November 27, 2019

Bank of Japan

Economic Activity, Prices, and Monetary Policy in Japan

Speech at a Meeting with Business Leaders in Hyogo

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(English translation based on the Japanese original)

I. Economic Activity at Home and Abroad

A. Recent Developments in Overseas Economies

Let me start with developments in overseas economies.

The global economy has continued to grow moderately, but the pace of growth has been decelerating since the start of 2019. According to the October 2019 *World Economic Outlook* released by the International Monetary Fund, the global growth rate for 2019 is projected to be 3.0 percent, a lower rate compared to 3.8 percent for 2017 and 3.6 percent for 2018 (Chart 1). The continued deceleration is mainly due to a significant slowdown and stagnation in world trade volume caused by the intensified U.S.-China trade conflict. This has exerted downward pressure on the Chinese economy, which is one of the hubs of global supply chains, and its effects are spreading across the global economy, including Japan.

Looking at developments by region, the U.S. economy has expanded moderately, albeit at a somewhat slower pace. No significant problems have been observed in U.S. economic fundamentals, with solid consumption sustained amid the historically low unemployment rate, and an increase in housing investment mainly due to lower interest rates. The European economy has been in low growth, partly reflecting the effects of the economic slowdown in China, one of the euro area's main trading partners, in addition to confusion over the United Kingdom's exit from the European Union. Emerging economies have shown mixed movements, but in Asian countries -- where economic ties with China are deep -- global trade issues have affected production and exerted downward pressure on growth in these economies. Given the ongoing U.S.-China trade conflict and heightened geopolitical risks worldwide, it is unlikely that uncertainties regarding the outlook for the global economy will be dispelled soon.

Some of these regions are proceeding with policy actions amid growing concerns over the outlook for the global economy. For example, additional easing measures have already been implemented in the United States and Europe, and economic stimulus measures have been taken in China. These policy actions have been effective in underpinning economic activity to a certain extent; however, they are not strong enough to outweigh the impact of the U.S.-China trade conflict, which has been more extensive and prolonged than initially anticipated.

B. Outlook for Overseas Economies

Concerns remain that overseas economies may decelerate even further due to the impact of the intensified and prolonged U.S.-China trade conflict. However, there are potential upside risks as well. For example, economic measures implemented so far may show a greater influence in the first half of 2020 than initially anticipated, and the reorganization of supply chains in response to the trade conflict may accelerate. As I have already mentioned, the current slowdown in global economic growth has been mainly induced by the significant slowdown in world trade volume. Moreover, there is a marked contrast between the manufacturing and nonmanufacturing sectors: while production and exports continue to slow mainly in the manufacturing sector, the nonmanufacturing sector has been maintaining moderate expansion. It seems that the resilience in the nonmanufacturing sector, which accounts for a large share of the global economy, has been underpinning global economic growth.

C. Recent Developments in Japan's Economy

Next, I will talk about developments in Japan's economy.

Japan's exports and production continue to show some weakness, mainly in the manufacturing sector, having been affected by the slowdown in overseas economies, particularly China (Chart 2). On the other hand, domestic demand has continued to expand moderately. Business fixed investment has continued to see firm growth, mainly in the nonmanufacturing sector, and private consumption has been increasing moderately, with the employment and income situation improving. Moreover, public investment has recently begun to expand. Developments in the economy from late 2018 show that firm domestic demand has continued to more than offset relatively weak external demand, and the real GDP growth rate registered positive growth for four consecutive quarters (Chart 3). The output gap has also remained positive. Given these developments, it can be assessed that a virtuous cycle from income to spending has continued to operate. Nonetheless, the effects on Japan's economy of developments in the global economy and of the October 2019 consumption tax hike need to be carefully examined for the time being.

I will elaborate on recent developments in Japan's economy from two aspects, the demand side and the supply side. On the demand side, there is little prospect of a rapid recovery in exports, as the slowdown in overseas economies is expected to continue for the time being. Meanwhile, the moderate increase in domestic demand is likely to be sustainable, as private consumption, business fixed investment, public investment and other sectors have been resilient.

Looking at developments by demand component, private consumption has continued to increase moderately, albeit with fluctuations mainly resulting from weather conditions. This increase has been supported by solid employee income reflecting the increased labor force participation particularly of women and seniors (Chart 4). As for business fixed investment, there has been an increase in not only software investment aimed at saving labor but also investment intended for domestic capacity expansion as well as research and development (R&D) investment with an eye toward future growth (Chart 5). This mainly reflects the fact that Japan's GDP has continued to grow at a pace above its potential, albeit moderately, and the need to meet rapidly increasing inbound demand. Looking at business fixed investment in detail by industry, the share of the nonmanufacturing sector has reached around 70 percent recently. There is some possibility that the adverse impact on Japan's business fixed investment of the slowdown in overseas economies will be limited, underpinned by business fixed investment related to resilient domestic demand. Turning to public investment, investments associated with disaster-related restoration and reconstruction as well as with national resilience have begun to increase and are expected to compensate for a peak-out of demand for construction related to the 2020 Tokyo Olympic Games (Chart 6).

Next, I will turn to developments on the supply side. It is important that business fixed investment -- which has been expanding continuously -- positively affects not only demand but also supply, in terms of the enhancement of production capacity. Particularly in industries facing labor shortages, there has been active business fixed investment with the aim of improving labor productivity. This has been raising capital intensity, or capital per worker. While such active investment among some industries acts to induce price rises by raising the potential growth rate, the increase in productivity seems to have been acting as a factor constraining upward pressure on prices by easing upward pressure on wages. I will come back to this point later.

D. Outlook for Japan's Economy

With regard to the outlook for Japan's economy going forward, economic developments warrant cautious monitoring over the next six months or so, as the consumption tax hike conducted in October is expected to have an impact in the short term -- although its effects seem smaller than those of the previous hike in April 2014 -- and the transition of the global economy to a moderate recovery path is unlikely to take place until around mid-2020.

Under these circumstances, the pace of Japan's moderate economic growth may decelerate in the short term. At the same time, however, such deceleration is unlikely to continue in the medium to long term. This is because, owing to the continuation of monetary easing over the past seven years, there has been significant improvement in the employment situation, prolonged labor shortages have encouraged firms to change their behavior, and a virtuous economic cycle has been operating by means of an increasing trend in business fixed investment. Moreover, with steady business fixed investment in the nonmanufacturing sector, which accounts for a large proportion of such investment, there has been a steady increase in the robustness of Japan's economy to external shock, namely the slowdown in overseas economies. For the time being, it is important to carefully examine developments in the global economy and their effects on Japan's economy. Nevertheless, we should not be overly pessimistic about the outlook. Given that the pace of decline in the working-age population (those aged 15-64) will continue to exceed that in the total population for the time being, labor market conditions are likely to remain tight. In this situation, expansion in business fixed investment -- particularly that intended to address labor shortages -- and firm private consumption are highly likely to be sustained (Chart 7).

According to the *Outlook for Economic Activity and Prices* released by the Bank of Japan in October 2019, the medians of the Policy Board members' forecasts for the real GDP growth rate are 0.6 percent for fiscal 2019, 0.7 percent for fiscal 2020, and 1.0 percent for fiscal 2021 (Chart 8).

II. Prices

A. Recent Price Developments and Their Background

Next, I will turn to price developments.

The year-on-year rate of increase in Japan's consumer price index (CPI) for all items less fresh food has continued to rise moderately within the range of 0.0-0.5 percent (Chart 9). The year-on-year increase has been in positive territory for three years, affirming the improved robustness of the economy to the possibility of falling back into deflation. However, we have not yet reached a situation where the inflation rate is further accelerating and approaching close to the 2 percent price stability target. Gradual changes in Japan's inflation mechanism in recent years may account for this situation, in which the economy is no longer in deflation but is not seeing an acceleration in inflation.

Three factors in Japan's current inflation mechanism are relevant in this context: one factor is exerting upward pressure on prices, namely, the continuing positive output gap; while the other two factors are constraining inflation, specifically, the persistent deflationary mindset of the public and improvements in labor productivity.

First, the output gap -- the factor exerting upward pressure on prices -- has remained consistently positive since the October-December quarter of 2016. In fact, the inflation rate and the output gap have been running in parallel with each other, with a certain time lag. This correlation indicates that the positive output gap has been acting as a factor placing upward pressure on prices.

Let me turn to the two factors constraining inflation. As for the first factor -- namely, the persistent deflationary mindset -- this cost-saving mentality has become deeply entrenched among consumers due to their experience of prolonged deflation, and has been influencing the cautious price-setting stance of Japanese firms. In the formation of inflation expectations, the backward-looking expectation that reflects past inflation rates -- that is, the adaptive formation mechanism -- is more prominent in Japan than the forward-looking expectation that reflects future economic conditions and changes in policy measures. This accounts for the persistent deflationary mindset.

Another factor constraining inflation relates to improvements in labor productivity, effects of which have been observed since around 2017. While the labor market is close to full employment, upward pressure on wages has not particularly increased. This is partly due to the fact that there was room for restraining wage increases as the labor force participation rate rose in parallel with the intensification of labor shortages; moreover, it is worth noting that, with the anticipation of longstanding labor shortages, firms embarked on labor-saving investments, which in turn resulted in improvements in labor productivity. From the viewpoint of the output gap, a further widening of the gap within positive territory has been avoided by reducing labor input. Improvements in labor productivity have prevented firms from passing increased costs, such as personnel expenses and raw material costs, on to sales prices (Chart 10). In other words, improvements in labor productivity have constrained inflation through the expansion in business fixed investment.

B. Outlook

As the inflation mechanism has become more complex, it is not easy to forecast the outlook for prices. First, a positive inflation rate is necessary to overcome the persistent deflationary mindset grounded in the adaptive formation mechanism. Assuming that the output gap remains positive, the key will be predicting the outlook for the remaining factor -- namely, the constraining effects on inflation due to improvements in labor productivity. The rise in labor productivity promoting changes in the economic structure should be taken into account when considering the outlook. That is to say, changes on the supply side not only act as a factor constraining inflation but also raise the growth potential of the economy.

With heightened uncertainty over the outlook for the global economy, the immediate challenge for Japan's economy is to sustain the positive output gap and prevent any halt to the changes in the economic structure that have begun to progress, by maintaining moderate growth supported by steady domestic demand. If these immediate challenges are met appropriately, we should anticipate -- while keeping the economy free of deflation -- a moderate acceleration in the inflation rate when the labor force participation rate eventually stops rising and encourages real wage increases to catch up with the pace of growth in productivity.

Risks to the outlook for prices also warrant vigilance. If the slowdown in overseas economies continues for longer than anticipated, and the output gap reverses back into negative territory, Japan's economy may face deflation again. As for now, given that the positive output gap is being maintained on the back of steady domestic demand, the Bank should spare no effort in preparing for circumstances where additional policy actions may be necessary, while carefully examining future economic developments both at home and abroad. In order to maintain the inflation momentum, it is important to be fully prepared for the global economy to recover.

