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Bank of Japan

Economic Activity, Prices, and Monetary Policy in Japan

Speech at a Meeting with Local Leaders in Fukui

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(English translation based on the Japanese original)

I. Prices

The Iran Situation

Before beginning my speech, I would like to offer my heartfelt sympathies to those who are suffering from the recent heavy rain.

A little over a year has passed since I was appointed as a member of the Policy Board. During this time, the whole world has wrestled with two major issues related to the United States: one concerning tariffs and the other concerning the Iran situation.

The tariff issue, unexpectedly, did not cause any economic disruption in Japan, although it did impact primarily sectors that have high export volumes to the United States, such as automobiles. In contrast, the Iran situation has had far broader repercussions. The supply of crude oil and other materials has tightened due to the closure of the Strait of Hormuz. This could induce both a rise in inflation and a deceleration in economic activity, placing central banks worldwide in a difficult decision-making environment.

In terms of the impact on Japan, crude oil and liquefied natural gas (LNG) have shown different price dynamics. Crude oil prices have risen due to a shortage of supply, whereas LNG prices have increased even without such a shortage. Chart 1 presents price developments in crude oil and LNG.

In the case of crude oil, Japan recently faced a situation in which slightly more than 70 percent of its crude oil imports passed through the Strait of Hormuz. There were greater concerns over a tightening in the supply of chemicals than over a shortage of transportation fuel derived from crude oil -- such as gasoline and light oil. Given the fact that plastic products have become widespread over the past 50 years, there is a possibility that the impact of the shortage of crude oil has become more serious than it was during the oil shocks in the 1970s. At the moment, though, the necessary amount of the supply of transportation fuel and chemicals has been maintained, albeit with significantly higher prices, through the release of national reserves and alternative procurement of crude oil and other materials.

LNG makes up about 30 percent of Japan's energy mix, and is also used as city gas. Contracts of LNG imports with Qatar are down from their previous levels, and imports that passed through the Strait of Hormuz have only accounted for around 6 percent of Japan's total volume of LNG imports, which can be covered by spot contracts. There is therefore no concern about the volume of LNG imports. However, since many LNG contracts are linked to crude oil prices, changes in crude oil prices are reflected in LNG prices with a time lag of around four months. Following Russia's invasion of Ukraine, LNG prices increased significantly due to a surge in spot prices. While this has not been the case this time, future price increases may be unavoidable.

Inflation

Inflation can be driven by various factors, which can be divided into demand- and supply-side aspects. One example of the former is hotel charges in Japan. These charges have risen drastically, due mainly to the effects of increased inbound tourism.

On the supply side, a typical example would be temporary supply shocks, such as spikes in crude oil prices. While such temporary shocks tend to attract public attention, there are other factors that have a more constant influence. In Japan, increases in personnel expenses and distribution costs may be a case in point. Unlike temporary shocks, these factors do not dissipate over a short period and therefore have an enduring influence on prices.

Chart 2 shows some representative price indicators. From left to right, these are the consumer price index (CPI), the corporate goods price index (CGPI), and the services producer price index (SPPI).

Generally speaking, "prices" refer to the CPI. While there were times when the CPI inflation rate was negative -- which is referred to as deflation -- Japan's economy has now fully transitioned into inflation. The CPI inflation rate has most recently been on the decline, but this is because rice prices have stabilized and because of government policy factors, such as the abolition of the provisional gasoline tax rate and measures to make high school tuition effectively free. While the decline owing to such policy factors is considered temporary, what

consumers actually pay are the reduced prices. That said, it should be noted that such reduced prices can also stimulate demand and thus act to push up general prices.

The CGPI tracks business-to-business transactions. The index tends to be relatively high because it comprehensively captures the effects of increases in crude oil and other raw material prices throughout commercial flows, and these effects weaken at downstream stages, reflecting lower cost ratios. Moreover, the cost of products includes personnel expenses, distribution costs, and profit margins; an increase in the CGPI therefore does not directly correspond to an increase in the CPI. However, now that firms are increasingly passing on cost increases to selling prices, higher corporate goods prices need to be regarded as pushing up consumer prices more than in the past, and attention should be paid to the recent 7 percent increase in the CGPI.

The SPPI includes not only services such as dining-out and accommodation, which fall outside the realm of manufacturing, but also distribution- and information-related costs. This index is therefore driven largely by personnel expenses.

Personnel Expenses

While the macroeconomic indicators I just mentioned are indeed important in assessing prices, having worked for many years in a commercial business, I am particularly interested in understanding in detail how things work and what mechanisms lie behind them. Let me start by examining personnel expenses.

The left panel of Chart 3 indicates the data for wages excluding overtime pay and bonuses, which closely approximate base pay. Recent data show a growth rate of around 3 percent. The wage increase of 5-6 percent mentioned in the annual spring labor-management wage negotiations in Japan includes seniority-related wage increases. In terms of how individuals feel in their daily lives, that is probably the more relevant figure. However, because a firm's workforce is constantly turning over, with older workers retiring and new graduates being hired, wage data that more closely reflect base pay should be examined.

The wage growth rate is a key determinant of monetary policy. Economic activity can be stable only when there is a moderate cycle of firms passing on higher wages to selling prices and then responding to the ensuing inflation with wage increases. A situation where neither wages nor prices rise, as seen during Japan's deflationary period, and a situation where both rise excessively, as in the first oil shock, are both unfavorable for the economy.

As shown in the right panel of Chart 3, the rate of change in real wages -- which is calculated by subtracting the inflation rate from the rate of change in nominal wages -- is what matters for households. Even if wages increase, household income will be negative on a net basis unless the wage hikes keep up with inflation. However, the year-on-year rate of change in real wages has finally turned positive in Japan. If the inflation rate moderates to around the Bank's target level of 2 percent while wage hikes of around 3 percent continue, the rate of change in real wages will remain positive. That said, attention needs to be paid to the fact that the recent inflation rate has been suppressed by subsidies and other government policy factors. Corporate managers generally raise wages in line with the inflation rate and pass on these increased wages to selling prices; even a temporary decline in the inflation rate could therefore affect wage negotiations.

I often hear that the combination of wage increases and policy interest rate hikes is causing difficulties for firms. It is indeed not hard to imagine the significant challenges business owners are facing, given labor shortages and the need to comply with the increase in the minimum wage in Japan. However, if the inflation rate cannot be contained at an appropriate level, this could lead to a vicious cycle in which firms have to further raise wages to retain workers. The Bank considers that, to ensure that the wage increases firms have managed to achieve are not in vain, it is important to manage the inflation rate through appropriate monetary policy and thereby maintain real wage growth.

Regarding recent labor shortages in Japan, let me explain one set of data that has caught my attention. The left panel of Chart 4 shows labor-related data. The number of employed persons has increased due to the growing participation of women and seniors in the labor force, while working hours have decreased due to working-style reforms and other factors. Labor input, calculated by multiplying the number of employed persons and working hours, has remained

more or less flat, albeit on a slight decline. To be sure, there are mismatches among industries and job types -- industries such as construction and nursing care services are facing severe labor shortages. Hence, if some areas are facing shortages while overall labor input has remained flat, that implies that some areas are not experiencing shortages. I am paying attention to how wage increases in the latter areas will take shape.

The right panel of Chart 4 presents the distribution of the growth rate in the number of employed persons by prefecture, and shows that regional disparities are widening. Given that the growth rate in the number of employed persons for Fukui Prefecture is roughly 10 percent below the national average, I believe the business leaders participating in the meeting today might be feeling an acute sense of labor shortage.

