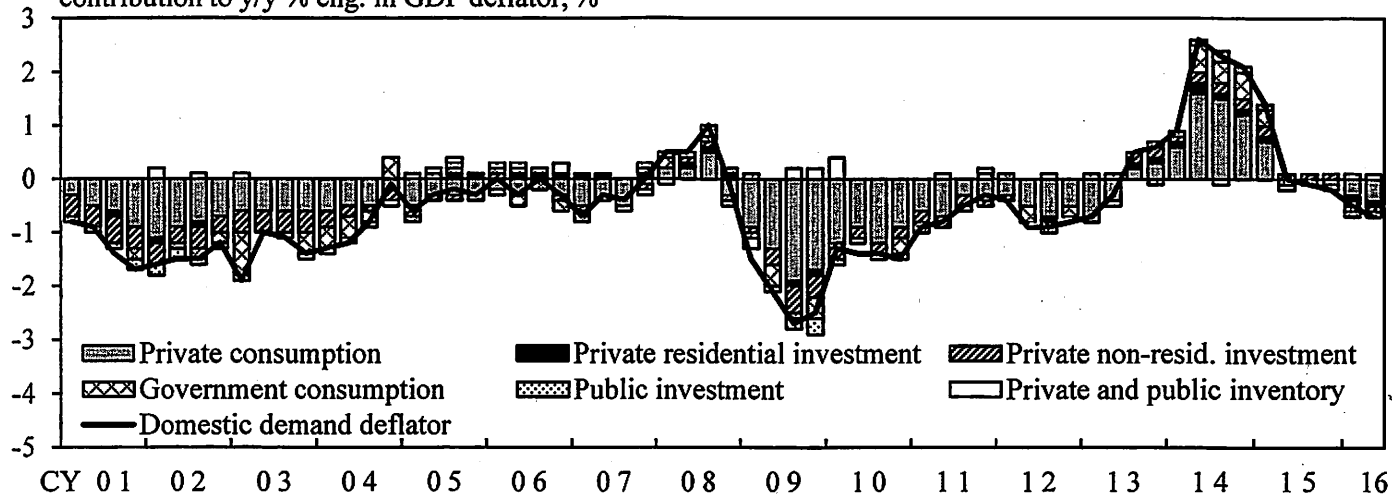
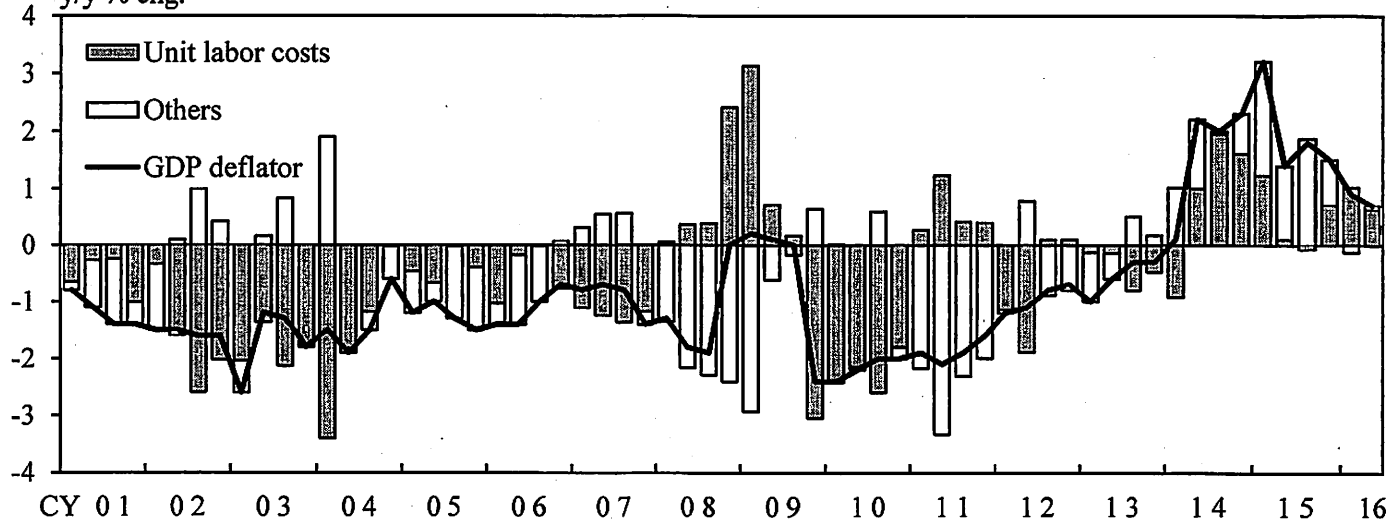


(2) Various Measures of Core Inflation



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

GDP Deflator

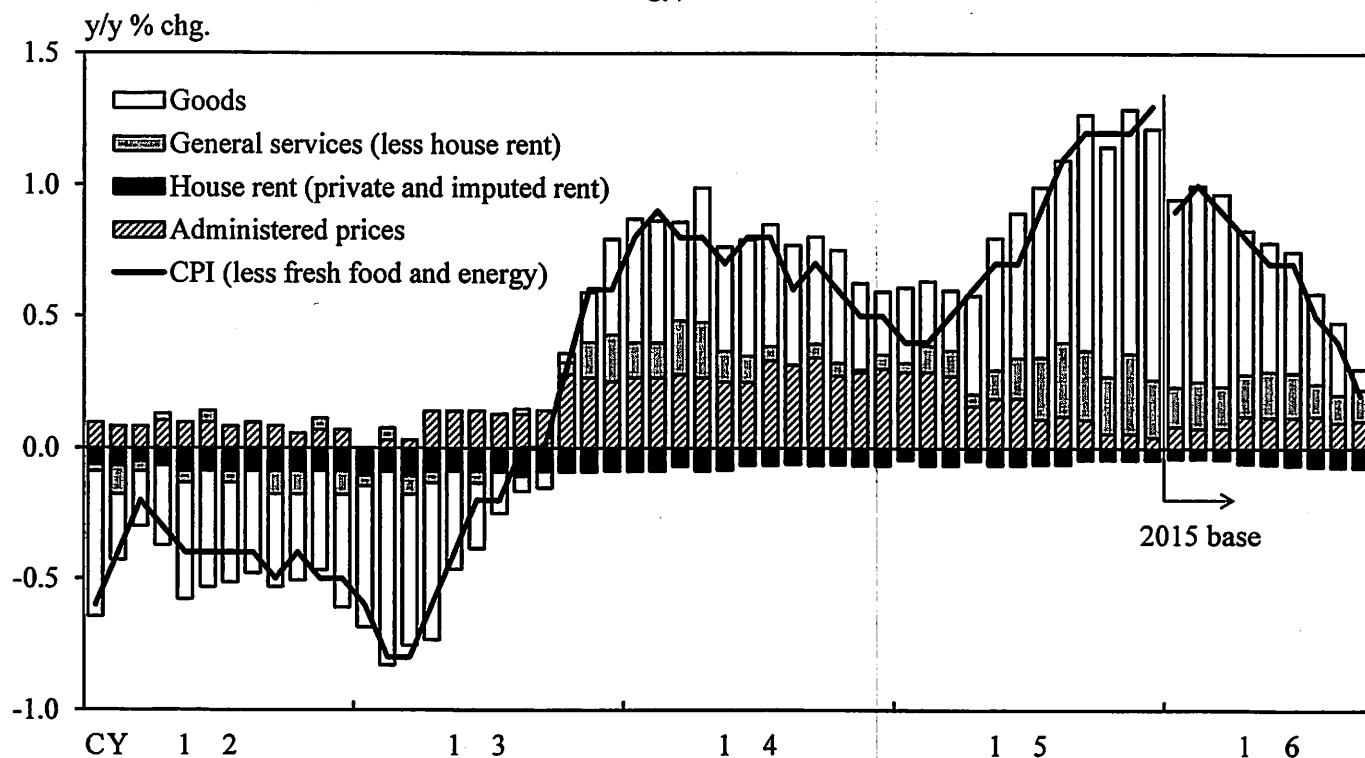
(1) GDP Deflator
y/y % chg.(2) Domestic Demand Deflator
contribution to y/y % chg. in GDP deflator, %(3) GDP Deflator and Unit Labor Costs
y/y % chg.

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

Source: Cabinet Office.

Consumer Price Index and Output Gap

(1) Breakdown of CPI (Less Fresh Food and Energy)

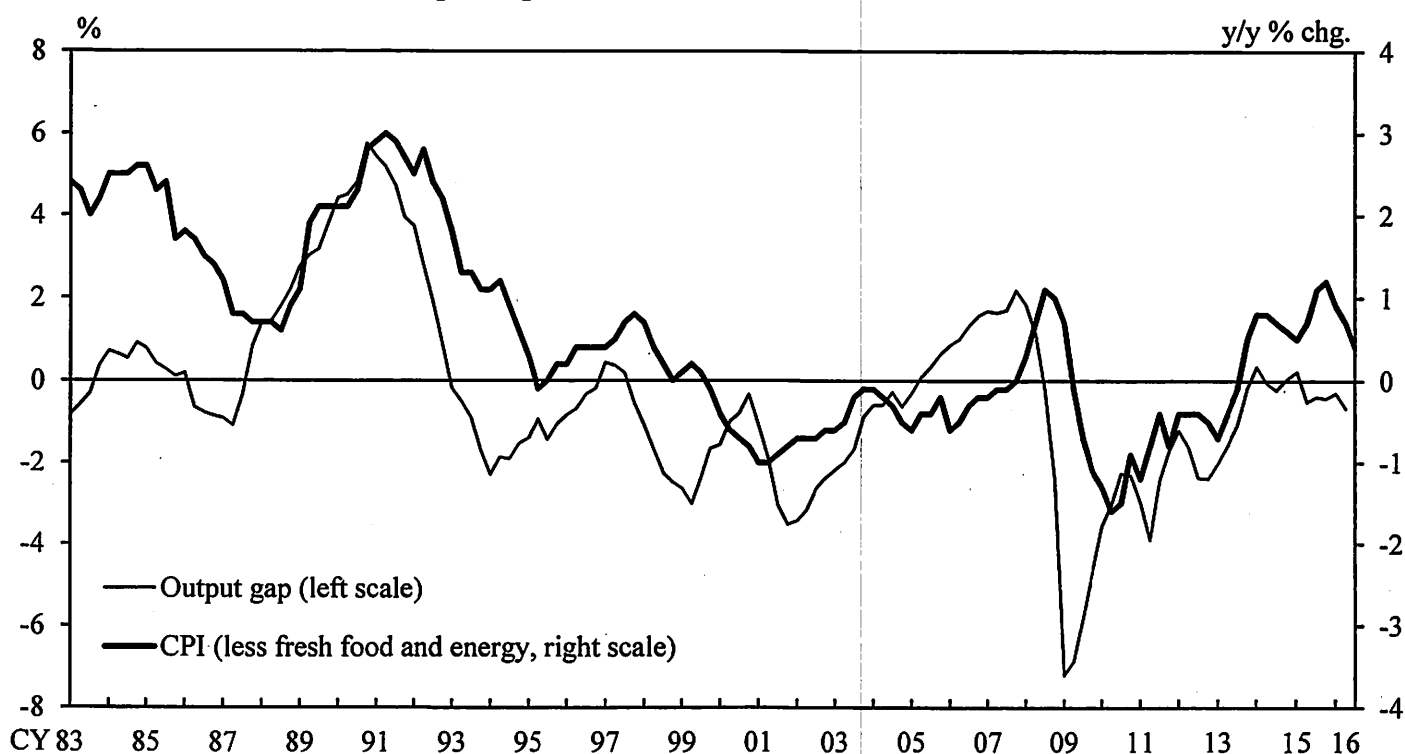


Notes: 1. Administered prices (less energy) consist of public services and water charges.

2. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan. The same applies to the chart below.

3. 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

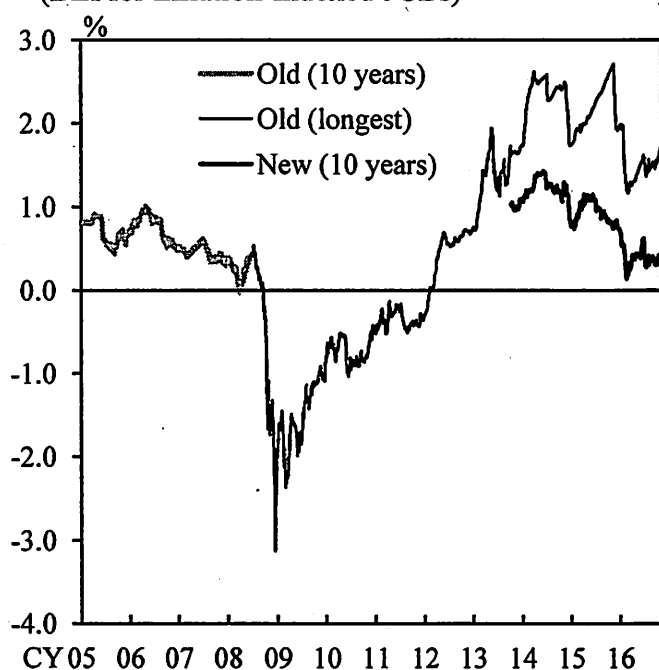
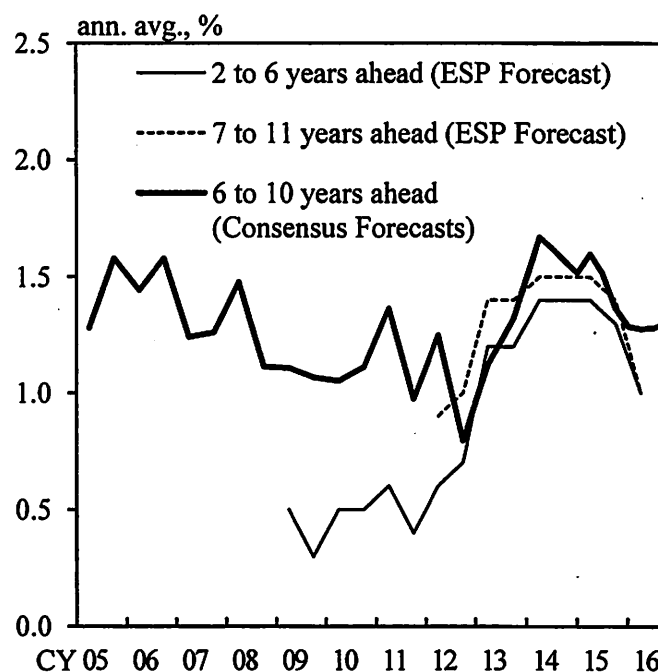


Note: The output gap is estimated by the Research and Statistics Department, Bank of Japan.

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

Inflation Expectations (1)

(1) Market Participants

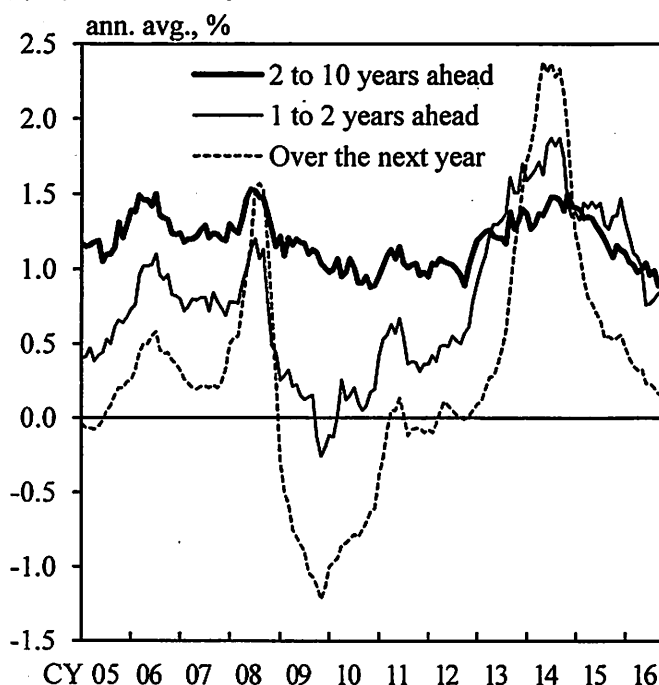
(BEI for Inflation-Indexed JGBs)¹(2) Economists²

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.

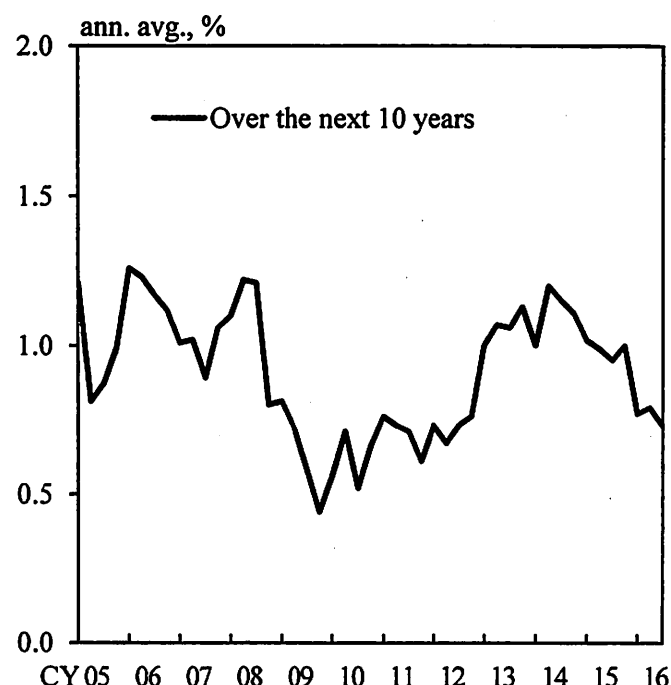
2. Figures for the "Consensus Forecasts" are compiled every January, April, July, and October. Those up through April 2014 were compiled every April and October. Figures for the "ESP Forecast" are compiled every June and December, and exclude the effects of the consumption tax hikes.