III. Monetary Policy

A. Current Monetary Easing Policy and Its Basic Framework

The basic framework for the Bank's current monetary easing policy introduced in September 2016 is Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control. Under this framework, with the aim of achieving the price stability target under yield curve control -- in which short- and long-term interest rates are controlled -- the Bank sets the short-term policy interest rate at minus 0.1 percent and the target level for 10-year Japanese government bond (JGB) yields at around 0 percent. It also purchases JGBs to facilitate the formation of these interest rates consistent with yield curve control. Subsequently, in July 2018, the Bank introduced forward guidance, and in April 2019, decided on a set of policy measures, including expanding eligible collateral for its provision of credit, to enhance the sustainability of the monetary easing policy. Furthermore, at the most recent Monetary Policy Meeting held in October 2019, the Bank revised its forward guidance with a view to clarifying the need to continue examining the momentum toward achieving the price stability target.

Alongside the implementation of these policy measures, the Bank continues with large-scale monetary easing. In carrying out its policy, I believe it is essential for the Bank to be committed to continuing with monetary easing by examining matters from a broad perspective, including developments in financial markets and the financial system as well as economic activity and prices, while carefully considering the balance between the positive effects and the side effects of continuing monetary easing.

B. Future Conduct of Monetary Policy

The Bank is committed to continuing with the current powerful monetary easing. Let me raise the following as points requiring particular attention in the future conduct of monetary policy: (1) the effects on Japan's economy of the slowdown in the global economy; (2) the balance between the positive effects and the side effects of continuing monetary easing; and (3) the conduct of monetary policy amid changes in the economic structure and in the inflation mechanism.

The first point warrants considerable attention currently in predicting the outlook for Japan's economic activity. If overseas economies slow further and negative effects on Japan's economic activity materialize, it may become necessary to take policy actions. In this case, it will be important that such actions should be decided after examining the scale of the negative effects and how fast they spread.

For example, if the economy faces a crisis, such as that which could threaten the financial system during the global financial crisis, this will lead to a rapid economic downturn through credit contraction. Therefore, decisive actions would be necessary. On the other hand, if the slowdown in overseas economies stemming from trade issues remains moderate, the speed with which it spreads to Japan's economy will also be moderate. Thus, there will be room to take policy actions after carefully examining developments in economic indicators. The issue of side effects is another reason why policymakers should refrain from taking hasty policy actions in the conduct of future monetary policy.

Regarding the second point, namely the balance between the positive effects and the side effects of continuing monetary easing, it is becoming increasingly necessary to pay attention to the side effects on the financial system of continuing with the low interest rate policy. With limited demand for funds among firms, financial institutions' lending margins have been narrowing due mainly to the prolonged low interest rate environment (Chart 11). These institutions are increasing their amount of risk-taking in order to acquire profits. However, due to globally accommodative financial conditions, the number of borrowers or entities in which financial institutions can invest to secure profits commensurate with their risk-taking is limited, and the possibility is increasing that risks will materialize and financial institutions' capital adequacy ratios plunge in the event of an economic downturn.

At the moment, the capital adequacy ratios of all types of financial institutions in Japan appear to be sufficient relative to the levels of regulatory requirements. Nevertheless, as the ratios have been on a declining trend, mainly those of regional financial institutions, it is becoming necessary to monitor more closely with the continuation of monetary easing. The Bank will examine risks in the financial system through various means, such as the *Financial System Report*, as well as on-site examinations and off-site monitoring, and when necessary, encourage financial institutions to address these risks. It will also open dialogue with a wide range of relevant parties, including the Bank's Center for Advanced Financial Technology, to help resolve the challenges facing financial institutions. As for the conduct of monetary policy, it is important for the Bank to make policy decisions in an appropriate manner while carefully examining the side effects of policy measures on the financial system.

Lastly, as for the third point, the relationship between monetary policy and prices is no longer straightforward, as seen, for example, in an improvement in labor productivity accompanying labor-saving investment constraining inflation. As a result, uncertainty in this context is likely to remain high. In what follows, I would like to provide a somewhat detailed explanation of such changes in the economic structure and appropriate monetary policy in response to these changes.

IV. Structural Changes in Japan's Economy and the Role of Monetary Policy

I will now describe the structural changes in Japan's economy and the points that have recently come to require attention.

Supported by a policy mix of monetary and fiscal policies that has been sustained over the past seven years, there have been slow but steady structural changes in the economy. These can be largely divided into changes in the industrial structure accompanying globalization, and the establishment of a virtuous cycle stemming from longstanding shortages of labor. These have resulted in other changes in Japan, such as the increased expectation of a rise in the economy's growth potential owing to the expansion of supply capacity, and an increase in the robustness of the economy to changes in the external environment. I will touch on each of these points in order, and then explain how monetary policy should be conducted in response to these structural changes.

A. Changes in the Industrial Structure Accompanying Globalization

Japanese manufacturers have been expanding their businesses in overseas markets since the beginning of the globalization trend that has lasted for over four decades following the collapse of the Bretton Woods system. Consequently, the share of the nonmanufacturing sector in Japan's GDP, which is a measure of overall *domestic* production, accounts for about 80 percent. Japan's outward direct investment has expanded rapidly with significant adjustments in foreign exchange rates since the latter half of the 1980s, leading to the establishment of current global supply chains.

Reflecting the structural change of manufacturers' shifting their production sites overseas, the contribution of income generated through outward direct investment and outward portfolio investment, which is the fruit of firms' outward investment, has tended to increase in Japan's current account (Chart 12). At present, Japan's current account surplus accounts for approximately 4 percent of nominal GDP, and this consists mostly of gains from outward direct investment and outward portfolio investment. Japan's nominal gross national income (GNI) -- which is a measure of the nation's nominal GDP plus net income from overseas sources -- is about 4 percent larger than GDP, showing that Japan's economic structure has steadily changed to one in which manufacturers make profits from production overseas.

B. Virtuous Cycle of the Economy amid Longstanding Shortages of Labor

Let me now turn to structural changes in Japan's economy. Since around 2017, amid longstanding shortages of labor, some distinctive developments continue to be observed, such as moderate growth of the economy, the positive output gap, non-deflationary price rises, and an increase in business fixed investment. This suggests that the simultaneous progress of these interacting developments has contributed to the sustained operation of a virtuous cycle in Japan's economy.

The positive output gap has been maintained as labor shortages continue amid a growing elderly population and a declining working-age population, coupled with the expansion of demand induced by monetary and fiscal policies. This seems to have raised the corporate sector's expectations that both the moderate expansion of the economy and labor shortages are likely to continue in the medium to long term. These raised expectations have led firms to the assessment that it would be possible to secure the cost-effectiveness of their investments, including long-term investments, as the positive business environment would be maintained to a certain extent. As a result, fixed investment has expanded, particularly investment aimed at saving labor.

C. Expectations for a Rise in Potential Growth Rate Accompanying the Expansion of Supply Capacity

Business fixed investment is one of the components that make up a nation's GDP. In addition to short-term demand, it expands supply by increasing production capacity and improving productivity in the medium to long term. As supply capacity has expanded in Japan along with the structural change of a continuous expansion of business fixed investment, there is the possibility that a moderate increase in the potential growth rate will be induced hereafter, with some time lag.

Looking at recent developments in the potential growth rate, while the contribution of labor input has been decreasing, that of capital stock and total factor productivity (TFP) has started to bottom out (Chart 13). The expansion of business fixed investment, which has continued for the past three years, is starting to induce a supply-side structural change. Together with an increase in R&D investment with an eye toward promoting innovation, if the potential growth rate rises in the future -- in which case the natural rate of interest will also rise, causing real interest rates to fall below the natural rate of interest -- the same level of policy rate will have a greater easing effect.

D. Increased Robustness to Changes in External Demand

Another structural change I should point to is the increased robustness of the economy to changes in external demand. Given the established global supply chains, Japanese manufacturers have divided their production at home and abroad as follows: (1) overseas sites producing for their own local market and for export to third countries, and (2) Japanese sites producing for Japan's domestic market. This division has likely resulted in a mitigated adverse effect that a slowdown in external demand would have on Japan's GDP through a decrease in exports.

Given the geopolitical background to the U.S.-China trade conflict, it is entirely possible, depending on future developments, that existing global supply chains may be reorganized, particularly with respect to China. Nonetheless, I expect that such reorganization will not greatly affect the decision making of Japanese firms regarding where to establish their production sites -- whether in Japan or abroad, whether for export or for local production. This is because the division of work among production sites at home and abroad has already been established to a certain extent, and it is difficult to imagine any significant decline in domestic business fixed investment, even if overseas production were relocated to a different country. Moreover, it is highly likely that domestic business fixed investment will continue to expand in light of other structural changes, such as firm investment by the nonmanufacturing sector and labor shortages that are expected to continue in the medium to long term.

E. Monetary Policy Supporting Structural Changes in Japan's Economy

The fundamental role of monetary policy is to achieve price stability, thereby realizing and maintaining a sound macroeconomic environment. The Bank's monetary policy itself does not have a direct impact in terms of altering Japan's economic structure. However, as the large-scale monetary easing policy has been in place for almost seven years, many indicators suggest that Japan's economy has improved, and prices are no longer in deflation. Even since the start of this year, solid domestic demand has supported a continued moderate expansion, despite the economy being affected somewhat by the slowdown in the global economy caused by the intensified U.S.-China trade conflict.

Increased robustness to changes in external demand has helped sustain Japan's moderate economic growth, even in the face of a continuing slowdown in the global economy. As favorable economic conditions have been maintained, structural changes in the economy have brought about this increased robustness. In other words, being committed to continuing with large-scale monetary easing policy has led to improvements in economic activity, thereby indirectly supporting the structural changes in the economy.

Moreover, the current monetary easing policy has been effective owing partly to the stability of the whole macroeconomic policy framework. The government and the Bank have clearly shared a basic understanding of the policy mandate and the division of their roles in conducting the monetary and fiscal policy mix. While monetary policy aims to directly stabilize the economy, fiscal policy aims not only to stimulate the economy as a whole but also to implement a structural policy through such channels as budgetary allocations. It seems evident that both the stabilization of the economy in recent years and the smooth structural changes that have occurred can be attributed to this mix of monetary and fiscal policies, grounded in macroeconomic policy.

Furthermore, it is also important to note from a global perspective that Japan's economy has been generally stable in recent years. At present, there are no large differences in the levels of price targets among major advanced countries, and since the start of the year their monetary policies have tended to be more or less accommodative. Also, as a decade has passed since the global financial crisis, the balance between the size of the central bank's balance sheet and the money supply in each of the major advanced countries has been quite stable (Chart 14). In other words, this could be seen as an indication that the difference in the levels of quantitative easing in major countries has declined. In addition, as Japan's economy continues to be no longer in deflation, there has been a significant decline in the difference between major countries' inflation rates -- which affects the long-term nominal exchange rate in light of purchasing power parity (PPP) (Chart 15). Under these circumstances, financial markets may fluctuate in the short term in reaction to news reports, but in the long run appear to move only within a certain range. This suggests that the similarity of global monetary policies in major countries is constraining market fluctuations, thereby contributing -- together with the increased robustness of the economy to changes in external demand -- to the stabilization of Japan's economy.

Japan's accommodative monetary policy supports structural changes in the economy by sustaining a policy mix with fiscal policy, and through the similarity of global monetary policies. It also functions as an anchor that constrains fluctuations in financial markets.

Among the concerns that have emerged in light of the U.S.-China trade conflict, there are worries regarding frameworks of international cooperation, which have come under considerable strain. The outlook for global trade issues is a matter for concern. Nevertheless, while Japan's policy mix and global accommodative financial conditions are maintained, I consider the important policy issue for Japan is to sustain the positive output gap and support the changes to the economic structure that have begun by appropriately addressing the slowdown in the global economy and waiting patiently for its recovery.