Distribution Costs

Next, I would like to touch on distribution costs. The left panel of Chart 5 shows the year-on-year rate of increase in motor freight transportation costs -- a component of the above-mentioned SPPI -- which surged to almost 6 percent for July. The rate remains high, even though gasoline prices have declined on a year-on-year basis, as suggested in the right panel of Chart 5, due to the reintroduction in mid-March 2026 of gasoline subsidies; this could imply a substantive pass-through of personnel expenses triggered by high crude oil prices.

Since higher distribution costs are passed on to a wide range of prices, they could affect underlying inflation, which I will discuss later. Of course, distribution costs and personnel expenses are not the only components of production costs, so a rise in these costs does not directly translate into an increase in the inflation rate.

Food Prices

Let us now look at food prices, which have a large weight in the CPI.

The left panel of Chart 6 illustrates the breakdown of the CPI over the past few years, which I mentioned earlier. Specifically, the bar graph shows, in descending order, the contribution to the year-on-year rate of change in the overall CPI of the prices of (1) services such as communications, hotel services, and education; (2) goods excluding food and energy; (3) rice-

related items, which consist of both rice itself and processed food that uses rice as an ingredient, such as box lunches, rice balls, and rice crackers; and (4) other food excluding fresh food, shown in dark blue.

As you can see, food prices have a significant impact on CPI inflation. To make this clearer, the right panel of Chart 6 plots the year-on-year rates of change in the prices of some of the components in the left panel. Fresh food and energy, for which prices fluctuate significantly, are often excluded when examining prices. The price surge in rice-related items is pronounced, reflecting an unprecedented rise in rice prices, which doubled from 2024 to 2025. Comparing the other three components, however, while the year-on-year rates of change in the prices of services and goods have both been stable in the range of 1-2 percent, the rate of change in the price of processed food that does not use rice as an ingredient has been high, in tandem with the rise in rice prices. The subsequent start of a decline in rice prices was expected to present challenges to food manufacturers, since they had been raising selling prices along with the rise in rice prices. Nevertheless, factors such as higher distribution costs and the increase in the prices of packaging materials and food trays could create an environment that would prompt another round of price increases, sparking concerns about a reacceleration of food price hikes. While the prices of rice and crude oil have garnered attention, I consider that, from a long-term perspective, the price of food in general is a key determinant of future inflation.

Other Risk Factors

In addition to the Iran situation, the Bank is closely monitoring developments in foreign exchange rates and in AI-related demand as risk factors to prices.

Foreign exchange policy falls under the jurisdiction of the government, and the Bank does not set its policy interest rate to respond directly to changes in foreign exchange rates. That said, the impact of the yen's depreciation on prices has become more pronounced than in the past and warrants close attention.

Mounting AI-related demand is pushing up prices not only of semiconductors themselves, but also of semiconductor production equipment, copper, and power-generation facilities.

The effects of this demand increase are also being felt in general consumer goods, including personal computers and household electrical appliances. The rapid global expansion in AI-related demand can be regarded as a demand shock that exerts strong upward pressure on prices as well as on corporate profits and other economic variables. Unlike high crude oil prices or the yen's depreciation, however, it is not simply the case that it would be better if AI-related demand subsided -- such demand is also a factor that mitigates the negative effects of high crude oil prices and supports the global economy. If momentum in AI-related demand stalls, therefore, the impact on Japan's economy would be significant. Moreover, unlike the United States and China, Japan is not a global provider of AI services; rather, the country is benefiting from the demand generated by AI development, particularly for semiconductor-related materials and equipment. It is necessary to bear in mind, therefore, that these benefits could diminish once the expansion of AI production capacity comes to a halt.

II. Economic Indicators

Real Interest Rate

Next, I would like to explain some representative indicators the Bank is monitoring. Having already touched upon prices, exchange rates, and wages, let me start with the two types of interest rates that are referred to in relation to the Bank's monetary policy.

The real interest rate is calculated by subtracting the inflation rate from the nominal interest rate. Chart 7 shows 1-year and 10-year real interest rates. These rates are obtained by subtracting inflation expectations -- calculated using a synthesis of multiple statistical data -- from the current yields on Japanese government bonds (JGBs). Until last year, both of these rates were significantly negative. Now, however, they are at around 0 percent, reflecting factors such as the Bank's policy interest rate hikes and the rise in long-term interest rates.

That said, the 1-year to around 2-year real interest rates are still negative. As a result, increases in the value of real estate purchased through borrowings exceed the interest paid on the loans, and this could consequently set off a surge in real estate prices. In addition, firms might hasten their investment more than is necessary, while household savings might lose their real value. I therefore believe the negative real interest rate situation should be addressed as soon as possible, since Japan's economy is no longer in deflation.

Neutral Interest Rate

Although the neutral interest rate is an indicator that central banks always keep in mind in conducting monetary policy, this rate cannot be expressed as a specific figure.

The calculation of the neutral interest rate begins with estimating the natural rate of interest, which neither heats nor cools economic activity. As shown in the left panel of Chart 8, the natural rate of interest is estimated using various theoretical models, and the estimates fall within a fairly wide range. These are the latest figures, released in March this year. At the time they came out, it had been two and a half years since the previous release. The overall range has remained largely unchanged, and is estimated to be between minus 0.9 percent and plus 0.5 percent.

The natural rate of interest is the real interest rate before adjusting for inflation. Adding 2 percent, which is the Bank's price stability target, makes this rate nominal, somewhere in the range of 1.1 to 2.5 percent. This estimated range is what the media refers to as the neutral interest rate. For comparison, the policy interest rate currently set by the Bank is 1.0 percent.

Given that various methods are used to estimate the neutral interest rate and that it can only be indicated within a fairly wide range, this rate is simply a reference. In particular, since policy interest rate hikes over the past two years have brought the rate close to the estimated range of the neutral interest rate, the Bank will need to more thoroughly examine factors such as prices, employment, and financial conditions in considering further rate hikes.

Unlike in Europe and the United States, the policy interest rate in Japan is lower than the estimated range of the neutral interest rate, as shown in the right panel of Chart 8. Until recently, many other central banks around the world continued to cut policy interest rates to bring them closer to the neutral interest rate, while the Bank of Japan has been raising its rate. The reason Japan alone has a policy rate that is below the estimated range of the neutral interest rate could be attributable to differences in the degree of impact from global inflation following the COVID-19 pandemic and in the responses to this inflation. As shown in Chart 9, post-pandemic inflation was not as high in Japan as it was in Europe and the United States. Japan was thus able to maintain a negative interest rate policy. There is also a view that Japan's

mild inflation was attributable to the inability of firms to easily pass on higher raw material costs to selling prices because of prolonged deflation in this country.

In dealing with U.S. tariffs, while sharing the same concerns about economic deterioration, Japan and other countries took opposite policy approaches -- raising or cutting the policy interest rate. Currently, the Iran situation has led countries around the world to tilt toward a stance of rate hikes to address inflationary concerns, and central banks in many countries are actually raising their policy interest rates. That said, financial conditions in Japan remain accommodative. If inflation accelerates here, there is a risk that the Bank might inevitably need to implement a rapid policy interest rate hike. To complete the normalization of monetary policy in Japan, I am convinced that the Bank needs to raise the policy interest rate further, so that it falls solidly within the estimated range of the neutral interest rate, thereby ensuring the flexibility needed to swiftly adjust the policy rate in either direction, depending on economic conditions.

Impact of Policy Interest Rate Hikes on Firms and Households

It is also important to monitor the impact of policy interest rate hikes on firms and households.

Chart 10 shows corporate demand for funds. There is no indication that the recent policy interest rate hikes have dampened firms' appetite for funding -- on the contrary, their appetite appears to have increased. However, there are concerns about potential overheating in corporate investment activities. Investing requires both discernment and prudence. Failed investments could rapidly cool corporate activities and hinder Japan's economic growth.