(3) Market Participants

(a) QUICK Survey



(b) Survey by Mizuho Securities

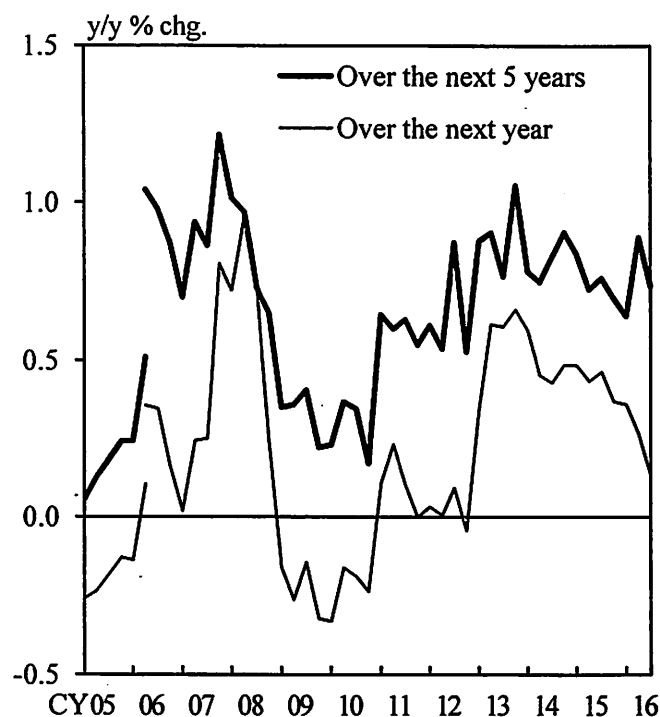
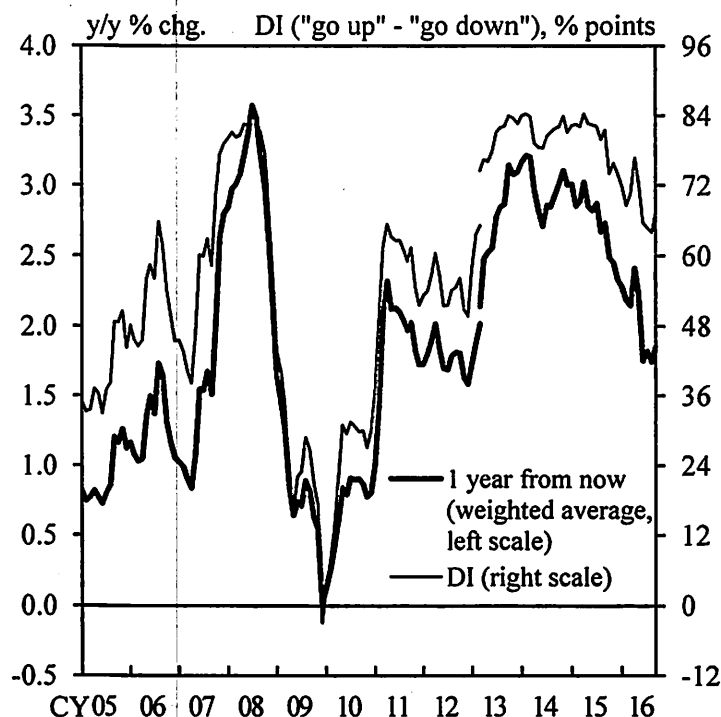


Note: From the September 2013 survey, the "QUICK Monthly Market Survey (Bonds)" asks respondents to include the effects of the consumption tax hikes. Figures for the survey by Mizuho Securities exclude the effects of the consumption tax hikes.

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^{1,2}(b) Consumer Confidence Survey^{3,4}

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

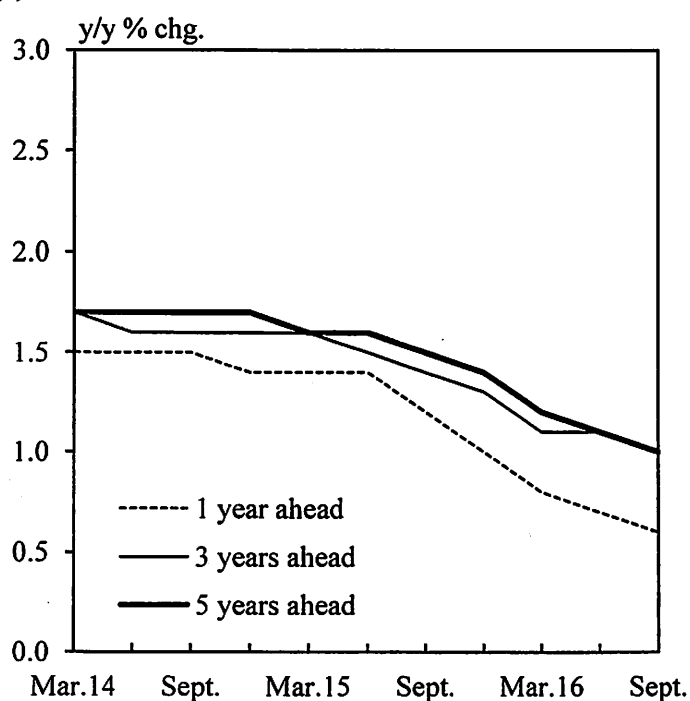
2. From the June 2013 survey, the "Opinion Survey" asks respondents to exclude the effects of the consumption tax hikes.

3. Figures are for all households.

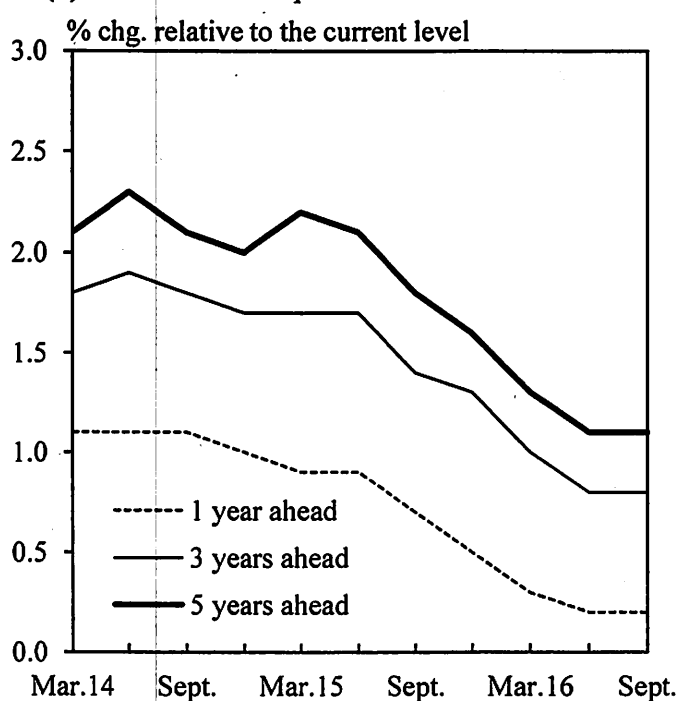
4. The weighted average is calculated based on the following assumption: survey responses chosen by households as their expected inflation rates -- "-5% or below," "from -5% to -2%," "from -2% to 0%," "from 0% to +2%," "from +2% to +5%," and "+5% or above" -- indicate expected inflation rates of -5%,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

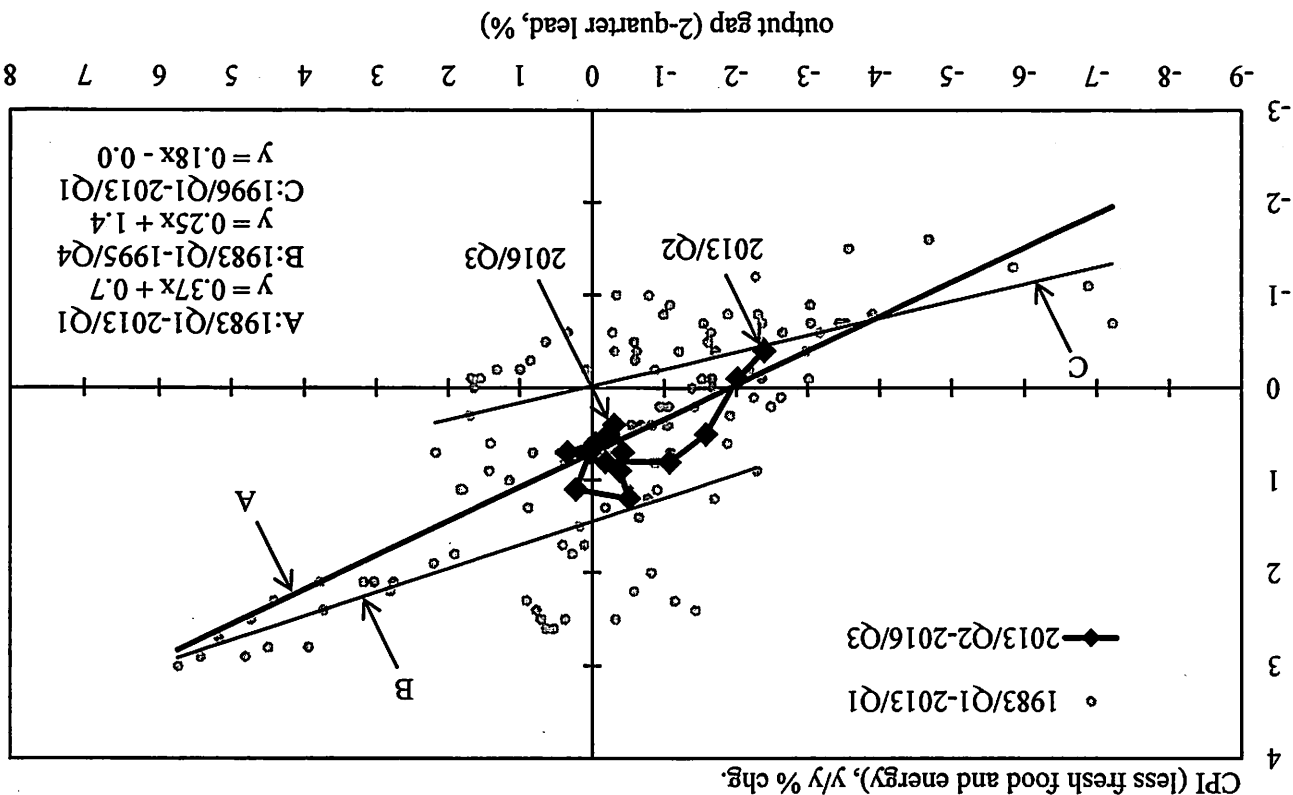


Note: Figures exclude the effects of the consumption tax hikes.

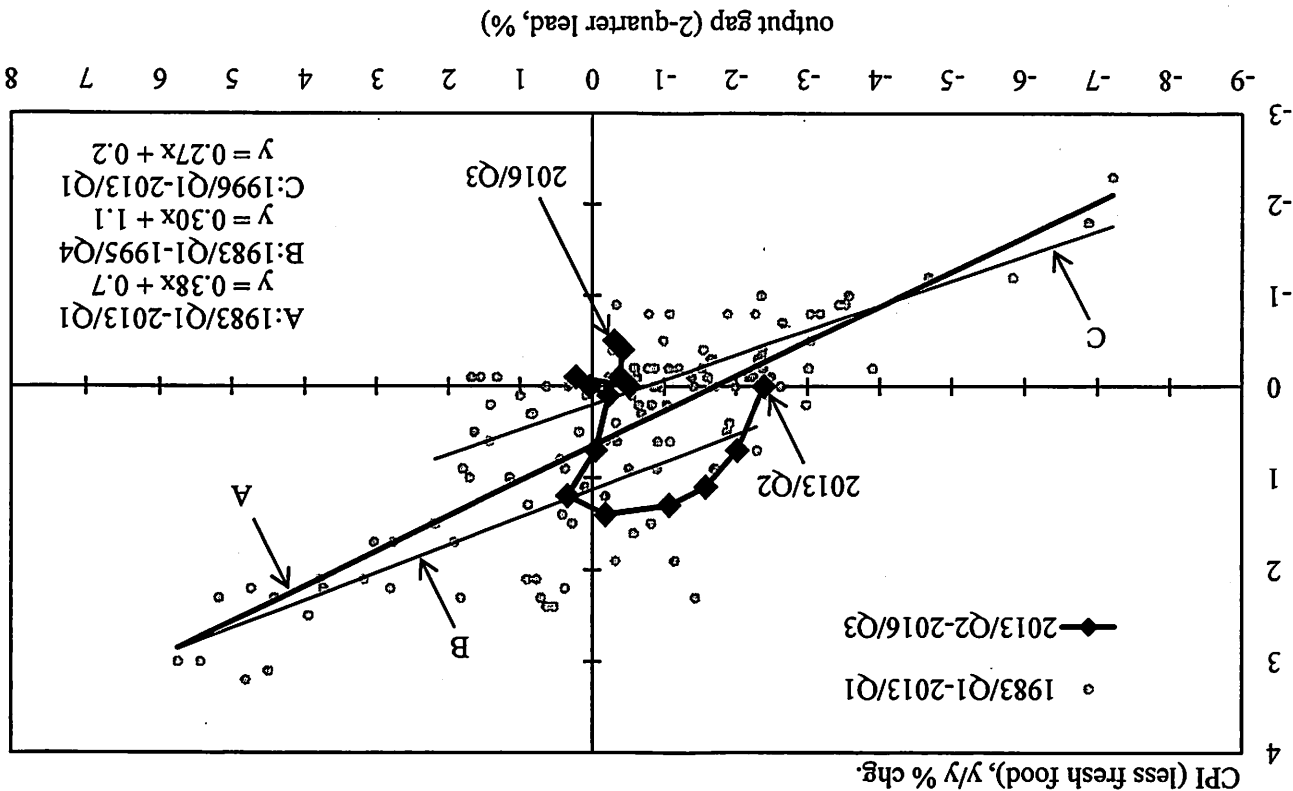
Sources: Bank of Japan; Cabinet Office; Ministry of Internal Affairs and Communications.

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)

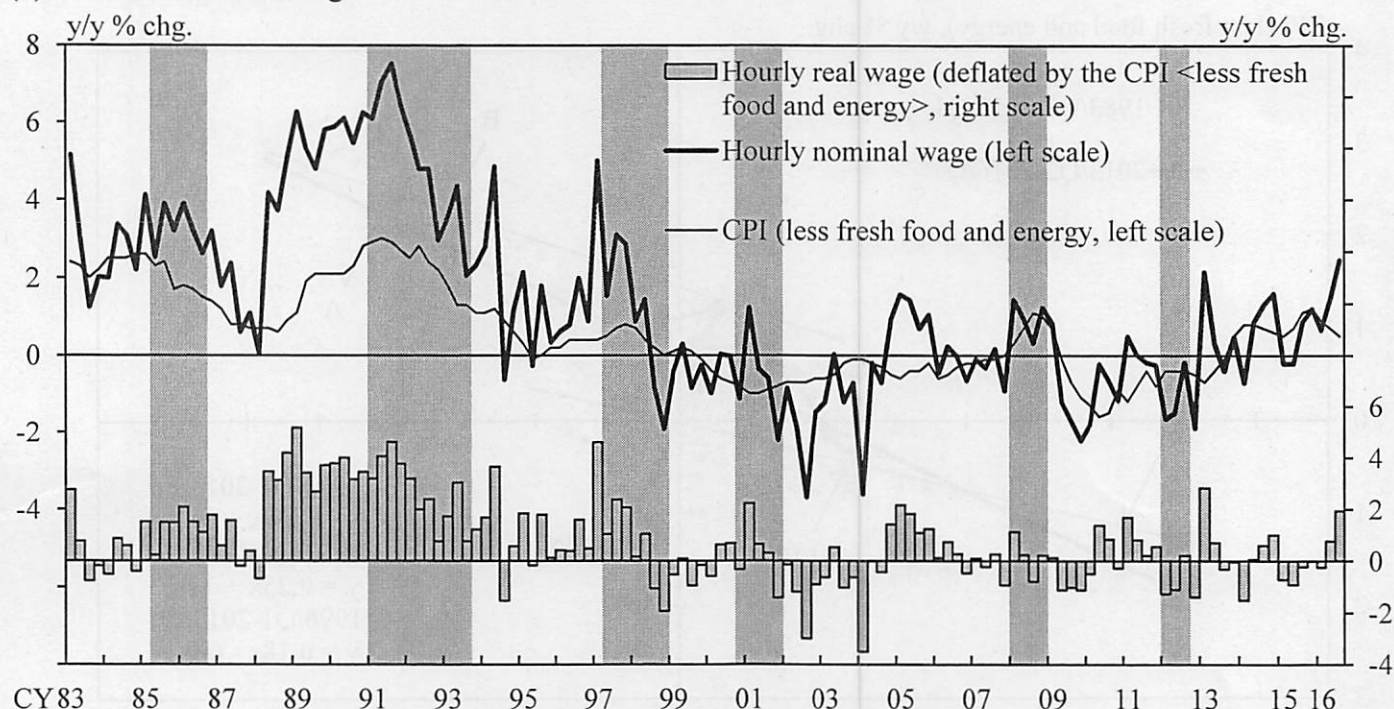


Notes: 1. Figures for the CPI (less fresh food and energy) are calculated by the Research and Statistics Department, Bank of Japan.
 2. The output gap is estimated by the Research and Statistics Department, Bank of Japan.
 3. Figures for the CPI are adjusted to exclude the estimated effects of changes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

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

Prices and Wages

(1) CPI and Nominal Wage



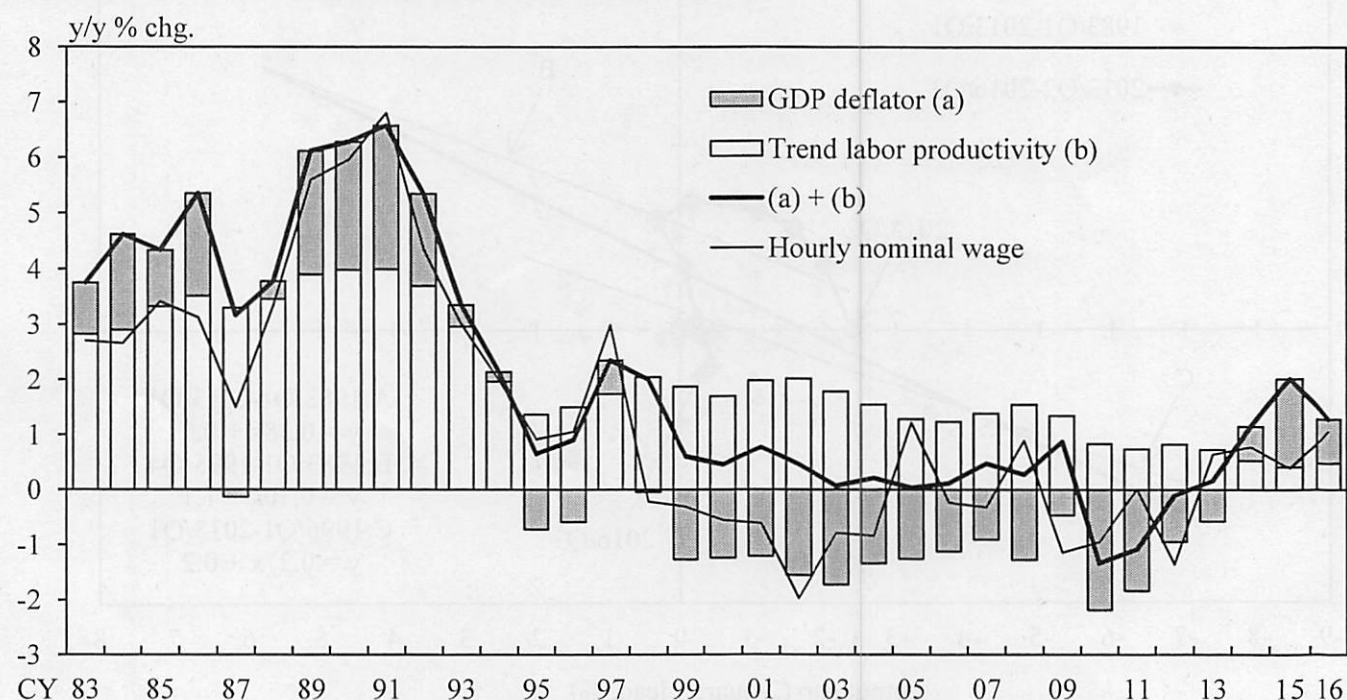
Notes: 1. Figures based on the "Monthly Labour Survey" up through 1990/Q4 are for establishments with 30 or more employees. The same applies to the chart below.