Thank you for your attention.

Economic Activity, Prices, and Monetary Policy in Japan

— Speech at a Meeting with Business Leaders in Hyogo —

November 27, 2019

Makoto Sakurai
Member of the Policy Board
Bank of Japan

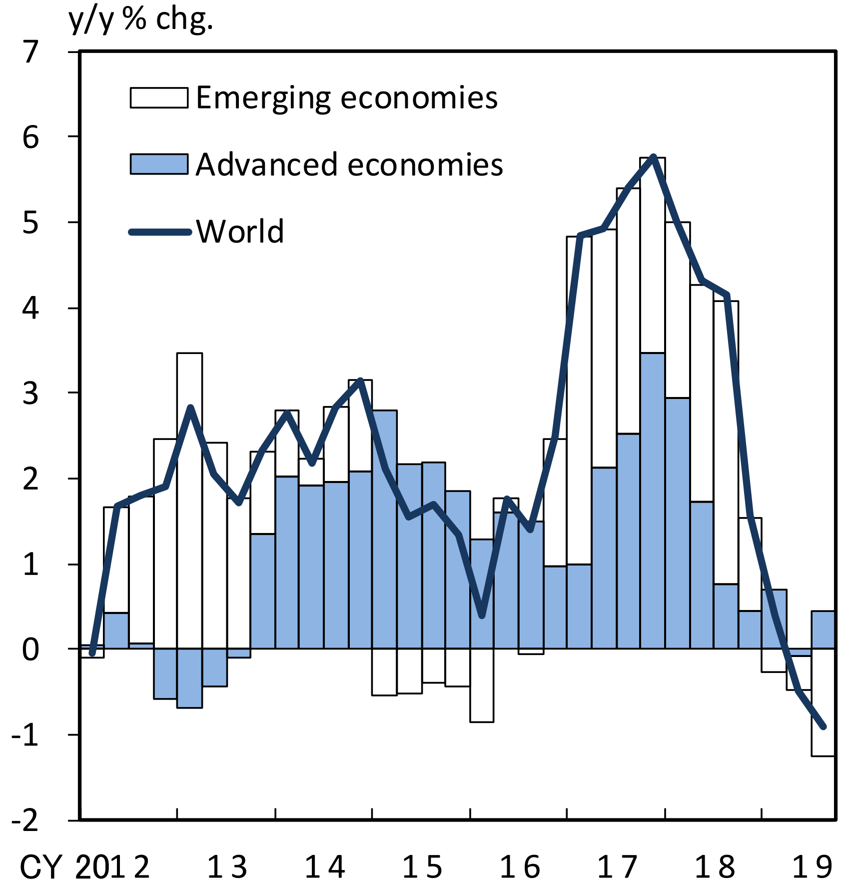
Global Economy

IMF growth projections (as of October 2019)

real GDP growth rate, y/y % chg., % points

	2017	2018	2019 projection	2020 projection
World	3.8	3.6	3.0 (-0.2)	3.4 (-0.1)
Advanced economies	2.5	2.3	1.7 (-0.2)	1.7 (0.0)
United States	2.4	2.9	2.4 (-0.2)	2.1 (+0.2)
Euro area	2.5	1.9	1.2 (-0.1)	1.4 (-0.2)
Japan	1.9	0.8	0.9 (0.0)	0.5 (+0.1)
Emerging market and developing economies	4.8	4.5	3.9 (-0.2)	4.6 (-0.1)
China	6.8	6.6	6.1 (-0.1)	5.8 (-0.2)
ASEAN 5	5.3	5.2	4.8 (-0.2)	4.9 (-0.2)

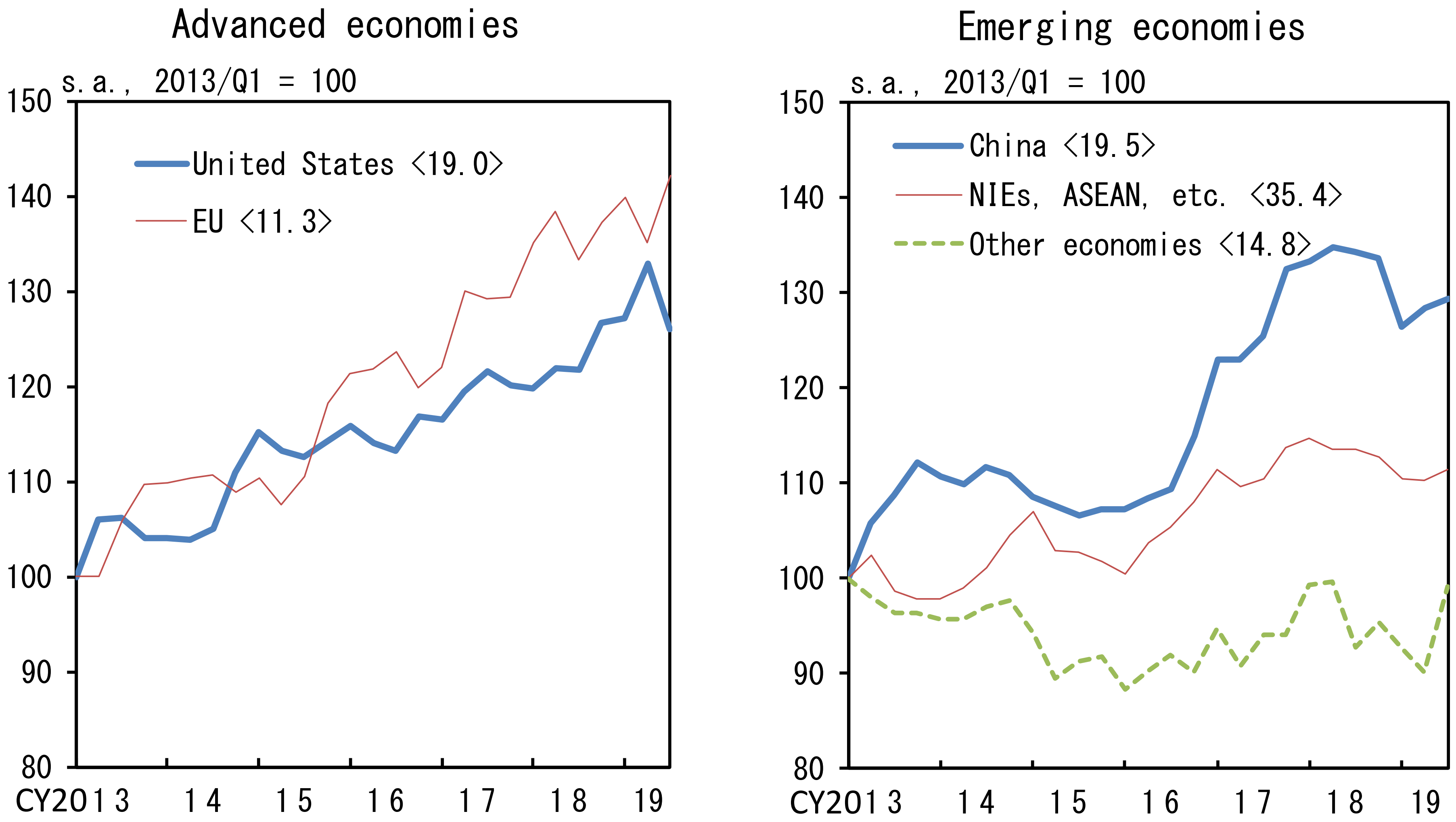
World trade volume



Notes: 1. In the left-hand chart, figures in parentheses are the difference from the July 2019 projections.
2. In the right-hand chart, figures are those for real imports. The figure for 2019/Q3 is the July–August average.

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

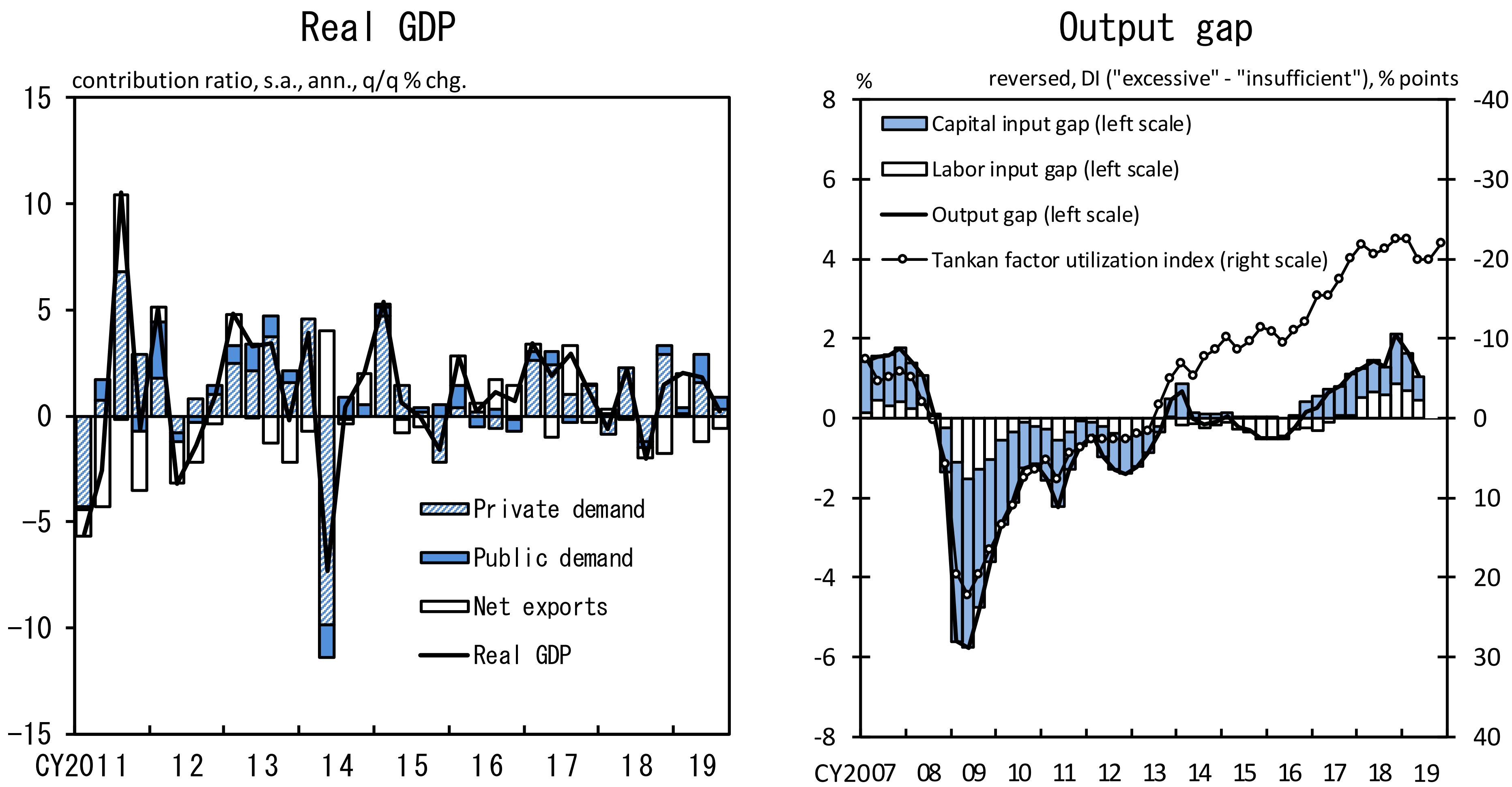
Japan's Real Exports



Notes: 1. Based on staff calculations.
2. Figures in angle brackets show the share of each country or region in Japan's total exports in 2018.

