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Outlook for Economic Activity and Prices

January 2019



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

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Outlook for Economic Activity and Prices (January 2019)

The Bank's View¹

Summary

- Japan's economy is likely to continue on an expanding trend throughout the projection period -- that is, through fiscal 2020 -- mainly against the background of highly accommodative financial conditions and the underpinnings through government spending, with overseas economies continuing to grow firmly on the whole, despite being affected by a cyclical slowdown in business fixed investment and the scheduled consumption tax hike.²
 - The year-on-year rate of change in the consumer price index (CPI, all items less fresh food) has been positive but has continued to show relatively weak developments compared to the economic expansion and the labor market tightening. This is mainly attributable to (1) such factors as firms' cautious wage- and price-setting stance not having changed clearly yet in a situation where the mindset and behavior based on the assumption that wages and prices will not increase easily have been deeply entrenched and (2) firms' moves toward raising productivity as well as the technological progress in recent years. While it has been taking time to resolve these factors that have been delaying price rises, medium- to long-term inflation expectations have been more or less unchanged. Nonetheless, with the output gap remaining positive, firms' stance gradually will shift toward further raising wages and prices and households' tolerance of price rises will increase. In this situation, further price rises are likely to be observed widely and then medium- to long-term inflation expectations are projected to rise gradually. As a consequence, the year-on-year rate of change in the CPI is likely to increase gradually toward 2 percent.
 - Comparing the current projections with the previous ones, the projected growth rate for fiscal 2018 is lower, but the projections for fiscal 2019 and 2020 are more or less unchanged. The projected rates of increase in the CPI are lower, mainly for fiscal 2019, due primarily to the decline in crude oil prices.
 - 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 is maintained but is not yet sufficiently firm, and thus developments in prices continue to warrant careful attention.
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¹ The text of "The Bank's View" -- the outlook for economic activity and prices as well as the Bank's thinking on the conduct of monetary policy, both of which are based on individual Policy Board members' views -- was decided by the Policy Board at the Monetary Policy Meeting held on January 22 and 23, 2019.

² The January 2019 *Outlook for Economic Activity and Prices* (Outlook Report) assumes that the consumption tax will be raised to 10 percent in October 2019 and that a reduced tax rate will be applied to food and beverages -- excluding alcohol and dining-out -- and newspapers.

I. Current Situation of Economic Activity and Prices in Japan

Japan's economy is expanding moderately, with a virtuous cycle from income to spending operating. Overseas economies have continued to grow firmly on the whole. In this situation, exports have been on an increasing trend. On the domestic demand side, business fixed investment has continued on an increasing trend, with corporate profits having been at high levels and business sentiment staying at a favorable level. Private consumption has been increasing moderately, albeit with fluctuations, against the background of steady improvement in the employment and income situation. Meanwhile, housing investment has been more or less flat. Public investment also has been more or less flat, remaining at a relatively high level. Reflecting these increases in demand both at home and abroad, industrial production has been on an increasing trend, and labor market conditions have continued to tighten steadily. Financial conditions are highly accommodative. On the price front, the year-on-year rate of change in the CPI (all items less fresh food, and the same hereafter) is in the range of 0.5-1.0 percent. Inflation expectations have been more or less unchanged.

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, Japan's economy is likely to continue on an expanding trend throughout the projection period -- that is, through fiscal 2020. Overseas economies are expected to continue growing firmly on the whole, with domestic demand in both the advanced and emerging economies remaining firm, although various developments of late warrant attention, such as the trade friction between the United States and China. Under these circumstances, Japan's exports are projected to continue their moderate increasing trend. 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, mainly against the background of highly accommodative financial conditions and the underpinnings through government spending, despite being affected by a cyclical slowdown in business fixed investment and the scheduled consumption tax hike. Business fixed investment -- such as that intended for domestic capacity expansion in line with the economic expansion, that related to urban redevelopment projects, and labor-saving investment to address labor shortage -- is likely to continue increasing amid accommodative financial conditions. Through fiscal 2020, the pace of increase in business fixed investment is projected to decelerate gradually, mainly reflecting cyclical adjustments in capital stock after the prolonged economic expansion, as well as Olympic Games-related demand peaking out; however, fixed investment is likely to maintain an increasing trend, due partly to demand for such investment underpinned by the increase in exports. Private consumption is also expected to follow a moderate increasing trend as

the employment and income situation continues to improve and the government implements countermeasures for the scheduled consumption tax hike in October 2019, although it is likely to be pushed down for some time due to the effects of the hike.³ Meanwhile, public investment is expected to increase reflecting Olympic Games-related demand, the implementation of the supplementary budgets in response to natural disasters, and expansion in expenditure such as for national resilience.

On this basis, Japan's economy is likely to continue growing at about the same pace as its potential.⁴ Comparing the current projections with the previous ones, the projected growth rate for fiscal 2018 is lower, due mainly to the effects of last summer's natural disasters, but the projections for fiscal 2019 and 2020 are more or less unchanged.

Looking at the financial conditions on which the above outlook is based, short- and long-term real interest rates are assumed to be in negative territory throughout the projection period as the Bank pursues "Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control."⁵ Financial institutions' active 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.

Meanwhile, the potential growth rate is expected to follow a moderate uptrend throughout 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 seniors under such strategy; and firms' continued efforts toward improving productivity.

B. Baseline Scenario of the Outlook for Prices

The year-on-year rate of change in the CPI has been positive but has continued to show relatively weak developments compared to the economic expansion and the labor market tightening.

This is basically because the mindset and behavior based on the assumption that wages and prices will not increase easily have been deeply entrenched, due mainly to the

³ The consumption tax hike scheduled to take place in October 2019 will affect the GDP growth rates through the following two channels: (1) the front-loaded increase and subsequent decline in demand prior to and after the consumption tax hike and (2) a decline in real income. Although it is subject to uncertainties, the negative impact on the growth rates is expected to be smaller than that on the rate for fiscal 2014, when the last consumption tax hike took place.

⁴ Under a specific methodology, Japan's potential growth rate is estimated to be in the range of 0.5-1.0 percent recently. 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.

⁵ 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.

experience of prolonged low growth and deflation, and firms' cautious wage- and price-setting stance as well as households' cautiousness toward price rises have not yet clearly changed. In addition, the large room to raise productivity, mainly in the nonmanufacturing sector, the technological progress in recent years, and the high wage elasticity of labor supply among women and seniors have allowed firms to maintain their cautious stance toward raising prices, even amid the economic expansion. Furthermore, such factors as technological progress have further intensified competition in some areas. The continued lackluster developments in administered prices and housing rent also are likely to have affected the sluggishness in prices. It has been taking time to resolve these factors that have been delaying price rises, and the situation likely has continued in which the responsiveness of prices to the output gap, as well as inflation expectations that are strongly affected by the adaptive formation mechanism, do not rise easily. In addition, reflecting the decline in crude oil prices since last autumn, upward pressure of energy prices on the year-on-year rate of change in the CPI has been diminishing recently.

With regard to the outlook, the year-on-year rate of change in the CPI is likely to increase gradually toward 2 percent, mainly on the back of the output gap remaining positive and medium- to long-term inflation expectations rising. Comparing the current projections with the previous ones, the projected rates of increase in the CPI are lower, mainly for fiscal 2019, due primarily to the decline in crude oil prices.⁶

The mechanism through which the year-on-year rate of change in the CPI increases gradually toward 2 percent can be explained by the following factors that determine general price inflation. First, the output gap -- which shows the utilization of labor and capital -- has widened within positive territory on average against the background of the steady tightening of labor market conditions and a rise in capital utilization rates. As for the outlook, it is expected to remain substantially positive. Under such circumstances, further price rises are likely to be observed widely as households' tolerance of price rises increases, mainly reflecting a rise in wage growth rates, and firms' stance shifts toward further raising prices.

Second, medium- to long-term inflation expectations have been more or less unchanged recently. As for the outlook, such expectations are likely to follow an increasing trend and gradually converge to 2 percent on the back of the following: (1) in terms of the adaptive component, a rise in the observed inflation rate is likely to push up inflation expectations,

⁶ Assuming that the rise in the consumption tax will be fully passed on to prices of taxable items, excluding those to which a reduced tax rate will be applied, the effect of the October 2019 consumption tax hike on the year-on-year rate of change in the CPI (all items less fresh food) for October 2019 onward is estimated to be 1.0 percentage point; the effect for fiscal 2019 and fiscal 2020 is estimated to be 0.5 percentage point for each year. In addition, based on a specific assumption using information available at this point, the effects of policies concerning the provision of free education on the year-on-year rate of change in the CPI (all items less fresh food) for fiscal 2019 and fiscal 2020 are estimated to be minus 0.3 percentage point and minus 0.4 percentage point, respectively.

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, which will be effective in pushing up inflation expectations.⁷

Third, regarding import prices, the past rise in crude oil prices had pushed up the CPI for fiscal 2018; however, crude oil prices have turned to a decline since last autumn and this is likely to push down the year-on-year rate of change in the CPI for fiscal 2019.

Meanwhile, the recent increase in labor participation by women and seniors, as well as firms' strengthening of efforts to absorb upward pressure of costs on prices by raising productivity, are expected to increase upward pressure on prices in the long term. Specifically, as the growth potential of the economy as a whole rises, reflecting such moves, firms' and households' spending behavior can be expected to become active. In addition, as the natural rate of interest increases together with the rise in the growth potential of Japan's economy, monetary easing effects are likely to be enhanced.

III. Risks to Economic Activity and Prices

A. Risks to Economic Activity

The following four factors are upside and downside risks to the Bank's baseline scenario regarding the economy.

The first is developments in overseas economies. Specifically, the following are considered as risks: the U.S. macroeconomic policies and their impact on global financial markets; the consequences of protectionist moves and their effects; developments in emerging and commodity-exporting economies including the effects of the two aforementioned factors; negotiations on the United Kingdom's exit from the European Union (EU) and their effects; and geopolitical risks. Such downside risks concerning overseas economies are likely to be heightening recently, and it also is necessary to pay close attention to their impact on firms' and households' sentiment in Japan.

The second risk is the effects of the consumption tax hike scheduled to take place in October 2019. These are likely to depend on consumer sentiment, the employment and income situation, and developments in prices.

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

⁷ 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. For details, 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.

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

Fourth, in the event that confidence in fiscal sustainability in the medium to long term declines, the economy may deviate downward from the baseline scenario through increasing concerns regarding the future and 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. Risks to Prices

Other than the effects of 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. Although inflation expectations are likely to follow an increasing trend, there is a risk that a rise in such expectations will be delayed through the adaptive formation mechanism, if it takes longer than projected for firms' stance to shift toward further raising wages and prices and actual inflation consequently remains relatively sluggish.

The second factor is the responsiveness of prices to the output gap. If firms' efforts to absorb upward pressure of costs on prices by raising productivity continue for a long time, or competition among firms intensifies further, due partly to the technological progress in recent years and changes in the distribution system, downward pressure on prices stemming from these factors may last longer than expected. In addition, the lackluster developments in administered prices and housing rent also may continue to constrain the rise in CPI inflation for a long period.

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.⁸

⁸ As for the examination from two perspectives in the context of the price stability target, see the Bank's statement released on January 22, 2013, entitled "The 'Price Stability Target' under the Framework for the Conduct of Monetary Policy."

The first perspective involves an examination of the baseline scenario for the outlook. The year-on-year rate of change in the CPI is likely to increase gradually toward 2 percent. Although it is necessary to carefully examine the risks to economic activity and prices, the momentum toward achieving the price stability target of 2 percent appears to be maintained. This is because (1) firms' stance is likely to gradually shift toward further raising wages and prices with the output gap remaining positive, and (2) medium- to long-term inflation expectations have been more or less unchanged and are projected to rise gradually as further price rises come to be observed widely.

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 regarding developments in overseas economies. Regarding the outlook for prices, risks are skewed to the downside, especially concerning 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. However, prolonged downward pressure on financial institutions' profits, with the low interest rate environment and severe competition among financial institutions continuing, could create risks of a gradual pullback in financial intermediation and of destabilizing the financial system. Although these risks are judged as not significant at this point, mainly because financial institutions have sufficient capital bases, it is necessary to pay close attention to future developments.

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. As for policy rates, the Bank intends to maintain the current extremely low levels of short- and long-term interest rates for an extended period of time, taking into account uncertainties regarding economic activity and prices including the effects of the consumption tax hike scheduled to take place in October 2019. It will examine the risks considered most relevant to the conduct of monetary policy and 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.

Forecasts of the Majority of Policy Board Members

y/y % chg.

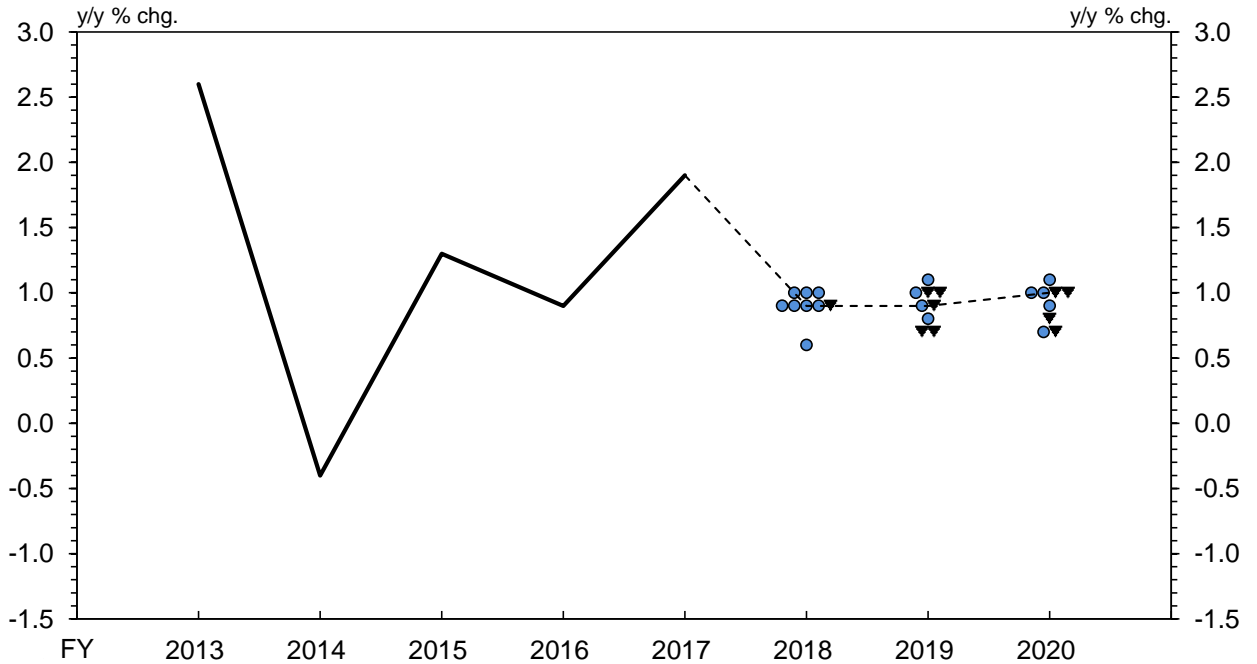
	Real GDP	CPI (all items less fresh food)	(Reference) Excluding the effects of the consumption tax hike and policies concerning the provision of free education
Fiscal 2018	+0.9 to +1.0 [+0.9]	+0.8 to +0.9 [+0.8]	
Forecasts made in October 2018	+1.3 to +1.5 [+1.4]	+0.9 to +1.0 [+0.9]	
Fiscal 2019	+0.7 to +1.0 [+0.9]	+1.0 to +1.3 [+1.1]	+0.8 to +1.1 [+0.9]
Forecasts made in October 2018	+0.8 to +0.9 [+0.8]	+1.5 to +1.7 [+1.6]	+1.3 to +1.5 [+1.4]
Fiscal 2020	+0.7 to +1.0 [+1.0]	+1.3 to +1.5 [+1.5]	+1.2 to +1.4 [+1.4]
Forecasts made in October 2018	+0.6 to +0.9 [+0.8]	+1.5 to +1.7 [+1.6]	+1.4 to +1.6 [+1.5]

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

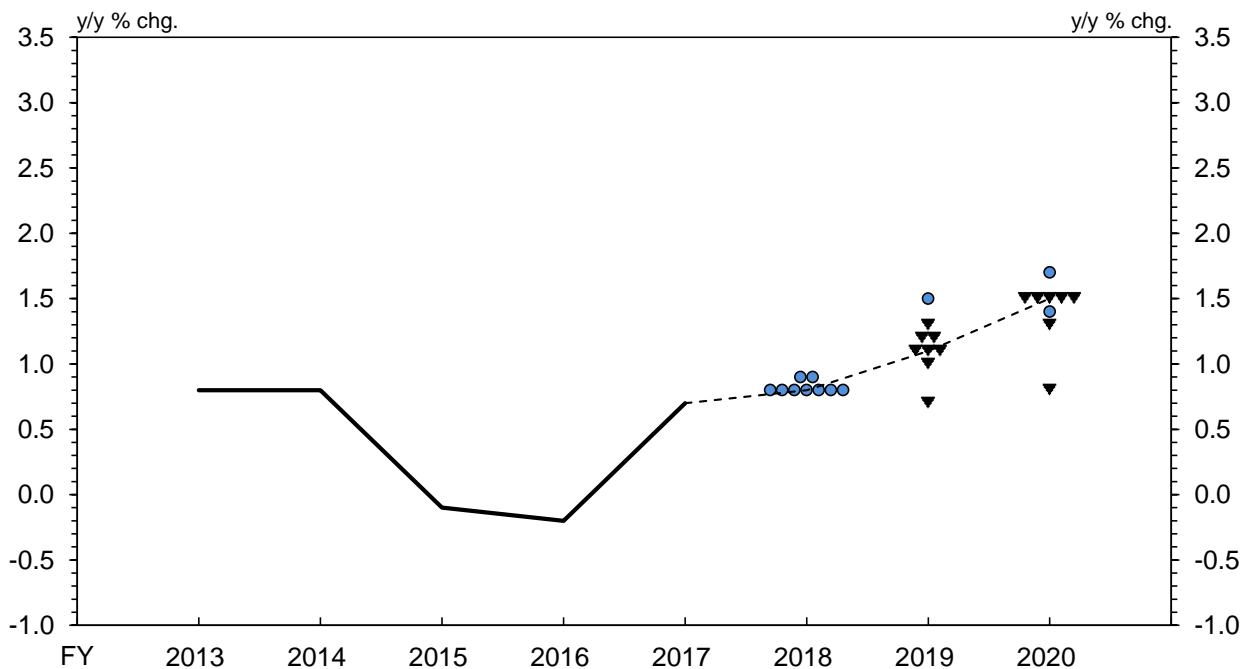
2. The forecasts of the majority of the Policy Board members are constructed as follows: each Policy Board member's forecast takes the form of a point estimate -- namely, the figure to which he or she attaches the highest probability of realization. These forecasts are then shown as a range, with the 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.
4. The forecasts assume the following: (1) the consumption tax will be raised to 10 percent in October 2019 and a reduced tax rate will be applied to food and beverages -- excluding alcohol and dining out -- and newspapers, and (2) with regard to policies concerning the provision of free education, free early childhood education and such measures as free higher education will be introduced in October 2019 and April 2020, respectively. Assuming that the rise in the consumption tax will be fully passed on to prices of taxable items, the direct effect of the tax hike on the CPI for fiscal 2019 and fiscal 2020 is estimated to be 0.5 percentage point for each year. In addition, based on a specific assumption using information available at this point, the direct effects of policies concerning the provision of free education on the CPI for fiscal 2019 and fiscal 2020 are estimated to be minus 0.3 percentage point and minus 0.4 percentage point, respectively.