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/Q3 are July-August 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.

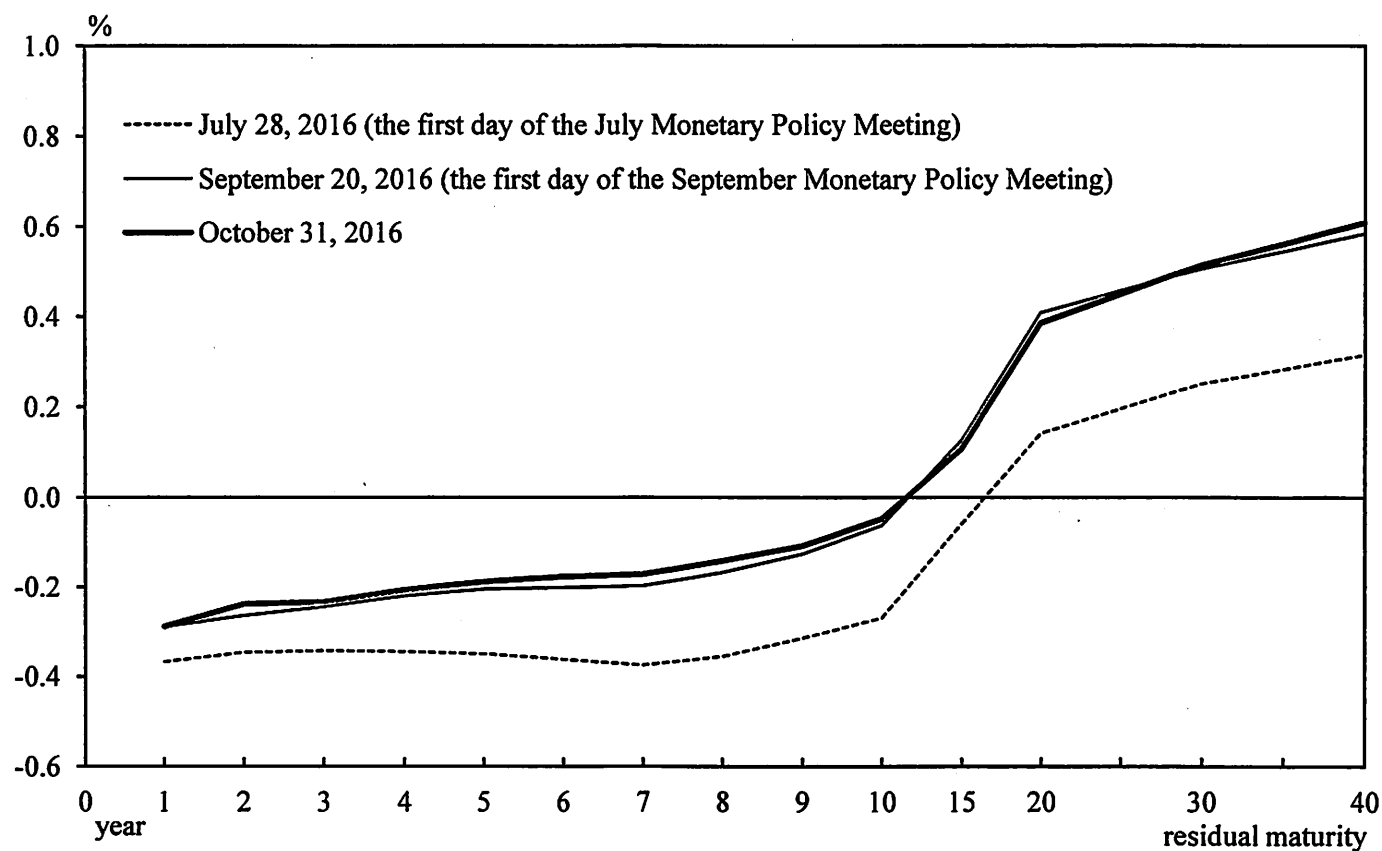
2. Figures for the GDP deflator are adjusted to exclude the effects of the consumption tax hike in 2014. This adjustment is based on estimates by the Cabinet Office in January 2016.

3. Figures for 2016 are Q1-Q2 averages.

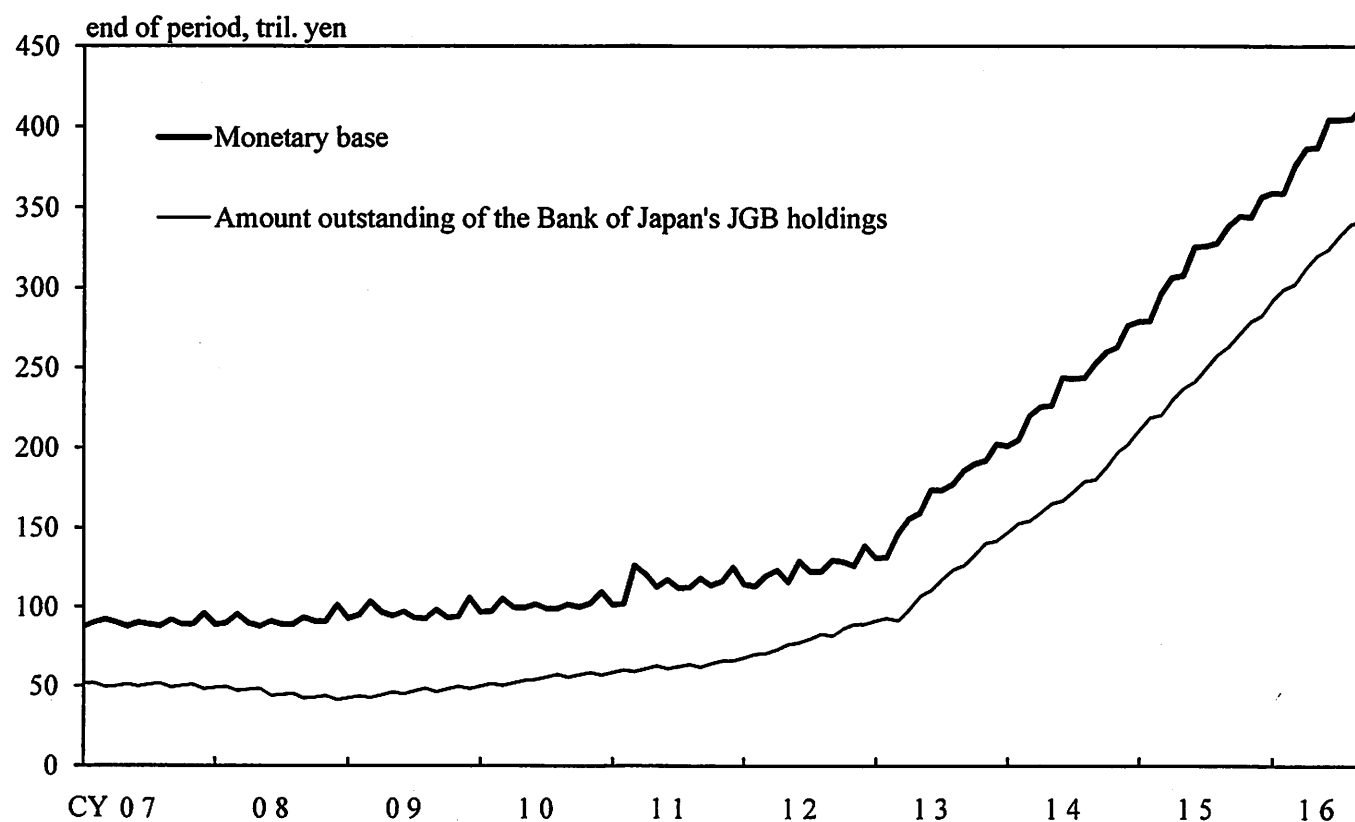
Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Cabinet Office.

Yield Curve and Monetary Base

(1) Yield Curve



(2) Expansion in the Monetary Base and JGB Holdings

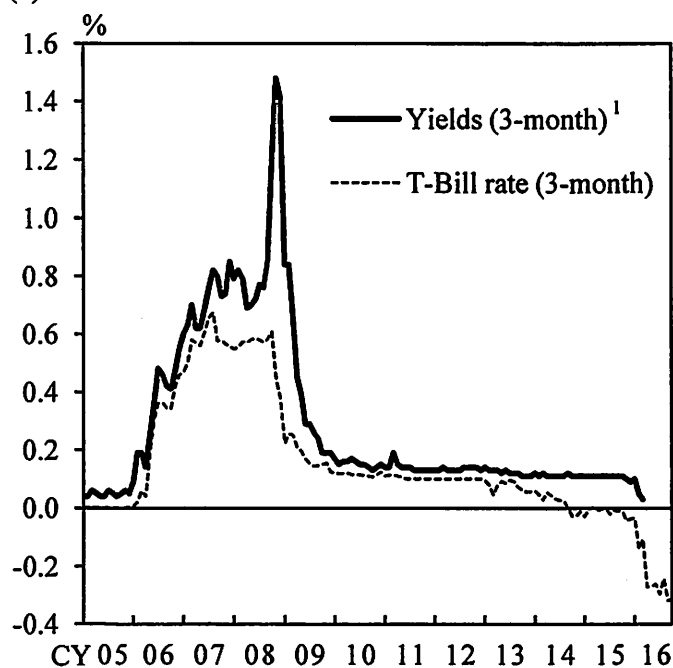


Sources: Bank of Japan; Bloomberg.

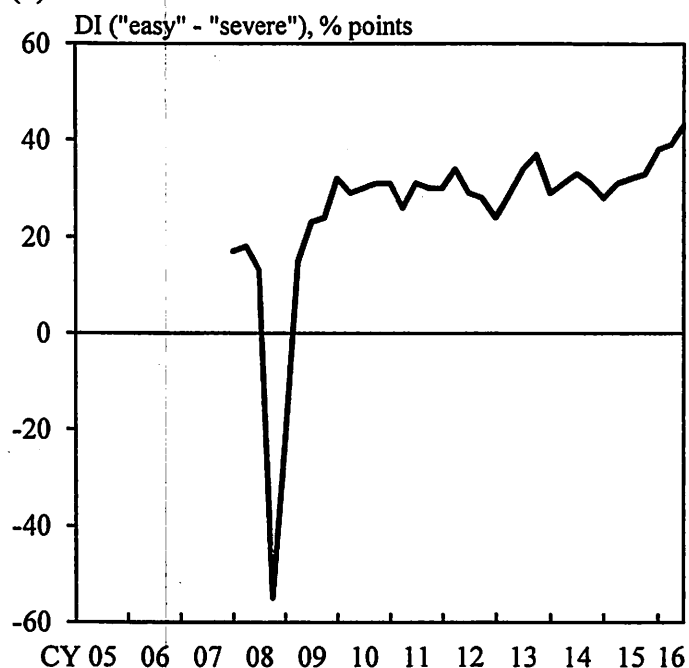
Issuance Conditions for CP and Corporate Bonds

(1) Issuance Yields and Conditions for CP Issuance

(a) Yields



(b) Conditions for CP Issuance²

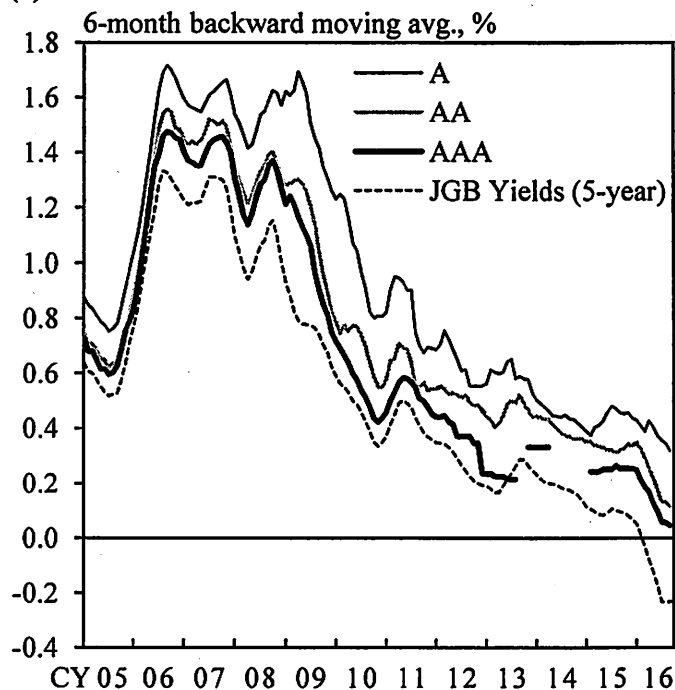


Notes: 1. Figures up to September 2009 are the average issuance rates of CP (3-month, rated a-1 or higher). Figures from October 2009 are the average issuance rates of CP (3-month, rated a-1). The last available figure (for March 2016) is the average of weekly data up to March 18.

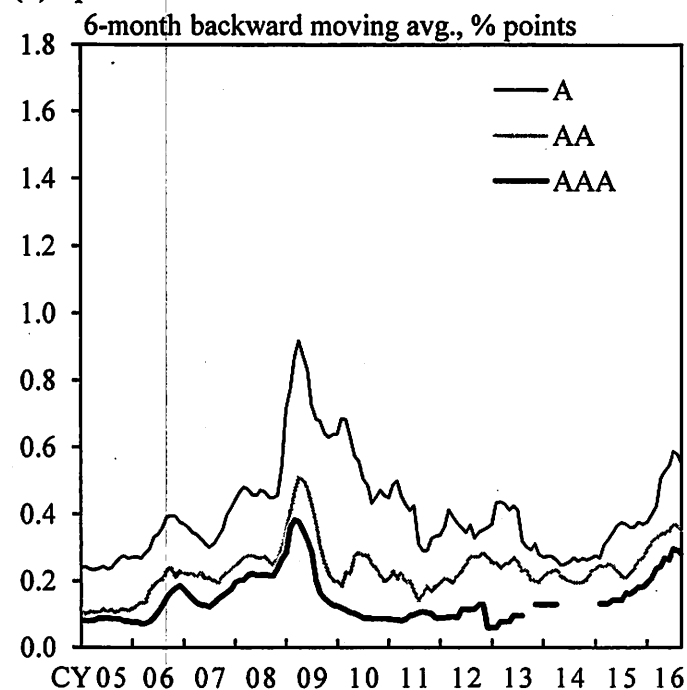
2. Based on the *Tankan*. Figures are for all industries and large enterprises, and based on CP-issuing Enterprises.

(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.

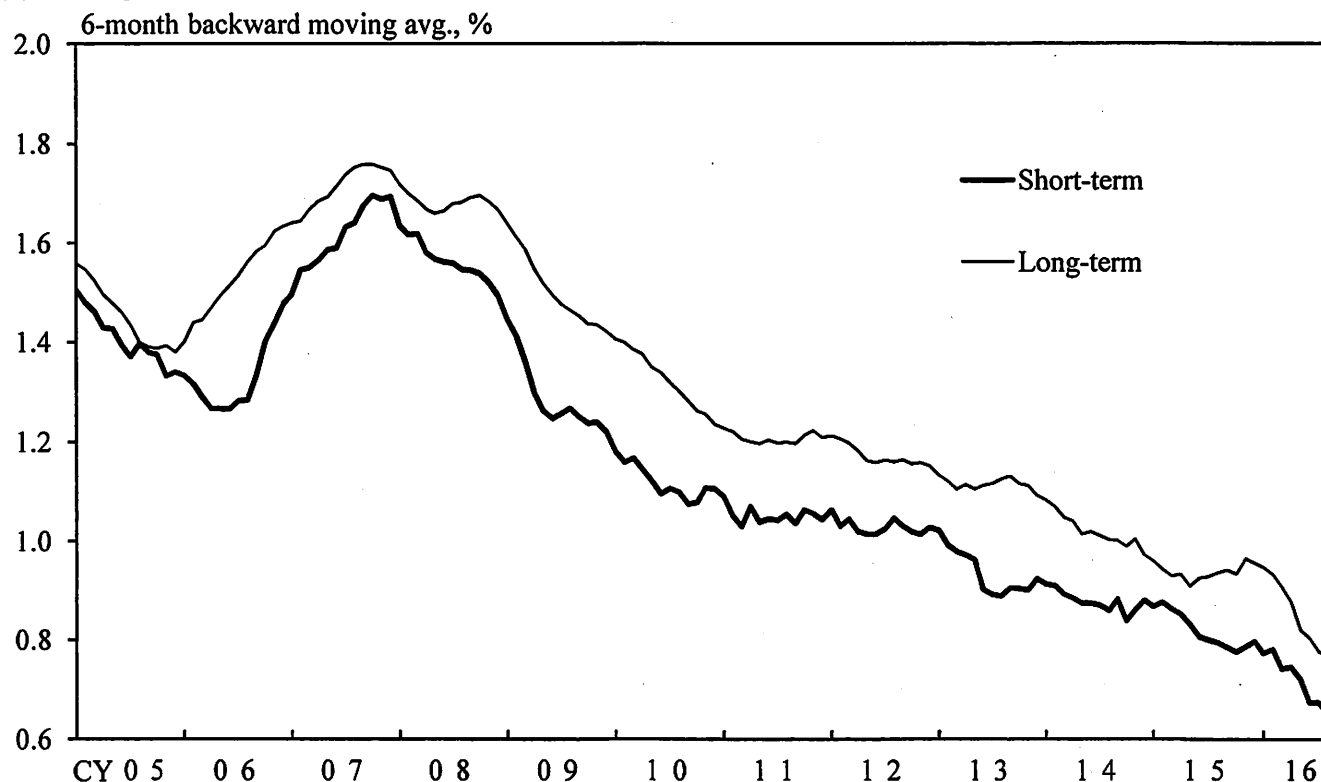
4. Bonds are classified based on the highest rating among the ratings from Moody's, S&P, R&I, and JCR.