Sources: Ministry of Finance; Bank of Japan.

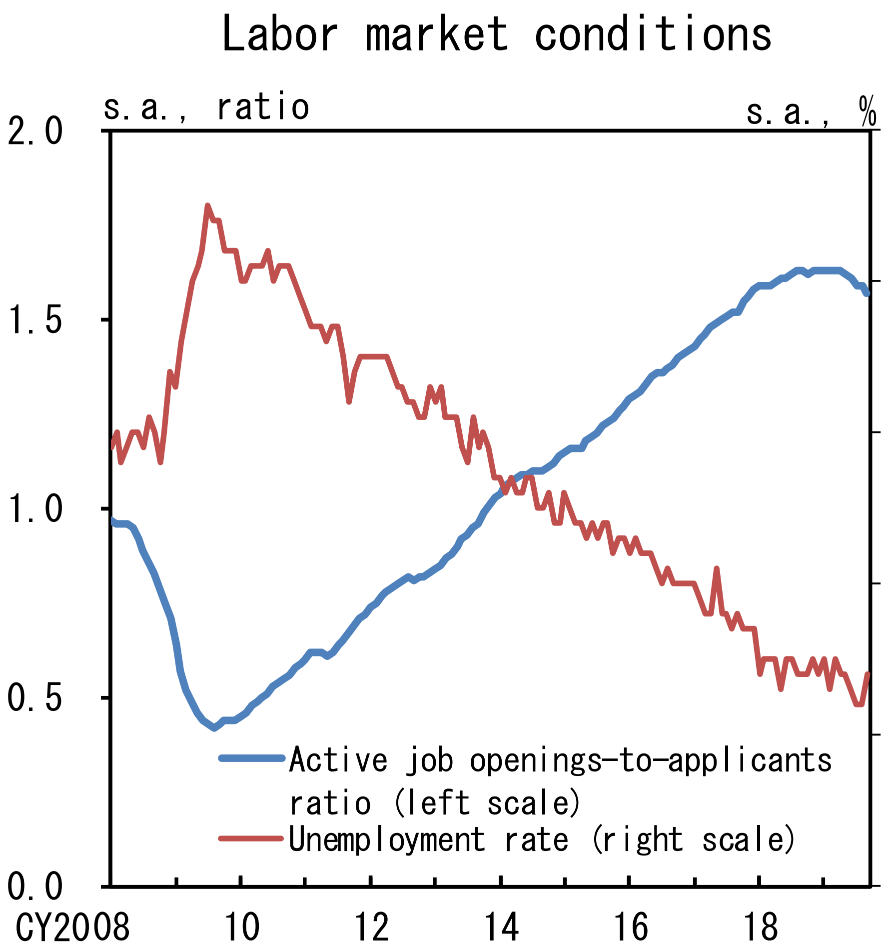
Growth Rate and Output Gap

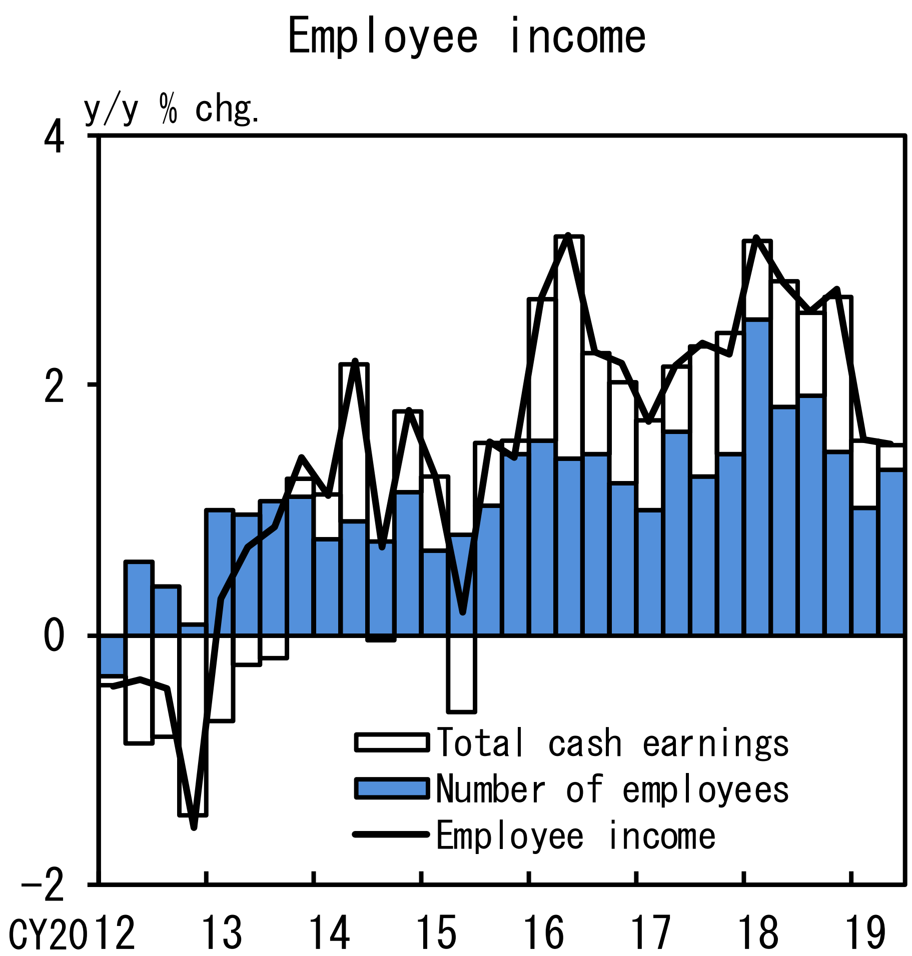


Notes: 1. In the right-hand chart, the output gap is based on staff estimates.
2. The *Tankan* factor utilization index is calculated as the weighted average of the production capacity DI and the employment conditions DI for all enterprises. The capital and labor shares are used as weights.

Sources: Cabinet Office; Bank of Japan.

Employment and Income Situation





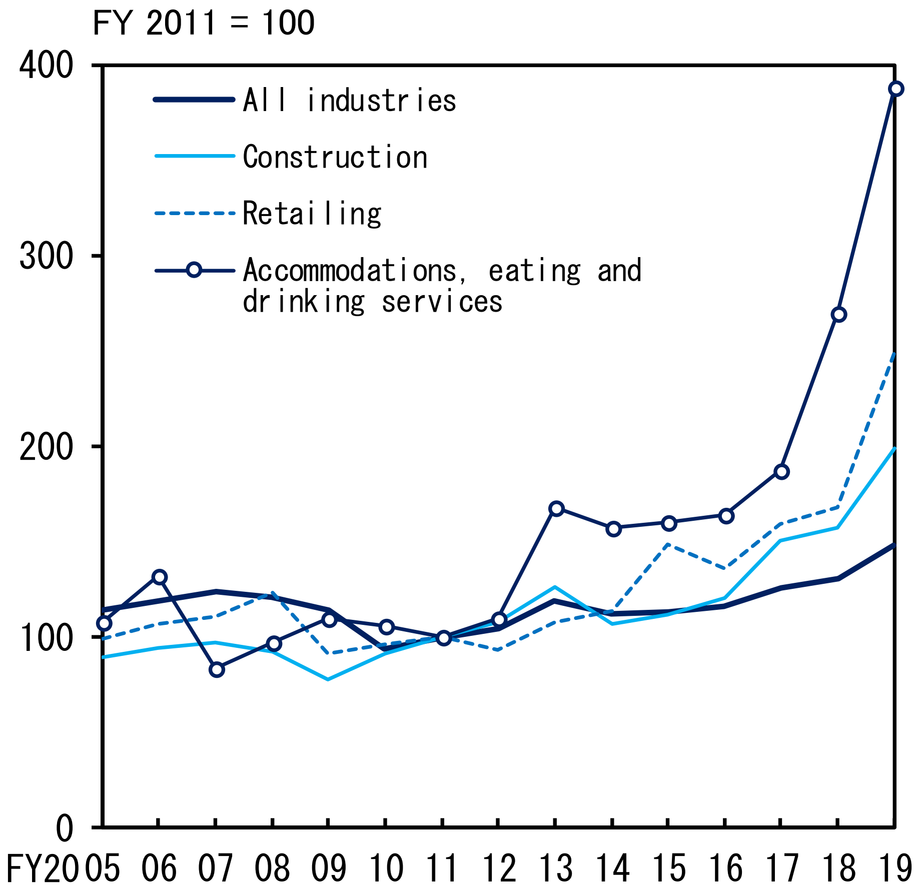
Notes: 1. Each quarter in the right-hand chart is as follows: Q1 = March-May, Q2 = June-August, Q3 = September-November, Q4 = December-February.

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

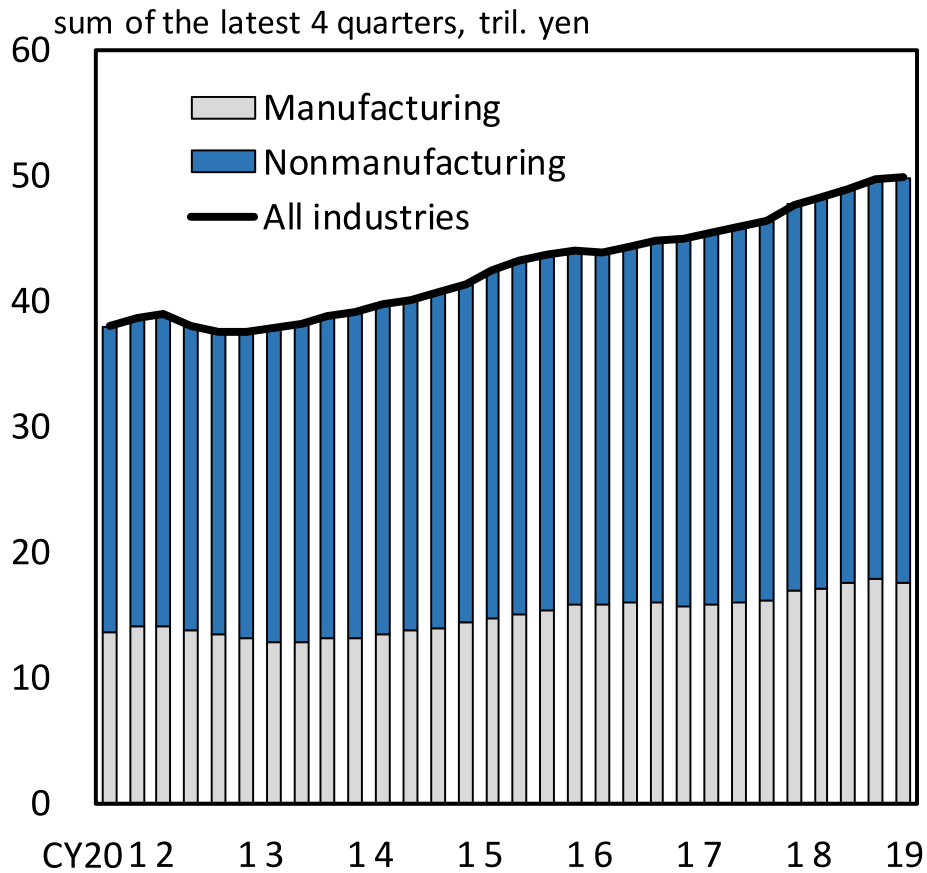
Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare.