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 ●, △, 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: ● indicates that a member assesses "upside and downside risks as being generally balanced," △ indicates that a member assesses "risks are skewed to the upside," and ▼ indicates that a member assesses "risks are skewed to the downside."

3. The CPI figures for fiscal 2014 and fiscal 2015 exclude the direct effects of the consumption tax hike in April 2014.

The Background⁹

I. Current Situation of Economic Activity and Its Outlook

A. Economic Developments

Looking back at Japan's economy since the October 2018 Outlook Report, the real GDP growth rate for the July-September quarter of 2018 was minus 0.6 percent on a quarter-on-quarter basis and its annualized rate was minus 2.5 percent, representing negative growth for the first time in two quarters (Chart 1). While private consumption declined due to the effects of natural disasters, business fixed investment and exports also decreased through the effects of the disasters on production and distribution that occurred in the meantime. However, looking at various indicators since October, such effects of the natural disasters are likely to have been only temporary.

Under such circumstances, labor market conditions have continued to tighten steadily and the number of employed persons has been increasing firmly (Charts 2 and 3). The output gap -- which captures the utilization of labor and capital -- has remained clearly positive, although it narrowed in the July-September quarter (Chart 4). Indicators since October suggest that the output gap is likely to generally remain in positive territory. Japan's economy has continued to expand moderately, with a virtuous cycle from income to spending operating.

Chart 1: Real GDP

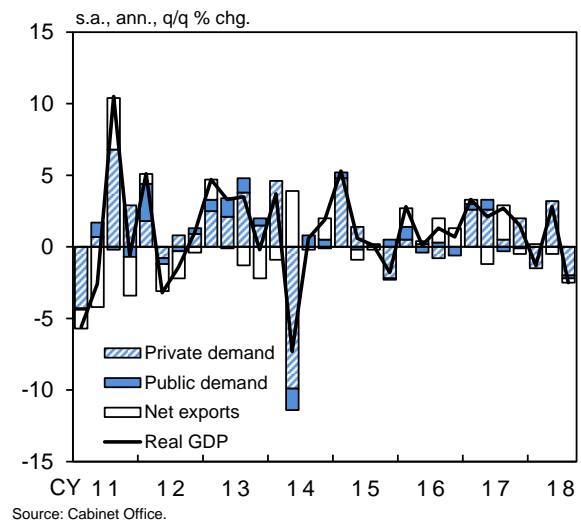
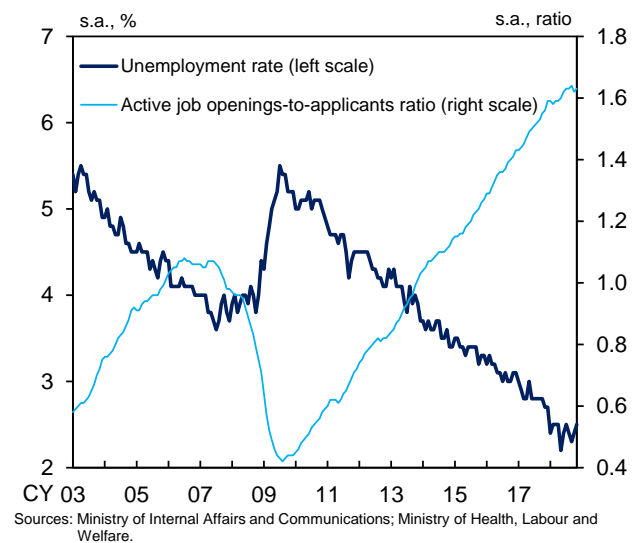


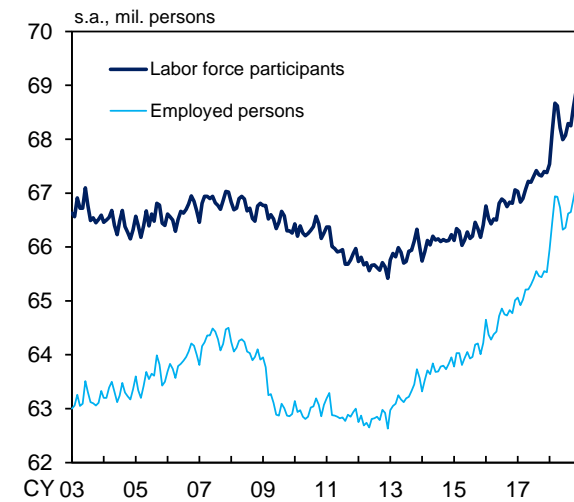
Chart 2: Labor Market Conditions



⁹ "The Background" provides explanations of "The Bank's View" decided by the Policy Board of the Bank of Japan at the Monetary Policy Meeting held on January 22 and 23, 2019.

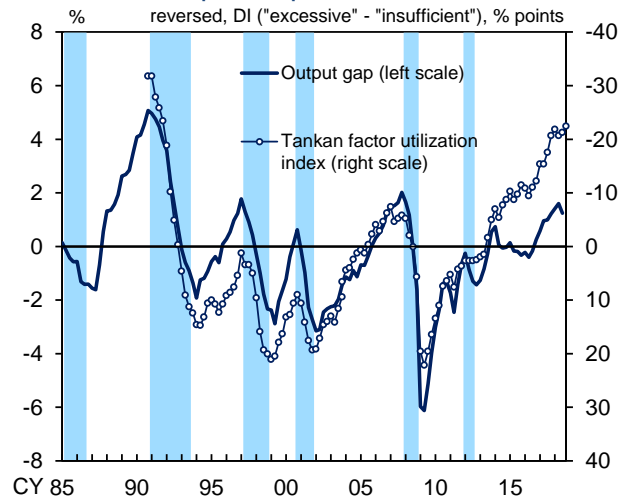
With regard to the outlook, in fiscal 2018 as a whole, Japan's economy is likely to grow at about the same pace as its potential rate, which is estimated to be in the range of 0.5-1.0 percent; although the growth rate was pushed down by the successive natural disasters in the first half of the fiscal year, it is expected to increase in the second half of the fiscal year against the background of highly accommodative financial conditions and the underpinnings through government spending, as well as overseas economies growing firmly on the whole (Chart 5). From fiscal 2019 through fiscal 2020, the economy is expected to continue on an expanding trend. This is because the economy is likely to be supported by the government's countermeasures for the scheduled consumption tax hike, such as policies concerning the provision of free education, and also by government spending on policy measures for national resilience as well as external demand, although it is projected to be affected by (1) the deceleration in business fixed investment reflecting cyclical adjustments in capital stock as well as Olympic Games-related investment peaking out, combined with (2) downward pressure on private consumption resulting from the scheduled consumption tax hike.^{10, 11}

Chart 3: Labor Force Participation and Employment



Source: Ministry of Internal Affairs and Communications.

Chart 4: Output Gap



Source: Bank of Japan.

Notes: 1. The output gap is based on staff estimations.

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 are used as weights. There is a discontinuity in the data in December 2003 due to a change in the survey framework.

3. Shaded areas indicate recession periods.

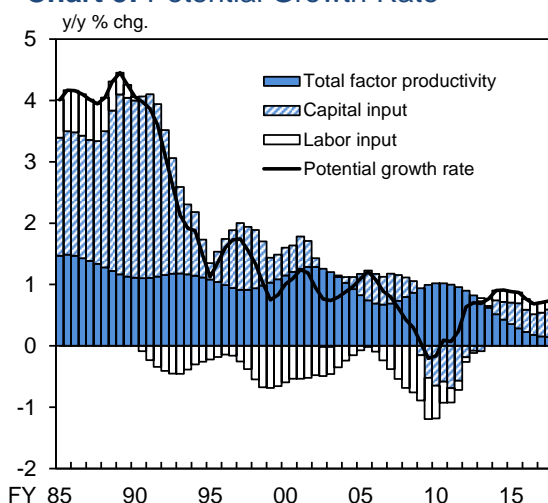
¹⁰ The January 2019 Outlook Report assumes that the consumption tax will be raised to 10 percent in October 2019 and that a reduced tax rate will be applied to food and beverages -- excluding alcohol and dining-out -- and newspapers.

¹¹ The scheduled consumption tax hike in October 2019 will have some impact on the GDP growth rates, mainly due to changes in household spending, through the following two channels: (1) the front-loaded increase and subsequent decline in demand prior to and after the consumption tax hike and (2) the decline in real income. At present, the negative impact of the tax hike on the growth rates for fiscal 2019 and fiscal 2020 is expected to be smaller than that on the rate for fiscal 2014, when the last consumption tax hike took place. This is mainly due to the following: (1) there are technical factors that, as the consumption tax hike is scheduled to take place in the middle of fiscal 2019, the front-loaded increase and subsequent decline in demand prior to

Comparing the current projections with the previous ones, the projected growth rate for fiscal 2018 is lower, but the projections for fiscal 2019 and 2020 are more or less unchanged.

Details of the outlook for each fiscal year are as follows. In the second half of fiscal 2018, the economy is likely to maintain a moderate expansion with demand at home and abroad both increasing. Specifically, exports are projected to continue increasing moderately on the back of overseas economies growing firmly on the whole, after registering relatively high growth reflecting a rebound from the decline due to natural disasters. Business fixed investment -- such as that intended for domestic capacity expansion in line with the economic expansion, that related to urban redevelopment projects, and labor-saving investment stemming from labor shortage -- is also expected to continue increasing amid accommodative financial conditions. Private consumption will likely maintain its momentum as the employment and income situation continues to improve. Meanwhile, public investment is projected to be more or less flat, remaining at a

Chart 5: Potential Growth Rate



Source: Bank of Japan.
Note: Based on staff estimations.

and after the hike will offset each other during that fiscal year -- although they will push down the growth rate for fiscal 2020 -- and that the effects of the decline in real income will be dispersed over fiscal 2019 and fiscal 2020; (2) the increase in the consumption tax rate is smaller than that of the previous tax hike and a reduced tax rate will be applied to some items; (3) free education will be introduced and various measures to reduce the household burden of the tax hike as well as support measures to smooth out demand prior to and after the tax hike will be implemented; and (4) before the previous tax hike, there likely was a front-loaded increase in demand in anticipation of the second round of the tax hike. It should be noted, however, that the impact of the consumption tax hike is uncertain and varies depending, for example, on developments in consumer sentiment. In addition, with respect to the guideline released by the government that allows firms to flexibly pass on the rise in the consumption tax to sales prices, it is difficult at this point to project its effects on factors such as firms' stance on how to deal with it.

relatively high level, underpinned by Olympic Games-related demand and the supplementary budget for fiscal 2018. On this basis, the real GDP growth rate for fiscal 2018 as a whole is projected to be at about the same pace as the potential.

In fiscal 2019, the economy is projected to maintain its expanding trend, supported by government spending and external demand, although domestic private demand is likely to decelerate. Private consumption is expected to increase its momentum in the first half of the fiscal year, reflecting the front-loaded increase in demand prior to the scheduled consumption tax hike, and in the second half of the fiscal year is likely to be pushed down by the subsequent decline in demand following the tax hike and the decline in real income. However, exports are projected to maintain their increasing trend on the back of overseas economies continuing to grow firmly on the whole, and thereby underpin the economy. Meanwhile, business fixed investment is likely to decelerate gradually under cyclical downward pressure resulting from capital stock adjustments, combined with the effects of Olympic Games-related investment peaking out; however, fixed investment is likely to maintain an increasing trend, due partly to demand for such investment underpinned by the increase in exports. In addition, public investment is likely to increase clearly, due mainly to the implementation of the supplementary budgets in response to natural disasters, as well as policy measures for national resilience. As a result of these developments, the economy is expected to continue on an expanding trend in fiscal 2019.

In fiscal 2020, private consumption and housing investment are expected to gradually head toward a recovery after declining in the second half of fiscal 2019. Exports are likely to continue their increasing trend. On the other hand, business fixed investment will likely decelerate somewhat as pressure stemming from cyclical adjustments in capital stock heightens, although the increase in exports is likely to continue underpinning investment demand. Meanwhile, public investment is projected to continue increasing, mainly reflecting policy measures for national resilience, and expenditure, primarily on temporary facilities in hosting the Olympic Games is expected to underpin the economy. Under such circumstances, the economy is expected to continue on an expanding trend in fiscal 2020.

Meanwhile, the potential growth rate is expected to follow a moderate uptrend throughout 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 seniors under such strategy; and firms' continued efforts toward improving productivity.

B. Developments in Major Expenditure Items and Their Background

Government Spending

Public investment has been more or less flat, remaining at a relatively high level (Chart 6). As for the outlook, it is expected to increase, mainly reflecting Olympic Games-related construction as well as the supplementary budget for fiscal 2018 and policy measures for national resilience.¹²

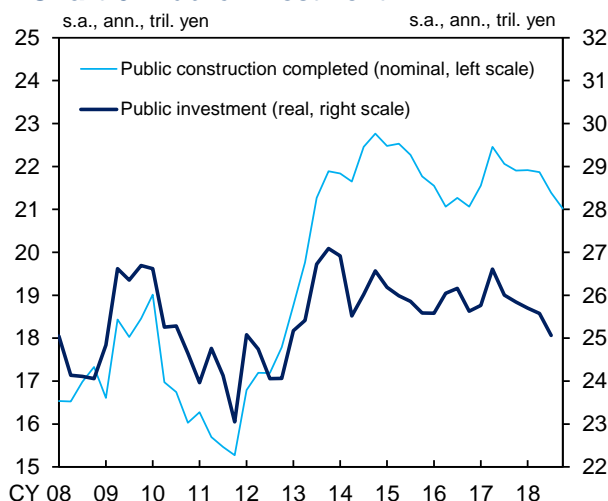
Overseas Economies

Overseas economies have continued to grow firmly on the whole (Chart 7). The business sentiment of manufacturing firms on a global basis overall has maintained its improving trend, albeit with differences across economies and regions (Chart 8). Looking at developments by major region, the U.S. economy has been expanding. The European economy has continued on a recovery trend, although its growth pace has decelerated. The Chinese economy has continued to see stable growth on the whole, although relatively weak developments have been observed in part. Other emerging and commodity-exporting economies have been recovering moderately on the whole, mainly reflecting an increase in exports and the effects of those economies' stimulus measures.¹³

¹² The three-year emergency response plan for disaster prevention, disaster mitigation, and building national resilience was decided by the Cabinet on December 14, 2018. In this plan, measures to maintain functions such as of important infrastructure are scheduled to be implemented intensively over three years with a total project size of around 7 trillion yen, through the formulation of the second supplementary budget for fiscal 2018 as well as the initial budgets for fiscal 2019 and 2020.

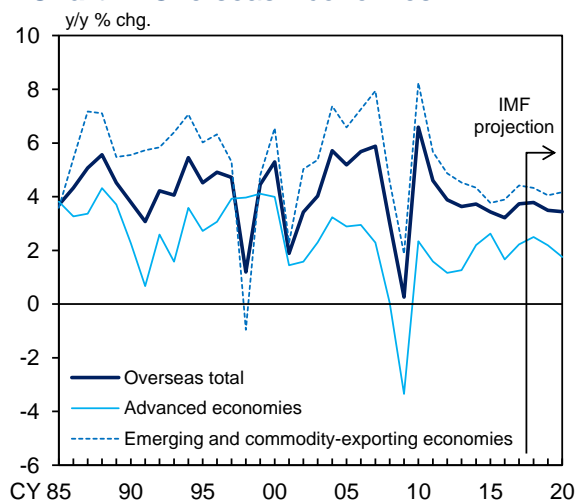
¹³ For the impact of uncertainties regarding overseas economies, including the growing trade friction, see Box 1 in the October 2018 Outlook Report.

Chart 6: Public Investment



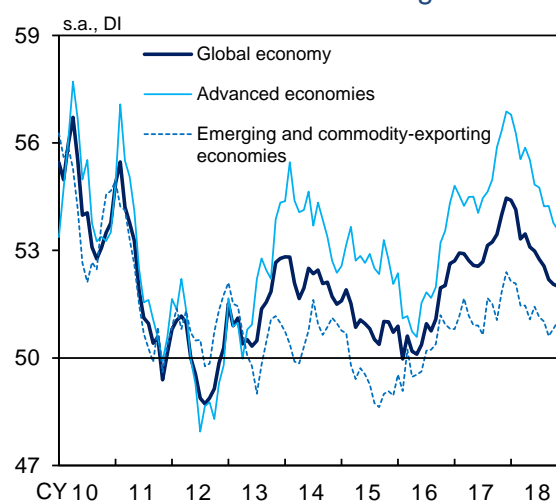
Sources: Cabinet Office; Ministry of Land, Infrastructure, Transport and Tourism.
Note: The figure for 2018/Q4 is the October-November average.

Chart 7: Overseas Economies



Sources: IMF; Ministry of Finance.
Note: 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 2018 and the "WEO update" as of January 2019. 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.

Chart 8: Global Manufacturing PMI

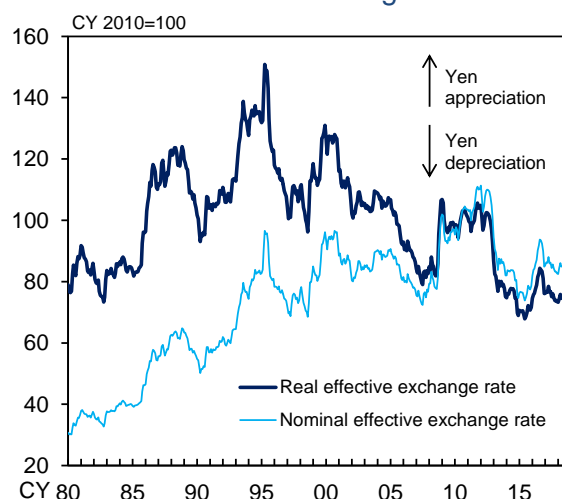


Sources: IHS Markit (© and database right IHS Markit Ltd 2019. All rights reserved.), etc.
Note: Figures for the global economy are the "J.P. Morgan Global Manufacturing PMI." Figures for advanced economies as well as emerging and commodity-exporting economies are calculated as the weighted averages of the Manufacturing PMI using 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.