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

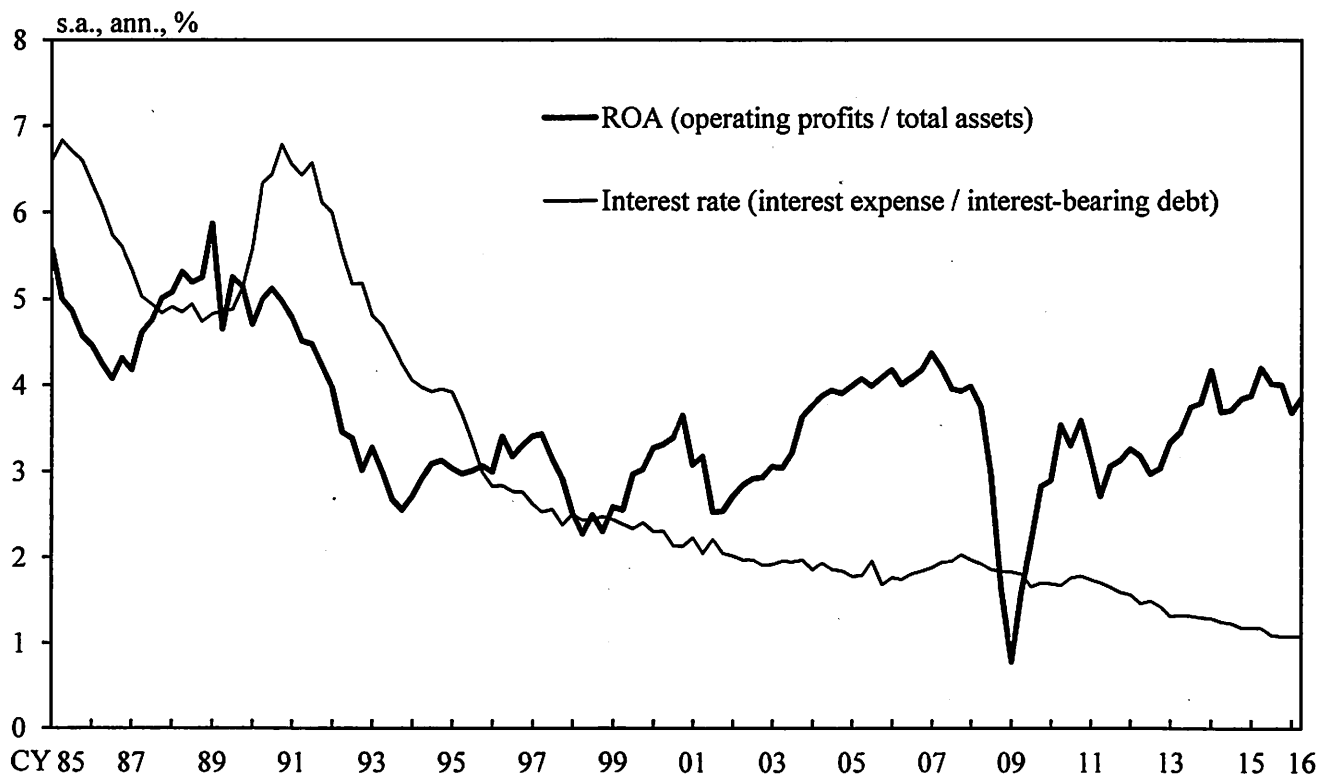
Sources: Bank of Japan; Japan Securities Depository Center; Capital Eye; I-N Information Systems; Bloomberg.

Bank Lending Rates

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



(2) ROA and Interest Rate



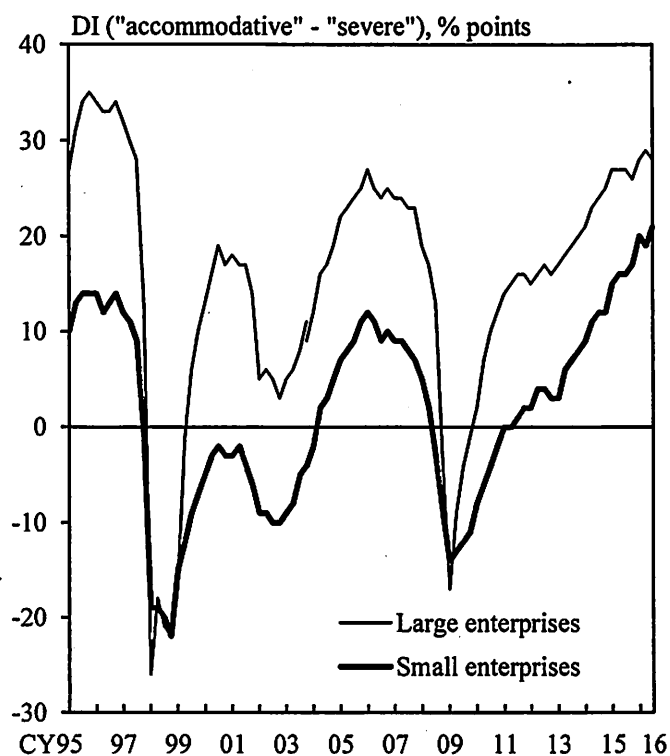
Notes: 1. Figures are taken from the "Financial Statements Statistics of Corporations by Industry, Quarterly," and are the total for enterprises of all sizes and in all industries. The finance and insurance industry is excluded.

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

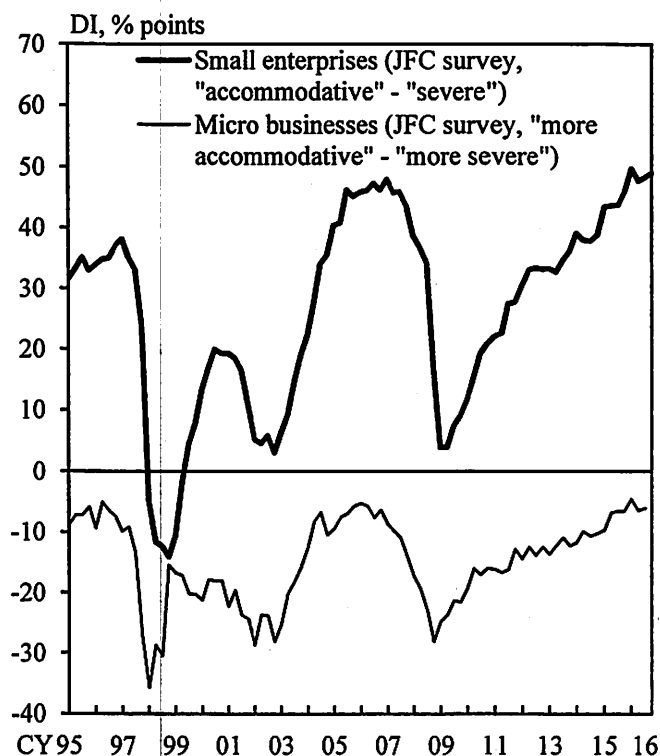
Sources: Bank of Japan; Ministry of Finance.

Corporate Finance-Related Indicators

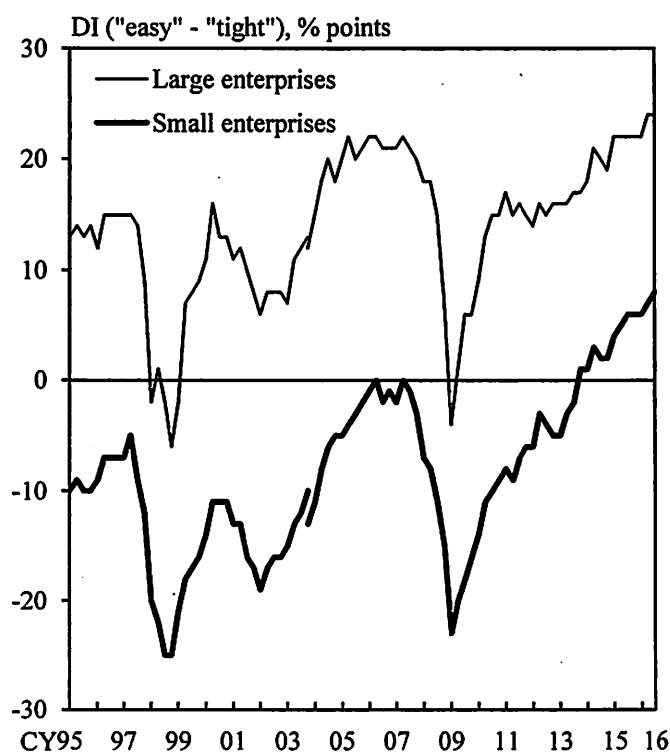
(1) Lending Attitude of Financial Institutions as Perceived by Firms

(a) *Tankan*

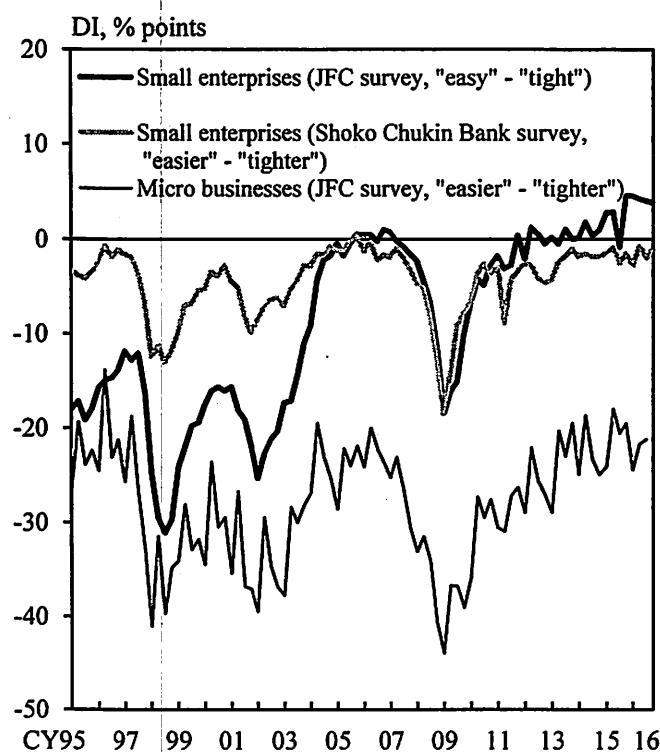
(b) Other Surveys



(2) Financial Position

(a) *Tankan*

(b) Other Surveys



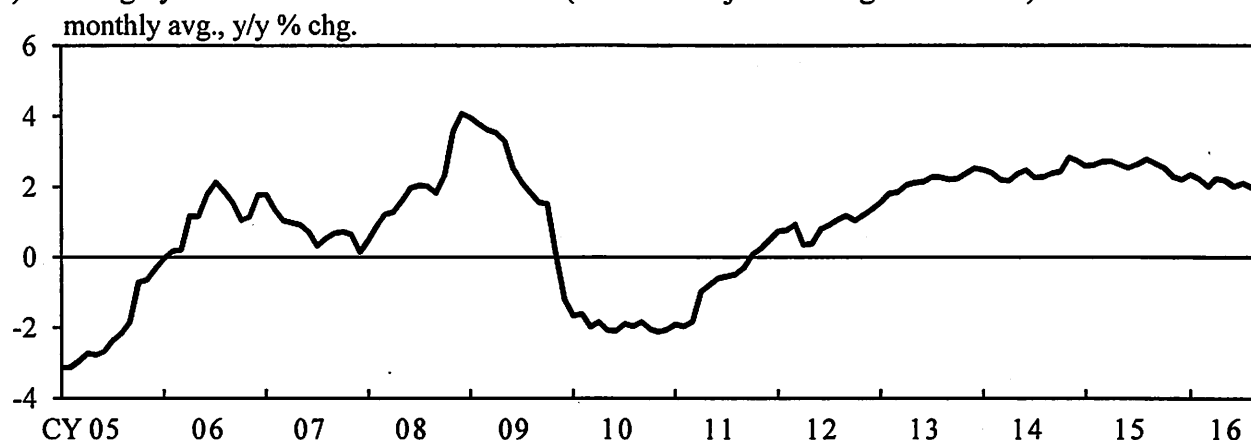
Notes: 1. Data from the *Tankan* are based on all industries. There is a discontinuity in the data in December 2003 due to a change in the survey framework.

2. The figure for 2016/Q4 is that of October.

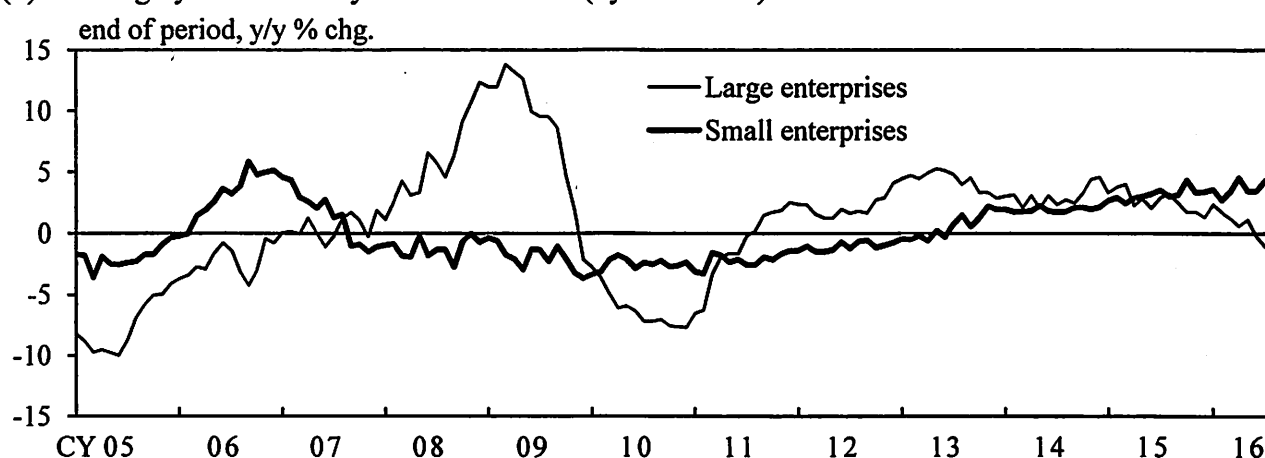
Sources: Bank of Japan; Shoko Chukin Bank; Japan Finance Corporation (JFC).

Amount Outstanding of Bank Lending, CP, and Corporate Bonds

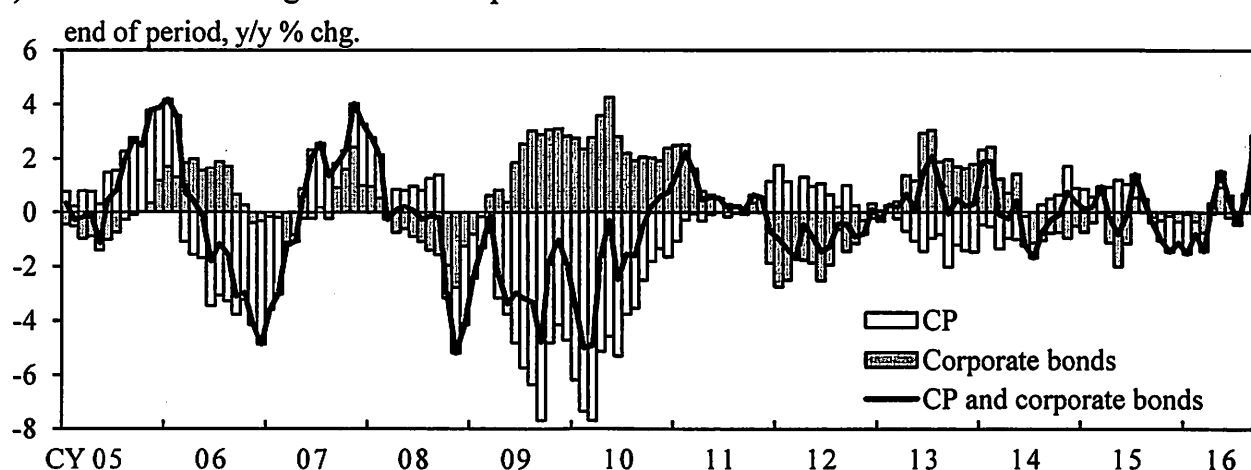
(1) Lending by Domestic Commercial Banks (Total of Major and Regional Banks)



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



(3) Amount Outstanding of CP and Corporate Bonds



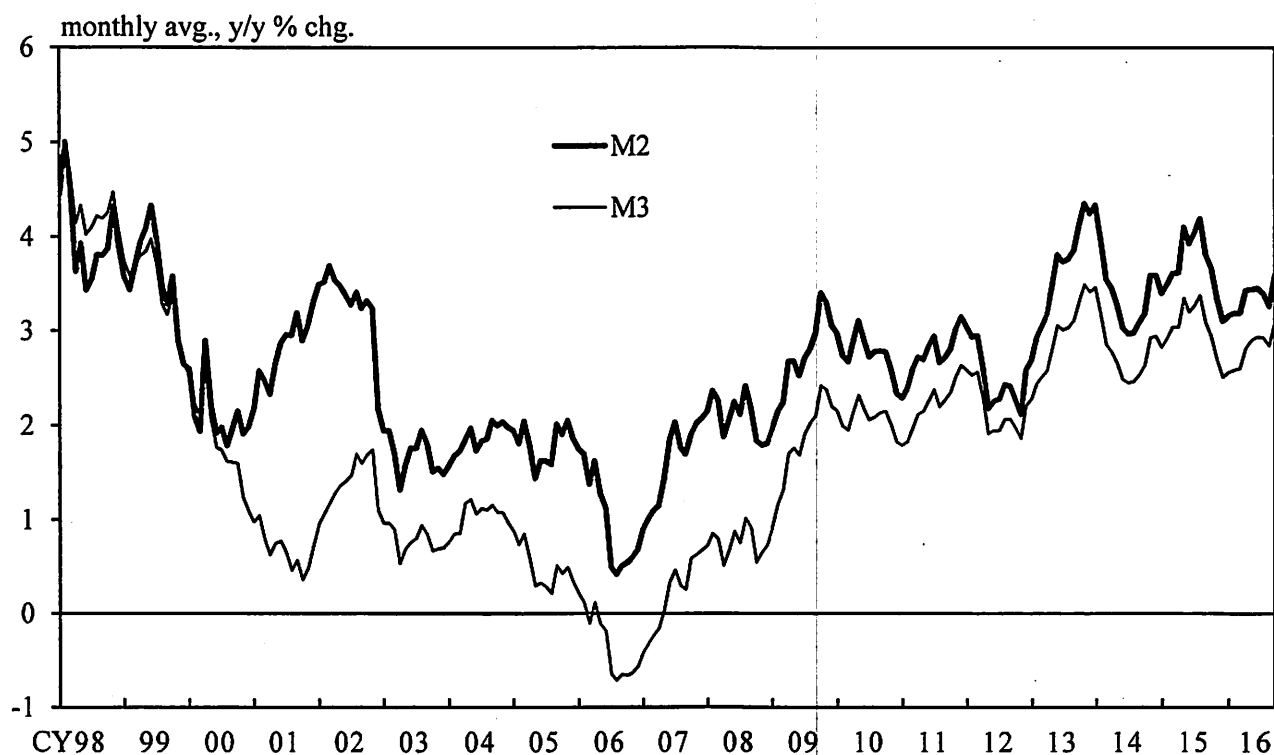
Notes: 1. Figures for CP are those for short-term corporate bonds registered under the book-entry transfer system. Those issued by banks, securities companies, and others such as foreign corporations are excluded; ABCP is included. Figures up to March 2008 are those compiled by the Bank of Japan.