To observe the direct impact of policy interest rate hikes on households, let us look at the total amount of households' balance sheets in Japan and the asset and liability structure by age group in Chart 11. This indicates that, overall, households are in a net asset surplus when comparing cash and deposits with loans. However, younger generations face the burden of housing loans, although recent wage increases for this age group have been relatively higher than for other age groups.

Underlying Inflation

Let me also discuss underlying inflation, which the Bank uses as a reference. Underlying inflation excludes fresh food prices, which fluctuate significantly, and temporary factors -- namely, the surge in rice prices, the crude oil shock, and the effects of government measures such as tax hikes and subsidies. It is an important concept in conducting monetary policy, which, in Japan, currently aims at achieving sustained inflation of 2 percent.

As with the natural rate of interest, underlying inflation cannot be expressed as a specific figure. The Bank's quarterly *Outlook for Economic Activity and Prices* (Outlook Report) had previously shown selected indicators for underlying inflation. From the April 2026 Outlook Report, the Bank has started to show more of the indicators that it monitors on a regular basis in this regard, such as those using statistical methods and economic models. Charts 12 and 13 summarize these indicators.

As you can see, developments in the indicators vary, and the impression they give may differ depending on the viewer. That said, my impression is that, although the underlying inflation rate remains below 2 percent, it is very close to the 2 percent target.

III. Recent Monetary Policy

Policy Interest Rate

Lastly, I would like to discuss the Bank's monetary policy, focusing in particular on its policy interest rate and balance sheet.

As shown in Chart 14, the Bank has made an exit from the prolonged period of unprecedented monetary easing and has implemented five policy interest rate hikes since March 2024. Before each Monetary Policy Meeting (MPM), which is held eight times a year, the Bank's Policy Board members thoroughly examine a wide range of data, such as on business fixed investment and financial market conditions, in addition to the data I explained earlier.

While the Bank will continue to raise the policy interest rate and adjust the degree of monetary accommodation in response to developments in economic activity and prices as well as

financial conditions, what is most vital from now on is to ensure that the underlying inflation rate does not significantly exceed 2 percent.

The rising prices of fuel and chemicals due to the Iran situation may turn out to be a temporary shock, but also have the potential to further push up costs that would have far-reaching effects, such as distribution costs. This applies to food as well: in addition to higher domestic distribution costs, the rise in maritime shipping fees for imported raw materials and in the price of imported fertilizers are some factors that contribute to food price hikes. There are concerns that the price hikes in these goods may not be temporary shocks but rather represent more enduring trends that risk pushing up overall prices.

Given that the underlying inflation rate is very close to 2 percent, as I explained earlier, and that financial conditions have been accommodative, the Bank will continue to raise the policy interest rate and adjust the degree of monetary accommodation. It will consider the timing and pace of adjustment, while examining the likelihood of realizing the baseline scenario and the risks to the outlook presented in the July 2026 Outlook Report, including the impact on economic activity and price developments from crude oil prices, AI-related demand, and developments in foreign exchange rates.

Balance Sheet

Following its decision at the September 2025 MPM on a guideline for the disposal of exchange-traded funds (ETFs), the Bank decided at the June 2026 MPM to halt the reduction of its purchase amount of JGBs. The expression "to halt the reduction" may sound a little confusing, but it simply means that the Bank will keep its amount of JGB purchases constant for the time being, from fiscal 2027. After having conducted large-scale JGB purchases during the period of unprecedented monetary easing, the Bank has been gradually reducing the amount of its purchases since summer 2024, but has now arrived at the decision to halt the reduction. The Bank's annual JGB purchases amounted to as much as 135 trillion yen at their peak four years ago but, from fiscal 2027, the level will be about 2 trillion yen per month, or roughly 24 trillion yen annually.

Since JGBs carry maturities, the amount outstanding will decrease simply by dint of the Bank reducing the amount of its purchases. As shown in the right panel of Chart 15, the Bank's JGB holdings stood at nearly 590 trillion yen at their peak. This accounted for about 50 percent of the amount outstanding of JGBs issued, which was remarkably high relative to the proportion of government bonds held by central banks in other major economies. Looking ahead, however, the Bank's JGB holdings are expected to decline steadily.

What JGB maturities the Bank should hold in the future is likely to become a topic of growing importance. Since assets are matched against liabilities, and the Bank's principal liabilities are current account deposits held by financial institutions at the Bank and banknotes, determining the appropriate way to match assets and liabilities is an issue that involves some complexities and will be examined.

This does not necessarily mean that the overall balance sheet ought to be reduced to levels prior to the Bank's implementation of unprecedented monetary easing. In the wake of the 2008 Global Financial Crisis, it is possible that demand for central bank reserves has been changing, mainly due to the tightening of international liquidity regulations and the strengthening of risk management by financial institutions. Taking this possibility into account, the Bank will ascertain what the appropriate size of its balance sheet is.

Thank you.



Economic Activity, Prices, and Monetary Policy in Japan

Speech at a Meeting with Local Leaders in Fukui

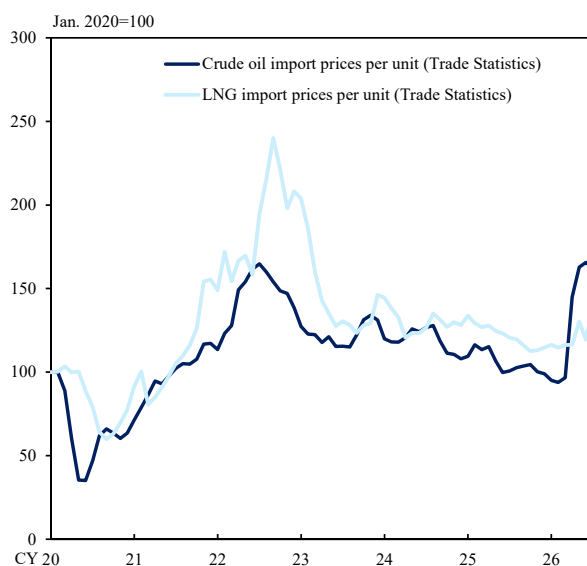
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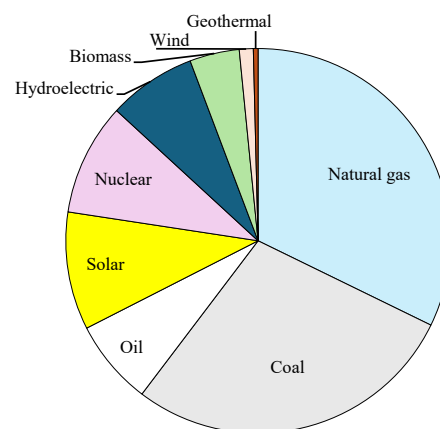
Chart 1