Investment

Software investment (*Tankan*)



Business fixed investment by industry

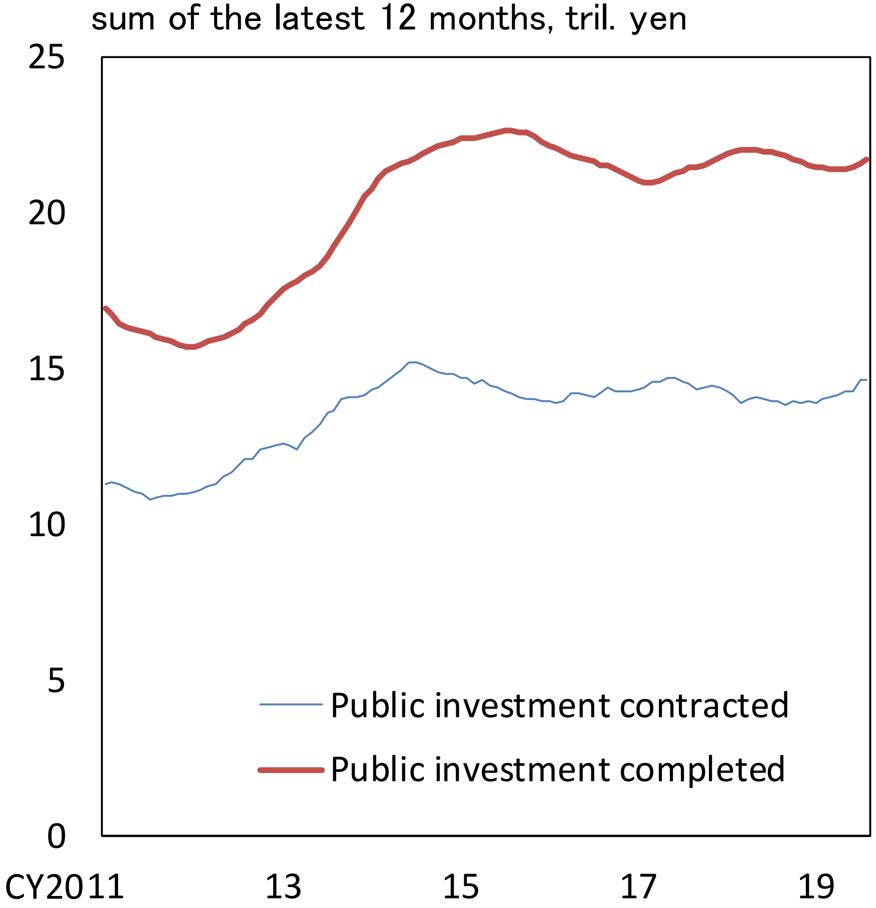


Notes: 1. In the left-hand chart, figures up through fiscal 2018 are actual results. Figures for fiscal 2019 are forecasts from the September 2019 survey.
2. In the right-hand chart, figures include software investment.

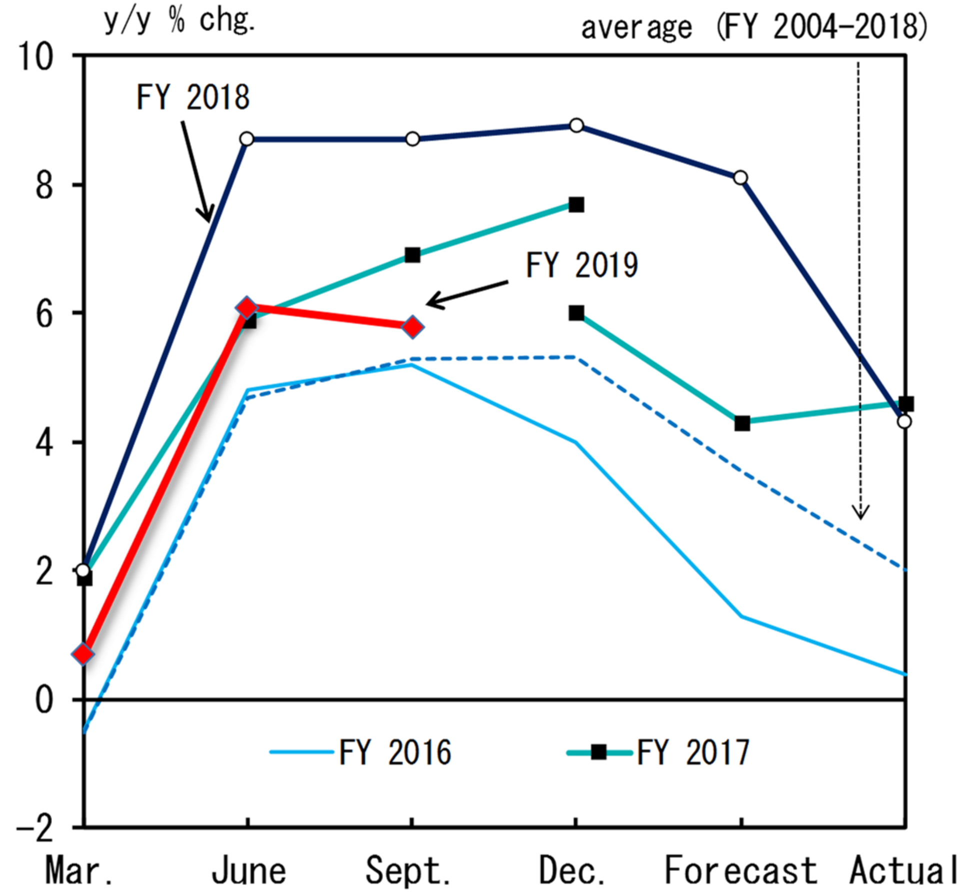
Sources: Bank of Japan; Ministry of Finance.

Investment (continued)

Public investment



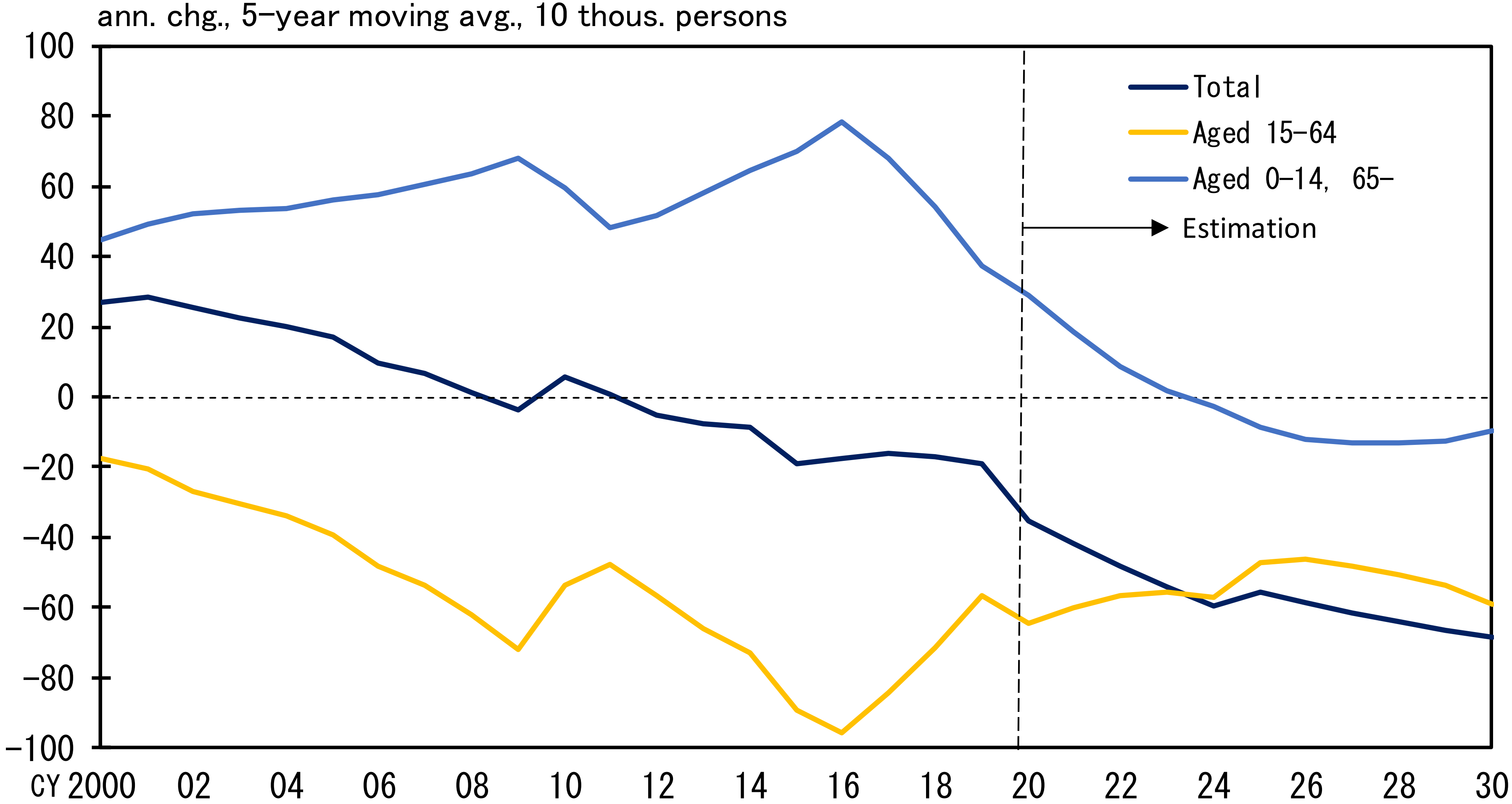
Developments in business fixed investment plans



Notes: 1. In the right-hand chart, figures are based on the *Tankan*. All industries, including financial institutions.
2. Including software and research and development (R&D) investment and excluding land purchasing expenses (R&D investment is not included until the December 2016 survey).

Sources: Bank of Japan; Ministry of Land, Infrastructure, Transport and Tourism; East Japan Construction Surety Company, Ltd.

Population Change by Age Group



Note: As of October 1 for all years. Figures for 2019 are estimates, and those from 2020 onward are calculated using medium-fertility and medium-mortality assumptions presented in the population projections released by the National Institute of Population and Social Security Research (IPSS).
Sources: Ministry of Internal Affairs and Communications; IPSS.