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.

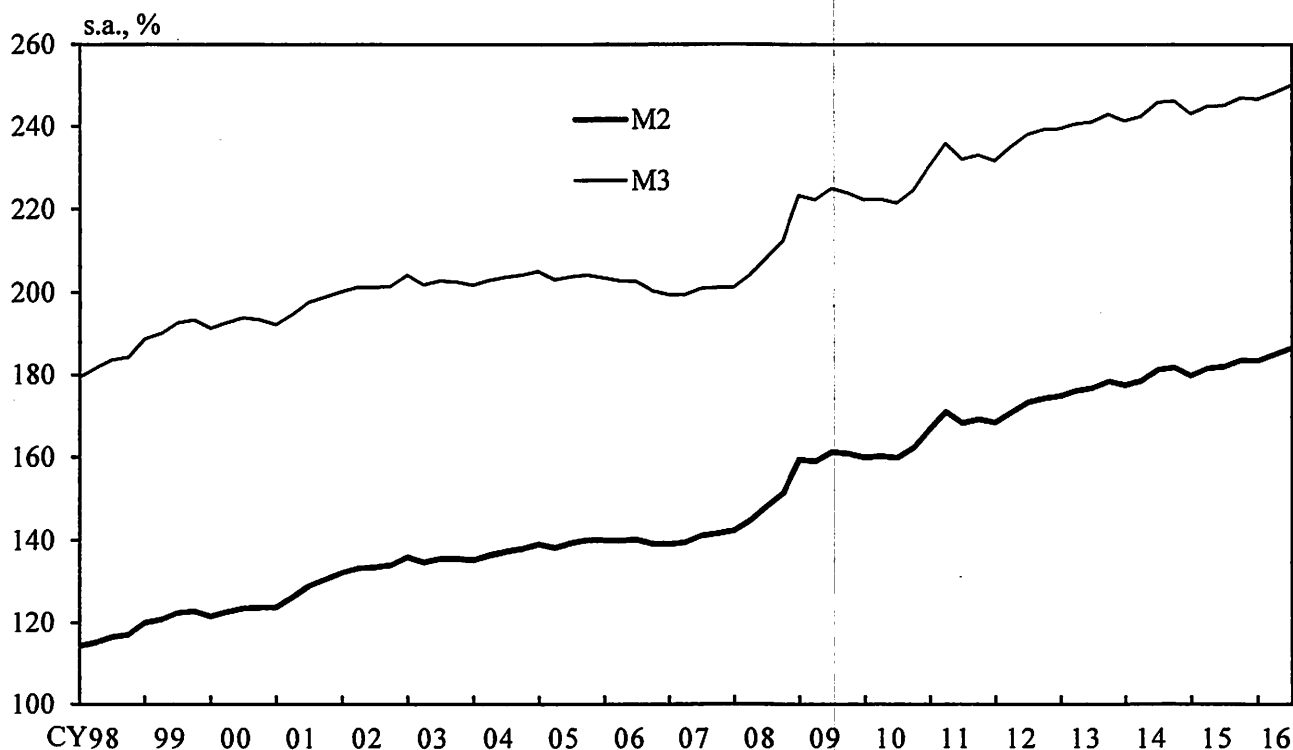
Sources: Bank of Japan; Japan Securities Depository Center; Japan Securities Dealers Association; I-N Information Systems.

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.

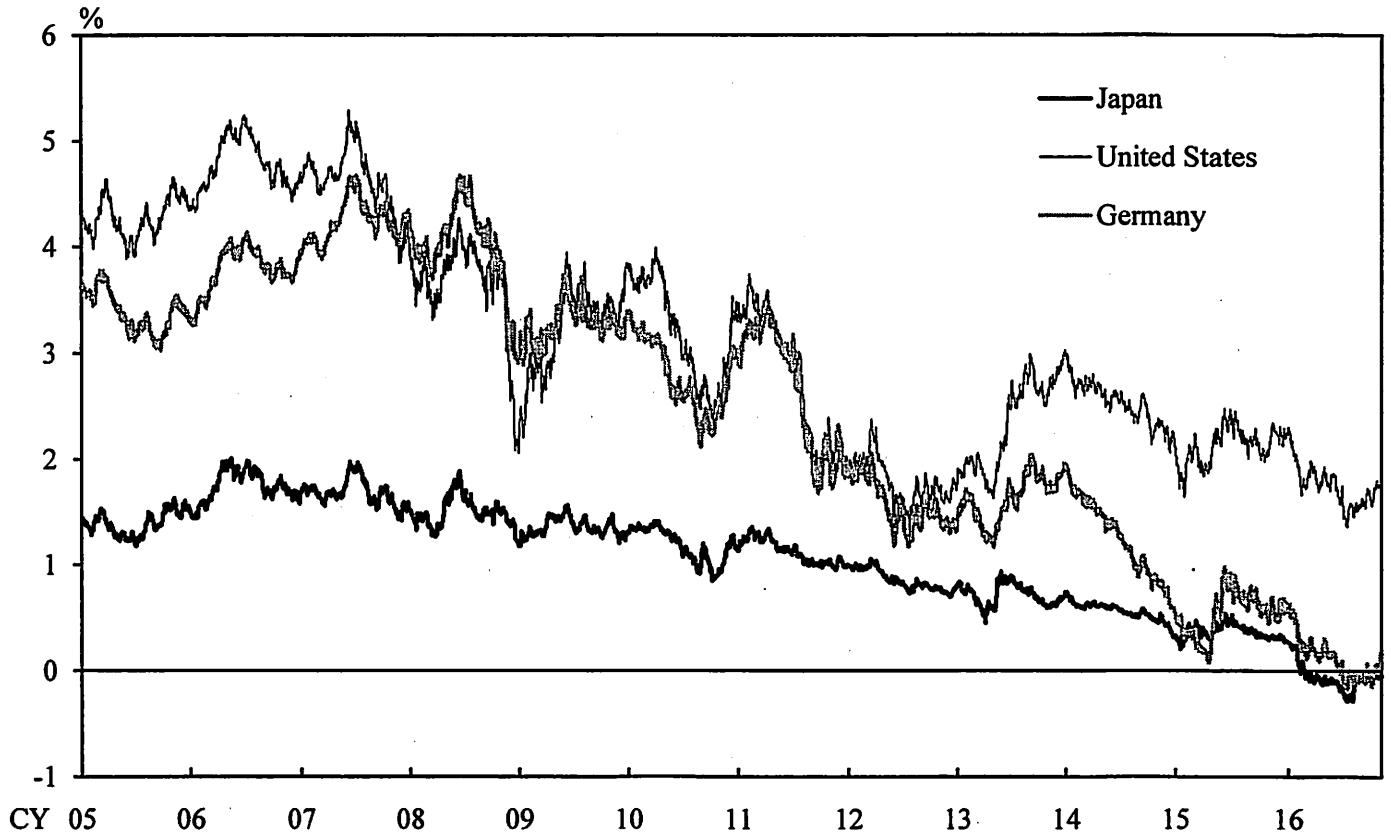
2. Figures for M3 up to March 2003 are the former series of the figures for M3+CDs minus the figures for pecuniary trusts.

3. The figure for nominal GDP in 2016/Q3 is assumed to be unchanged from the previous quarter.

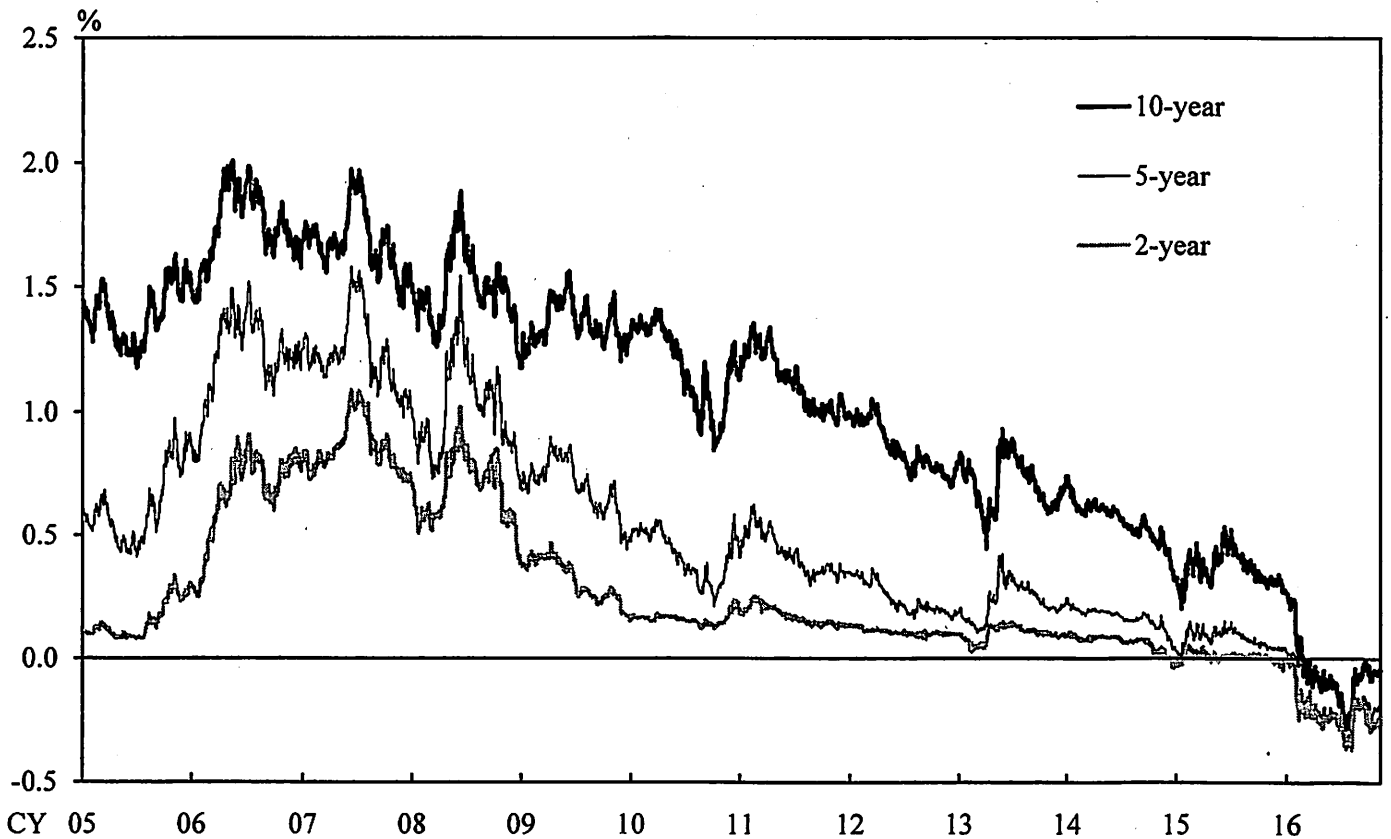
Sources: Bank of Japan; Cabinet Office.

Nominal Benchmark Yields

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



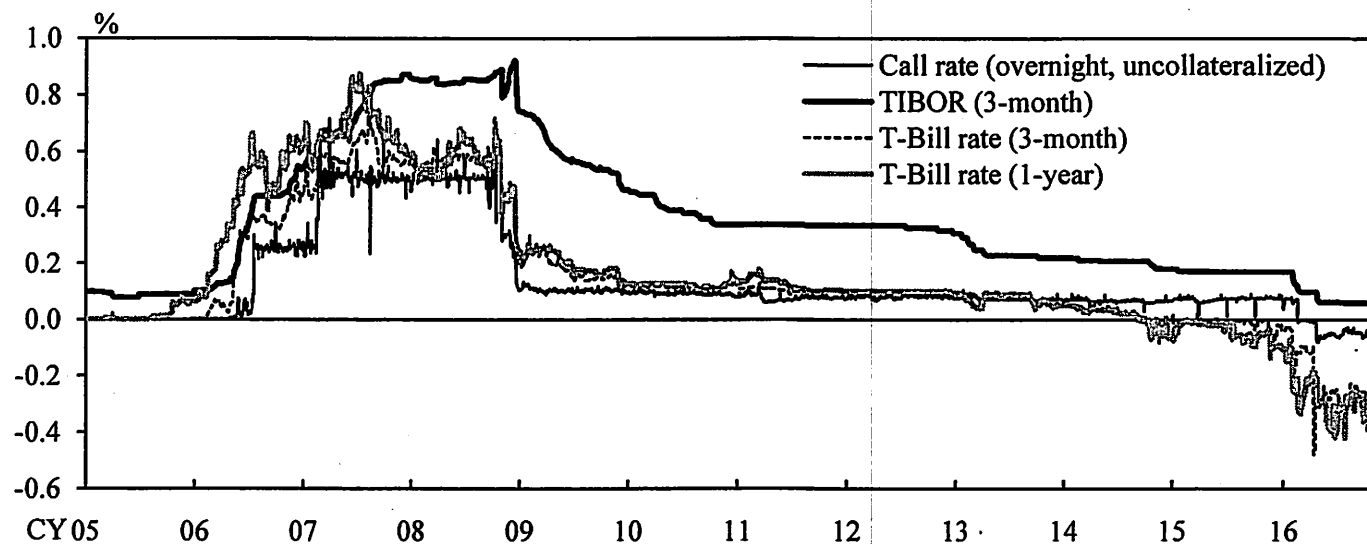
(2) JGB Yields



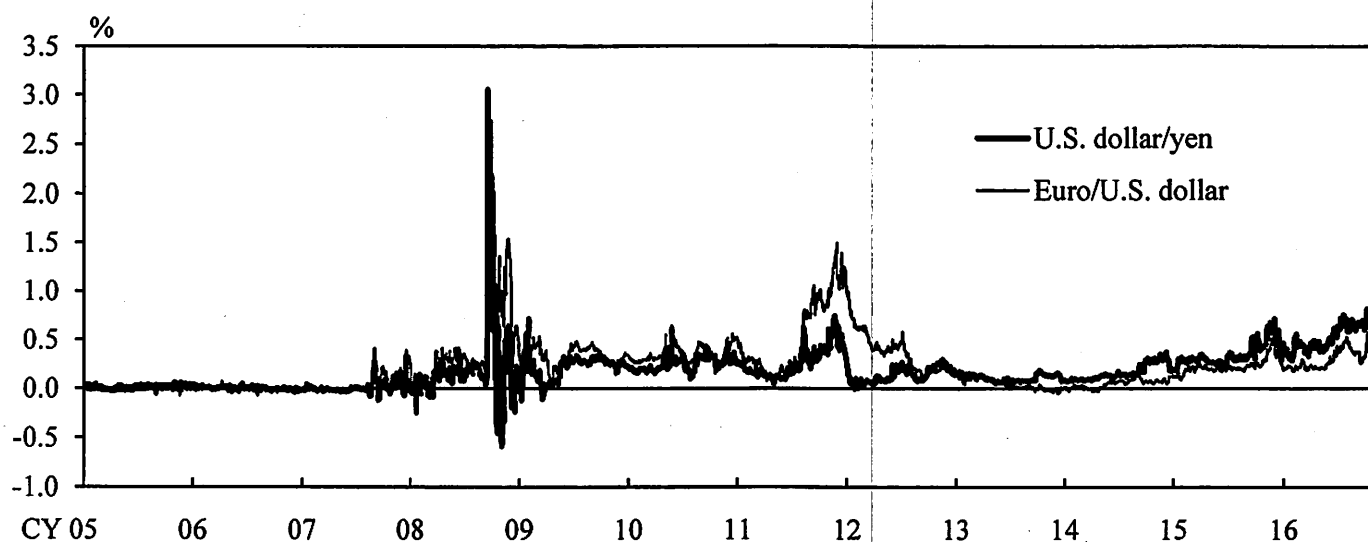
Source: Bloomberg.