In terms of the outlook, overseas economies are expected to continue growing firmly on the whole, with domestic demand in both the advanced and emerging economies remaining firm and its positive effects spreading to each other through trade activity, although various developments of late warrant attention, such as the trade friction between the United States and China.

By major region, the U.S. economy is expected to maintain its expansion. The European economy is projected to continue on a recovery trend. The Chinese economy is likely to broadly follow a stable growth path as authorities conduct fiscal and monetary policy in a timely manner, although it is expected to be affected to some extent by the trade friction between the United States and China as well as measures to push forward with deleveraging. Other emerging and commodity-exporting economies are likely to continue their moderate recovery on the whole.

Chart 9: Effective Exchange Rates



Sources: BIS; Bank of Japan.
 Notes: 1. Figures are based on the broad index of the "BIS Effective Exchange Rate." Those prior to 1994 are calculated using the narrow index.
 2. Figures for January 2019 have been calculated using the daily nominal effective exchange rate (the Yen Index) compiled by the Bank of Japan.

Exports and Imports

Exports have been on an increasing trend on the back of overseas economies continuing to grow firmly on the whole (Chart 10).¹⁴ By region, exports to advanced economies have continued on their increasing trend, and those to emerging economies also have picked up overall (Chart 11). By goods, IT-related exports have been on an uptrend and recently have been pushed up, partly because distribution disruptions stemming from natural disasters have dissipated (Chart 12). Exports of capital goods have been on an increasing trend when the effects of large fluctuations that partly result from orders for ships are smoothed out. Meanwhile, automobile-related exports have continued to increase, due in part to the rising value-added of automobiles exported from Japan; those to a wide range of regions have been increasing recently, reflecting the dissipation of supply-side constraints stemming from natural disasters.

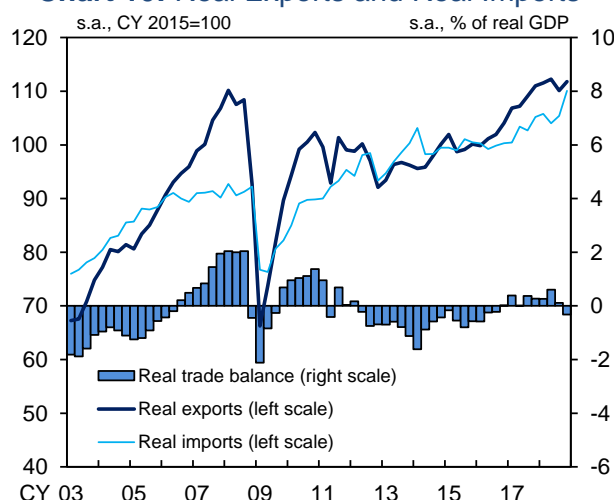
Exports are expected to continue their moderate increasing trend as (1) the world trade volume is likely to continue its moderate increasing trend with the growth in overseas economies and (2) Japan's share of exports in world trade is expected to follow a very moderate increasing trend, reflecting improvement in Japan's export competitiveness (Charts 13 and 14).¹⁵

Looking at this in detail, the world trade volume has continued to show relatively high growth,

¹⁴ Box 1 assesses recent developments using indicators that comprehensively monitor export conditions.

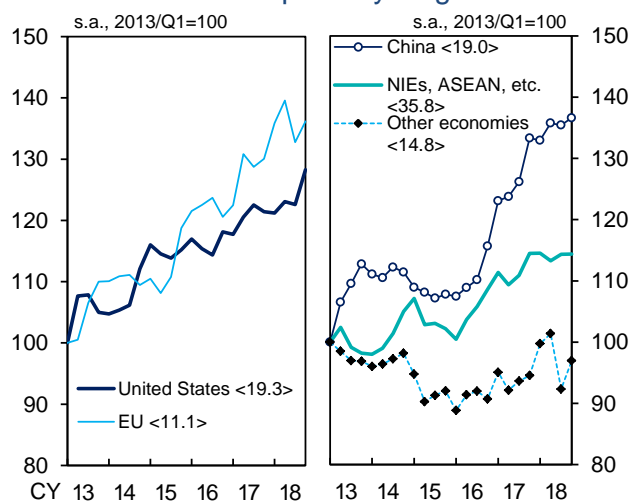
¹⁵ The world trade volume is calculated by adding up real imports in each country.

Chart 10: Real Exports and Real Imports



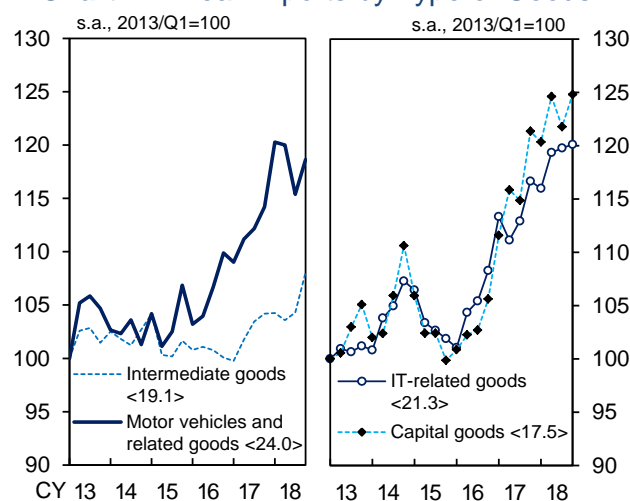
Sources: Bank of Japan; Ministry of Finance; Cabinet Office.
Note: Based on staff calculations. Figures for 2018/Q4 are October-November averages.

Chart 11: Real Exports by Region



Sources: Bank of Japan; Ministry of Finance.
Note: Based on staff calculations. Figures in angular brackets show the share of each country or region in Japan's total exports in 2017. Figures for 2018/Q4 are October-November averages.

Chart 12: Real Exports by Type of Goods



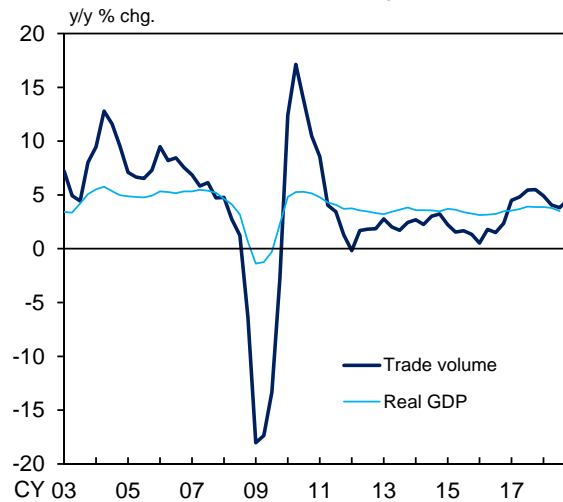
Sources: Bank of Japan; Ministry of Finance.
Note: Based on staff calculations. Figures in angular brackets show the share of each type of goods in Japan's total exports in 2017. Figures for 2018/Q4 are October-November averages.

mainly for Asia as well as the United States and Europe. Going forward, the pace of increase in the world trade volume is expected to be about the same as that in world economic growth, albeit with fluctuations -- that is, the world trade volume to world GDP ratio is likely to be more or less unchanged -- with domestic demand in both the advanced and emerging economies remaining firm and its positive effects also likely spreading to trade activity.

Meanwhile, Japan's share of exports in world trade has been on a rising trend, due in part to an increase in demand for IT-related goods and capital goods, in which Japan has a comparative advantage. It is expected to follow a very moderate rising trend, as an uptrend in exports of capital goods is likely to continue, supported by the recovery in demand for business fixed investment on a global basis.

Imports have been on a moderate uptrend on average, albeit with fluctuations stemming from consumer goods such as new smartphone products on a quarterly basis (Chart 10). Going forward, they are expected to follow an uptrend, reflecting an increase in domestic demand; however, the pace is projected to remain only moderate due to a downtrend in imports of raw materials, reflecting an improvement in energy efficiency.

Chart 13: World Trade Volume and Real GDP of the World Economy



Sources: CPB Netherlands Bureau for Economic Policy Analysis; IMF, etc.
 Notes: 1. Figures for the trade volume are those for real imports.
 The figure for 2018/Q4 is that for October.
 2. Real GDP of the world economy is based on staff calculations using GDP shares of world total GDP from the IMF as weights.

Chart 14: Japan's Share of Exports in World Trade



Source: CPB Netherlands Bureau for Economic Policy Analysis.
 Note: Japan's share of exports in world trade is obtained by dividing Japan's real exports by world real imports (2010 prices). The figure for 2018/Q4 is that for October.

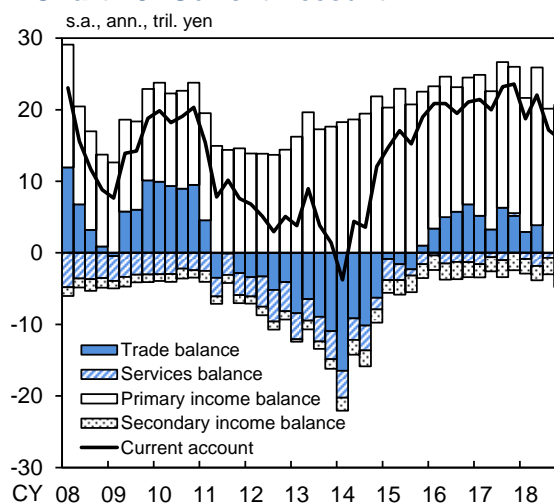
External Balance

The nominal current account surplus has declined moderately, with the terms of trade deteriorating in reflection of the past rise in crude oil prices (Chart 15).

Going forward, the current account surplus will likely increase moderately, mainly on the back of (1) an improvement in the trade balance that partly reflects the decline in crude oil prices, as well as (2) an improvement in the primary income balance brought about by the growth in overseas economies and (3) an increase in travel receipts underpinned by a rise in the number of inbound visitors.¹⁶

In terms of the saving-investment balance, the increase in the current account surplus corresponds to that in excess saving as a whole. By sector, excess saving in the household sector is projected to expand somewhat in fiscal 2018, partly due to an increase in compensation of employees, and decrease moderately in fiscal 2019. Thereafter, it is expected to be more or less flat on average, partly reflecting the effects of the scheduled consumption tax hike. Excess saving in the corporate sector is likely to decrease moderately, although remain at a high level, as an increase in fixed investment is expected to exceed that in profits. Meanwhile, excess investment in the general government is projected to decrease, reflecting an increase in tax revenue accompanying the scheduled consumption tax hike and the economic expansion.

Chart 15: Current Account



Source: Ministry of Finance and Bank of Japan.
Note: Figures for 2018/Q4 are October-November averages.

¹⁶ The surplus in the travel balance declined temporarily as the number of foreign tourists decreased, due partly to the effects of natural disasters. Thereafter, it has been expanding again with the recovery in the number of inbound visitors.

Industrial Production

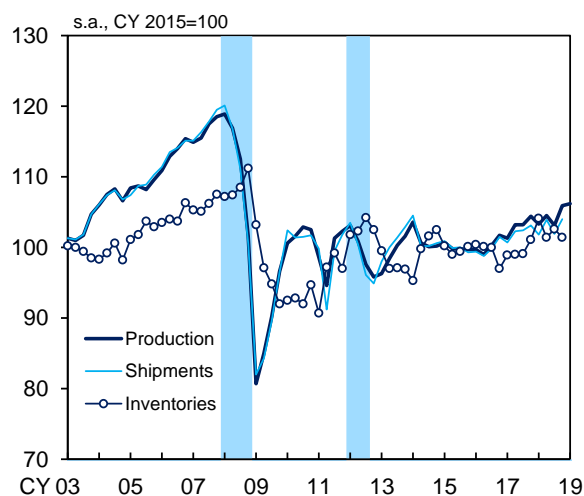
Industrial production has been on an increasing trend on the back of the increase in demand at home and abroad (Chart 16). By major industry, transport equipment production has increased recently, with the effects of natural disasters waning and factories returning to normal operations. The production of electronic parts and devices has remained on an increasing trend, as they have been used for a wider range of products. As for the production of machinery (i.e., "general-purpose, production and business oriented machinery" in the *Indices of Industrial Production*), construction and mining machinery has increased due to the dissipation of supply-side constraints stemming from natural disasters. Meanwhile, the shipments-inventories balance (i.e., the year-on-year rate of change in shipments minus that in inventories) has improved, as distribution disruptions accompanying natural disasters have dissipated (Chart 17).

Industrial production will likely continue to increase for the time being on the back of the rise in demand at home and abroad. Thereafter, it is projected to continue on a moderate increasing trend with overseas economies growing firmly on the whole.

Corporate Profits

Corporate profits have been at high levels. According to the *Financial Statements Statistics of Corporations by Industry, Quarterly* (FSSC), the ratio of current profits to sales for all industries and enterprises has been at a high level, albeit

Chart 16: Production, Shipments, and Inventories

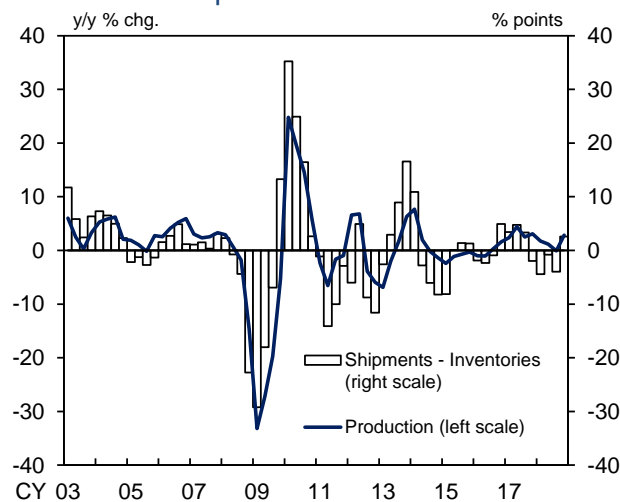


Source: Ministry of Economy, Trade and Industry (METI).

Notes: 1. Shaded areas indicate recession periods.

2. The production figures for 2018/Q4 and 2019/Q1 are calculated based on METI projections for December 2018 and January 2019. The shipments figure for 2018/Q4 is the October-November average. The inventories figure for 2018/Q4 is that for November.

Chart 17: Shipments-Inventories Balance



Source: Ministry of Economy, Trade and Industry.

Note: The production figure and the shipments figure for 2018/Q4 are October-November averages. The inventories figure for 2018/Q4 is that for November.

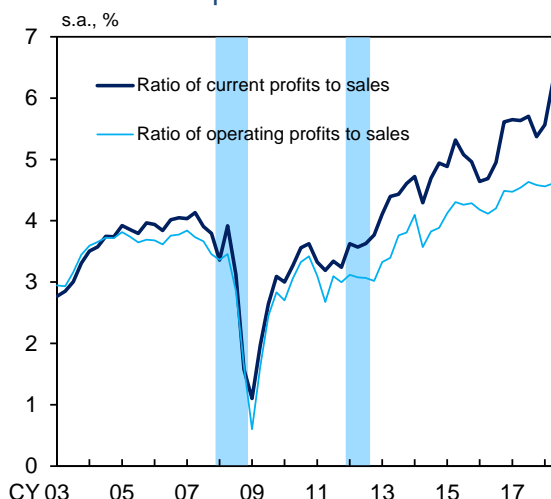
with fluctuations, supported by firm domestic demand and the growth in overseas economies (Chart 18). Under such circumstances, business sentiment has stayed at a favorable level (Chart 19). The diffusion index (DI) for business conditions for all industries and enterprises in the December 2018 *Tankan* (Short-Term Economic Survey of Enterprises in Japan) shows that the net "favorable" has remained large, improving slightly for the first time in three quarters. A recovery from natural disasters as well as restoration- and reconstruction-related demand have brought about improvements in a wide range of industries.

Corporate profits are projected to follow their improving trend, on the back of the increase in demand at home and abroad, with the terms of trade improving, partly reflecting the decline in crude oil prices. Nevertheless, through fiscal 2020, the rate of increase in corporate profits is likely to decelerate as the allocation to households increases further, such as in the form of a rise in personnel expenses.

Business Fixed Investment

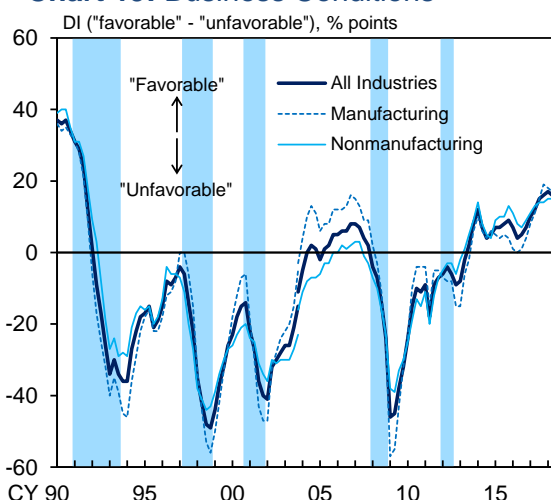
Business fixed investment has continued on an increasing trend, with corporate profits having been at high levels and business sentiment staying at a favorable level (Chart 20). The aggregate supply of capital goods and private construction completed (nonresidential) -- coincident indicators of machinery investment and construction investment, respectively -- have both continued on an uptrend. According to the December *Tankan*, the rate of increase in business fixed investment plans for fiscal 2018

Chart 18: Corporate Profits



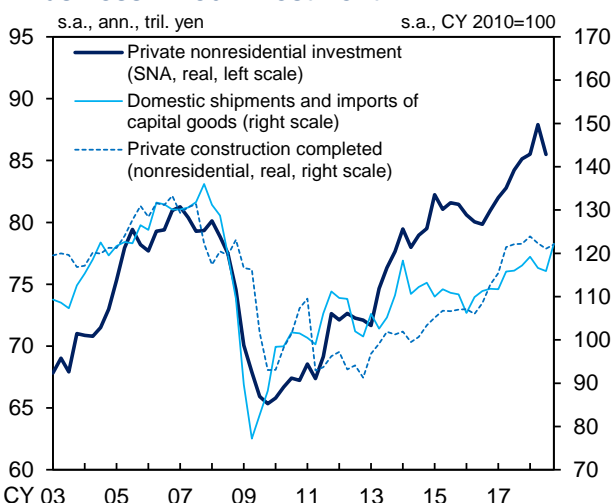
Source: Ministry of Finance.
Notes: 1. Based on the "Financial Statements Statistics of Corporations by Industry, Quarterly." Excluding "finance and insurance."
2. Figures from 2009/Q2 exclude "pure holding companies."
3. Shaded areas indicate recession periods.

