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Reports & Research Papers

Financial System Report

October 2026



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

The total of major banks, regional banks, and *shinkin* banks covered in this *Report* is as follows (as of end-September 2026).

Major banks comprise the following 10 banks: Mizuho Bank, MUFG Bank, Sumitomo Mitsui Banking Corporation, Resona Bank, Saitama Resona Bank, Mitsubishi UFJ Trust and Banking Corporation, Mizuho Trust and Banking Company, Sumitomo Mitsui Trust Bank, SBI Shinsei Bank, and Aozora Bank. Regional banks comprise the 61 member banks of the Regional Banks Association of Japan (regional banks I) and the 34 member banks of the Second Association of Regional Banks (regional banks II). *Shinkin* banks are the 247 *shinkin* banks that hold current accounts at the Bank of Japan.

This *Report* basically uses data available as of end-September 2026.

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Objectives of the *Financial System Report*

The Bank of Japan's *Financial System Report* has two main objectives. The first is to assess the stability of Japan's financial system. The second is to communicate with all related parties on the future tasks and challenges in order to ensure the system's stability.

The *Report* assesses the vulnerabilities of the financial system from a macroprudential perspective. Within a macroprudential framework, institutional designs and policy measures are developed based on risk assessments in the financial system in order to ensure the stability of the overall financial system. In so doing, the interconnectedness of the real economy, financial markets, and financial institutions' behavior is taken into account.

The Bank uses the results of the analysis set out in the *Report* in planning policies to ensure the stability of the financial system and for providing guidance and advice to financial institutions through on-site examinations and off-site monitoring. It makes use of the results in international discussions on regulation, supervision, and vulnerability assessment. In relation to the conduct of monetary policy, the macro assessment of financial system stability is also regarded as important input for the Bank in assessing risks in economic and price developments from a medium- to long-term perspective.

Motivations behind the October 2026 issue

In global and domestic financial markets, the expansion in global AI-related demand had the effect of improving market sentiment, although uncertainties remained high over the situation in the Middle East. Against this background, stock prices increased, and credit spreads on corporate bonds remained at low levels. However, uncertainties remain high over factors such as the future situation in the Middle East, the profitability and financing of AI-related investment, and developments in the foreign non-bank financial intermediary (NBFI) sector. This *Report* assesses the stability of the financial system under such an external environment.

With regard to the foreign NBFI sector, private funds and other entities have been playing an increasingly prominent role as providers of financing amid the substantial increase in global AI-related investment. This *Report* examines these recent developments and, in its macro stress testing, refines the specification of the impact of a decline in expectations regarding the profitability of AI-related investment and assumes the situation where shocks are amplified mainly by portfolio adjustments in the foreign NBFI sector, thereby assessing the adequacy of banks' capital.

While no major financial imbalances have been seen in the domestic financial cycle, developments in asset prices, such as real estate prices and stock prices, continue to warrant careful attention and close monitoring. Furthermore, the *Report* examines the effects of the rise in raw material and energy prices reflecting the situation in the Middle East on small and medium-sized enterprises (SMEs), as well as the effects of interest rate increases on the corporate and household sectors. In addition, it assesses banks' profits and loss-absorbing capacity during the phase of policy rate hikes and examines issues surrounding loan and deposit management.

Moreover, given that advances in so-called "frontier AI" have further heightened cybersecurity threats, this *Report* reviews the efforts undertaken by financial institutions, financial authorities, and other relevant entities.

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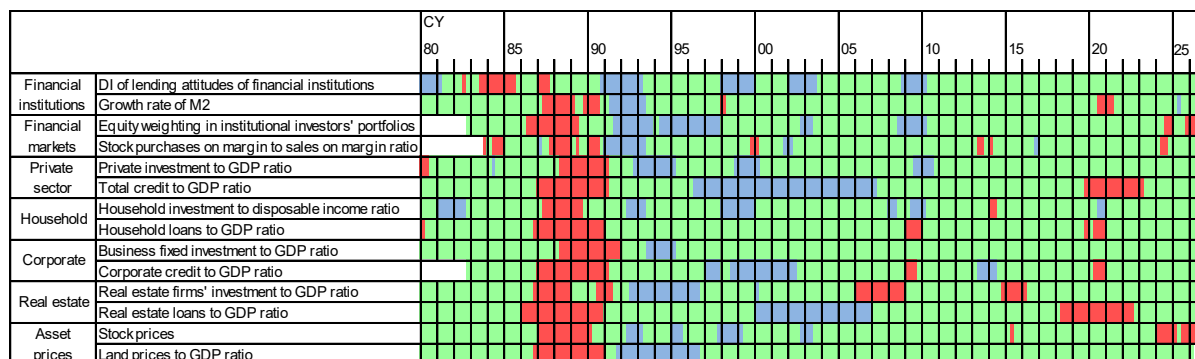
I. Executive summary: Stability assessment of Japan's financial system

Japan's financial system has been maintaining stability on the whole.

In the loan market, financial intermediation has continued to function smoothly as firms' demand for loans has continued to rise and banks' lending stance has remained active. Under these circumstances, no major financial imbalances have been seen in current financial activities.

Japanese banks have sufficient capital bases and stable funding bases to withstand various stress situations, specifically including (1) stress equivalent to the global financial crisis that would cause major corrections in financial markets and the real economy at home and abroad; and (2) a compound stress of the materialization of geopolitical risks such as a rise in crude oil prices, together with a decline in expectations regarding AI, and a substantial rise in interest rates, all happening simultaneously. However, it is necessary to continue to carefully monitor the impact that factors such as the future situation in the Middle East, the profitability and financing of AI-related investment, and developments in the foreign non-bank financial intermediary (NBFI) sector have on the financial system through various channels. From a long-term perspective, if a structural decline in firms' loan demand, mainly reflecting the population decline, persists, banks' profitability and loss-absorbing capacity could decline, depending on the supply and demand balance in the loan market. This could lead to a contraction of financial intermediation activities or an overheating, such as an excessive search for yield. From the perspective of maintaining stability in Japan's financial system, close attention is warranted on future developments in the system, while examining both overheating and contraction risks (Chart I-1).

Chart I-1: Heat map



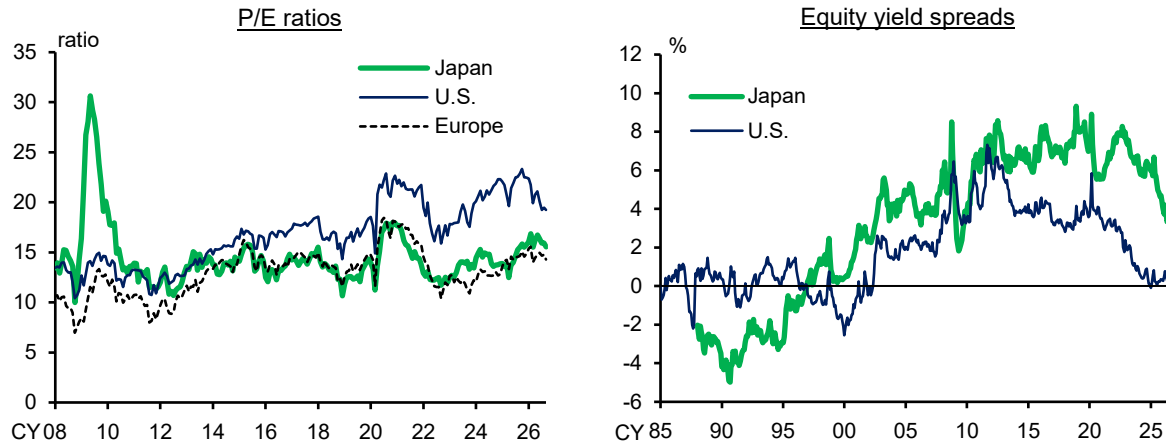
Note: See Chart V-1-1.

Developments in asset prices → Chapters II, IV-B, and V-A

The *stock prices* indicator has continued to deviate upward from its trend, as indicated by "red" in the heat map (Chart I-1). Nevertheless, in terms of stock valuations as of the end of September, price-earnings (P/E) ratios have remained broadly around their average levels since 2008, reflecting an increase in expected earnings per share (EPS), which is the denominator (left panel of Chart I-2). Risk premiums indicated by the equity yield spreads, i.e., the difference between expected equity yields and 10-year Japanese government bond (JGB) yields, have declined somewhat amid rising interest rates, but have remained at relatively high levels from a somewhat longer-term perspective (right panel of Chart I-2). Japanese stock prices have been rising, supported by expectations of profit improvements in sectors such as electric appliances, precision instruments, nonferrous metals, and machinery, which stand to benefit relatively more from the ongoing global expansion in AI-related demand. Thus, Japanese stocks could face adjustment pressure if profits do not expand in line with large-scale AI-related investments by hyperscalers and

other firms across related industries. Given that Japanese banks have a certain amount of market risk associated with their stockholdings, close attention should continue to be paid to developments in risky asset prices, including stock prices.

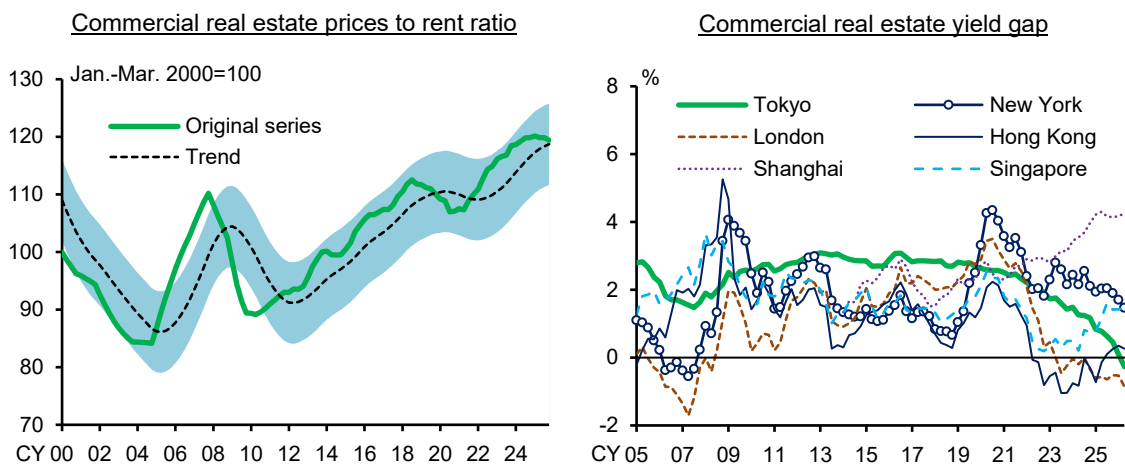
Chart I-2: Valuation indicators in the stock markets



Note: Yield spreads in the right-hand chart are calculated as follows: expected equity returns - 10-year government bond yields. See Charts II-2-10 and V-1-5.

Overall, real estate prices have been rising, reflecting the economic recovery and price rises. Real estate prices to rents have largely remained in line with the trend (left panel of Chart I-3). That said, in the three major metropolitan areas, particularly in the Tokyo metropolitan area, the pace of price increase has been accelerating. A surge in construction costs and supply constraints due to labor shortages have likely contributed to the rise in real estate prices. In addition, robust property demand supported by a moderately recovering economy, coupled with demand for investments, including condominium transactions and commercial real estate purchases by foreign investors, has also likely contributed to this trend. The yield gap, which indicates real estate risk premiums, for commercial real estate in Tokyo has been declining due to the increases in property prices and interest rates. It remains necessary to closely monitor developments in the real estate market (right panel of Chart I-3).

Chart I-3: Valuation indicators in the real estate markets

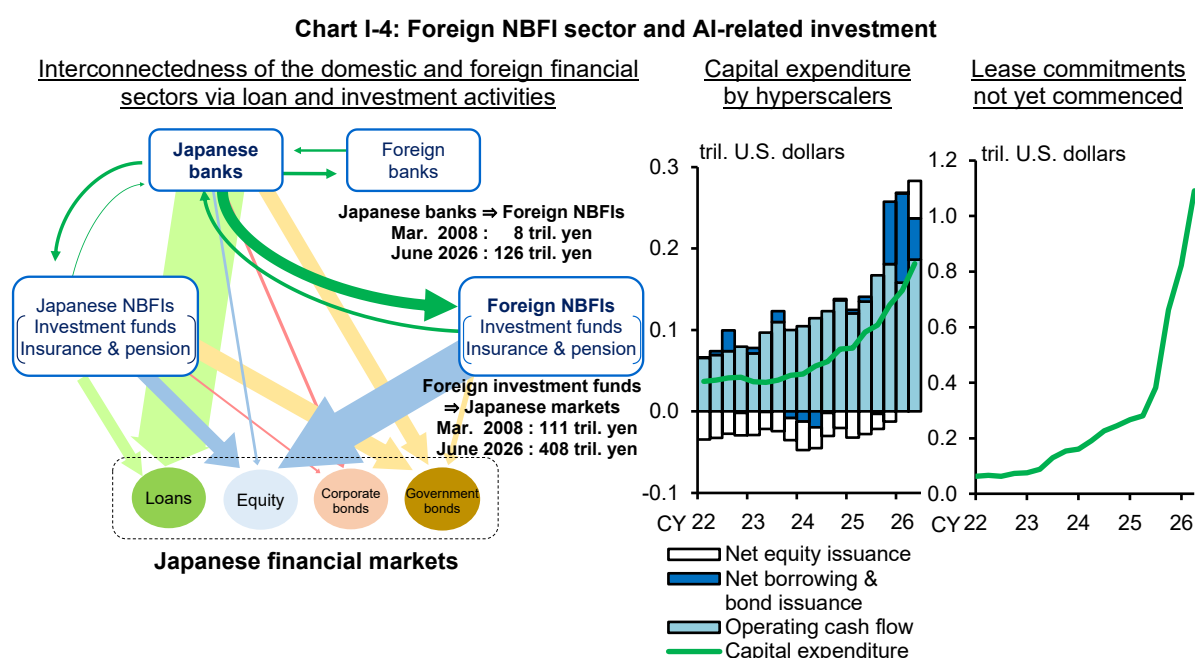


Note: In the left-hand chart, "Trend" is calculated using 3-year backward moving averages. The shaded areas indicate the root mean square of the deviation from the trend. In the right-hand chart, yield gaps are calculated as cap rates of Grade-A office buildings in each city - 10-year government bond yields for the corresponding country or region. See Charts V-1-6 and V-1-9.

Foreign NBFI sector and AI-related investment → Chapters III, IV-A, V-B, and VI-B

The presence of the foreign NBFI sector has expanded globally, raising concerns about risks such as the amplification of shocks in the event of stress. Although the share of financial assets held by the domestic NBFI sector in Japan is relatively low compared with other countries, there has been a steady increase in lending to and investment in the foreign NBFI sector by domestic banks, as well as in investments in Japanese stocks and bonds by the foreign NBFI sector, particularly those related to foreign funds (left panel of Chart I-4). Against this background, Japan's financial system may have become more susceptible to fluctuations in global financial markets and developments in foreign investment funds.

Driven by strong expectations for growth in AI-related markets, hyperscalers, particularly in the United States, have significantly increased their business fixed investment recently. While hyperscalers have traditionally financed data center investment with their internal funds, they have recently increased external financing mainly through corporate bond issuance and have increasingly sought to secure rights to use third-party data centers via long-term lease commitments (middle and right panels of Chart I-4). Against this background, foreign NBFIs, including private funds, have been playing an increasingly prominent role as providers of financing for the part of such investment that hyperscalers cannot cover with their internal funds. In addition, the share of AI-related stocks in the portfolio of hedge funds conducting global equity investment has been increasing. If expectations regarding the profitability of AI-related investment were to decline, shocks could be amplified, mainly through portfolio adjustments in the foreign NBFI sector, and the effects could spill over to Japan. With regard to major banks' overseas lending, although lending to foreign funds and data centers accounts for a limited share of total overseas lending, these areas have become focus segments for major banks, reflecting factors such as high interest rate spreads. Banks engaged in such lending need to carefully manage the quality of their portfolios.



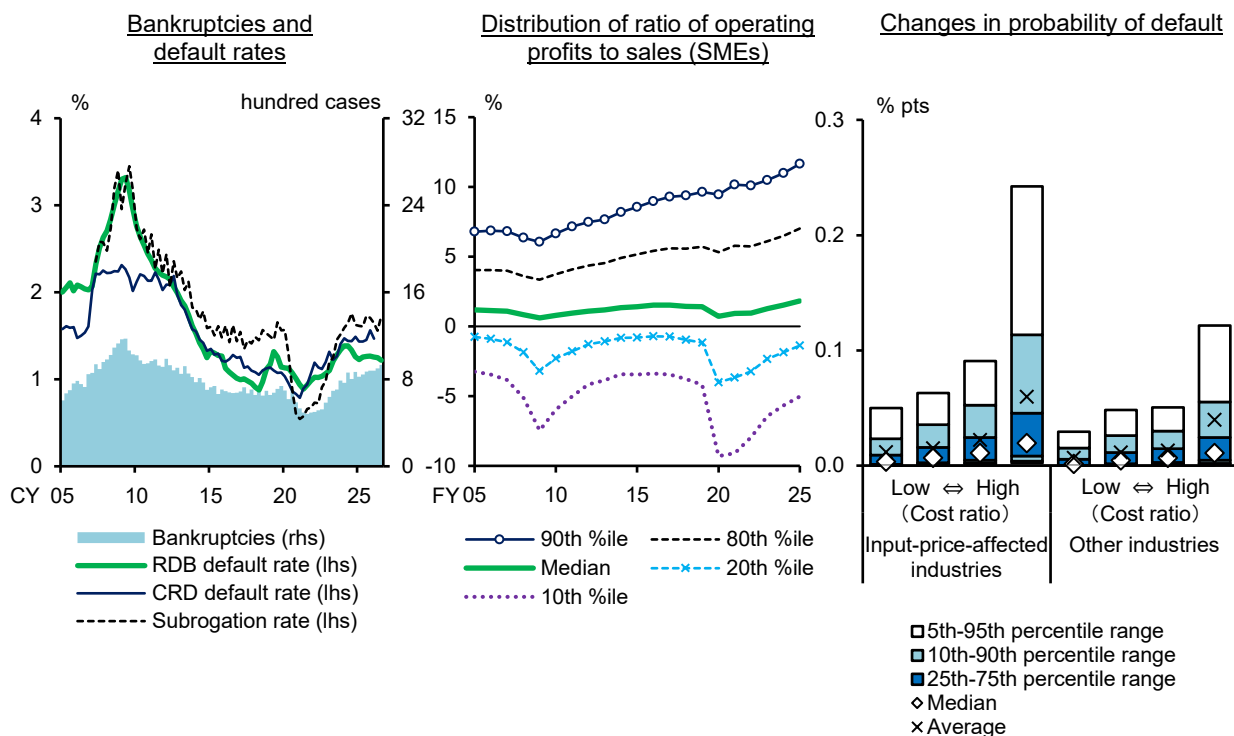
Note: Direction and width of arrows in the left-hand chart indicate the outstanding amount of loans and investments between the sectors and to the respective markets (as of end-June 2026). Some data are omitted due to data limitations. See Charts V-2-2 and V-2-8.

The macro stress testing in this *Report* refines the specification of the impact of a decline in expectations regarding the profitability of AI-related investment and assumes the situation where shocks are amplified mainly by portfolio adjustments in the NBFIs sector. Based on the results, it can be judged that the stability of Japan's financial system is maintained. However, it is necessary to carefully monitor the sustainability of global AI-related demand, including future developments and their effects.

Firms' and households' credit costs → Chapters IV-A, V-A, and Box 1

Although above pre-pandemic levels, corporate bankruptcies and default rates have been more or less unchanged (left panel of Chart I-5). Examining the distribution of the ratio of operating profits to sales for small and medium-sized enterprises (SMEs), there are substantial disparities across firms. The ratio of operating profits to sales has improved steadily among SMEs in the upper range of the distribution, while the ratio for those in the lower range has remained broadly unchanged in negative territory (middle panel of Chart I-5). Large-scale disruptions in supply chains have been avoided in the wake of the situation in the Middle East, partly due to progress in securing alternative sources of supply. Nevertheless, developments such as the rise in raw material and energy prices appear to be exerting downward pressure on profits, particularly at SMEs. An examination of the effects of a hypothetical 100 percent rise in crude oil prices on the probabilities of default of SMEs shows that the share of SMEs experiencing an increase in their probabilities of default is overall limited. However, it should be noted that, among SMEs with cost structures that tend to be susceptible to the effects of the rise in crude oil prices, some exhibit relatively large increases in their probabilities of default (right panel of Chart I-5).

Chart I-5: Indicators related to corporate-sector credit costs

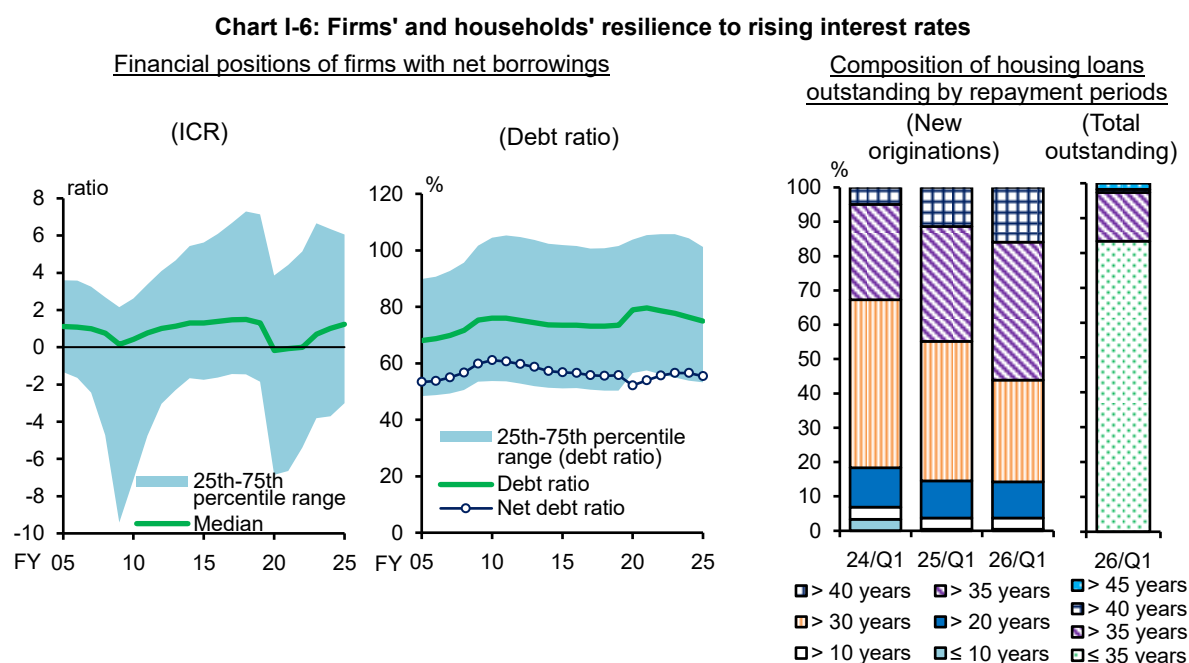


Note: See Charts IV-1-3, IV-1-4, and IV-1-6.

Next, with regard to the impact of rising interest rates on the corporate and household sectors, in the corporate sector, the share of de facto debt-free firms is on an increasing trend, and even among firms whose borrowings exceed their cash and deposit holdings, interest coverage ratios

(ICRs) and debt ratios have been on a moderate improving trend. This indicates that, overall, firms' resilience to interest rate rises has improved (left panel of Chart I-6). However, it should be noted that there is substantial dispersion in the financial indicators of firms whose borrowings exceed their cash and deposit holdings. In addition, the impact of rising interest rates may vary by borrower firm, depending on factors such as the type of lending rate.

In the household sector, although the applied interest rates on floating-rate housing loans, which account for the majority of housing loans, have been rising, improvements in the employment and income situation, such as recent wage growth, are likely to mitigate the repayment burden. However, while housing loans have tended to be larger in size, mainly reflecting the rise in property prices, the increase in the use of super-long-term housing loans with maturities of more than 35 years to keep monthly repayments within a certain range warrants attention (right panel of Chart I-6). Banks are expected to provide sufficient explanations to borrowers and carefully manage risks, particularly for super-long-term housing loans, taking into account that borrowers' debt servicing capacity may deteriorate over the long loan term.



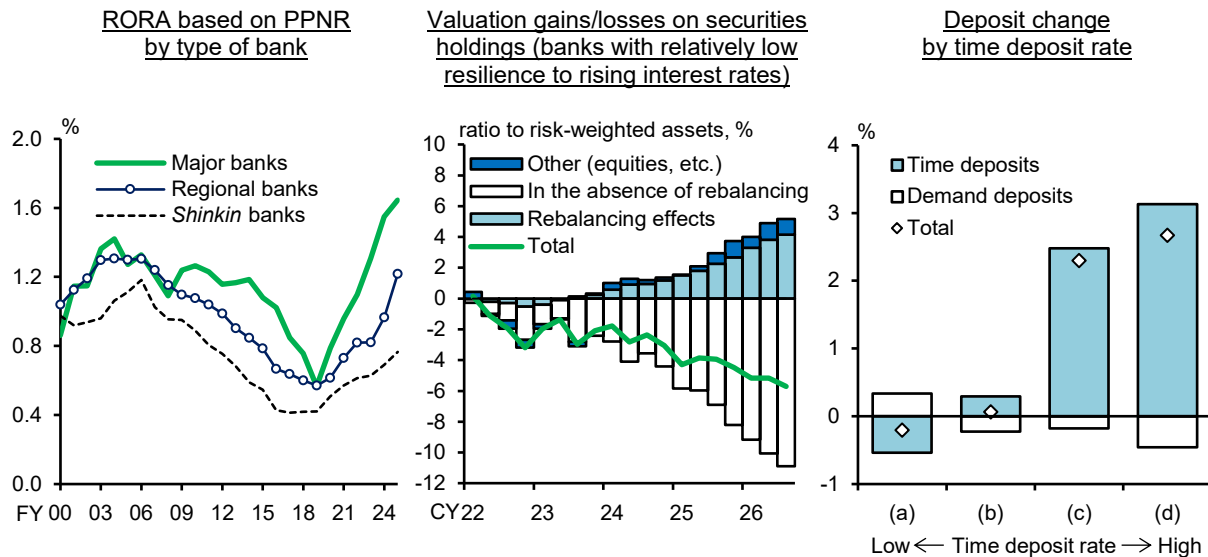
Note: See Charts IV-1-8 and B1-4.

Banks' profits and loss-absorbing capacity amid rising interest rates → Chapters IV-C and VI-A

Banks' pre-provision net revenue (PPNR), which shows banks' core profitability, has continued to improve, as losses, including credit costs, have been limited amid the ongoing moderate recovery of the Japanese economy and rising interest rates (left panel of Chart I-7). On the other hand, as interest rates have risen, valuation losses on yen-denominated bonds have been increasing, particularly among regional banks and *shinkin* banks with a large share of yen-denominated bondholdings. Nevertheless, even among banks with relatively low resilience to interest rate increases, many have made further progress in reducing interest rate risk by cutting their yen-denominated bondholdings and shortening the duration of those holdings. Such progress has contributed to curtailing the increase in valuation losses on their bondholdings (middle panel of Chart I-7). Meanwhile, regional banks and *shinkin* banks with higher loan-to-deposit ratios tend to set relatively high time deposit rates, which has contributed to increases in their deposits. It should be noted, however, that deposits attracted at high interest rates may be relatively sensitive to

changes in interest rate and economic conditions, and such deposits may be less sticky (right panel of Chart I-7). Banks need to continue managing their portfolios appropriately by taking into account various scenarios regarding market fluctuations and future changes in the composition of their balance sheets.

Chart I-7: Banks' core profitability and liquidity



Cybersecurity measures and enhancing resilience → Chapter V-C and Box 2

Advances in so-called "frontier AI" have further heightened cybersecurity threats, as they could increase the speed and scale of cyberattacks. Cyber incidents not only pose a risk to individual financial institutions and their customers but are also a material risk from a macroprudential perspective, given that their impact can potentially spread to other financial institutions. It is necessary to further enhance the resilience of individual financial institutions and the financial system as a whole.

The Bank will promote financial institutions' initiatives to address these potential vulnerabilities through on-site examinations and off-site monitoring. From a macroprudential perspective, it will continue to closely monitor the impact on the financial system of various risk-taking activities by financial institutions.

II. Risks observed in financial and capital markets

- With regard to developments in global financial markets during the first half of fiscal 2026, the expansion in global AI-related demand had the effect of improving market sentiment, although uncertainties remained high over the situation in the Middle East. Against this background, stock prices increased, and credit spreads on corporate bonds remained at low levels. Nonetheless, stock prices saw adjustments at times, reflecting market attention to the high valuation of AI-related stocks.¹
- In Japanese financial markets, stock prices increased significantly, mainly reflecting solid corporate results and expectations of increased semiconductor-related demand. However, they trimmed their gains at times, mainly because market attention to the high valuation increased globally. Long-term interest rates rose substantially amid the effects of the global rise in long-term interest rates, reflecting factors such as market views on fiscal and monetary policies. In FX markets, the yen depreciated significantly against the dollar, but subsequently appreciated.
- Uncertainty in financial markets remains high. Specifically, attention is focused on uncertainties regarding the future course of the situation in the Middle East and its effects on economic activity and prices at home and abroad. Market participants have also been paying attention to developments in global AI-related demand and the course of fiscal and monetary policies in each jurisdiction. In this situation, it remains necessary to continue paying close attention to the possibility that global financial conditions could tighten through such factors as a sharp repricing of risky assets and a deterioration in the dollar funding environment.

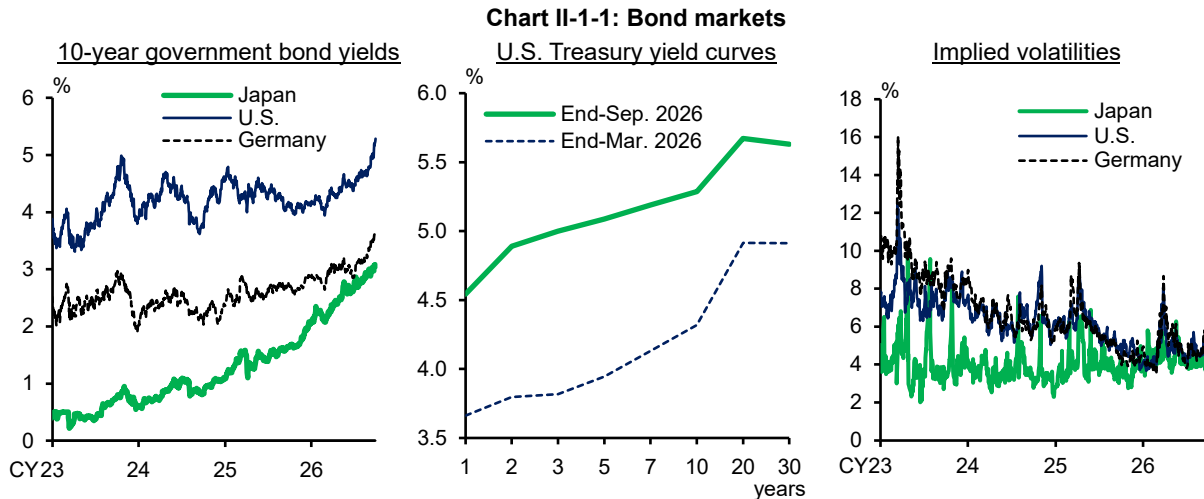
A. Global financial markets during the first half of fiscal 2026

With regard to developments in global financial markets during the first half of fiscal 2026, the expansion in global AI-related demand had the effect of improving market sentiment, although uncertainties remained high over the situation in the Middle East. Against this background, stock prices increased, and credit spreads on corporate bonds remained at low levels. Nonetheless, stock prices saw adjustments at times, reflecting market attention to the high valuation of AI-related stocks.

U.S. and European bond markets

U.S. long-term interest rates rose substantially, driven by factors such as increased market expectations of policy interest rate hikes by the Federal Reserve, amid higher inflationary pressure stemming from the situation in the Middle East (Chart II-1-1). The yield curve for U.S. Treasuries also rose across a wide range of maturities. European long-term interest rates increased in tandem with U.S. interest rates, as attention was drawn to heightened inflationary pressure stemming from the situation in the Middle East. Implied volatilities of government bond futures for the United States and Germany declined as a trend, but thereafter rose again through the end of September.

¹ In Japan, the fiscal year starts in April and ends in March of the following year.

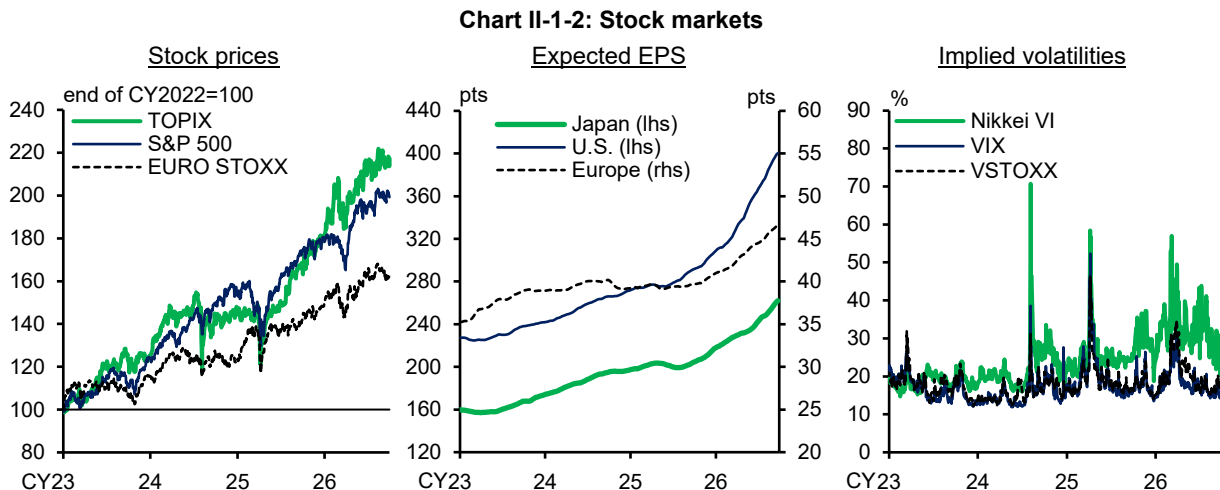


Note: In the right-hand chart, implied volatilities are calculated from options on government bond futures. Latest data for the left- and right-hand charts are as of end-September 2026.

Source: Bloomberg.

U.S. and European stock markets

U.S. stock prices increased in response to favorable corporate results across a wide range of sectors (Chart II-1-2). Nonetheless, amid market attention to the high valuation of AI-related stocks, they underwent adjustments at times due to concerns about whether profits would be commensurate with the substantial business fixed investment financed through external funding. European stock prices also increased, mainly on the back of solid corporate results. Implied volatilities for U.S. and European stock prices declined and subsequently stayed below a critical mark of 20, as corporate profits remained favorable, although attention continued to be drawn to the uncertainties over the situation in the Middle East.



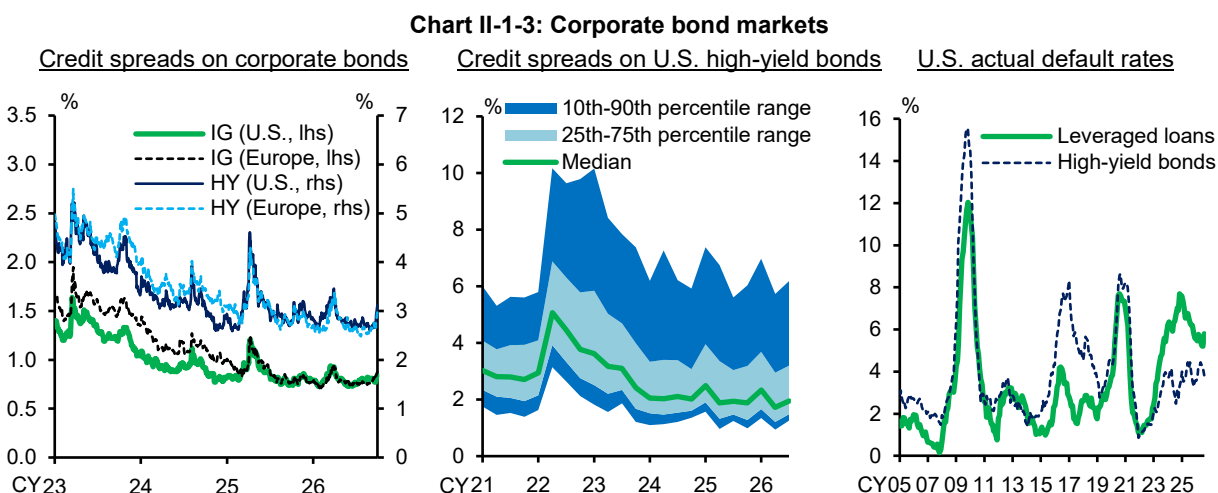
Note: 1. In the middle chart, the data for Japan, U.S., and Europe indicate expected earnings per share (EPS) for the next 12 months of the TOPIX, the S&P 500, and the EURO STOXX, respectively. 4-week backward moving averages.

2. Latest data as of end-September 2026.

Source: Bloomberg; LSEG.

U.S. and European credit markets

In U.S. and European credit markets, credit spreads on corporate bonds narrowed slightly due to the improvement in market sentiment, despite a substantial increase in issuance, mainly by AI-related firms (left panel of Chart II-1-3). Looking at the distribution of credit spreads on U.S. high-yield bonds, the overall level of spreads remained low (middle panel of Chart II-1-3). Meanwhile, the default rates on high-yield bonds remained more or less unchanged. The default rates on leveraged loans were on a declining trend but remained at relatively high levels due to factors such as the cumulative effects of the high interest rate environment (right panel of Chart II-1-3).

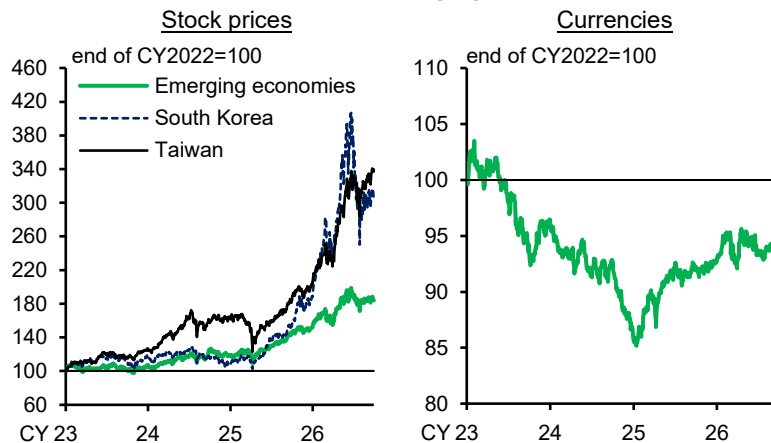


Note: 1. In the left-hand chart, "IG" and "HY" indicate investment-grade bonds and high-yield bonds, respectively. Latest data as of end-September 2026.
2. The middle chart is based on data by issue. Latest data as of end-September 2026.
3. The right-hand chart indicates trailing 12-month default rates. The default rates on leveraged loans include distressed debt exchanges. Latest data as of August 2026.
Source: ICE Data Indices, LLC; Moody's.

Emerging markets and international commodity markets

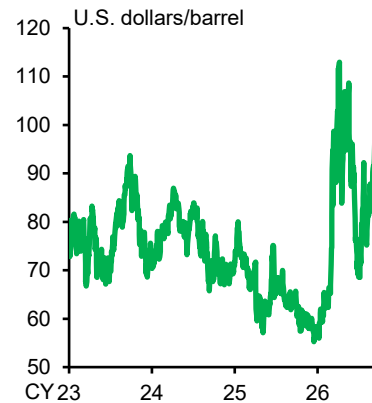
In emerging markets, stock prices rose substantially, driven by expectations of expanding AI-related demand, but subsequently trimmed their gains amid global adjustments in AI-related stock prices, reflecting market attention to the high valuation (left panel of Chart II-1-4). By region, stock prices in South Korea and Taiwan, where AI-related stocks account for a large share of the stock market, fluctuated considerably, recording sharp rises and falls over short periods. Meanwhile, emerging market currencies were more or less flat over the first half of fiscal 2026 (right panel of Chart II-1-4).

In international commodity markets, amid continued high uncertainties over the situation in the Middle East, crude oil prices saw large fluctuations and remained at relatively higher levels than those seen around the beginning of 2026 (Chart II-1-5).

Chart II-1-4: Emerging markets

Note: In the left-hand chart, "Emerging economies," "South Korea," and "Taiwan" indicate the MSCI EM Local Index, the KOSPI, and the TAIEX, respectively. The right-hand chart shows the J.P. Morgan EMCI Index. Latest data as of end-September 2026.

Source: Bloomberg.

Chart II-1-5: Crude oil prices

Note: WTI crude oil futures. Latest data as of end-September 2026.

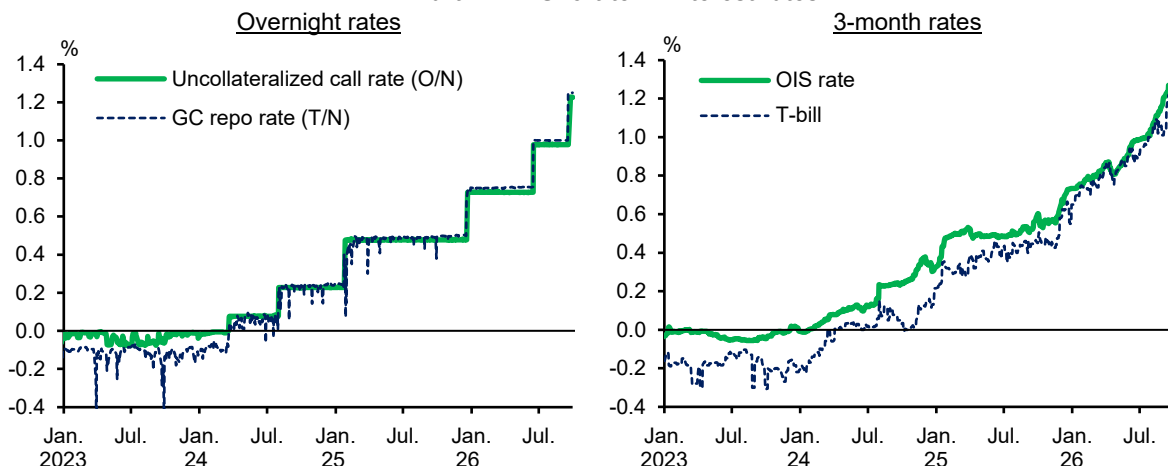
Source: Bloomberg.

B. Japanese financial markets during the first half of fiscal 2026

In Japanese financial markets, stock prices increased significantly, mainly reflecting solid corporate results and expectations of increased semiconductor-related demand. However, they trimmed their gains at times, mainly because market attention to the high valuation increased globally. Long-term interest rates rose substantially amid the effects of the global rise in long-term interest rates, reflecting factors such as market views on fiscal and monetary policies. In FX markets, the yen depreciated significantly against the dollar, but subsequently appreciated.

Short-term money markets

Regarding overnight interest rates, the uncollateralized call rate (O/N) had been at around 0.75 percent. It was then at around 1.0 percent following the change in the guideline for money market operations in June 2026 and at around 1.25 percent following the change in the guideline in September (left panel of Chart II-2-1). The GC repo rate (T/N) moved in tandem with the uncollateralized call rate.

Chart II-2-1: Short-term interest rates

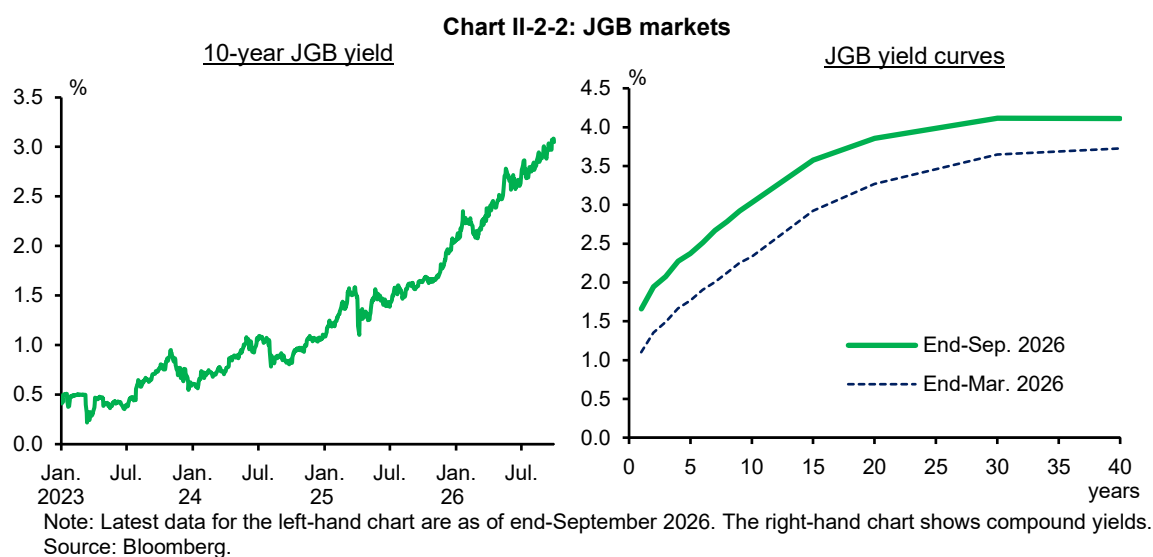
Note: Latest data as of end-September 2026.

Source: Bloomberg; Japan Bond Trading; JSDA; BOJ.

With regard to term interest rates, the 3-month overnight index swap (OIS) rate increased, reflecting growing market expectations of policy interest rate hikes by the Bank of Japan (right panel of Chart II-2-1). Yields on 3-month T-bills generally moved in line with the OIS rate, although they temporarily declined due to a tightening of supply and demand conditions.

Japanese government bond (JGB) markets

Long-term interest rates in Japan rose substantially amid the effects of the global rise in long-term interest rates, reflecting factors such as market views on fiscal and monetary policies. The yield curve for JGBs shifted upward across a wide range of maturities (Chart II-2-2). The implied volatility of JGB futures was at a somewhat high level amid continued attention to uncertainties regarding the outlook (Chart II-1-1).