Money Market Rates

(1) Short-Term Interest Rates

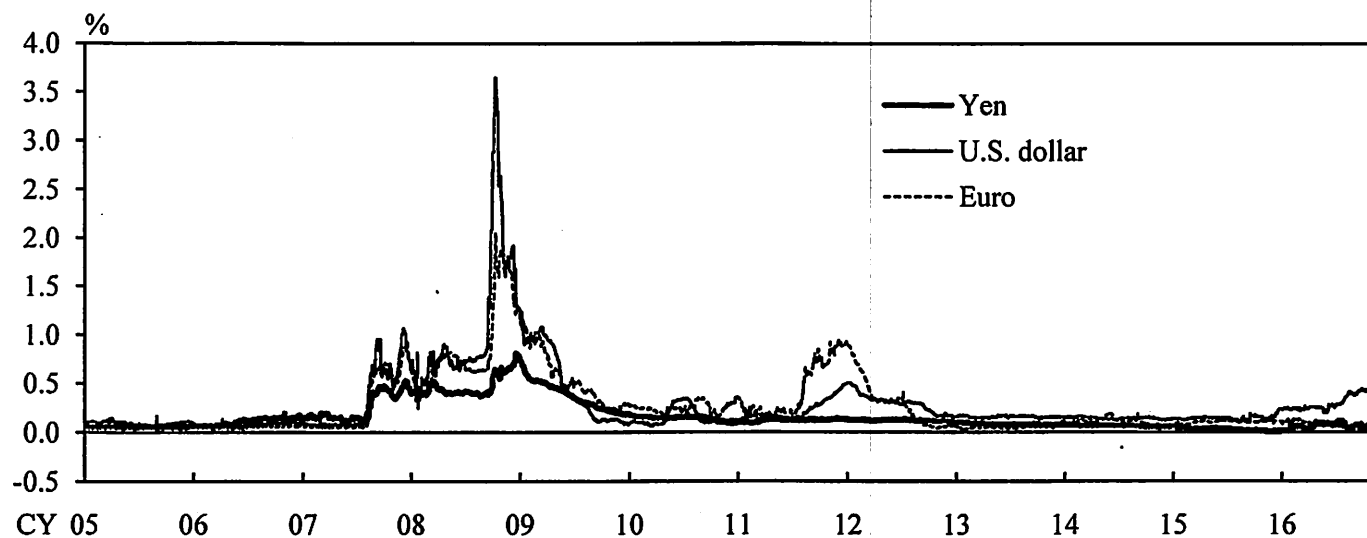


(2) Dollar Funding Premiums through Foreign Exchange Swaps



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

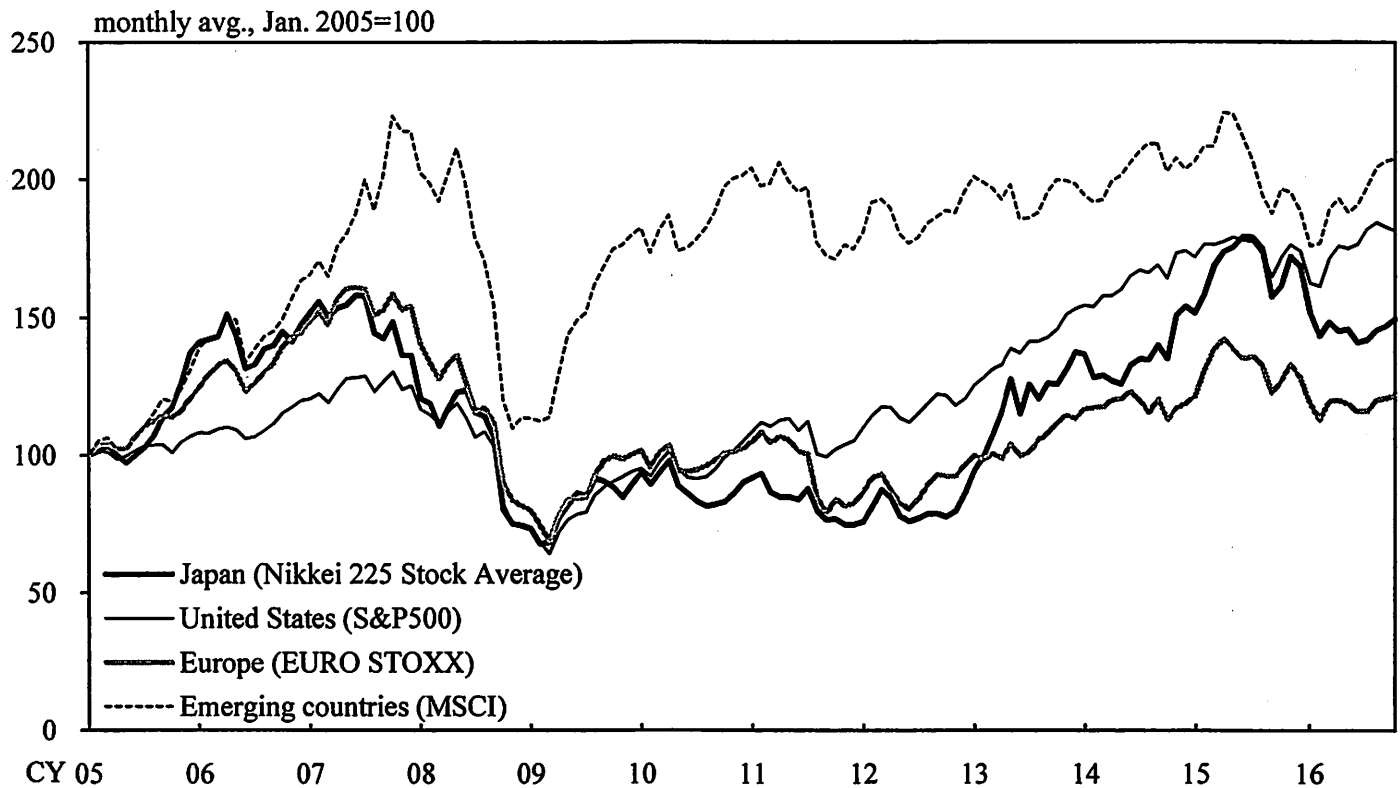


Note: The credit spreads for term instruments are LIBOR (3-month) minus yields on overnight index swaps (3-month).

Sources: Bank of Japan; Bloomberg.

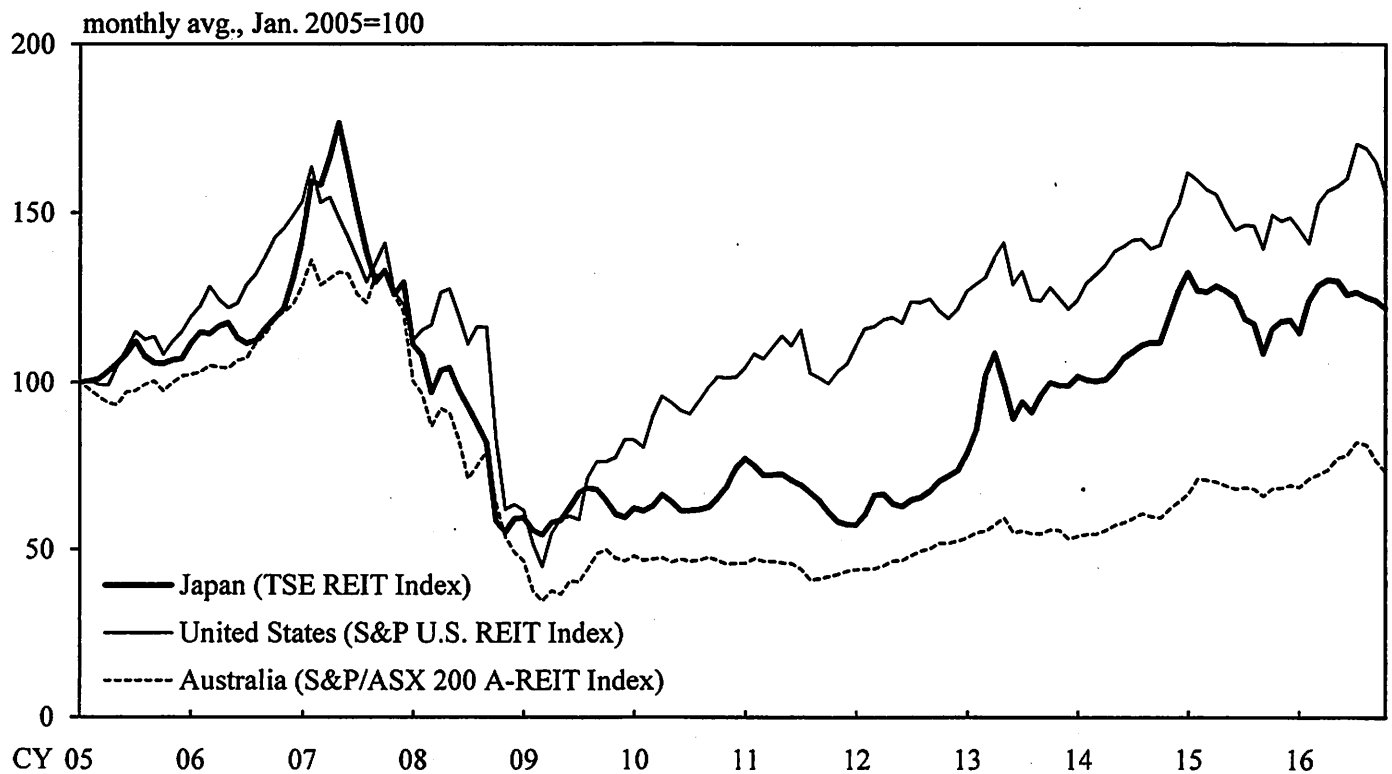
Stock Prices and REIT Prices

(1) Selected Stock Prices



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

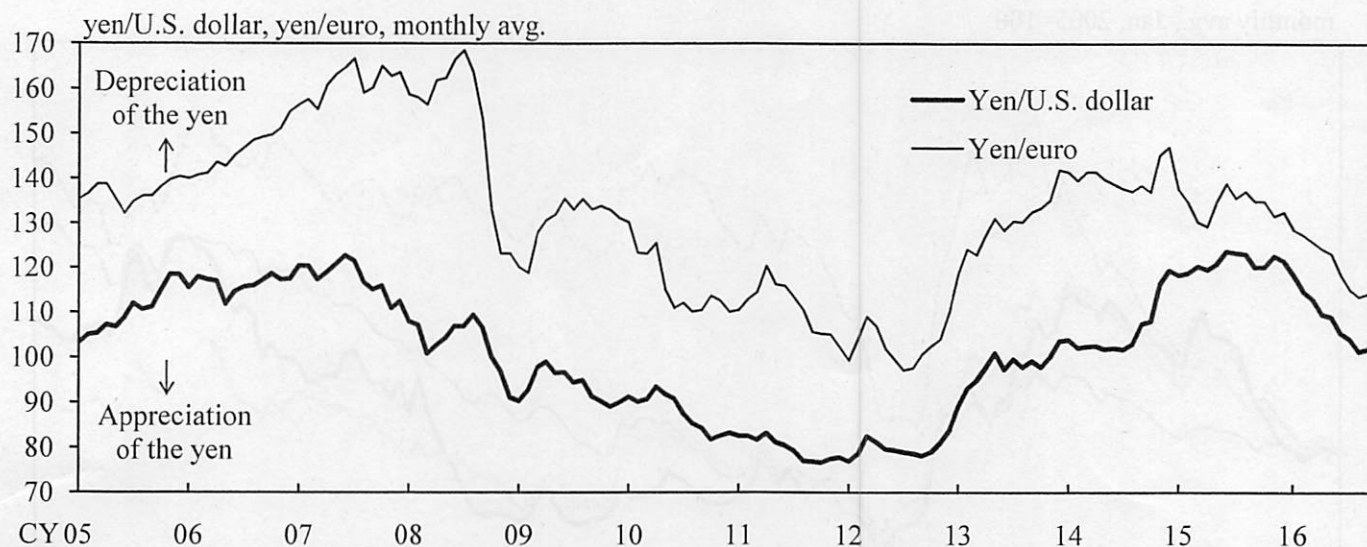
(2) Selected REIT Indexes



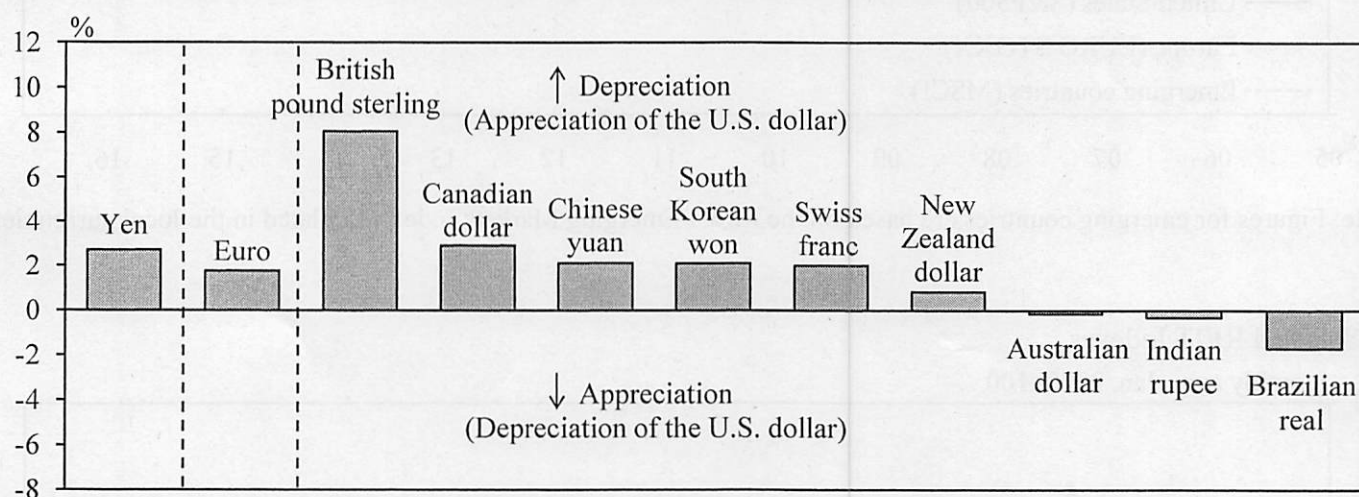
Source: Bloomberg.

Exchange Rates

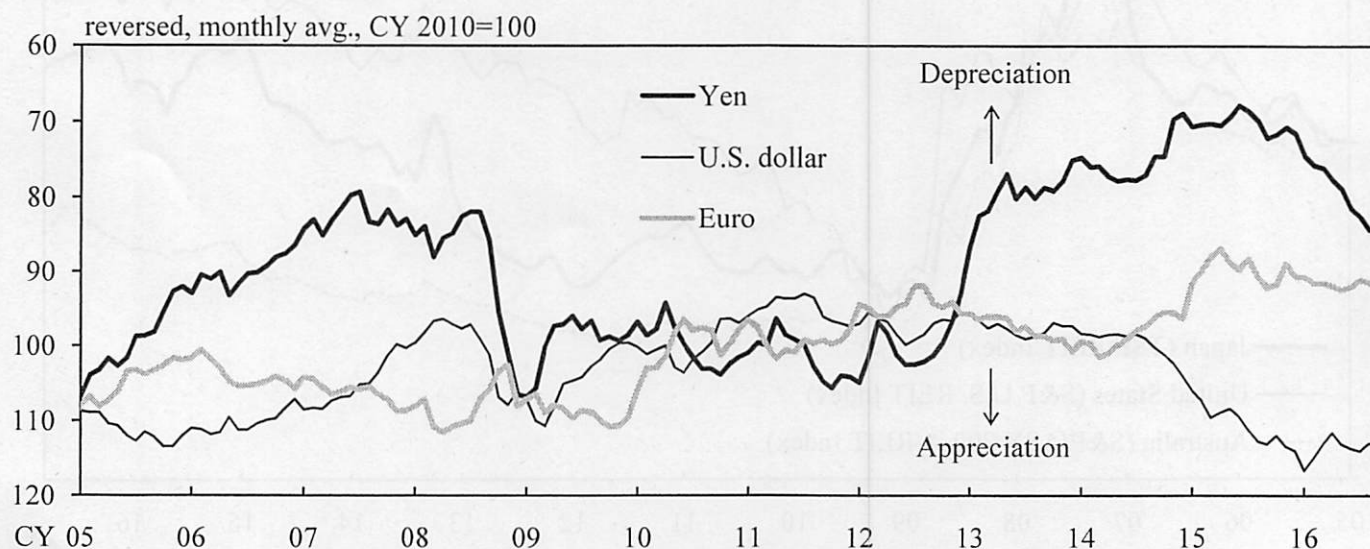
(1) Yen/U.S. Dollar and Yen/Euro



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



(3) Real Effective Exchange Rates

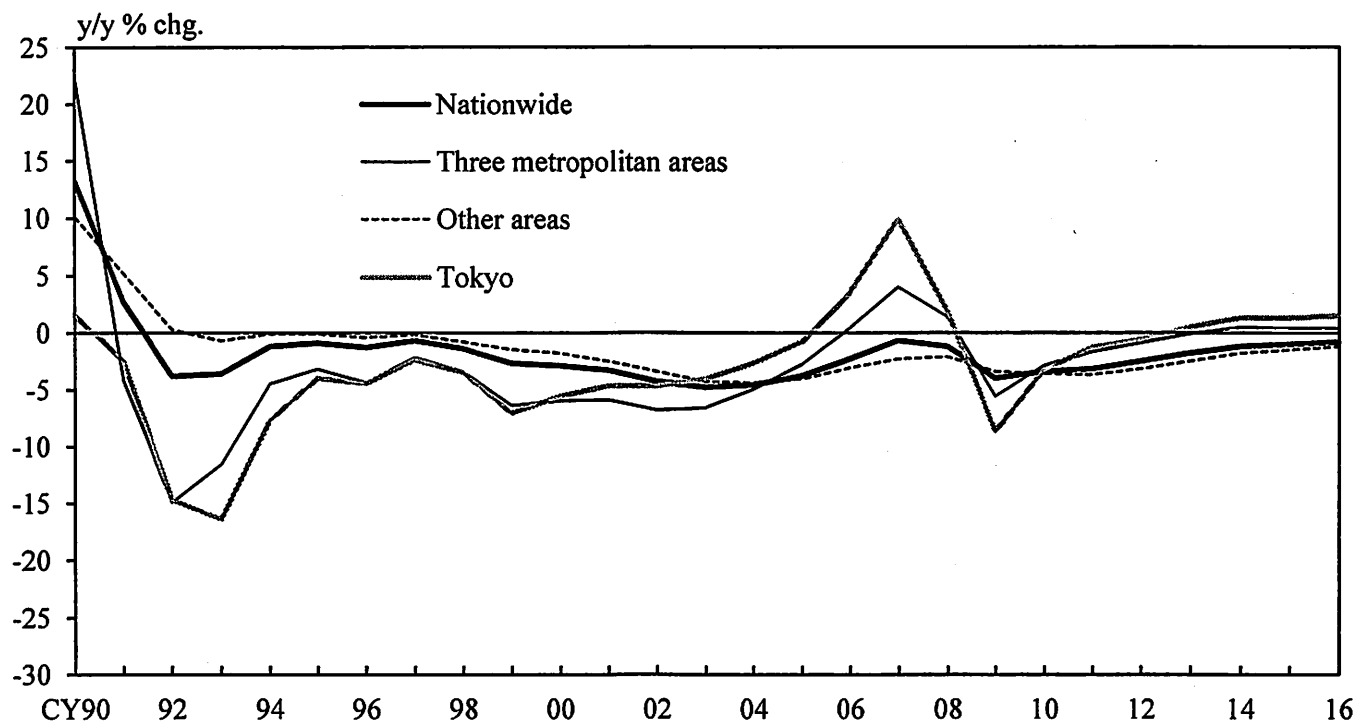


Note: The real effective exchange rates are based on the broad indices of the BIS effective exchange rate.