Outlook for Economic Activity and Prices as of October 2019
Forecasts of the Policy Board Members

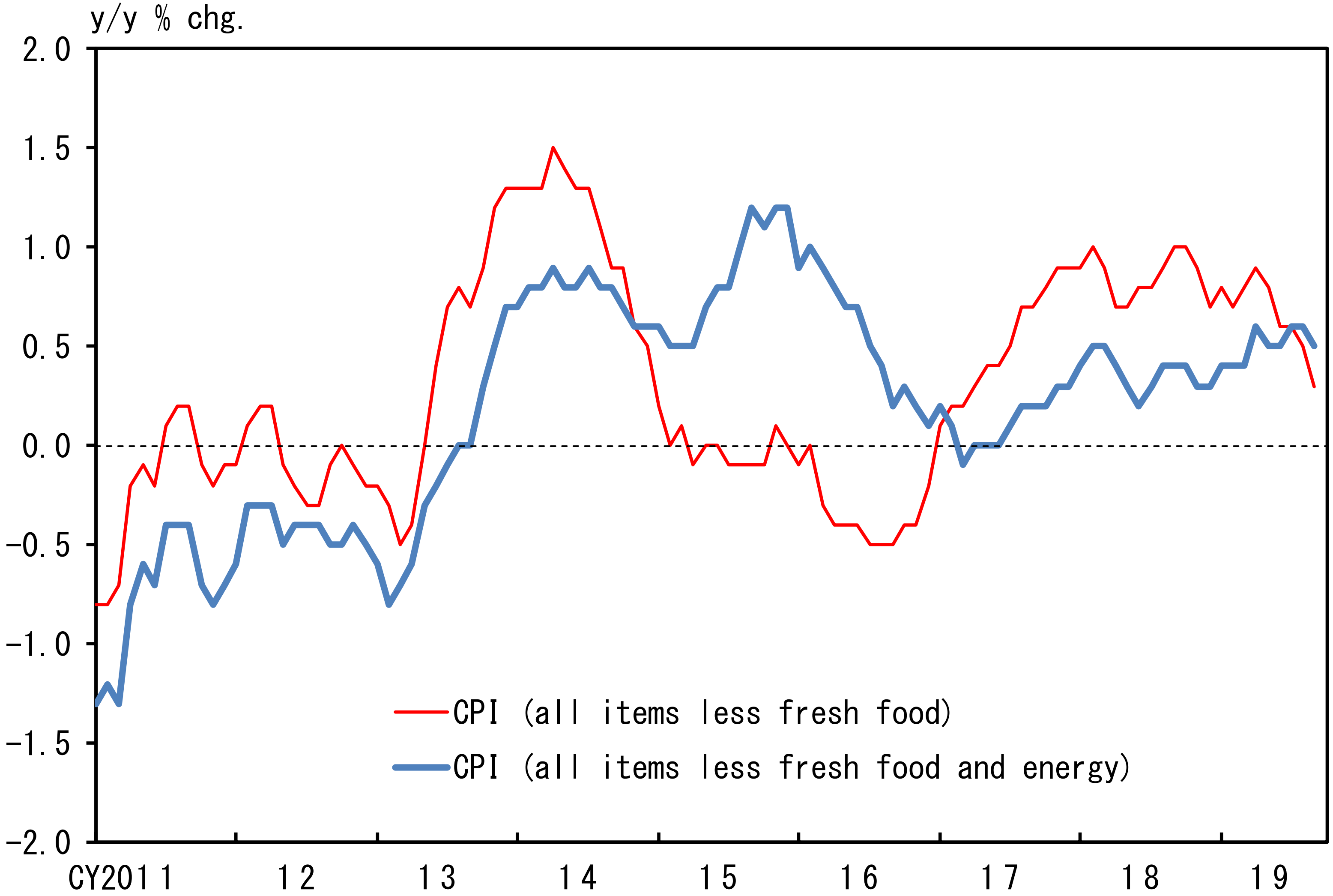
y/y % chg.

	Real GDP	CPI (all items less fresh food)
FY 2019	＋0.6	＋0.7
Forecasts made in July 2019	＋0.7	＋1.0
FY 2020	＋0.7	＋1.1
Forecasts made in July 2019	＋0.9	＋1.3
FY 2021	＋1.0	＋1.5
Forecasts made in July 2019	＋1.1	＋1.6

Notes: 1. Figures indicate the medians of the Policy Board members' forecasts (point estimates).
2. CPI forecasts incorporate the expected effects of the October 2019 consumption tax hike and policies concerning the provision of free education.
Source: Bank of Japan.

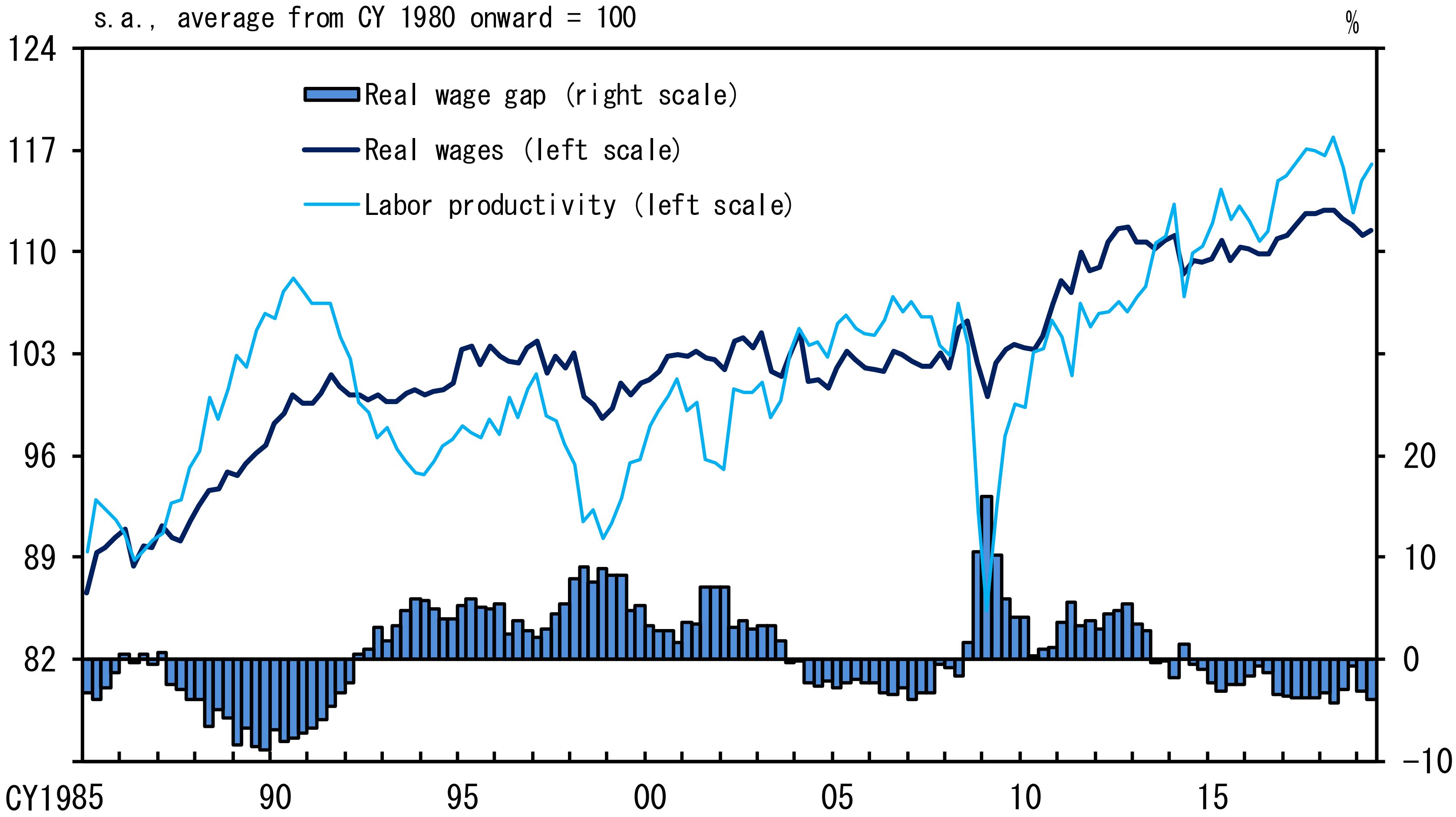
Chart 9

CPI



Note: Figures are adjusted for changes in the consumption tax rate.
Source: Ministry of Internal Affairs and Communications.

Real Wage Gap



Notes: 1. Real wages = personnel expenses / number of workers / GDP deflator

2. Labor productivity = (operating profits + personnel expenses + depreciation expenses) / number of workers / GDP deflator

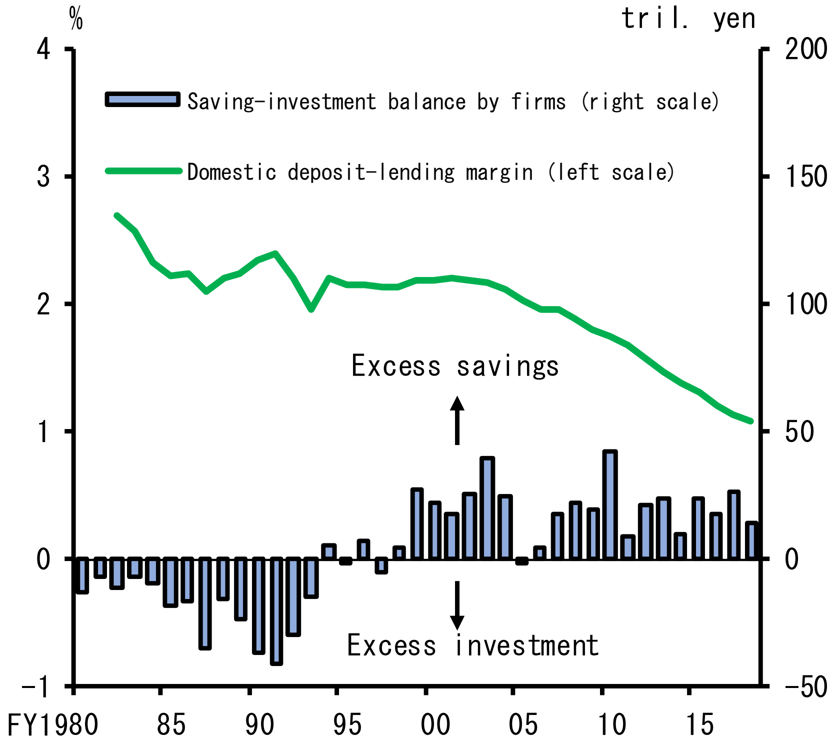
3. Variables such as personnel expenses are based on the "Financial Statements Statistics of Corporations by Industry, Quarterly" and exclude "finance and insurance."

4. Figures from 2009/Q2 exclude "pure holding companies."

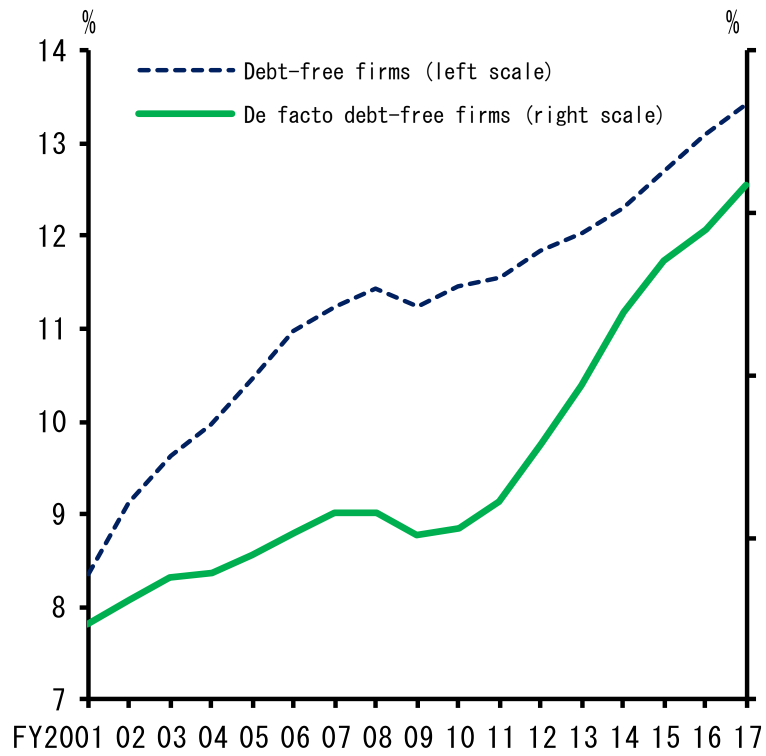
Sources: Ministry of Finance; Cabinet Office.