Chart 19: Business Conditions



Source: Bank of Japan.
Notes: 1. Based on the *Tankan*. There is a discontinuity in the data in December 2003 due to a change in the survey framework.
2. Shaded areas indicate recession periods.

Chart 20: Coincident Indicators of Business Fixed Investment



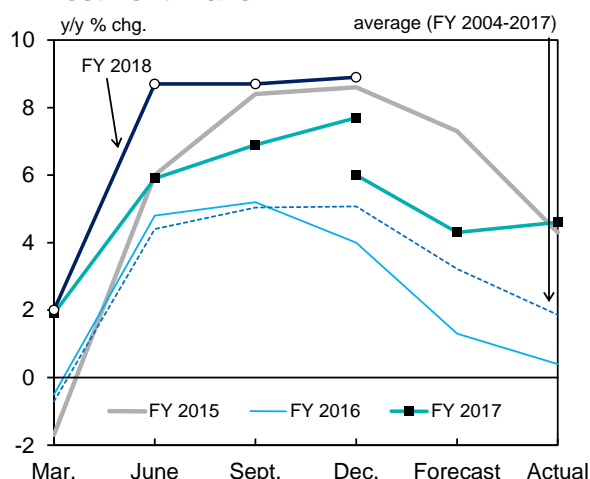
Sources: Cabinet Office; Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism.
Notes: 1. Figures for 2018/Q4 are October-November averages.
2. Real private construction completed is based on staff calculations using price indices in the "Construction Cost Deflators."

has substantially exceeded the past average, mainly of large enterprises. For example, business fixed investment (on the basis close to GDP definition; business fixed investment -- including software as well as research and development investment, but excluding land purchasing expenses -- in all industries including the financial industry) for fiscal 2018 is expected to register an increase of 8.9 percent (Chart 21). Reflecting firms' positive fixed investment stance, machinery orders and construction starts (in terms of planned expenses for private and nonresidential construction), as leading indicators, have continued on an increasing trend, albeit with large fluctuations (Chart 22).

With regard to the outlook, from fiscal 2019 onward, business fixed investment is likely to continue increasing on the back of (1) an improvement in corporate profits, (2) extremely stimulative financial conditions, such as low interest rates and accommodative lending attitudes, (3) materialization of the effects of projects conducted under the Fiscal Investment and Loan Program, and (4) moderate improvement in growth expectations. Specifically, an increase is likely to be seen in investment such as (1) that intended for domestic capacity expansion in line with the economic expansion, (2) that related to urban redevelopment projects, (3) that aiming at improving efficiency and saving labor in order to deal with mainly labor shortage, and (4) that in research and development for growth areas.

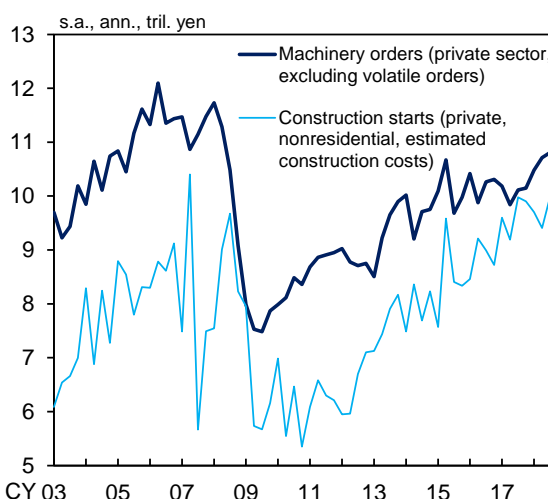
The nominal investment-GDP ratio is expected to maintain its high level on the basis of the

Chart 21: Developments in Business Fixed Investment Plans



Source: Bank of Japan.
 Notes: 1. Based on the *Tanken*. All industries including financial institutions.
 2. Including software and R&D investment and excluding land purchasing expenses (R&D investment is not included until the December 2016 survey).
 3. There is a discontinuity in the data in December 2017 due to a change in the survey sample.

Chart 22: Leading Indicators of Business Fixed Investment



Sources: Cabinet Office; Ministry of Land, Infrastructure, Transport and Tourism.
 Notes: 1. Volatile orders: orders for ships and orders from electric power companies.
 2. Figures for 2018/Q4 are October-November averages.

mentioned outlook for business fixed investment (Chart 23). The ratio has reached a level around the peaks observed in the investment cycles after the burst of the bubble. Taking this into account, the pace of increase in business fixed investment is likely to decelerate gradually through the end of the projection period, as pressure stemming from cyclical adjustments in capital stock heightens.¹⁷

Employment and Income Situation

Supply-demand conditions in the labor market have continued to tighten steadily and the rate of increase in employee income has been relatively high.¹⁸ The year-on-year rate of change in the *Labour Force Survey*-based number of employees has been at around 2 percent (Chart 24). Against this backdrop, the active job openings-to-applicants ratio has been at a high level that exceeds the peak marked during the bubble period, and a perception of labor shortage suggested by the employment conditions DI in the *Tankan* has heightened (Chart 2). The unemployment rate has been at around 2.5 percent recently. These indicators of supply-demand conditions in the labor market show that the degree of labor market tightening has been at the level last seen in the first halves of the 1990s or the 1970s. Meanwhile, labor force participation rates -- especially those for women and seniors -- have remained on an uptrend after bottoming out around the end of 2012 (Chart 25). As Japan's economy is likely to continue on an

¹⁷ Box 2 assesses the recent stock adjustment pressure.

¹⁸ While the Ministry of Health, Labour and Welfare released the corrected figures for the *Monthly Labour Survey* on January 23, the charts in this Outlook Report that use the data from the survey are based on data prior to the correction.

Chart 23: Investment-GDP Ratio (Nominal)

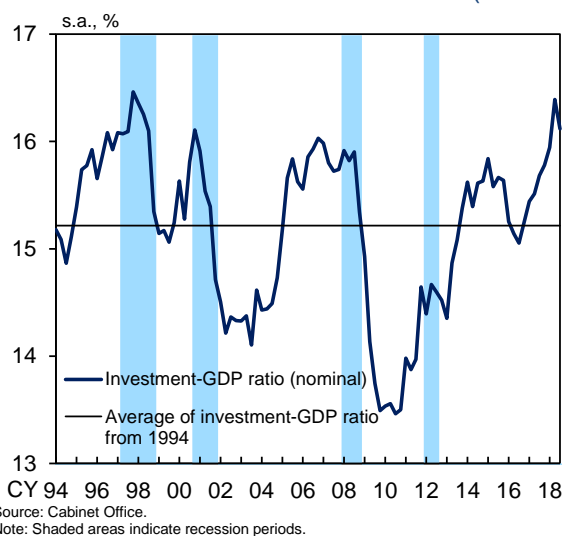


Chart 24: Employee Income

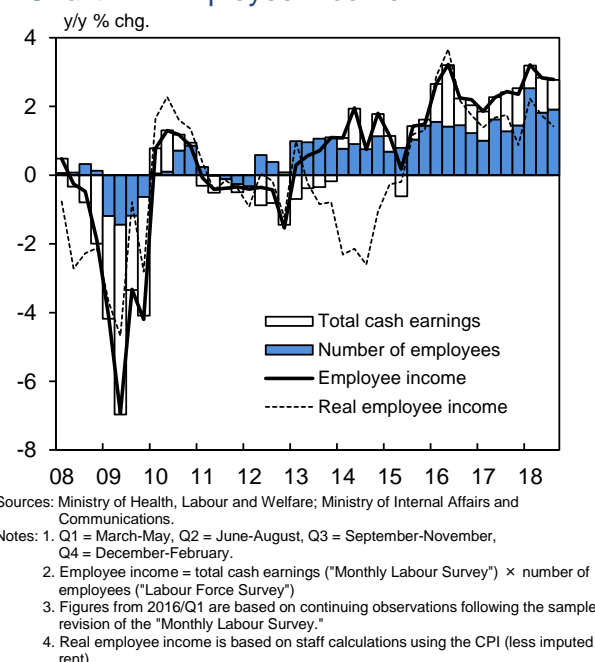


Chart 25: Labor Force Participation Rate

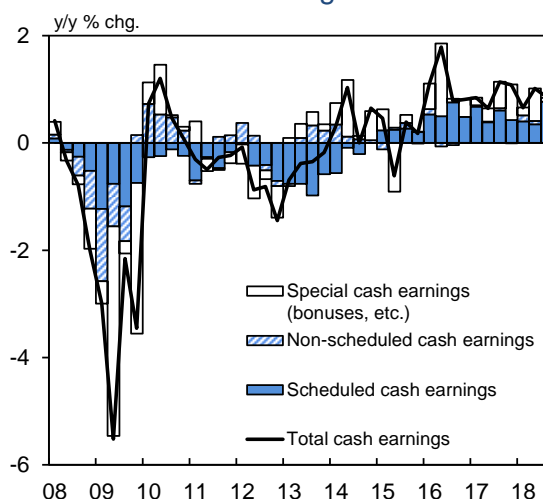


expanding trend, it is expected that the number of employees will keep increasing and that the supply-demand conditions in the labor market will continue to tighten steadily.

On the wage side, total cash earnings per employee have risen moderately, albeit with fluctuations (Chart 26).¹⁹ However, wage increases have remained relatively weak compared to the labor market tightening, partly due to the experience of protracted employment adjustments in the past and the high wage elasticity of labor supply in recent years, mainly among women and seniors.²⁰

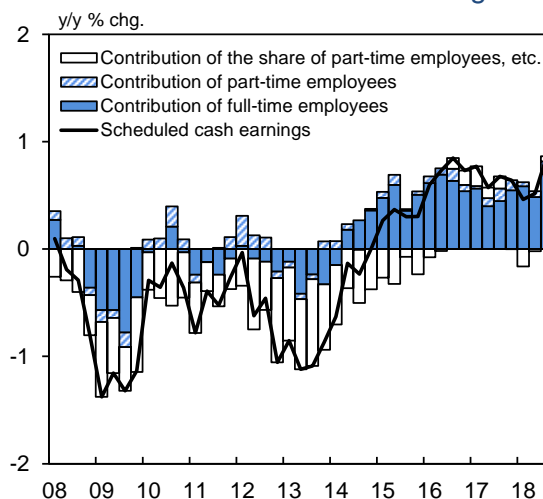
Looking at developments in nominal wages in detail, scheduled cash earnings as a whole have continued to increase moderately on the back of a rise in wages of both full-time and part-time employees (Chart 27). While the year-on-year rate of increase in scheduled cash earnings of full-time employees has remained in the range of 0.5-1.0 percent, that in hourly scheduled cash earnings of part-time employees -- which are responsive to labor market conditions -- registered relatively high growth of around 2.5 percent (Chart 28). Meanwhile, the year-on-year

Chart 26: Nominal Wages



Source: Ministry of Health, Labour and Welfare.
 Notes: 1. Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.
 2. Figures from 2016/Q1 are based on continuing observations following the sample revision of the "Monthly Labour Survey."

Chart 27: Scheduled Cash Earnings



Source: Ministry of Health, Labour and Welfare.
 Notes: 1. Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.
 2. Figures from 2016/Q1 are based on continuing observations following the sample revision of the "Monthly Labour Survey."

¹⁹ In the *Monthly Labour Survey*, from the January 2018 final report, half of the samples for establishments with 30 or more employees were replaced, and the number of regular employees was retroactively revised reflecting data from the 2014 *Economic Census*. Thus, the weights of establishments with 5 to 29 employees and those with 30 or more employees, as well as the ratio of part-time employees, have been changed. In this Outlook Report, nominal wages are assessed on the basis of continuing observations in order to exclude the effects of the sample revision of the *Monthly Labour Survey*.

²⁰ With regard to the relationship between an increase in the labor supply of women and seniors and wage developments, see Box 1 in the July 2018 Outlook Report.

rate of change in real wages per employee has been more or less flat, albeit with fluctuations resulting from changes in prices of fresh food and energy.

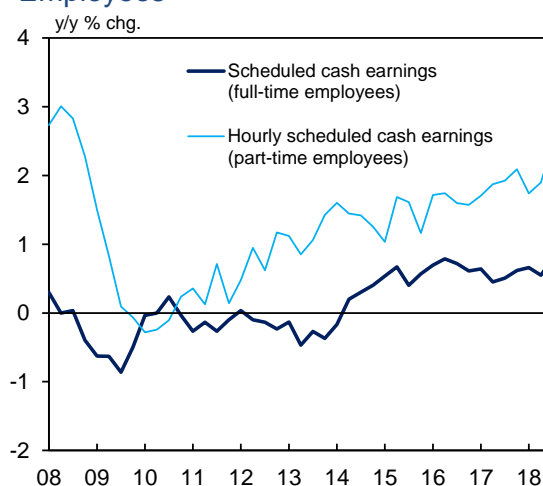
With regard to the outlook for wages, the pace of increase in scheduled cash earnings of full-time employees is expected to accelerate moderately as that in base pay accelerates with the inflation rate in the previous fiscal year rising and an improvement in labor productivity becoming more evident. The rate of increase in hourly scheduled cash earnings of part-time employees is also likely to accelerate steadily in response to further tightening of labor market conditions and an increase in minimum wages. Under this situation, overall employees' hourly cash earnings are projected to increase moderately at almost the same pace as labor productivity growth in nominal terms.

In light of the aforementioned employment and wage conditions, the rate of increase in employee income has been relatively high (Chart 24). Going forward, it is likely to increase steadily, and the pace is expected to be about the same as the nominal GDP growth rate.

Household Spending

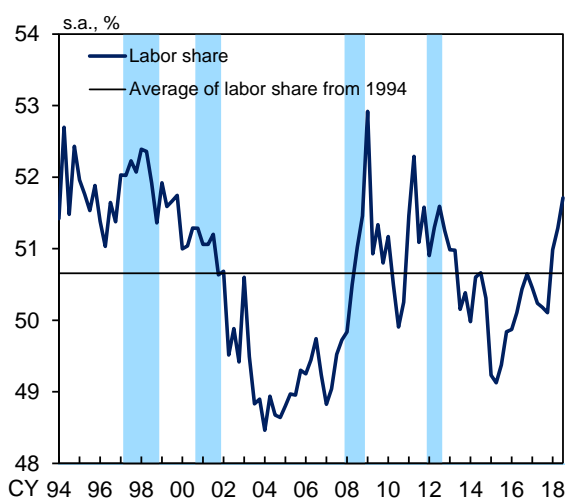
Private consumption has been increasing moderately, albeit with fluctuations, against the background of steady improvement in the employment and income situation. The Consumption Activity Index (CAI, travel balance adjusted) -- which is calculated by combining various sales and supply-side statistics from the

Chart 28: Wages of Full-Time and Part-Time Employees



Source: Ministry of Health, Labour and Welfare.
 Notes: 1. Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.
 2. Figures from 2016/Q1 are based on continuing observations following the sample revision of the "Monthly Labour Survey."

Chart 29: Labor Share



Source: Cabinet Office.
 Notes: 1. Labor share = compensation of employees / nominal GDP × 100
 2. Shaded areas indicate recession periods.

viewpoint of gauging consumption activity in a comprehensive manner -- has increased, albeit with fluctuations (Chart 30).^{21, 22} Looking at private consumption by type, durable goods have been on a moderate uptrend, with sales of automobiles picking up amid firm sales of white goods. Nondurable goods have been on a moderate decreasing trend, mainly led by tobacco and clothes. Meanwhile, services consumption has maintained its moderate increasing trend, reflecting a trend rise led by communications and medical care.

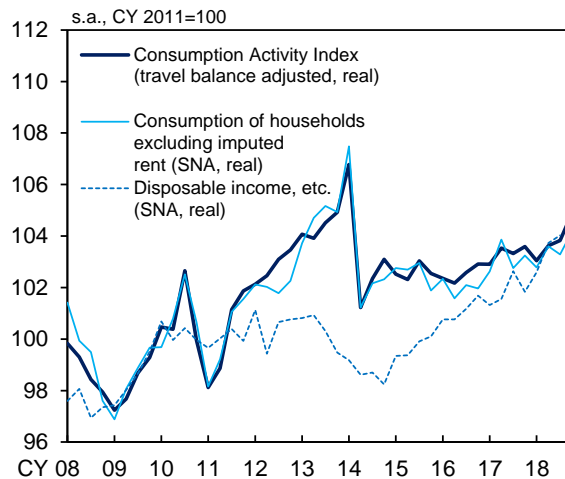
According to various sales statistics, retail sales value in nominal terms has remained on an increasing trend (Chart 31). Sales at department stores have recovered, mainly reflecting an increase in demand from foreign visitors to Japan and a pick-up in sales to the wealthy brought about by the past rise in stock prices. Sales at supermarkets have been on a moderate increasing trend, albeit with fluctuations mainly resulting from changes in fresh food prices and weather conditions. Sales at convenience stores have continued on a rising trend when smoothing out the effects of the front-loaded increase and subsequent decline in demand prior to and after the tobacco tax hike in October 2018.

As for durable goods, sales of automobiles have picked up, partly due to the effects of the introduction of new models (Chart 32). Sales of household electrical appliances have been on a

²¹ Regarding the CAI, see the Bank's research paper "Revision of the Consumption Activity Index to Address the 2008 SNA and Improve Accuracy" published in April 2018.

²² Regarding the estimates of disposable income, etc., used in Charts 30 and 35, see Box 2 in the October 2018 Outlook Report.

Chart 30: Private Consumption



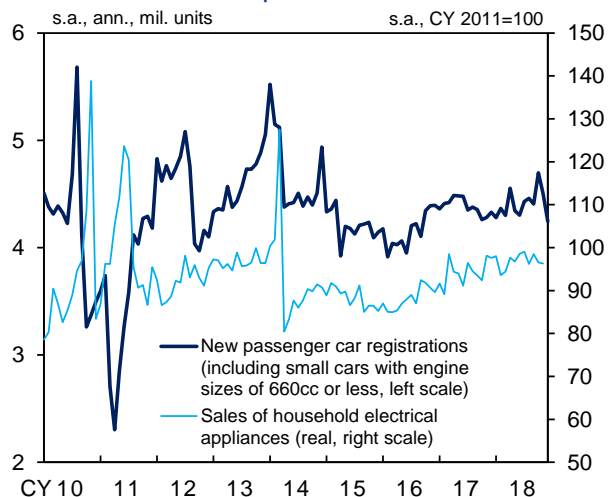
Sources: Bank of Japan; Cabinet Office; Ministry of Health, Labour and Welfare, etc.
 Notes: 1. The Consumption Activity Index is based on staff calculations (as of January 16). Figures for the Consumption Activity Index (travel balance adjusted) exclude inbound tourism consumption and include outbound tourism consumption. The figure for 2018/Q4 is the October-November average.
 2. The figure for consumption of households excluding imputed rent for 2018/Q4 is based on staff calculations using the "Synthetic Consumption Index (November)."
 3. "Disposable income, etc." consists of disposable income and "adjustment for the change in pension entitlements." Figures from 2018/Q2 are based on staff calculations using statistics such as the "Monthly Labour Survey" (based on continuing observations following the sample revision).