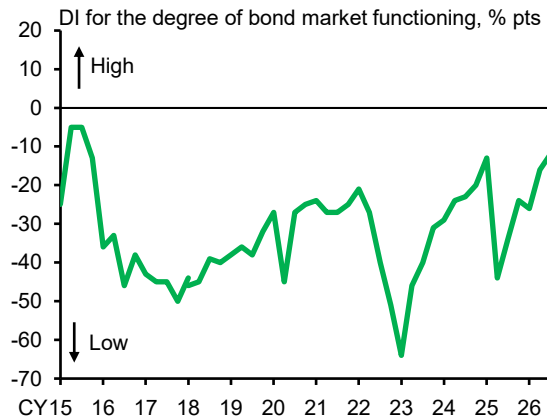


Liquidity and functioning of JGB markets

The liquidity and functioning of JGB markets continued to improve.² Specifically, the diffusion index for the degree of bond market functioning in the Bank's *Bond Market Survey*, despite remaining negative, showed improvement (Chart II-2-3). Looking at liquidity indicators in the JGB cash market, the transaction volume followed an increasing trend, with the Bank making headway in reducing its JGB purchase amount (left panel of Chart II-2-4). Market depth in the JGB futures market was more or less unchanged (Chart II-2-5).

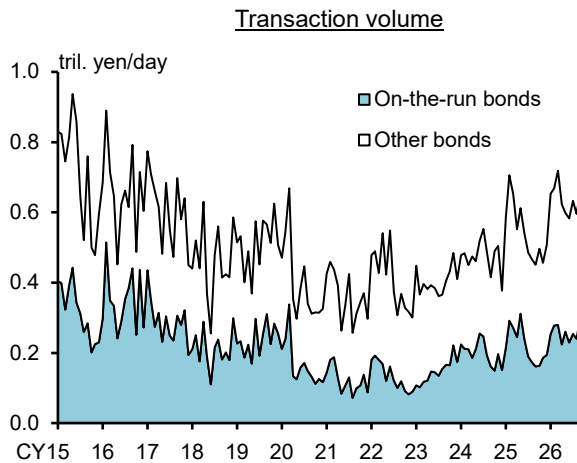
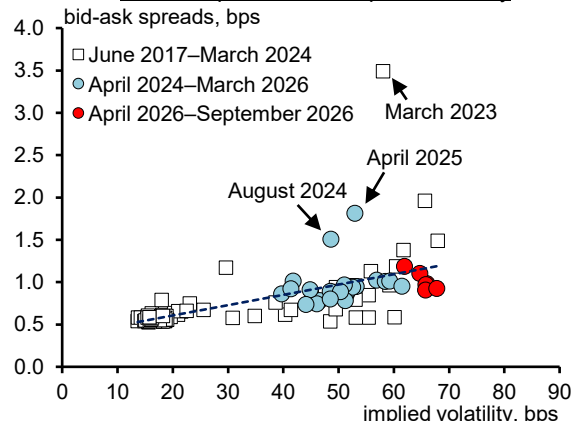
Meanwhile, bid-ask spreads for on-the-run bonds widened at times in line with heightened volatility; however, this movement currently remains within the range suggested by the relationship between bid-ask spreads and implied volatility observed in the past (right panel of Chart II-2-4).

² See "Liquidity Indicators in the JGB Markets" on the Bank's website. The Financial Markets Department of the Bank generally updates and releases liquidity indicators for the JGB markets on a quarterly basis.

Chart II-2-3: Bond market survey

Note: 1. Based on the proportion of responding institutions selecting a given choice, the DI is calculated as follows: DI for the degree of current bond market functioning = "high" - "low."
2. The data from February 2018 onward cover major institutional investors. Latest data are based on the August 2026 survey.

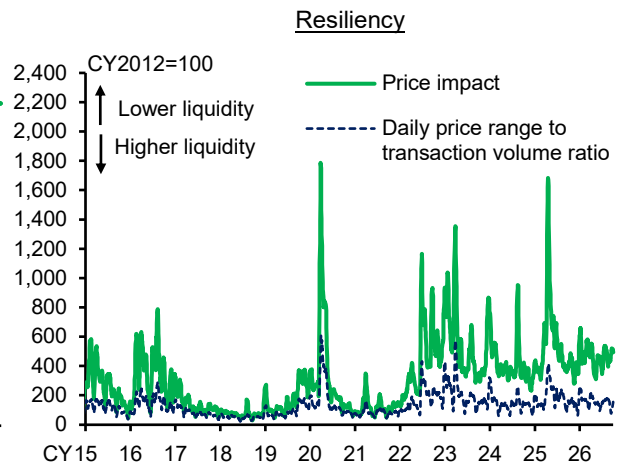
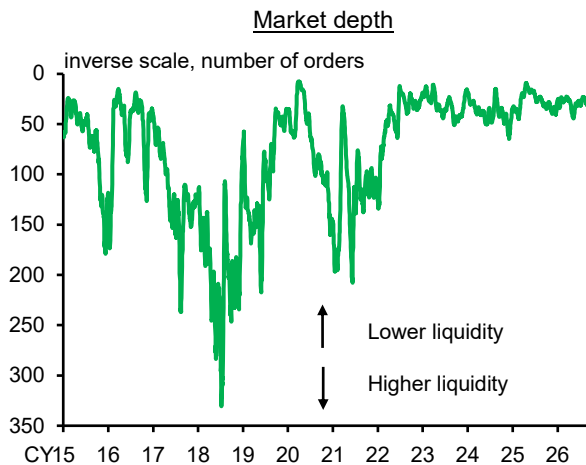
Source: BOJ.

Chart II-2-4: Liquidity indicators in JGB cash market**Relationship between bid-ask spreads and implied volatility**

Note: 1. The left-hand chart indicates inter-dealer transaction volume for cash JGBs (2-, 5-, 10-, 20-, 30-, and 40-year JGBs) via Japan Bond Trading. Latest data as of September 2026.

2. In the right-hand chart, the bid-ask spreads indicate those of inter-dealer transactions for on-the-run 10-year JGBs, and the implied volatility is based on 6-month into 10-year swaptions. The dashed line represents the fitted regression line for the sample period from June 2017 to September 2026. Monthly averages.

Source: Bloomberg; Japan Bond Trading; LSEG; QUICK.

Chart II-2-5: Liquidity indicators in JGB futures market

Note: 1. The left-hand chart indicates the number of orders for JGB futures at the best-ask price with a 1-minute frequency (median for each business day). 10-day backward moving averages. Latest data as of end-September 2026.

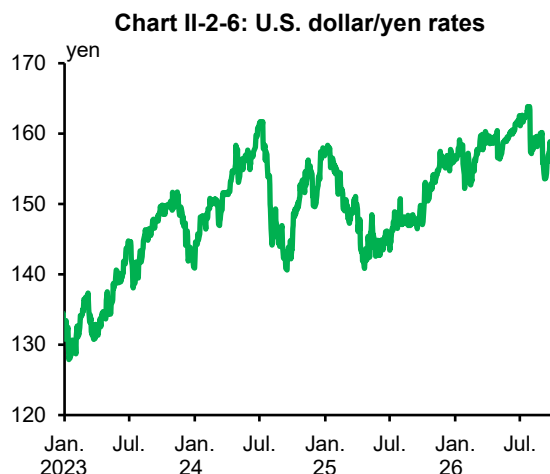
2. In the right-hand chart, "Price impact" indicates the price change per unit volume of transactions for JGB futures, calculated at a 5-minute frequency (average for each business day). "Daily price range to transaction volume ratio" is a daily price range (difference between the highest and the lowest prices) divided by transaction volume. 10-day backward moving averages. Latest data as of end-September 2026.

Source: Nikkei Inc., "NIKKEI NEEDS"; Osaka Exchange; QUICK.

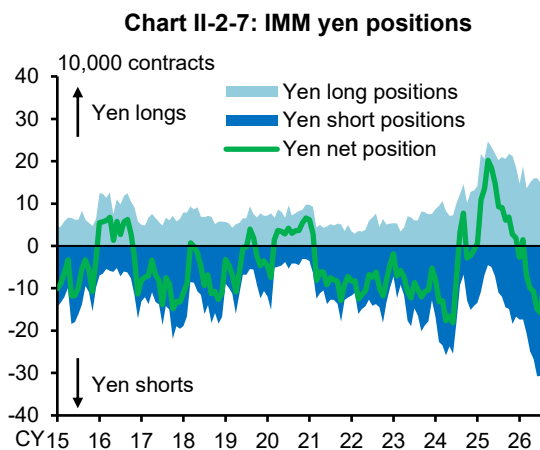
II. Risks observed in financial and capital markets
B. Japanese financial markets during the first half of fiscal 2026

FX, stock, and credit markets

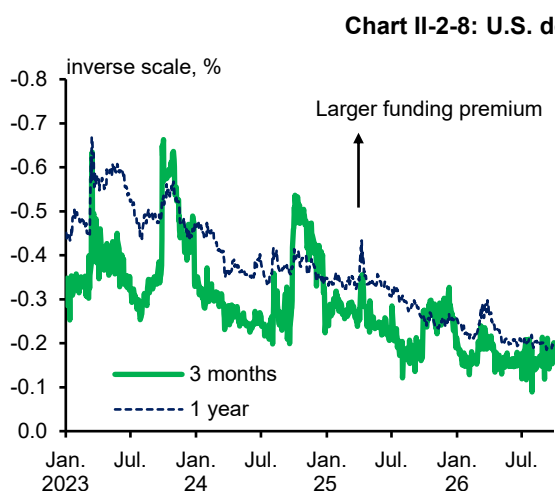
In FX markets, the yen depreciated significantly against the dollar, but subsequently appreciated, reflecting factors such as speculation over fiscal and monetary policies in each jurisdiction (Chart II-2-6). Under these circumstances, yen futures positions on the International Money Market (IMM) slightly shifted to net long after the net short position expanded through July (Chart II-2-7). Meanwhile, dollar funding premiums in the FX swap market were generally at low levels (Chart II-2-8).



Note: Latest data as of end-September 2026.
Source: Bloomberg.

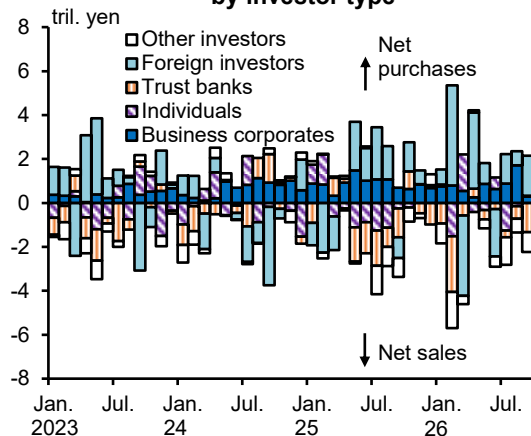


Note: The total of non-commercial and non-reportable yen positions against the U.S. dollar in currency futures transactions. Latest data as of September 2026.
Source: Bloomberg.



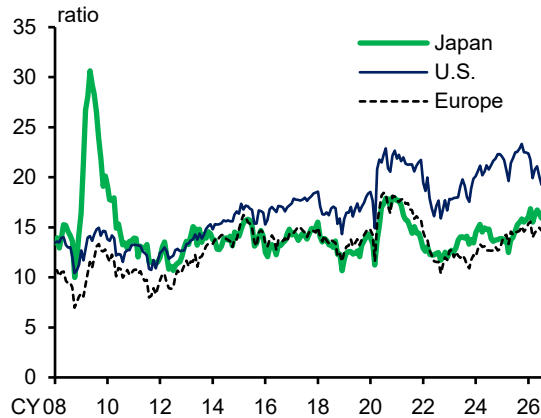
Note: "3 months" refers to premiums on FX swaps (inverse scale). "1 year" refers to alpha of basis swaps. Latest data as of end-September 2026.
Source: Bloomberg.

Japanese stock prices increased significantly, mainly reflecting solid corporate results and expectations of increased semiconductor-related demand; the Nikkei 225 Stock Average and the Tokyo Stock Price Index (TOPIX) accordingly hit record highs (Chart II-1-2). However, as price movements in AI-related stocks became increasingly correlated globally, stock prices trimmed their gains at times, mainly due to concerns over the high valuation. As for domestic investors, business corporates that continued to conduct stock buybacks were net purchasers, while trust banks tended to be net sellers, reflecting pension funds' selling to rebalance their portfolios in response to higher stock prices. Foreign investors were net purchasers as they followed the trend in view of the rise in Japanese stock prices (Chart II-2-9). Price-earnings (P/E) ratios were generally around their historical average over the first half of fiscal 2026 (Chart II-2-10).

Chart II-2-9: Japanese stock investments by investor type

Note: The sum of net investments in cash and futures stock markets. Excludes securities companies.
Latest data as of September 25.

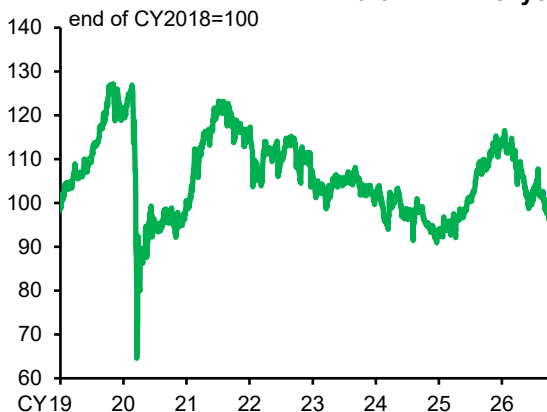
Source: Osaka Exchange; Tokyo Stock Exchange.

Chart II-2-10: P/E ratios

Note: The data for Japan, U.S., and Europe are calculated using expected EPS for the next 12 months of the TOPIX, the S&P 500, and the EURO STOXX, respectively. Latest data as of end-September 2026.

Source: LSEG.

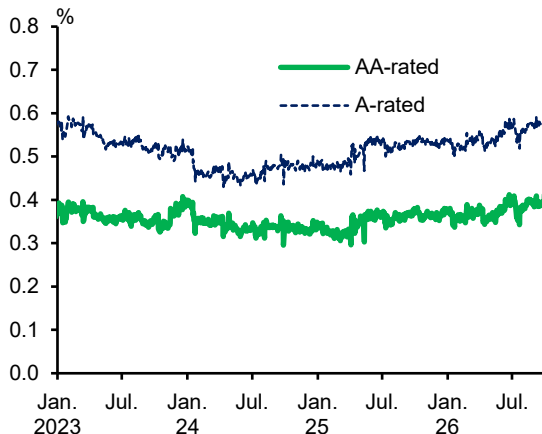
Prices of Japan real estate investment trusts (J-REITs) declined over the first half of fiscal 2026 amid concerns over the impact of rising interest rates, although solid real estate market conditions provided some support (Chart II-2-11).

Chart II-2-11: Tokyo Stock Exchange REIT Index

Note: Latest data as of end-September 2026.

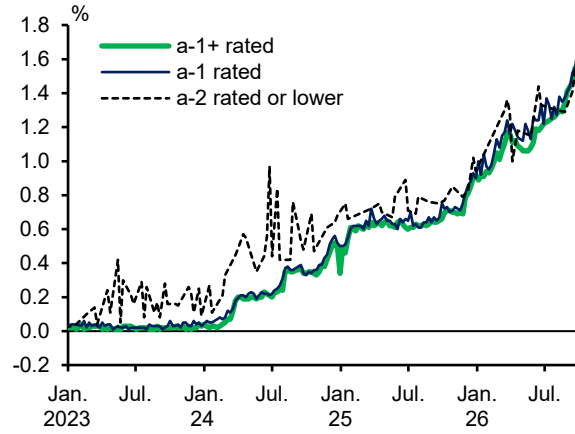
Source: Bloomberg.

Credit spreads on corporate bonds remained more or less flat (Chart II-2-12). Meanwhile, issuance rates for CP increased, in tandem with the rise in short-term interest rates (Chart II-2-13).

Chart II-2-12: Credit spreads on corporate bonds

Note: Yield spreads of corporate bonds with remaining maturity of 3-7 years over government bonds.
Latest data as of end-September 2026.

Source: Bloomberg; JSDA; QUICK.

Chart II-2-13: CP issuance rates

Note: Average rates of issuance for CP issued by business corporates with maturity of 3 months.
Latest data as of end-September 2026.

Source: JASDEC.

C. Risks to financial markets

Uncertainty in financial markets remains high. Specifically, attention is focused on uncertainties regarding the future course of the situation in the Middle East and its effects on economic activity and prices at home and abroad. Market participants have also been paying attention to developments in global AI-related demand and the course of fiscal and monetary policies in each jurisdiction.

In stock markets, attention is needed to the risk that, depending on the future course of the situation in the Middle East, heightened concerns over a global economic slowdown and over inflationary pressure could cause a deterioration in market sentiment. In addition, amid uncertainty over whether AI-related profit growth will materialize, caution regarding the risk of stock price adjustments remains high. In bond markets, market participants have focused their attention on the future conduct of monetary policy and developments in fiscal policy in each jurisdiction, in addition to the effects of increased tension over the situation in the Middle East. In credit markets, attention continues to focus on the easing of supply and demand conditions resulting from increased issuance of corporate bonds and other securities by AI-related firms, and on uncertainty over whether their profits will expand in line with strong business fixed investment, as well as on the cumulative effects of the high interest rate environment in the United States and Europe on the financial conditions of firms with low credit ratings and those with high leverage ratios. In this situation, if concerns over private funds grow, there is a risk that credit spreads will widen through a decline in market participants' risk tolerance.

In emerging markets, there have been concerns over the risk of capital outflows from countries with fiscal and financial vulnerabilities, as attention has continued to be paid to the possibility that the future course of the situation in the Middle East could exert downward pressure on economic activity. In particular, stock prices in economies where AI-related stocks account for a large share of the stock market could fluctuate significantly due to developments in AI-related business fixed investment. In international commodity markets, attention is warranted regarding the risk that the surge in commodity prices -- such as those of crude oil -- could be prolonged reflecting the situation in the Middle East, as well as uncertainty over developments in the Chinese economy, which have a significant impact on commodity and grain prices.

Attention should continue to be paid to the possibility that the materialization of these risks could lead to a tightening in global financial conditions through such factors as a sharp repricing of risky assets and a deterioration in the dollar funding environment.

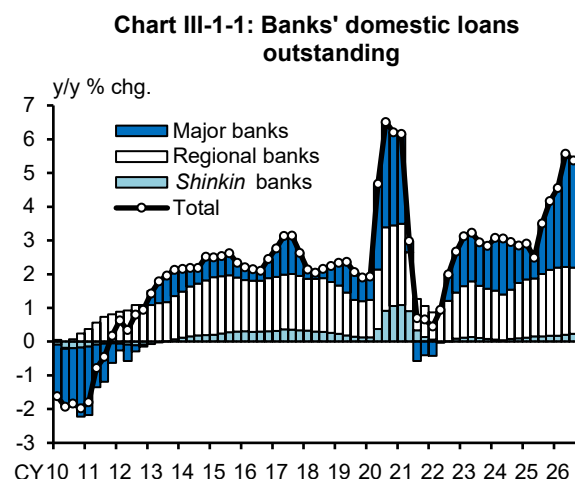
III. Financial intermediation

- Financial intermediation has continued to function smoothly in Japan. Firms' demand for loans has continued to rise mainly on the back of economic recovery and developments in mergers and acquisition (M&A) deals. Banks' lending stance has also been active. With foreign economies showing moderate growth overall, major banks have been increasing their foreign lending, while it is also supported by growing demand for fund finance and for data center financing. Meanwhile, banks have been cautious about making securities investment amid concerns over the risk of higher interest rates at home and abroad.
- Assets under management held by non-bank financial intermediaries (NBFIs) in Japan have continued to increase. Investment funds' assets under management have continued to increase on the back of inflows of funds from households. An increase in financial dealers and brokers' short-term repo transactions has continued on both the asset and liability sides. Life insurance companies have continued to take a cautious investment stance toward super-long-term Japanese government bonds (JGBs), as they have largely completed making adjustments to comply with new regulations.

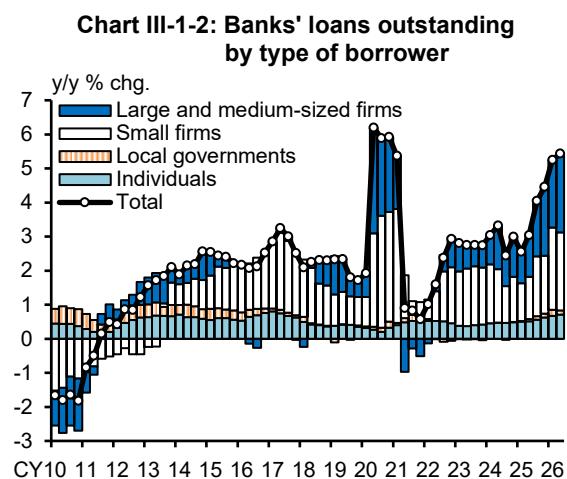
A. Financial intermediation by the banking sector

1. Loans

The annual growth rate of domestic loans by privately-owned banks has been at around 5.5 percent (Chart III-1-1). Loan demand reflecting M&A deals has remained strong, and demand for real estate-related loans and demand for working capital amid the recovery in economic activity have been rising as well. Loans to both large and medium-sized firms and small firms have continued to increase (Chart III-1-2).



Note: Latest data as of 2026/Q3 (July-August).
Source: BOJ.



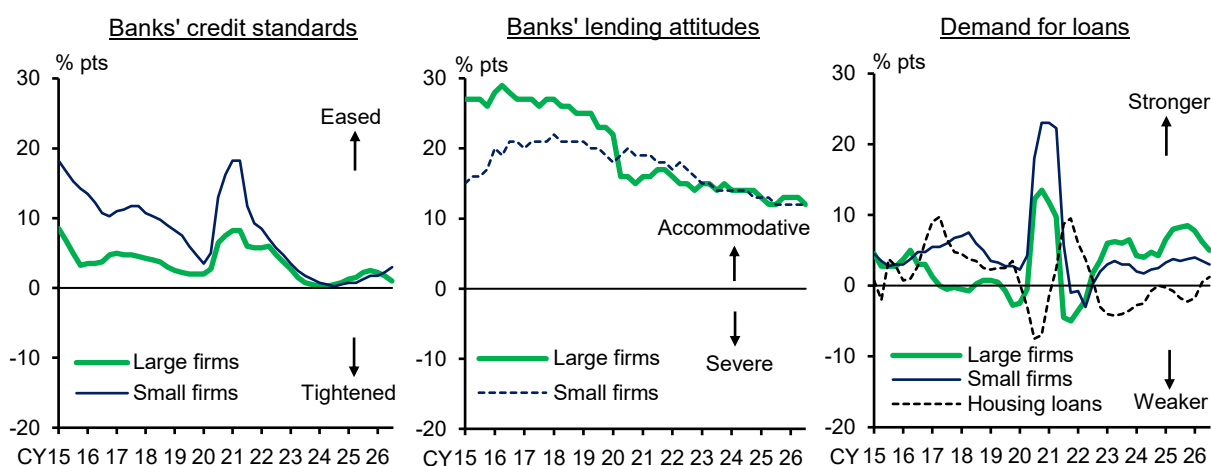
Note: Loans to banks and insurance companies are excluded. Latest data as of 2026/Q2.
Source: BOJ.

Banks' lending stance continues to be active (left panel of Chart III-1-3). Banks' lending attitudes as perceived by both large and small firms have been accommodative (middle panel of Chart III-1-3). Firms' demand for loans as perceived by banks has also continued to rise (right panel of Chart III-1-3).

III. Financial intermediation

A. Financial intermediation by the banking sector

Chart III-1-3: Loan-related DIs



Note: 1. The left- and right-hand charts show 4-quarter backward moving averages. Latest data as of 2026/Q3 (July survey).

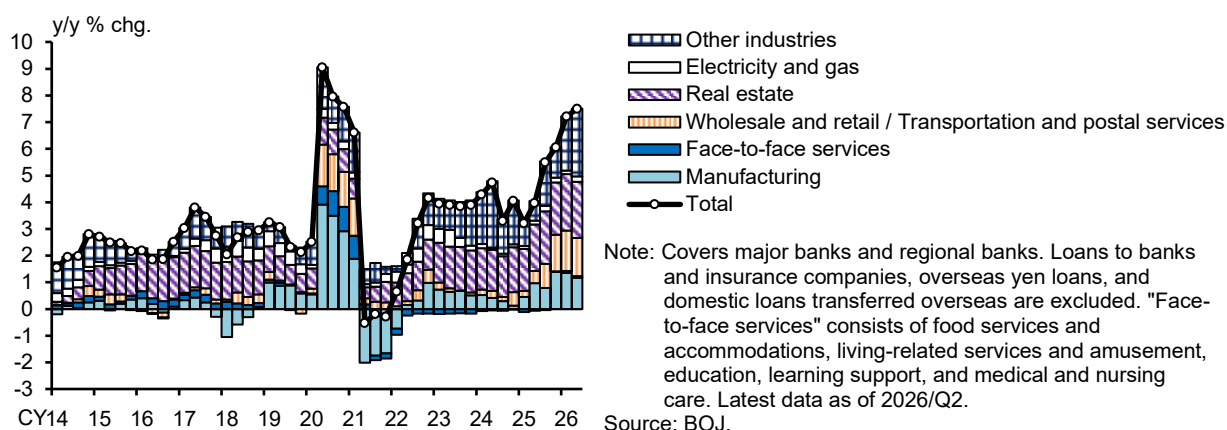
2. Latest data for the middle chart are as of 2026/Q3 (September survey).

Source: BOJ.

Loans by type of borrower

Loans to real estate businesses have continued to increase and loans to a wide range of other sectors, such as manufacturing; wholesale and retail, and transportation and postal services; and financial services providers (including SPCs that aim to acquire stocks for M&As), have increased (Chart III-1-4; financial services providers are included in "Other industries"). For loans to businesses other than real estate, funding demand reflecting corporate actions such as M&As, including leveraged buyout (LBO) finance, has been strong on the back of the need for firms to restructure reflecting changes in the business environment. Meanwhile, regarding the impact of the situation in the Middle East, higher energy and commodity procurement costs have likely increased funding demand in industries such as oil and chemicals. However, there has been no notable tendency for firms to build up precautionary cash reserves.

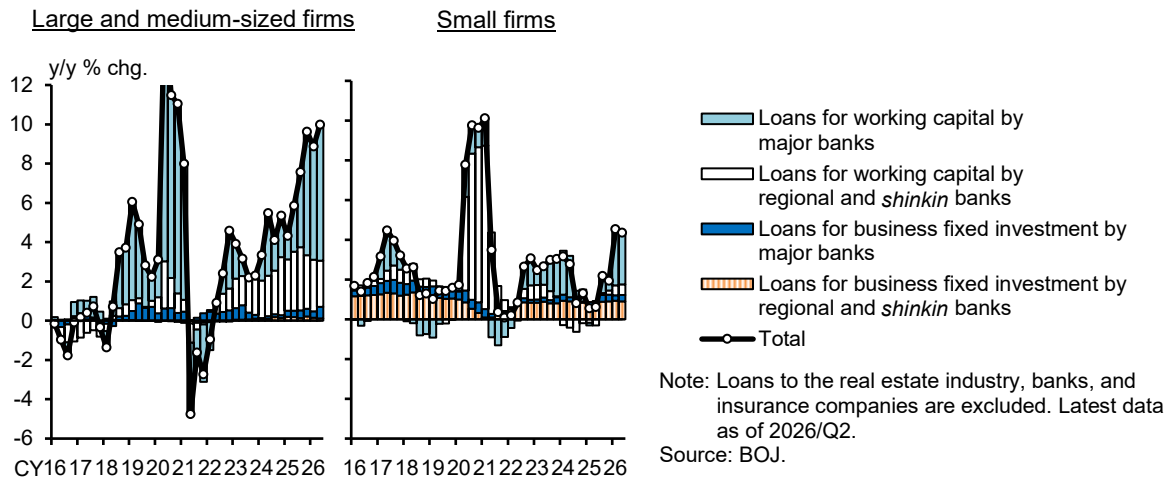
Chart III-1-4: Corporate loans outstanding by industry



Note: Covers major banks and regional banks. Loans to banks and insurance companies, overseas yen loans, and domestic loans transferred overseas are excluded. "Face-to-face services" consists of food services and accommodations, living-related services and amusement, education, learning support, and medical and nursing care. Latest data as of 2026/Q2.

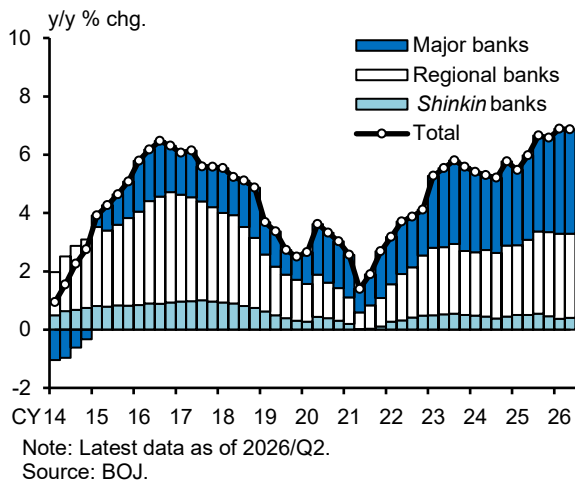
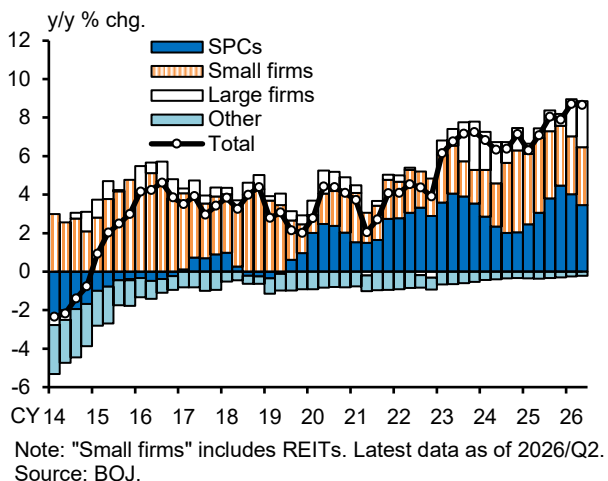
Source: BOJ.

Loans for working capital have continued to show high growth for large and medium-sized firms, including loans related to the aforementioned funding demand reflecting corporate actions (Chart III-1-5). Loans for business fixed investment have continued to increase, especially for small firms. In addition to renewal investment amid the economic recovery, labor-saving investment to address labor shortages and fixed investment for decarbonization have contributed to this increase.

Chart III-1-5: Corporate loans outstanding by type of loan

Real estate-related loans

Loans to real estate businesses have continued to grow at a relatively high rate for all types of banks (Chart III-1-6). At major banks, loans to real estate investment funds with relatively high lending margins ("SPCs" in Chart III-1-7) and to small firms, including real estate investment trusts (REITs), have continued to increase, and loans to large firms, including major real estate developers, have also seen stronger growth (Chart III-1-7). Major banks have met solid demand for funds while managing credit exposures cautiously, based on current real estate market conditions and experience from past periods of market stress, and paying attention to developments in interest rates.

Chart III-1-6: Banks' real estate loans outstanding**Chart III-1-7: Real estate loans by major banks**

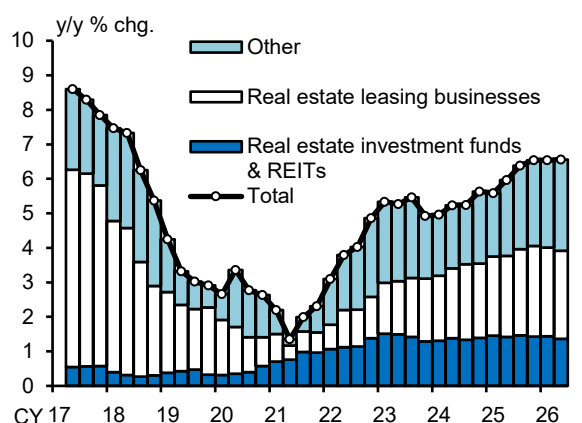
At regional banks, loans to real estate investment funds and non-residential real estate leasing businesses (included in "Other" in Chart III-1-8) have risen, reflecting an increase in financing demand due to the construction of new leasing properties such as office buildings (Chart III-1-8). In addition, at regional and *shinkin* banks, loans to residential real estate leasing businesses have increased, reflecting the robust demand for rental housing and an increase in material costs. Regional and *shinkin* banks have been meeting such demand for funds while being selective in providing loans.

III. Financial intermediation

A. Financial intermediation by the banking sector

Housing loans, which account for a large share of loans to individuals, have continued to rise at a rate of around 3.5 percent (Chart III-1-9). On the demand side, the outstanding amount of housing loans has been pushed up since the amount per loan has continued to increase reflecting the rise in property prices. On the supply side, the growth in housing loans by internet-only banks (included in "Other banks" in the chart), which had driven the increase in the outstanding amount of housing loans, has remained on a decelerating trend. On the other hand, at regional banks and *shinkin* banks, the growth in the outstanding amount of such loans has accelerated somewhat.

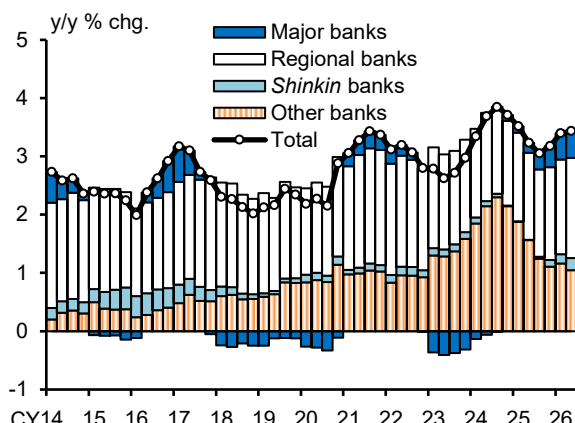
Chart III-1-8: Real estate loans by regional banks



Note: Covers 80 regional banks, for which a breakdown of real estate loans is available. "Real estate leasing businesses" is for residential use. Latest data as of 2026/Q2.

Source: BOJ.

Chart III-1-9: Banks' housing loans outstanding



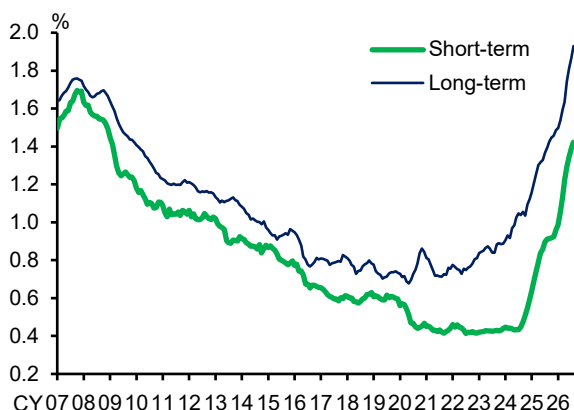
Note: "Other banks" covers domestically licensed banks but excludes major banks and regional banks. Latest data as of 2026/Q2.

Source: BOJ.

Lending rates

Banks' average contract interest rates on new loans and discounts have been rising for both long-term and short-term ones, due to rises in market interest rates and short-term prime rates, both of which serve as base rates (Chart III-1-10). The size of the increase in interest rates on loans outstanding has risen for all types of banks, and that for major banks, among which market rate-linked loans account for a large share of their lending, has been relatively substantial (Charts III-1-11 and III-1-12). Meanwhile, interest rates on floating-rate housing loans, which account for the majority of new housing loans, have been rising in tandem with reference rates such as short-term prime rates. In addition, interest rates on new fixed-rate housing loans have been rising, reflecting developments in long-term interest rates (Chart III-1-13).

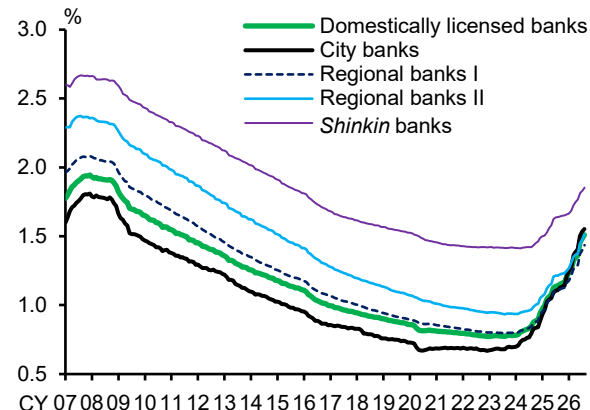
Chart III-1-10: Average contract interest rates on new loans and discounts



Note: Covers domestically licensed banks. 6-month backward moving averages. Latest data as of August 2026.

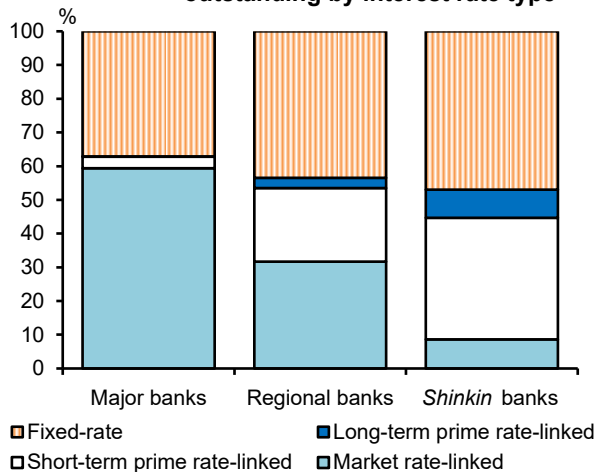
Source: BOJ.

Chart III-1-11: Average contract interest rates on outstanding loans and bills discounted

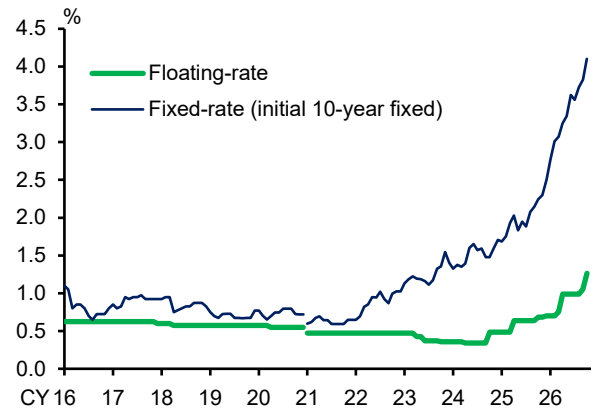


Note: Latest data as of August 2026.

Source: BOJ.

Chart III-1-12: Composition of corporate loans outstanding by interest rate type

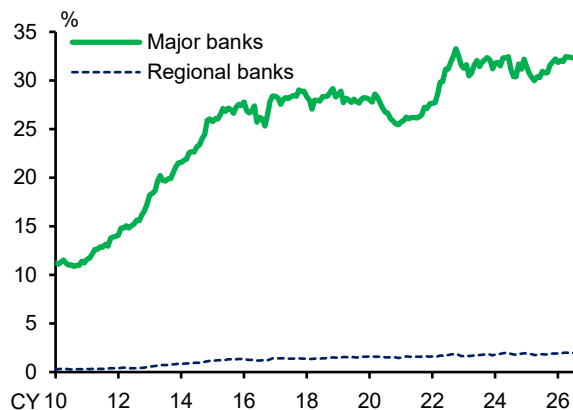
Note: Data as of end-March 2026.
Source: BOJ.

Chart III-1-13: Interest rates on housing loans

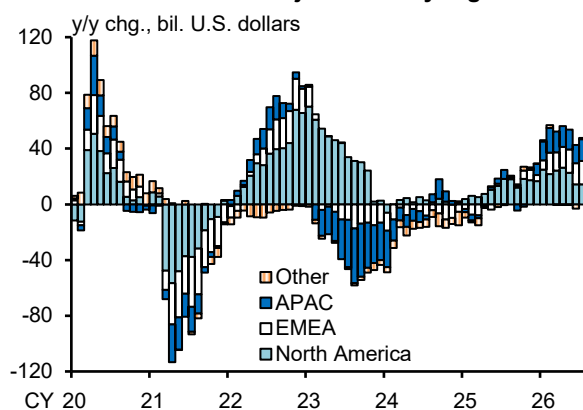
Note: Shows medians of some major banks (preferential rates are taken into account). Covers loans with administrative fees from 2021 and those with guarantee fees up to 2020. Latest data as of October 2026.
Source: Published accounts of individual banks.

Foreign loans

With foreign loans accounting for over 30 percent of their loan portfolios, major banks are susceptible to foreign financial and economic conditions (Chart III-1-14). With foreign economies showing moderate growth overall, demand for foreign loans has remained strong, while it is also supported by growing demand for fund finance and for data center financing. Under these circumstances, major banks have been increasing their foreign lending (Chart III-1-15).

Chart III-1-14: Share of foreign loans in total loans

Note: On a non-consolidated basis. Latest data as of end-July 2026.
Source: BOJ.

Chart III-1-15: Foreign loans outstanding of the three major banks by region

Note: Latest data as of end-July 2026.
Source: BOJ.

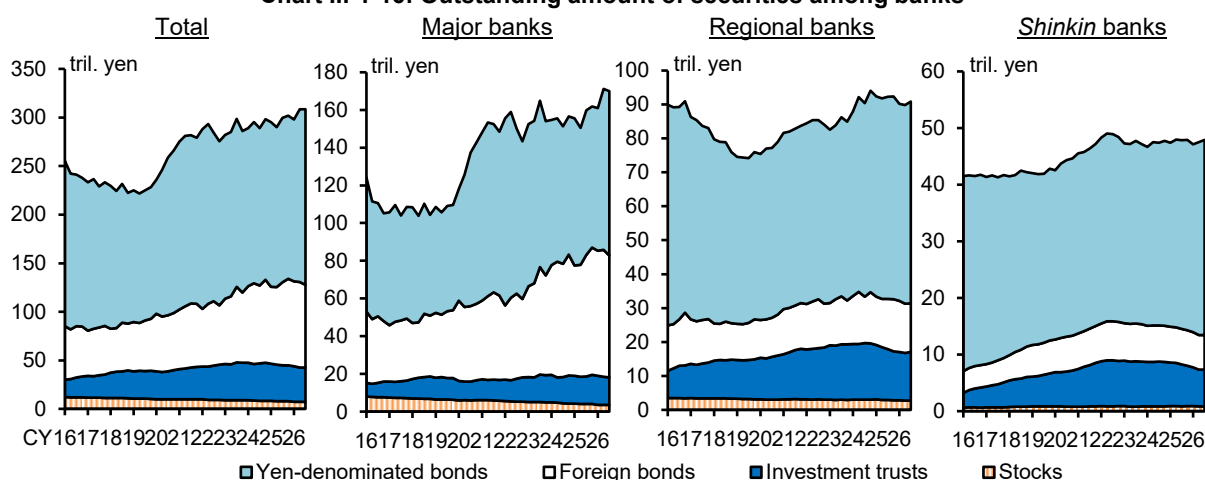
2. Securities investment

Banks have generally continued to make domestic securities investments in a risk-conservative manner amid concerns over the risk of higher interest rates, although some banks have cautiously increased their holdings of JGBs, mainly with the aim of securing carry income (Chart III-1-16). As for foreign securities investment, banks have maintained a cautious investment stance compared to a while ago amid concerns over uncertainties regarding U.S. economic and price developments and monetary policy conduct, including the impact of the situation in the Middle East.

III. Financial intermediation

A. Financial intermediation by the banking sector

Chart III-1-16: Outstanding amount of securities among banks



Note: 1. "Investment trusts" includes domestic and foreign investment, and some securities other than investment trusts.
 2. "Stocks" is based on the outstanding amount on a book value basis and excludes foreign stocks.
 3. The data are the sum of figures for domestic and foreign branches, with the exception of those for major banks' "Stocks," which are figures for domestic branches. Latest data as of end-August 2026.

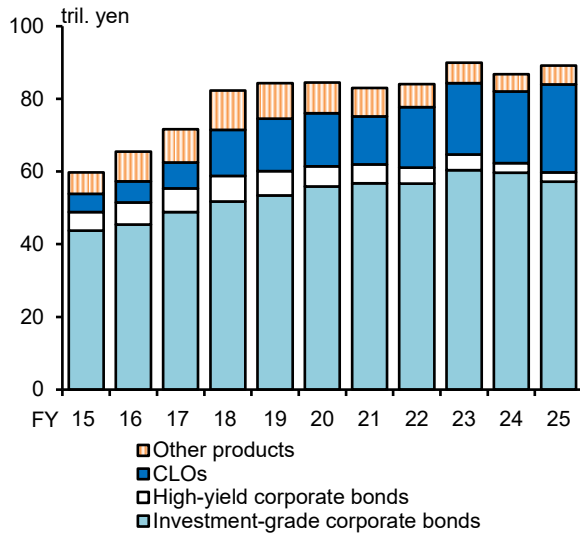
Source: BOJ.

With regard to holdings of yen-denominated bonds, including JGBs, municipal bonds, and corporate bonds, major banks have moderately increased their holdings of medium- to long-term JGBs, mainly with the aim of securing carry income. However, their overall stance on such investments has been cautious amid the perceived risk of higher interest rates and heightened volatility. They have continued to hedge interest rate risk through interest rate swaps and purchases of inverse mutual funds. Major banks have maintained a more cautious stance toward investing in foreign bonds than a while ago, due to concerns over uncertainties such as those regarding U.S. economic and price developments, including the impact of the situation in the Middle East. Strategic stockholdings, i.e., stockholdings for the purpose of maintaining business ties with firms, have continued to fall, partly as a response to growing social awareness regarding corporate governance.

Regional and *shinkin* banks have increased their holdings of short- to medium-term JGBs, with the aim of securing carry income. However, their overall stance on such investments has remained cautious, particularly among regional banks, amid the perceived risk of higher interest rates. Both regional and *shinkin* banks have shortened the duration of their yen-denominated bondholdings. Some of them have continued to sell securities with low investment yields. Meanwhile, regional and *shinkin* banks' foreign bond holdings have remained more or less unchanged. Regarding investment trusts, including domestic real estate funds with elevated holdings relative to past levels, moves toward realizing gains through sales have continued.