Energy Situation in Japan

Crude Oil and LNG Prices



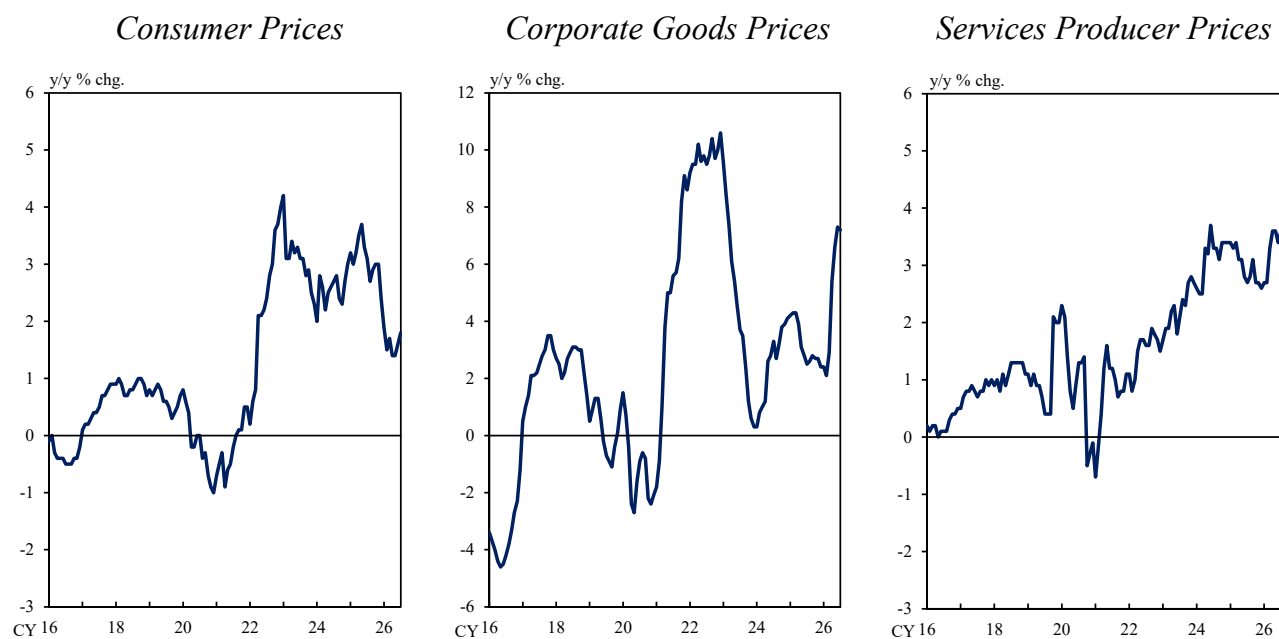
Japan's Energy Mix



Note: Figures in the left panel are adjusted for fluctuations in the U.S. dollar/yen exchange rate. Figures in the right pie graph are for fiscal 2024.

Sources: Agency for Natural Resources and Energy; Ministry of Finance; Bank of Japan.

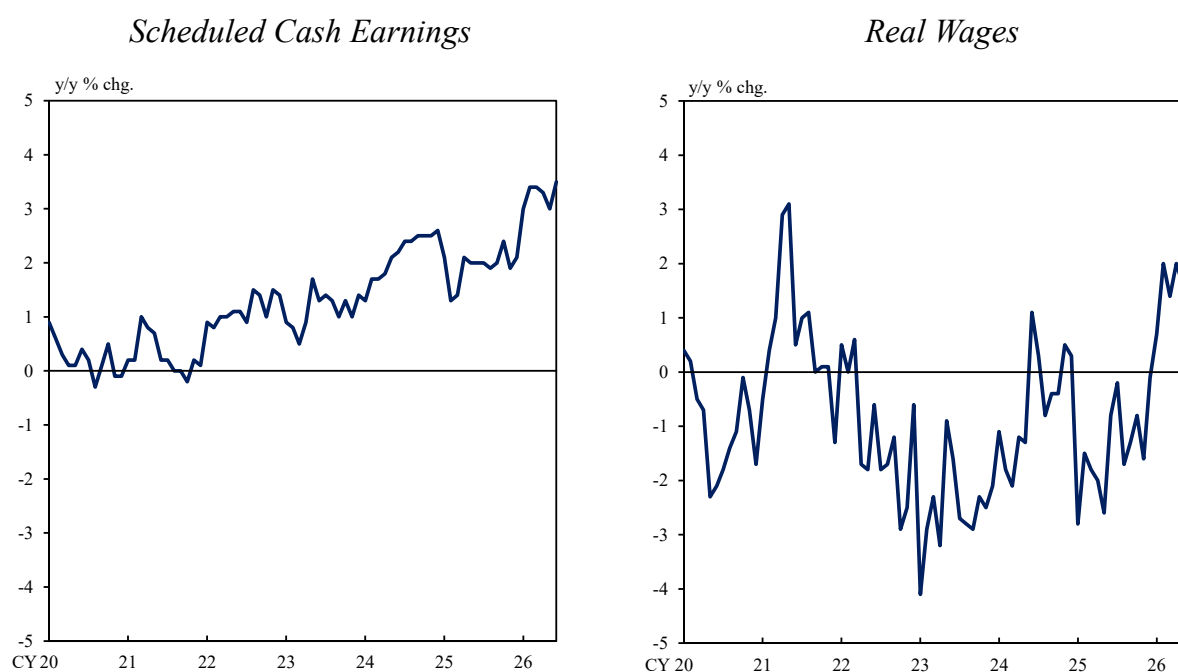
Price Developments



Note: Figures in the left panel show the CPI for all items less fresh food.

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

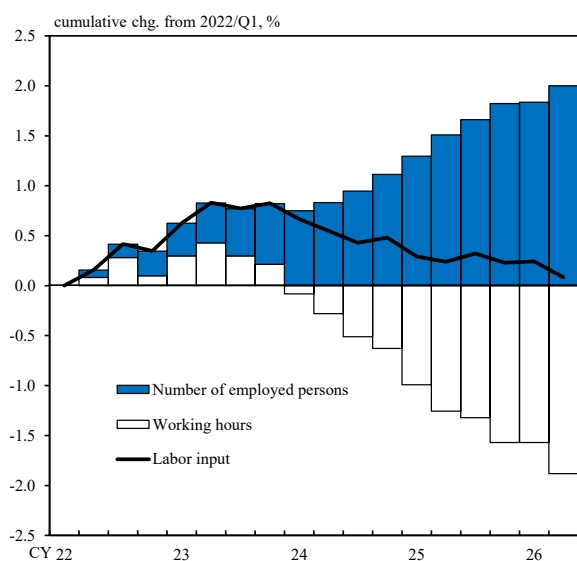
Wages



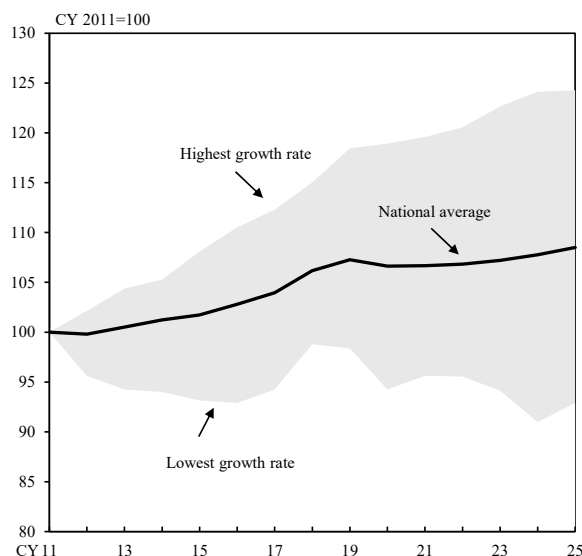
Source: Ministry of Health, Labour and Welfare.

Employment

Labor Input



Number of Employed Persons by Prefecture

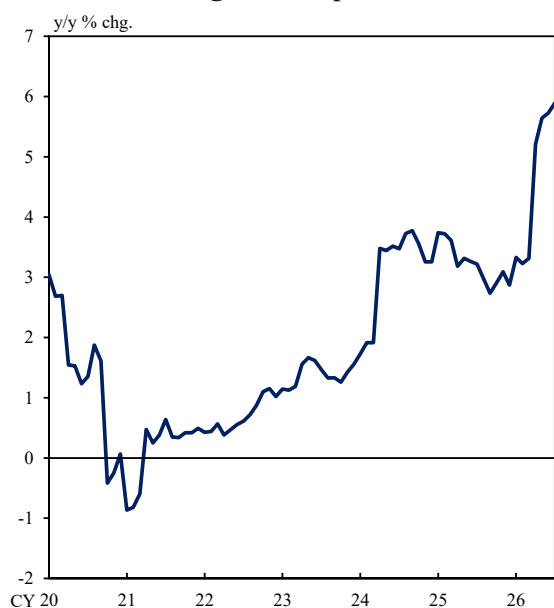


- Notes: 1. In the left panel, figures are 4-quarter backward moving averages. Labor input is calculated by multiplying the number of employed persons and working hours.
 2. In the right panel, the shaded area shows the range between the highest and lowest growth rates in the number of employed persons calculated for each prefecture.