Chart 31: Consumption Indicators (Sales and Supply-Side Statistics)

	s.a., q/q % chg.			
	18/Q1	18/Q2	18/Q3	18/Q4
Consumption Activity Index				
Real, travel balance adjusted	-0.5	0.6	0.2	1.0
Real	-0.5	0.6	0.1	1.1
Sales at retail stores (nominal)	-0.6	0.4	1.1	1.1
Sales at department stores	-0.2	1.5	-3.5	3.0
Sales at supermarkets	0.0	-1.4	1.8	-2.3
Sales at convenience stores	1.0	0.2	1.1	-1.2

Sources: Bank of Japan; Ministry of Economy, Trade and Industry.
 Notes: 1. The Consumption Activity Index is based on staff calculations (as of January 16).
 2. Figures for sales at department stores and sales at supermarkets are adjusted for the number of stores.
 3. Figures for 2018/Q4 are October-November averages.

Chart 32: Consumption of Durable Goods



Sources: Japan Automobile Dealers Association; Japan Light Motor Vehicle and Motorcycle Association; Ministry of Economy, Trade and Industry; Ministry of Internal Affairs and Communications.
 Note: Figures for real sales of household electrical appliances are based on staff calculations using the retail sales index of machinery and equipment in the "Current Survey of Commerce" and the price index of related items in the CPI.

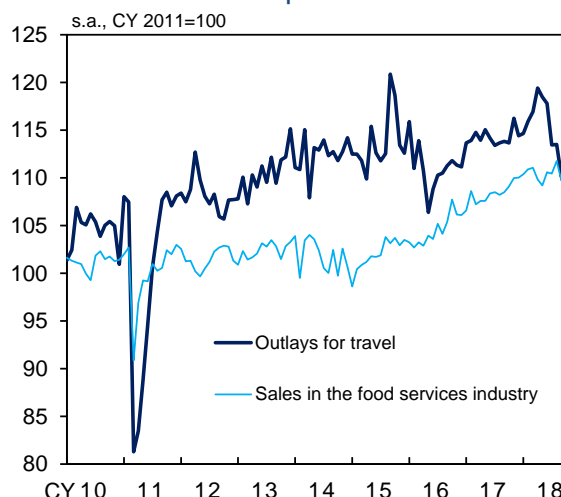
moderate increasing trend, with those of white goods having been firm.

Regarding services consumption, travel has continued to pick up (Chart 33). Both domestic and overseas travel recently have recovered amid the effects of natural disasters dissipating. Dining-out has been on an uptrend, led mainly by fast food.

Looking at confidence indicators related to private consumption, the Consumer Confidence Index has been weakening somewhat (Chart 34). The *Economy Watchers Survey* suggests that consumer confidence has been improving of late, but more recently has deteriorated, mainly reflecting sluggish sales of items such as winter clothes due to the unusually warm winter, as well as a decline in stock prices.

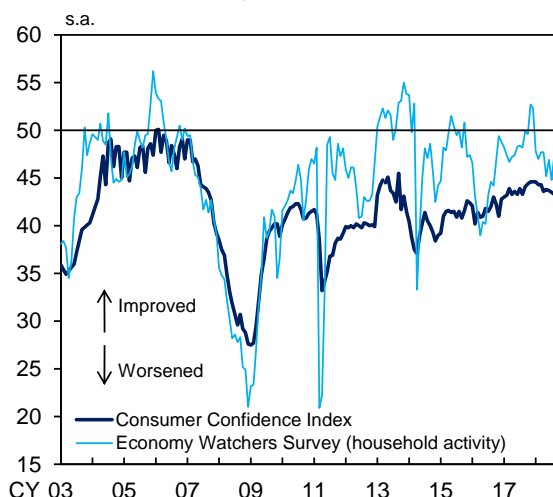
In the outlook, private consumption is expected to continue on a moderate increasing trend, supported by an increase in employee income and by the wealth effects stemming from the past rise in stock prices, although it is likely to be pushed down for some time due to the effects of the scheduled consumption tax hike. Meanwhile, the propensity to consume generally has been more or less flat, after it declined considerably following the consumption tax hike in 2014 (Chart 35). As for the outlook, it is expected to remain more or less flat when fluctuations resulting from the scheduled consumption tax hike in 2019 are smoothed out.²³

Chart 33: Consumption of Services



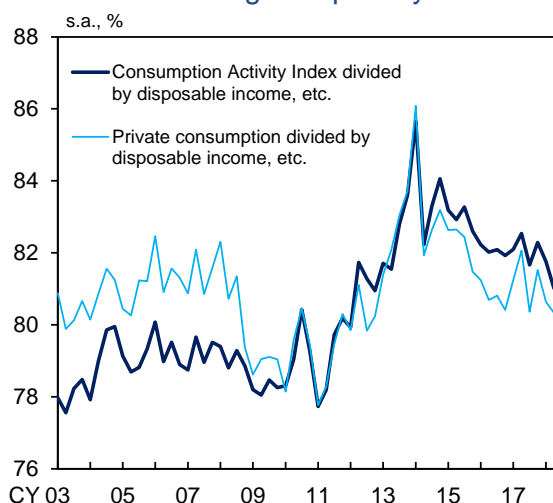
Sources: Japan Tourism Agency; Japan Foodservice Association, "Market Trend Survey of the Food Services Industry."
Note: Figures for the outlays for travel exclude those by foreign travelers.

Chart 34: Confidence Indicators Related to Private Consumption



Source: Cabinet Office.
Note: Figures for the "Economy Watchers Survey" are those for the current economic conditions DI.

Chart 35: Average Propensity to Consume

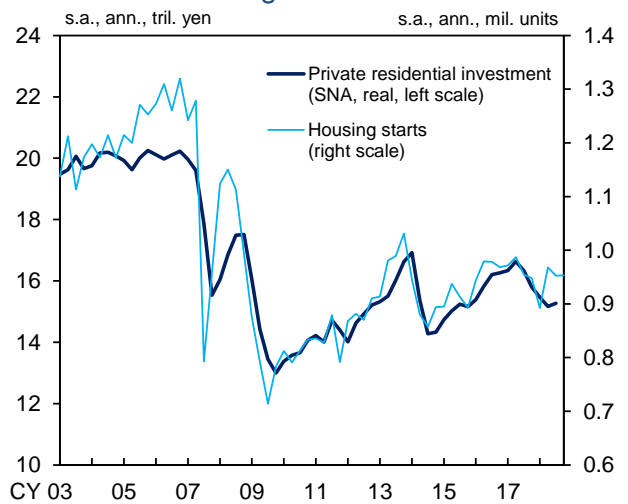


Sources: Bank of Japan; Cabinet Office; Ministry of Health, Labour and Welfare, etc.
Notes: 1. The Consumption Activity Index is based on staff calculations.
2. Private consumption is consumption of households excluding imputed rent.
3. "Disposable income, etc." consists of disposable income and "adjustment for the change in pension entitlements." Figures from 2018/Q2 are based on staff calculations using statistics such as the "Monthly Labour Survey" (based on continuing observations following the sample revision).

²³ Box 3 analyzes changes in wages, disposable income, and the propensity to consume by age group.

Housing investment has been more or less flat (Chart 36). As for the outlook, it is expected to remain more or less flat when fluctuations due to the scheduled consumption tax hike are smoothed out; an improvement in the employment and income situation and low housing loan rates are likely to underpin housing investment, but demand for housing for rent that was motivated by inheritance tax savings is projected to peak out.

Chart 36: Housing Investment



Sources: Cabinet Office; Ministry of Land, Infrastructure, Transport and Tourism.
 Note: The figure for 2018/Q4 is the October-November average.

II. Current Situation of Prices and Their Outlook

Developments in Prices

The rate of increase in the producer price index (PPI, adjusted for the effects of seasonal changes in electricity rates) has been at around 0.5 percent on a quarter-on-quarter basis, reflecting developments in international commodity prices and foreign exchange rates (Chart 37). The year-on-year rate of increase in the services producer price index (SPPI, excluding international transportation) recently has been in the range of 1.0-1.5 percent; the rate of increase has been on a moderate expanding trend since the increase in personnel expenses was passed on to prices of a wide range of items at the beginning of the fiscal year (Chart 37).²⁴

The year-on-year rate of change in the CPI (all items less fresh food and energy) has been in the range of 0.0-0.5 percent (Chart 39). It has continued to show relatively weak developments compared to the economic expansion and the labor market tightening. This basically has continued to be partly affected by the fact that the mindset and behavior based on the assumption that wages and prices will not increase easily have been deeply entrenched among firms and households, due mainly to the experience of prolonged low growth and deflation.²⁵ Under these circumstances, firms' cautious wage- and

²⁴ Under these circumstances, the net "rise" for the input prices DI and the output prices DI in the *Tankan* had been on an expanding trend but their pace of increase has come to a pause recently (Chart 38).

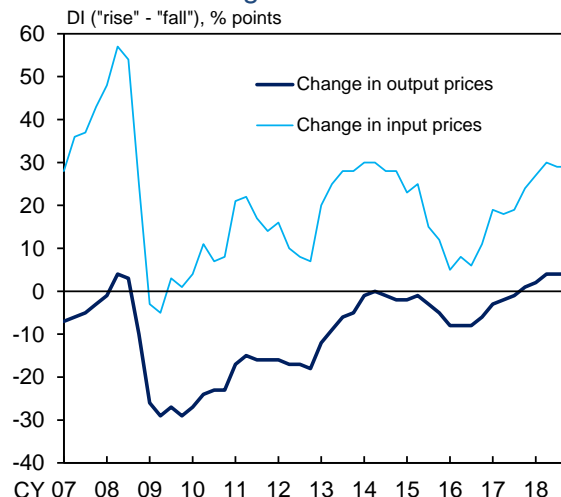
²⁵ With regard to households' tolerance of price rises and firms' cautious price-setting stance, see Boxes 2 and 3 in the July 2018 Outlook Report.

Chart 37: Inflation Indicators

	y/y % chg.			
	18/Q1	18/Q2	18/Q3	18/Q4
Consumer Price Index (CPI)				
Less fresh food	0.9	0.7	0.9	0.9
Less fresh food and energy	0.5	0.3	0.3	0.3
Producer Price Index (q/q % chg.)	0.6	0.6	0.7	0.4
Services Producer Price Index	0.7	1.0	1.1	1.2
GDP deflator	0.5	0.0	-0.3	
Domestic demand deflator	0.9	0.5	0.7	

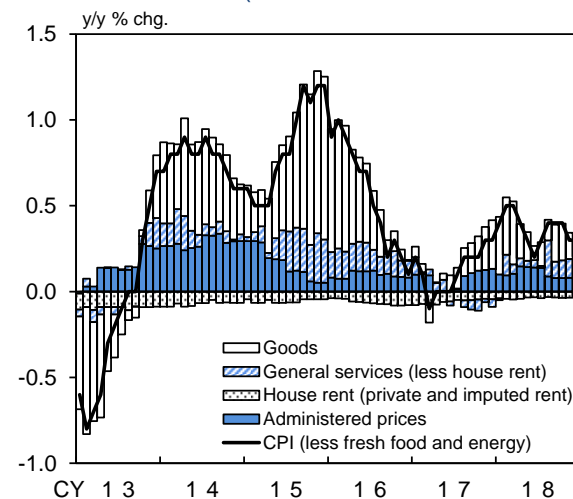
Sources: Ministry of Internal Affairs and Communications; Bank of Japan; Cabinet Office.
 Notes: 1. Figures for the Producer Price Index are adjusted to exclude the hike in electric power charges during the summer season.
 2. Figures for the Services Producer Price Index exclude international transportation.
 3. The figure for the Services Producer Price Index for 2018/Q4 is the October-November average.

Chart 38: Changes in Prices



Source: Bank of Japan.
 Note: Based on the *Tankan*. All enterprises.

Chart 39: CPI (less fresh food and energy)



Source: Ministry of Internal Affairs and Communications.
 Notes: 1. Administered prices (less energy) consist of "public services" and "water charges."
 2. The CPI figures are adjusted for changes in the consumption tax rate.

price-setting stance as well as households' cautiousness toward price rises have not yet clearly changed. Firms have been making efforts to absorb a rise in labor costs by increasing labor-saving investment and streamlining their business process while limiting wage increases -- which correspond to labor shortage -- mainly to part-time employees.²⁶ As a result, the real wage gap, which is defined as the deviation of real wages from labor productivity, has remained at a low level, and this is contributing to pushing down price rises (Chart 40).²⁷ In addition, sectoral shock, such as price declines at mainly supermarkets resulting from intensifying competition with other types of retail businesses, as well as the continued lackluster developments in administered prices and housing rent, have been constraining inflation.²⁸ It has been taking time to resolve these factors that have been delaying price rises.

The year-on-year rate of change in the CPI (all items less fresh food) is in the range of 0.5-1.0 percent, reflecting the past rise in energy prices, while the rate of change in the CPI excluding fresh food and energy has been in the range of 0.0-0.5 percent (Chart 42).

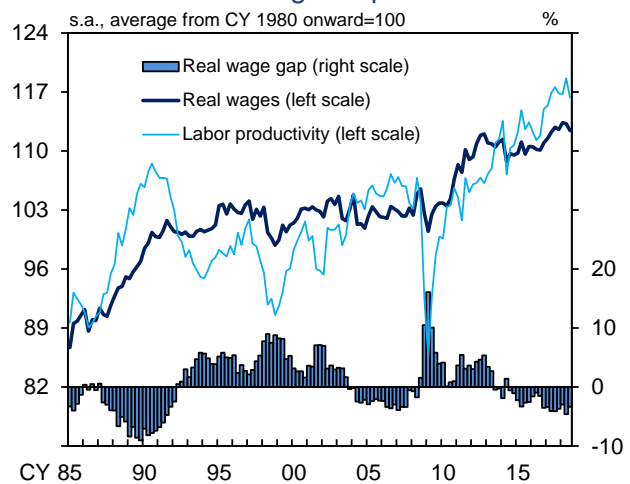
The developments in the indicators for capturing the underlying trend in the CPI are as follows (Chart 43). The rate of change in the trimmed

²⁶ As for firms' efforts to raise productivity, see Box 4 in the July 2018 Outlook Report.

²⁷ Regarding the relationship between the real wage gap and prices, see Box 3 in the July 2017 Outlook Report.

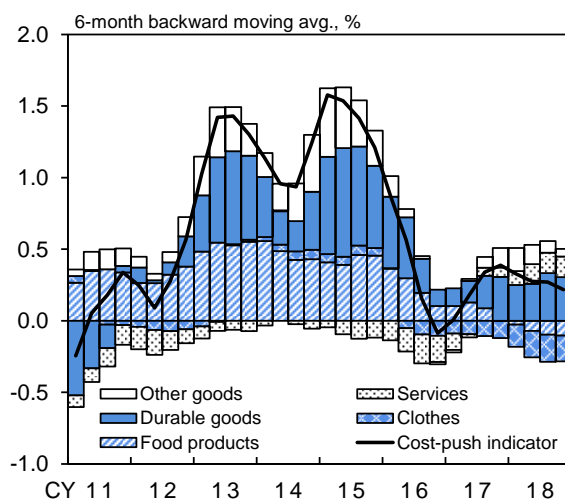
²⁸ For intensifying competition and sectoral shocks, see Box 5 in the July 2018 Outlook Report.

Chart 40: Real Wage Gap



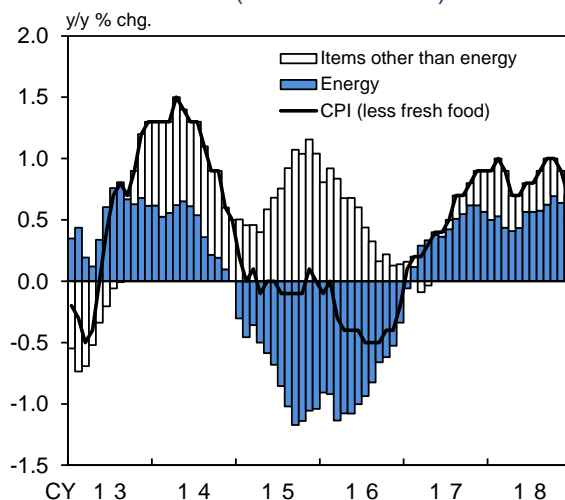
Sources: Ministry of Finance; Cabinet Office.
Notes: 1. The real wage gap is defined as the deviation of real wages from labor productivity.
2. Real wages = personnel expenses / number of workers / GDP deflator
3. Labor productivity = (operating profits + personnel expenses + depreciation expenses) / number of workers / GDP deflator
4. Variables such as personnel expenses are based on the "Financial Statements Statistics of Corporations by Industry, Quarterly" and exclude "finance and insurance."
5. Figures from 2009/Q2 exclude "pure holding companies."

Chart 41: Cost-Push Indicator



Sources: Ministry of Internal Affairs and Communications, etc.
Notes: 1. The cost-push indicator is defined as the weighted average of the residuals obtained when regressing each CPI item on the corresponding cost indicator, such as the Producer Price Index. The weights are based on the CPI.
2. Figures for 2018/Q4 are October-November averages.

Chart 42: CPI (less fresh food)

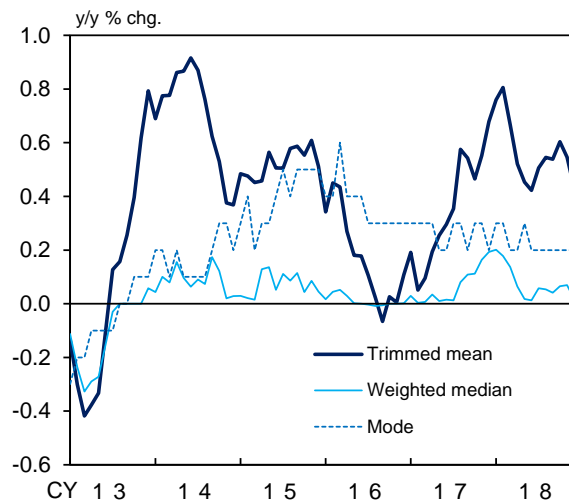


Source: Ministry of Internal Affairs and Communications.
Notes: 1. Energy consists of petroleum products, electricity, and gas, manufactured & piped.
2. The CPI figures are adjusted for changes in the consumption tax rate.

mean has been at around 0.5 percent recently.²⁹ The mode has been in the range of 0.0-0.5 percent of late, while the weighted median has been at around 0 percent.³⁰ Meanwhile, looking at annual price changes across all items (less fresh food), the share of price-increasing items minus the share of price-decreasing items recently has been on an increasing trend (Chart 44).