Corporate Funding

Deposit-lending margins and excess savings by firms



Share of debt-free firms

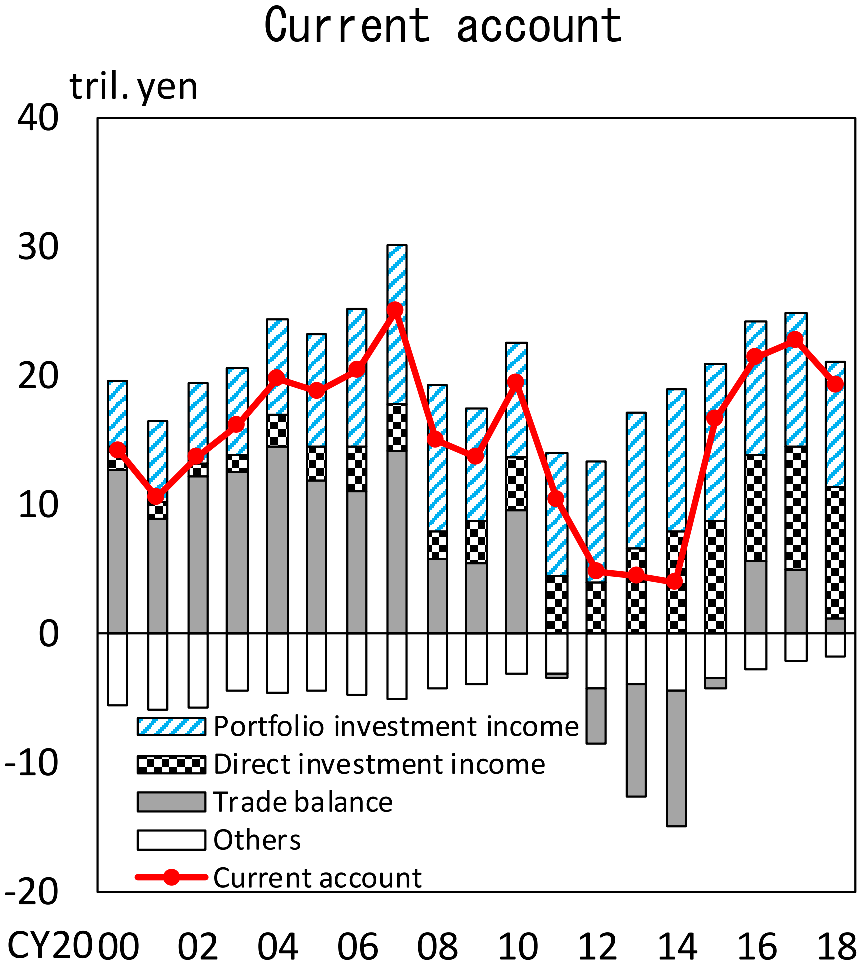


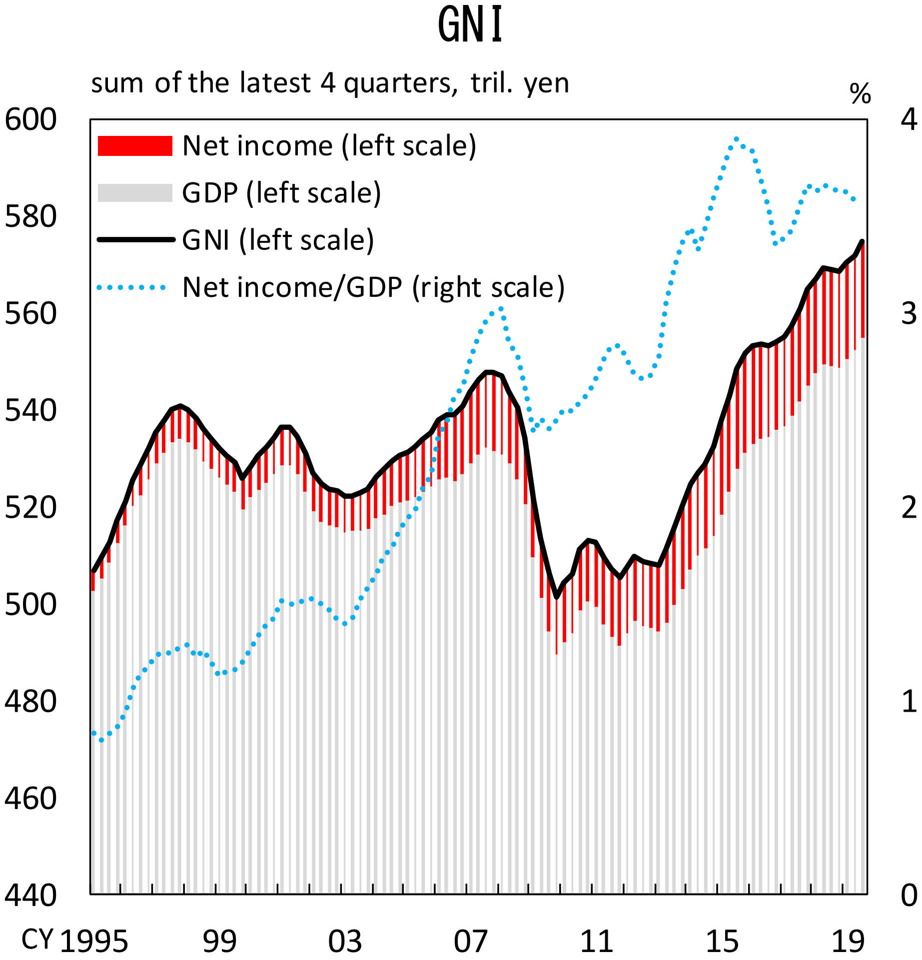
Notes: 1. In the left-hand chart, "savings-investment balance by firms" covers private nonfinancial corporations. "Domestic deposit-lending margins" covers regional banks.
2. In the right-hand chart, "debt-free firms" is defined as firms without borrowings. "De facto debt-free firms" is defined as firms whose cash and deposits exceed their total amount of borrowings.

Sources: Bank of Japan; Teikoku Databank.

Chart 12

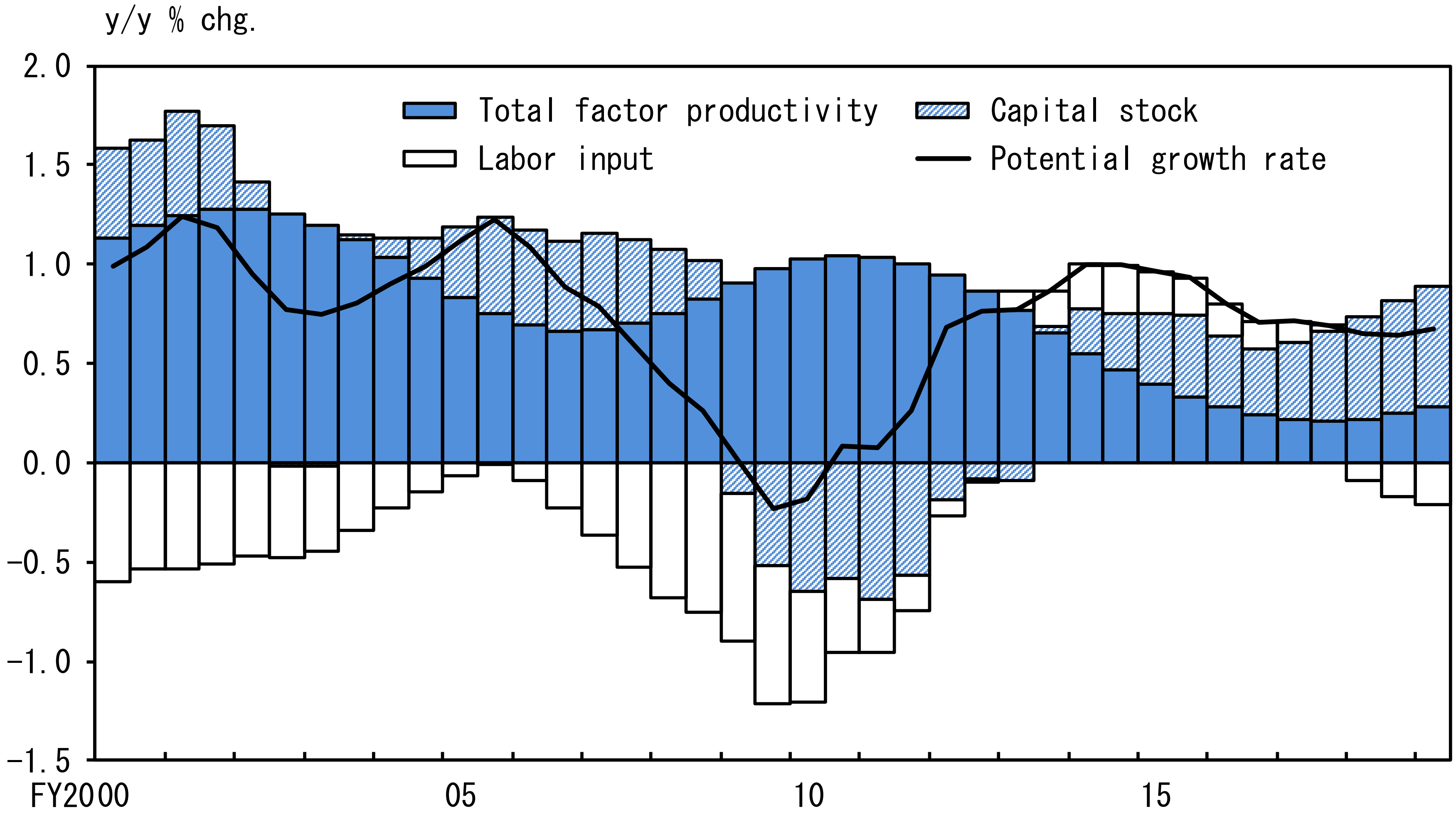
External Demand-Driven Growth and Outward Investment