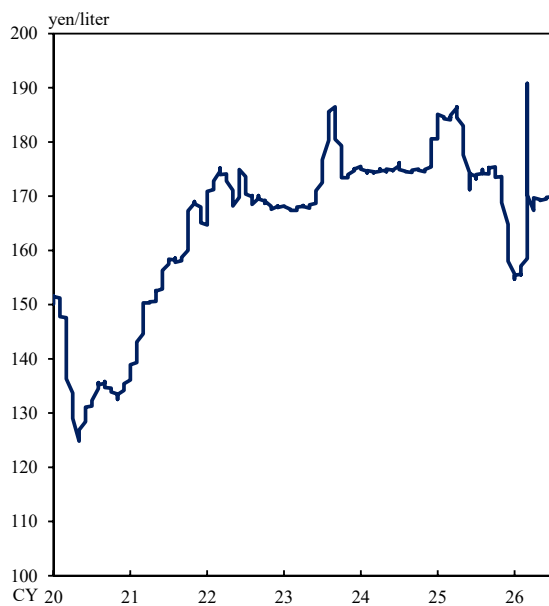
Source: Ministry of Internal Affairs and Communications.

Distribution Costs

Motor Freight Transportation Costs



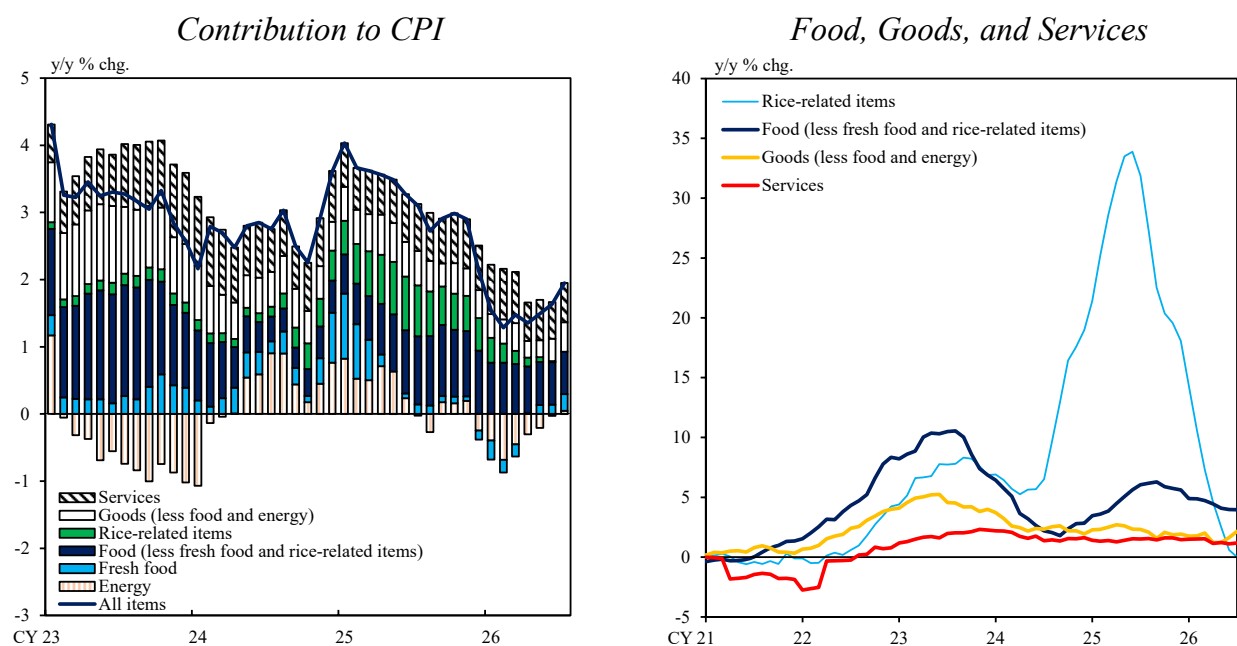
Gasoline Prices



- Notes: 1. In the left panel, figures are weighted averages of the following items in the SPPI: motor freight transportation (agriculture, forestry & fishery and food products), motor freight transportation (mineral and chemical products), motor freight transportation (metal and machinery products), and motor freight transportation (light and miscellaneous industrial products).
 2. In the right panel, figures are the retail prices of regular gasoline.

Sources: Agency for Natural Resources and Energy; Bank of Japan.

CPI Inflation

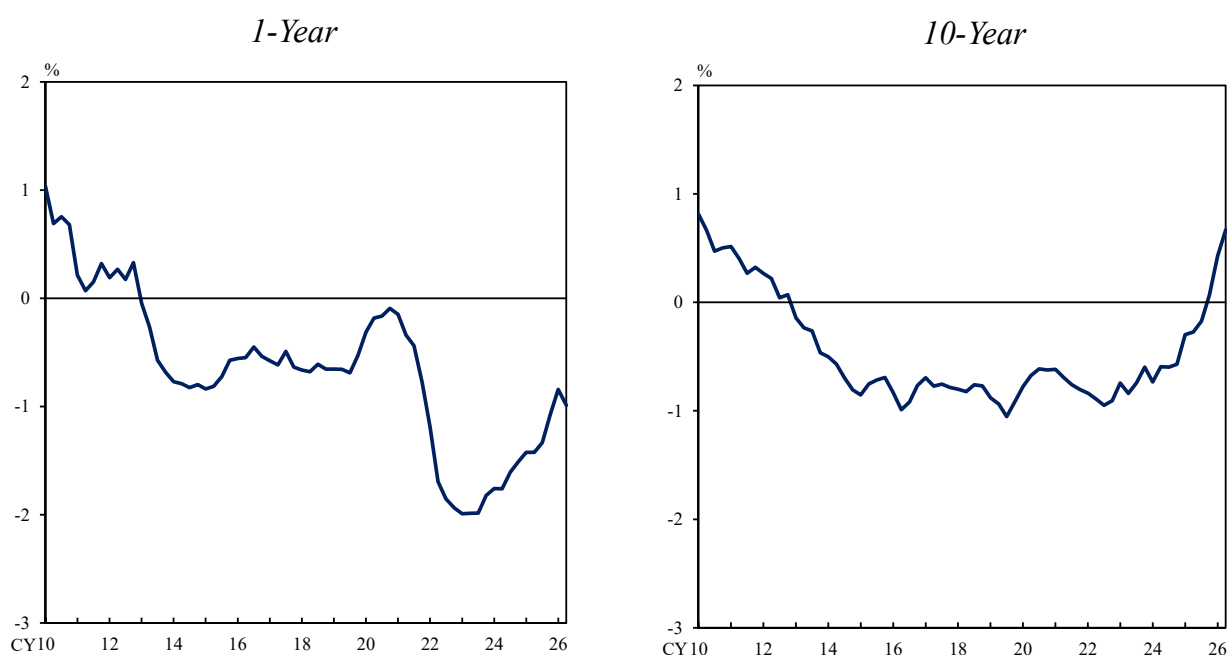


Note: "Rice-related items" consists of non-glutinous rice, mochi or rice cakes, *daifukumochi* or rice cakes stuffed with sweetened bean jam, *sembei* or Japanese crackers, sushi (box lunches), box lunches, rice balls, frozen cooked rice, and aseptic packaged cooked rice.