Banks have also been cautious about taking risks in foreign credit products. The outstanding amount of collateralized loan obligations (CLOs) has increased due to investments made by some banks to secure carry income. However, the outstanding amounts of investment-grade and high-yield bonds have declined due to a decrease in their investment attractiveness reflecting a narrowing of spreads, as well as efforts to curb market credit risk (Chart III-1-17). Meanwhile, large financial institutions have increased their alternative investment holdings, such as private equity holdings, in order to improve their investment yields and diversify risk (Chart III-1-18).

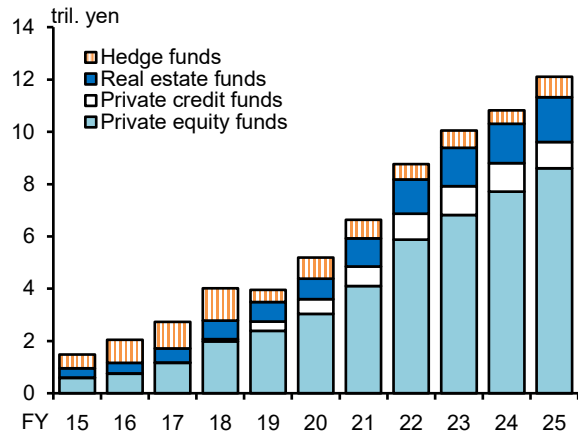
Chart III-1-17: Foreign credit product investment



Note: Covers major banks, regional banks, *shinkin* banks, Japan Post Bank, and a central organization of financial cooperatives.

Source: BOJ.

Chart III-1-18: Foreign alternative investment



Note: 1. Covers major banks, Japan Post Bank, and a central organization of financial cooperatives.

2. "Real estate funds" excludes publicly traded REITs.

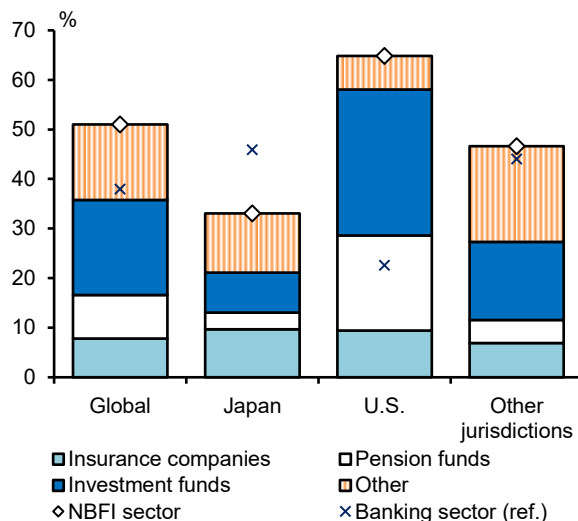
3. "Private credit funds" indicates direct lending funds.

Source: BOJ.

B. Financial intermediation by the NBFIs

In Japan, where depository financial institutions are still dominant in financial intermediation, the share of financial assets held by NBFIs has remained lower than in other countries. However, the uptrend in assets under management by NBFIs, especially by investment funds (i.e., securities investment trusts), has gained momentum (Charts III-2-1 and III-2-2; for risks surrounding the foreign NBFIs sector, see section B of Chapter V).

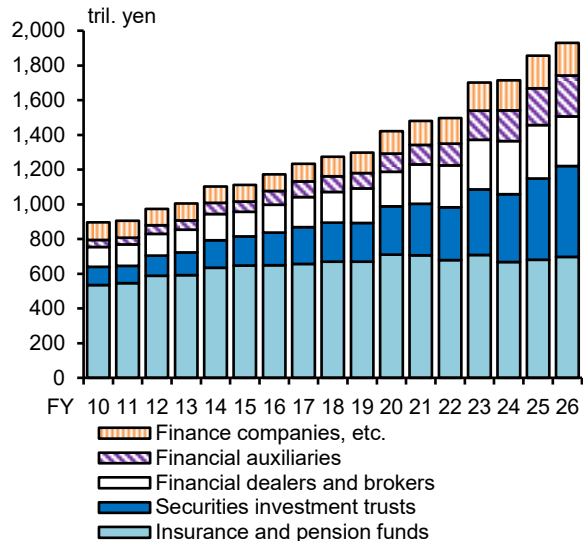
Chart III-2-1: Share of the NBFIs sector in each jurisdiction



Note: Shows the shares of financial assets held by financial sectors in each jurisdiction. "Other" includes financial dealers and brokers and finance companies, etc. Data are as of 2024.

Source: FRB; FSB; BOJ.

Chart III-2-2: Investment assets outstanding of Japan's NBFIs

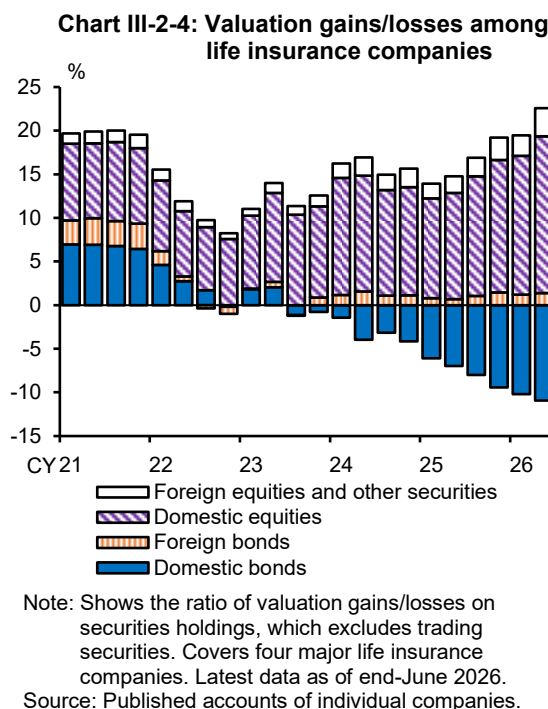
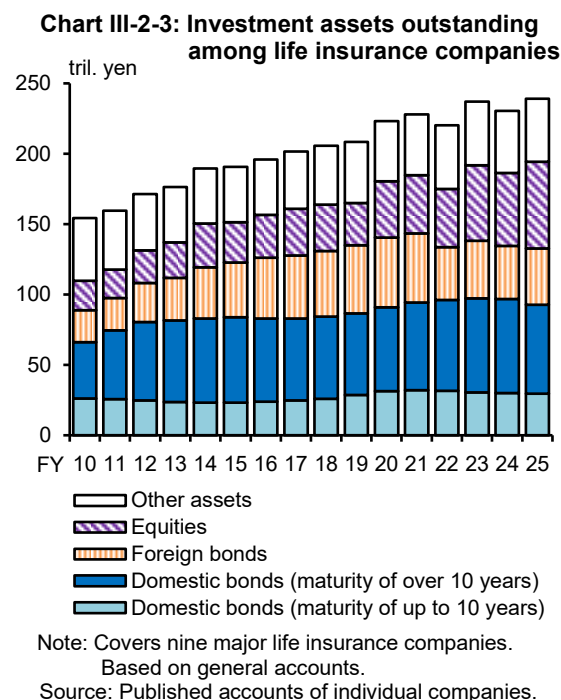


Note: "Financial auxiliaries" includes financial holding companies, stock exchanges, and financial instruments exchanges. "Finance companies, etc." includes finance companies, securities finance companies, and the Resolution and Collection Corporation. Latest data as of end-June 2026.

Source: BOJ.

Insurance companies and pension funds

Life insurance companies' outstanding amount of investment assets has been more or less unchanged. While their initiatives to eliminate the duration gap between assets and liabilities to comply with the adoption of economic value-based solvency margin ratio (ESR) regulations have run their course, life insurance companies have continued to take a cautious investment stance toward super-long-term JGBs, partly reflecting the heightened volatility in the super-long-term zone (Chart III-2-3). Meanwhile, their average ESR has been above 200 percent.³



With regard to life insurance companies' valuation gains/losses on securities investment as of the end of June 2026, their securities holdings overall have continued to register substantial net valuation gains (Chart III-2-4). Although life insurance companies' valuation losses on yen-denominated bondholdings continued to increase, reflecting the continued rise in domestic interest rates, particularly in the super-long-term zone, their valuation gains on stockholdings remained at high levels on the back of rising stock prices.⁴ They have also been able to make valuation gains on foreign bondholdings on a yen basis. Life insurance companies have somewhat expanded their foreign bond positions overall. While they have maintained a cautious stance with regard to accumulating unhedged foreign bonds amid concerns over uncertainties surrounding future developments in foreign exchange rates, some of them have increased their holdings of currency-hedged foreign bonds, reflecting improved yields after factoring in foreign currency hedging costs (Chart III-2-5).

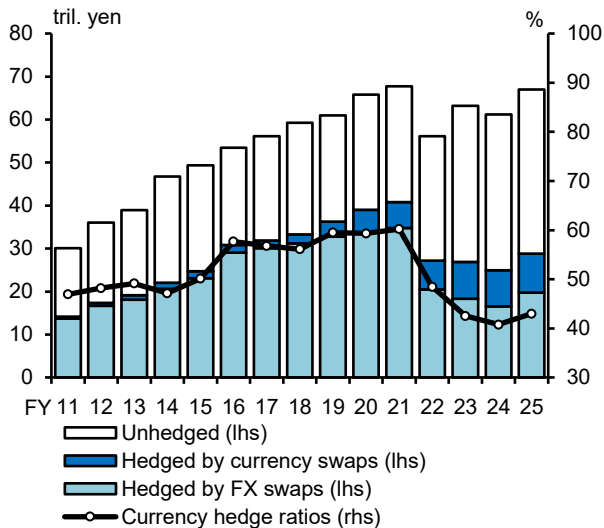
The Government Pension Investment Fund (GPIF), which is responsible for managing the assets of public pension funds such as employees' pension funds and the national pension fund, has been

³ ESR regulations took effect from the fiscal year ending March 31, 2026, and individual insurance companies are scheduled to disclose ESR figures by the end of October 2026. The indicators referred to in this section are those that have been disclosed, including those used for internal management purposes.

⁴ Under the current accounting system in Japan, insurance companies' bondholdings that are aimed to match the mark-to-market valuation of their assets and that of liabilities caused by interest rate fluctuations are classified as policy-reserve-matching bonds and are allowed to be excluded from mark-to-market valuation.

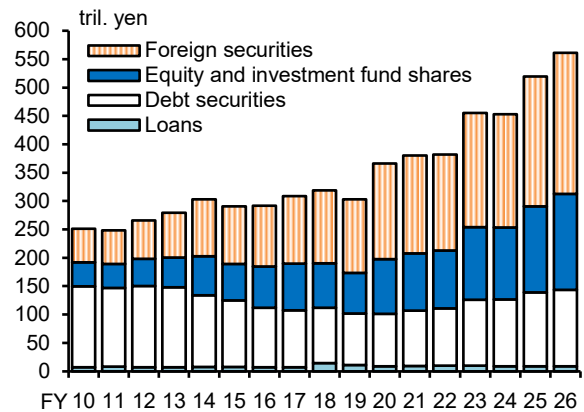
rebalancing its portfolio (Chart III-2-6).^{5,6} This is in line with the basic portfolio allocation, which determines the fund's portfolio share of each asset class from the perspective of safe and efficient asset management over a long-term investment horizon. Corporate pension funds have maintained their cautious investment stance without depending on leverage, with many of them having secured net assets in excess of policy reserves.

Chart III-2-5: Currency hedge ratios among life insurance companies



Note: Covers nine major life insurance companies.
Estimated based on general accounts.
"Unhedged" includes foreign bonds earmarked
for foreign currency-denominated insurance.
Source: Published accounts of individual companies.

Chart III-2-6: Investment assets outstanding among public pension funds and corporate pension funds



Note: Covers pension funds (corporate pensions etc.) and public pensions. Latest data as of end-June 2026.
Source: BOJ.

Investment funds

Investment trusts' assets under management, especially in stocks and foreign securities, have continued to increase in a situation where inflows of funds from households have been seen (Chart III-2-7). With the introduction of the new Nippon Individual Savings Account (NISA) program in 2024, inflows of funds into eligible financial products have continued. In addition, the assets under management of private equity funds and real estate funds have been on an increasing trend (Chart III-2-8).

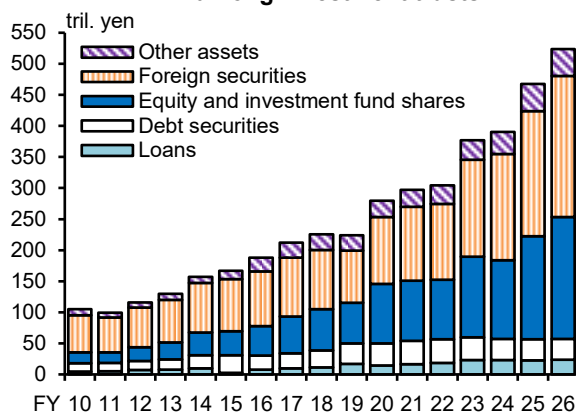
⁵ The increase in the balance of foreign securities on a yen-denominated basis is due to factors such as yen depreciation and the rise in mark-to-market valuation of stocks.

⁶ Japan's pension funds primarily follow simple investment strategies consistent with the policy asset mix or the basic portfolio allocation, instead of strategies that make use of leverage, such as liability-driven investment strategies. For details, see Ito, Y., Kasai, Y., Todoroki, R., Toyoda, A., and Horie, R., "Corporate Pension Funds' Investment Strategies and Financial Stability: Lessons from the Turmoil in the UK Gilt Market," *Bank of Japan Review Series*, no. 2023-E-3, March 2023.

III. Financial intermediation

B. Financial intermediation by the NBFIs sector

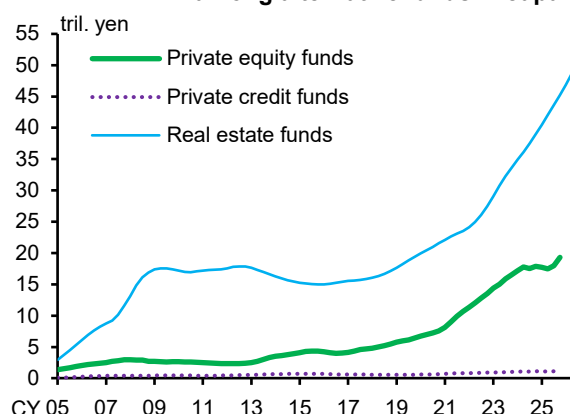
Chart III-2-7: Investment assets outstanding among investment trusts



Note: Latest data as of end-June 2026.

Source: BOJ.

Chart III-2-8: Investment assets outstanding among alternative funds in Japan



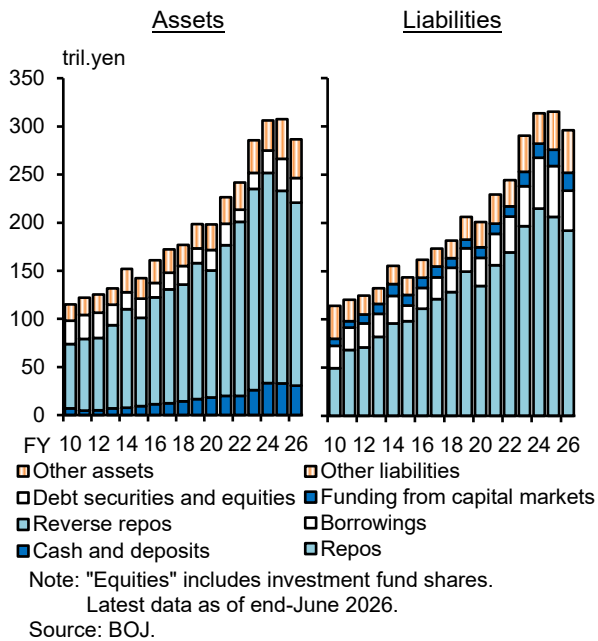
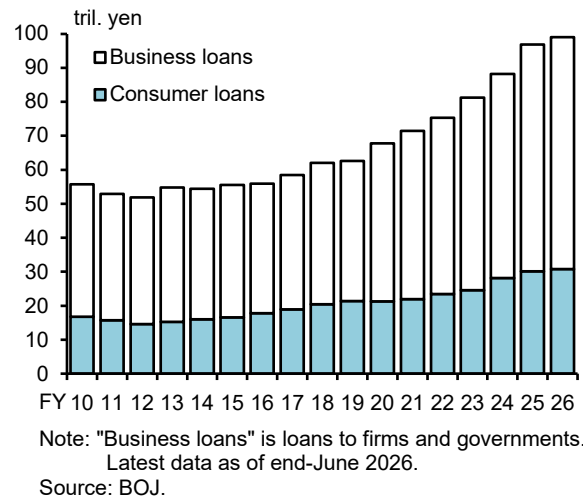
Note: "Private equity funds" and "Private credit funds" are based on Preqin's research (AUM-based). 4-quarter backward moving averages. The latest data for "Real estate funds" are as of end-June 2026 and those for the rest are as of end-December 2025.

Source: Preqin; Sumitomo Mitsui Trust Research Institute.

Financial dealers and brokers

Although the increasing trend in financial dealers and brokers' positions has stalled, short-term repo transactions on both the asset and liability sides have continued to be active (Chart III-2-9). This is because, with the rise in transaction activity in bonds continuing following the increase in interest rate fluctuations, securities companies have raised funds by carrying out repo transactions for inventory financing, while bonds to cover short positions have likewise been procured through repo transactions.⁷ Foreign securities companies in Japan, in particular, have continued to be active in repo transactions to broker JGB transactions for foreign investors' investment in yen-denominated bonds and for meeting their headquarters' demand for JGBs as collateral. Although the size of the balance sheets of financial dealers and brokers has continued to grow as a result of these transactions, the duration mismatch between their assets and liabilities has remained limited.

⁷ For details on developments in repo transactions by securities companies, see, Asamatsu, H. and Asada, T., "Trends in Japan's Repo Market and Recent Features -- Based on Long-Term Data from Surveys and Individual Data from Statistics on Securities Financing Transactions," *Bank of Japan Review Series*, no. 2025-J-7, August 2025 (available in Japanese).

Chart III-2-9: Balance sheets of financial dealers and brokers**Chart III-2-10: Loans outstanding among finance companies**

Finance companies

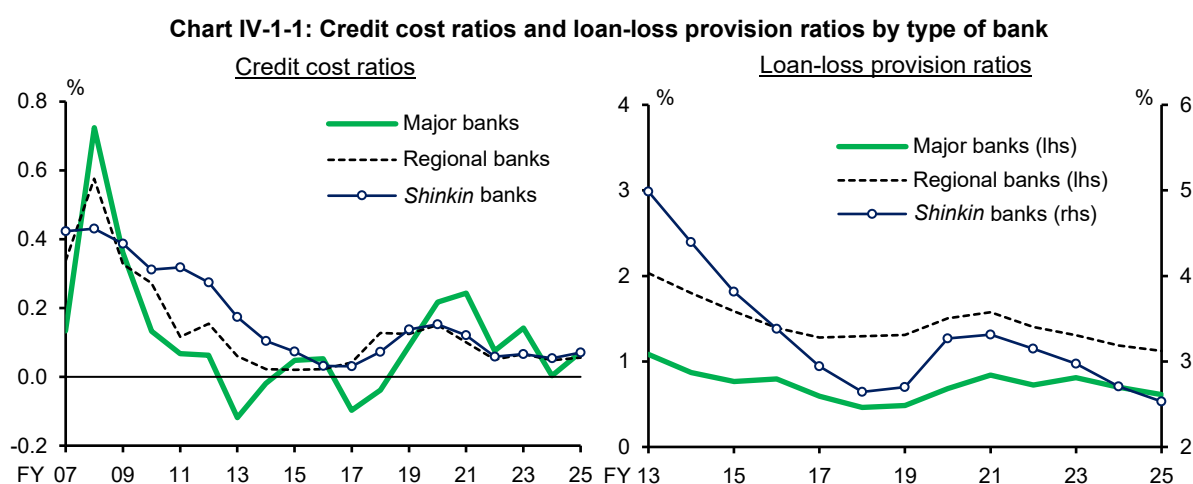
Loans outstanding of finance companies such as money lenders have been on an uptrend (Chart III-2-10). By type of loans, business loans by finance companies, just like those by banks, have increased on the back of the recovery in economic activity. As for consumer loans, the use of credit cards in online shopping and small loans via smartphones have increased. Despite the rise in these loans, finance companies' credit costs have been contained.

IV. Risks faced by financial institutions

- The quality of banks' domestic and foreign loan portfolios has been maintained. Credit costs have been limited. With regard to the impact of the situation in the Middle East, large-scale disruptions in supply chains have been avoided, partly due to progress in securing alternative sources of supply. Nevertheless, it remains necessary to pay close attention to the impact on small and medium-sized enterprises (SMEs) of developments such as the rise in raw material and energy prices resulting from a rise in crude oil prices.
- Banks have maintained a cautious stance on securities investment, particularly toward investment in yen-denominated bonds, and their securities portfolios show that overall interest rate risk has generally been unchanged for major banks, while it has been on a slight downtrend for regional and *shinkin* banks. Given that banks face various risk factors, they need to continue to adequately manage market risks.
- Banks have sufficient yen funding liquidity, which mainly consists of small retail deposits. As for foreign currency, they have maintained stable funding by using a combination of medium- and long-term market funding and the acquisition of sticky corporate deposits. Banks need to continue to work toward maintaining stable funding bases, taking into account changes in the business environment, such as demographic trends and changes in households' asset allocation behavior.

A. Credit risk

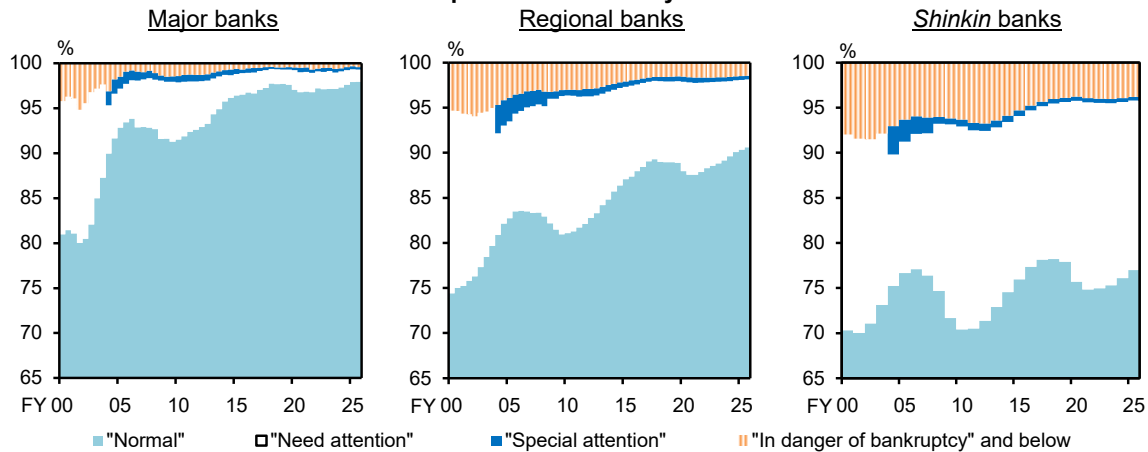
Banks' credit cost ratios have remained low (Chart IV-1-1). Examining loans by borrower classification, the shares of "normal" loans have stayed high, and the shares of borrowers classified as "in danger of bankruptcy" and below have remained at historically low levels (Chart IV-1-2). The quality of banks' domestic and foreign loan portfolios has been maintained.



Note: 1. Latest data as of fiscal 2025.

2. The left-hand chart covers domestic and foreign loans. The right-hand chart shows loan-loss provision ratios for unsecured loans.

Source: BOJ.

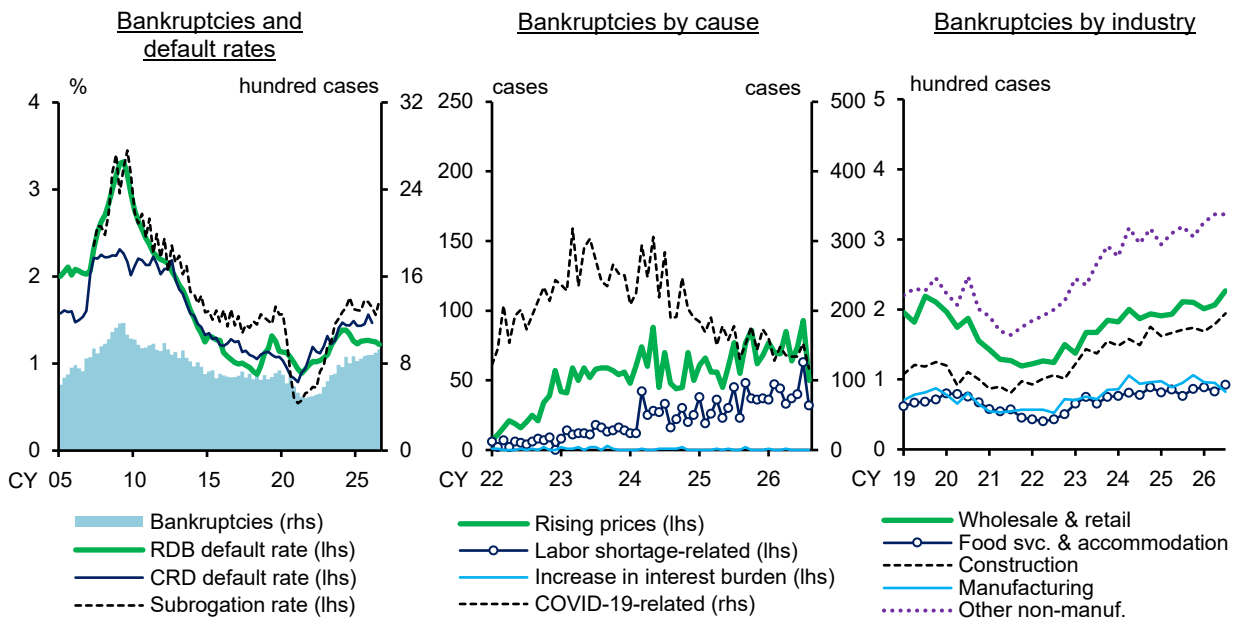
Chart IV-1-2: Composition of loans by borrower classification

Note: "Need attention" indicates "Need attention excluding special attention" from fiscal 2004. Latest data as of fiscal 2025.
Source: BOJ.

1. Domestic credit risk

Developments in corporate bankruptcies and defaults

Although above pre-pandemic levels, corporate bankruptcies have been more or less unchanged (Chart IV-1-3). Moreover, default rates have also been more or less unchanged, although they are above pre-pandemic levels. Corporate profits have been at elevated levels amid the continuing moderate economic recovery, and the share of financially vulnerable firms -- such as those making operating losses with negative net worth or those making operating losses -- has been falling. These circumstances have likely contributed to containing the rise in corporate bankruptcies and defaults (left and middle panels of Chart IV-1-4).

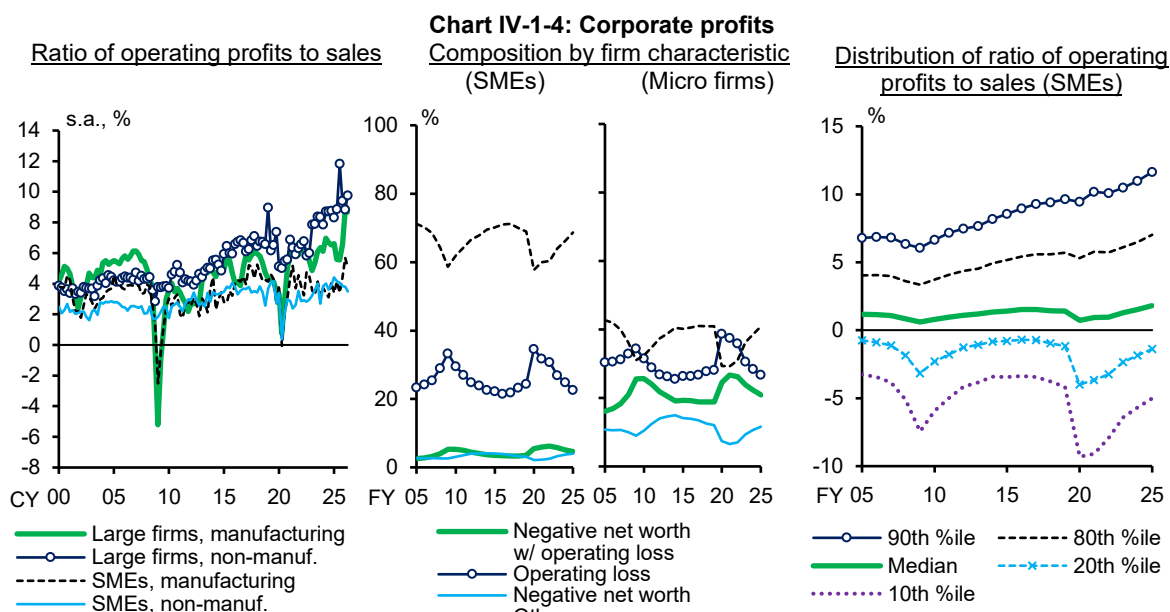
Chart IV-1-3: Developments in corporate bankruptcies and defaults

Note: 1. In the left-hand chart, the latest data for "Bankruptcies" are as of 2026/Q3 (July-August average), those for "RDB default rate" are as of 2026/Q3 (July), those for "CRD default rate" are as of 2026/Q1, and those for "Subrogation rate" are as of 2026/Q3 (July-August average). RDB default rate is based on the classification "in danger of bankruptcy." CRD default rate is based on the number of defaults (downgrades to "special attention" and below, etc.) in the past twelve months and covers firms with capital of 100 million yen or less. The data for subrogation rate are based on staff calculations and are annualized values.

2. Latest data for the middle chart are as of end-August 2026, and those for the right-hand chart are as of 2026/Q3 (July-August average). In the middle chart, multiple choices were allowed regarding the causes of bankruptcy.

Source: CRD Association; Japan Federation of Credit Guarantee Corporations; Teikoku Databank; The Risk Data Bank of Japan; Tokyo Shoko Research.

That said, the ratio of operating profits to sales for SMEs has remained lower than that for large firms. Examining the distribution of the ratio of operating profits to sales for SMEs, there are substantial disparities across firms. Abstracting from short-term fluctuations, the ratio of operating profits to sales has improved steadily among SMEs in the upper range of the distribution, while the ratio for those in the lower range has remained broadly unchanged in negative territory (right panel of Chart IV-1-4). Against this background, large-scale disruptions in supply chains have been avoided in the wake of the situation in the Middle East, partly due to progress in securing alternative sources of supply. Nevertheless, developments such as the rise in raw material and energy prices appear to be exerting downward pressure on profits, particularly at SMEs.



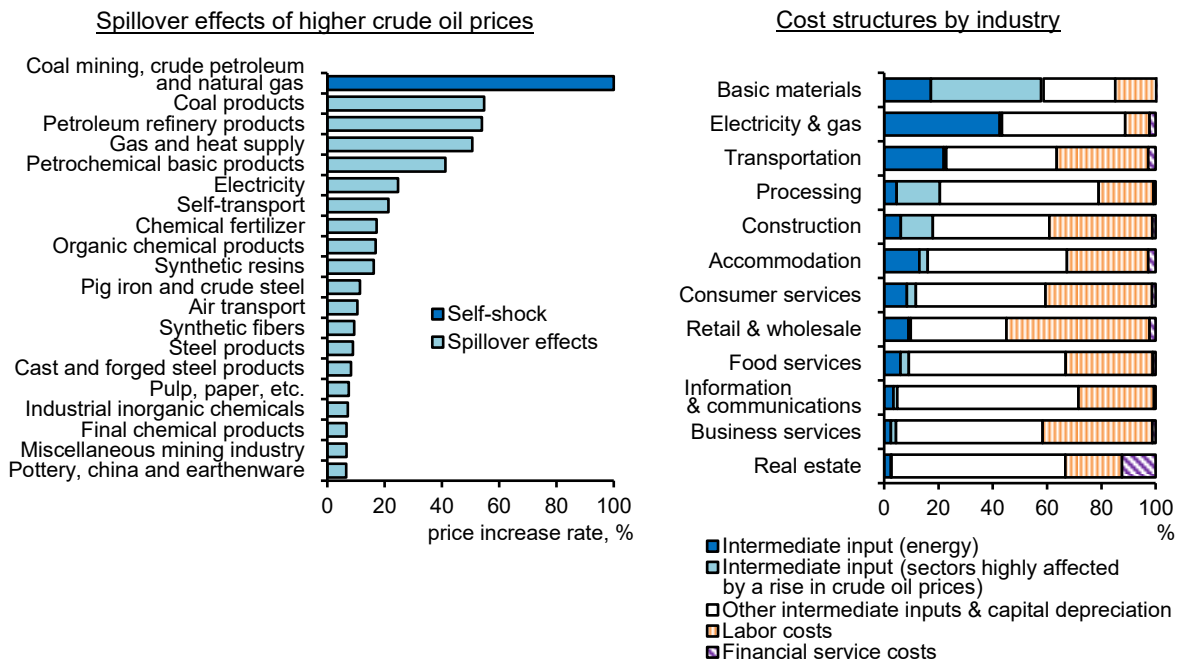
Note: 1. The left-hand chart is based on the Financial Statements Statistics of Corporations by Industry. Latest data as of 2026/Q2.
2. The middle and right-hand charts are based on the CRD. Covers firms with capital of 100 million yen or less, of which SMEs are firms with sales of 100 million yen or more, while the rest are micro firms. Latest data as of fiscal 2025.
Source: CRD Association; Ministry of Finance.

The effects of the rise in raw material and energy prices on the financial positions and default probabilities of SMEs

This section examines the effects of the rise in raw material and energy prices reflecting the situation in the Middle East on the financial positions and default probabilities of SMEs, mainly using firm-level financial data for SMEs.

First, estimates based on input-output tables indicate that the rise in crude oil prices would be passed through to prices in a broad range of sectors, particularly the energy sector and intermediate goods such as chemical products (left panel of Chart IV-1-5). An examination of cost structures by industry, taking account of these spillover effects, shows that, in addition to electricity and gas as well as transportation -- where energy accounts for a large share of input costs -- manufacturing and construction are also susceptible to rises in crude oil prices (right panel of Chart IV-1-5).

Next, using firm-level financial data for SMEs, the impact of higher intermediate-input costs triggered by a hypothetical 100 percent rise in crude oil prices on the financial positions of SMEs is examined. Holding all else equal, including the price pass-through rate, higher intermediate-input prices worsen firms' financial positions by squeezing operating profits.

Chart IV-1-5: Impact of higher crude oil prices on input prices

Note: 1. Estimated based on the transaction structure of the 2020 input-output tables.

2. The left-hand chart shows the increase in intermediate input prices by sector resulting from a hypothetical 100 percent increase in prices in the coal mining, crude petroleum, and natural gas sector, assuming quantities remain unchanged. The chart shows the top 20 sectors with the largest intermediate input price increases, ranked by the fully propagated effects under full pass-through.

3. In the right-hand chart, "Intermediate input (energy)" refers to intermediate inputs from coal mining, crude petroleum and natural gas; petroleum refinery and coal products; electricity and gas; and transportation services. "Intermediate input (sectors highly affected by a rise in crude oil prices)" refers to sectors in the top quartile, excluding "Intermediate input (energy)," ranked by the price increase rates shown in the left-hand chart. "Financial service costs" refer to intermediate inputs from financial intermediation services.

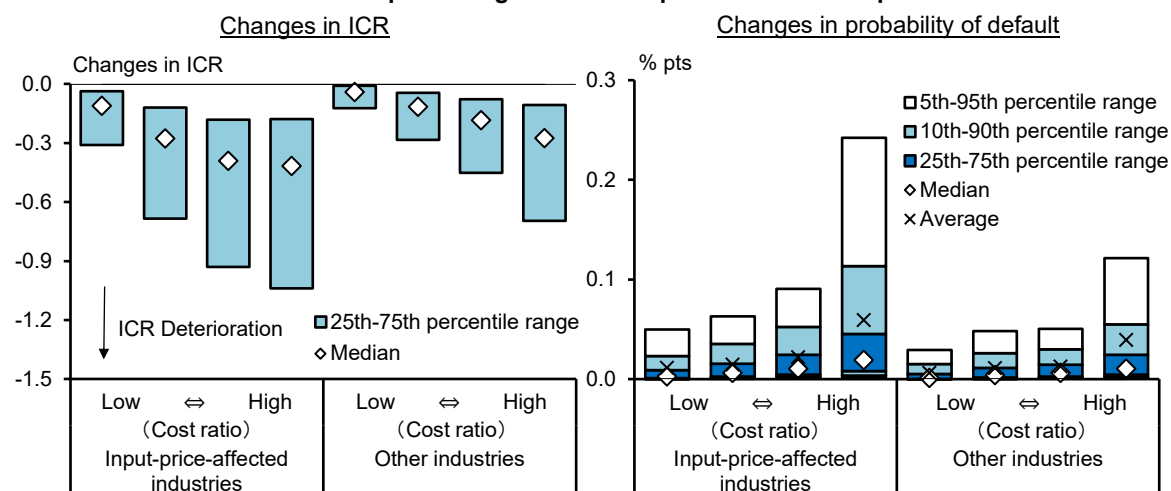
Source: Ministry of Internal Affairs and Communications.

To assess these effects, firms are divided into two groups: those in industries where intermediate-input prices are likely to be significantly affected by the rise in crude oil prices ("input-price-affected industries"), and firms in all other industries. Estimating the changes in the interest coverage ratio (ICR), which represents borrowers' interest payment capacity, for these two groups shows that the ICR tends to deteriorate substantially among firms in input-price-affected industries, particularly among firms in that group with high cost ratios, defined as the ratio of cost of sales plus personnel expenses to sales (left panel of Chart IV-1-6). Turning to the effects on probabilities of default, the estimates indicate that, for most firms in input-price-affected industries that are susceptible to the effects of the rise in crude oil prices, the increase in the probability of default is limited. This partly reflects the fact that these industries include a considerable number of firms that initially have relatively strong financial indicators such as ICRs and on-hand liquidity (right panel of Chart IV-1-6).⁸ However, at the lower end of the distribution, some firms in input-price-affected industries with high intermediate-input cost ratios exhibit relatively large increases in their probabilities of default. The analysis is based on certain assumptions regarding the pass-through rate, which affects the

⁸ Probabilities of default are estimated using a default model that explicitly takes into account changes in individual firms' on-hand liquidity during the fiscal year. The dependent variable of the model is a dummy variable representing whether a firm defaults over the next year. A default indicates that a firm has met one of the following conditions within one year for the first time: (1) being delinquent for three months or longer, (2) being downgraded to "special attention" and below, or (3) being subject to subrogation by a credit guarantee corporation. Explanatory variables are the short-term cash surplus/shortage ratio (ratio of the sum of on-hand liquidity at the beginning of each year and net operating cash flow during the year to total assets), the financial leverage (borrowings/total assets), the borrowing interest rate, and the kinked ICR. The estimation period is from fiscal 2003 to fiscal 2024, and the estimation covers firms with capital of 100 million yen or less. For details of the probability of default model and explanatory variables, see Box 4 of the October 2020 issue of the *Report*.

probability of default through changes in operating profits.⁹ It should also be noted that there is a substantial dispersion in the actual degree of price pass-through across firms.

Chart IV-1-6: Impact of higher crude oil prices on financial positions



Note: Estimated based on the scenarios and results presented in Chart IV-1-5. The estimates are calculated by assessing the sensitivity of cost of sales to changes in intermediate input prices and calculating changes in ICR and probability of default relative to fiscal 2025 levels, incorporating the latest price pass-through rates by industry from the July 2026 survey conducted by Teikoku Databank. "Input-price-affected industries" are defined as those in the top 50 percent in terms of the sum of the cost shares of intermediate input (energy) and intermediate input (sectors highly affected by a rise in crude oil prices), calculated using the results shown in the right-hand chart of Chart IV-1-5. All other industries are classified as "Other industries." Both groups are further divided into quartiles based on their cost ratios (cost of sales plus labor costs as a percentage of sales) in fiscal 2025. The analysis covers firms with capital of 100 million yen or less.

Source: CRD Association; Ministry of Internal Affairs and Communications; Teikoku Databank; BOJ.

Firms' resilience to rising interest rates¹⁰

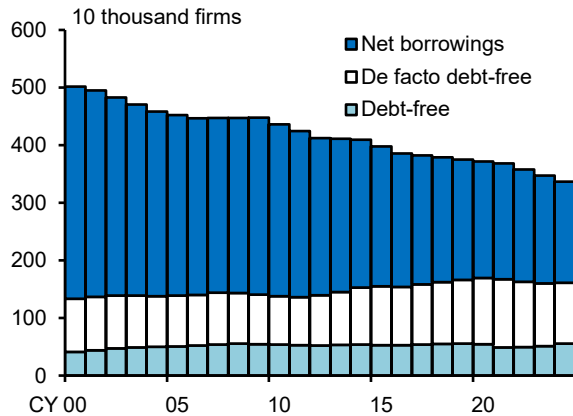
Regarding Japan's corporate sector as a whole, the share of de facto debt-free firms is on an increasing trend, while the share of firms whose borrowings exceed their cash and deposit holdings is decreasing (Chart IV-1-7). In addition, even among firms whose borrowings exceed their cash and deposit holdings, ICRs and debt ratios have been on a moderate improving trend, indicating that, overall, firms' resilience to interest rate rises has improved (Chart IV-1-8). The number of bankruptcies directly attributable to interest rate increases remains minimal and has stayed more or less unchanged since the start of rate hikes in 2024 (middle panel of Chart IV-1-3).

The impact of rising interest rates on firms' financial positions may vary by borrower firm, depending on factors such as the type of lending rate -- i.e., fixed or floating. An analysis of the distribution of applied interest rates on lending by regional banks to firms, using loan-by-loan data from the common data platform, shows that applied interest rates on floating-rate loans have increased following changes in the policy rate (Chart IV-1-9). On the other hand, applied interest rates on fixed-rate loans have remained broadly unchanged, mainly because only a small proportion of such loans have undergone interest rate resets so far.¹¹

⁹ A higher price pass-through rate -- the extent to which cost increases are passed on to selling prices -- mitigates the effects of the rise in raw material and energy prices on firms' financial positions. Chart IV-1-6 estimates the effects of the rise in crude oil prices on firms' financial positions, taking into account firms' price pass-through rates by industry in Teikoku Databank's July 2026 survey (39.9 percent across all industries).

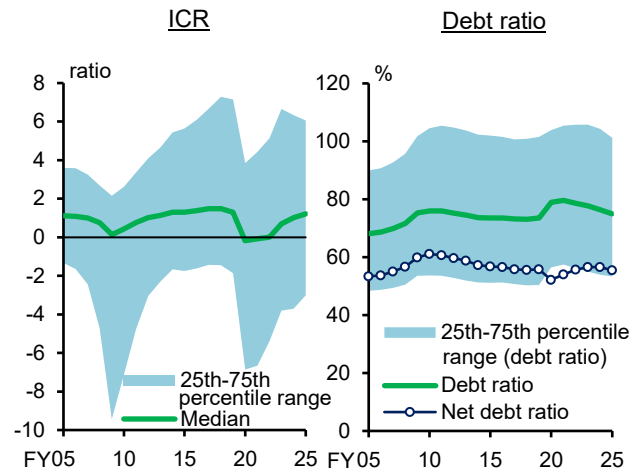
¹⁰ For households' resilience to interest rate increases on their housing loans, see Box 1 in this *Report*.

¹¹ For details on loan-by-loan data from the common data platform and their use cases and points to note, see Oishi, H., Makabe, Y., and Osada, M., "Recent Use Cases of Supervisory Granular Data for Financial Stability Analysis," *Bank of Japan Review Series*, no. 2026-E-2, March 2026.

Chart IV-1-7: Number of firms by borrowing status

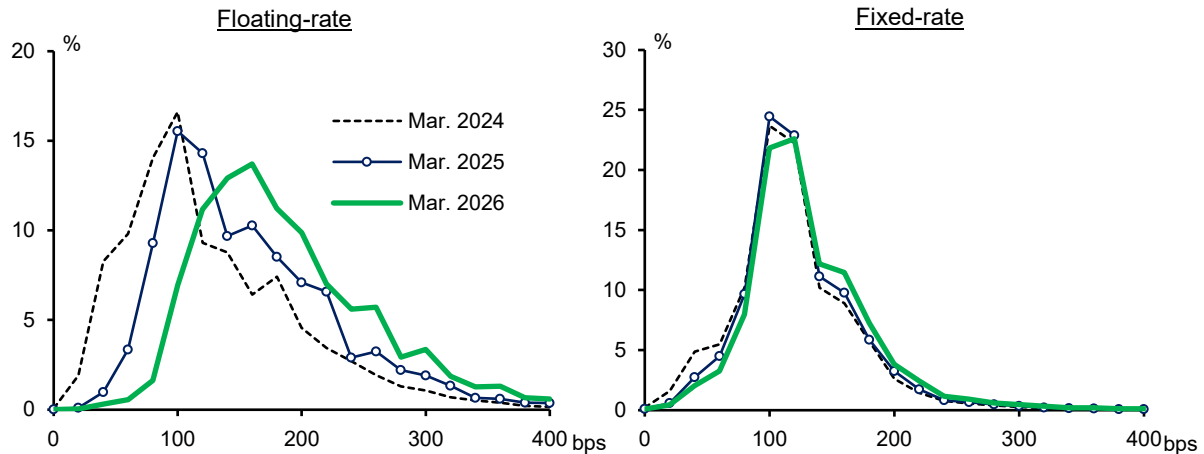
Note: Shows the number of privately owned enterprises (single unit establishments and head offices) from the Economic Census for Business Frame/Business Activity. The number of individual proprietorships with no employees, which is not directly surveyed in 2024, is estimated based on its historical trends. Decomposed using the shares for each year based on data from the Teikoku Databank. "De facto debt-free" indicates firms with cash and deposits equal to or more than their interest-bearing debt.

Source: Ministry of Internal Affairs and Communications; Teikoku Databank.

Chart IV-1-8: Financial positions of firms with net borrowings

Note: 1. Covers firms with capital of 100 million yen or less with net borrowings (i.e., interest-bearing debt exceeding cash and deposit holdings).
2. "ICR" is calculated as (operating profits + interest income) / interest payments. Adjusted for negative values. "Debt ratio" is calculated as total borrowings / total assets. "Net debt ratio" is calculated as (total borrowings - on-hand liquidity) / total assets.
3. Latest data as of fiscal 2025.