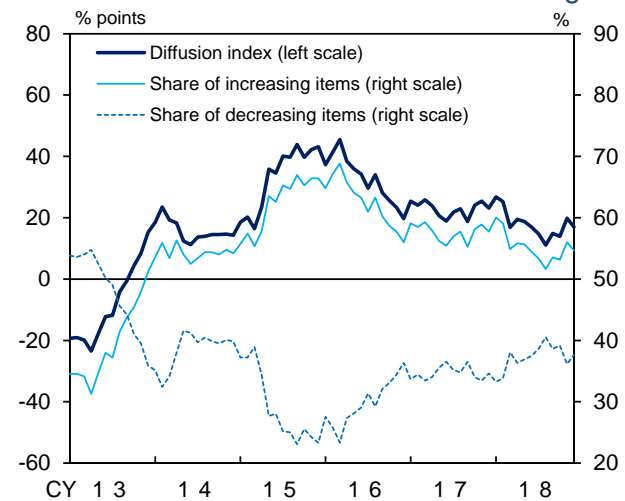
The year-on-year rate of change in the GDP deflator has been in the range of 0.0 to minus 0.5 percent on the whole, as it has been negatively affected by the import deflator that reflects the past rise in international commodity prices (Chart 37). The year-on-year rate of change in the domestic demand deflator has been in the range of 0.5-1.0 percent, mainly led by the private consumption and business fixed investment deflators.

Chart 43: Various Measures of Core Inflation



Sources: Bank of Japan; Ministry of Internal Affairs and Communications.
Note: Based on staff calculations using the CPI (consumption tax adjusted).

Chart 44: Diffusion Index of Price Changes



Sources: Bank of Japan; Ministry of Internal Affairs and Communications.
Note: The diffusion index is defined as the share of increasing items minus the share of decreasing items. The share of increasing/decreasing items is the share of items in the CPI (less fresh food, consumption tax adjusted) whose price indices increased/decreased from a year earlier. Based on staff calculations.

²⁹ The effects of large relative price fluctuations are eliminated by 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).

³⁰ The mode is the inflation rate with the highest density in the price fluctuation distribution. The weighted median is the average of the inflation rates of the items at around the 50 percentile point of the cumulative distribution in terms of weight.

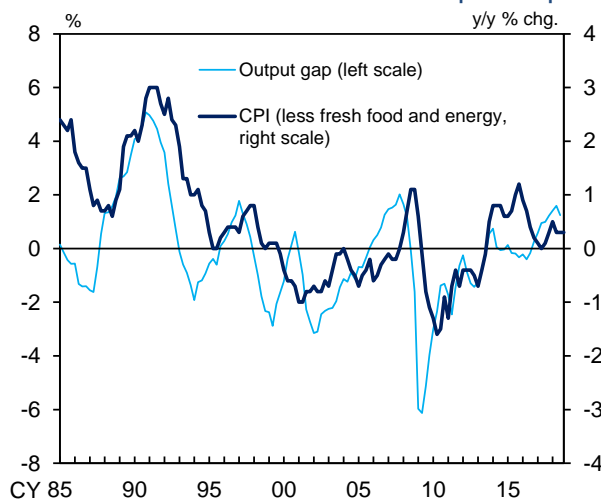
Environment surrounding Prices

In the outlook for prices, the main factors that determine inflation rates are assessed as follows. First, the output gap has been in the range of 1.0-1.5 percent, partly backed by the steady tightening of labor market conditions, although it temporarily narrowed within positive territory in the July-September quarter of 2018, due mainly to the effects of natural disasters (Charts 4 and 45).³¹ With regard to the outlook, through the first half of fiscal 2019, the output gap is projected to continue on a moderate expanding trend within positive territory, both on the capital and labor sides, reflecting the increase in demand at home and abroad. Thereafter, although such expansion is likely to pause, mainly due to the effects of the scheduled consumption tax hike, the output gap is expected to remain substantially positive.

Second, medium- to long-term inflation expectations have been more or less unchanged recently (Charts 46 and 47). As for the outlook, such expectations are likely to follow an increasing trend and gradually converge to 2 percent on the back of the following: (1) in terms of the adaptive component, as further price rises come to be observed widely with the output gap remaining positive, inflation expectations are likely to be pushed up through a rise in the observed inflation rate, 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, which will be effective in pushing up inflation expectations

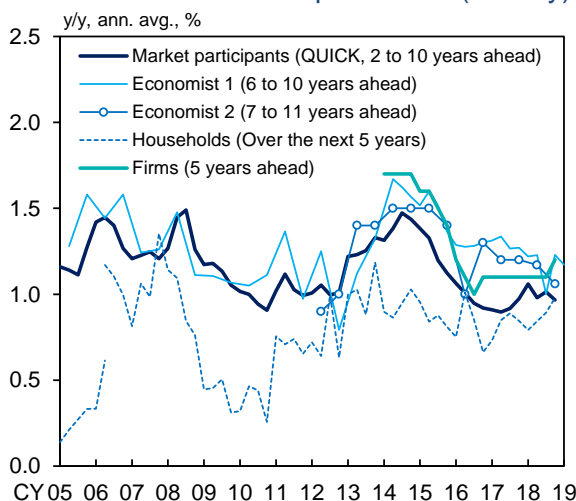
³¹ In the meantime, the DI in the *Tankan* for domestic supply and demand conditions for products and services for large manufacturing enterprises has been at around the same high level as in the February 1991 survey.

Chart 45: Inflation Rate and Output Gap



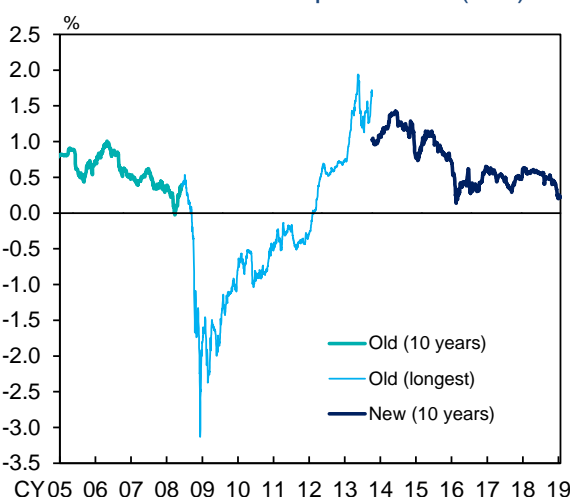
Sources: Ministry of Internal Affairs and Communications; Bank of Japan.
Notes: 1. The CPI figures are adjusted for changes in the consumption tax rate.
2. The output gap is based on staff estimations.

Chart 46: Inflation Expectations (Survey)



Sources: Bank of Japan; QUICK, "QUICK Monthly Market Survey (Bonds)"; JICER, "ESP Forecast"; Consensus Economics Inc., "Consensus Forecasts."
Notes: 1. Figures for the economist 1 are from the "Consensus Forecasts." Figures for the economist 2 are from the "ESP Forecast."
2. Figures for households are from the "Opinion Survey on the General Public's Views and Behavior," estimated using the modified Carlson-Parkin method.
3. Figures for firms are "Outlook for General Prices (*Tankan*, all industries and enterprises, average)."

Chart 47: Inflation Expectations (BEI)



Source: Bloomberg.
Note: 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 matured in June 2018.

toward 2 percent.

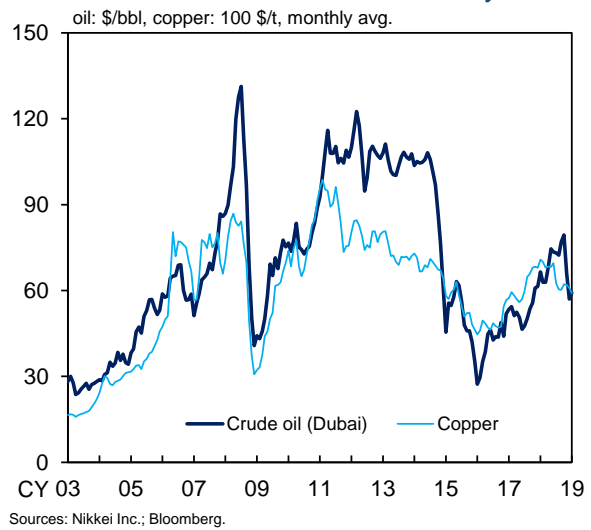
The third factor is developments in import prices (Chart 48). The past rise in crude oil prices had pushed up the CPI for fiscal 2018; however, crude oil prices have turned to a decline since last autumn and this is likely to push down the year-on-year rate of change in the CPI for fiscal 2019.

Outlook for Prices

With regard to the outlook for prices, the year-on-year rate of increase in the CPI (all items less fresh food and energy) is likely to accelerate on the back of the following developments in the short run: (1) the rate of increase in prices of goods that are responsive to economic activity, including food products and goods related to daily necessities, is expected to accelerate gradually with a moderate increase in private consumption, and (2) moves to pass on the increase in personnel expenses to prices of general services, mainly dining-out and housework-related services, are likely to prevail, although the decline in housing rent is projected to continue exerting downward pressure. Thereafter, as firms' stance shifts toward further raising wages and prices and households' tolerance of price rises increases with the output gap remaining positive, inflation expectations are projected to rise gradually and the year-on-year rate of change in the CPI (all items less fresh food and energy) also is likely to increase gradually toward 2 percent.

The year-on-year rate of change in the CPI (all items less fresh food) is likely to increase

Chart 48: International Commodity Prices



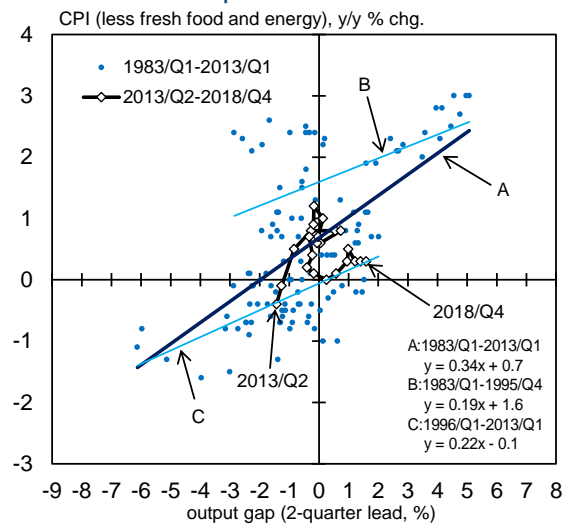
gradually toward 2 percent. This is because, although the rate of increase is projected to decelerate for the time being, reflecting a decline in energy prices, the CPI inflation excluding fresh food and energy is expected to accelerate thereafter.

Such projections are made based on the underlying scenario that, with the output gap remaining substantially positive, the Phillips curve will gradually shift upward as inflation expectations rise through both the forward-looking and adaptive expectation formation mechanisms (Chart 49).³²

Comparing the current projections with the previous ones, the projected rates of increase in the CPI (all items less fresh food) are lower, mainly for fiscal 2019, due primarily to the decline in crude oil prices.

In the long run, real wages -- which are determined by the balance between prices and nominal wages -- will be consistent with labor productivity (Chart 40). Under the baseline scenario, the pace of increase in real wages is expected to accelerate gradually, catching up with the improvement in labor productivity. That is, with corporate profits at around record high levels, the rate of increase in nominal wages is projected to outpace that in the CPI, reflecting tight labor market conditions. Such a rise in real wages is likely to push up consumption through an improvement in household income and increase

Chart 49: Phillips Curve



Sources: Ministry of Internal Affairs and Communications; Bank of Japan.
Notes: 1. The CPI figures are adjusted for changes in the consumption tax rate.
2. The output gap is based on staff estimations.

³² Regarding the adaptive formation mechanism of inflation expectations, see Box 7 in the July 2018 Outlook Report.

households' tolerance of price rises, thereby contributing to a rise in the CPI.

III. Financial Developments in Japan

Financial Conditions

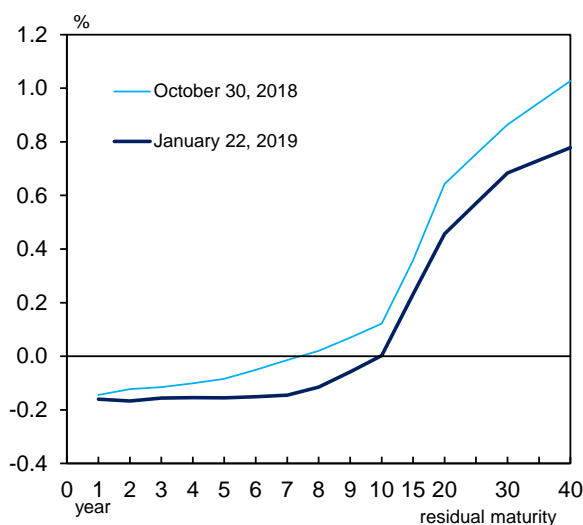
Financial conditions are highly accommodative.

Under "QQE with Yield Curve Control," 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 zero percent (Chart 50). That is, the yields for relatively short maturities have been in slightly negative territory; the 10-year JGB yields have generally been at around 0 percent. Meanwhile, the 20-year JGB yields have generally been at around 0.5 percent. With the Bank pursuing powerful monetary easing, the transaction volume for JGBs has remained at a relatively low level, but it has increased somewhat since end-July last year.³³

Firms' funding costs have been hovering at extremely low levels (Chart 51). Issuance rates for CP have remained at extremely low levels, and indices such as the DI in the *Tankan* suggest that conditions for its issuance have been favorable. Issuance rates for corporate bonds also have remained at extremely low levels. Meanwhile, lending rates (the average interest rates on new loans and discounts) have been at around historical low levels.

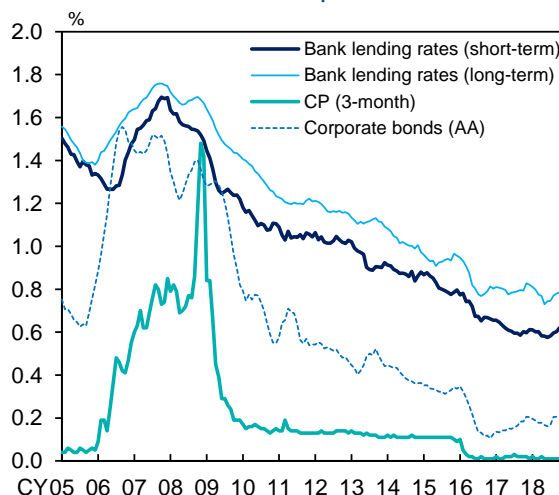
³³ With regard to liquidity in the JGB markets and the degree of bond market functioning from the market participants' viewpoints, see the Bank's releases *Liquidity Indicators in the JGB Markets* (December 2018) and *Bond Market Survey* (November 2018 survey).

Chart 50: Yield Curves



Source: Bloomberg.

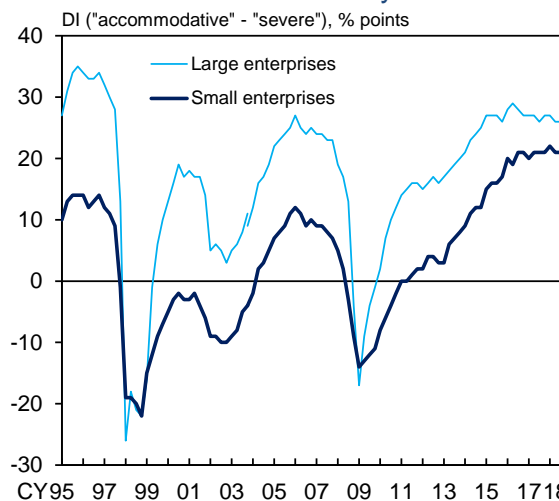
Chart 51: Bank Lending Rates and Issuance Yields for CP and Corporate Bonds



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

- Notes: 1. Figures for issuance yields for CP up to September 2009 are the averages for CP (3-month, rated a-1 or higher). Those from October 2009 are the averages for CP (3-month, rated a-1).
2. Figures for issuance yields for corporate bonds are the averages for domestically issued bonds launched on a particular date. Bonds issued by banks and securities companies, etc., are excluded.
3. Figures for bank lending rates and issuance yields for corporate bonds show 6-month backward moving averages.

Chart 52: Lending Attitude of Financial Institutions as Perceived by Firms



Source: Bank of Japan.

Note: Based on the *Tankan*. All industries. There is a discontinuity in the data in December 2003 due to a change in the survey framework.

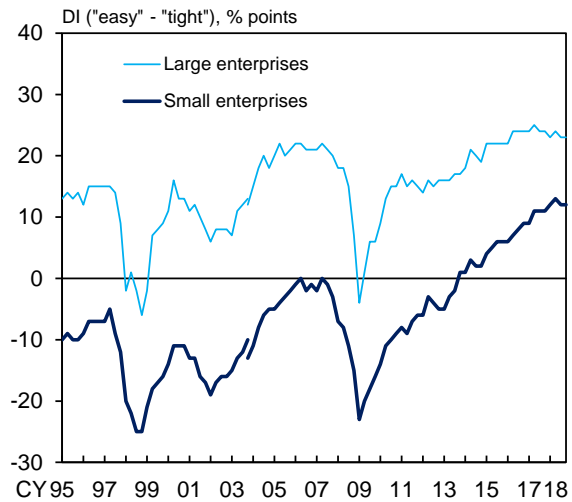
With regard to the availability of funds for firms, the DI in the *Tankan* for financial institutions' lending attitudes as perceived by firms suggests that their lending attitudes have been highly accommodative; the DI for large firms has been at a high level of around the peak in the mid-2000s, and that for small firms has been at a high level last seen at the end of the 1980s (Chart 52). Firms' financial positions have been favorable, as suggested by the DIs for both large and small firms in the *Tankan* having been at high levels that are almost the same as those seen around 1990 (Chart 53).

Demand for funds such as those for business fixed investment, as well as those related to mergers and acquisitions of firms, has been increasing. In these circumstances, the year-on-year rate of increase in the amount outstanding of bank lending has been at around 2.5 percent (Chart 54). That in the aggregate amount outstanding of CP and corporate bonds has accelerated.

The year-on-year rate of increase in the monetary base has been at around 5 percent, and its amount outstanding as of end-December was 504 trillion yen, of which the ratio to nominal GDP was 92 percent.³⁴ The year-on-year rate of increase in the money stock (M2) has been at around 2.5 percent, partly reflecting an increase in bank lending (Chart 55).