Source: Ministry of Internal Affairs and Communications.

Real Interest Rate

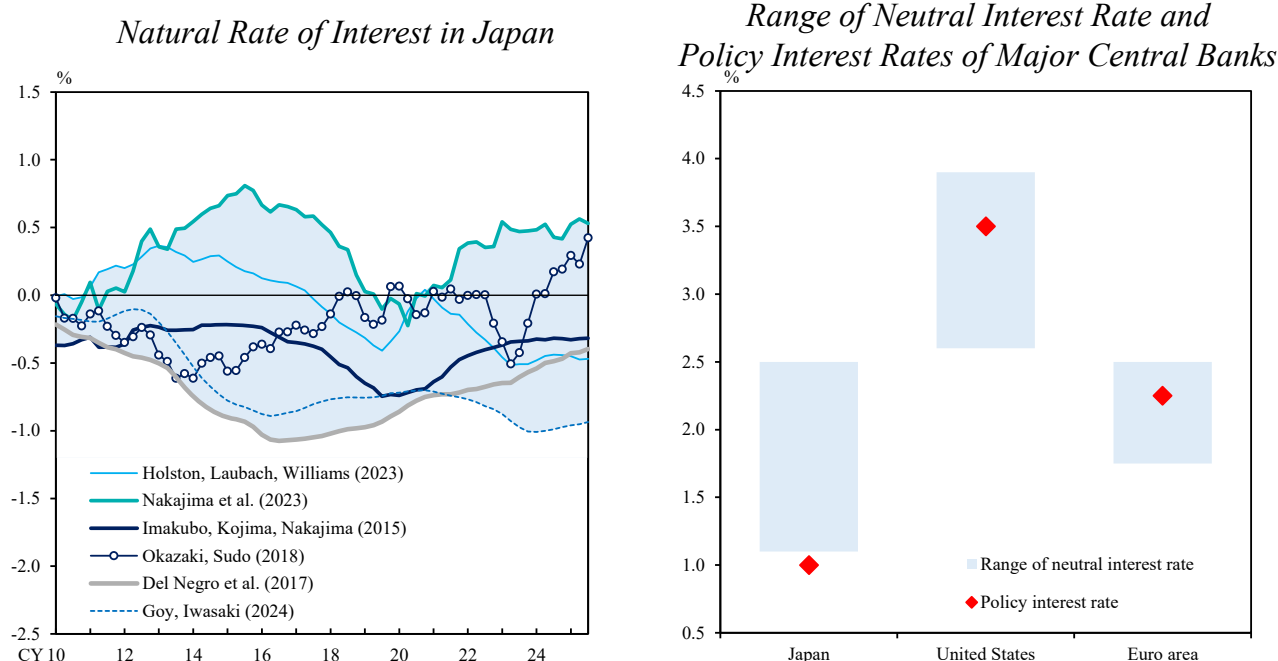
(Real interest rate = Nominal interest rate – Inflation rate)



Note: Figures for real interest rates are calculated by deducting inflation expectations from JGB yields for each maturity. Figures for inflation expectations are based on Bank staff calculations using the expectations of various economic entities (firms, households, and experts) at different horizons. Specifically, data used in the calculations are as follows: for firms, the *Tankan*; for households, the *Opinion Survey on the General Public's Views and Behavior*; for experts, the *QUICK Survey*, the *Consensus Forecasts*, and inflation swap rates.

Sources: Bloomberg; Consensus Economics Inc., *Consensus Forecasts*; QUICK, *QUICK Monthly Market Survey <Bonds>*; Bank of Japan.

Natural Rate of Interest, Neutral Interest Rate, and Policy Interest Rates Chart 8

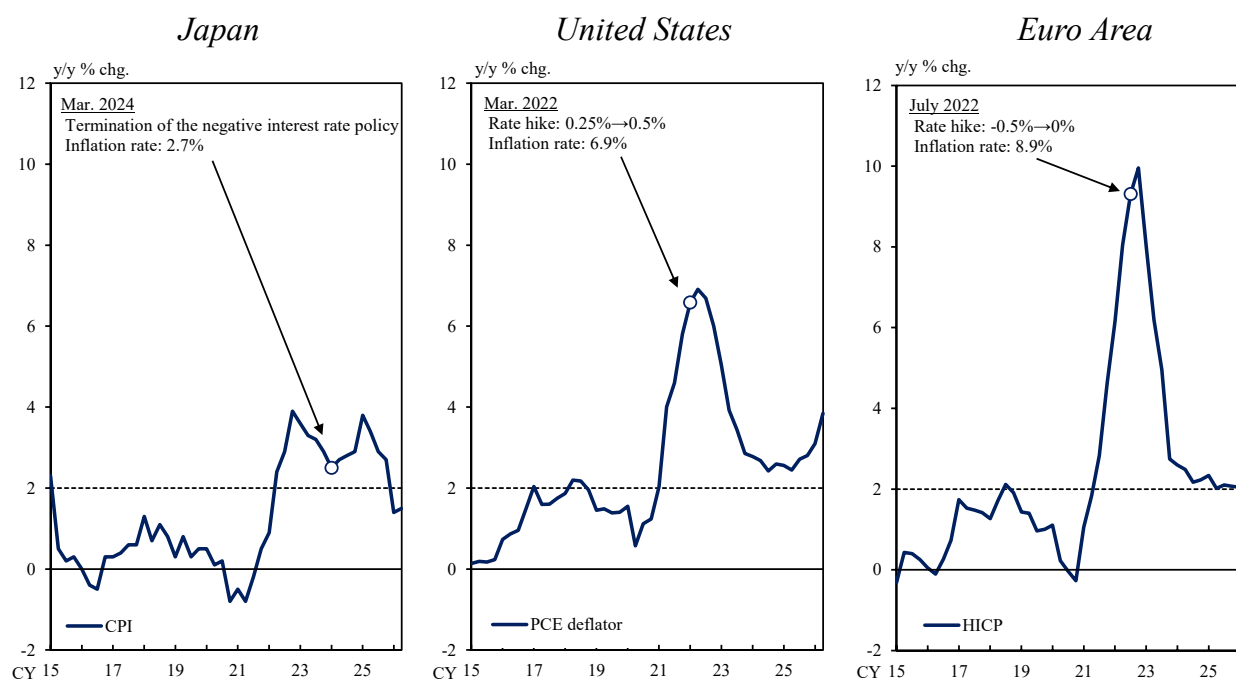


Notes: 1. In the left panel, estimates are based on Bank staff calculations using the models proposed in the different papers listed. The shaded area shows the estimated range of the natural rate of interest.
 2. In the right panel, as the Federal Reserve does not officially publish the range of the neutral interest rate, the range for the United States is based on the FOMC members' longer-run projections for the federal funds rate in the Summary of Economic Projections released after the June 2026 FOMC meeting. The estimated range of the neutral interest rate for the euro area refers to the figures mentioned in a recent speech by Philip R. Lane, a member of the Executive Board of the ECB.

Sources: Bloomberg; Cabinet Office; Consensus Economics Inc., *Consensus Forecasts*; ECB; Federal Reserve; Ministry of Finance; Ministry of Health, Labour and Welfare; Ministry of Internal Affairs and Communications; Bank of Japan.