Source: CRD Association.

Chart IV-1-9: Distribution of lending rates

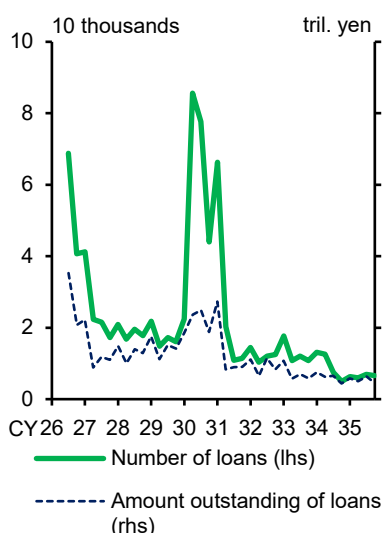
Note: Covers borrowers from regional banks that had loans outstanding at all points in time. Loans are aggregated by borrower.
Source: BOJ.

Meanwhile, excluding short-term loans that are repeatedly rolled over, the maturity dates of fixed-rate loans are clustered around 2030-31 (Chart IV-1-10). Most of these loans are small and were extended during the pandemic. They are therefore likely to be COVID-19-related loans, including loans covered by refinancing guarantees.¹² In this regard, calculations of the remaining maturities

¹² The so-called zero-zero loans (effectively interest-free and unsecured loans) provided under COVID-19-related loans were available from May 2020 to May 2021, with a maximum guarantee period of 10 years. From fiscal 2023, as interest subsidy periods gradually expired and principal repayments commenced, the outstanding balance of these loans declined, and some borrowers refinanced their zero-zero loans with guaranteed loans. Nevertheless, a considerable number of firms, particularly financially vulnerable firms, may still have outstanding zero-zero loans. For details, see section A of Chapter IV in the October 2024 issue of the *Report* and Box 1 in the April 2025 issue of the *Report*.

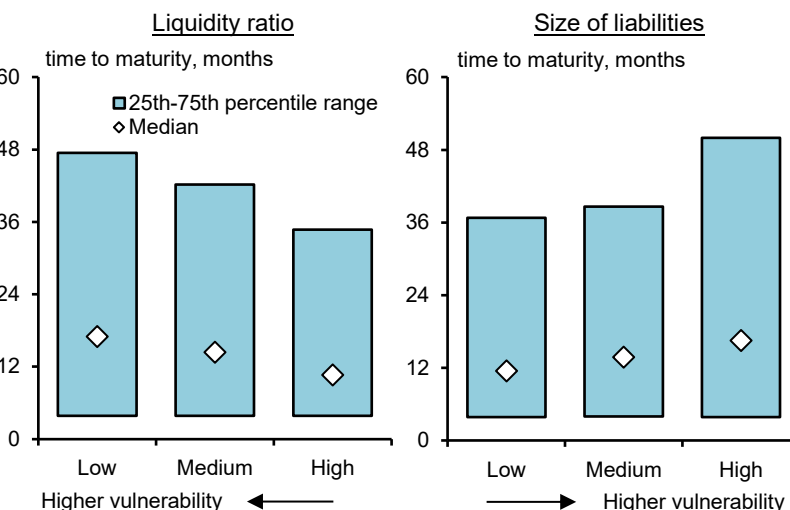
of lending to SMEs also show that financially vulnerable firms tend to have longer remaining maturities. The longer remaining maturities of financially vulnerable firms may reflect the effects of COVID-19-related loans, including loans covered by refinancing guarantees (Chart IV-1-11). Although principal and interest payments on COVID-19-related loans are expected to proceed gradually, these loans are likely, for the time being, to partially mitigate the effects of recent interest rate increases on the corporate sector.

Chart IV-1-10: Maturity of loans



Note: Data as of end-March 2026.
Covers fixed-rate loans
extended by regional banks to
their borrowers.
Source: BOJ.

Chart IV-1-11: Characteristics of maturities by financial conditions



Note: 1. Data as of end-March 2026. Covers SMEs borrowing from regional banks I (firms with capital of less than 100 million yen).
2. Firms are divided into three equally weighted groups based on financial vulnerability indicators, and the median and 25th-75th percentile range (bands) for each group are shown.
3. "Liquidity ratio" is calculated as cash reserves (cash and deposits and securities) / selling, general and administrative (SG&A) expenses. "Size of liabilities" is calculated as total borrowings / total assets.
Source: BOJ.

Credit risks of common exposures

Although banks' credit costs have remained limited, recent developments show that there have been some cases where banks have recorded large credit costs on "common exposures," i.e., loans to the same borrowers by multiple banks. When banks have common exposures, their loan portfolios are more likely to be synchronized in the event of a shock. Such common exposures have expanded, reflecting an increase in lending by primarily regional banks to "non-main-bank borrowing firms," that is, to firms for which the lending bank is not the main bank and an increase in "cross-prefecture" lending -- that is, loans to prefectures other than their head office locations.¹³

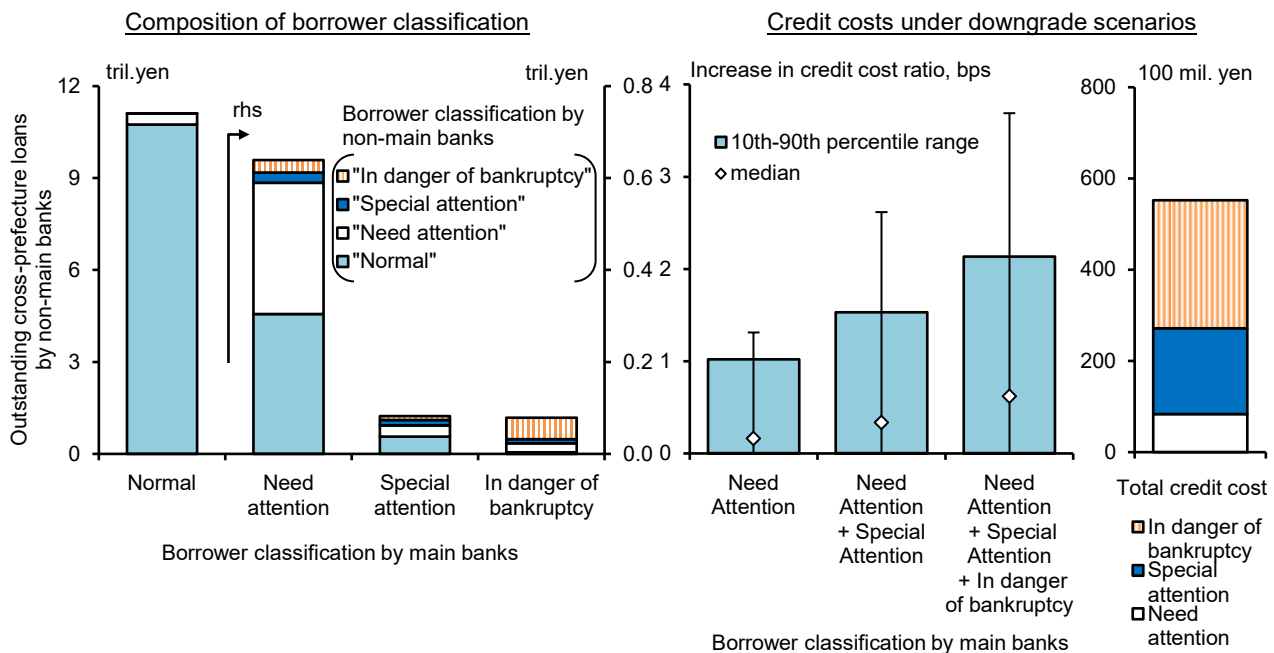
In general, banks that are not a firm's main bank may find it more difficult than the firm's main bank to obtain timely and appropriate information on the firm. Such information gaps can lead to differences in the borrower classifications assigned by banks to the same firm. In fact, an analysis using loan-by-loan data for regional banks in the common data platform shows divergences

¹³ Regarding borrower classifications concerning common exposures -- loans to the same borrowers by multiple banks -- see section A of Chapter IV in the April 2024 issue of the *Report* and the Financial Services Agency, "Analysis of Borrower Classifications Assigned to Shared Borrowers," FSA Analytical Notes (2025.1) Vol.2, January 2025. For issues regarding cross-prefecture lending, refer to section A of Chapter IV of the April 2026 *Report*.

between the borrower classifications assigned to the same firm in lending by main banks and in cross-prefecture lending by non-main banks (left panel of Chart IV-1-12).

Using loan-level data for regional banks in the common data platform, the effects on non-main banks' credit costs are examined under a scenario in which non-main banks lower their borrower classifications to the levels assigned by main banks for all borrowers that they classify more favorably than the main banks do. The results indicate that the median increase in credit costs is less than 1 basis point and that, for regional banks as a whole, the increase in credit costs is limited (middle and right panels of Chart IV-1-12). However, it should be noted that there is considerable dispersion across regional banks, and credit-cost ratios could rise by several basis points at some regional banks. Regional banks and *shinkin* banks are expected to establish appropriate risk management frameworks that take into account the characteristics of such lending, with a clear awareness of potential information gaps. While balancing constraints on business resources, they are also expected to further advance multifaceted initiatives, such as employing digital transformation (DX) and allocating staff appropriately, to ensure the collection of necessary information on borrowers.

Chart IV-1-12: Credit risk of common exposure borrowers



Note: 1. Data as of end-March 2026. Covers regional banks.

2. The left-hand chart shows the outstanding cross-prefecture loans by non-main banks, aggregated by main banks' borrower classification.

3. The middle chart and the right-hand chart are based on the scenario in which borrower classifications of cross-prefecture loans to common exposure borrowers held by non-main banks are downgraded to the levels assigned by main banks. The middle chart shows the distribution of increases in each bank's credit cost ratios under different downgrade scenarios. The solid bands indicate the 5th to 95th percentiles. The right-hand chart shows total credit costs under the scenario in which all cross-prefecture loans held by non-main banks, whose borrower classifications range from "normal" to "need attention," are downgraded to the levels assigned by main banks.

Source: BOJ.

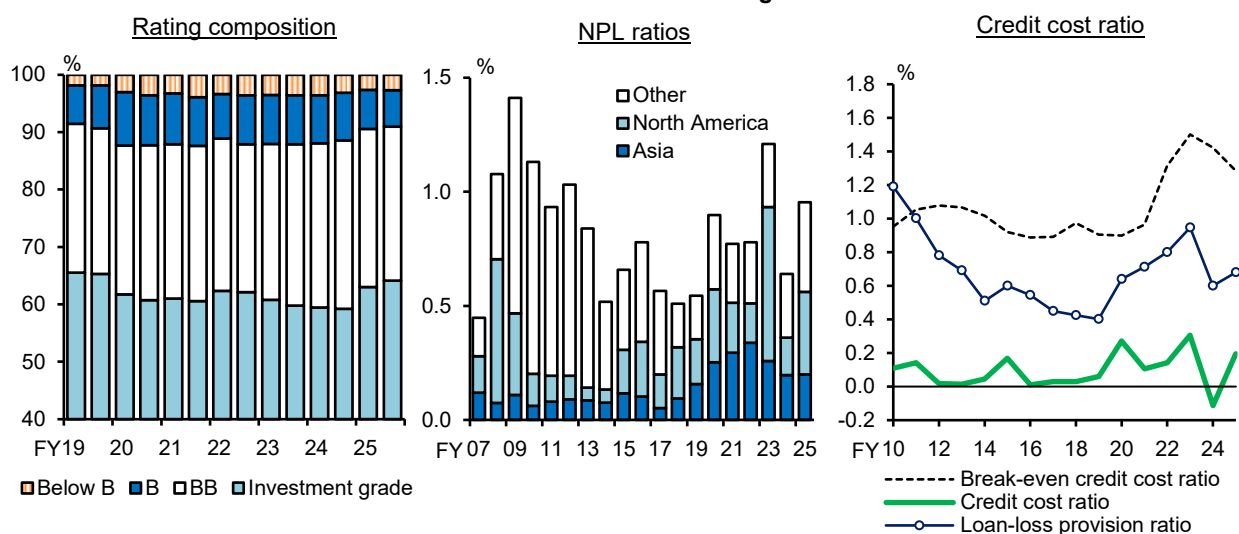
2. Foreign credit risk

Japanese banks' foreign credit risk has remained low (Chart IV-1-13). The non-performing loan (NPL) ratio and the credit cost ratio have generally remained broadly unchanged, albeit with fluctuations. The share of investment grade loans has remained at a high level. The break-even credit cost ratio (net interest income on foreign loans/foreign loans outstanding) has remained relatively high, and even if considerable credit costs were to be incurred, they could be absorbed by net interest income.

IV. Risks faced by financial institutions

A. Credit risk

Chart IV-1-13: Credit costs of foreign loans

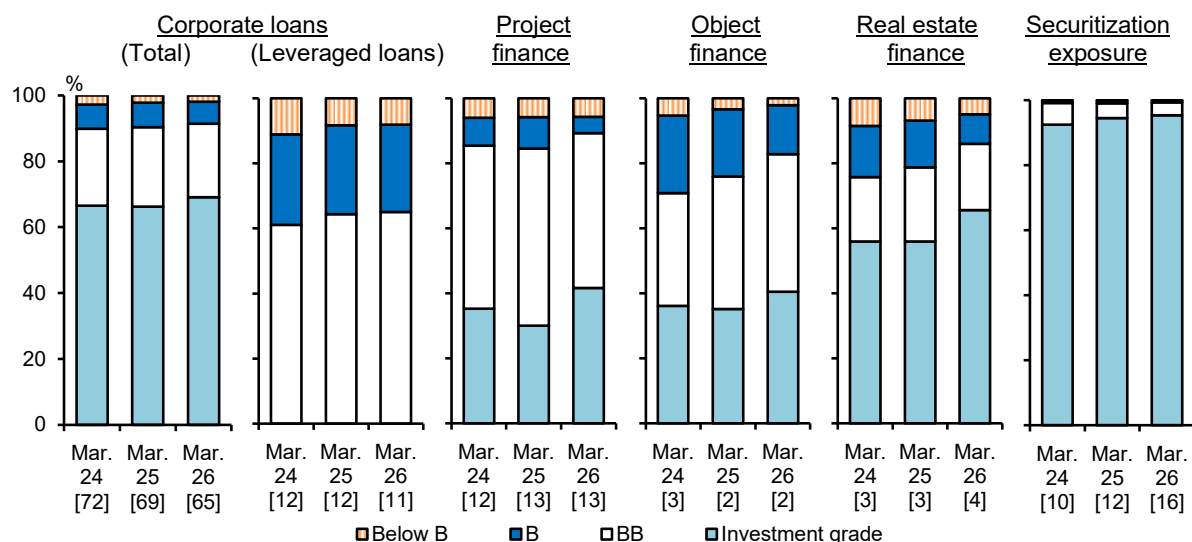


Note: 1. Covers the three major banks. The left-hand chart is based on internal ratings of each bank. The right-hand chart covers the international business of each bank.
 2. "Break-even credit cost ratio" is the ratio at which credit costs equal net interest income on loans.
 3. Latest data as of fiscal 2025. In the left-hand chart, there is a discontinuity due to a bank's change of the credit rating system in fiscal 2025.

Source: Published accounts of individual banks; BOJ.

The composition of foreign loans' credit ratings by type of product shows that the quality of banks' foreign loan portfolios has been maintained (Chart IV-1-14). Investment grade loans have continued to account for almost 70 percent of corporate loans overall. The rating composition of leveraged loans, which entail relatively high risk, and that of project finance loans have remained broadly unchanged.

Chart IV-1-14: Composition of foreign loans' credit rating by type of product



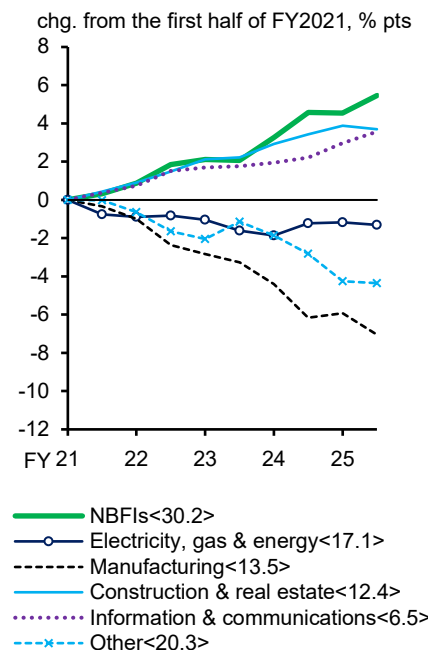
Note: Rating composition of foreign currency-denominated loans. Figures in brackets indicate the share of the respective product types. The charts cover major banks, Japan Post Bank, and a central organization of financial cooperatives. There is a discontinuity between the data for March 2026 and the previous data due to a bank's change of the credit rating system in fiscal 2025.

Source: BOJ.

Major banks' overseas lending has seen an increase in the share of lending to the non-bank financial intermediary (NBFI), construction and real estate, and information and communications sectors in recent years (Chart IV-1-15). Lending to the NBFI sector and real estate appears to be driven by funding demand from foreign funds, while lending to the information and communications

sector appears to be driven by demand for business fixed investment in data centers. A decomposition of the recent year-on-year growth rate of total overseas lending, using loan-by-loan data for major banks from the common data platform, shows that lending to private equity (PE) and private credit (PC) funds among foreign funds, as well as lending to data centers in the information and communications sector, made substantial contributions to overall growth in overseas lending (Chart IV-1-16).¹⁴ Although lending to foreign funds and data centers currently accounts for only 9 percent and 3 percent, respectively, of total overseas lending, these areas have become focus segments for major banks, reflecting factors such as high interest rate spreads. Banks engaged in such lending need to carefully manage the quality of their portfolios.

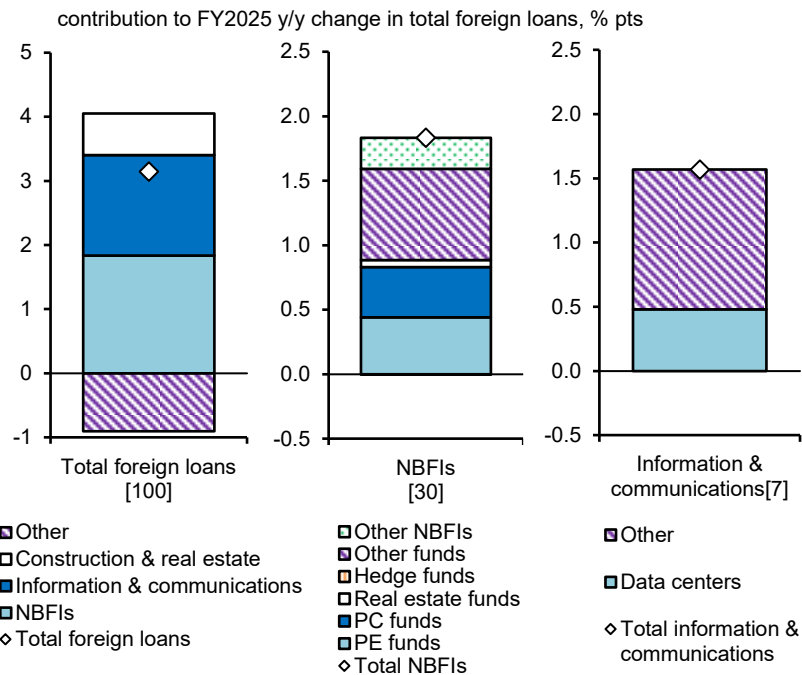
Chart IV-1-15: Shares in foreign loans by industry



Note: Covers the three major banks. The latest data are as of fiscal 2025. Figures in brackets indicate the share of respective sectors as of end-March 2026.

Source: BOJ.

Chart IV-1-16: Loans to foreign NBFIs and information & communications



Note: Covers the three major banks' loans outstanding excluding committed credit. Figures in brackets indicate the share in total foreign loans as of end-March 2026. PC funds can be broadly categorized into private debt (PD) funds and business development companies (BDCs), a form specific to the United States. "Other" includes uncategorized loans.

Source: LSEG Workspace; Prequin; BOJ.

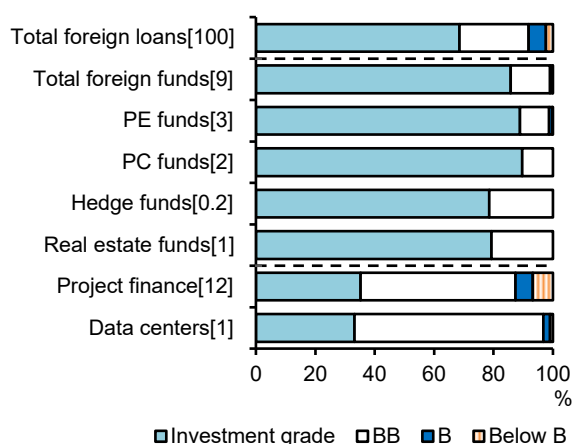
Regarding lending to foreign funds and data centers, changes in the environment, such as shifts in market valuations of those assets or technological innovations, could have a significant impact on borrowers' debt-servicing capacity. In terms of the current status of credit ratings, the share of investment grade loans is high among lending to foreign funds, as such lending is often structured as subscription finance secured by commitments from limited partner (LP) investors with high creditworthiness (Chart IV-1-17). However, it is not always easy to obtain a timely understanding of foreign funds' actual investment practices and value. As for lending to data centers, concerns

¹⁴ Lending to foreign funds in the common data platform is identified by extracting claims on the NBFIs sector in loan-by-loan data -- excluding lending to insurance companies and consumer finance companies -- and using a list of fund names created from external data on investment and credit funds. In addition, lending to data centers is identified using lists of major data center providers and external data on project finance. The results of this matching process are validated through manual checks of individual results and comparisons with separately obtained aggregate data. However, it is necessary to note that the results may vary depending on the data processing methods used.

have been raised not only about the risks associated with the growing number of large-scale projects that are heavily reliant on individual hyperscalers for rental income, but also about the rapid technological advancements in generative AI, which is driving the demand for data center construction, and the risk that graphic processing units (GPUs) and advanced semiconductors used in data centers could face obsolescence within a short period.¹⁵

Lending to foreign funds and data centers is often executed with committed credit. The utilization rates of committed credits for lending to data centers have recently increased slightly as projects have progressed (Chart IV-1-18). For lending to foreign funds, the utilization rates have remained unchanged; however, rapid drawdowns could occur in the event of a large-scale shock in the future. Although lending to foreign funds and data centers accounts for only a limited share of total overseas lending at present, banks need to pay close attention to these characteristics of such lending while enhancing proactive monitoring systems and setting credit limits commensurate with the value of the underlying assets in conducting such credit activities.

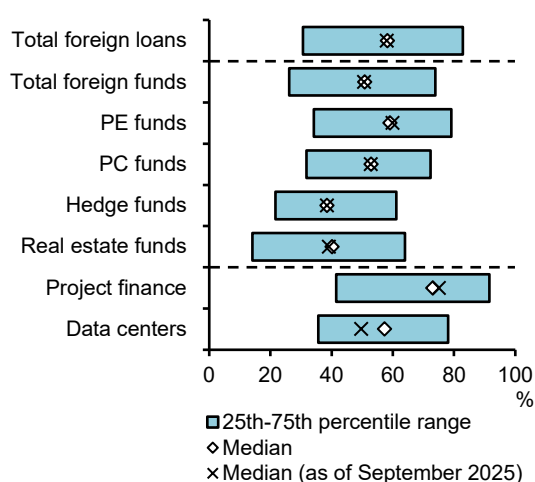
Chart IV-1-17: Rating composition of foreign loans



Note: Data as of end-March 2026. Figures in brackets indicate the share in total foreign loans. Covers the three major banks. Based on internal ratings of each bank.

Source: LSEG Workspace; Preqin; BOJ.

Chart IV-1-18: Utilization rate of foreign committed credit



Note: Data as of end-March 2026. Covers borrowers of the three major banks that have unused committed credit.

Source: LSEG Workspace; Preqin; BOJ.

B. Market risk associated with securities investment

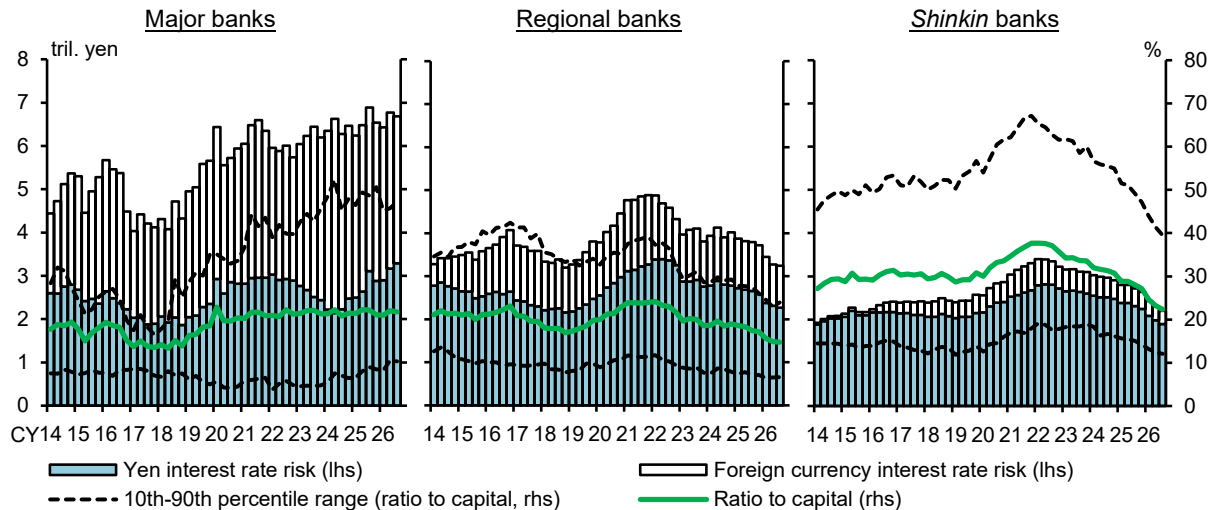
Interest rate risk

With regard to securities investment, the interest rate risk-to-capital ratio -- which is calculated by adding the interest rate risk associated with yen-denominated bonds and that associated with foreign bonds -- has generally been unchanged for major banks, while it has been on a slight downtrend for regional and *shinkin* banks (Chart IV-2-1 and left and middle panels of Chart IV-2-2). Interest rate risk on yen-denominated bonds has increased slightly for major banks, due to purchases of cash bonds focusing on interest rate levels. Nonetheless, major banks have, as a whole, maintained a cautious investment stance. For regional and *shinkin* banks, the amount of

¹⁵ See, for example, Chapter 1 of the April 2026 issue of the Global Financial Stability Report released by the IMF and Chapter 1 of the June 2026 issue of the Annual Economic Report released by the BIS. For details on the schemes related to lending to data centers, see section A of Chapter IV of the April 2026 issue of the *Report*.

interest rate risk has continued to be on a downtrend, reflecting a shortening of duration through ongoing rebalancing across maturities. The amount of interest rate risk associated with foreign bonds has been more or less flat for all types of banks.

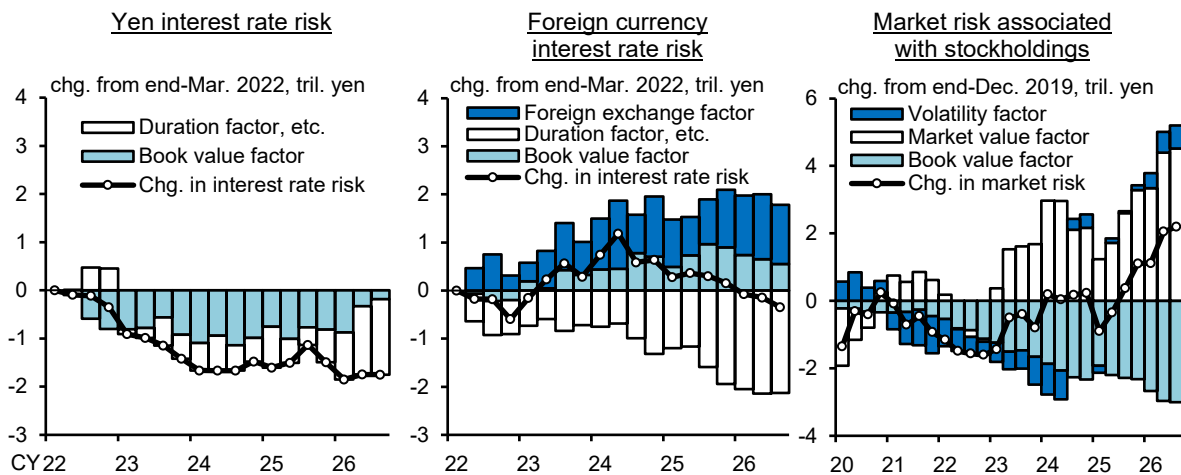
Chart IV-2-1: Interest rate risk of securities holdings



Note: "Yen interest rate risk" is a 100 BPV, and "Foreign currency interest rate risk" is a 200 BPV. Off-balance-sheet transactions and investment trusts outstanding are taken into account (for major banks, only off-balance-sheet transactions in foreign currencies are taken into account). "Ratio to capital" is calculated using CET1 capital for internationally active banks and core capital for domestic banks (excl. the transitional arrangements). Latest data as of 2026/Q3 (end-August).

Source: BOJ.

Chart IV-2-2: Factors affecting changes in risks associated with securities holdings



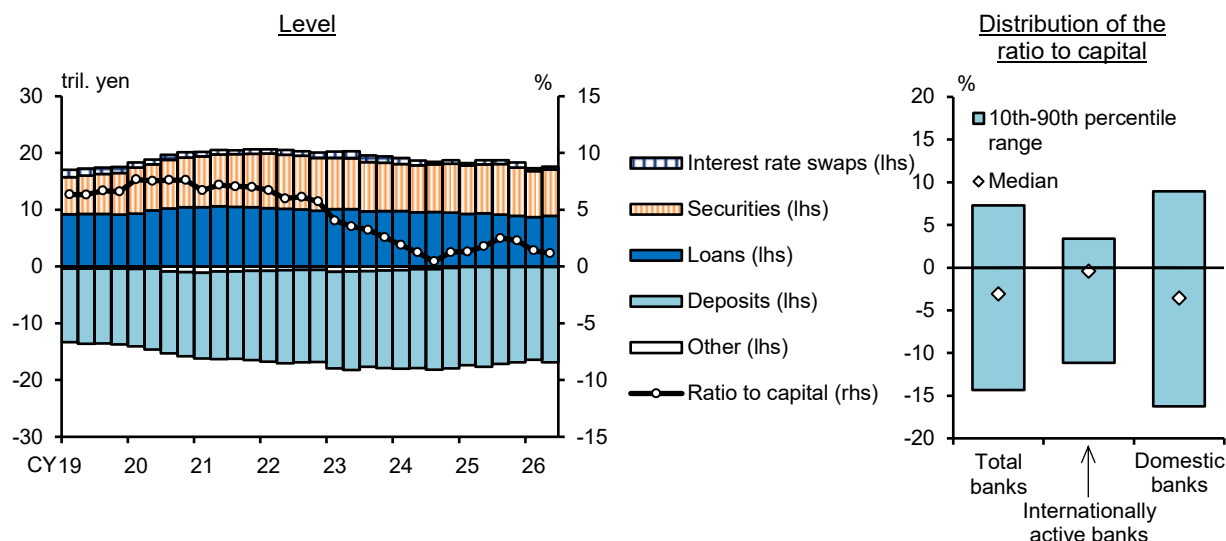
Note: Covers major, regional, and shinkin banks. See Charts IV-2-1 and IV-2-4 for details of each risk. "Duration factor, etc." includes the contribution of off-balance-sheet transactions and investment trusts outstanding (for major banks, only off-balance-sheet transaction in foreign currencies are included). Latest data as of 2026/Q3 (end-August).

Source: BOJ.

Yen interest rate risk in the banking book (IRRBB, in terms of the 100 BPV) relative to banks' capital has remained low. The amount of yen interest rate risk on the asset side (loans and securities) and the liability side (deposits) is more or less in balance (left panel of Chart IV-2-3). In detail, the shortening of the duration of securities investment and loans on the asset side has contributed to a reduction in interest rate risk, while a shift from demand deposits to time deposits on the liability side has exerted upward pressure on interest rate risk. As a result, interest rate risk overall has

remained more or less unchanged.¹⁶ However, the amount of interest rate risk varies across banks and bank types, and therefore the impact of interest rate changes on profits differs among banks (right panel of Chart IV-2-3).¹⁷ Banks need to continue managing interest rate risk appropriately by taking into account various scenarios regarding market fluctuations, as well as future changes in the stickiness of deposits, the composition of their balance sheets, and their own loss-absorbing capacity.

Chart IV-2-3: Interest rate risk in the banking book



Note: 1. Shows yen interest rate risk in terms of the 100 BPV at the end of each quarter. "Ratio to capital" is calculated using CET1 capital for internationally active banks and core capital for domestic banks (excl. the transitional arrangements).
2. The left-hand chart covers major, regional, and *shinkin* banks. Latest data as of 2026/Q1.
3. The right-hand chart covers all banks (excluding *shinkin* banks). Shows the median and 10th-90th percentile ranges of yen interest rate risk as ratios to capital as of end-March 2026.

Source: BOJ.

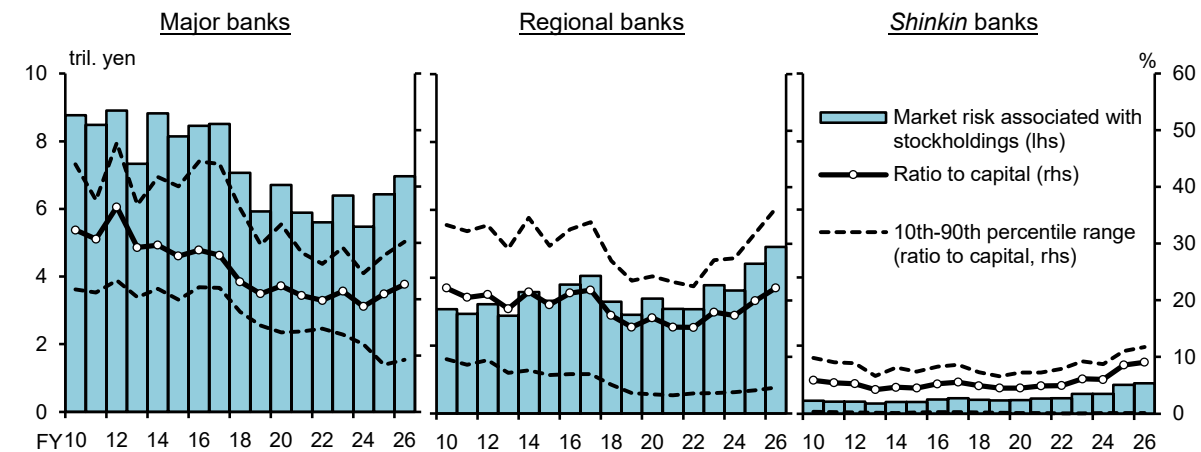
Market risk associated with stockholdings

The amount of market risk associated with stockholdings, measured relative to capital, has increased somewhat (Chart IV-2-4). Recent developments show that, while reductions in strategic stockholdings have contributed to lowering market risk associated with stockholdings, rising stock prices and heightened market volatility have contributed to increasing such risk (right panel of Chart IV-2-2). The rise in stock prices since 2023 has led to a rise in banks' room for realizing gains. That said, stock price volatility could have a non-negligible impact on banks' financial positions and profits (for developments in stock prices, see Chapter II and section A of Chapter V). Banks therefore need to objectively evaluate the costs and benefits of stockholdings from various perspectives, such as the risk and return, corporate governance, and regulatory compliance, while ensuring that the associated market risk remains within an appropriate range aligned with their loss-absorbing capacity.

¹⁶ At present, the duration of demand deposits, including core deposits, is considered to be significantly longer than that of time deposits. As a result, the shift from demand deposits to time deposits is likely to exert downward pressure on the overall duration of deposits.

¹⁷ The supervisory benchmark for interest rate risk is set at 15 percent of Tier 1 capital for internationally active banks and 20 percent of core capital for domestic banks.

Chart IV-2-4: Market risk associated with stockholdings



Note: 1. "Market risk associated with stockholdings" is value-at-risk (VaR) with a 99 percent confidence level, a 5-year observation period, and a 1-year holding period, and excludes risk associated with foreign currency-denominated stockholdings. Latest data as of fiscal 2026 (end-August 2026).

2. "Ratio to capital" is calculated using CET1 capital for internationally active banks from fiscal 2012 onward, core capital for domestic banks from fiscal 2013 onward, and Tier 1 capital for all others (excl. the transitional arrangements).

Source: BOJ.

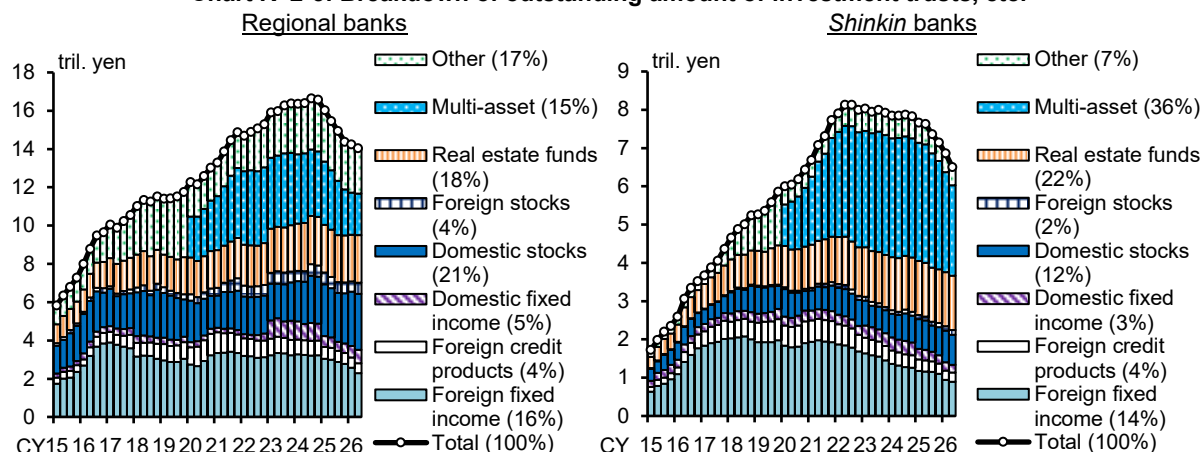
Risks related to alternative investments and other factors

In recent years, banks have increased their alternative investments with the aim of improving returns and diversifying risk. In particular, large financial institutions have increased their holdings of foreign credit products such as collateralized loan obligations (CLOs), as well as their investments in and lending to foreign private funds (Charts III-1-17 and III-1-18). While defaults among firms receiving credit from these funds have remained limited, banks need to strengthen their risk management, including understanding the actual condition of firms receiving investments and loans from foreign private funds (for details on recent developments in private funds, see section B of Chapter V).

Meanwhile, the outstanding amount of investment trusts held by regional and *shinkin* banks has continued to decline, reflecting trends such as the realization of gains through sales of stock investment trusts in conjunction with sales of yen-denominated bonds. Overall, they have maintained a restrained investment stance (Chart IV-2-5). Banks need to appropriately manage risks not only associated with their stockholdings and bondholdings but also those arising from their overall securities holdings, including investment trusts, relative to their loss-absorbing capacity. In this regard, the integrated risk associated with the main risk factors in regional and *shinkin* banks' securities holdings -- "portfolio value-at-risk (VaR)" -- shows that domestic fixed income and domestic stocks remain the largest contributors among individual risk factors (left panel of Chart IV-2-6). Estimates of the portfolio diversification effect arising from correlations among risk factors show that, while it continues to reduce overall risk, its risk-reducing effect has diminished substantially. This is partly attributed to the simultaneous decline in Japanese government bond (JGB) prices and stock prices during the market volatility in spring 2026 (middle and right panels of Chart IV-2-6). JGB prices and stock prices can move in the same direction over short periods, although a negative correlation between JGBs and domestic stocks continues to be observed from a somewhat longer-term perspective. Banks therefore need to strengthen their monitoring systems in normal times and discuss organization-wide action plans to enable the swift adjustment of investment positions when such situations arise.

IV. Risks faced by financial institutions
C. Funding liquidity risk

Chart IV-2-5: Breakdown of outstanding amount of investment trusts, etc.

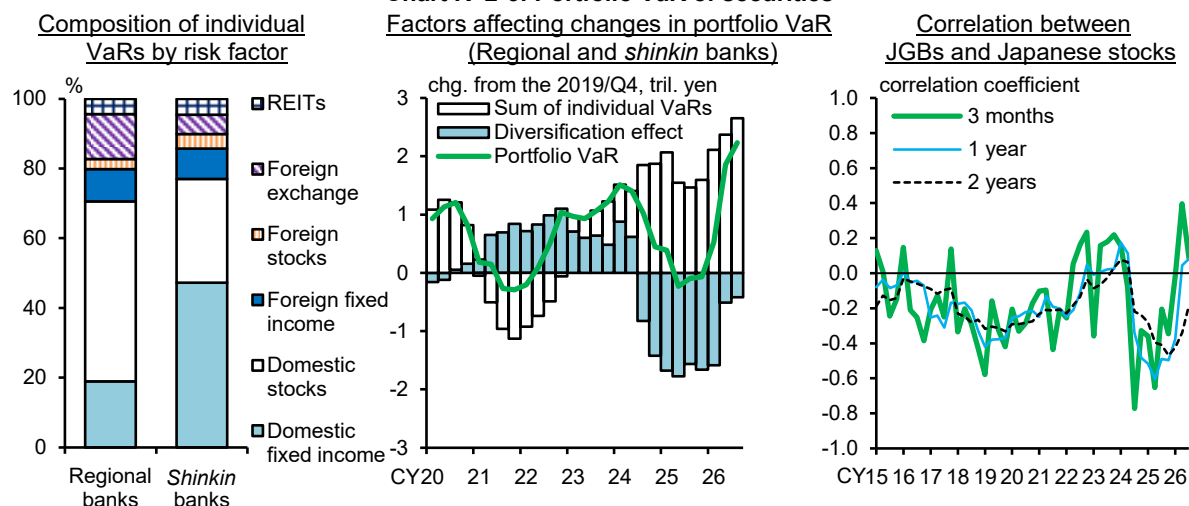


Note: 1. Based on book values. The figures in parentheses indicate the share of the respective product types in the latest period. Latest data as of 2026/Q2.

2. Up to 2019/Q4, "Other" includes "Multi-asset."

Source: BOJ.

Chart IV-2-6: Portfolio VaR of securities



Note: 1. The individual VaR for each product is calculated based on sensitivity (reported values) by risk factor and VaR (observation period: 5 years; holding period: 1 year; confidence level: 99%). "Diversification effect" is calculated as the difference between the total risk amount considering correlations between JGBs and TOPIX risk factors ("Portfolio VaR") and "Sum of individual VaRs." Data for the left-hand chart and latest data for the middle chart are as of end-September 2026.

2. The right-hand chart shows correlation coefficients between the daily returns of JGBs and TOPIX at the end of each quarter. "3 months," "1 year," and "2 years" are calculated using a 60-days, 250-days, and 500-days rolling window. Latest data as of 2026/Q3.

Source: Bloomberg; BOJ.

C. Funding liquidity risk

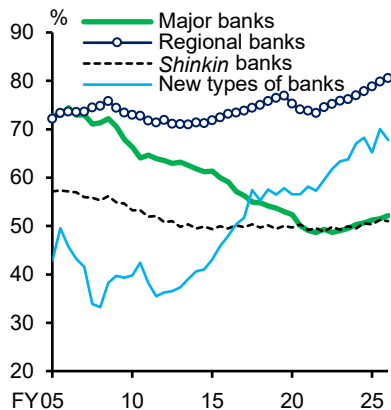
Yen funding liquidity risk

In terms of their yen funding, banks have stable funding bases, mainly backed by small, sticky retail deposits, and have sufficient liquidity (Chart IV-3-1 and left panel of Chart IV-3-2). In addition, with regard to recent developments in loan-to-deposit ratios, their deposits outstanding far exceed loans outstanding on the whole. Moreover, much of the aggregate loan-to-deposit gap is composed of highly liquid assets such as JGBs and deposits with the Bank.¹⁸ These liquid assets far exceed

¹⁸ At major banks in particular, part of the excess of deposits over loans is also being used as a funding source for foreign currency-denominated overseas loans, such as FX and currency swaps.

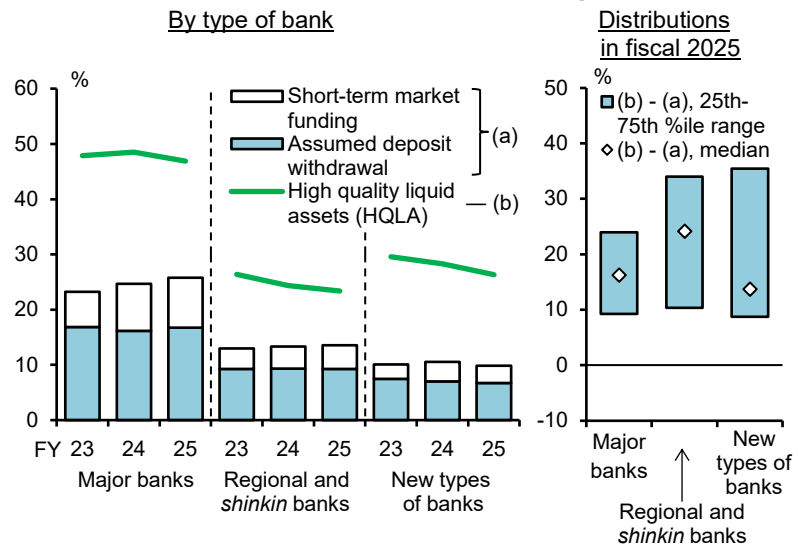
short-term market funding maturing within one month and the amount of fund outflows expected in the event of stress. On the whole, banks have sufficient resilience to short-term liquidity stress. Loan-to-deposit ratios have recently been on a slight uptrend, particularly among regional banks. Additionally, loan-to-deposit ratios for new types of banks (internet-only banks) have been rising. It should be noted that liquidity-asset buffers against expected fund outflows under stress for new types of banks tend to be somewhat smaller than for other types of banks, particularly at the median (right panel of Chart IV-3-2).