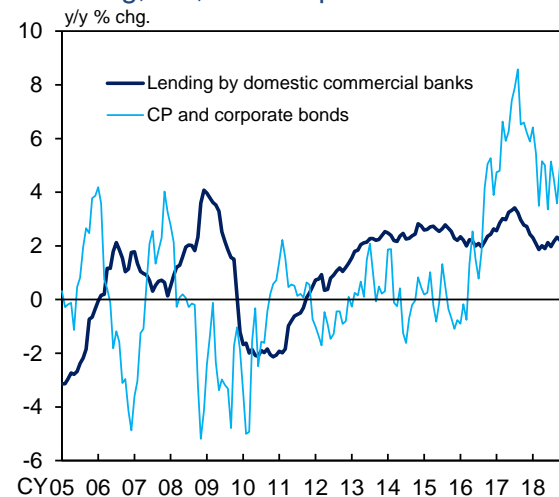
³⁴ It is assumed that the figure for nominal GDP is unchanged from the July-September quarter of 2018.

Chart 53: Financial Position



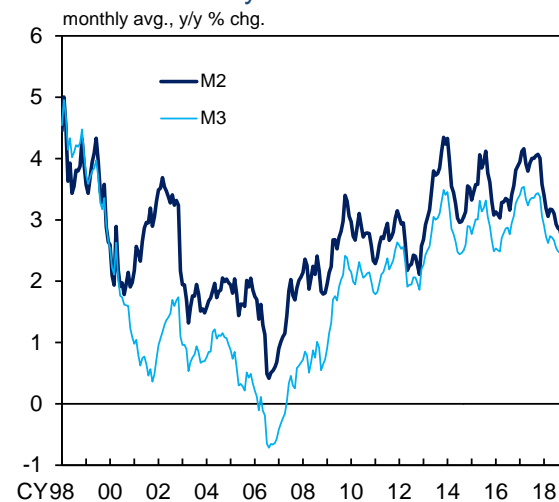
Source: Bank of Japan.
Note: Based on the *Tankan*. All industries. There is a discontinuity in the data in December 2003 due to a change in the survey framework.

Chart 54: Amount Outstanding of Bank Lending, CP, and Corporate Bonds



Sources: Bank of Japan; Japan Securities Depository Center; Japan Securities Dealers Association; I-N Information Systems.
Note: Figures for lending by domestic commercial banks are monthly averages. Figures for CP and corporate bonds are those at the end of period.

Chart 55: Money Stock



Source: Bank of Japan.

Developments in Financial Markets

With regard to developments in global financial markets, long-term interest rates in the United States and Europe have declined while stock prices have continued to see large fluctuations, falling temporarily in many countries, as investors' risk aversion heightened, mainly reflecting uncertainties over the trade friction between the United States and China and political developments in Europe, as well as relatively weak economic indicators in China.

Yields on 10-year government bonds in the United States have decreased to the range of 2.5-3.0 percent, due in part to uncertainties over the trade friction between the United States and China as well as a decline in inflation expectations accompanying a fall in crude oil prices (Chart 56). Yields on 10-year government bonds in Germany have declined, mainly against the background of developments in U.S. interest rates, as well as difficulties surrounding negotiations on the United Kingdom's exit from the EU and concerns regarding developments in Italy.

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 had widened, partly against the background of transactions conducted in view of the year-end, and have been more or less flat thereafter; those for the euro and the yen have remained at low levels (Chart 57). Premiums for U.S. dollar funding through the dollar/yen foreign exchange swap market have declined, mainly because the tightening in the supply-demand balance has peaked out (Chart 58).

Chart 56: 10-Year Government Bond Yields in Selected Advanced Economies

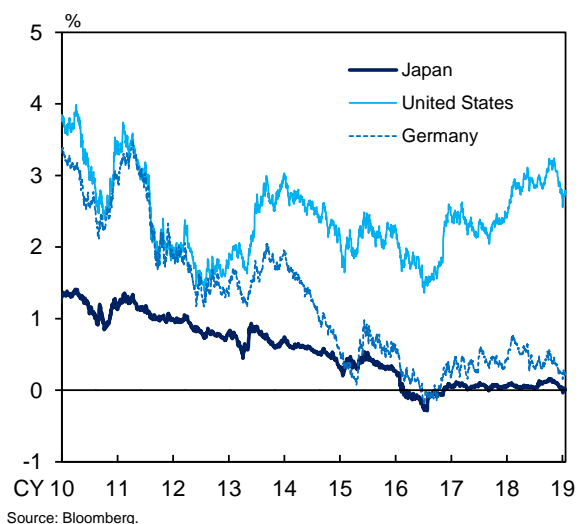


Chart 57: Credit Spreads for Term Instruments

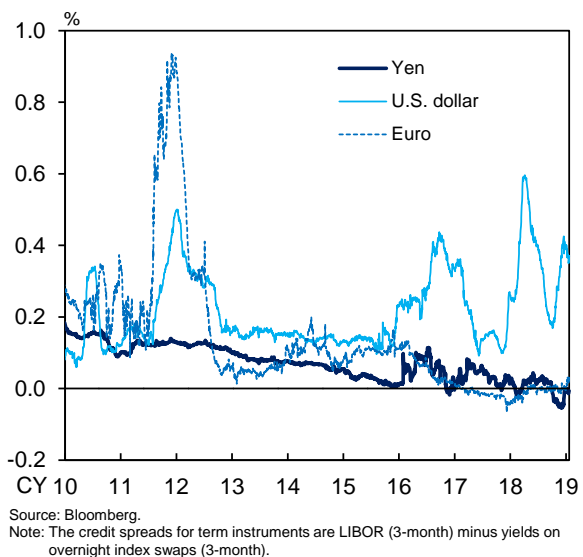
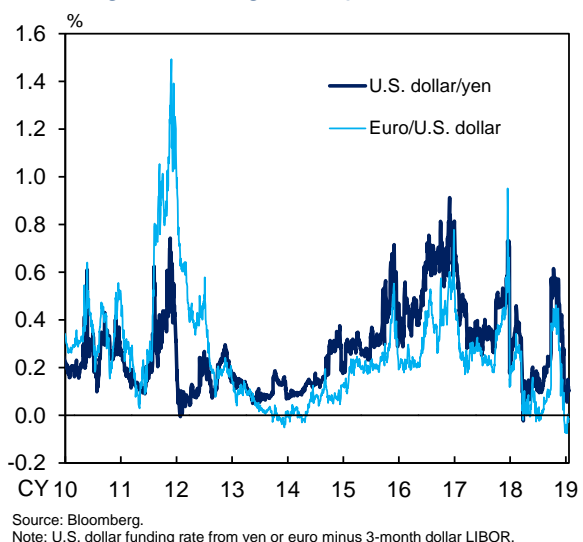


Chart 58: Dollar Funding Premiums through Foreign Exchange Swaps



Stock prices in the United States temporarily decreased to a level last seen in April 2017, partly reflecting uncertainties over the trade friction between the United States and China as well as relatively weak economic indicators in China, but have risen recently, mainly due to stronger-than-expected U.S. economic indicators (Chart 59). Stock prices in Europe have continued to see large fluctuations, mainly against the background of developments in U.S. stock prices, as well as difficulties surrounding negotiations on the United Kingdom's exit from the EU and weak economic indicators in Europe. Japanese stock prices had fallen, due in part to a decline in U.S. stock prices and uncertainties over the trade friction between the United States and China, and recently have recovered somewhat.

In the Japan real estate investment trust (J-REIT) market, prices have been more or less flat on average, although they temporarily declined in late December, with investors' risk aversion heightening somewhat (Chart 60).

In foreign exchange markets, the yen was more or less flat against the U.S. dollar and the euro through mid-December; however, it subsequently has appreciated somewhat, with investors' risk aversion heightening, partly against the background of uncertainties over the trade friction between the United States and China as well as concerns regarding a possible slowdown in the Chinese economy (Chart 61).

Chart 59: Selected Stock Prices

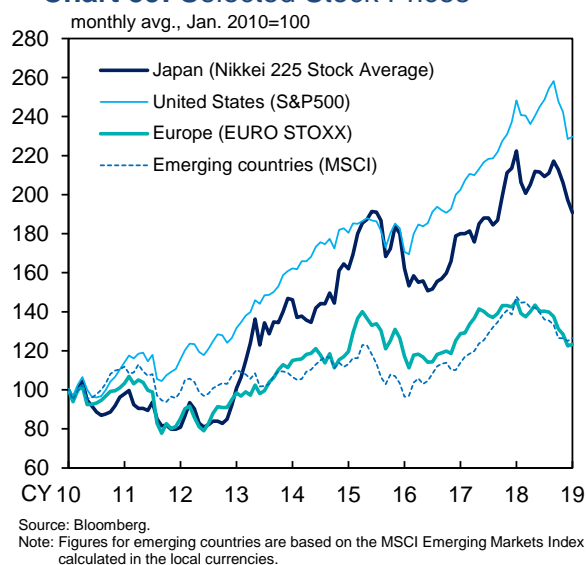


Chart 60: Selected REIT Indexes

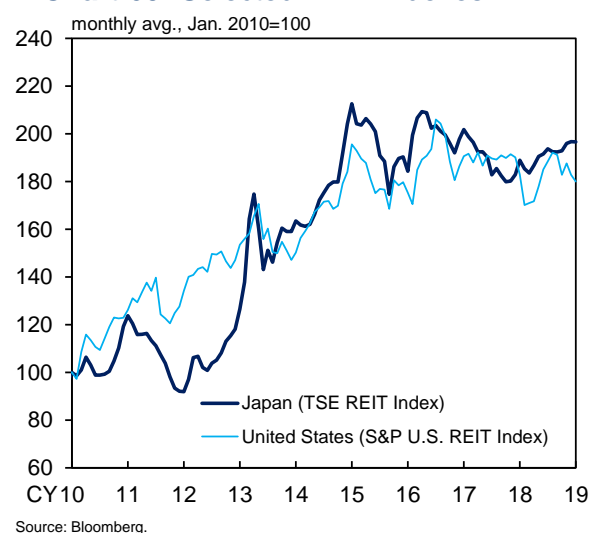
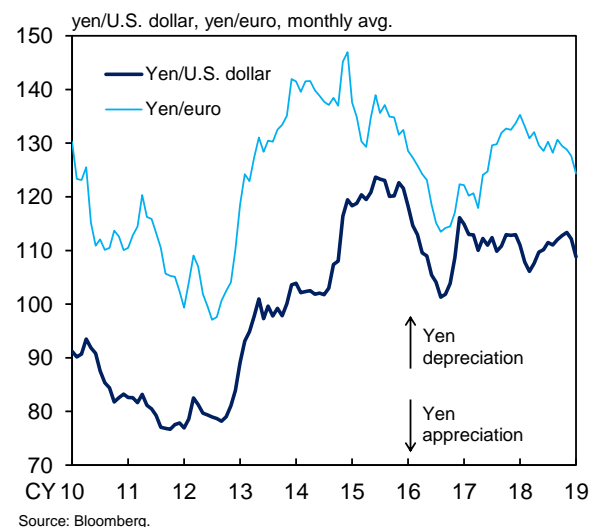


Chart 61: Yen/U.S. Dollar and Yen/Euro



(Box 1) Monitoring Indicators of Export Conditions

There are high uncertainties regarding overseas economies and vigilance continues to be warranted. Looking at developments in exports and production or corporate surveys such as the business conditions DI, the impact on Japan's economy of uncertainties regarding overseas economies including protectionist moves can be judged as still limited.³⁵ However, it also is true that interviews on firms conducted by the Bank's Head Office, branches, and local offices reveal their growing concern about overseas economies.³⁶

Against this background, the Bank has developed the SCOPE (Surveillance Indices for Critical Overseas Perils to Exports) indicator to comprehensively monitor export conditions. Similar to the Financial Activity Indexes used in the Bank's *Financial System Report*, SCOPE visualizes the possibility of a significant decrease in real exports.

Specifically, in the first step, about 250 economic indicators were collected as candidates. Next, an optimal threshold value was calculated for each indicator such that it would have predicted significant decreases observed in the past. This calculation is based on the assumption that an

³⁵ For the impact of uncertainties regarding overseas economies including protectionist moves, see Box 1 in the October 2018 Outlook Report, which discusses points to check when assessing whether risk scenarios originating from overseas economies have materialized.

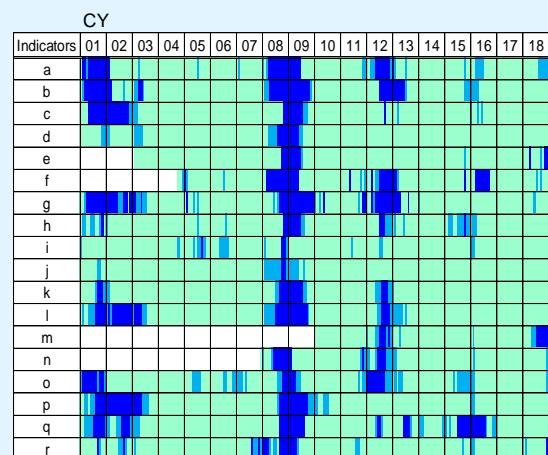
³⁶ Some of these interviews on firms are summarized in the January 2019 *Regional Economic Report*.

Chart B1-1: Monitoring Indicators

Indicators		
World		
Corporate	a	Global Manufacturing PMI: New export orders index
	b	OECD Business Confidence Index
	c	WSTS World Semiconductor Shipments
Household	d	OECD Consumer Confidence Index
	e	World vehicle sales
Japan		
Corporate	f	Nikkei Japan Manufacturing PMI: New export orders index
	g	Machinery Orders (from overseas): Electronic and communication equipment
U.S.		
Corporate	h	ISM Manufacturing Index: New export orders index
	i	Philadelphia Fed Manufacturing Business Outlook Survey: Future shipments
Household	j	University of Michigan Surveys of Consumers: Current economic conditions
Euro Area		
Corporate	k	Business Climate Indicator: Industry, production expectations
	l	Business Climate Indicator: Services sector, demand expectations
Asia		
Corporate	m	Output of Metal Shaping Machinery in China
	n	China Manufacturing PMI
Overall	o	Taiwan National Development Council's Monitoring Indicators: Total score
Financial Markets	p	MSCI World Index
	q	MSCI Emerging Markets Index
	r	VIX Index

Note: The Global Manufacturing PMI is the "J.P. Morgan Global Manufacturing PMI."

Chart B1-2: Heat Map regarding Export Conditions



Sources: Haver; Bloomberg; Cabinet Office; WSTS; IHS Markit (© and database right IHS Markit Ltd 2019. All rights reserved.)

Notes: 1. The heat map visualizes the possibility of a significant decrease in real exports by depicting indicator values relative to their respective threshold values. Based on staff calculations.

2. Shaded areas in the chart represent the following for an indicator relative to the threshold set for the indicator: (1) areas shaded in dark blue indicate that the indicator is above the threshold value; (2) areas in light blue indicate that the indicator lies between the threshold value and half of the threshold value; (3) areas in green indicate that the indicator lies below half of the threshold value; and (4) areas in white indicate that no data are available.

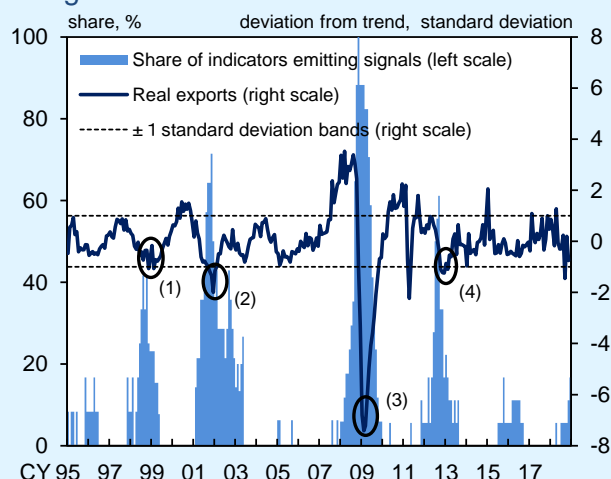
indicator signals the possibility of a significant decrease in real exports in the near future if it deteriorates beyond a certain threshold value from its trend. Lastly, 18 indicators with superior predictive performance were selected while ensuring that a wide range of regions are covered (Chart B1-1).

A heat map regarding export conditions, which summarizes developments in the signals emitted by the selected 18 indicators, shows that many of the indicators emitted signals in 2001, when the dot-com bubble collapsed, and in 2008, when the global financial crisis occurred (Chart B1-2). Looking at the share of indicators sending out signals, a rise can be observed particularly during the global financial crisis, and also at the time of the collapse of the dot-com bubble, as well as in 2012, when the European debt problem became serious (Chart B1-3).

Looking at the current situation, the share of indicators emitting signals remains at a low level. However, indicators such as the Output of Metal Shaping Machinery in China are clearly below their threshold values, and the new export orders index of the Global Manufacturing PMI also has fallen close to the threshold value (Chart B1-4).

Although real exports last summer fell by more than one standard deviation from their trend, none of the indicators signaled this in advance. The likely reason is that the decrease in real exports at that time was due to supply-side constraints that mainly resulted from natural disasters. A similar phenomenon also occurred in the wake of the

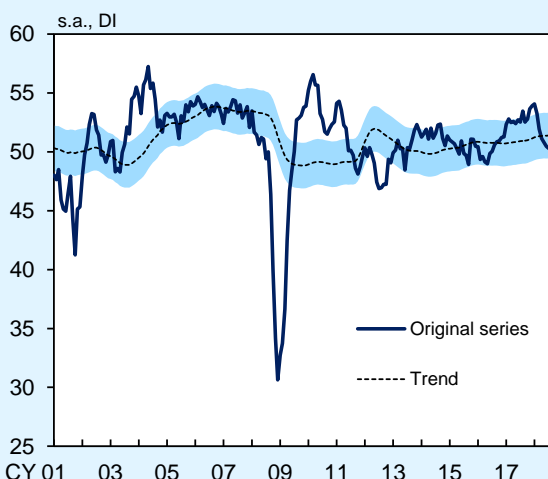
Chart B1-3: Share of Indicators Emitting Signals



Sources: Bank of Japan; Ministry of Finance.
 Note: (1) to (4) indicate periods in which real exports deviated downward from their trend by more than one standard deviation for two months or more in a four-month period.

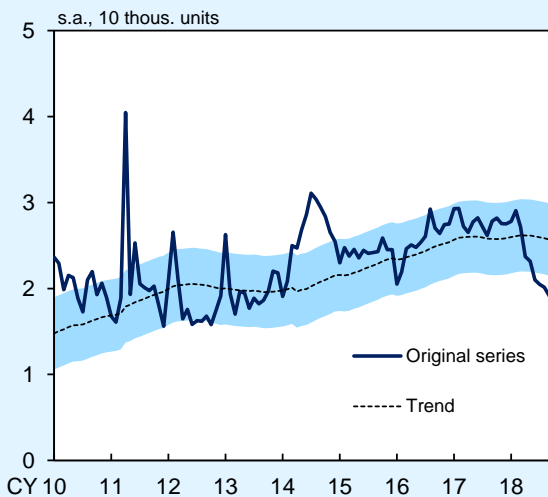
Chart B1-4: Individual Indicators

1. Global New Export Orders PMI



Source: IHS Markit (© and database right IHS Markit Ltd 2019. All rights reserved.)
 Notes: 1. The global new export orders PMI is the new export orders index in the "J.P. Morgan Global Manufacturing PMI."
 2. "Trend" is calculated from the 3-year backward moving average. The shaded area indicates 0.5 times the root mean square of the deviation from the trend.