Chart 9

Inflation Rates

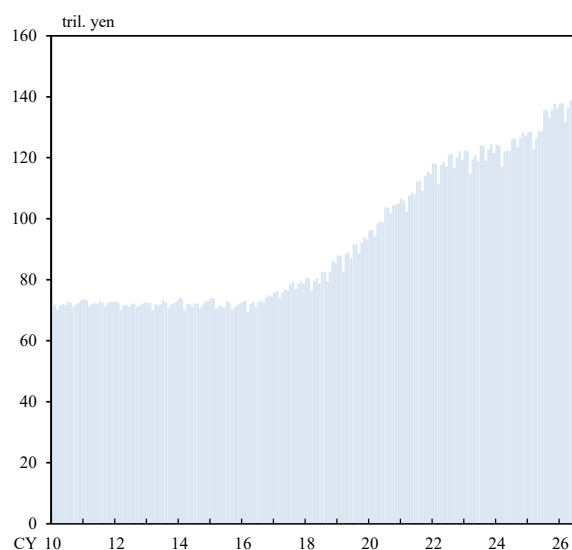


Note: Inflation rates are calculated based on consumer prices for all items. The policy interest rate for the United States is the upper limit of the federal funds target range. The rate for the euro area is the ECB deposit facility rate.

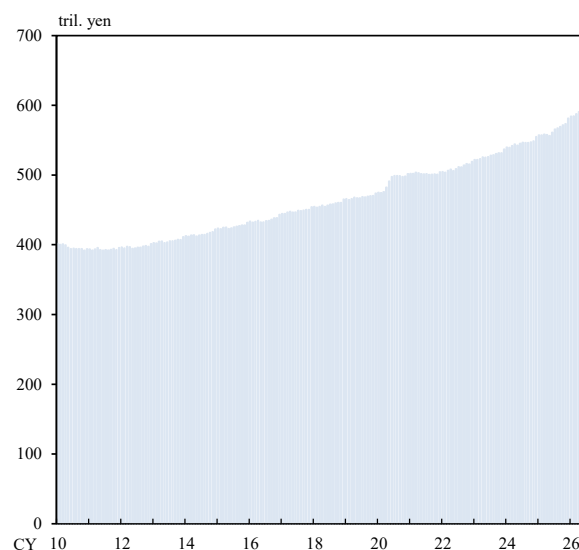
Sources: Haver; Ministry of Internal Affairs and Communications.

Amounts Outstanding of CP, Corporate Bonds, and Bank Lending

CP and Corporate Bonds



Lending by Domestic Commercial Banks

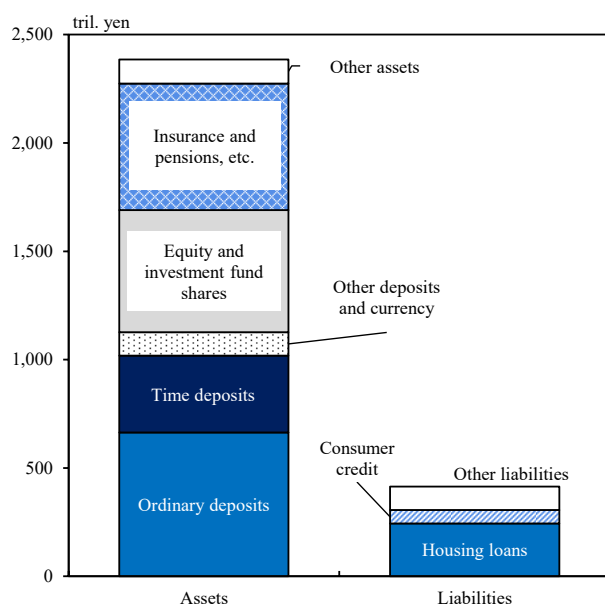


Note: Figures in the left panel are as of the end of the period. Figures in the right panel are monthly averages.

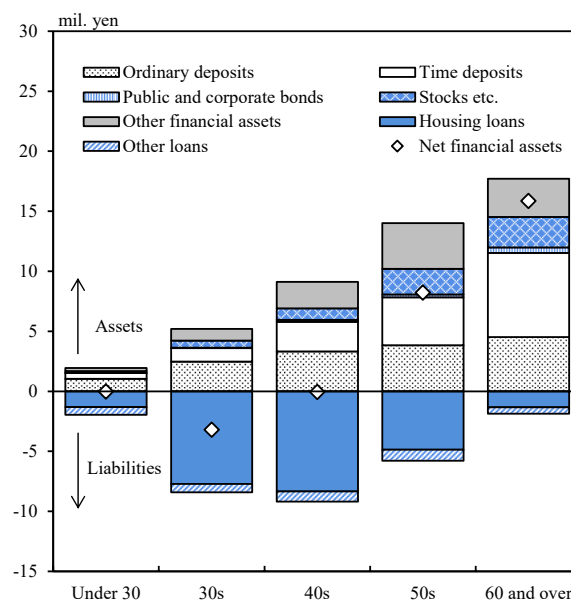
Sources: I-N Information Systems; Japan Securities Dealers Association; Japan Securities Depository Center; Bank of Japan.

Households' Balance Sheets

Total Amount



By Age of Household Head

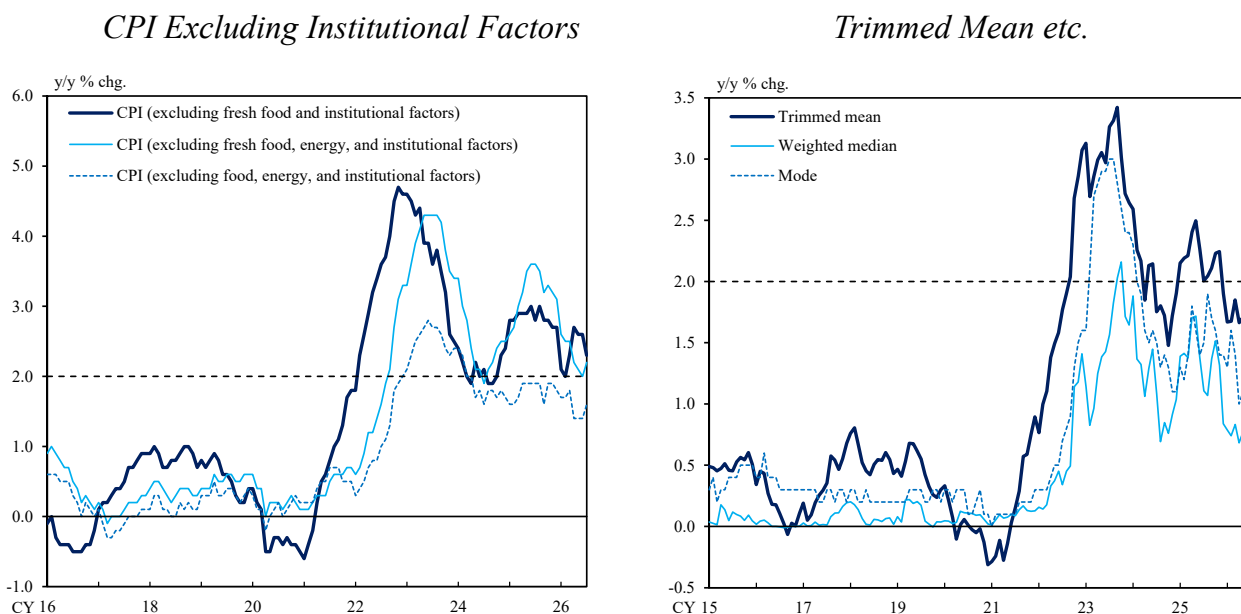


Notes: 1. In the left panel, figures are as of the end of March 2026. The figure for equity and investment fund shares is the amount outstanding of equity and investment trust beneficiary certificates (based on market values).