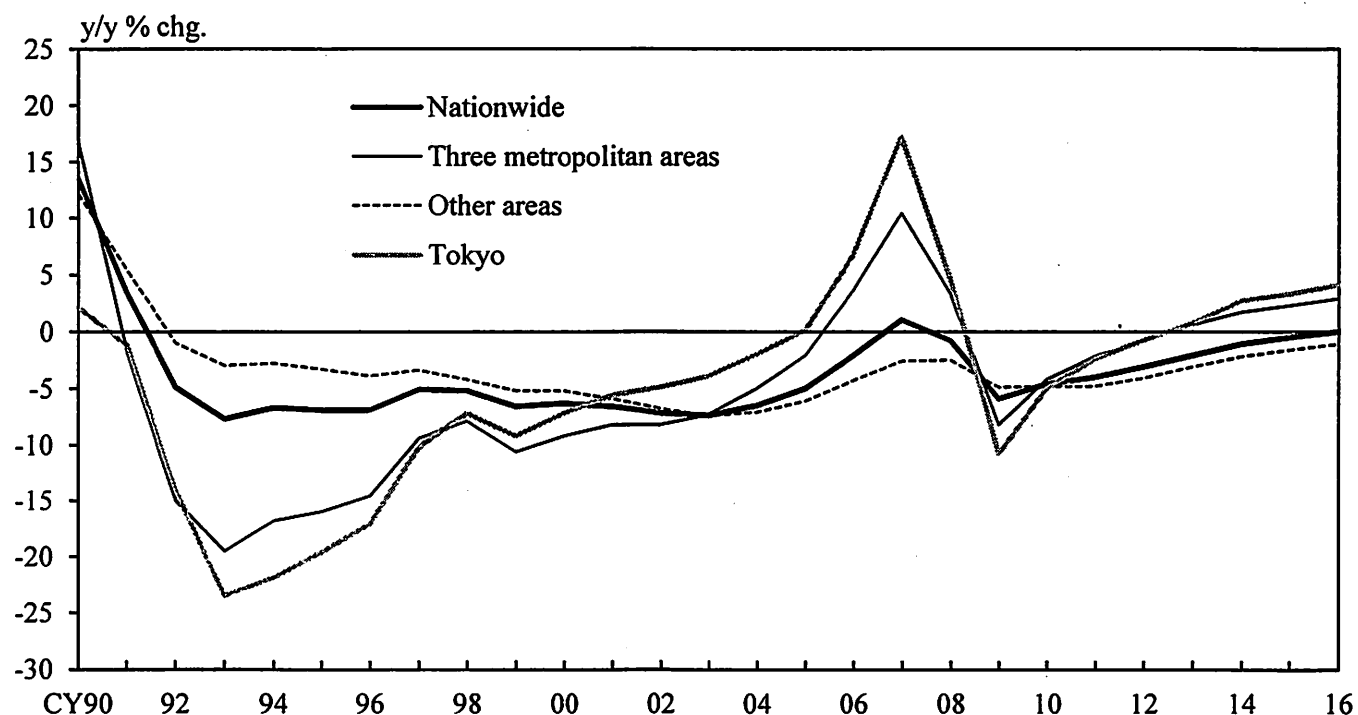
Sources: Bank for International Settlements (BIS); Bloomberg.

Land Prices

(1) Residential Land



(2) Commercial Land



Notes: 1. Based on the "Land Price Research by Prefectural Governments." Figures are as of July 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.

Simulation of the Effects of Public Investment by Macroeconomic Model

Case: Public investment (% of nominal GDP) increases by 1% during the 1st year.

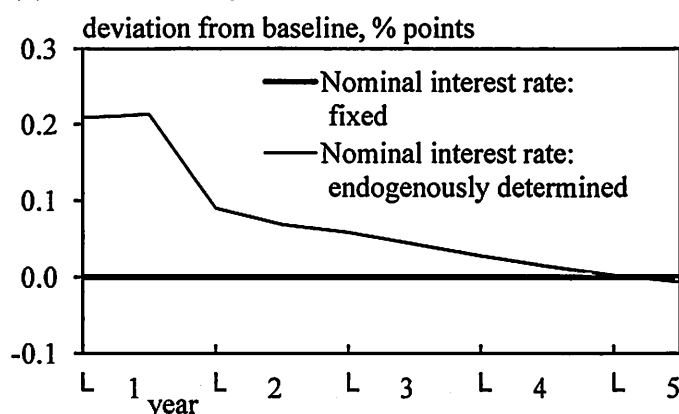
$$\left(\begin{array}{c} \text{Fiscal Multiplier} \\ = \frac{\text{Cumulative impact on real GDP}}{\text{Increase in public investment in the 1st year}} \end{array} \right)$$

	Fiscal Multiplier				
Year	1st	2nd	3rd	4th	5th
Nominal Interest Rate: Fixed	1.1	1.4	1.5	1.4	1.3
Nominal Interest Rate: Endogenously Determined	1.0	1.1	1.0	0.8	0.7

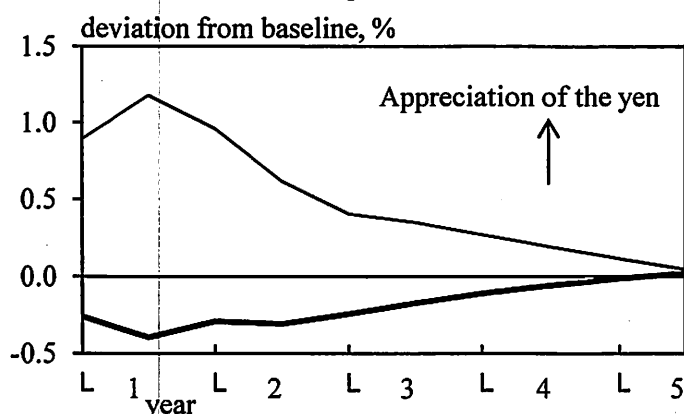
$$\left(\begin{array}{c} \text{Impact on y/y \% change in} \\ \text{the CPI (less fresh food)} \end{array} \right) \quad \% \text{ points}$$

Year	1st	2nd	3rd	4th	5th
Nominal Interest Rate: Fixed	0.1	0.2	0.1	0.1	0.0
Nominal Interest Rate: Endogenously Determined	0.1	0.2	0.1	0.0	0.0

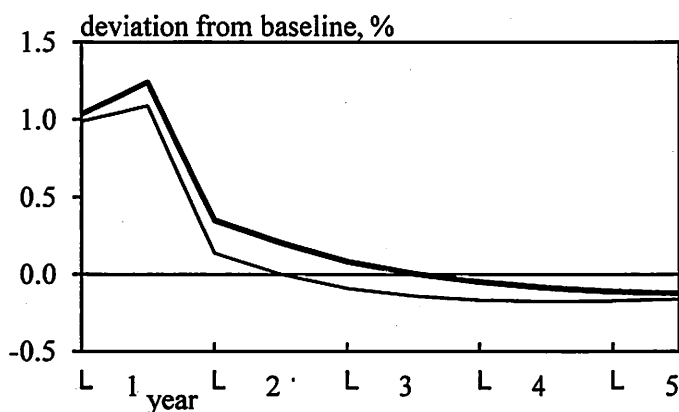
(1) Nominal Long-Term Interest Rate



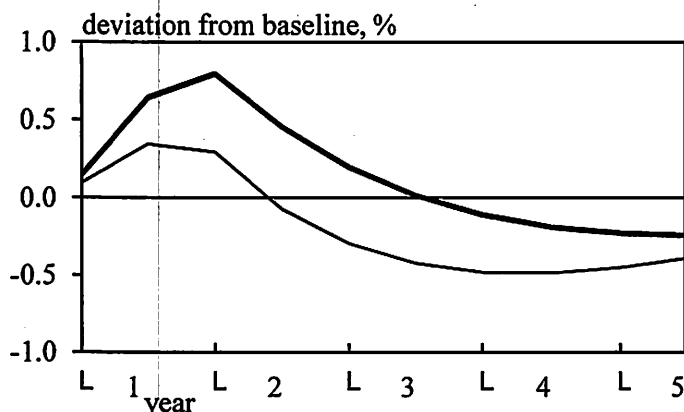
(2) Real Effective Exchange Rate



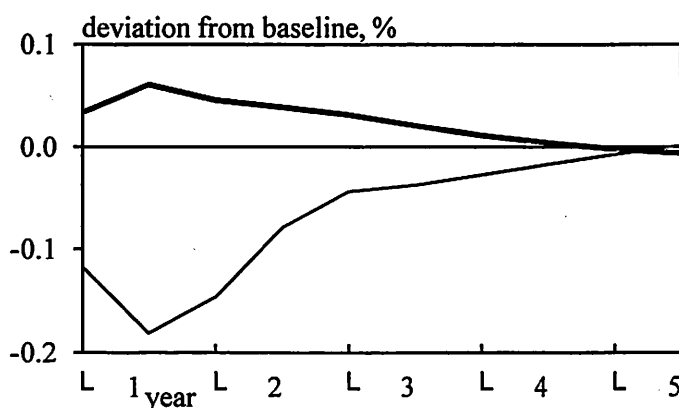
(3) Real GDP



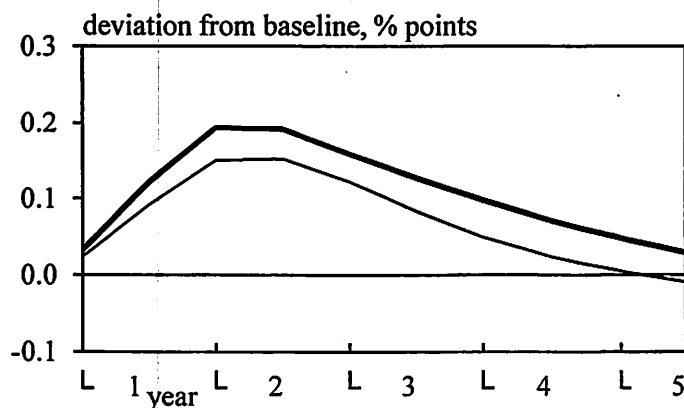
(4) Real Fixed Investment (Business and Housing)



(5) Real Exports



(6) y/y % Change in the CPI (Less Fresh Food)

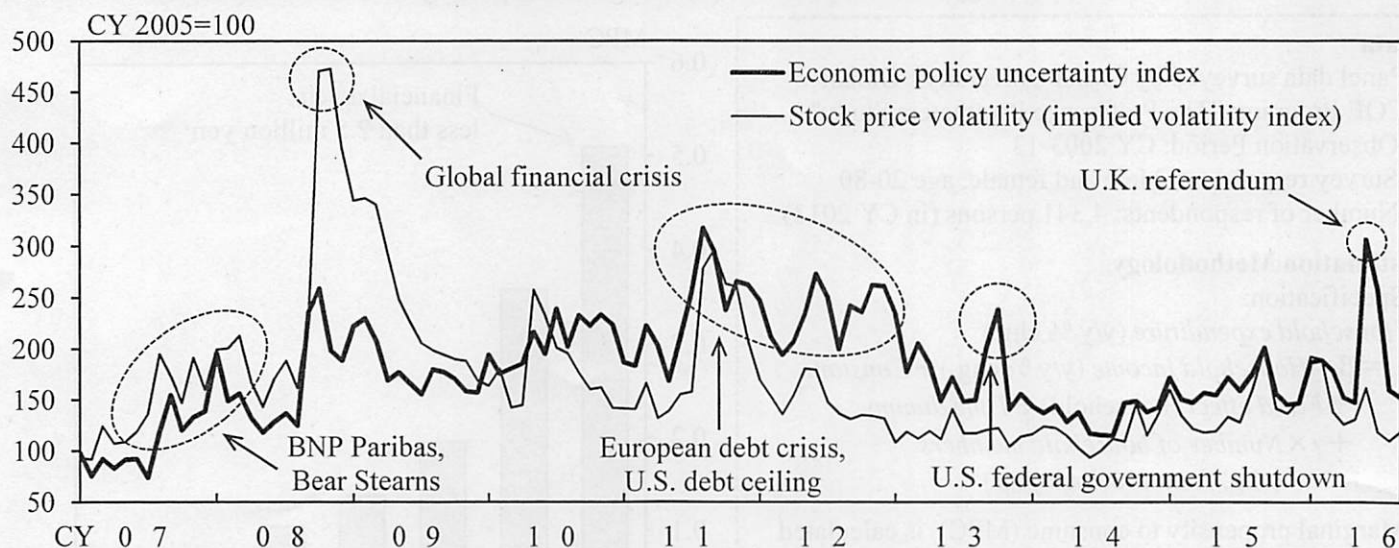


Note: Simulations are based on Q-JEM, the macroeconomic model developed at the Research and Statistics Department, Bank of Japan. For details of the model, see "The Quarterly Japanese Economic Model (Q-JEM): 2011 Version," Bank of Japan Working Paper Series (11-E-11), etc.

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

Impact of Global Uncertainty Shock on Trade Activities

(1) Policy Uncertainty and Stock Price Volatility in the United States and Europe

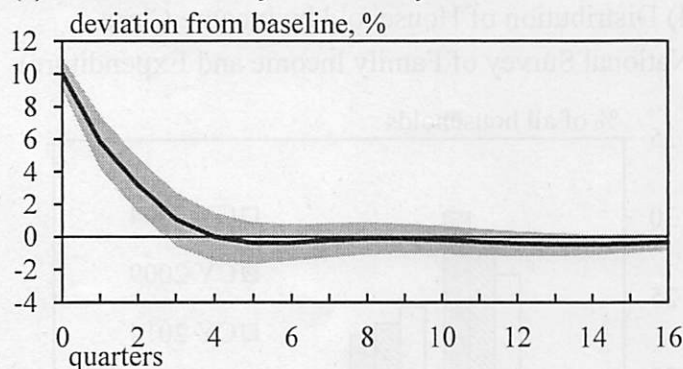


(2) Impact on Japan's Exports

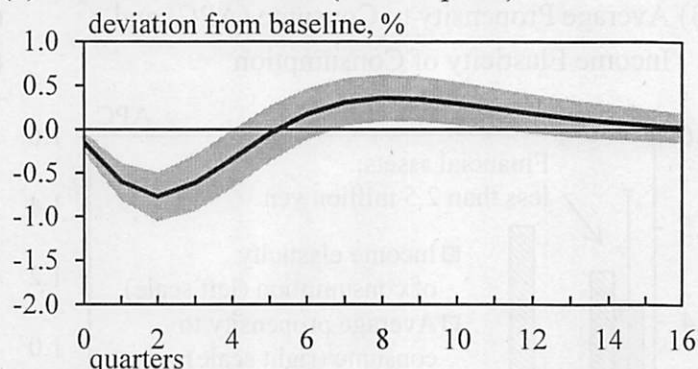
- The VAR model is estimated using the five following variables: the economic policy uncertainty index, the FCI (financial conditions index), world trade volume, the yen's real effective exchange rate, and Japan's real exports. All variables other than the FCI are detrended using HP-filter. Shock identification is based on Cholesky decomposition in the above order.
- Estimation period: 1999/Q1-2016/Q2

• Responses to a 10% Shock in the Policy Uncertainty Index

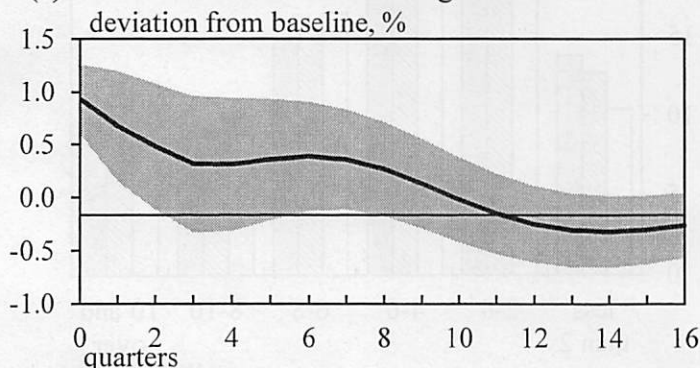
(a) Economic Policy Uncertainty Index



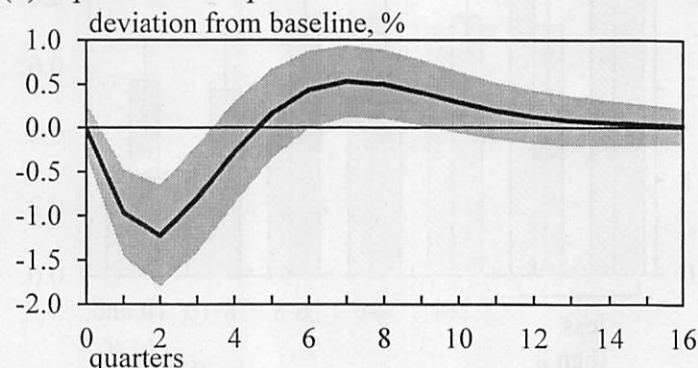
(b) World Trade Volume (Real Imports)



(c) Yen's Real Effective Exchange Rate



(d) Japan's Real Exports



Notes: 1. The economic policy uncertainty index is the weighted average of figures for the United States and Europe using shares of the United States and the EU in Japan's exports in 2015 as weights. The same applies to stock price volatility and the FCI.

2. Shaded areas indicate 75 percentile bands.

Sources: Economic Policy Uncertainty; Bloomberg; CPB Netherlands Bureau for Economic Policy Analysis; Ministry of Finance; Bank of Japan, etc.

Marginal Propensity to Consume

(1) Data and Estimation Methodology

Data

Panel data surveyed by Osaka University's Global COE Program: "The Preference Parameters Study"
 Observation Period: CY 2003-13
 Survey respondent: Male and female, age 20-80
 Number of respondents: 4,341 persons (in CY 2013)

Estimation Methodology

Specification:

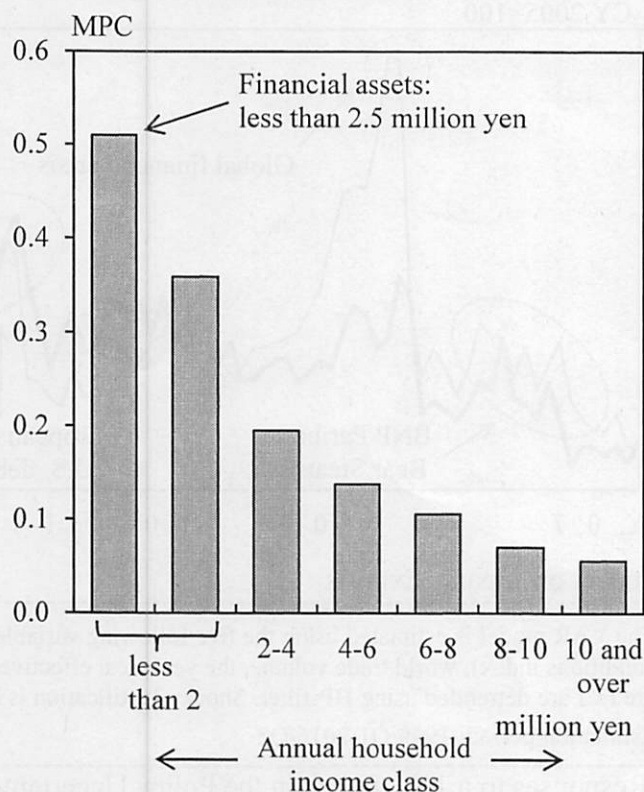
Household expenditure (y/y % chg.)
 $= \beta \times \text{Household income (y/y \% chg.)} + \text{Constant}$
 $+ \text{Fixed effect (household)} + \text{Time dummy}$
 $+ \gamma \times \text{Number of household members}$
 (chg. from previous year)

Marginal propensity to consume (MPC) is calculated by multiplying β (income elasticity) and average propensity to consume (APC).