2. Output of Metal Shaping Machinery in China



Source: Haver.
 Note: "Trend" is calculated from the 3-year backward moving average. The shaded area indicates the root mean square of the deviation from the trend.

Great East Japan Earthquake in 2011. The fact that SCOPE does not emit signals in response to such fluctuations due to supply-side constraints shows that it is a suitable tool for monitoring demand developments in overseas economies.

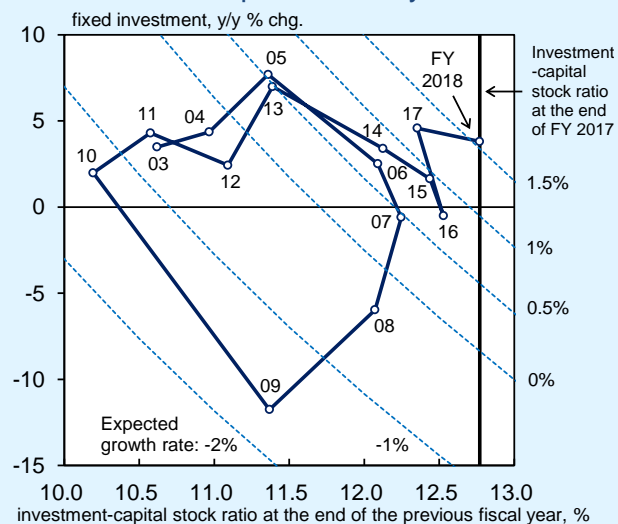
(Box 2) Stock Adjustment Pressure on Business Fixed Investment

Business fixed investment has been on an increasing trend recently, and fixed investment plans for fiscal 2018 in the *Tankan* also show the rate of increase substantially exceeding the past average (Chart 21). Some are of the view that, if such strong fixed investment were to materialize, there would be a build-up of capital stock, which might push down investment from next fiscal year onward.

One way to quantitatively assess this adjustment pressure is with a capital stock cycle chart (Chart B2-1). This chart plots the link between the investment-capital stock ratio (at the end of the previous fiscal year) on the horizontal axis against the year-on-year rate of change in fixed investment on the vertical axis.³⁷ The chart indicates that the growth rate of fixed investment in the first half of fiscal 2018 is consistent with an expected growth rate of around 1.5 percent. Therefore, unless the expected growth rate substantially exceeds the potential growth rate, which is estimated to be in the range of 0.5-1.0 percent, the current growth rate of fixed investment will not be sustainable.

However, the capital stock cycle chart needs to be viewed with caution from many aspects. For example, estimating capital stock is difficult and involves measurement error. In addition, the cost

Chart B2-1: Capital Stock Cycles



Source: Cabinet Office.
 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. The figure for fiscal 2018 is the 2018/Q2-Q3 average.

³⁷ For details on the capital stock cycle chart, see "Kinnen no seizōgyō no setsubi tōshi zōka ni tsuite" [Increase in business fixed investment in the manufacturing sector in recent years], Bank of Japan Review Series (2006-J-17) (available only in Japanese).

of capital is not considered a determinant of fixed investment in the capital stock cycle chart. Therefore, on the basis of previous research, an investment function is estimated in this box, where capital stock is not used and factors such as the cost of capital are taken into account (Chart B2-2).³⁸

In this function, the long-run equilibrium value of fixed investment is determined by components such as real GDP, the cost of capital, and the potential growth rate. From a theoretical perspective, the divergence from the long-run equilibrium value of fixed investment can be interpreted as being equivalent to stock adjustment pressure, and in the long term, fixed investment can be thought to converge to the long-run equilibrium value and stock adjustment pressure to converge to zero.

Based on this line of reasoning, the short-run dynamics determining developments in fixed investment are a function of the stock adjustment pressure in addition to the rates of change in real exports and industrial production. The estimation results of the short-run dynamics indicate that the parameter on stock adjustment pressure is significantly negative, meaning that the growth rate of fixed investment tends to decrease in periods of strong adjustment pressure (Chart B2-3).

Chart B2-2: Investment Function

Long-run equilibrium based on Bean (1981)

$$\ln(I_t) = \text{Const.} + \beta \times \ln(C_t) + \frac{g_t}{\delta_t} + \ln(Y_t)$$

where I_t = Real investment, Y_t = Real GDP

$$C_t = \tau_t \times (p_t^k / p_t) \times (i_t + \delta_t - \Delta p_t^k / p_t^k)$$

p_t^k = Investment deflator, p_t = Domestic demand deflator

i_t = 10-year government bond yields

δ_t = Trend-cycle component of depreciation rate

g_t = Potential growth rate

τ_t = Corporate tax adjustment factor

Short-run dynamics

$$d\ln(I_t) = \text{Const.} + \theta \times d\ln(\text{Exports}_t)$$

$$+ \sum_{i=1}^9 \gamma_i \times d\ln(\text{IIP}_{t-i}) + \varphi \times \text{EC term}_{t-1}$$

where Exports_t = Real exports

IIP_t = Industrial production

IIP is assumed to follow an Almon lag structure.

Chart B2-3: Estimation Results

Long-run equilibrium

Dependent variable: $\ln(I)$	
$\ln(\text{cost of capital})$	-0.193 ***
S.E. of regression	0.030
Estimation period	1995/Q1-2018/Q3

Short-run dynamics

Dependent variable: $d\ln(I)$	
Stock adjustment pressure	-0.175 ***
$d\ln(\text{real exports})$	0.146 ***
$d\ln(\text{IIP})$	0.707 ***
S.E. of regression	0.016
Estimation period	1996/Q3-2018/Q3

Sources: Ministry of Finance; Cabinet Office, etc.
 Note: *** denotes statistical significance at the 1% level. $d\ln(\text{IIP})$ denotes the sum of parameters estimated for lags.

³⁸ The long-run equilibrium employed here is based on Charles Bean, "An Econometric Model of Manufacturing Investment in the UK," *Economic Journal*, vol. 91 (1981): 106-21.

Current fixed investment is above the long-run equilibrium value and has entered a phase in which stock adjustment pressure pushes down fixed investment (Charts B2-4 and B2-5). However, the degree of stock adjustment pressure is fairly small compared to the period around the global financial crisis from around 2006 to 2008, when the potential growth rate dropped sharply. Moreover, the investment function shown here does not sufficiently capture, for example, the fact that firms are actively making labor-saving investment in response to labor shortage. In addition to these points, considering that exports are projected to continue their moderate increasing trend, fixed investment is likely to maintain an increasing trend even if its pace of increase decelerates.

Chart B2-4: Investment-GDP Ratio (Real)

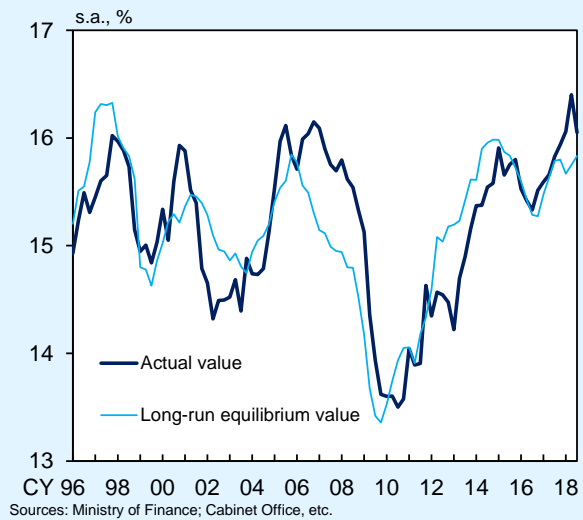
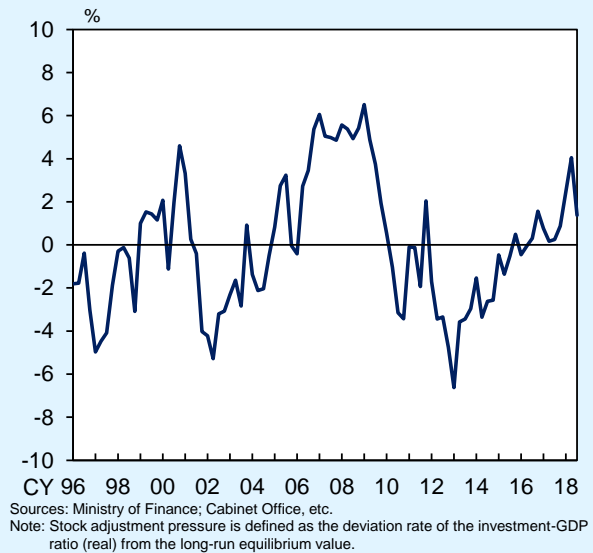


Chart B2-5: Stock Adjustment Pressure

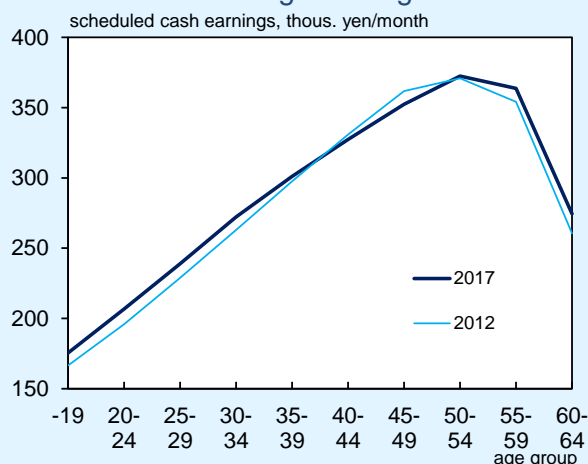


(Box 3) Changes in Wages, Disposable Income, and the Propensity to Consume by Age Group

Looking at scheduled cash earnings of full-time employees by age group, wages of younger and senior employees rose from 2012 through 2017, while wages of middle-aged employees decreased (Charts B3-1 and B3-2).³⁹ This box examines, by age group, how per household disposable income and the propensity to consume have changed, partly reflecting this change in the wage profile.

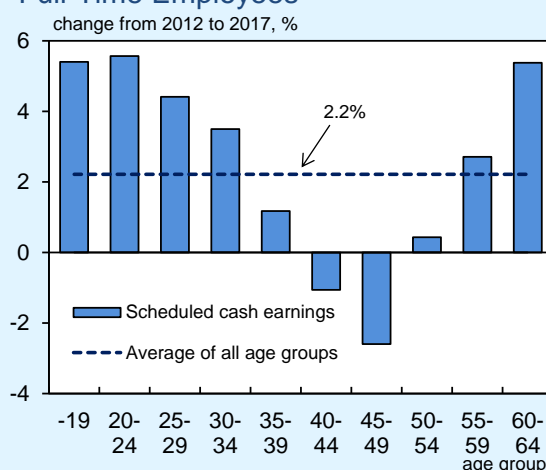
To calculate disposable income by age group, information such as on total income, income tax, and social insurance contributions by age group from the *Comprehensive Survey of Living Conditions* released by the Ministry of Health, Labour and Welfare was used. The results indicate changes from 2010-2012 to 2014-2016, as follows (Chart B3-3). (1) Per household total income (wages and salaries, pension benefits, etc.) of younger age groups, for which the wage profile shifted upward, has increased. However, (2) despite the downward shift in the wage profile for middle-aged employees, their per household total income also has increased; instead, senior households saw a decrease in per household

Chart B3-1: Change in Wage Profile



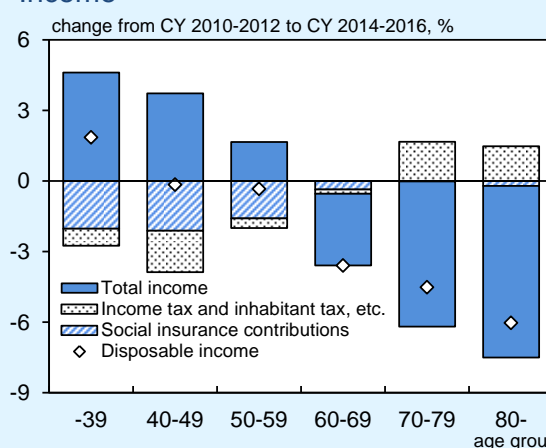
Source: Ministry of Health, Labour and Welfare.

Chart B3-2: Scheduled Cash Earnings of Full-Time Employees



Source: Ministry of Health, Labour and Welfare.

Chart B3-3: Per Household Disposable Income



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

Note: Figures for per household disposable income by age are staff calculations obtained by dividing up aggregate disposable income from the SNA using the "Comprehensive Survey of Living Conditions," the "Monthly Labour Survey," etc.

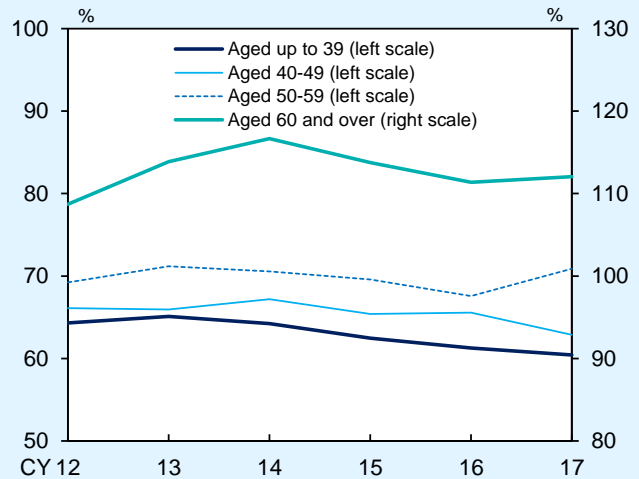
³⁹ For examples of, and the background to, changes in the wage profile, see the annex paper to the *Regional Economic Report*, "Hitode busoku no moto de no chingin dōkō to aratana kyūyo taikai no kōchiku ni muketa torikumi" [Wage developments under labor shortage and efforts toward building a new wage structure] released in December 2018 (available only in Japanese).

total income.⁴⁰ (3) The patterns for per household disposable income, which takes taxes and social security contributions into account, are generally similar.

Looking at the propensity to consume by age group, that of younger age groups, whose disposable income has increased, has declined, while that of seniors, whose disposable income has decreased, has increased (Chart B3-4). At the macro level, not only the increase in the propensity to consume of seniors, but also the increase in the share of seniors, who have a high propensity to consume -- i.e., the composition effect -- have contributed to pushing up the propensity (Chart B3-5).⁴¹ However, the declining propensity to consume of younger age groups has offset this effect.

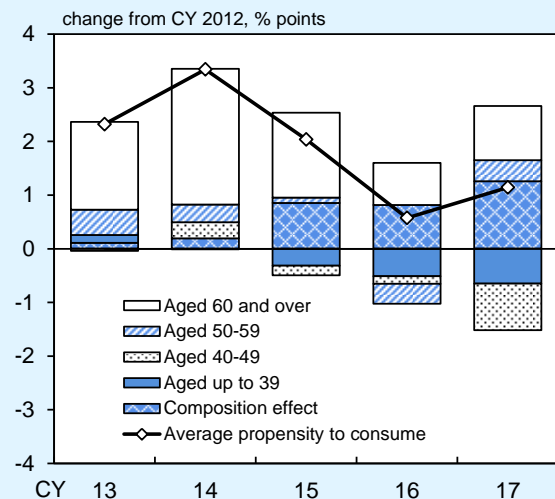
It is no wonder that the propensity to consume of age groups that experienced an increase in disposable income has declined (and vice versa) because of a tendency for consumption to change less than disposable income (the ratchet effect). That said, the decline in the propensity to

Chart B3-4: Average Propensity to Consume by Age



Sources: Ministry of Internal Affairs and Communications; Cabinet Office.
 Notes: 1. The average propensity to consume is private consumption / disposable income. Private consumption is consumption of households excluding imputed rent. Disposable income is based on SNA disposable income.
 2. Private consumption and disposable income by age are calculated using the "Family Income and Expenditure Survey."

Chart B3-5: Average Propensity to Consume



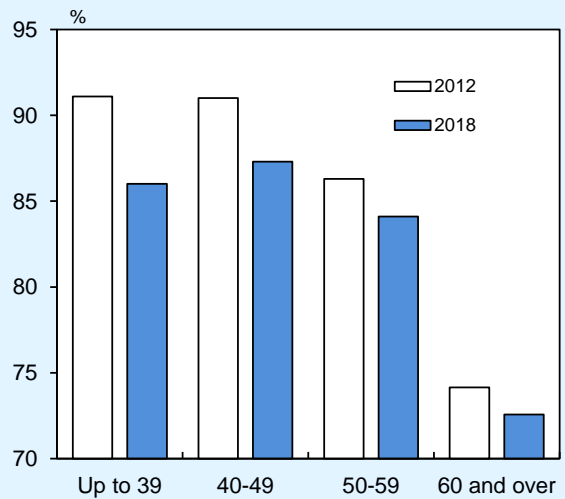
Sources: Ministry of Internal Affairs and Communications; Cabinet Office.
 Note: Figures are calculated using the average propensity to consume by age in Chart B3-4.

⁴⁰ The increase in middle-aged households' total income likely reflects the fact that household income increasingly also includes spouses' income with the spread of dual-income households. Meanwhile, the reason for the decline in the total income of senior households is that, as a result of pension reforms, reductions in pension and other receipts have outweighed the impact of wage increases. Although wages have increased, the increase likely has been insufficient to make up for the reduction in pension receipts, since many seniors are engaged in part-time work that provides low net income.

⁴¹ According to the life-cycle hypothesis, seniors' consumption relative to their income is comparatively high because they can use their savings, although it is more difficult for them to make labor input and their income is low. Thus, based on this hypothesis, it is natural that seniors have a higher propensity to consume than the young or middle-aged.

consume of younger age groups may be attributable to factors that have longer-term effects other than the ratchet effect. For example, there is a possibility that changes in the social structure such as an increase in dual-income households have affected the propensity to consume.^{42,43}

Chart B3-6: Worried about Life in Old Age



Source: The Central Council for Financial Services Information.
 Note: Figures show the percentage of households "worried" about their life in old age.

⁴² Some insist that the young are concerned about the future increase in social security contributions, and that this is a factor that has been restraining their consumption. However, looking at the *Survey of Household Finances*, the percentage of households worried about their life in old age actually has declined in recent years (Chart B3-6).

⁴³ "The Recent Increase in Dual-Income Households and Its Impact on Consumption Expenditure," Bank of Japan Review Series (2017-E-7), suggests that the propensity to consume of dual-income households is lower than that of other households within the same income class.