Chart IV-3-1: Loan-to-deposit ratio



Note: Data based on domestic branches. Figures are as of the end of each fiscal half-year. Latest data for the first half of fiscal 2026 are as of August 2026.
Source: BOJ.

Chart IV-3-2: HQLA coverage

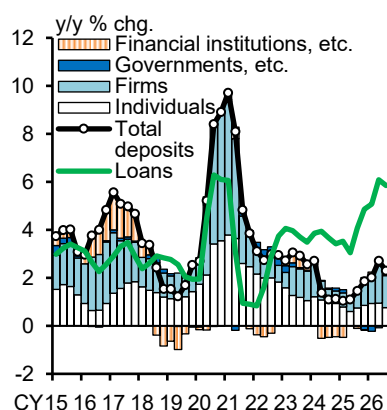


Note: Shows ratios to total assets of domestic business. Data on "High quality liquid assets (HQLA)" for internationally active banks and "Short-term market funding" for major banks and new types of banks are reported by banks. Other data are estimated using outstanding amounts of financial assets and liabilities by product, etc. "Assumed deposit withdrawal" is calculated as the sum of 5 percent of retail demand deposits (up to 10 million yen), 10 percent of retail demand deposits (above 10 million yen), 20 percent of corporate demand deposits (up to 10 million yen), 40 percent of corporate demand deposits (above 10 million yen), and 100 percent of financial institutions' demand deposits. "Short-term market funding" includes short-term large time deposits and excludes other time deposits.
Source: BOJ.

The year-on-year changes in deposits show that growth has picked up somewhat recently (Chart IV-3-3). Corporate deposit growth has risen, amid continued growth in bank lending, partly due to an increase in sales accompanying moderate growth in economic activity. Retail deposits, meanwhile, have continued to grow at a slower pace: while rising wages have led to an increase in deposits, this has been partly offset by increased investments, including in stocks, investment trusts, and JGBs (Charts IV-3-4 and IV-3-5). With regard to developments in deposits from a somewhat longer-term perspective, the shares of major banks and new types of banks in total deposits have been increasing, while that of regional and *shinkin* banks has remained on a declining trend (Chart IV-3-6). This decline may reflect the transfer of inherited deposits outside of the geographic areas each regional and *shinkin* bank operates in, driven by an aging and shrinking population, as well as changes in the competitive environment due to the rising presence of internet-only banks. In fact, although there is considerable dispersion across internet-only banks (new types of banks), they tend to offer relatively high deposit rates, particularly for time deposits; moreover, the interest rates actually applied often exceed the rates posted at these banks (Chart IV-3-7). Banks need to continue to monitor the impact of changes in their business environment on their deposit funding.

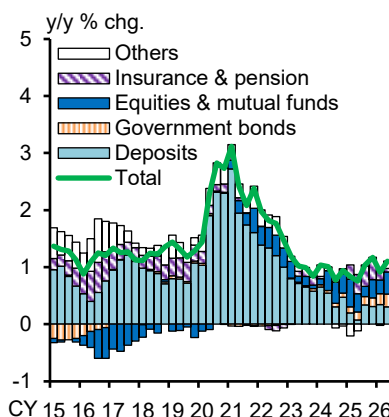
IV. Risks faced by financial institutions
C. Funding liquidity risk

Chart IV-3-3: Deposit growth by type of depositor



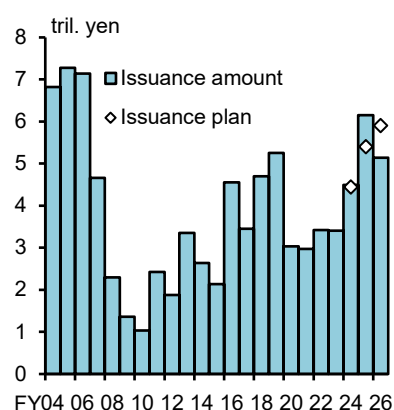
Note: Covers domestically licensed banks and *shinkin* banks. Latest data as of 2026/Q3 (July-August).
Source: BOJ.

Chart IV-3-4: Household's financial assets



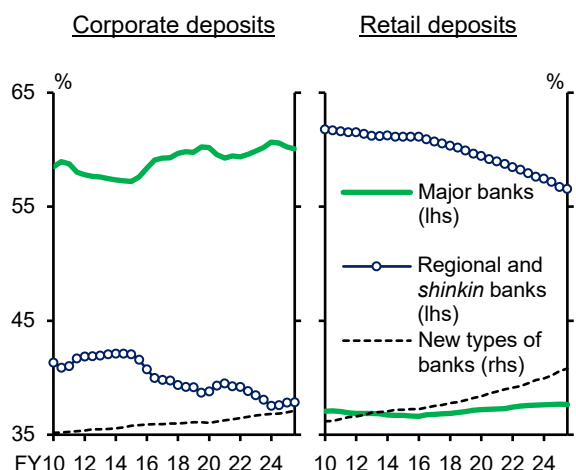
Note: Shows flow figures (excluding the evaluation effect of assets held). Latest data as of 2026/Q2.
Source: BOJ.

Chart IV-3-5: Issuance amount of JGB for retail investors



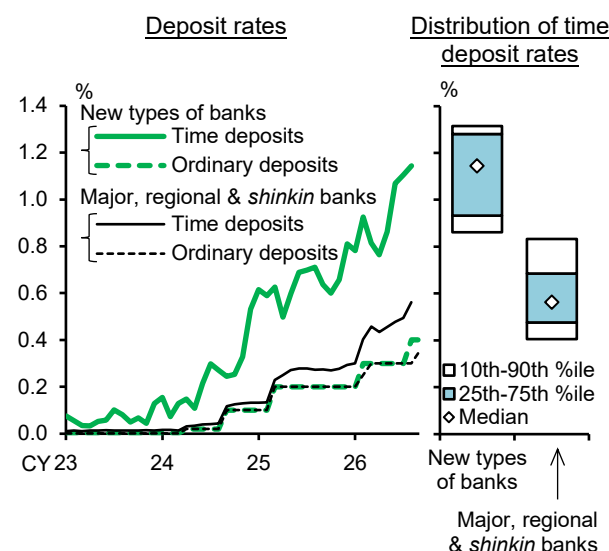
Note: Figures for "Issuance amount" in fiscal 2026 are through September.
Source: Ministry of Finance.

Chart IV-3-6: Share of deposits by type of bank



Note: Shows the share of deposits in the total of major banks, regional and *shinkin* banks, and new types of banks. Latest data as of the second half of fiscal 2025.
Source: BOJ.

Chart IV-3-7: Deposit rates at new types of banks

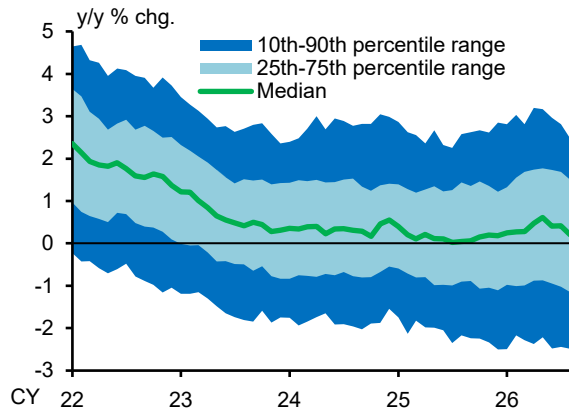


Note: 1. Figures in the left-hand chart show the medians. "Time deposits" indicates the average contract interest rates on new deposits. "Ordinary deposits" indicates the interest rates posted at banks. Latest data for "Time deposits" are as of August 2026 and those for "Ordinary deposits" are as of September 2026.
2. Figures in the right-hand chart show the distributions of the latest data.
Source: BOJ.

With regard to deposits at regional and *shinkin* banks, whose share of total deposits has been on a declining trend, the number of banks experiencing negative growth began increasing around 2022, when various government support measures and subsidies introduced during the pandemic started to be scaled back (Chart IV-3-8). Against this background, developments in retail and corporate deposits by deposit type show a shift from demand deposits to time deposits as deposit interest rates have risen (Chart IV-3-9). Interest rates on time deposits vary across regional and *shinkin* banks, and their stance toward attracting deposits also varies, reflecting differences in the business conditions they face (Chart IV-3-7). For example, banks that set relatively high time deposit rates tend to have higher loan-to-deposit ratios, suggesting a stronger need to attract deposits for balance-sheet management. The higher rates they offer have in fact contributed to

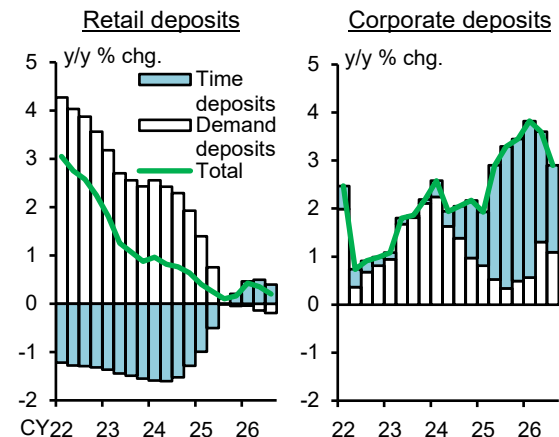
increases in their deposits (Chart IV-3-10). Deposits attracted at high interest rates, however, may be relatively sensitive to changes in interest rate and economic conditions and, as a result, may be less sticky. It should also be noted that the duration of acquired time deposits tends to be shorter than that of sticky core deposits and the increase in time deposits has been driven by large corporate deposits (Charts IV-3-11 and IV-3-12).¹⁹

**Chart IV-3-8: Distribution of deposit growth
(regional and *shinkin* banks)**



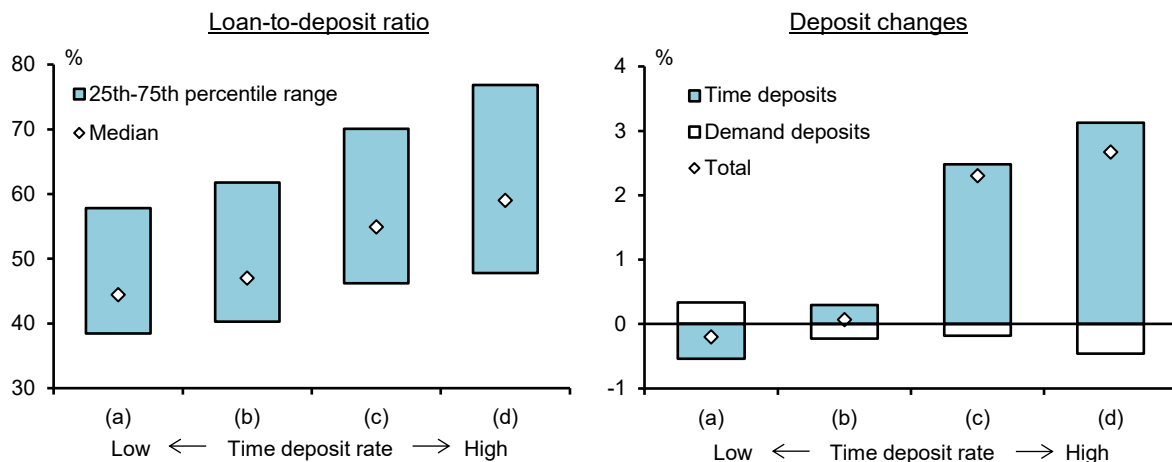
Note: Latest data as of August 2026.
Source: BOJ.

Chart IV-3-9: Deposit growth by type



Note: Covers regional and *shinkin* banks. Latest data as of 2026/Q3 (July-August).
Source: BOJ.

Chart IV-3-10: Loan-to-deposit ratio and deposit change by time deposit rate



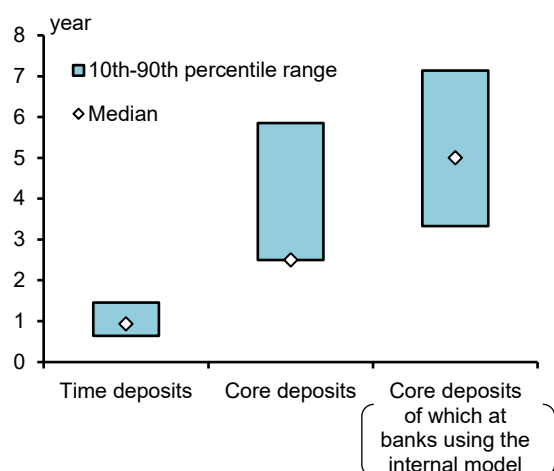
Note: 1. Covers regional and *shinkin* banks. Classifies banks into four groups based on the average time deposit rates between July 2024 and August 2026 (with weight of new deposit amount).

2. Figures for loan-to-deposit ratio are as of June 2024. Figures for deposit changes are percent changes from July 2024 to August 2026.

Source: BOJ.

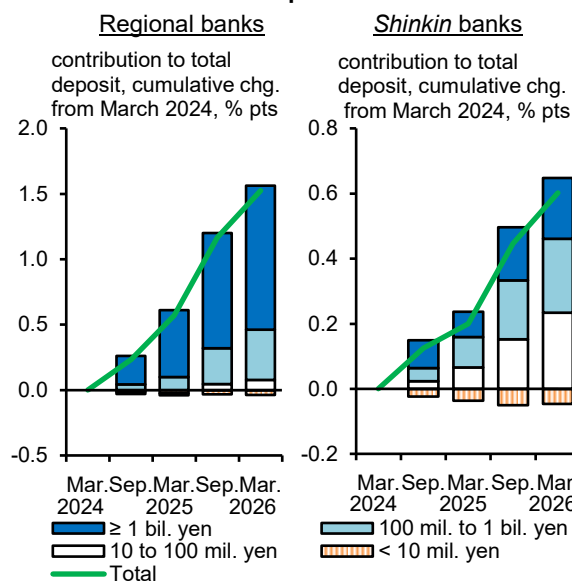
¹⁹ For details, see Box 2 in the October 2023 issue of the *Report*.

Chart IV-3-11: Average duration of deposits



Note: Covers regional and *shinkin* banks. Figures as of 2026/Q1.
Source: BOJ.

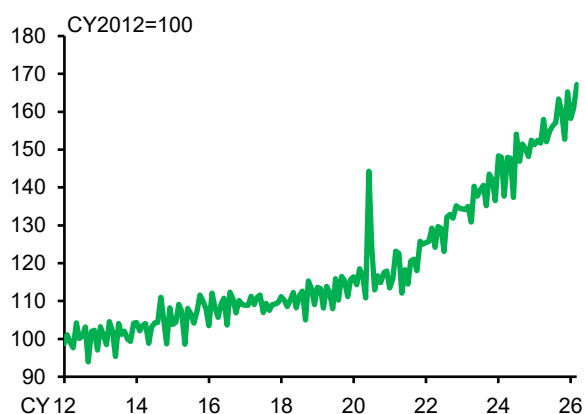
Chart IV-3-12: Corporate time deposits by deposit amount



Note: Classified by deposit amount per account.
Source: BOJ.

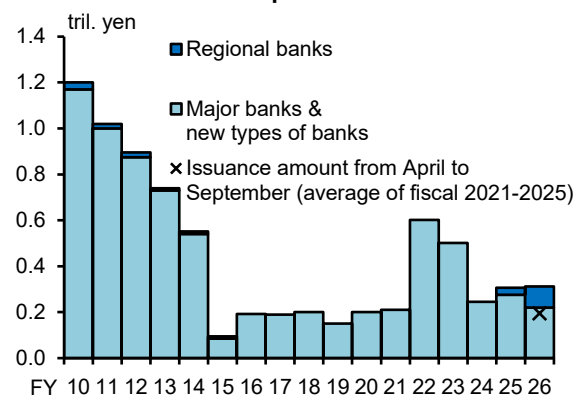
Meanwhile, with regard to the environment surrounding deposits, the turnover rate of demand deposits (the number of transfers per ordinary deposit account) has been on an upward trend (Chart IV-3-13). With a diverse range of payment and mobile services becoming more widespread, banks need to pay attention to the effects of the declining effort and costs involved in transferring deposits on the stickiness of deposits.²⁰

Chart IV-3-13: Turnover rate of demand deposits



Note: Shows the number of small-value transfers per account (seasonally-adjusted). Latest data as of March 2026.
Source: Japanese Banks' Payment Clearing Network; BOJ.

Chart IV-3-14: Issuance amount of banks' corporate bonds



Note: Covers yen-denominated corporate straight bonds (excluding subordinated bonds). Figures for fiscal 2026 are through September.
Source: I-N Information Systems, LTD.

As the growth of small, sticky retail deposits has slowed, some major banks and regional banks have begun issuing ordinary corporate bonds to diversify their stable funding sources (Chart IV-3-14). Although funding through corporate bonds entails higher costs than deposits, it allows banks to secure large amounts of funding with longer durations. Looking ahead, the balance between loans and deposits may change over time due to factors such as demographic changes; banks

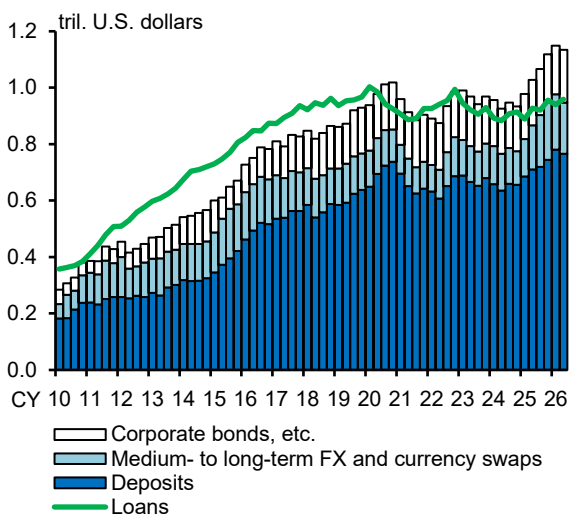
²⁰ For an analysis of the effects of the spread of online banking on deposit stickiness, see Koont, N., Santos, T., and Zingales, L., "Destabilizing Digital 'Bank Walks'," NBER Working Paper, no. 32601, June 2024.

therefore need to pay even greater attention to their asset and liability management (ALM) from a somewhat longer-term perspective.

Foreign currency funding liquidity risk

Banks have maintained stable foreign currency funding in view of uncertainty over future financial and economic conditions. The loan-to-funding gap of major banks -- the difference between the outstanding amount of loans and the outstanding amount of long-term funding, such as through the issuance of corporate bonds, and deposits -- shows that relatively stable funding exceeds their loans (Chart IV-3-15). Meanwhile, dollar funding costs have recently remained broadly unchanged, and dollar funding premiums have also generally remained stable (Charts II-2-8 and IV-3-16).

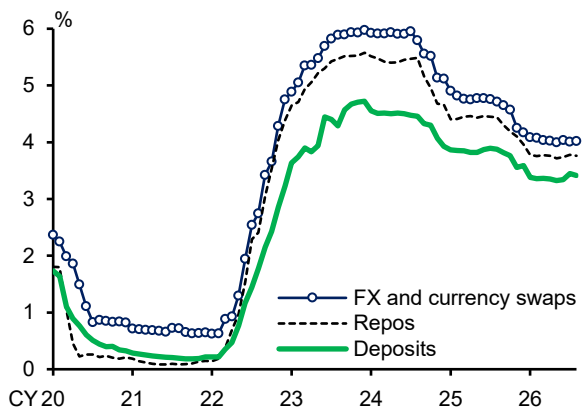
Chart IV-3-15: Loan-to-funding gap among major banks



Note: 1. "Corporate bonds, etc." and "Medium- to long-term FX and currency swaps" indicate funding maturing in over 1 year from end-June 2012 onward, with funding maturing in over 3 months prior to that time.
2. Covers internationally active banks. Latest data as of 2026/Q2.

Source: BOJ.

Chart IV-3-16: Dollar funding cost



Note: Shows the median values. Covers major banks. Latest data as of August 2026.

Source: BOJ.

V. The financial cycle and challenges following changes in the business environment

- 11 out of the 14 Financial Activity Indexes (FAIXs) in the heat map are in a range that does not significantly deviate from their trends. The financial gap, which captures the financial cycle, has recently widened somewhat, mainly due to the "price factor." Although no major financial imbalances have been seen in current financial activities, developments in asset prices, such as real estate prices and stock prices, continue to warrant careful attention. Going forward, it will also be necessary to closely monitor whether developments in financial activity deviate significantly from developments in real economic activity.
- Regarding lending to real estate funds, not only major banks but also regional banks have been actively engaging in such lending. Unlike conventional corporate loans to real estate transaction businesses and real estate leasing businesses, non-recourse loans, such as those to real estate funds, limit the sources of repayment to the cash flows generated by the underlying real estate and its sale value. It therefore remains essential to continue monitoring changes in the real estate market.
- The presence of the foreign non-bank financial intermediary (NBFI) sector has expanded globally, raising concerns about risks such as the amplification of shocks in the event of stress. Recently, private funds have been playing an increasingly prominent role as providers of financing for AI-related data center investment. In addition, the share of AI-related stocks in the portfolio of hedge funds conducting global equity investment has been increasing. If expectations regarding the profitability of AI-related investment were to decline, shocks could be amplified, mainly through portfolio adjustments in the foreign NBFI sector, and the effects could spill over to Japan.
- Banks need to continue to effectively manage risks associated with digital technologies and climate change. In particular, advances in so-called "frontier AI" have further heightened cybersecurity threats. It is therefore necessary to further enhance the resilience of individual financial institutions and the financial system as a whole.

A. Domestic financial cycle

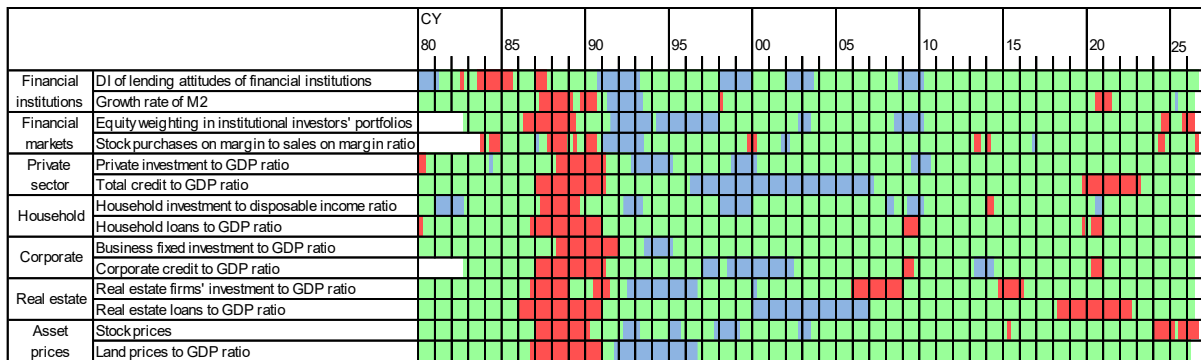
Heat map and financial gap

A heat map and the financial gap are used to assess Japan's financial cycle. The heat map is designed for the early detection of overheating in financial activity at the macro level, most notably that observed during the bubble period in the late 1980s. In constructing the heat map, 14 indicators that were sending signals of overheating during the bubble period are selected as FAIXs, and their

deviations from trend are indicated by three different colors (Chart V-1-1).²¹ As of the end of September 2026, 11 out of the 14 FAIXs are "green," indicating a "state where there are no significant deviations from the trend." This suggests that the current situation is different from the bubble period, when many indicators were "red."²²

The financial gap -- a summary measure of the 14 FAIXs that is calculated as the weighted average of the deviations of the 14 FAIXs from their trends -- shows that the gap has recently widened somewhat, mainly due to the "price factor" (Chart V-1-2).²³ A breakdown of the financial gap shows that the positive contribution of the "price factor," which includes asset prices such as stock prices, has remained somewhat elevated. However, the positive contribution of the "debt factor" has declined compared with the level before the pandemic. This reflects faster growth in nominal GDP, which is the denominator that shows the level of economic activity, than in credit extended by banks, which is the numerator. Meanwhile, the positive contribution of real investment (included in "asset factor" in the chart) has remained limited. Thus, no major financial imbalances have been seen in current financial activities.

Chart V-1-1: Heat map



Note: The latest data for "DI of lending attitudes of financial institutions," "Stock purchases on margin to sales on margin ratio," and "Stock prices" are as of 2026/Q3, "Land prices to GDP ratio" are as of 2026/Q1. The other indexes are as of 2026/Q2. Source: Bloomberg; Cabinet Office; Japan Real Estate Institute; Ministry of Finance; Tokyo Stock Exchange; BOJ.

²¹ Specifically, the colors represent a mechanical assessment based on the indicator's position relative to its thresholds: (1) red indicates that the indicator is above its upper threshold; (2) blue indicates that the indicator is below its lower threshold; (3) green indicates no signs of either extreme; and (4) white indicates that no data for that period are available. Central banks and international organizations also monitor similar indicators, on the recognition that overheating in financial activities on a macro level, such as was observed prior to the global financial crisis in the 2000s, tends to be followed by financial crises or prolonged economic stagnation. It should be noted that individual indicators are selected as early warning indicators for overheating in financial activities on a macro level and do not necessarily indicate overheating in specific markets. For details of the FAIXs, see Ito, Y., Kitamura, T., Nakamura, K., and Nakazawa, T., "New Financial Activity Indexes: Early Warning System for Financial Imbalances in Japan," Bank of Japan Working Paper Series, no. 14-E-7, April 2014.

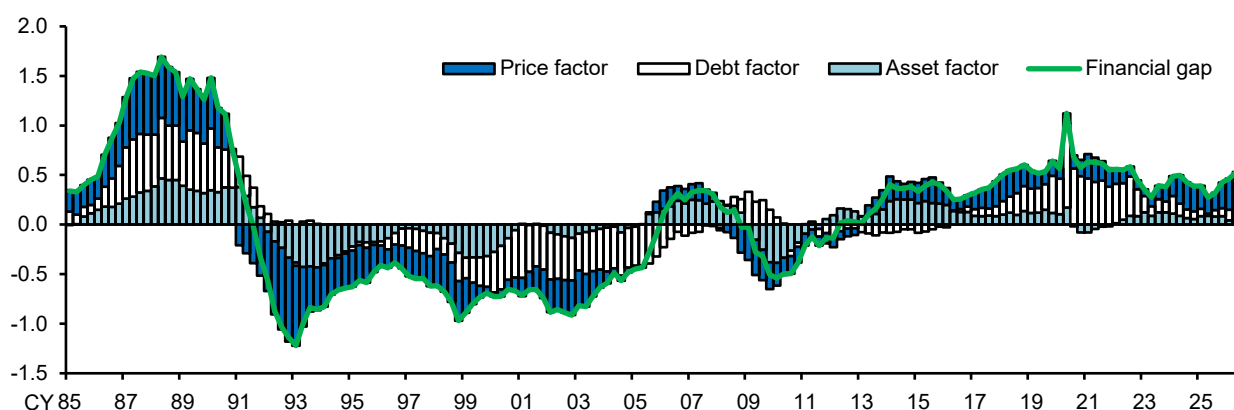
²² Compared with the previous *Report*, *stock prices* and the *equity weighting in institutional investors' portfolios* have continued to be "red," and the *stock purchases on margin to sales on margin ratio* has turned "red" for the first time since mid-2024. An analysis using data from 17 countries, including the G7 countries, on the degree to which an index in a heat map turning "red" predicts a future banking crisis showed that while stock prices on their own did not have high predictive power, their predictive power tended to rise when they signaled "red" at the same time as the *total credit to GDP ratio*. For details, see Box 1 in the April 2021 issue of the *Report*.

²³ In Chart V-1-2, which shows the financial gap, larger weights are assigned to indexes that have a higher correlation with other indexes in calculating the weighted average of individual FAIXs. The weights vary based on changes in the degree of correlation over time.

V. The financial cycle and challenges following changes in the business environment

A. Domestic financial cycle

Chart V-1-2: Financial gap

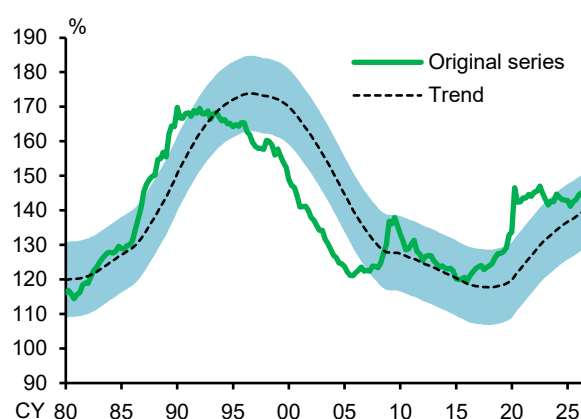


Note: "Asset factor" consists of indexes of fixed investment by the private sector, households, firms, and real estate businesses. "Debt factor" consists of indexes of their debt financing. "Price factor" consists of the remaining indexes. Latest data as of 2026/Q2 (the land prices to GDP ratio is imputed by the 2026/Q1 value).

Source: BOJ.

However, developments in asset prices, such as stock prices and real estate prices, continue to warrant careful attention. From a long-term perspective, the financial gap has remained positive since the early 2010s. The *total credit to GDP ratio* has continued to deviate somewhat upward from that trend, although it has recently been "green" (Chart V-1-3). The distribution of "GDP-at-Risk" (GaR), which represents the probability distribution of GDP growth rates over the next three years, remains skewed toward the downside (Chart V-1-4).²⁴ Going forward, it will also be necessary to closely monitor whether financial activity diverges significantly from real economic activity.

Chart V-1-3: Total credit to GDP

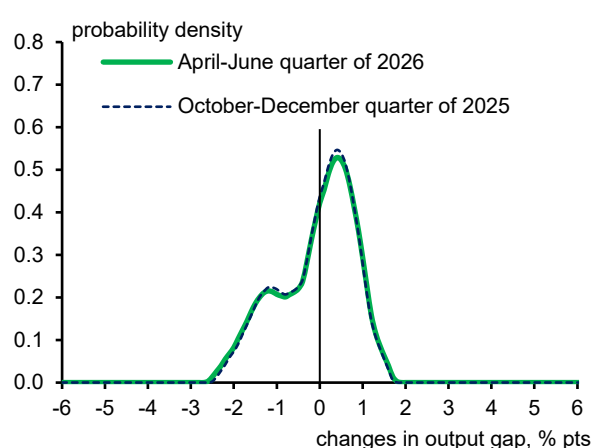


Note: 1. "Trend" is calculated using the one-sided HP filter. The shaded area indicates the root mean square of the deviation from the trend.

2. Latest data as of 2026/Q2.

Source: Cabinet Office; BOJ.

Chart V-1-4: Risks to future economic growth



Note: Shows the changes in the output gap over the next 3 years, estimated based on the output gap, the financial gap, and the U.S. NFCI for each time point.

²⁴ GaR applies the value-at-risk (VaR) approach, a method for assessing the risk associated with financial assets, to the GDP growth rate. Specifically, the regression equation used to estimate GaR here is as follows:

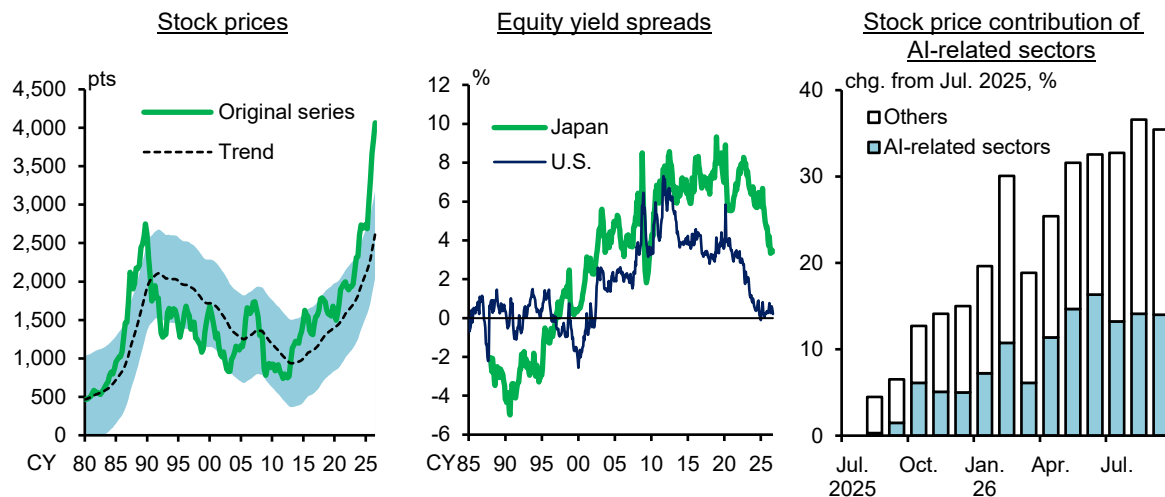
$$\left(\text{Changes in the output gap} \right)_{\text{over the next } X \text{ years}} = \alpha \left(\text{Changes in the output gap} \right)_{\text{from the previous period}} + \beta (\text{Financial gap}) + \gamma (\text{U.S. NFCI}) + \delta.$$

For details of the GaR approach, including the underlying rationale, estimation method, and caveats regarding its use, see section B of Chapter IV and Box 1 of the October 2018 issue of the *Report*.

Developments in stock prices

In the stock market, the *stock prices* indicator has continued to deviate upward from its trend, as indicated by "red" in the heat map (Chart V-1-1 and left panel of Chart V-1-5).

Chart V-1-5: Stock market-related indicators



Note: 1. In the left-hand chart, "Trend" is calculated using the one-sided HP filter. The shaded area indicates 1.5 times the root mean square of the deviation from the trend. In the middle chart, yield spreads are calculated as expected returns - 10-year government bond yields. Expected returns for Japan and the U.S. are based on expected EPS for the next 12 months of the TOPIX and the S&P 500, respectively.

2. In the right-hand chart, "AI-related sectors" refers to the following four TOPIX Sector Indices: Nonferrous Metals, Machinery, Electric Appliances, and Precision Instruments.

3. Latest data for the left-hand are as of 2026/Q3; middle and right-hand charts are as of end-September 2026.

Source: Bloomberg; Haver Analytics; LSEG; Ministry of Finance; Tokyo Stock Exchange.

Regarding stock valuation indicators, price-earnings (P/E) ratios have remained broadly around their average levels since 2008, reflecting an increase in expected earnings per share (EPS), which is the denominator (Chart II-2-10). In addition, equity yield spreads, i.e., the difference between expected equity yields and 10-year Japanese government bond (JGB) yields, which likely reflect equity risk premiums, have declined somewhat amid rising interest rates, but have remained at relatively high levels from a somewhat longer-term perspective (middle panel of Chart V-1-5).²⁵

Japanese stock prices have been rising, supported by expectations of profit improvements in sectors such as electric appliances, precision instruments, nonferrous metals, and machinery, which stand to benefit relatively more from the ongoing global expansion in AI-related demand. Thus, Japanese stocks could face adjustment pressure if profits do not expand in line with large-scale AI-related investments by hyperscalers and other firms across related industries (right panel of Chart V-1-5; for a stress test scenario assuming substantial adjustment in AI-related investment, see section B of Chapter VI).

Real estate prices and real estate markets

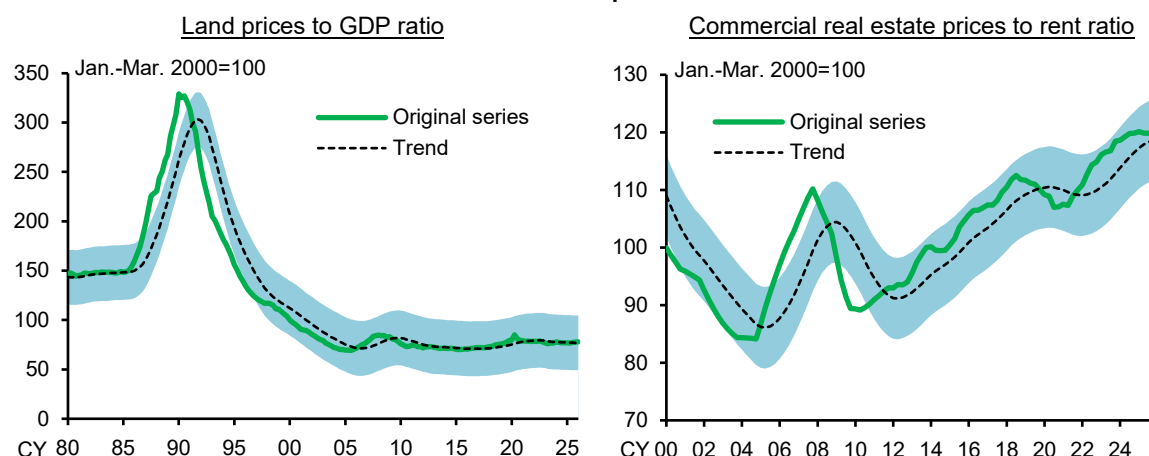
Overall, real estate prices have been rising, reflecting the economic recovery and price rises. The *land prices to GDP ratio*, which is a component of the heat map, has remained flat in line with its

²⁵ If risk premiums in global financial markets had declined prior to an adjustment phase, changes in market sentiment and a major correction in market participants' views regarding future developments would more likely result in large declines in asset prices, and spillovers into Japan's financial markets would likely be more pronounced. For details, see section A of Chapter V in the October 2025 *Report* for analysis on price fluctuation risk in stock prices.

V. The financial cycle and challenges following changes in the business environment
A. Domestic financial cycle

trend. Additionally, the *commercial real estate price to rent ratio* has also remained within its trend, shifting from an upward trajectory to being more or less unchanged, mainly due to a recent rise in rents (Chart V-1-6).²⁶

Chart V-1-6: Real estate price-related indicators

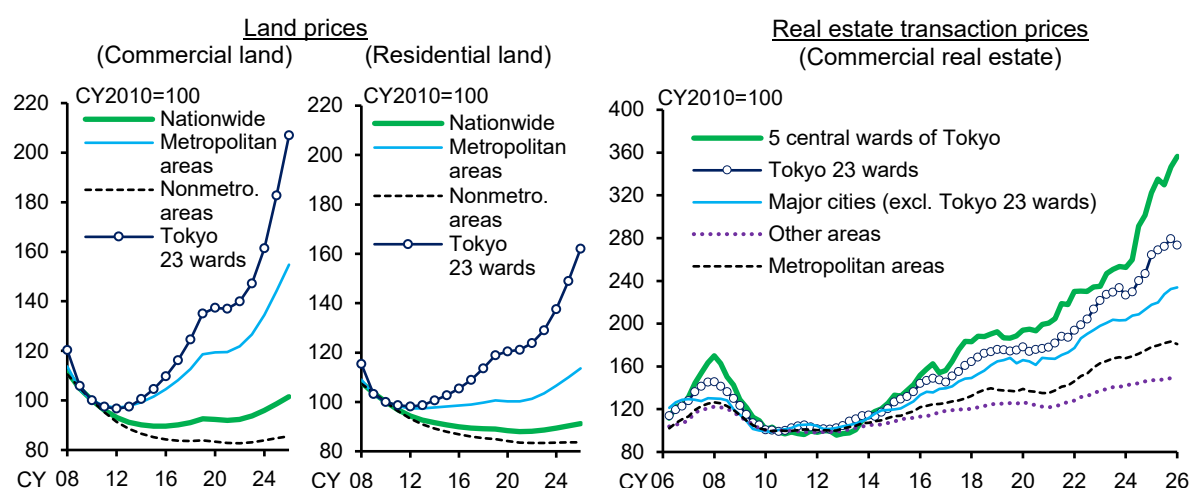


Note: 1. "Trend" is calculated using 3-year backward moving averages. The shaded areas indicate the root mean square of the deviation from the trend.

2. Latest data for the left- and right-hand charts are as of 2026/Q1 and 2025/Q4, respectively.

Source: Cabinet Office; Japan Real Estate Institute; Ministry of Land, Infrastructure, Transport and Tourism; BOJ.

Chart V-1-7: Real estate prices



Note: 1. Land prices for the left-hand chart are based on "Publication of market values of standard sites by prefectural government" as of July 1 of each year. Latest data for land prices are as of 2026.

2. The right-hand chart is based on individual transaction data of "Real Estate Transaction-price Information." The chart indicates quality-adjusted prices estimated using the Hedonic approach for each region. "The 5 central wards of Tokyo" indicates Chiyoda, Chuo, Minato, Shibuya, and Shinjuku wards. "Major cities (excl. Tokyo 23 wards)" is estimated based on data of Fukuoka, Hiroshima, Nagoya, Osaka, Sapporo, and Sendai. "Other areas" is estimated based on data excluding the 6 cities above and Tokyo 23 wards. "Metropolitan areas" comprise the Tokyo metropolitan area (Tokyo, Saitama, Chiba, and Kanagawa), the Nagoya metropolitan area (Aichi, Gifu, and Mie), and the Osaka metropolitan area (Kyoto, Osaka, and Hyogo). 4-period backward moving averages. Latest data for the right-hand chart are as of 2026/Q1.

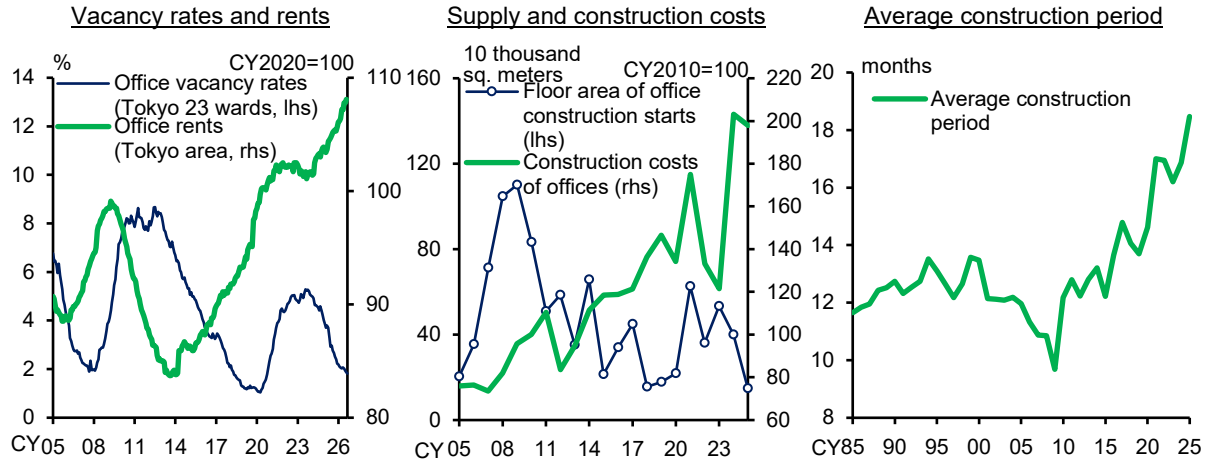
Source: Ministry of Land, Infrastructure, Transport and Tourism.

That said, in the three major metropolitan areas, particularly in the Tokyo metropolitan area, the pace of price increase has been accelerating (left panel of Chart V-1-7). In the Tokyo metropolitan

²⁶ The financial activity indexes, such as the *land prices to GDP ratio*, are designed to signal "red" during the bubble period in the late 1980s (Chart V-1-1). In contrast, the trends and thresholds for the rate of change in the *commercial real estate price to rent ratio* in the right panel of Chart V-1-6 are set to signal "red" during the "mini-bubble" period (2007).

office building market, despite declining vacancy rates, the floor area of office building construction starts has remained at low levels due to a surge in construction costs and to labor shortages. Rents have continued to rise amid tightening supply and demand conditions (Chart V-1-8).

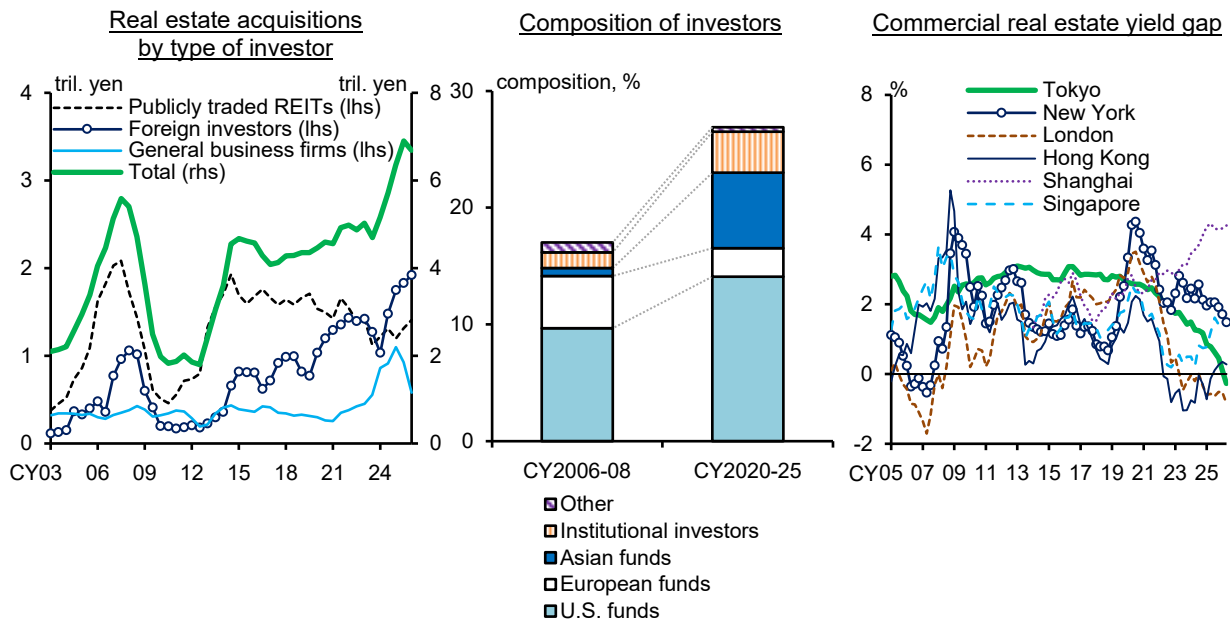
Chart V-1-8: Commercial real estate market



- Note: 1. In the left-hand chart, latest data for "Office vacancy rates" and "Office rents" are as of September 2026 and August 2026, respectively. "Office rents" is based on the Services Producer Price Index.
 2. The middle chart covers Tokyo. The data for construction costs are estimated construction costs per floor area of construction starts. Offices are for business use whose structures are steel reinforced concrete or reinforced concrete. Latest data are as of 2025.
 3. In the right-hand chart, the data are calculated as the ratio of construction works permitted but not started to construction works executed, based on the "Current Survey of Orders Received for Construction (Big 50 Constructors)." Latest data are as of 2025.