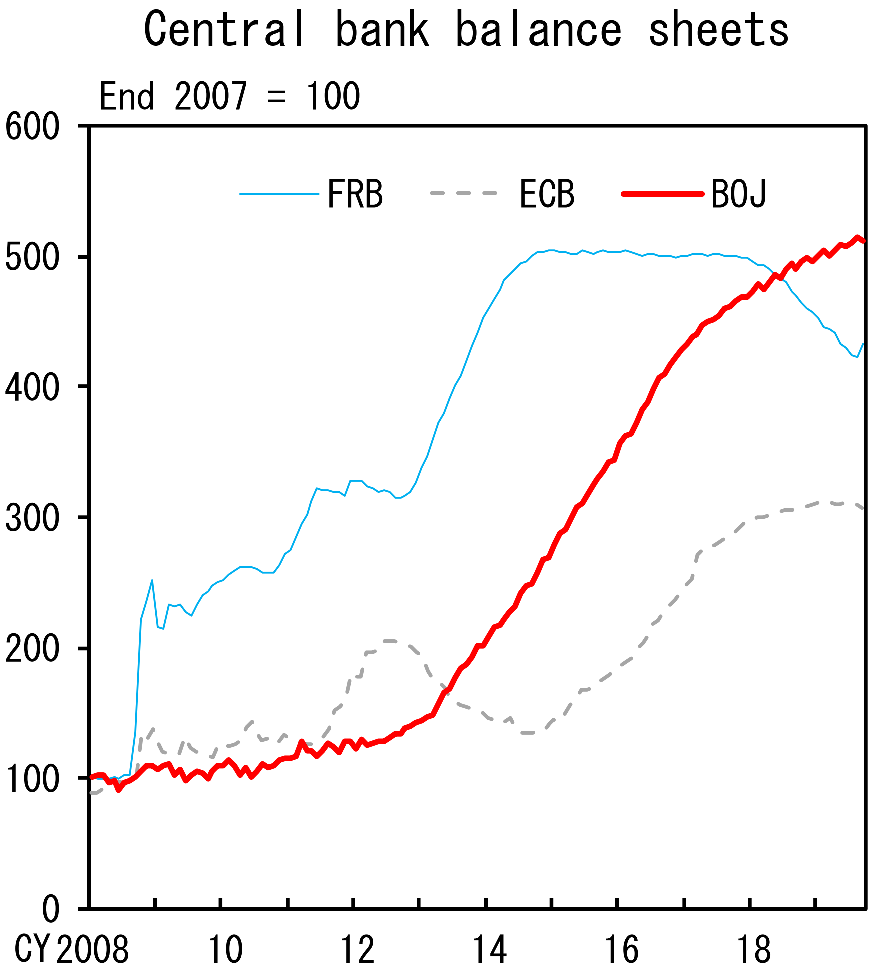
Note: In the right-hand chart, GDP and GNI are nominal.
Sources: Cabinet Office; Ministry of Finance; Bank of Japan.

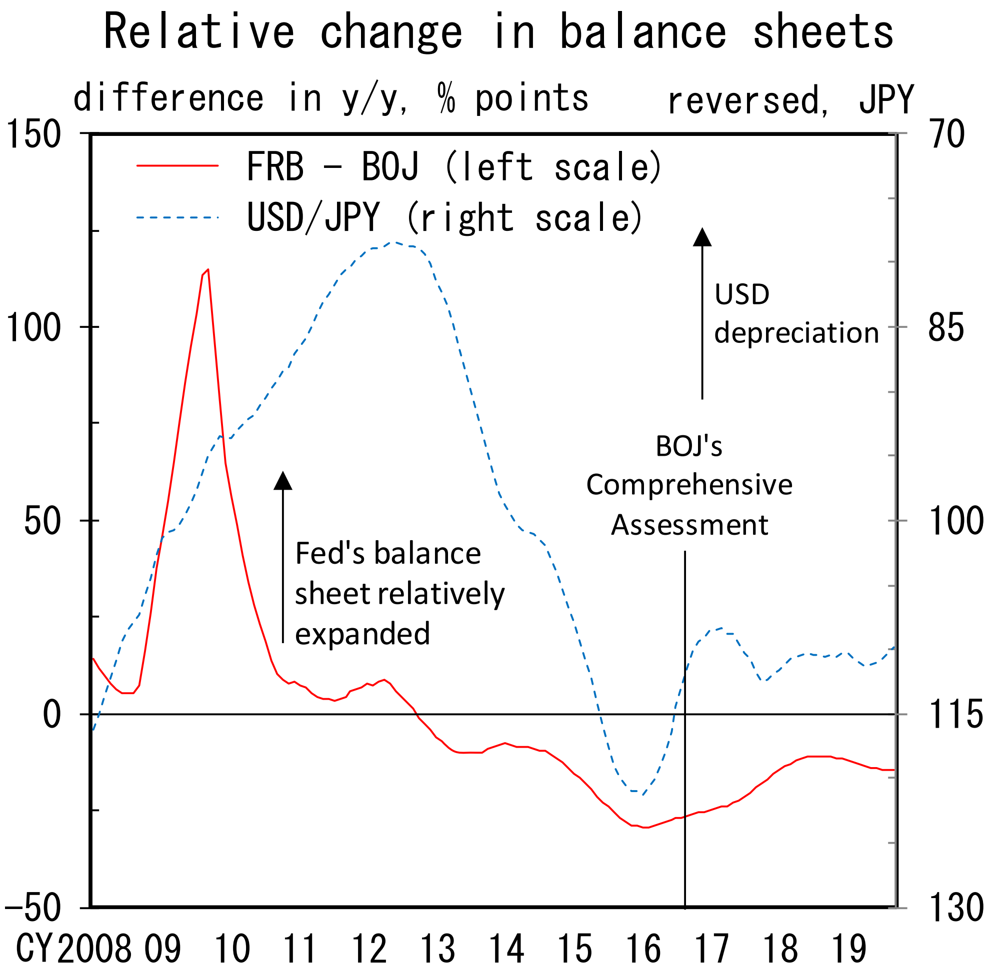
Potential Growth Rate



Note: Based on staff estimates. The figure for the first half of 2019 is that for 2019/Q2.
Source: Bank of Japan.

Monetary Policy Similarities

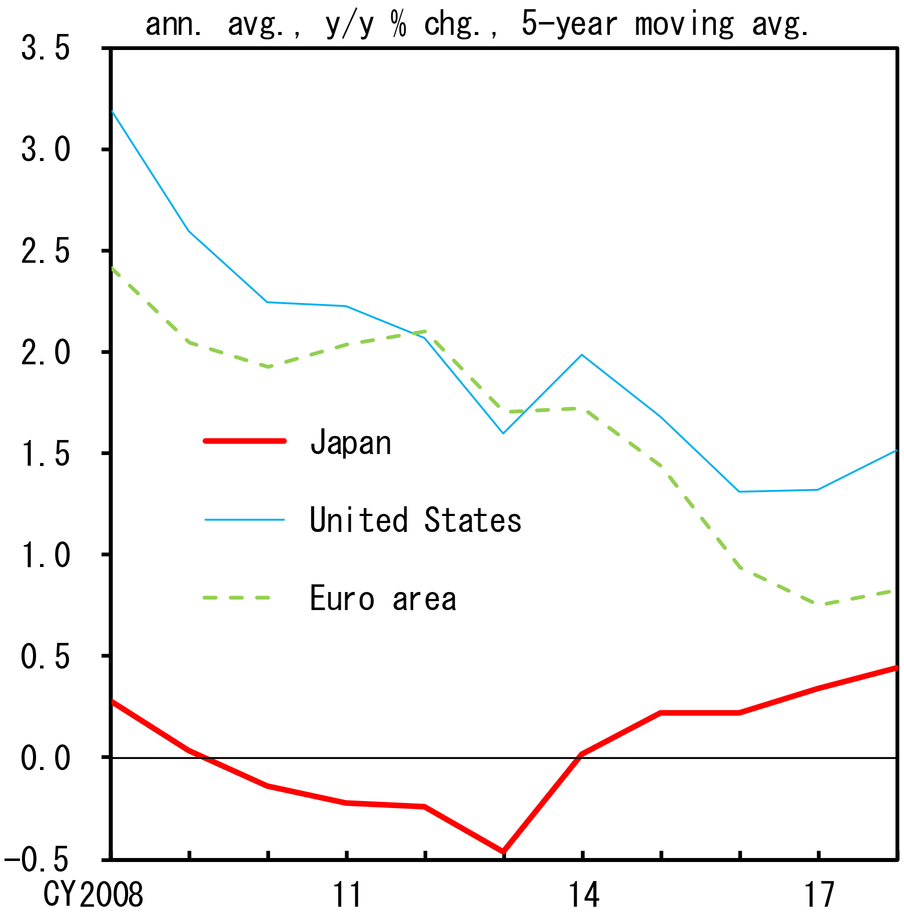


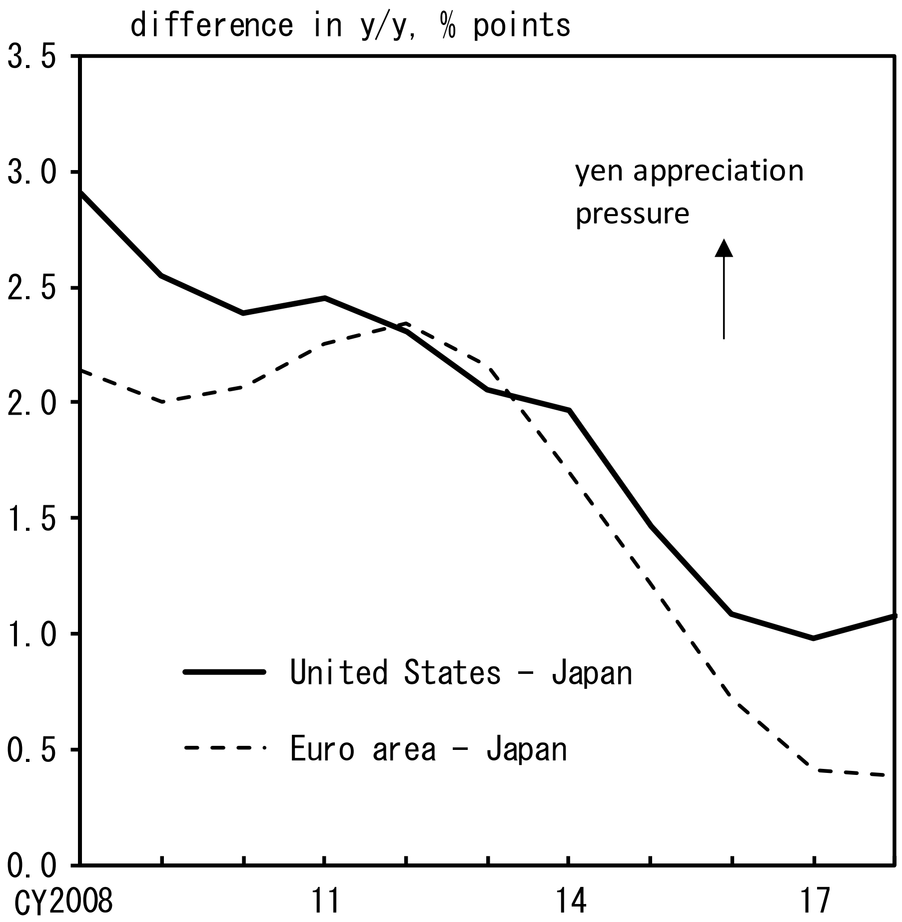


Notes: 1. In the left-hand chart, figures represent total assets.
2. The red line in the right-hand chart shows the year-on-year difference in the gap in balance sheet size between the FRB and the Bank of Japan.

Sources: FRB; ECB; Bank of Japan; Bloomberg.

Developments in Inflation Rates





Notes: 1. Japan's inflation rate incorporates the effects of the October 2019 consumption tax hike. Those of the United States and euro area are based on the IMF's *World Economic Outlook*.
2. The right-hand chart shows the gap in inflation rates between the United States and Japan, and between the euro area and Japan.

Sources: Ministry of Internal Affairs and Communications; IMF.