2. In the right panel, figures show the average balance sheet per household for each age group as of 2019.

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

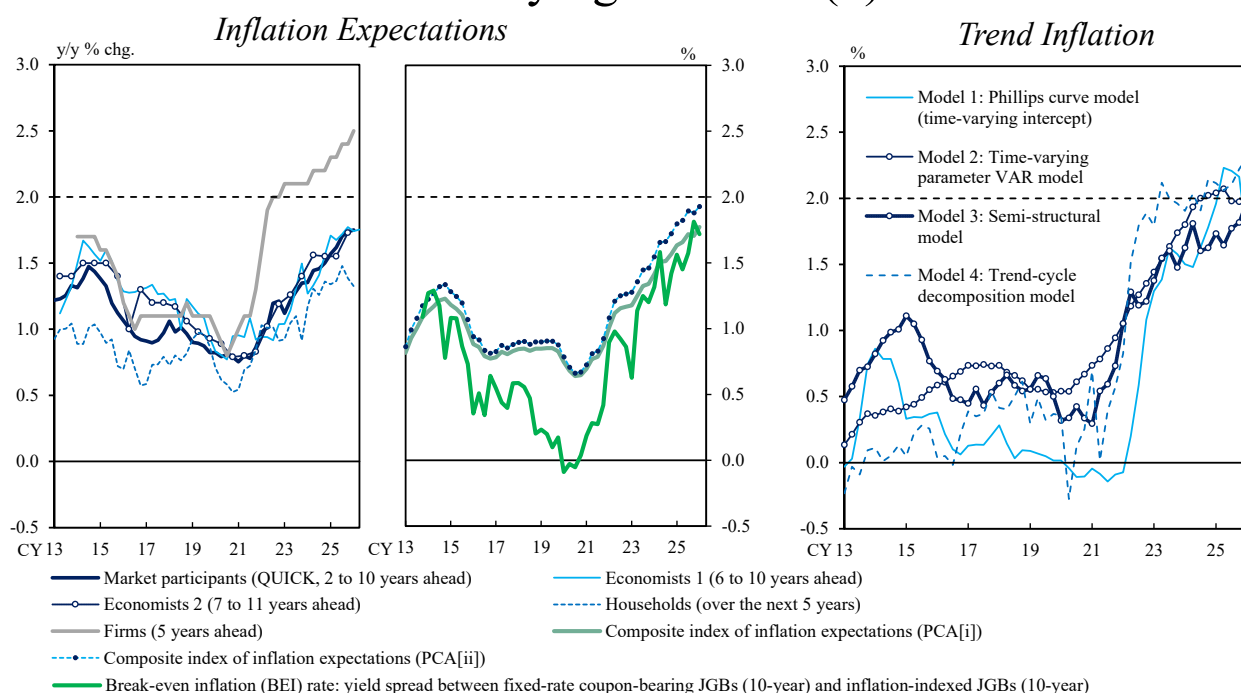
Underlying Inflation (1)



Note: Institutional factors include the effects of the consumption tax hike, policies concerning the provision of free education, measures to reduce the energy cost burden (such as gasoline prices, electricity charges, and gas charges), the reduction in mobile phone charges in 2021, and travel subsidy programs. Figures are Bank staff estimates.

Sources: Bank of Japan; etc.

Underlying Inflation (2)

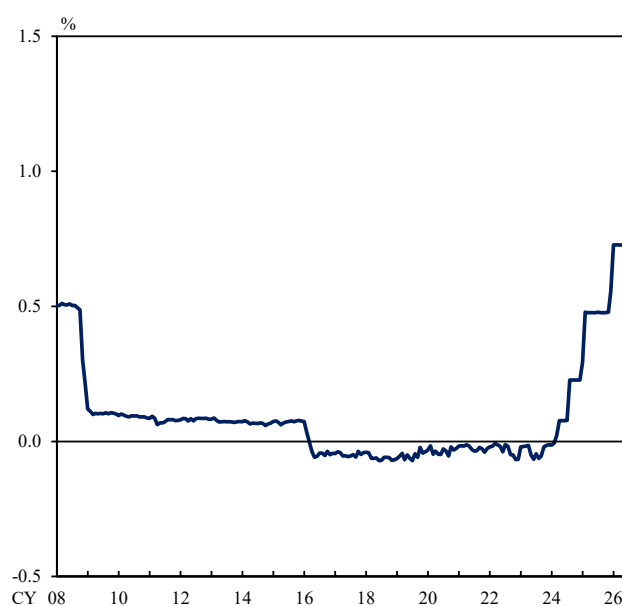


Notes: 1. In the left panel, "Economists 1" shows the forecasts of economists in the *Consensus Forecasts*. "Economists 2" shows the forecasts of forecasters surveyed for the *ESP Forecast*. Figures for households are from the *Opinion Survey on the General Public's Views and Behavior*, estimated using the modified Carlson-Parkin method for 5-choice questions. Figures for firms show the inflation outlook of enterprises for general prices (all industries and enterprises, average) in the *Tankan*.

2. In the middle panel, composite indexes of inflation expectations are for 10-year-ahead expectations. They are calculated using principal component analysis (PCA).

Sources: Bloomberg; Cabinet Office; Consensus Economics Inc., *Consensus Forecasts*; Google Trends; JCER, *ESP Forecast*; Ministry of Health, Labour and Welfare; Ministry of Internal Affairs and Communications; QUICK, *QUICK Monthly Market Survey <Bonds>*; Bank of Japan.

Policy Interest Rate



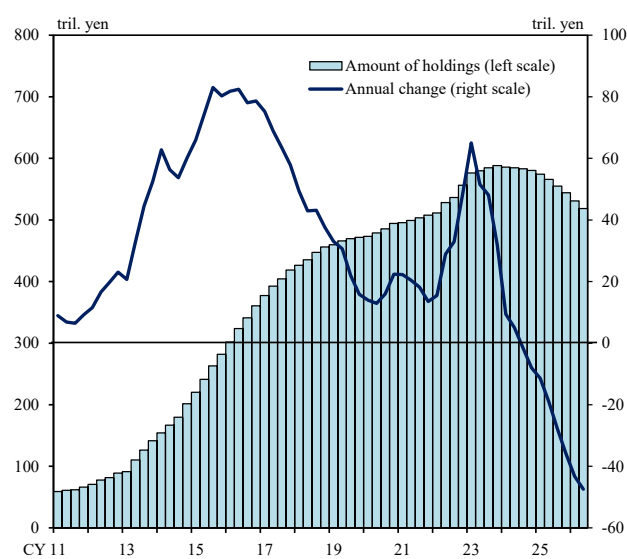
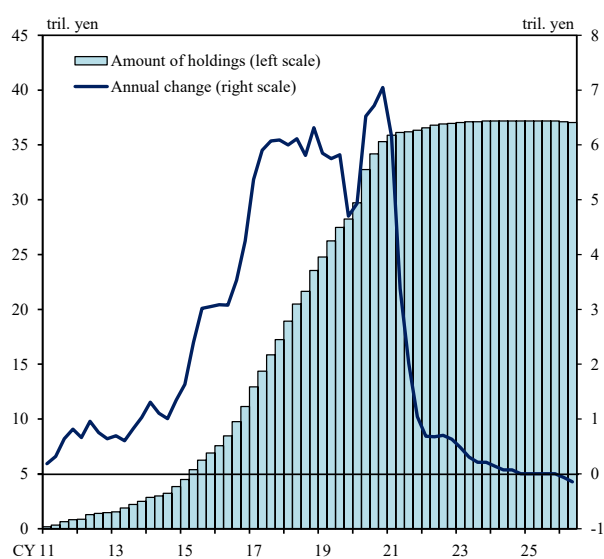
Note: Figures are the uncollateralized overnight call rate.

Source: Bank of Japan.

The Bank's Balance Sheet

ETFs

JGBs



Source: Bank of Japan.