Source: Ministry of Land, Infrastructure, Transport and Tourism; Sanko Estate Co., Ltd.; BOJ.

Chart V-1-9: Foreign investors' real estate investment



Note: 1. Latest data for the left-hand chart are as of the first half of 2026. Annualized, 4-period backward moving averages.

2. The middle chart shows the share of real estate acquisition amount by foreign investors.

3. In the right-hand chart, yield gaps are calculated as cap rates of Grade-A office buildings in each city (surveyed by JLL) - 10-year government bond yields for the corresponding country or region. Latest data as of 2026/Q2.

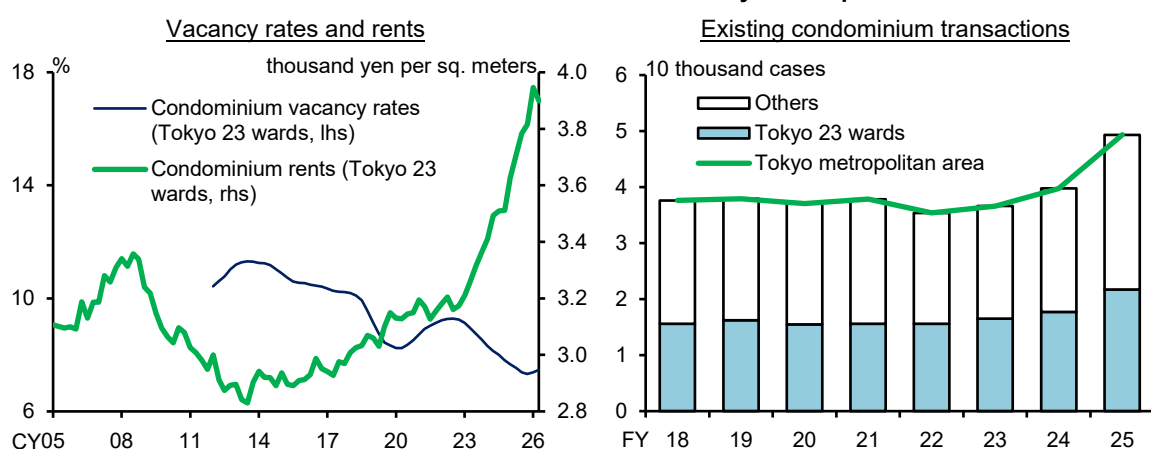
Source: Haver Analytics; Japan Real Estate Institute; JLL; Ministry of Finance; Nikkei Business Publications, Inc., "Nikkei Real Estate Market Report DEAL SEARCH."

Amid these developments, many foreign investors have maintained an active investment stance, and the upward trend in real estate investment, mainly by U.S. and Asian funds, has continued (left and middle panels of Chart V-1-9). However, the yield gap, which indicates real estate risk

premiums, for commercial real estate in Tokyo has been declining due to the recent increases in property prices and interest rates (right panel of Chart V-1-9).²⁷

The condominium market in the Tokyo metropolitan area has continued to experience a decline in vacancy rates and a rise in rents (left panel of Chart V-1-10). In the Tokyo metropolitan area, the supply of newly constructed condominiums has been sluggish due to shortages of land for condominiums, leading to an increase in the number of transactions for existing condominiums (right panel of Chart V-1-10). Against this background, prices for existing condominiums, especially for relatively new properties, which likely reflect demand, including for investment, have been rising significantly. Recently, the upward price pressure has also extended to older properties around 30 years old (left panel of Chart V-1-11). However, in the three central wards of Tokyo, price increases in existing condominiums appear to be leveling off (right panel of Chart V-1-11). It remains necessary to closely monitor developments in the real estate market.

Chart V-1-10: Condominium market in the Tokyo metropolitan area

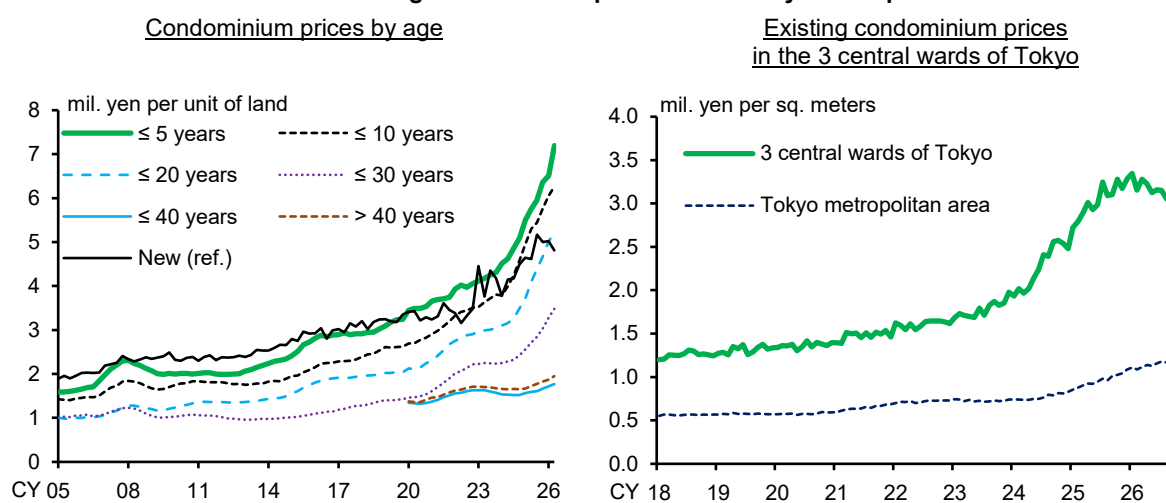


Note: 1. In the left-hand chart, "Condominium rents" indicates the average rents under new contracts released by the Real Estate Information Network for East Japan. Latest data are as of 2026/Q2.

2. The right-hand chart covers properties registered with the Real Estate Information Network for East Japan that reached contract conclusion in each fiscal year.

Source: Real Estate Information Network for East Japan; TAS Corp.

Chart V-1-11: Existing condominium prices in the Tokyo metropolitan area



Note: 1. The left-hand chart shows the distribution inventory prices of existing condominiums and the launch prices of newly constructed condominiums in the Tokyo metropolitan area. Latest data are as of 2026/Q2.

2. The right-hand chart shows asking prices. Latest data are as of August 2026.

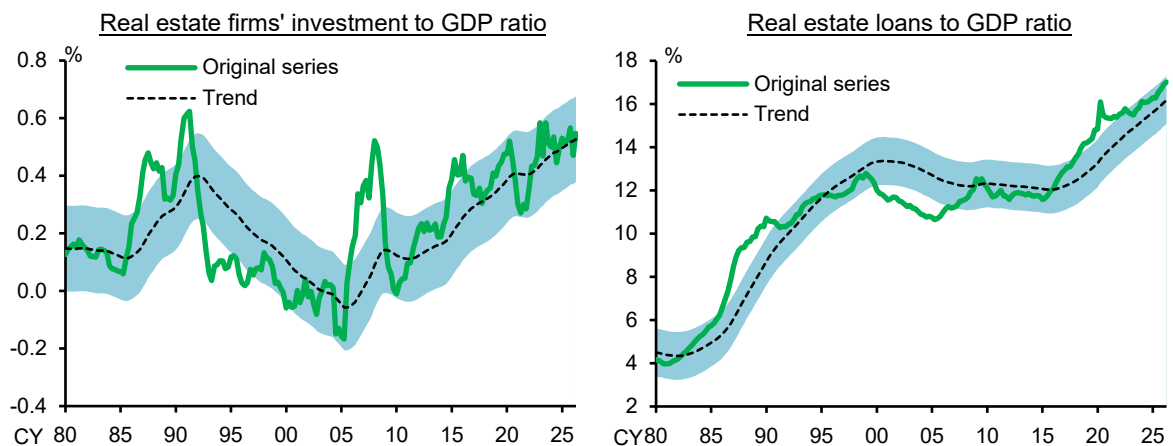
Source: Real Estate Information Network for East Japan; Tokyo Kantai.

²⁷ Yield expectations among foreign investors tend to be lower compared with those of domestic investors. For details, see Chart V-1-11 in the April 2025 issue of the *Report*.

Developments in Lending to Real Estate Businesses

Regarding developments in real investment and bank borrowing by real estate sector, the relevant indicators in the heatmap show that, while the *real estate firms' investment to GDP ratio* has remained in line with the trend, the *real estate loans to GDP ratio* has deviated somewhat upward from its trend. Although the latter remains "green," it is close to levels corresponding to "red" (Chart V-1-12). The divergence between the two indicators likely reflects that, while real investment by real estate firms has remained sluggish, mainly due to labor shortages at construction sites and higher construction costs, growing demand for transactions in existing properties -- including large buildings and existing condominiums -- has contributed to an increase in lending to real estate businesses.²⁸ Although the pace of increase in the *real estate loans to GDP ratio* is moderate compared with the bubble period in the late 1980s, these developments warrant close monitoring.

Chart V-1-12: Real estate-related investment and lending



Note: 1. "Trend" is calculated using the one-sided HP filter. The shaded area indicates the root mean square of the deviation from the trend.

2. Latest data are as of 2026/Q2.

Source: Cabinet Office; Ministry of Finance; BOJ.

With regard to recent developments in real estate-related lending, banks appear to be meeting borrowing demand selectively under prudent credit management. However, it should be noted that the share of such lending in total lending has been on an uptrend, accompanied by a shift in the composition of lending to real estate funds as well as corporate loans to real estate businesses (Chart V-1-13).

Regarding lending to real estate funds, not only major banks but also regional banks have been actively engaged in such lending (Charts III-1-7 and III-1-8). A closer look at lending by regional banks to real estate funds shows that about half of these loans are extended as part of syndicated loans arranged by major banks and others, and that a large share of lending is extended to properties outside the banks' home regions (i.e., through cross-prefecture lending), including in Tokyo (left panel of Chart V-1-14).²⁹ Moreover, in lending outside banks' home regions, a certain amount of lending is also extended in the form of relatively high-risk mezzanine loans (right panel

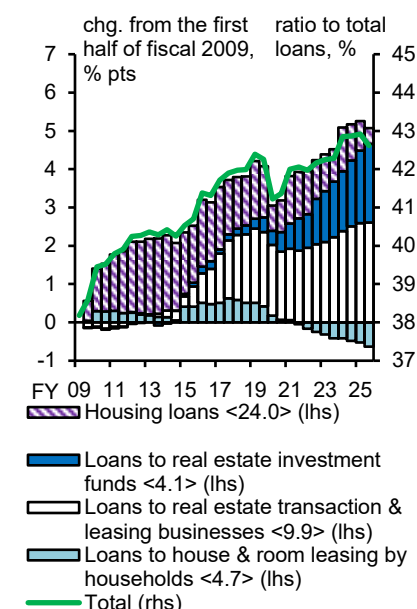
²⁸ From a somewhat longer-term perspective, listed firms' efforts to improve capital efficiency by moving real estate holdings off their balance sheets, and the subsequent transfer of those properties to real estate funds, have likely contributed to the increase in credit demand for existing property transactions. For details, see section C of Chapter III in the April 2024 issue of the *Report*.

²⁹ Chart V-1-14 is compiled on a property-location basis and shows that, even when lending is extended to real estate funds located in Tokyo, the projects financed often involve properties located outside Tokyo ("Outside home region (Other areas)" in the chart includes Kanagawa, Chiba, Saitama, as well as other metropolitan areas such as Osaka and Aichi Prefectures).

V. The financial cycle and challenges following changes in the business environment
A. Domestic financial cycle

of Chart V-1-14). Unlike conventional corporate loans to real estate transaction businesses and real estate leasing businesses, non-recourse loans, such as those to real estate funds, limit the sources of repayment to the cash flows generated by the underlying real estate and its sale value, and such loans are therefore likely to be directly affected by changes in real estate prices and rents.³⁰

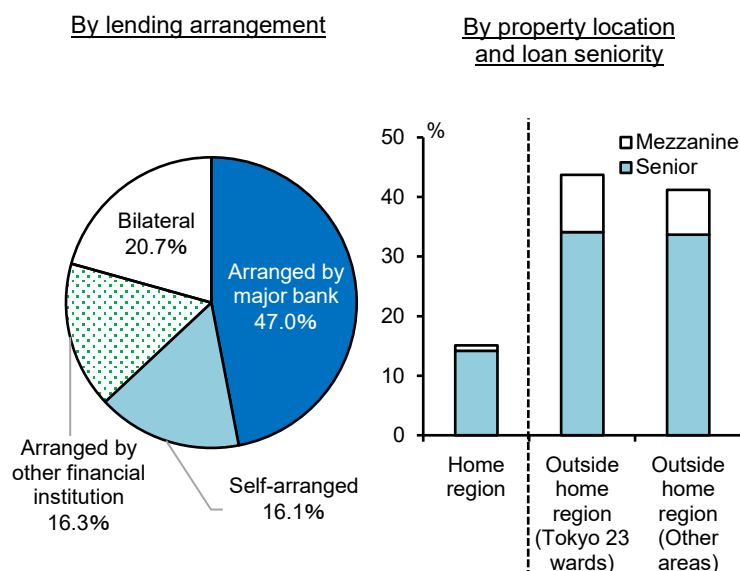
Chart V-1-13: Change in the share of real estate-related loans



Note: Latest data as of the second half of fiscal 2025. Covers major, regional, *shinkin* and new types of banks. "Loans to real estate transaction and leasing businesses" excludes "Loans to house and room leasing by households" and "Loans to real estate investment funds" from "Real estate sector" in Loans and Bills Discounted by Sector. Figures in brackets indicate the share of real estate-related loans to total loans as of end-March 2026.

Source: BOJ.

Chart V-1-14: Regional banks' lending to real estate funds



Note: 1. Compiled from a survey of regional banks (conducted in July 2026), based on fiscal 2025 data. The left-hand chart shows the proportion of outstanding loans to real estate funds by lending arrangement (as of fiscal year-end).
2. "Home region" in the right-hand chart refers to the prefecture each bank's head office is located.

Source: BOJ.

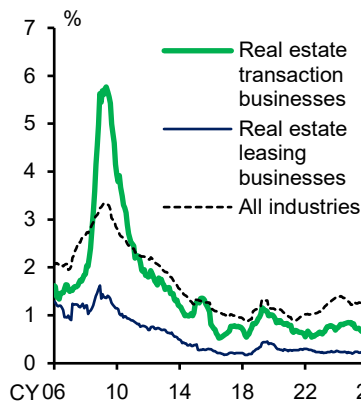
Default rates have remained low among real estate transaction businesses and real estate leasing businesses (Chart V-1-15). Inventory turnover periods at real estate transaction businesses have recently declined, as sales have remained firm even though inventories have continued to increase (Chart V-1-16). At real estate leasing businesses, higher interest payments due to the rise in interest rates have recently put downward pressure on current profits, while increases in operating profits, reflecting rising rents, have been exerting upward pressure on current profits (Chart V-1-17).

At present, with real estate prices continuing to rise, rental income has remained robust, and borrower classifications, including those of real estate funds, have remained sound. Nevertheless, given that the real estate industry is highly sensitive to interest rates, it remains essential to continue

³⁰ For details of banks' efforts and risk management strategies regarding non-recourse loans extended to real estate funds, see, for example, Box 2 of the April 2023 issue of the *Report*.

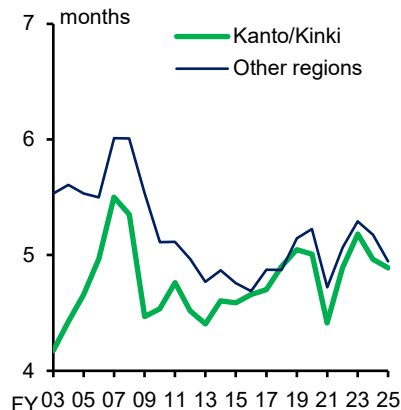
monitoring changes in the real estate market. Banks need to further enhance the effectiveness of their monitoring to appropriately capture changes in the financial conditions of their borrowers.

Chart V-1-15: Default rates of real estate businesses



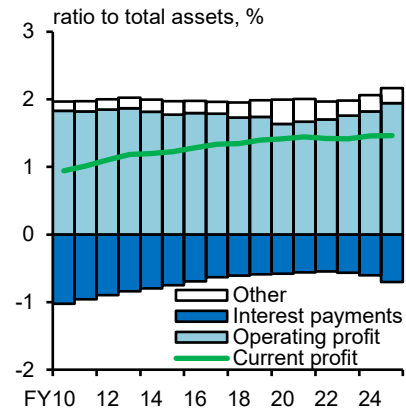
Note: Latest data are as of July 2026. Default is based on the classification "in danger of bankruptcy."
Source: The Risk Data Bank of Japan.

Chart V-1-16: Inventory turnover periods of real estate transaction businesses



Note: Latest data are as of fiscal 2025. Shows the median of each region, based on the CRD. Covers SMEs. Inventory turnover period is the ratio of inventory assets to sales.
Source: CRD Association.

Chart V-1-17: Current profit of real estate leasing businesses



Note: Covers SMEs. Latest data are as of fiscal 2025.
Source: CRD Association.

B. Global financial stability

Globally, the resilience of the banking sector has improved as regulatory compliance has progressed. At the same time, the presence of the NBFIs sector has expanded worldwide, drawing attention to the potential risks associated with the NBFIs sector (Chart V-2-1). These include, for example, the risk that the NBFIs sector, particularly investment funds, could amplify price fluctuations in financial markets in the event of stress, as well as the risk that amplified stress could spill over to the global financial system through increasing interconnectedness between the NBFIs and banking sectors and across jurisdictions.³¹

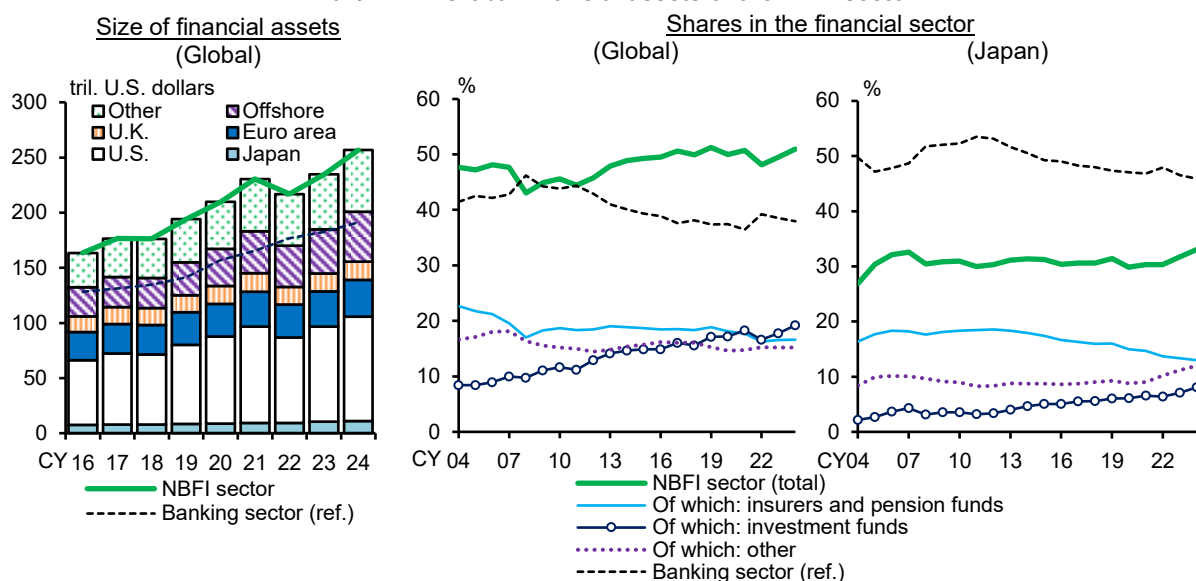
In Japan, the share of financial assets held by the domestic NBFIs sector is relatively low compared with other countries, as is the share of investment funds in the NBFIs sector (Chart III-2-1).³² Nonetheless, there has been a steady increase in lending to and investment in the foreign NBFIs sector by domestic banks, as well as in investments in Japanese stocks and bonds by the foreign NBFIs sector, particularly those related to foreign funds (Chart V-2-2; see section A of Chapter III and section A of Chapter IV for developments in Japanese banks' lending to and investment in foreign NBFIs).

³¹ For details, see the following reports: Oishi, H., Kobayashi, E., and Sugihara, Y., "Recent Developments in Non-Bank Financial Intermediation and Initiatives to Enhance Its Resilience," *Bank of Japan Review Series*, no. 2025-E-6, May 2025, and Eguchi, M., Okubo, T., Yamamoto, K., and Washimi, K., "Changing Landscape of NBFIs in Financial Systems -- A Comparative Analysis of Japan, the U.S., and Germany --," *Bank of Japan Review Series*, no. 2025-E-7, June 2025.

³² With regard to the domestic NBFIs sector, there has been no significant increase in interconnectedness in terms of lending to domestic economic entities or borrowing from domestic banks, suggesting that the transmission of risks from the domestic NBFIs sector to domestic banks remains relatively limited. For details, see section B of Chapter V in the April 2025 issue of the *Report*.

V. The financial cycle and challenges following changes in the business environment
B. Global financial stability

Chart V-2-1: Global financial assets of the NBFIs sector



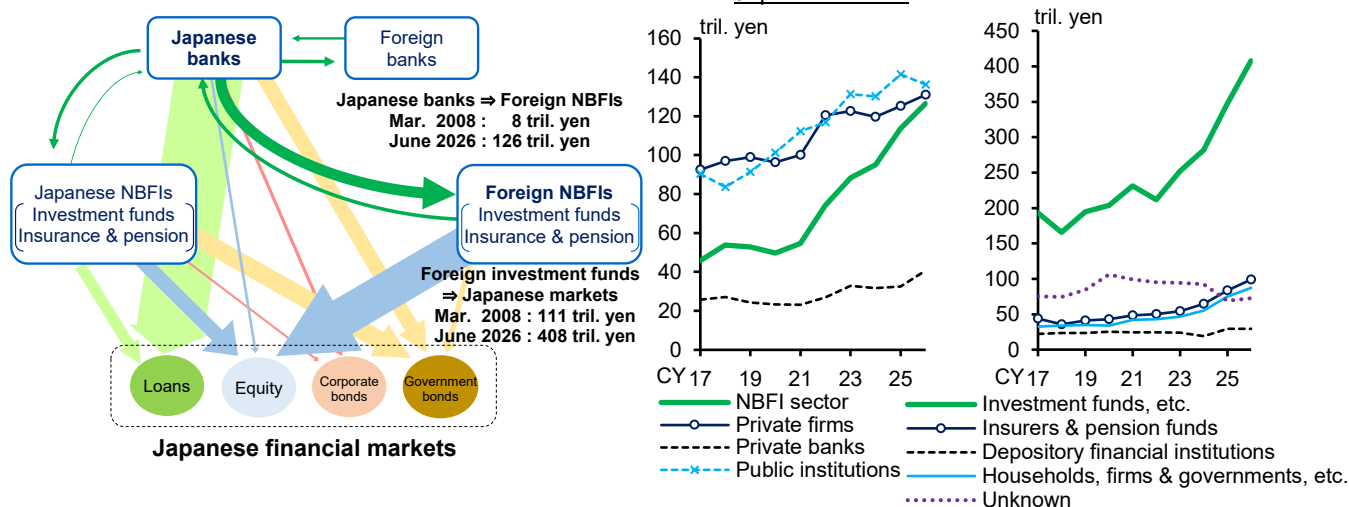
Note: In the left-hand chart, the Cayman Islands, Luxembourg, and Ireland are classified as "Offshore." In the middle and the right-hand charts, "Other" includes dealer-brokers, finance companies, etc.
Source: FSB; BOJ.

Chart V-2-2: Linkages between the Japanese financial sector and the foreign NBFIs sector

Interconnectedness of the domestic and foreign financial sectors via loan and investment activities

Foreign loans and investments outstanding of Japanese banks

Japanese securities held by foreign investors



Investments and loans outstanding of Japanese banks to foreign NBFIs

Securities investment outstanding of foreign NBFIs in Japanese financial markets

2026/Q1	Outstanding (tril. yen)	y/y % chg.	2026/Q2	Outstanding (tril. yen)	y/y % chg.
Total	123	+20.0	Total	507	+36.3
Of which: investments in funds (ref.)	69	+4.8	Of which: equity investments by investment funds, etc.	355	+43.8
Of which: loans to funds (ref.)	12	+29.2	Of which: debt securities investments by investment funds, etc.	53	+0.3
Total securities investments	[482]	[+2.6]			
Total loans	[825]	[+5.9]			

Note: Direction and width of arrows in the upper left-hand chart indicate the outstanding amount of loans and investments between the sectors and to the respective markets (as of June 2026). Some data are omitted due to data limitations. The upper middle chart is based on BIS International Consolidated Banking Statistics (CBS); excludes trust banks. MBS investments by major banks and others are excluded from "NBFIs sector" and included in "Public institutions." In the upper right-hand chart, the outstanding amounts of Japanese securities held by each foreign sector are estimated using the sectoral outward securities investment data for each country and region compiled by the IMF. "Investment funds, etc." includes financial dealers and brokers and finance companies, etc. In the lower tables, "investments in funds" covers major banks (excluding trust banks) and investment trusts by regional and *shinkin* banks, "loans to funds" covers three major banks, and "Total securities investments" and "Total loans" cover major banks (excluding trust banks) and regional and *shinkin* banks (including both domestic and foreign branches). Latest data for the upper middle and right-hand charts are as of end-June 2026.

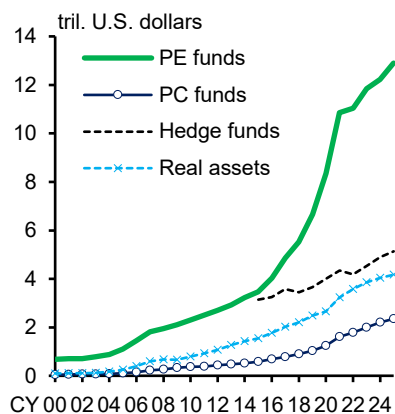
Source: BIS; IMF; U.S. Department of the Treasury; BOJ.

Against this background, Japan's financial system may have become more susceptible to fluctuations in global financial markets and developments in foreign investment funds, as its interconnectedness with the foreign NBFI sector has strengthened. The following examines developments in private funds, to which domestic banks have increased their lending and investment, as well as the investment activities of hedge funds, whose investment in Japanese financial markets has increased rapidly alongside rising leverage, and assesses the impact of global financial stability risks on Japan's financial system.

Developments in private funds

With regard to assets under management in private funds, those of private equity (PE) funds have continued to increase, particularly in U.S. and European markets (Chart V-2-3). Private credit (PC) funds have typically taken the form of closed-end funds that do not allow early redemptions. Recently, however, there has been an increase in semiliquid funds that accept redemption requests up to a certain amount in each period, such as non-traded business development companies (BDCs) in the United States (Chart V-2-4). Against this background, the investor base has gradually expanded from institutional investors to retail investors.

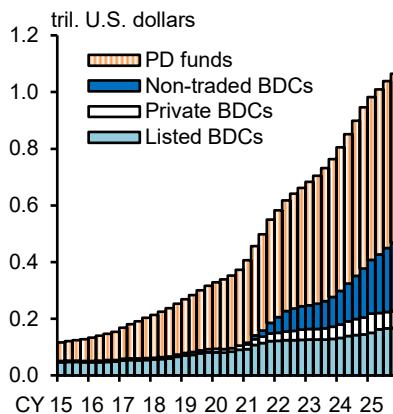
Chart V-2-3: Global assets under management in private funds



Note: "PC funds" represents the sum of BDCs and PD funds. "Real assets" includes real estate, infrastructure, and natural resources. Latest data for "Hedge funds" are as of June 2025, and for the rest are as of December 2025.

Source: Preqin; S&P Global Market Intelligence.

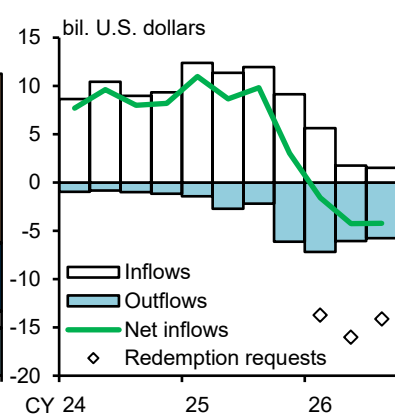
Chart V-2-4: Assets under management in U.S. PC funds by type



Note: Covers direct lending funds in the North American region (compiled using data from Preqin and S&P Global Market Intelligence). "Non-traded BDCs" represents BDCs whose assets under management (AUM) can be tracked and excludes private BDCs (those do not file Form N-2) sold to institutional investors. Latest data as of 2025/Q4.

Source: Preqin; S&P Global Market Intelligence.

Chart V-2-5: Inflows and outflows of non-traded BDCs

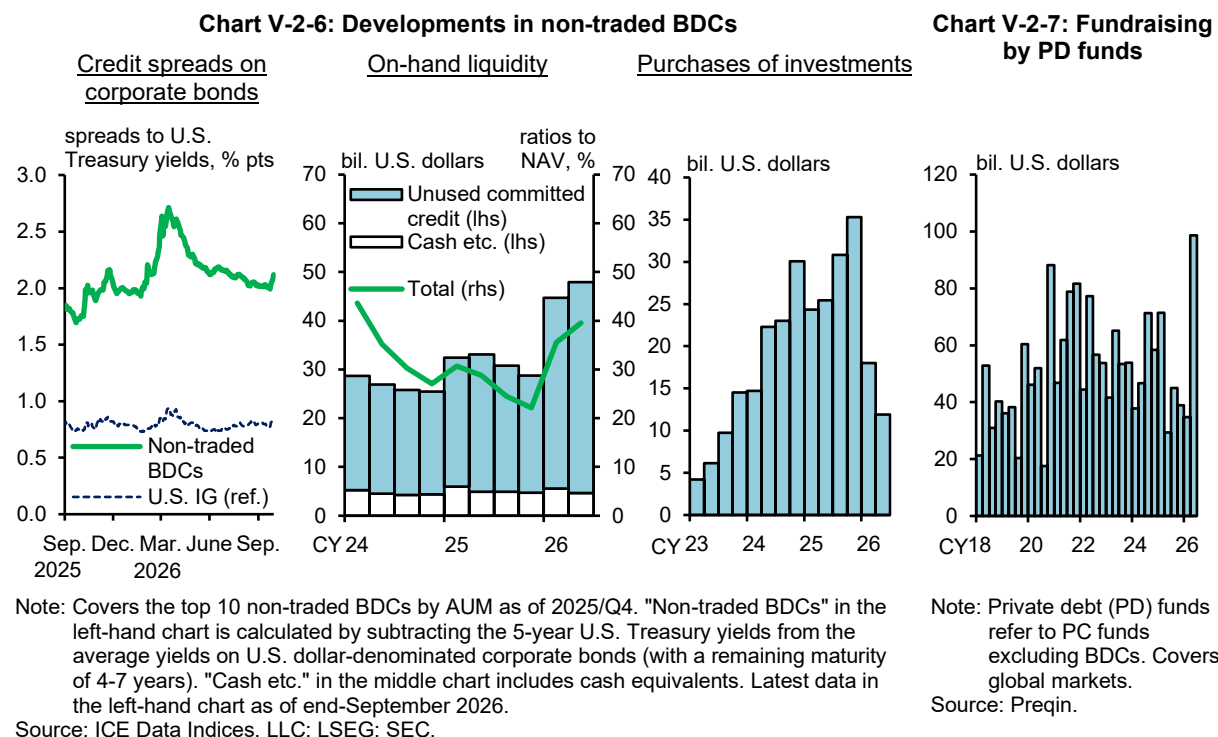


Note: Covers the top 10 non-traded BDCs by AUM as of 2025/Q4. Reinvestments are excluded.

Source: SEC.

Nonetheless, since the start of 2026, non-traded BDCs have continued to experience capital outflows due to redemptions, reflecting concerns about the future business prospects of the software industry, to which PC funds have expanded their lending (Chart V-2-5). The increase in redemptions and the slowdown in capital inflows appear to have been driven primarily by retail investors. By contrast, as suggested by the recent narrowing of corporate bond spreads for non-traded BDCs, which had temporarily widened, institutional investors' investment stance appears to

have remained broadly unchanged (left panel of Chart V-2-6).³³ Reasons that have been pointed out are that non-traded BDCs have a structure which allows fund managers to control the scale of redemptions and that they have secured a reasonable level of liquidity by establishing new lines of credit with banks and curtailing new investments (middle and right panels of Chart V-2-6). Thus far, the slowdown in capital inflows observed in non-traded BDCs has not spilled over to other PC funds, whose principal investors are institutional investors, and no significant changes have been observed in their financing trends (Chart V-2-7).



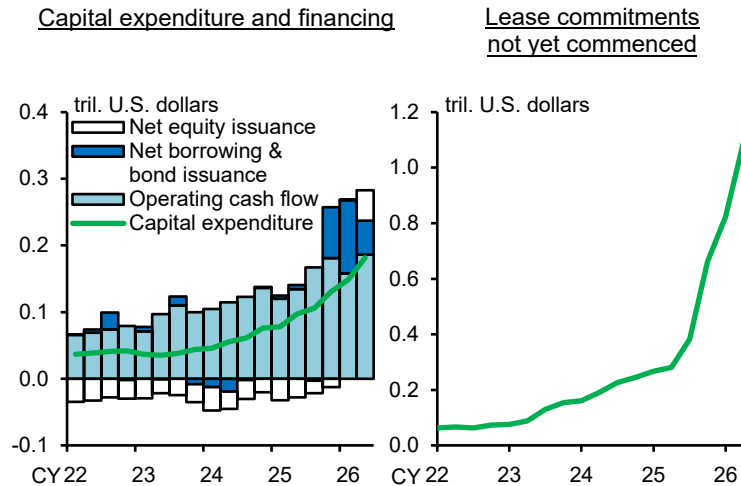
Driven by strong expectations for growth in AI-related markets, hyperscalers, particularly in the United States, have significantly increased their investments in data centers in recent years. Foreign NBFIs, including private funds, have been playing an increasingly prominent role as providers of financing. While hyperscalers have traditionally financed data center investment with their internal funds, they have recently increased external financing through corporate bond issuance and have increasingly sought to secure rights to use third-party data centers via long-term lease commitments (Chart V-2-8). Data center operators use the creditworthiness of hyperscalers under lease commitments to raise funds, primarily in the form of project finance. Private funds have been purchasing data center-related loans from banks that arrange the financing. In some cases, private funds, particularly infrastructure funds, invest in data centers as sponsors (Chart V-2-9).³⁴ In addition, it has been pointed out that private funds are also investing in asset-backed securities (ABS) and commercial mortgage-backed securities (CMBS) issued to

³³ Institutional investors appear to have a high tolerance for the risks associated with long-term asset management. For details, see Okubo, T., Kaido, Y., Yamamoto, K., and Washimi, K., "Evolving Trends in Business Development Companies (BDCs) in the U.S. Direct Lending Market," *Bank of Japan Review Series*, no. 2026-E-1, April 2026.

³⁴ Even when private funds are not direct sponsors, their investments can take various forms. These include cases where funds acquire data center operators that act as sponsors, as well as cases where they act as sponsors through joint ventures with hyperscalers.

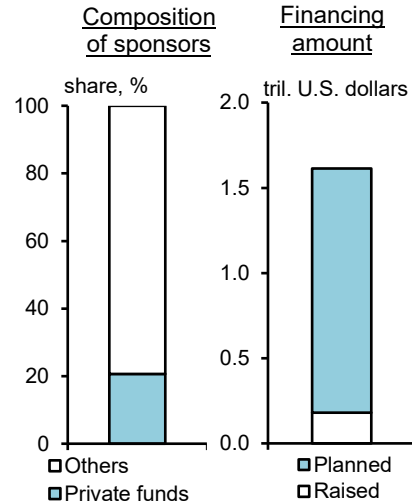
refinance project finance when data centers transition to the operational phase.³⁵ Given that many data center projects are currently still in the fundraising phase, private funds' exposure to data center-related investments is expected to increase further. Under these circumstances, attention must be paid to the possibility of growing concentration in private funds' portfolios.

Chart V-2-8: Capital expenditure by hyperscalers



Note: Covers five companies: Alphabet, Amazon, Meta, Microsoft, and Oracle. The positive values of "Net borrowing & bond issuance" and "Net equity issuance" indicate financing. Latest data as of 2026/Q2.
Source: LSEG Workspace; SEC.

Chart V-2-9: Financing of data centers



Note: Covers projects in the U.S. released from January 2023 to August 2026. Figures in the left-hand chart are based on the number of projects. Figures in the right-hand chart are as of August 2026.

Source: LSEG Workspace.

Meanwhile, default rates of firms receiving investments and loans from private funds appear to have remained low. However, it has also been noted that interest payment deferrals due to post-hoc changes in loan terms by some of these firms suggest that defaults are merely being delayed (Chart V-2-10). Moreover, developments in leveraged loan -- which, like lending by PC funds, is concentrated on unlisted medium-sized firms -- show that default rates, including changes in loan terms such as interest reductions or waivers, are rising, pointing to deteriorating financial conditions among these borrowers (Chart V-2-11). If Japanese banks do not sufficiently understand private funds' actual investment practices, a decline in the value of firms financed by such funds could be slow to be recognized should the current robust AI-related investment fail to generate commensurate growth in profits.³⁶ Although private funds account for only a limited share of Japanese banks' lending and securities portfolios, it will therefore remain important to continue closely monitoring actual investment practices without preconceptions.

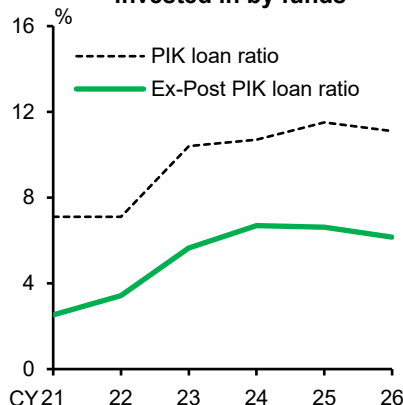
³⁵ For details, see the April 2026 issue of the Global Financial Stability Report released by the IMF and the July 2026 issue of the Financial Stability Report released by the Bank of England.

³⁶ For further details on challenges in accurately understanding private funds' actual investment practices, as well as the risk of delayed recognition of declines in firms' value, see the "Report on Vulnerabilities in Private Credit" released by the Financial Stability Board (FSB) in May 2026.

V. The financial cycle and challenges following changes in the business environment

B. Global financial stability

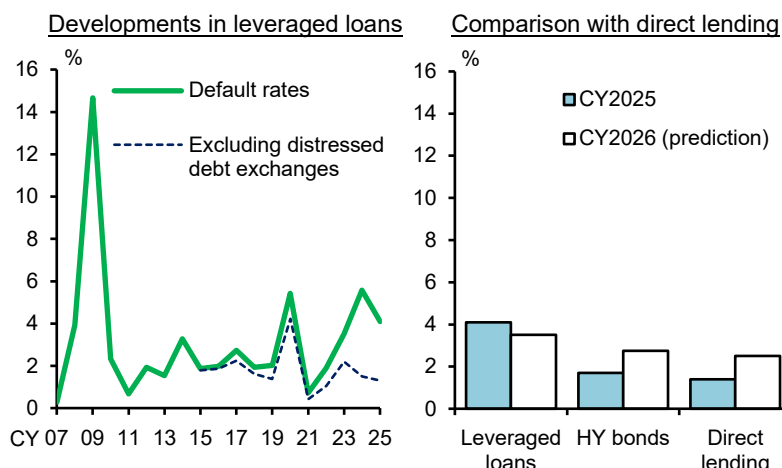
Chart V-2-10: Share of interest payment deferral of firms invested in by funds



Note: Based on data aggregated by Lincoln International regarding loans from PC funds to firms invested by PE funds (on a count basis). "PIK loan ratio" represents the share of Payment-in-Kind (PIK) loans, where borrowers defer interest payments and repay both the interest and principal as a lump sum at maturity. "Ex-Post PIK loan ratio" indicates the share of loans where PIK clauses have been newly incorporated or implemented following loan execution. Latest data as of 2026/Q2.

Source: © 2026 Lincoln Partners Advisors LLC. All rights reserved.

Chart V-2-11: Default rates by type of borrowing (U.S.)



Note: By volume. Latest data for the left-hand chart are as of 2025.

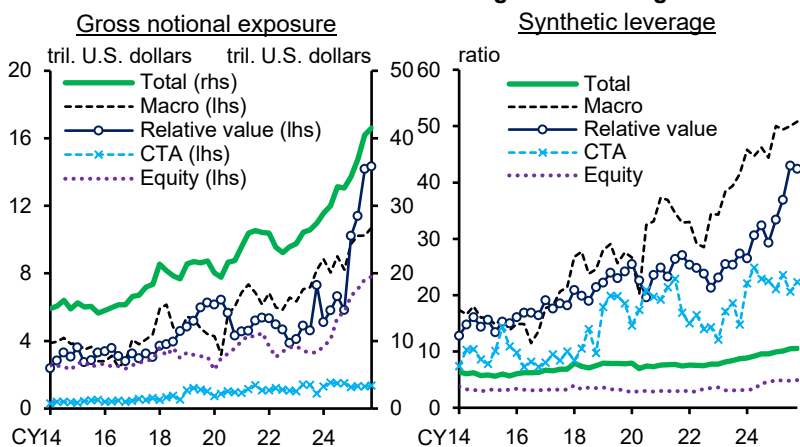
"CY2026 (prediction)" in the right-hand chart is an estimate by KBRA as of September 2026.

Source: KBRA DLD.

Investment activities of hedge funds

In recent years, there have been concerns that the expansion of leverage by hedge funds could amplify price fluctuations in financial markets through their unwinding of positions in the event of stress. In fact, hedge funds operating in the United States have been expanding their leverage through bank borrowings, repo transactions, and derivatives such as interest rate swaps, while increasing the gross notional exposure (Chart V-2-12). The rise in leverage has been particularly notable among relative-value-strategy funds, which engage in arbitrage involving price differentials in bond markets, and among macro-strategy funds, which take positions based on the direction of

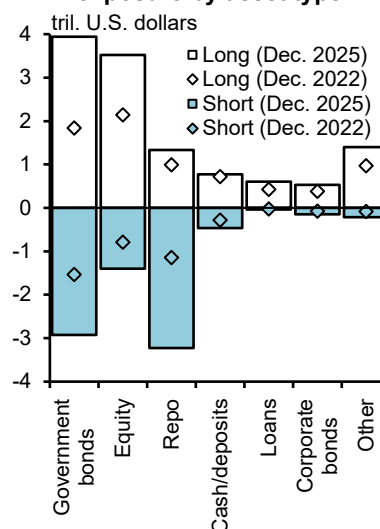
Chart V-2-12: Investments and leverage of U.S. hedge funds



Note: "Synthetic leverage" is defined as gross notional exposure divided by net asset values. Latest data as of 2025/Q4.

Source: SEC.

Chart V-2-13: U.S. hedge funds' exposure by asset type



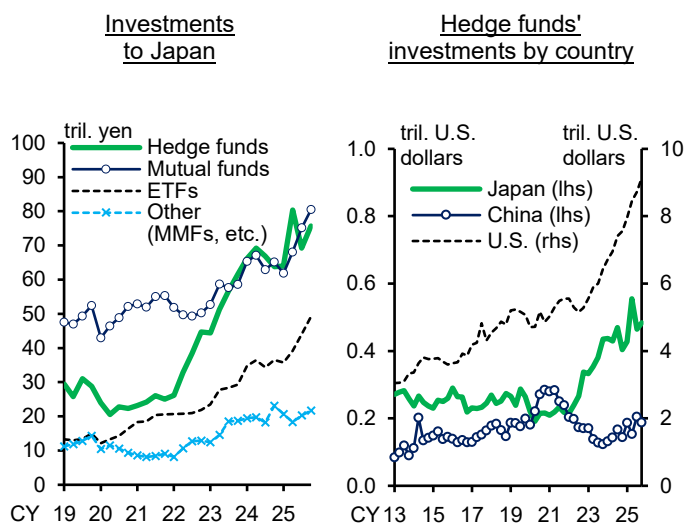
Note: "Government bonds" and "Corporate bonds" include futures.

Source: SEC.

asset prices from a macroeconomic perspective. Hedge-fund positions show that long and short positions of government bonds have increased, suggesting an increase in arbitrage trading (Chart V-2-13).

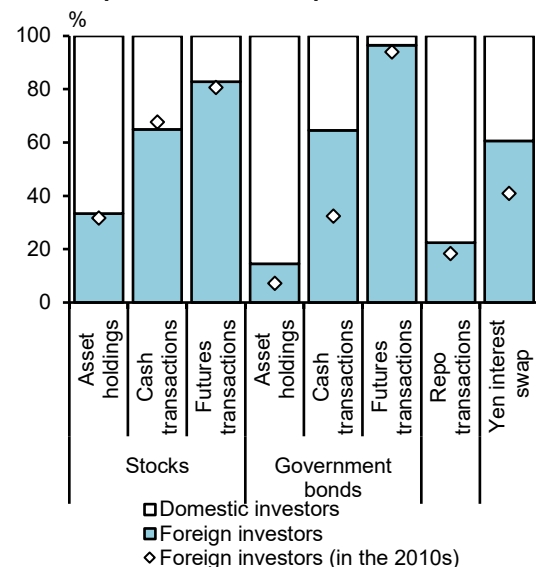
U.S. hedge funds have expanded their trading activities in global markets, and their investment in Japan has also been on an increasing trend (Chart V-2-14). As in other major markets, foreign investors, including hedge funds, appear to have expanded arbitrage trading in the JGB market.³⁷ The share of foreign investors in both cash JGB transactions and the yen interest rate swap market has risen relative to the 2010s (Chart V-2-15). Arbitrage trading employs a variety of strategies. For example, when the price differential between cash bonds and futures widened around 2023, arbitrage trading involving short positions in cash bonds and long positions in futures became more active (Chart V-2-16). In addition, foreign investors also engage in arbitrage trading based on price differentials between cash bonds and swaps, as well as trading across maturities and specific issues of JGBs that seeks to exploit the shape of the yield curve (Chart V-2-17).³⁸

Chart V-2-14: Investments to Japan by U.S. investment funds



Note: Shows gross asset values. In the right-hand chart, the data for "China" include Hong Kong. Latest data as of 2025/Q4.
Source: FRB; SEC; BOJ.