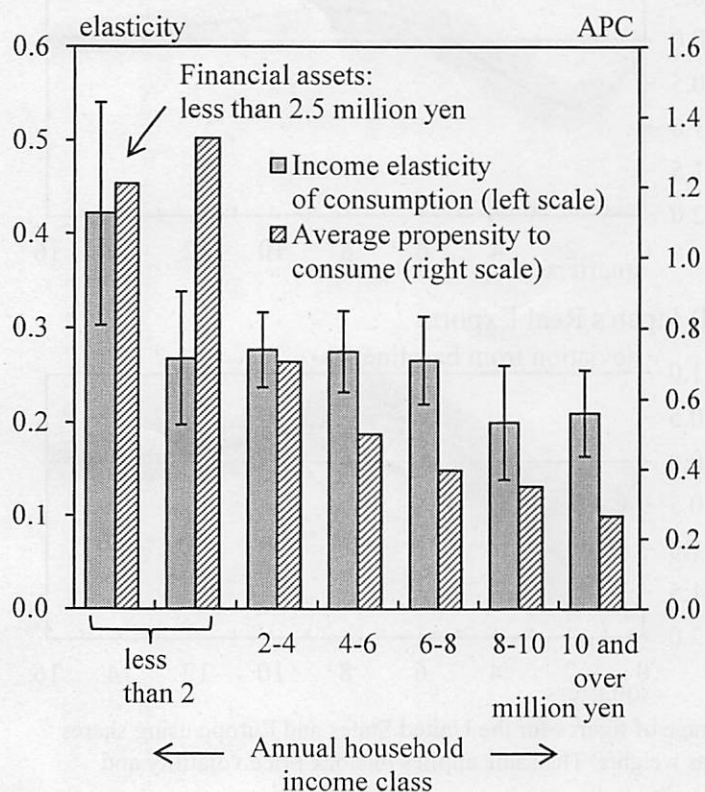
$$\underbrace{\frac{\Delta C}{\Delta Y}}_{\text{MPC}} = \underbrace{\frac{\Delta C/C}{\Delta Y/Y}}_{\text{Income Elasticity}} \times \underbrace{\frac{C}{Y}}_{\text{APC}}$$

C: Consumption Y: Income

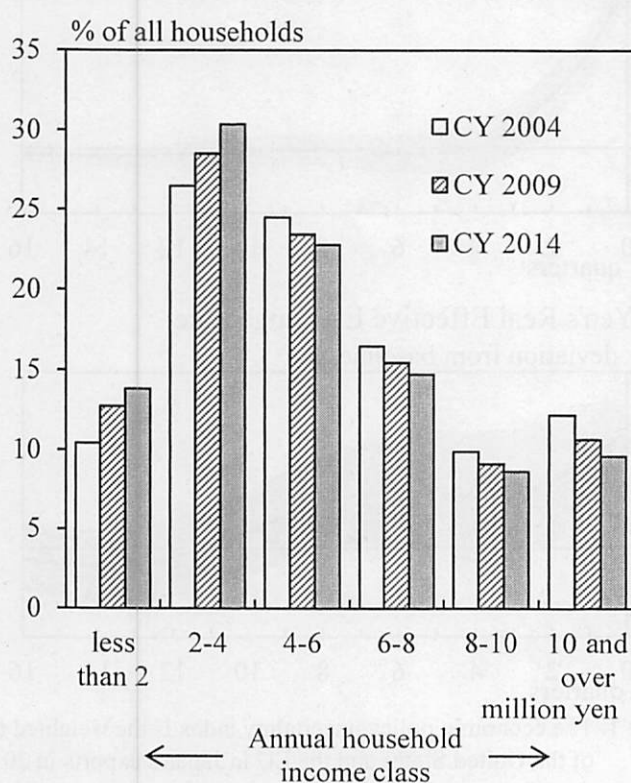
(2) Marginal Propensity to Consume (MPC)



(3) Average Propensity to Consume (APC) and Income Elasticity of Consumption



(4) Distribution of Household by Income Class (National Survey of Family Income and Expenditure)



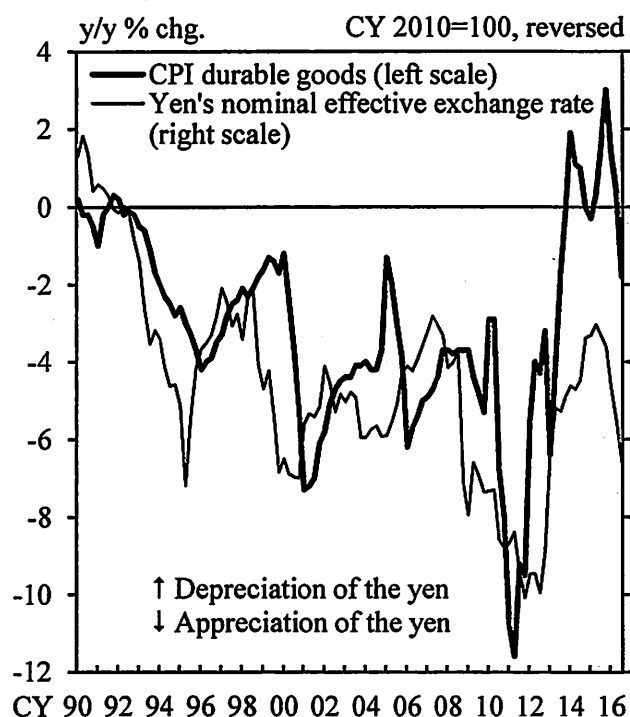
Notes: 1. In the estimation, data of self-employed persons are excluded.

2. Error bands in (3) represent 95% confidence intervals.

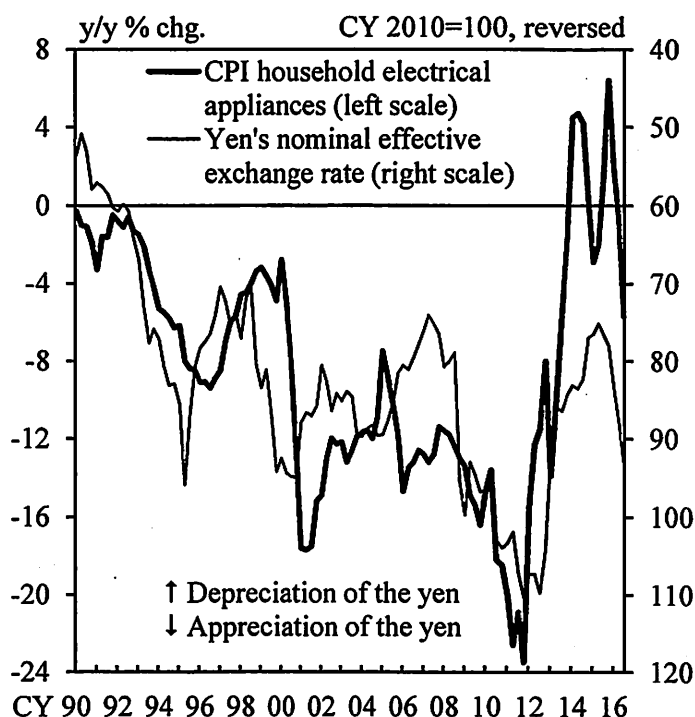
Sources: Osaka University's Global COE Program; Ministry of Internal Affairs and Communications.

Exchange Rates and Consumer Durable Goods Prices

(1) Consumer Durable Goods Prices and Exchange Rates



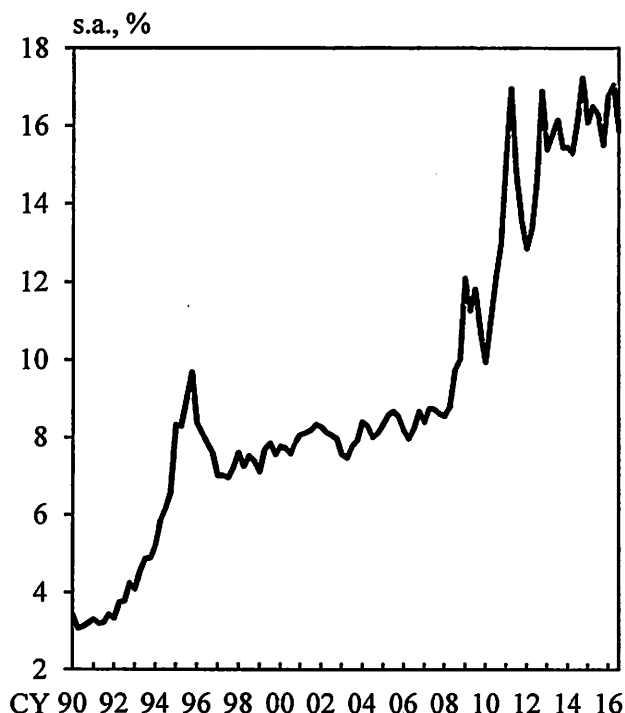
(2) Household Electrical Appliances Prices and Exchange Rates



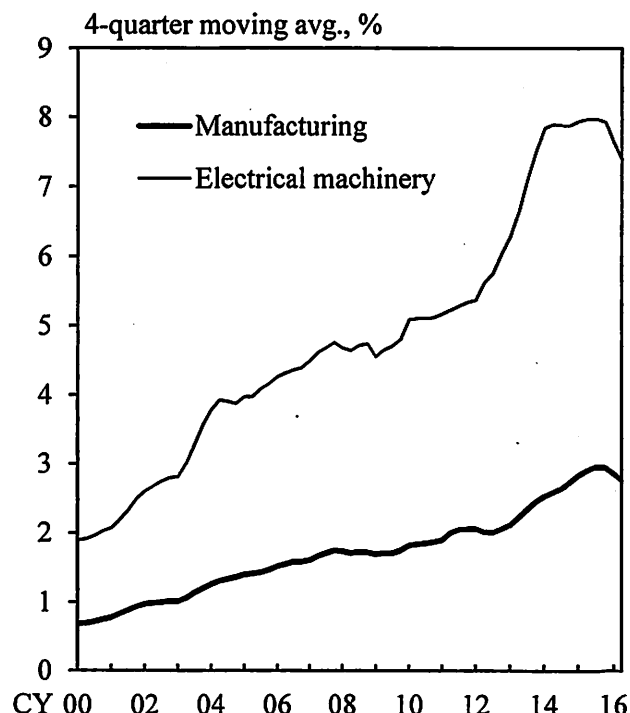
Notes: 1. Household electrical appliances consist of durable goods assisting housework, heating & cooling appliances and recreational durable goods (less pianos and desks).

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

(3) Import Penetration of Consumer Durable Goods



(4) Overseas Production Ratio (for Sales to Japan)



Notes: 1. The import penetration ratio is based on "the Indices of Industrial Domestic Shipments and Imports (2010 base)."

Import penetration ratio = imports / domestic shipments and imports

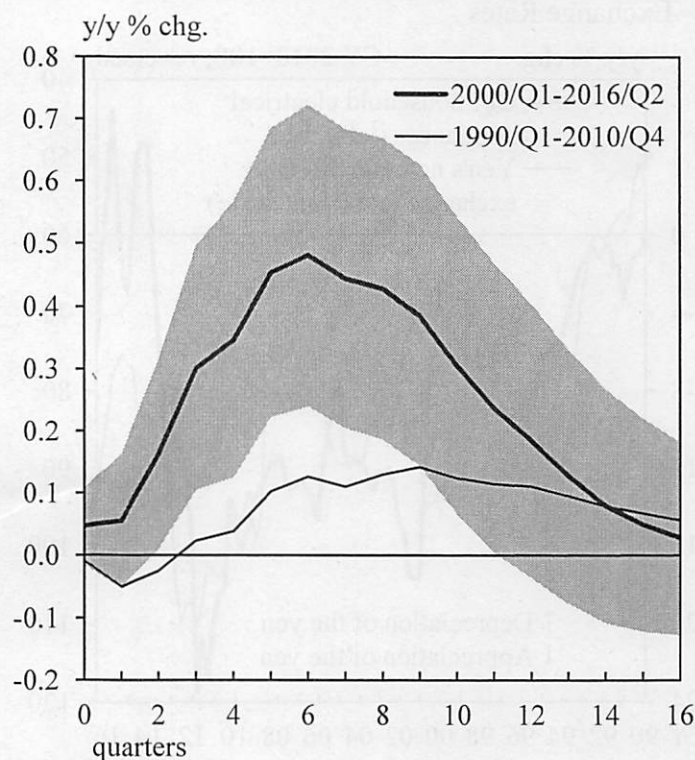
The figure for the import penetration ratio for 2016/Q3 is the July-August average.

2. Overseas production ratio = sales to Japan of overseas subsidiaries / (sales to Japan of overseas subsidiaries + sales of domestic companies)

Sources: Ministry of Internal Affairs and Communications; Ministry of Economy, Trade and Industry; Ministry of Finance; BIS.

Effects of Exchange Rates on the CPI

(1) Responses of the CPI (Less Fresh Food and Energy) to a 10-Percent Yen Depreciation Shock



(Estimation Model: 4-Variable VAR)

1. Real crude oil prices
2. Yen's nominal effective exchange rates
3. Output gap
4. CPI

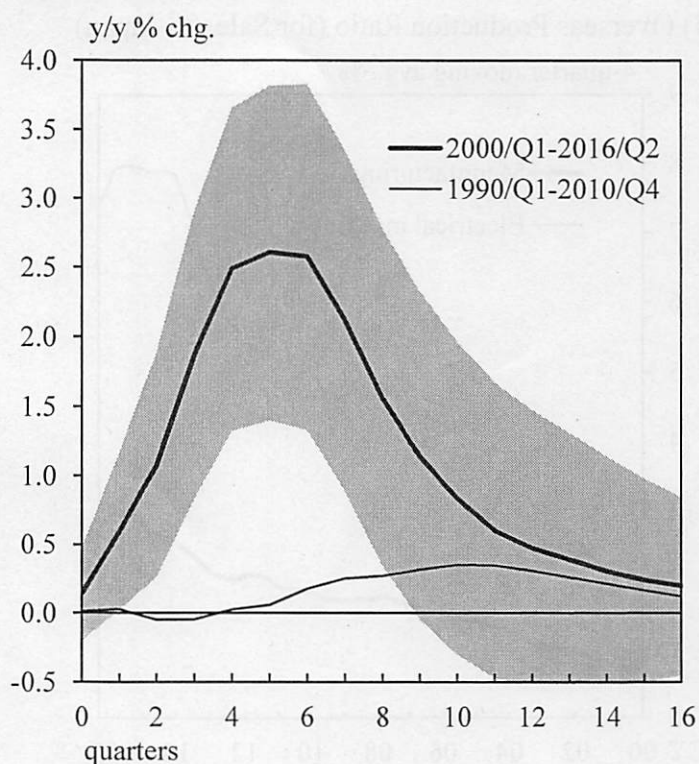
-- CPI (less fresh food and energy) is used for the estimation in (1). The disaggregated data (durable goods and other goods) are used for the estimations in (2).

Estimation periods: 1990/Q1-2010/Q4
2000/Q1-2016/Q2

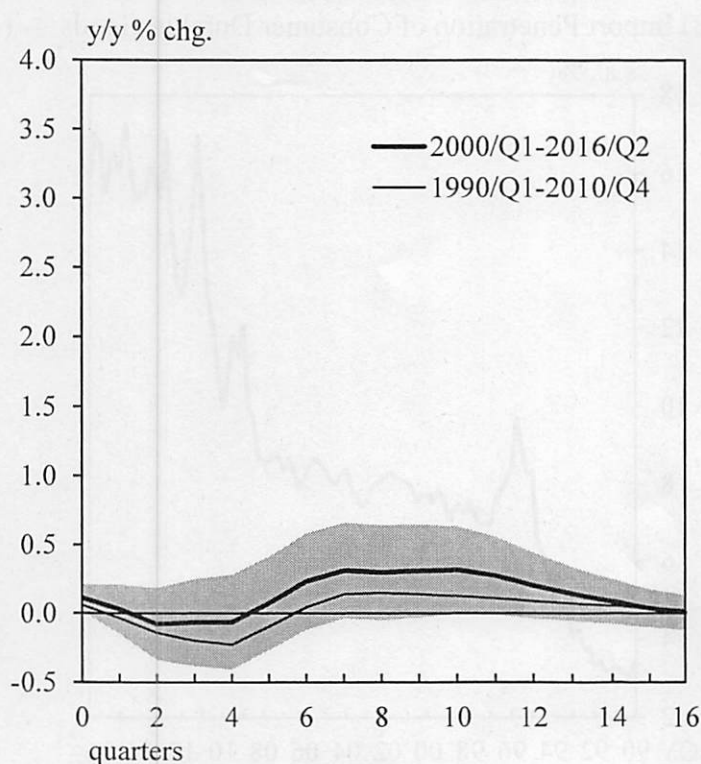
Except for the output gap, variables in the estimations are quarter-on-quarter changes. Shock identification is based on Cholesky decomposition in the above order.

(2) Responses of Goods (Less Fresh Food and Energy) to a 10-Percent Yen Depreciation Shock

(a) Consumer Durable Goods



(b) Consumer Goods Excluding Durable Goods



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.
3. Real crude oil prices are obtained by deflating nominal WTI crude oil prices by the U.S. CPI (all items).
4. Shaded areas indicate 75 percentile bands.

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

Economic Assessment by Region (Regional Economic Report)

Region	Assessment in July 2016	Changes from the previous assessment	Assessment in October 2016
Hokkaido	The economy has been recovering moderately.	⇒	The economy has been recovering moderately.
Tohoku	The economy has continued its moderate recovery trend, although production has been affected mainly by the slowdown in emerging economies.	⇒	The economy has continued its moderate recovery trend, although production has been affected mainly by the slowdown in emerging economies.
Hokuriku	The economy has continued to recover, although sluggish movements have been observed in some aspects.	⇒	The economy has continued to recover, although sluggish movements have been observed in some aspects.
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 as a trend, despite fluctuations seen in exports and production, due to a plant accident in automobile-related industries and to the effects of the Kumamoto Earthquake.	↘	The economy has been expanding moderately, albeit at a somewhat reduced pace.
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.
Chugoku	The economy has continued its moderate recovery trend, although relatively weak movements have been observed in some aspects.	⇒	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 picking up moderately with the alleviation of supply-side constraints, despite its ongoing weakness, mainly in tourism, following a rapid downshift induced by the Kumamoto Earthquake.	⇒	The economy has been recovering moderately, with the effects of the Kumamoto Earthquake having eased.

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/rer161017.pdf>).

Source: Bank of Japan.