Chart V-2-15: Foreign investors' presence in the Japanese markets



Note: 1. Data as of 2025 (figures for "Repo transactions" are as of end-2025 and figures for "Yen interest swap" are as of April 2025).
2. Data for asset holdings of government bonds exclude those held by BOJ and exclude treasury discount bills. "Cash transactions" refers to dealer-to-client cash JGB transactions, including both purchases and sales. Excludes treasury discount bills. "Futures transactions" covers those of brokerage. Data for stock holdings are for listed shares based on Flow of Funds.
3. "Foreign investors (in the 2010s)" refers to data for "Yen interest swap" as of April 2016, those for "Repo transactions" as of December 2018, and those for the rest as of 2015.

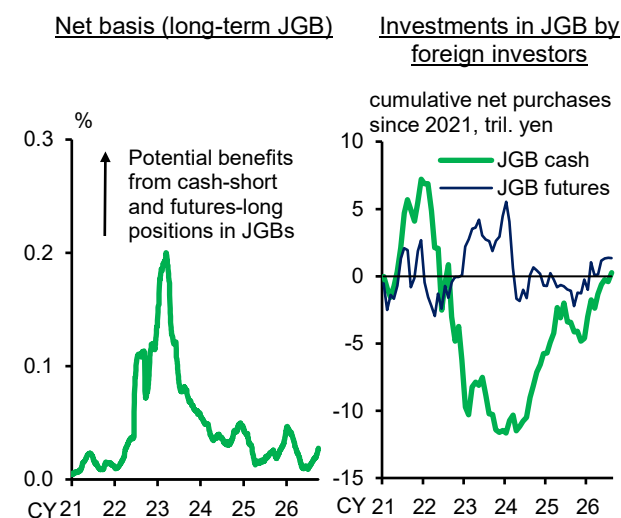
Source: JSDA; Osaka Exchange; Tokyo Stock Exchange; BOJ.

³⁷ Another common bond investment strategy employed by hedge funds is a directional approach, in which positions are tilted in one direction based on a particular market outlook. However, as noted earlier, recent years have seen an increase in positions on both long and short sides, suggesting an expansion of arbitrage trading. See, for example, Box 4 in the April 2025 *Report* and Box 2 in the October 2025 *Report*.

³⁸ In the U.S. Treasury market as well, hedge funds engage in arbitrage trading between cash Treasury securities and futures, between cash Treasury securities and swaps, and across maturities and specific issues of cash Treasury securities. For details, see Monin, P., "Decomposing Hedge Funds' U.S. Treasury Exposure," FEDS Notes, Board of Governors of the Federal Reserve System, June 2026.

V. The financial cycle and challenges following changes in the business environment
 B. Global financial stability

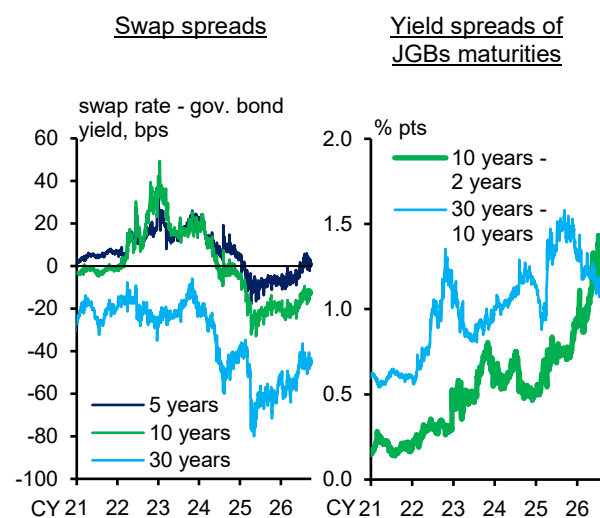
Chart V-2-16: Cash-futures arbitrage



Note: The net basis shown in the left-hand chart refers to the price difference between the spot price (net of carry) and the futures delivery price (90-day moving average). Shows ratios to the futures prices. "JGB cash" in the right-hand chart indicates interest-bearing long-term JGBs. The latest figures in the left-hand chart are as of September 30, 2026, and those for the right-hand chart are as of August 2026.

Source: Bloomberg; JSDA; Osaka Exchange.

Chart V-2-17: Relative price indicators of bond transactions

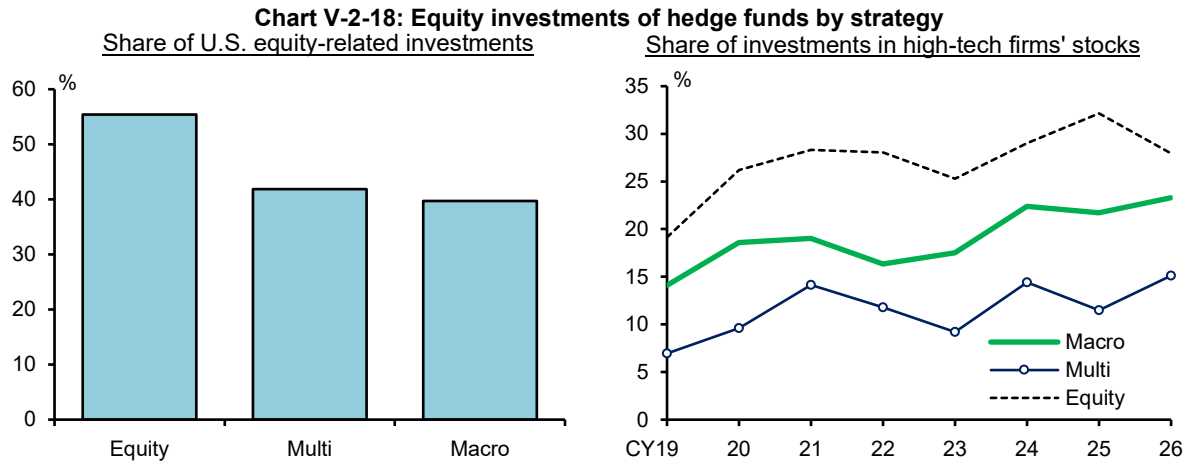


Note: Latest data as of September 30, 2026.
 Source: Bloomberg; Ministry of Finance.

The increase in trading by foreign investors, including hedge funds, can contribute to enhancing liquidity and the price discovery function in the domestic market. At the same time, amid rising leverage through transactions such as repo trading, attention should be paid to the possibility that shocks in foreign markets may more readily affect Japanese financial markets, for example, through the unwinding of foreign investors' positions triggered by breaches of internal risk limits or margin calls.³⁹

In addition, many multi-strategy or macro-strategy hedge funds have increased leverage through repo financing or equity margin loans from prime brokers, while simultaneously engaging in both equity investment and bond market transactions (Chart V-2-18). These funds have been increasing the share of AI-related stocks in their U.S. equity portfolios, and attention should be paid to the possibility that substantial correction in prices of risky assets, including AI-related stocks, could spill over to bond markets through the unwinding of positions triggered by, for example, breaches of internal risk management limits.

³⁹ For details, see, Asamatsu, H., Aida, Eri., Horikawa, T., and Ogawa, Y., "Developments in JGB Market-Making Business by Securities Companies," *Bank of Japan Review Series*, no. 2026-J-13, September 2026 (forthcoming in English), and Asamatsu, H. and Asada, T., "Trends in Japan's Repo Market and Recent Features -- Based on Long-Term Data from Surveys and Individual Data from Statistics on Securities Financing Transactions," *Bank of Japan Review Series*, no. 2025-J-7, August 2025 (available in Japanese).



Note: Covers the top 15 funds by AUM in each strategy. Figures in the left-hand chart show the ratios of U.S. equity-related investments to total assets as of 2026/Q1. Figures in the right-hand chart show the ratios of holdings in seven major U.S. high-tech firms' stocks (the "Magnificent Seven") to the total value of individual stock holdings as of Q1 in each year. Figures exclude derivatives.

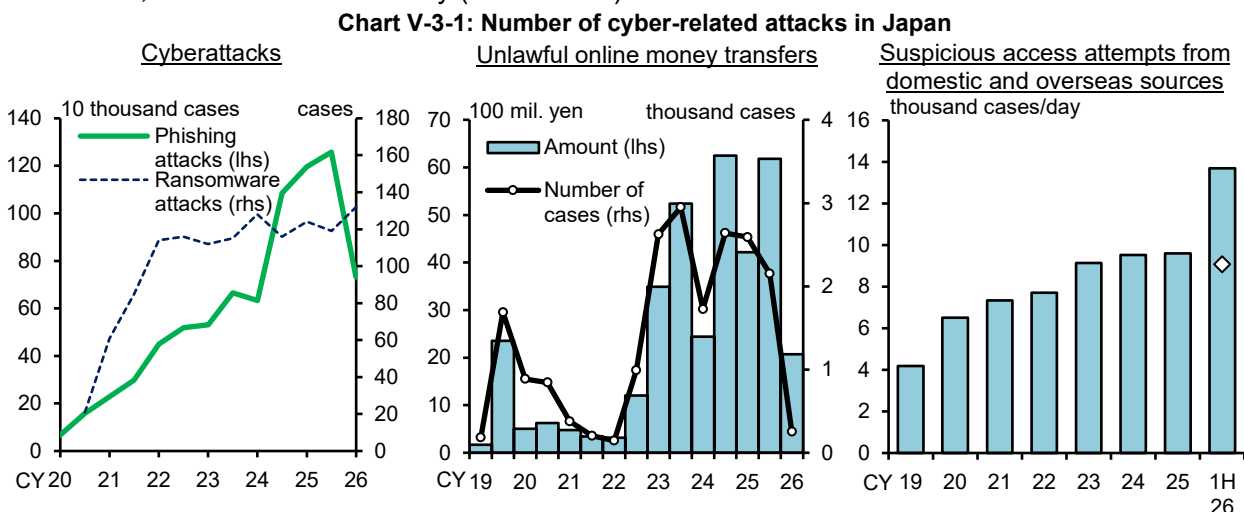
Source: SEC.

C. Opportunities and risks posed by changes in the business environment

1. Adaption to changes in digital technologies

Cybersecurity measures and enhancing resilience

The number of ransomware attacks in Japan has been at a high level and phishing attacks, despite a decrease from earlier levels, have also remained at a high level.⁴⁰ The amount of damage caused by unlawful money transfers through online banking has recently been decreasing significantly, partly due to strengthened measures such as the introduction of multi-factor authentication. However, suspicious access attempts, such as vulnerability scanning activities originating from overseas, have increased recently (Chart V-3-1).



Note: Latest data as of the first half of 2026. The data for "Ransomware attacks" in the left-hand chart start from the second half of 2020. The data after the first half of 2023 include cases of extortion-only attacks. The right-hand chart shows the daily average number of suspicious access attempts per IP address detected by National Police Agency sensors, including vulnerability scanning activities. The marker indicates the figure for the first half of 2025.

Source: Council of Anti-Phishing Japan; National Police Agency.

⁴⁰ The Council of Anti-Phishing Japan attributes the decline in the number of phishing attacks during the first half of 2026 to the temporary interruption of email infrastructure overseas and measures implemented by cashless payment service providers, such as more rigorous identity verification.

Amid the global intensification of cyberattacks, their motives have become increasingly diverse.⁴¹ They now extend beyond financial gain to include attacks by actors believed to be state-sponsored and those driven by geopolitical tensions. In addition, advances in so-called "frontier AI" have further heightened cybersecurity threats, as they could increase the speed and scale of cyberattacks. Frontier AI is highly capable of identifying vulnerabilities and generating sophisticated attack code, potentially enabling previously hard-to-detect vulnerabilities to be discovered in large numbers within a short period. Furthermore, it has been pointed out that the time from the discovery of a vulnerability to exploitation could be substantially reduced. There are also concerns that the malicious use of frontier AI by less-skilled actors could enable sophisticated cyberattacks to be carried out more widely (for details on frontier AI and cybersecurity, see Box 2).⁴²

In light of these changes in the threat landscape, in May 2026, the Financial Services Agency (FSA) and the Bank of Japan jointly issued a request to financial institutions titled "Request Regarding 'Short-Term Measures for Financial Institutions in Response to Changes in Threat Posed by Frontier AI'" (Chart V-3-2). The request called on financial institutions, with the involvement of senior management, to review their preparedness for addressing emerging threats, including the misuse of generative AI, and to strengthen their frameworks through concrete cybersecurity measures.

Chart V-3-2: Request Regarding Short-Term Measures

(1)	Positioning the Measure to Frontier AI as a Management Priority
(2)	Identification of Priority Services and IT Systems
(3)	Resolution of Technical Debt in Identified Assets
(4)	Securing Personnel for Patching
(5)	Verification of Vendor Maintenance Contracts
(6)	Adopting a Risk-Based Approach to Patching
(7)	Strengthening Measures Beyond Patching
(8)	Preparation for the Disruption of Priority Services and IT Systems
(9)	Maintaining and Strengthening External Collaboration

Source: FSA; BOJ.

Cyberattack countermeasures are also a critical issue for financial institutions as they are fundamental to business continuity and maintaining customer trust. Furthermore, cyber incidents not only pose a risk to individual financial institutions and their customers but are also a material risk from a macroprudential perspective, given that their impact can potentially spread to other financial institutions. Cooperation, both domestic and cross-border, among financial authorities, financial institutions, and their third-party service providers is critical for effective responses to cyber incidents, which are increasingly global in nature.⁴³ In this context, it is necessary to further enhance the resilience of individual financial institutions and the financial system as a whole.

⁴¹ For example, see OECD, "Cybersecurity and Geopolitical Risks in Financial Markets," OECD Business and Finance Policy Papers, No. 104, June 2026, Chapter 3.

⁴² For details, see UK AISI, "Frontier AI Trends Report," December 2025.

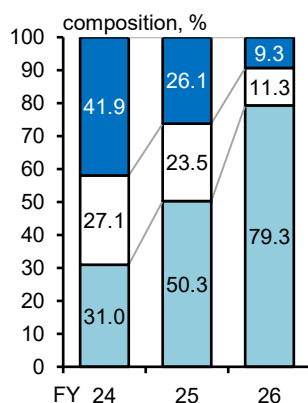
⁴³ For details, see "G7 Fundamental Elements of Collective Cyber Incident Response and Recovery in the Financial Sector" released by the G7 Cyber Expert Group (CEG) in December 2025.

Adaptation to new technologies

Generative AI increases certain cybersecurity risks, but it also has the potential to contribute to greater efficiency and sophistication in financial institutions' operations, as well as to improvements in customer services. According to a survey conducted by the Bank, approximately 80 percent of financial institutions are already using generative AI, and this share exceeds 90 percent when institutions currently conducting trials are included, indicating that its use is expanding further among financial institutions (Chart V-3-3).⁴⁴ The scope of use has broadened from general administrative tasks to core business operations that involve customer information. However, cases where the output of generative AI is directly presented to customers remain limited, indicating that ensuring the appropriateness of outputs and establishing robust risk management frameworks remain challenges. In preparation for the broader adoption of generative AI, a considerable number of financial institutions have made progress in areas such as the development of usage guidelines, information management rules, and IT infrastructure. However, challenges remain in advancing business initiatives, fostering human resource development, preparing input data, and strengthening cybersecurity measures (Chart V-3-4).

Going forward, advancements in generative AI technology are expected to further expand the scope of its use by financial institutions. Financial institutions are required to ensure stable business operations by establishing governance structures and risk management frameworks, with senior management actively involved in and leading with a thorough understanding of both the benefits and risks of using new technologies.

Chart V-3-3: Use of generative AI

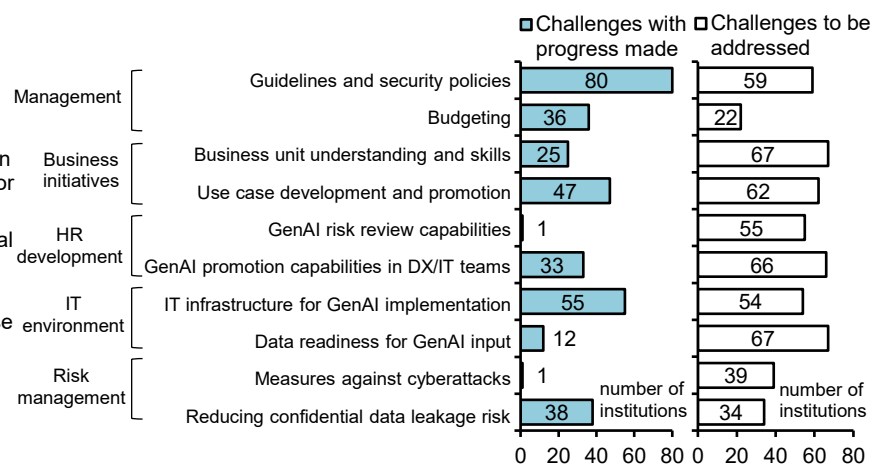


Note: 1. "Not in use or trial" for FY24 and FY25 represents the sum of "Not considering trial or use," "Considering trial or use," and "Planning for trial or use within 3 years."

2. Data for FY24, FY25, and FY26 cover 155, 153, and 150 institutions, respectively.

Source: BOJ.

Chart V-3-4: Challenges in promoting generative AI



Note: Covers 136 institutions that responded with "In use" or "In trial" for GenAI. Each financial institution is allowed to provide multiple responses, selecting up to five challenges with progress made and up to five challenges to be addressed. Restructured using selected items extracted from the figures of the Financial System Report Annex Series.

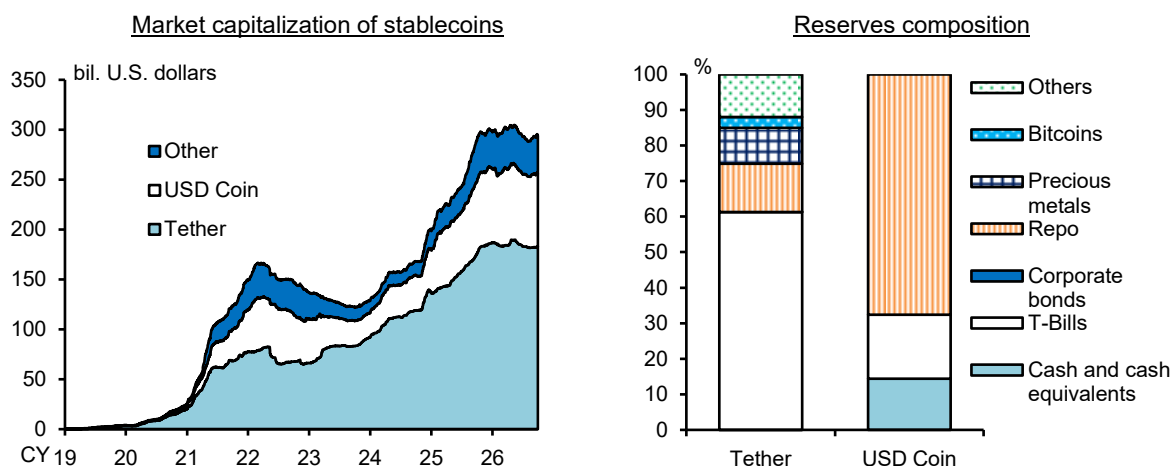
Source: BOJ.

⁴⁴ This was the third such survey conducted to date. The Bank conducted the survey from April to May 2026, targeting 150 financial institutions. Specifically, 10 major banks, 95 regional banks, 18 *shinkin* banks, and 27 other financial institutions participated. For details, see "Use and Risk Management of Generative AI by Japanese Financial Institutions -- Based on the Results of FY2026 Survey --," Financial System Report Annex Series, August 2026.

In light of advances in quantum computing, the transition to post-quantum cryptography (PQC) has become a critical issue that government agencies and firms need to address. It has been pointed out that, if quantum computers capable of breaking widely used public-key cryptography are developed, the security of such cryptography could be compromised. In Japan, government agencies and related bodies have set a target for transitioning to PQC by 2035 in principle and are promoting efforts for a planned transition in collaboration with the private sector, under the coordination of the relevant ministries and agencies. Financial institutions are likewise expected to promptly initiate preparations for the transition to PQC, with the active involvement of senior management. Specifically, financial institutions are expected to conduct an inventory of systems that currently use cryptography and formulate migration plans, in order to address "harvest now, decrypt later" (HNDL) attacks, in which encrypted data stolen today could be decrypted in the future, and to ensure cryptographic agility that enables flexible switching between encryption methods.⁴⁵

Furthermore, developments surrounding stablecoins have been gaining momentum globally. Stablecoins are crypto-assets designed to maintain a stable value by being linked to the value of fiat currencies or other assets, and they are viewed as having the potential to deliver considerable merits in faster fund transfers and cost reduction by the use of distributed ledger technology. Reflecting the attention on their convenience, the scope of use is steadily broadening, including as payment for crypto-asset transactions, funds on hold for these transactions, for cross-border remittances, and for the settlement of digital securities. Although the use of stablecoins remains limited at present, the market size may increase going forward (left panel of Chart V-3-5). In this regard, linkages between stablecoins and traditional financial markets, such as short-term money markets, could strengthen through stablecoin issuers' holdings of reserve assets such as short-term government securities (right panel of Chart V-3-5).⁴⁶

Chart V-3-5: Developments in stablecoins



Note: 1. Latest data for the left-hand chart are as of September 30, 2026.

2. The right-hand chart data are as of June 30, 2026 for Tether and August 31, 2026 for USD Coin.

Source: Circle; RWA.xyz; Tether.

⁴⁵ For details, see "G7 Cyber Expert Group Statement on Advancing a Coordinated Roadmap for the Transition to Post-Quantum Cryptography in the Financial Sector," released by the G7 CEG in January 2026.

⁴⁶ For example, Chapter 3 of the Annual Economic Report released by BIS in June 2026 discusses the macro-financial implications of differences in the composition of stablecoins' reserve assets.

Against this backdrop, major jurisdictions are advancing both the development of regulatory frameworks for stablecoins and preparations for their implementation. In the United States, following the enactment of the GENIUS Act in 2025, financial authorities have published proposed regulatory frameworks for stablecoin issuers to implement the Act.⁴⁷ In Europe, the European Commission launched a public consultation in May 2026 on whether a review of the Markets in Crypto-Assets (MiCA) Regulation, which is already in force, is needed, as part of broader discussions on various issues, including the regulation of electronic money tokens (EMTs), a type of stablecoin.⁴⁸ In Japan, the amended Payment Services Act, which took effect in June 2026, has introduced increased flexibility in managing and operating reserve assets backing trust-type stablecoins (specified trust beneficiary rights). Additionally, requirements to hold certain assets domestically have been imposed on crypto-asset exchange service providers, including those handling stablecoins. Moving forward, it remains essential to continuously monitor market developments, regulatory developments, and their impact on the financial system.

2. Climate-related financial risks

Climate change can threaten the stability of the financial system through climate-related financial risks -- i.e., physical and transition risks. Financial institutions have been enhancing their ability to grasp the impact of climate-related financial risks in a forward-looking manner and have continued their efforts to support decarbonization of the economy from the financial side. In recent years, alongside transition risks, efforts have also progressed in analyzing the transmission channels through which physical risks, such as extreme weather events, affect the real economy and the financial system. In May 2026, the Network for Greening the Financial System (NGFS) published a document on the economic and financial impacts of extreme weather events. Based on case studies from 28 economies, the report outlines the transmission channels through which extreme weather, such as floods and droughts, affect the financial system via production, employment, prices, and credit and liquidity risks.⁴⁹ In Japan, the FSA has released an analytical paper detailing the risk management of flood and wind hazards by financial institutions, as well as their efforts to support corporate clients in mitigating such risks. Similarly, working papers by the Bank's staff examine the impact of flooding on land prices and banks' financial conditions, contributing to a deeper understanding of the transmission channels through which physical risks affect financial institutions.⁵⁰

The Bank will conduct research and analysis, as well as continue its dialogue with financial institutions regarding the identification and management of climate-related financial risks and their engagement with corporate customers, taking into account international discussions on regulations, supervision, and risk management related to climate-related financial risks.

⁴⁷ For details, see the Office of the Comptroller of the Currency (OCC), "GENIUS Act Regulations: Notice of Proposed Rulemaking," OCC Bulletin 2026-3, February 2026, and the Federal Deposit Insurance Corporation (FDIC), "FDIC Approves Proposal to Implement GENIUS Act Requirements and Standards," April 2026.

⁴⁸ For details, see the European Commission, "Targeted Consultation on the Review of Regulation on the Markets in Crypto-Assets (MiCA)," May 2026.

⁴⁹ For details, see the NGFS, "NGFS Note on the Economic and Financial Impacts of Extreme Weather Events," NGFS Technical Note, May 2026.

⁵⁰ For details, see the following: Maruyama, T., Nakamura, F., Shirai, H., and Sudo, N., "Beyond the Floodplain: Uncovering the Spatial Spillovers of Land Price Declines after Typhoon Hagibis," Bank of Japan Working Paper Series, no. 26-E-7, May 2026; and Furukawa, K., and Suzuki, K., "How Do Floods Affect Banks' Financial Conditions? Evidence from Japan," Bank of Japan Working Paper Series, no. 26-E-8, May 2026.

VI. Resilience of the financial system

- Banks' loss-absorbing capacity shows that banks' capital well exceeds regulatory requirements. Their profitability as a whole has continued to improve over the past few years. It should be noted, however, that from a somewhat longer-term perspective, a decline in domestic loan demand, driven by structural factors such as the decline in population, could exert downward pressure on banks' profitability.
- The macro stress testing in this chapter examines the resilience of the financial system under two downside scenarios: a "financial stress scenario," which assumes stress equivalent to the global financial crisis, and a "rises in foreign interest rates scenario plus." The "rises in foreign interest rates scenario plus" in this *Report* takes into account the effects of the rise in crude oil prices, a factor also considered in the previous *Report*, and refines the specification of the impact of a decline in expectations regarding the profitability of AI-related investment. Furthermore, it assumes the situation where shocks are amplified mainly by portfolio adjustments in the non-bank financial intermediary (NBFI) sector. Based on the results, it can be judged that the stability of Japan's financial system is maintained even under these stress events.
- It is necessary to continue to carefully monitor the impact that factors such as the future situation in the Middle East, the profitability and financing of AI-related investment, and developments in the foreign NBFI sector have on the financial system through various channels. Banks need to remain alert to a range of risks that may materialize and put in place frameworks to appropriately manage such risks.

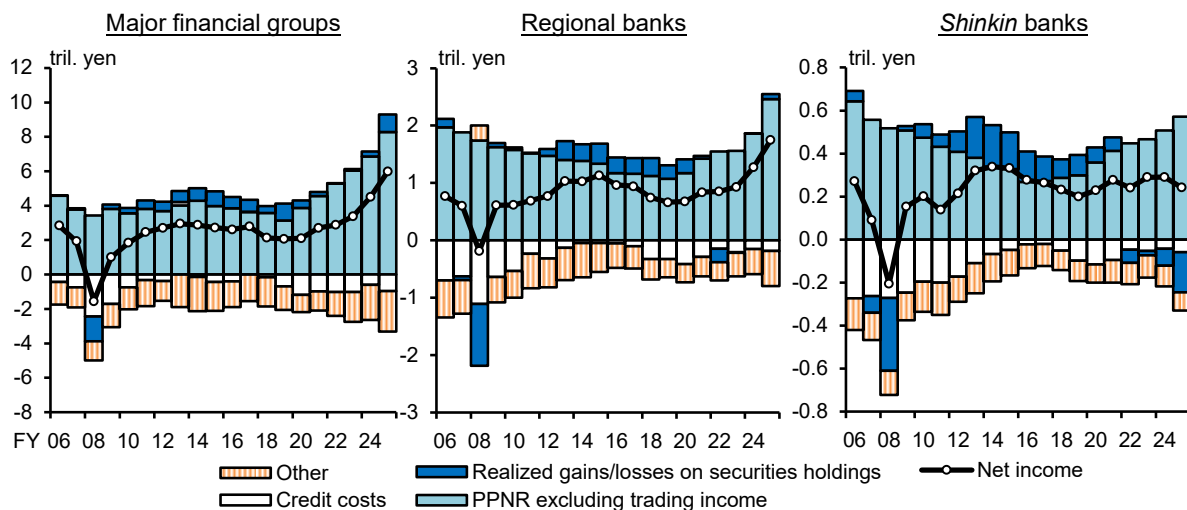
A. Banks' financial bases and capacity to absorb losses

1. Banks' profitability

Banks' net income for fiscal 2025 has continued to increase at major financial groups and regional banks, while declining at *shinkin* banks (Chart VI-1-1).⁵¹ Losses such as credit costs have been limited for all types of banks, and pre-provision net revenue (PPNR), which shows banks' core profitability, has continued to improve. At *shinkin* banks, realized losses on securities holdings increased due to sales of low-yielding domestic bonds with valuation losses.

⁵¹ For details, see "Financial Results of Japan's Banks for Fiscal 2025" Financial System Report Annex Series, Financial System and Bank Examination Department, Bank of Japan, September 2026.

Chart VI-1-1: Net income



Note: 1. From fiscal 2012, profits and losses from investment trusts due to cancellations are excluded from "PPNR excluding trading income" and included in "Realized gains/losses on securities holdings."

2. "Major financial groups" covers Mizuho Financial Group, Mitsubishi UFJ Financial Group, Sumitomo Mitsui Financial Group, Resona Holdings, Sumitomo Mitsui Trust Group, SBI Shinsei Bank, and Aozora Bank.

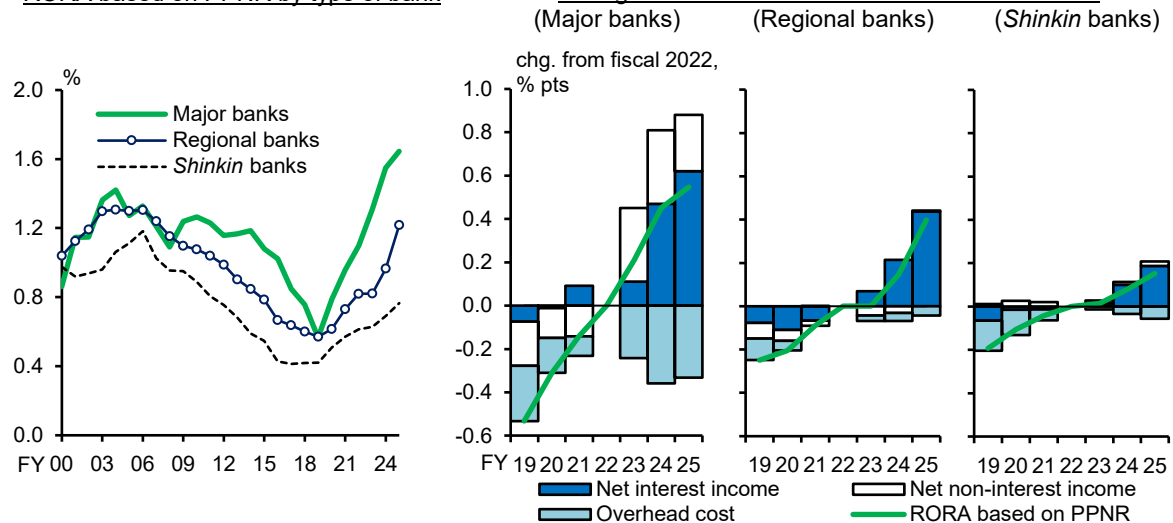
3. The latest data are as of fiscal 2025.

Source: Published accounts of individual banks; BOJ.

As for banks' operating profits from core business (i.e., PPNR), their return on risk-weighted assets (RORA; operating profits from core business/risk-weighted assets), which shows their investment efficiency, had followed a downward trend for a long period due to structural factors such as a decline in domestic loan demand and the prolonged low interest rate environment, but has started to increase in recent years (Chart VI-1-2). Examining the factors behind changes in RORA since fiscal 2022, net interest income has contributed to the increase, reflecting the rise in interest rates. By type of bank, net interest income has improved relatively quickly at major banks, where floating-rate loans account for a large share of lending. It has also steadily improved at *shinkin* banks as interest rates on assets held by banks are gradually being repriced.

Chart VI-1-2: RORA based on PPNR

RORA based on PPNR by type of bank



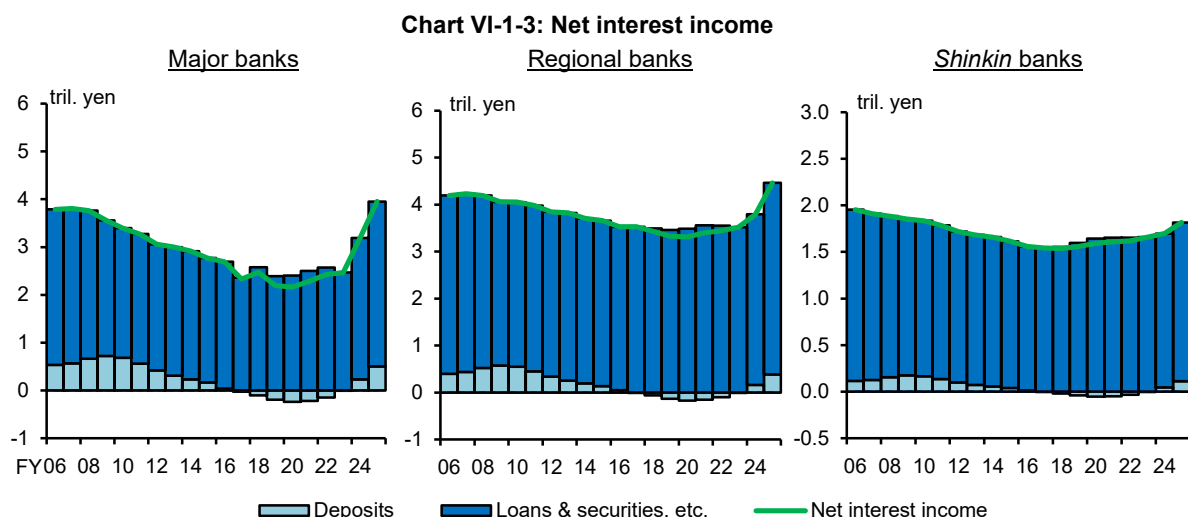
Note: From fiscal 2012, profits and losses from investment trusts due to cancellations are excluded from "PPNR excluding trading income." Latest data as of fiscal 2025.

Source: BOJ.

VI. Resilience of the financial system

A. Banks' financial bases and capacity to absorb losses

A further breakdown of developments in net interest income shows that recently not only net interest income from loans and securities investments but also deposit income -- calculated on the assumption that deposits are invested in safe assets -- has contributed to the increase in net interest income. From a somewhat longer-term perspective, deposit income had ceased to be a stable source of income under the prolonged low interest rate environment, but, reflecting the recent interest rate hikes, it is gradually beginning to contribute to improvements in core profitability (Chart VI-1-3).⁵²

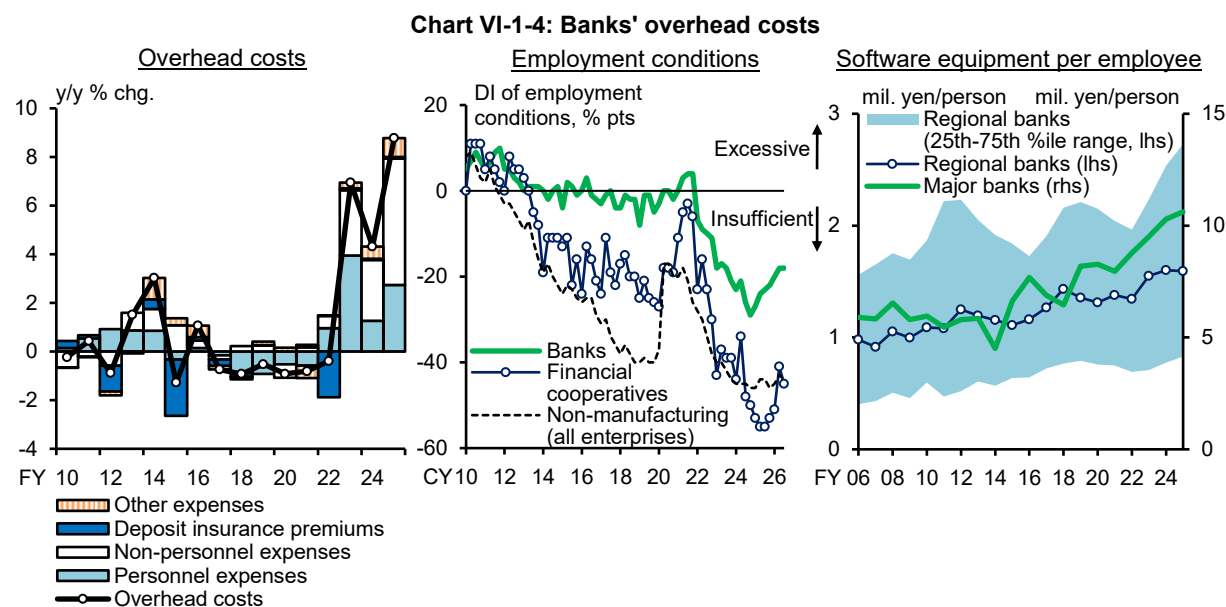


Note: 1. Covers domestic business.

2. "Deposits" is calculated by subtracting the cost of core deposits (accounting for half of demand deposits) from the income that would be gained if core deposits were invested equally in 1- to 5-year JGBs.

3. Latest data as of fiscal 2025.

Source: Ministry of Finance; BOJ.



Note: 1. The left-hand chart covers major and regional banks. "Non-personnel expenses" excludes deposit insurance premiums.

2. Figures in the right-hand chart are software asset values per employee. "Major banks" and "Regional banks" indicate the median values.

3. The latest data for the left-hand and right-hand charts are as of fiscal 2025, and those for the middle chart are as of September 2026.

Source: BOJ.

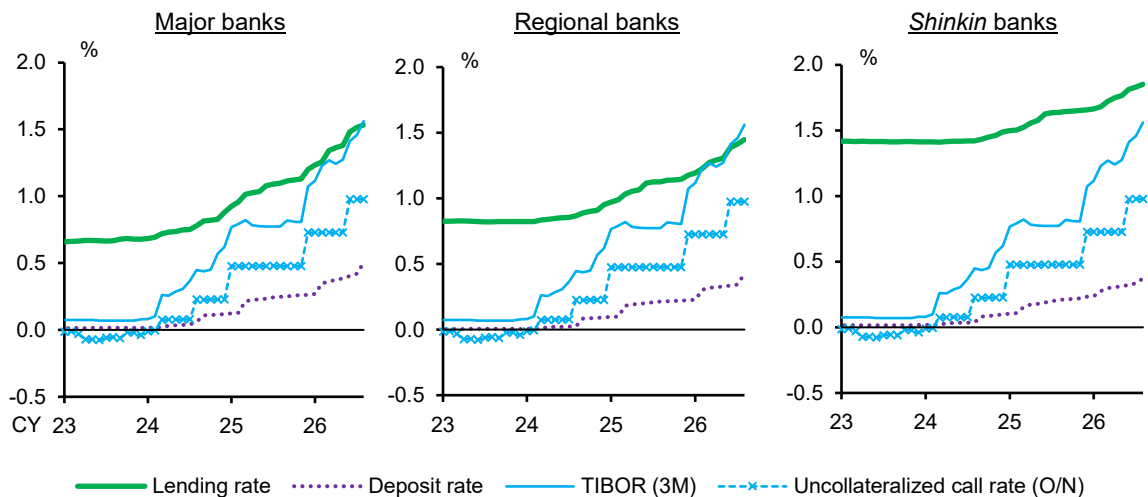
⁵² For details, see "The Effects of Monetary Easing on Japan's Financial System," *BOJ Reports & Research Papers*, Financial System and Bank Examination Department, Bank of Japan, July 2024.

Overhead costs, particularly non-personnel expenses, including costs related to investment in computer systems, as well as personnel expenses, have continued to increase recently (Chart VI-1-4). With a sense of labor shortage intensifying, major banks are seeking to improve productivity by upgrading their capital equipment through software investment. At regional banks, while the software capital equipment per employee has been rising moderately, dispersion across banks has widened somewhat recently. Banks need to continue to make efforts to increase productivity -- for example by upgrading their capital equipment through investment in digital resources -- and to further improve their core profitability by making effective use of limited business resources.

2. Rising interest rates and banks' core profitability

Banks' lending rates and deposit rates have been rising moderately (Charts III-1-10 and IV-3-7). Lending rates on outstanding loans at major banks have risen relatively substantially, reflecting their higher share of market rate-linked loans that are benchmarked to reference rates such as TIBOR (Charts VI-1-5 and VI-1-6). Lending rates on newly extended loans have increased substantially at major banks. The increase has also been relatively large at regional banks, reflecting the growing share of market rate-linked loans in their lending (Chart VI-1-7). By contrast, at *shinkin* banks, lending rates have risen relatively moderately even on newly extended loans, and some *shinkin* banks have restrained increases in deposit rates, taking account of the stickiness of their deposits. In fact, the distribution of deposit rates at *shinkin* banks has a heavier lower tail than major and regional banks (Chart VI-1-8). Against this backdrop, although interest rate spreads on loans remain narrow compared with historical levels, they have recently started to widen, especially at major banks (Chart VI-1-9). The loan rate curve by credit ratings shows that the curve shifted upward after hitting bottom in fiscal 2022 (Chart VI-1-10).

Chart VI-1-5: Lending and deposit rates



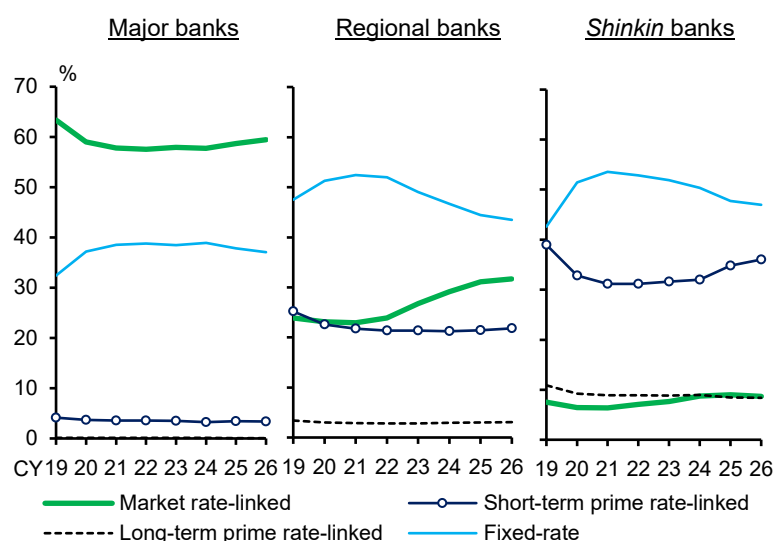
Note: "Lending rate" indicates average contract interest rates on outstanding loans and bills discounted. "Deposit rate" indicates weighted averages of ordinary and time deposits. Latest data as of August 2026.

Source: LSEG Workspace; BOJ.

VI. Resilience of the financial system

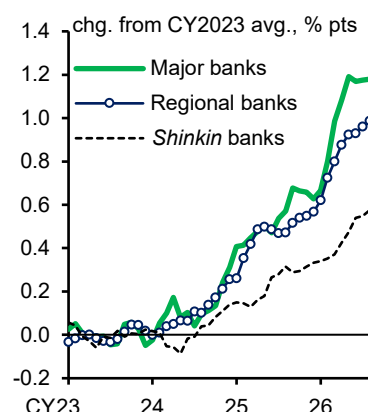
A. Banks' financial bases and capacity to absorb losses

Chart VI-1-6: Developments in composition of corporate loans outstanding by interest rate type



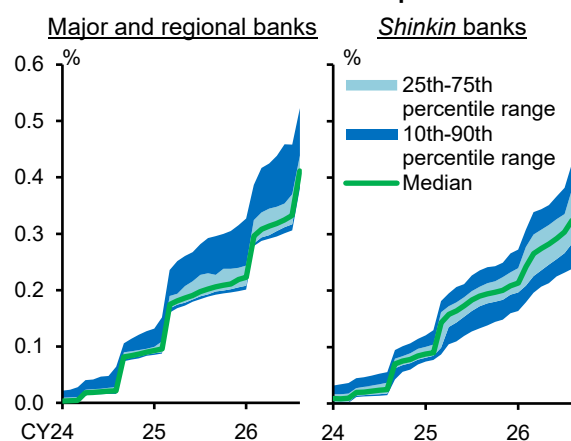
Note: Latest data as of 2026/Q1.
Source: BOJ.

Chart VI-1-7: Average contract interest rates on new loans and discounts



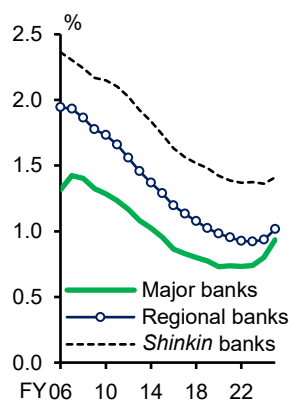
Note: Shows 3-month backward moving averages. Latest data as of August 2026.
Source: BOJ.

Chart VI-1-8: Distribution of deposit rates



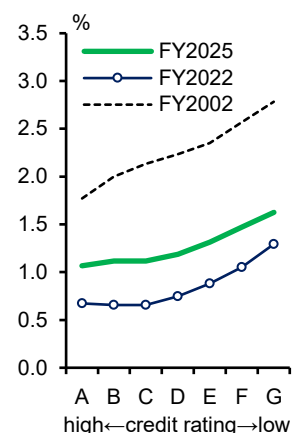
Note: Deposit rates are weighted averages of ordinary and time deposits (based on amount outstanding). Latest data as of August 2026.
Source: BOJ.

Chart VI-1-9: Interest rate spreads on loans



Note: 1. Figures are based on domestic business sector.
2. Interest rate spreads on loans = (interest income on loans + commissions on bills discounted) / average amount of loans outstanding - (funding costs - interest expenses on interest rate swaps) / average amount of funding outstanding. Latest data as of fiscal 2025.
Source: BOJ.

Chart VI-1-10: Lending rates by credit rating for loans to SMEs

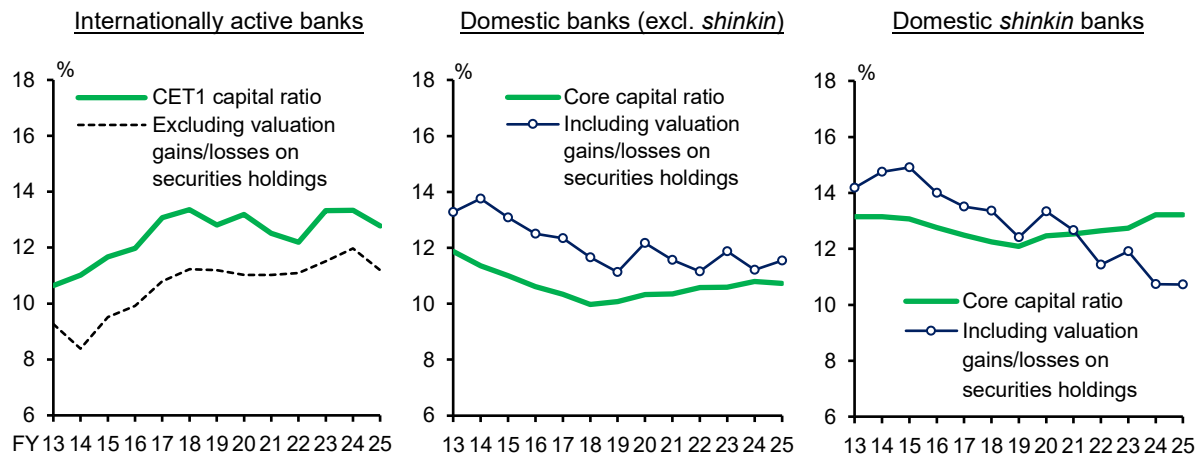


Note: Credit ratings are based on credit scores provided by the CRD Association. Covers SMEs with capital of 10 million yen to less than 100 million yen.
Source: CRD Association.

3. Capital adequacy and loss-absorbing capacity

Banks have maintained sufficient capital. In fiscal 2025, both the common equity Tier 1 (CET1) capital ratio of internationally active banks and the core capital ratio of domestic banks substantially exceeded the regulatory requirements (Chart VI-1-11).

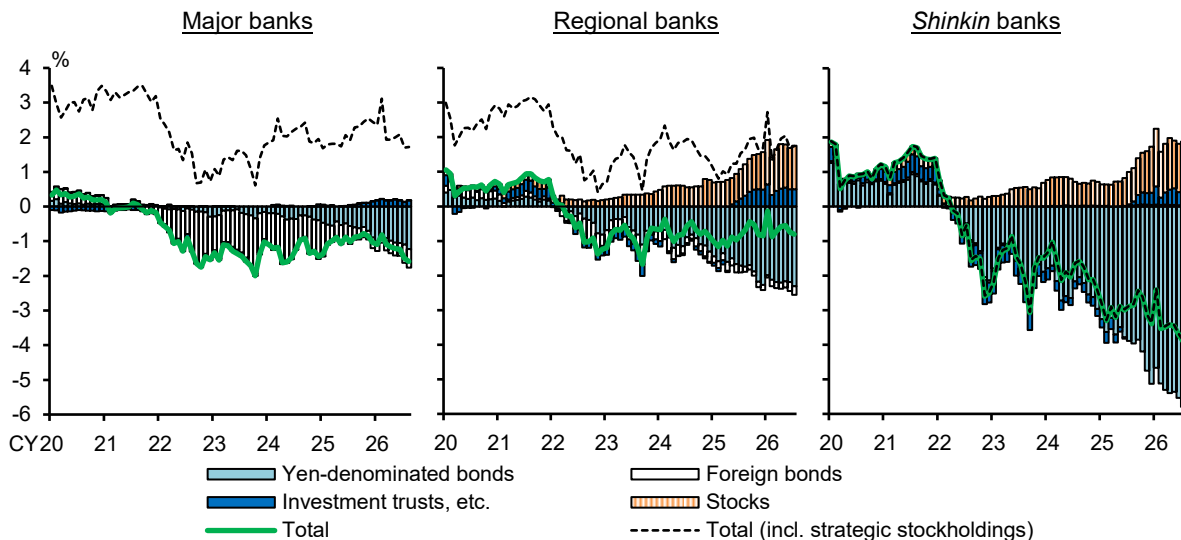
Chart VI-1-11: Capital adequacy ratios



Source: Published accounts of individual banks; BOJ.

Valuation gains/losses on securities holdings, which are not included in the regulatory capital for domestic banks, can serve as a capital buffer when valuation gains/losses on all investment securities are taken into account. In recent years, many banks have registered both growing valuation gains on their stockholdings and rising valuation losses on their bondholdings. Against this background, *shinkin* banks, for which stocks account for a small share of assets and yen-denominated bonds for a large share, have seen relatively large valuation losses on their securities holdings (Chart VI-1-12).

Chart VI-1-12: Valuation gains/losses on securities holdings



Note: Shows ratios to risk-weighted assets (including valuation gains/losses on held-to-maturity securities). The contribution of "Stocks" excludes strategic stockholdings. Latest data as of end-August 2026.

Source: BOJ.

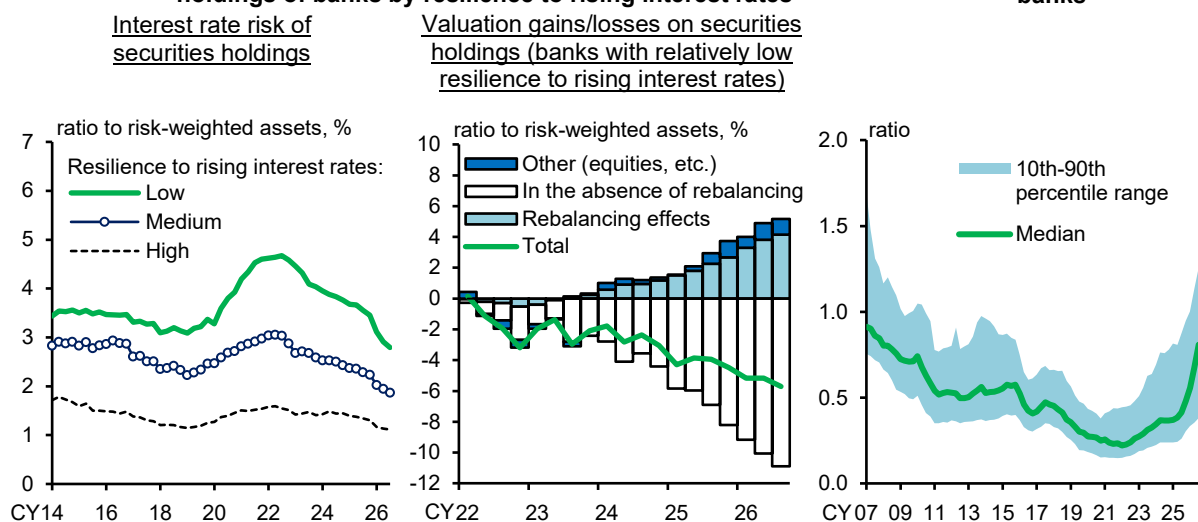
Nevertheless, even among banks with relatively low resilience to interest rate increases, many have made further progress in reducing interest rate risk by cutting their yen-denominated bondholdings and shortening the duration of those holdings, which has contributed to curtailing the increase in valuation losses on their bondholdings (Chart VI-1-13). Going forward, bond prices are expected to rise over time due to the roll-down effect. In addition, banks' core profitability measured by PPNR has improved moderately even at *shinkin* banks with relatively large valuation losses. This is expected to help enhance their loss absorbing capacity through future capital

VI. Resilience of the financial system

A. Banks' financial bases and capacity to absorb losses

accumulation.⁵³ While banks as a whole have sufficient capital bases, they need to manage their balance sheets carefully, taking uncertainties into account (for the effects of higher yen interest rates on capital adequacy ratios, see the sensitivity analysis of an upward shift in yen interest rates in section B of Chapter VI).

Chart VI-1-13: Interest rate risk and valuation gains/losses on securities holdings of banks by resilience to rising interest rates **Chart VI-1-14: P/B ratios of listed banks**



Note: 1. Covers regional and *shinkin* banks. "Resilience to rising interest rates" classifies banks into three groups based on "the level of long-term interest rates at which the required capital adequacy ratios are maintained when valuation gains/losses on all investment securities are taken into account" as of end-March 2022 (see the October 2024 issue of the *Report* for details of the estimation method).

2. Yen interest rate risk in the left-hand chart is a 100 BPV. "Rebalancing effects" in the right-hand chart represents the difference between the valuation gains and losses on yen-denominated bonds assuming the portfolio composition of such bonds as of 2021/Q4 had been maintained ("In the absence of rebalancing") and the actual valuation gains and losses on yen-denominated bonds. "Total" and "Other (equities, etc.)" include strategic stockholdings.

3. Latest data as of 2026/Q3 (end-August).

Source: BOJ.

Note: 4-quarter backward moving averages of values at the end of each quarter. Latest data as of 2026/Q3.

Source: S&P Global Market Intelligence.

Market participants' assessment of banks' profitability from a somewhat longer-term perspective can be inferred from the price-to-book (P/B) ratios of listed banks. P/B ratios have been on an upward trend on the whole, reflecting improvements in net interest income driven by rising interest rates (Chart VI-1-14). However, some regional banks continue to show P/B ratios below 0.5. It should be noted that this likely reflects market concerns that, from a somewhat longer-term perspective, a decline in loan demand and deposits, driven by structural factors such as the decline in regional population, will exert downward pressure on profitability. It is desirable for banks to formulate their capital policies, including policies on profit distribution, taking into account the balance between securing loss-absorbing capacity and enhancing profitability mainly through growth investments from a medium- to long-term perspective.

⁵³ Among banks with relatively low resilience to rising interest rates, some have seen a significant decline in their capital when valuation losses on securities are taken into account. However, even at these banks, regulatory capital adequacy ratios remain above required levels. In addition, frameworks to support individual banks in improving their profitability and maintaining their soundness have been established in the industry, and efforts are being made to maintain and improve their creditworthiness overall.

B. Macro stress testing

This section comprehensively examines whether banks have sufficient loss-absorbing capacity, using macro stress testing assuming stress events.^{54,55}

The stress testing assumes two downside scenarios: a "financial stress scenario" and a "rises in foreign interest rates scenario plus." The financial stress scenario assumes stress of the same magnitude as was observed during the global financial crisis, and is used in the *Report* on a regular basis. The rises in foreign interest rates scenario plus assumes a slowdown in foreign economies and rises in foreign interest rates reflecting a global surge in prices triggered by the materialization of geopolitical risks and other factors. The rises in foreign interest rates scenario plus in this *Report* takes into account the effects of the rise in crude oil prices, a factor also considered in the previous *Report*, and refines the specification of the impact of a decline in expectations regarding the profitability of AI-related investment. Furthermore, it assumes the situation where shocks are amplified mainly by portfolio adjustments in the NBFIs sector. Based on these assumptions, it examines the resilience of banks' financial bases.

The downside scenarios are hypothetical and designed to examine effectively the resilience of the financial system. They represent neither the Bank of Japan's outlook for the future economic and financial environment, asset prices, and policy conduct, nor the likelihood of the outcome.

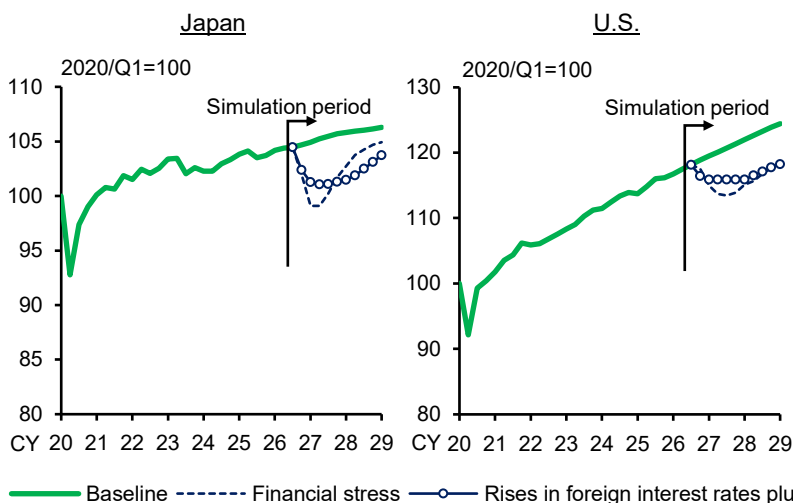
1. Baseline scenario

The baseline scenario assumes that Japan's economy continues to grow moderately based on the average of forecasts by several research institutions and market expectations as of July 2026 (Chart VI-2-1). As for financial variables, it is assumed that all of the available information on the outlook for the domestic and foreign economies is appropriately priced in by financial markets. The baseline scenario assumes that market interest rates move in line with the forward rate curve as of early August 2026. Specifically, U.S. short-term interest rates are assumed to increase slightly, while short-term yen interest rates are assumed to rise, reaching around 2 percent by the end of the simulation period (Chart VI-2-2). It is assumed that other financial variables (stock prices, crude oil prices, exchange rates, and various credit spreads) are unchanged from their levels in early August 2026.

⁵⁴ The simulation utilizes the Financial Macro-econometric Model (FMM) developed by the Financial System and Bank Examination Department of the Bank. For the basic structure of the model, see Abe, N., Chikamatsu, K., Kanai, K., Kawasumi, Y., Munakata, K., Nakayama, K., Okuda, T., and Takano, Y., "The Financial Macro-econometric Model (FMM, 2022 Version)," *BOJ Reports & Research Papers*, March 2023.

⁵⁵ The stress testing targets 105 banks and 247 *shinkin* banks. The simulation period is from the April-June quarter of 2026 through the January-March quarter of 2029. For the main economic and financial variables of the assumed scenarios, refer to the "Scenario Tables" on the Bank's website.

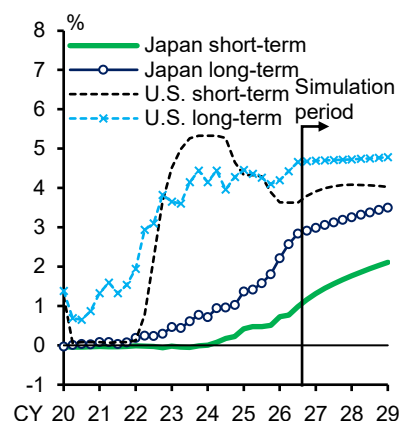
Chart VI-2-1: GDP



Note: Indexed so that real GDP in 2020/Q1 is set as 100.

Source: BEA; Cabinet Office; IMF; Japan Center for Economic Research.

Chart VI-2-2: Interest rates (baseline)



Note: 1. Interest rates through the simulation period are based on the forward rate curve derived from the yield curve.

2. Short-term rates are overnight rates. Long-term rates are 10-year yields.

Source: FRB; Haver Analytics; Ministry of Finance.

The simulation results indicate that the PPNR for all types of banks increases due to the moderate growth in domestic and foreign economies and improved interest margins reflecting rising interest rates (Chart VI-2-3). In particular, for internationally active banks, the high share of market interest rate-linked loans on the asset side results in a more pronounced expansion of domestic loan interest margins driven by rising yen interest rates. This, in turn, contributes more to the increase in the PPNR than at other types of banks. In addition, credit costs for all types of banks increase due to factors such as the growth in loan balances, but they remain limited compared to their PPNR. Capital adequacy ratios at the end of the simulation period (as of end-fiscal 2028) are overall sufficiently above regulatory requirements for all types of banks.^{56,57}

Next, as in the previous issue of the *Report*, a sensitivity analysis is conducted assuming that there is a parallel upward shift of 1 percentage point in yen interest rates only, compared to the baseline scenario. The result indicates that for all types of banks the average capital adequacy ratios are almost identical to those in the baseline scenario and remain sufficiently above regulatory levels (Chart VI-2-4).⁵⁸ Although the impact of the upward shift in yen interest rates differs across type of bank, the impact of the increase in credit costs is small. Examining changes in capital adequacy ratios that take into account valuation gains/losses on all investment securities shows that, in

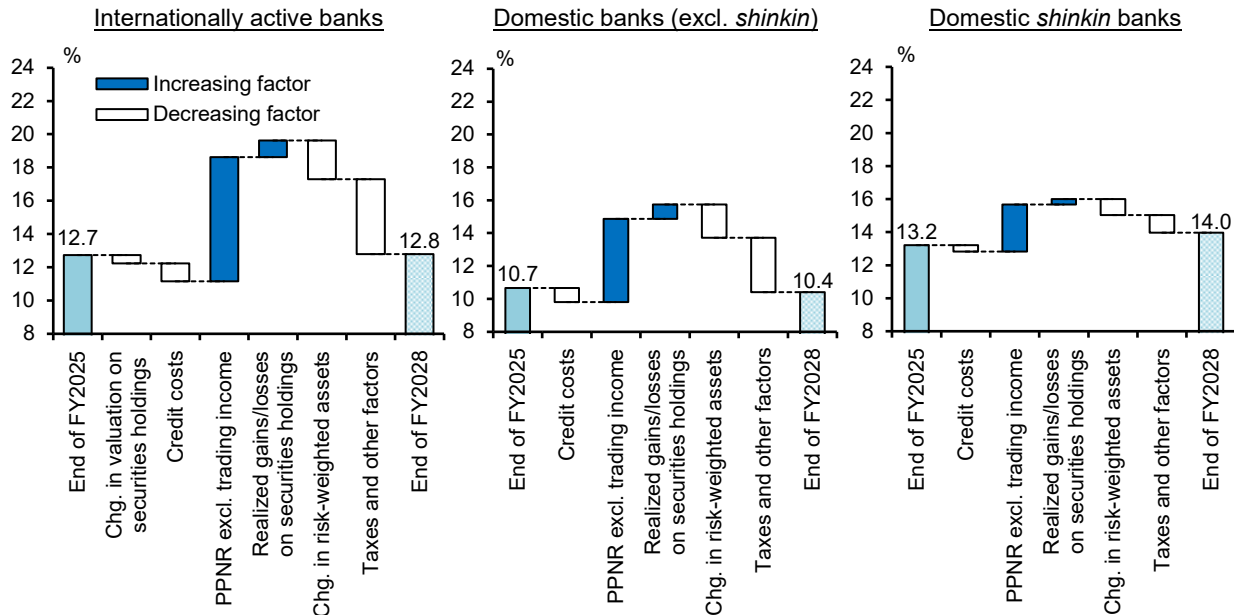
⁵⁶ Internationally active banks and domestic banks are required to maintain a CET1 capital ratio of 4.5 percent and a core capital ratio of 4 percent, respectively. Internationally active banks are also required to meet capital buffer regulations, including the requirement of a capital conservation buffer of 2.5 percent. Systemically important banks are required to maintain additional capital buffers, which are 1.0 to 1.5 percent in the case of global systemically important banks, and 0.5 percent for domestic systemically important banks.

⁵⁷ The capital floor was introduced at the end of March 2024 as part of the finalization of Basel III, and the percentage for the floor for banks using the internal ratings-based approach will be gradually raised by the end of fiscal 2028. As a result, risk-weighted assets will gradually increase toward the latter half of the simulation period, and the floor will effectively lower the capital adequacy ratios of internationally active banks and domestic banks (excluding *shinkin* banks). The simulations here do not take into account management actions by banks in response to the increase in risk-weighted assets.

⁵⁸ It is assumed that in the October-December quarter of 2026, there is a 1 percentage point parallel upward shift in short- and long-term interest rates from the baseline scenario, and interest rates remain 1 percentage point above the baseline scenario until the end of the simulation period. Meanwhile, economic variables regarding the domestic and foreign economies and financial variables other than yen interest rates are the same as in the baseline scenario. In addition, management actions by banks in response to a rise in interest rates are not taken into account.

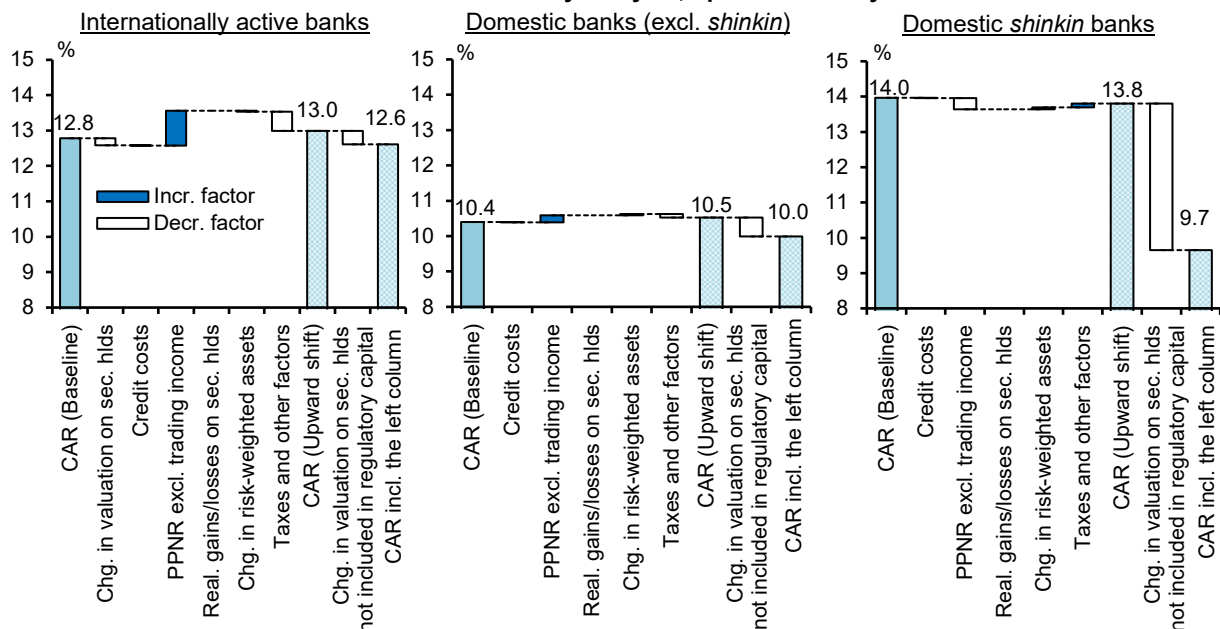
response to the upward shift in yen interest rates, these capital adequacy ratios, just like the capital adequacy ratios on a regulatory capital basis, remain sufficiently above regulatory levels on average for all types of banks.⁵⁹

Chart VI-2-3: Decomposition of capital adequacy ratio: Baseline



Note: Indicates the contribution of each factor to the difference between the capital adequacy ratios at end-fiscal 2025 and the end of the simulation period (as of end-fiscal 2028) under the baseline scenario.

Chart VI-2-4: Decomposition of capital adequacy ratio: Sensitivity analysis, upward shift in yen interest rates



Note: 1. Indicates the contribution of each factor to the difference, at the end of the simulation period (as of end-fiscal 2028), between the capital adequacy ratios (CAR) under the baseline scenario and the scenario of the upward shift in yen interest rates.

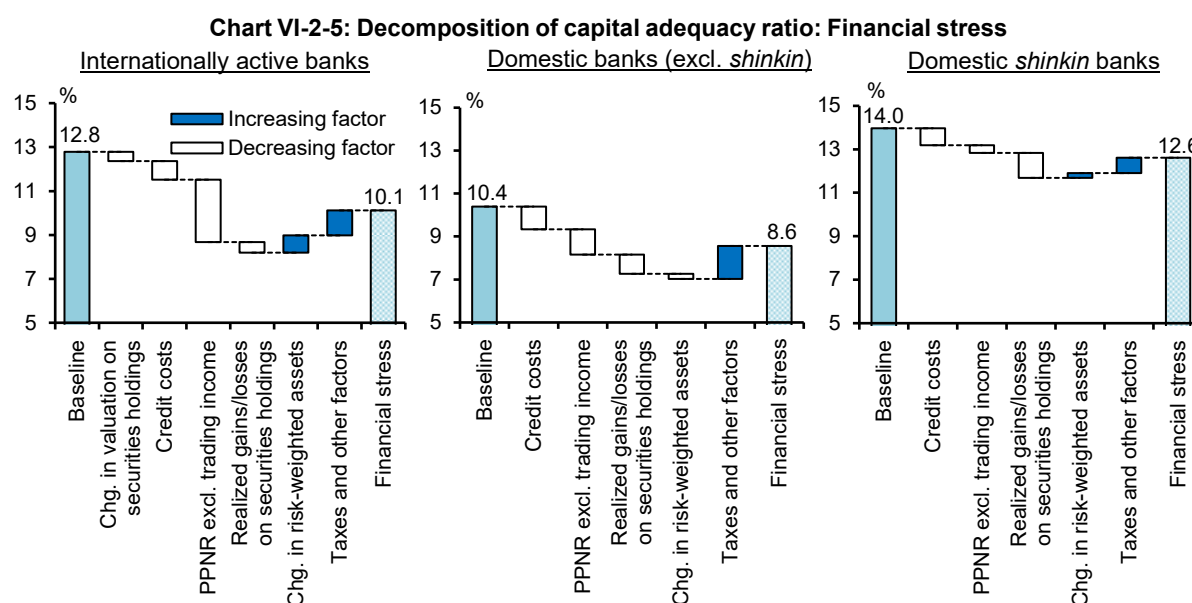
2. "CAR (Baseline)" and "CAR (Upward shift)" are the capital adequacy ratios for regulatory capital. "CAR incl. the left column" is the ratio for capital taking valuation gains/losses on all investment securities into account under the scenario of the upward shift in yen interest rates.

⁵⁹ All securities are evaluated on a mark-to-market basis, regardless of whether they are held to maturity or whether they are included in regulatory capital.

2. Financial stress scenario

The financial stress scenario assumes that global financial markets experience a negative shock in the October-December quarter of 2026, comparable to that during the global financial crisis. Regarding financial variables, it is assumed that, with prices of risky assets plummeting and domestic and foreign interest rates declining to record low levels, the yen appreciates in foreign exchange markets. In addition, Japan's economy decelerates, reflecting the substantial repricing in financial markets and a slowdown in foreign economies equivalent to that seen during the global financial crisis.

The simulation results indicate that capital adequacy ratios at the end of fiscal 2028 are substantially lower than in the baseline scenario (Chart VI-2-5). The decrease in capital adequacy ratios reflects a decline in interest margins due to the fall in interest rates (a decline in PPNR), an increase in credit costs resulting from the deterioration in the economic environment, and a decline in the prices of risky assets (a deterioration in both valuation and realized gains/losses on securities holdings). In particular, the decline in capital adequacy ratios is high for internationally active banks, which are significantly affected by a decline in lending margins due to the fall in interest rates. Nevertheless, capital adequacy ratios remain above regulatory levels on average for all types of banks. It can therefore be assessed that banks have sufficient capital to withstand such substantial and acute stress.



Note: Indicates the contribution of each factor to the difference between the capital adequacy ratios at the end of the simulation period (as of end-fiscal 2028) under the baseline scenario and the financial stress scenario.

However, given the steady rise in the presence of NBFIs, stress in financial markets could be amplified mainly through portfolio adjustments by domestic and foreign investment funds if such stress were to materialize.⁶⁰ Even in this case, banks as a whole can be judged to have financial

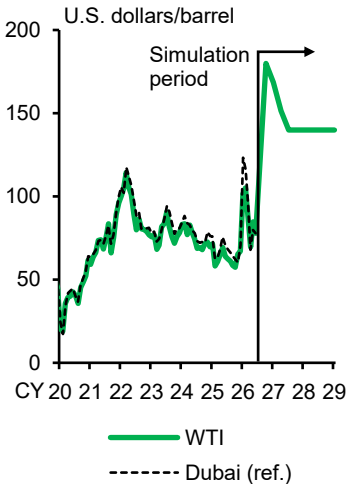
⁶⁰ The results of an exploratory analysis in the April 2025 issue of the *Report*, which explicitly takes into account the amplification of stress through investment funds, show that the capital adequacy ratios of internationally active banks, the impact on which would be relatively significant, would be pushed down by about an additional 1 percentage point compared with the regular financial stress scenario, owing to the deterioration in valuation gains/losses on securities holdings as a result of a fall in asset prices and increased credit costs due to an additional slowdown in the domestic and foreign economies. For a detailed explanation of the scenario and the results of this analysis, see section B of Chapter VI in the April 2025 issue of the *Report* and the following paper: Konaka, Y., Maruyama, T., and Nakamura, F., "Exploratory Scenario Analysis Considering the Growing Presence of Domestic and Foreign Investment Funds," Bank of Japan Working Paper Series, no. 25-E-11, October 2025. The same framework is used in the rises in foreign interest rates scenario plus in this *Report*, as discussed later, to conduct stress testing that explicitly takes into account the amplification of shocks through the NBFIs sector.

bases sufficient to provide stable financial intermediation, but it is important to remain mindful that the amplification of shocks via the NBFIs sector could affect banks' financial bases through a variety of channels.

3. Rises in foreign interest rates scenario plus

The rises in foreign interest rates scenario plus assumes a slowdown in foreign economies and a rise in foreign interest rates reflecting a global surge in prices triggered by the materialization of geopolitical risks and other factors. In this *Report*, the scenario refines the specification of the impact of a decline in expectations regarding the profitability of AI-related investment, a factor also considered in the previous *Report*. This refinement includes the assumption of a larger deterioration in Asian GDP in light of the weight of AI-related industries. In addition, it assumes a situation where such shocks are amplified mainly by portfolio adjustments in both the domestic and foreign NBFIs sectors (Chart VI-2-6).

Chart VI-2-6: Assumptions in the rises in foreign interest rates scenario plus

Assumption on main variables				Assumption on oil prices	
Main variables		Estimation methods	Maximum deviation rate		
Financial variables	U.S. and Japanese long-term interest rates	Assuming the same increase as in the last <i>Report</i> in April 2026 (the levels of interest rates are higher than in the last <i>Report</i> , due to the upward revision in the baseline interest rates)	+1.5%pts		
	U.S. stock prices	AI-related stocks assumed to decline sharply in line with the dot-com bubble collapse, with others based on the real GDP	About -50%		
	Japanese stock prices		About -40%		
	Credit spreads on U.S. corporate bonds (BBB)	Assuming an additional 600bps widening relative to the rises in foreign interest rates scenario plus in the last <i>Report</i> in April 2026, due to the amplification effect of NBFIs	About +1,100bps		
	Fund prices	Based on the asset price related to each fund price	About -35%		
Real economic variables	U.S. real GDP	Panel data regression for value-added and GDP of foreign economies, and FMM for Japan	About -5%		
	Asian real GDP		About -7%		
	Japanese real GDP		About -4%		
	Value-added by industry		About -15%		
Foreign loans	Loans to data centers	Based on the default rates of high-yield bonds during the dot-com bubble collapse	About -10%pts		
	Loans to PC funds	Based on the default rates of high-yield bonds during the dot-com bubble collapse	About -10%pts		

Note: 1. "Maximum deviation rate" for each variable represents the maximum difference between the values under the baseline scenario and the rises in foreign interest rates scenario plus in each quarter. For value-added by industry, "maximum deviation rate" is the average rate of the maximum deviation across industries. For foreign loans, "maximum deviation rate" indicates the maximum difference in the credit cost ratio.

2. "AI-related stocks" are defined as stocks classified in the "Information Technology" sector of the S&P 500 in the U.S., and in the "Electric Appliances," "Information & Communication," "Machinery," or "Precision Instruments" sectors of the TOPIX in Japan.

3. The developments in "U.S. real GDP," "Asian real GDP," and "Value-added by industry" during the simulation period are assumed based on a panel regression using value-added by industry as the dependent variable and the Global Economic Policy Uncertainty Index, U.S. IT investment, and credit spreads on U.S. corporate bonds (BBB) as the independent variables. The sample period is 2001-2022.

4. Latest actual figures for WTI and Dubai oil prices are as of August 2026.

Source: Haver Analytics; Nikkei Inc., "NEEDS-Financial QUEST."

Specifically, foreign economies, particularly Asian economies, where AI-related industries account for a high share of economic activity, are assumed to be strongly affected by a slowdown in AI-related investment by hyperscalers and other firms across related industries, resulting in a substantial slowdown in economic activity, with GDP falling to around 7 percent below the baseline scenario at the point of maximum divergence during the simulation period. Japan's economy is also assumed to slow down, particularly in AI-related industries (information and communication machinery, general-purpose and production machinery, and electrical machinery), mainly reflecting the deterioration in foreign real economic activity.⁶¹ Furthermore, the scenario assumes that, in financial markets, U.S. corporate bond spreads widen substantially and remain elevated for a prolonged period, mainly as a result of portfolio adjustments in the NBFIs sector.⁶² In addition, the scenario incorporates additional losses on Japanese banks' lending to foreign private credit (PC) funds, assuming broader effects than in the previous *Report*.

In addition, the assumed increases in both domestic and foreign short- and long-term interest rates remain the same as those in the previous *Report*. The U.S. federal funds rate is assumed to rise by 2 percentage points compared with the baseline scenario after the October-December quarter of 2026, remain at that elevated level for one year, and then decrease moderately toward the latter half of the simulation period. U.S. long-term interest rates are assumed to rise by a somewhat large margin of 1.5 percentage points above the baseline scenario due to these developments in interest rates and prices, as well as a more cautious investment stance of various entities, including the NBFIs sector, toward holding long-term government bonds. These rates are assumed to remain elevated throughout the simulation period. Meanwhile, in response to the rise in U.S. long-term interest rates, long-term interest rates in Japan are also assumed to increase by 1.5 percentage points and remain at the elevated level.⁶³ In addition, stock prices at home and abroad are assumed to decline significantly, partly due to a decline in expectations regarding the profitability of AI-related investment.⁶⁴ Meanwhile, WTI crude oil futures are assumed to rise temporarily to 180 U.S. dollars/barrel (an increase of 100 U.S. dollars per barrel compared with the baseline scenario) and subsequently remain at a level of 140 U.S. dollars/barrel (the all-time nominal high recorded at the end of June 2008).

⁶¹ This scenario does not incorporate the additional shock of a fall in global trade volume, which was incorporated in the October 2025 and April 2026 *Reports*.

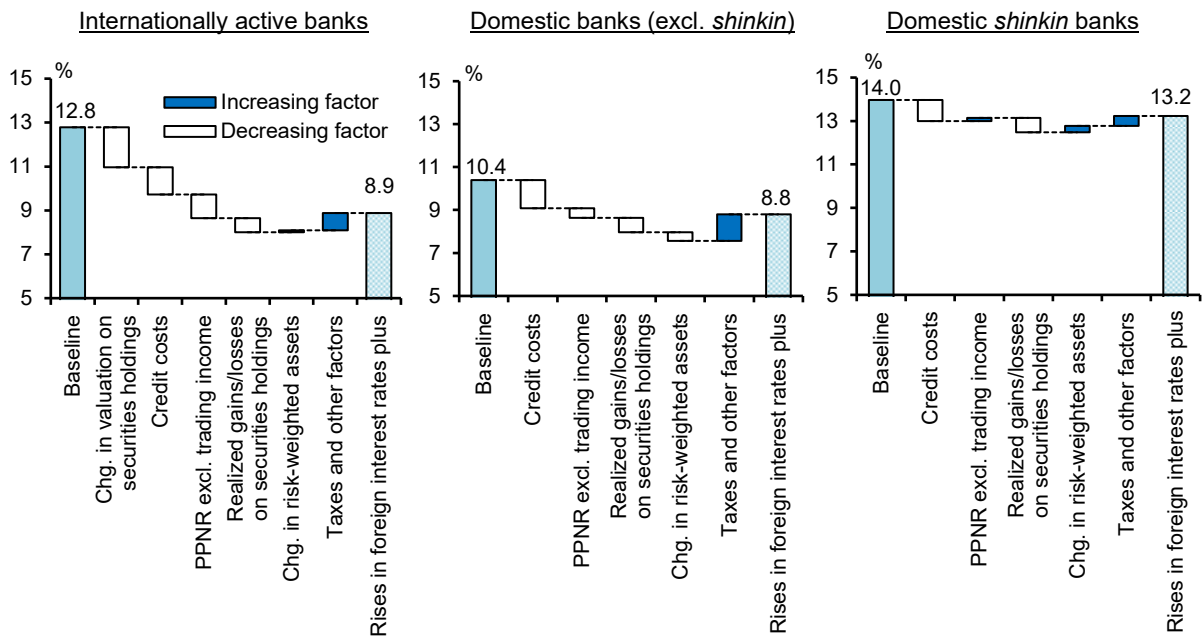
⁶² The additional widening of U.S. corporate bond spreads was calculated based on the relationship between the asset liquidation rate of funds and corporate bond spreads during past shocks. For details, see Konaka, Maruyama, and Nakamura (2025).

⁶³ Note that short-term yen interest rates in Japan are assumed to be the same as in the baseline scenario.

⁶⁴ For fund prices, the effects are calculated by applying declines in stock prices, bond prices, and other asset prices according to the classification of investment targets, and higher interest rates, wider U.S. corporate bond spreads, and lower stock prices contribute to the declines in fund prices.

The simulation results show that the capital adequacy ratios of all types of banks as of the end of fiscal 2028 are lower than in the baseline scenario (Chart VI-2-7).

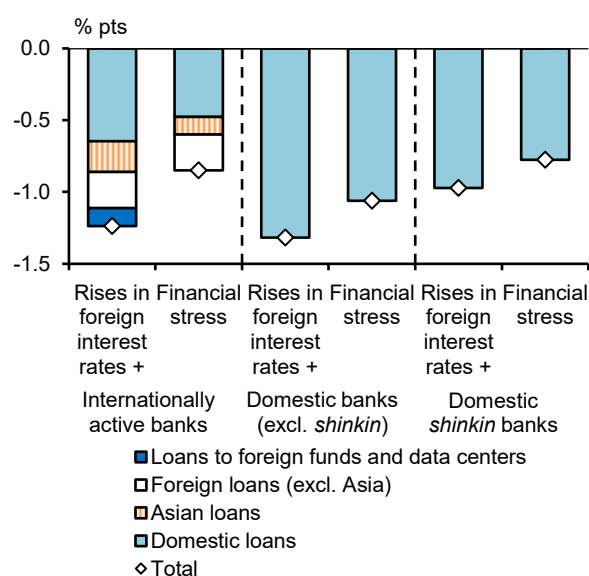
Chart VI-2-7: Decomposition of capital adequacy ratio: Rises in foreign interest rates scenario plus



Note: Indicates the contribution of each factor to the difference between the capital adequacy ratios at the end of the simulation period (as of end-fiscal 2028) under the baseline scenario and the rises in foreign interest rates scenario plus.

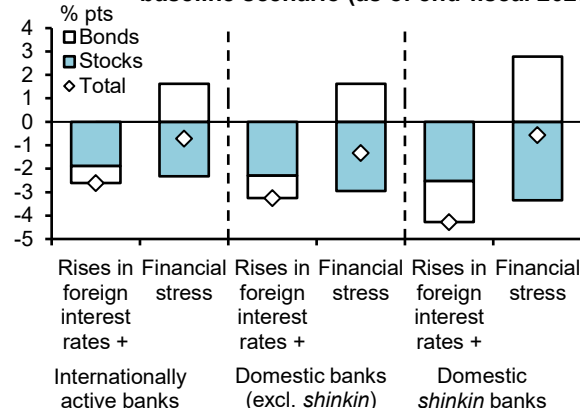
A breakdown of the results shows that PPNR decreases, particularly for internationally active banks with high foreign exposure ratios, as foreign net interest income declines due to rising foreign currency funding costs. Credit costs increase for all types of banks due to the deterioration in the corporate earnings environment caused by the slowdown in domestic and foreign economic activity. Domestic credit costs increase to a greater extent than in the financial stress scenario because higher crude oil prices weigh on corporate profits, with the mitigating effect of lower interest rates on debt repayment being absent. For foreign exposures, credit costs increase notably in Asian economies, where AI-related manufacturing industries account for a high share, while impairment of loans to PC funds and data centers also contributes to the increase (Chart VI-2-8). Regarding the impact on valuation and realized gains/losses on securities, declining stock and fund prices exert considerable downward pressure. Bonds also contribute to the decline: yen-denominated bonds are affected by higher long-term interest rates, while foreign bonds are affected by both rising long-term interest rates and the widening of U.S. corporate bond spreads. By bank type, domestic *shinkin* banks experience a larger impact from their yen-denominated bondholdings, due to the longer duration of these holdings than at other types of banks. Conversely, at internationally active banks, foreign bonds contribute more significantly to the decline than at other types of banks. For internationally active banks, since valuation gains/losses on securities are included in regulatory capital, stresses such as simultaneous declines in stock and bond prices significantly depress their capital adequacy ratios (Chart VI-2-9).

Chart VI-2-8: Credit costs compared to the baseline scenario



Note: Shows the contribution to the difference between the credit costs during the simulation period under the baseline scenario and each downside scenario. Shows ratios to risk-weighted assets.

Chart VI-2-9: Valuation and realized gains/losses on securities holdings compared to the baseline scenario (as of end-fiscal 2028)

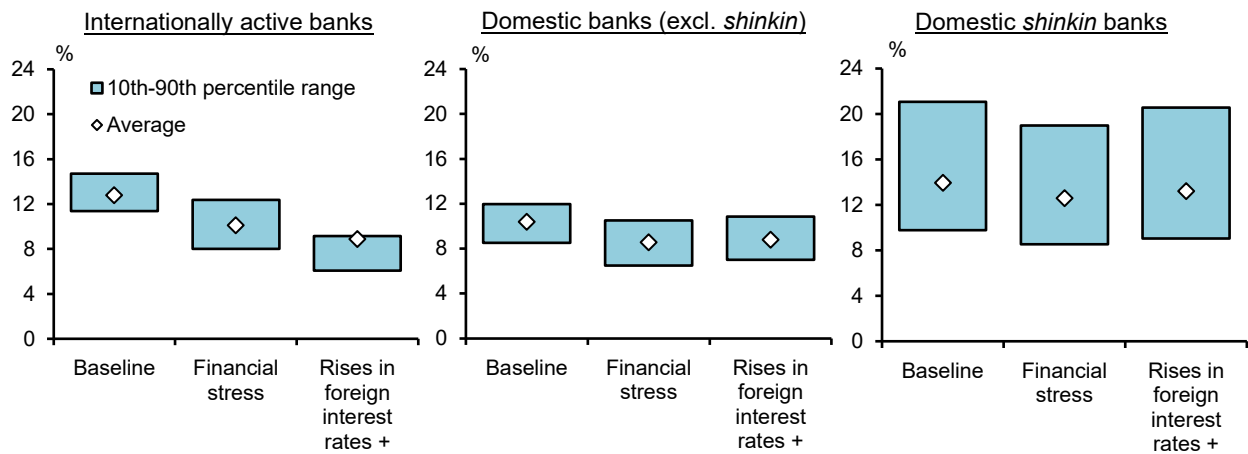


Note: 1. Shows the contribution to the difference between the gains/losses as of end-fiscal 2028 under the baseline scenario and each downside scenario. Shows ratios to risk-weighted assets.
2. Includes held-to-maturity bonds. Shows sums of valuation and realized gains/losses on securities holdings.

Nevertheless, capital adequacy ratios overall remain above regulatory requirements throughout the simulation period; similarly, capital adequacy ratios taking into account valuation losses on all investment securities remain above regulatory levels on average. Therefore, it can be judged that the stability of the financial system as a whole is maintained even when foreign interest rates and crude oil prices remain elevated for an extended period and when stress on domestic and foreign financial markets and real economies becomes substantial as shocks -- such as a decline in expectations regarding the profitability of AI-related investments -- are amplified mainly by portfolio adjustments in the NBFIs sector.

4. Evaluation of the resilience of the financial system

The results of the macro stress testing indicate that Japanese banks on the whole are resilient to potential stress such as a situation equivalent to the global financial crisis, in which substantial and rapid adjustments in financial markets and a deterioration in foreign economies occur simultaneously, as well as compound stresses in which shocks due to the materialization of geopolitical risks and a decline in expectations regarding the profitability of AI-related investment are amplified mainly by portfolio adjustments in the NBFIs sector, leading to simultaneous increases in domestic and foreign interest rates, declines in risky asset prices, and a deterioration in the real economy (Chart VI-2-10). These results reflect the fact that banks have increased their resilience by increasing their capital since the global financial crisis, and borrower firms overall have maintained robust financial bases.

Chart VI-2-10: Distribution of capital adequacy ratios

Note: The markers and bands indicate the averages and the 10th-90th percentile ranges respectively of capital adequacy ratios at the end of the simulation period (as of end-fiscal 2028).

It is necessary to continue to carefully monitor the impact that factors such as the future situation in the Middle East, the profitability and financing of AI-related investment, and developments in the foreign NBFIs sector have on the financial system through various channels. Banks need to remain alert to a range of risks that may materialize and put in place frameworks to appropriately manage such risks.

Box 1: Increases in housing loan interest rates and credit costs

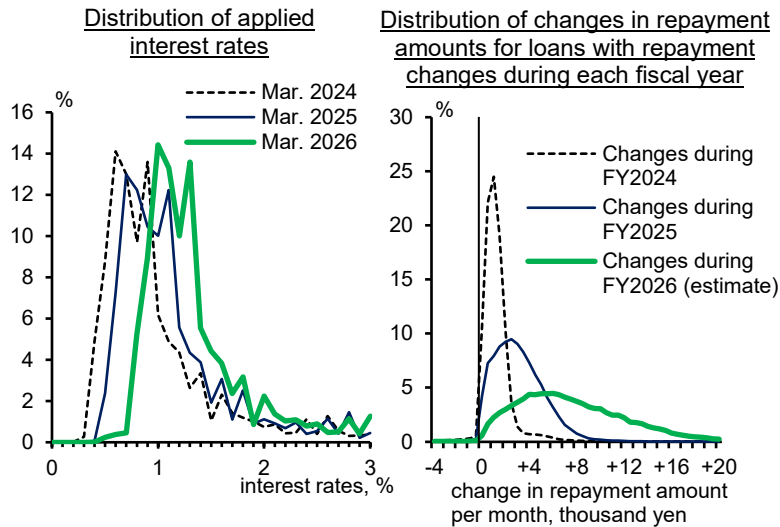
The applied interest rates on floating-rate housing loans, which account for the majority of housing loans, rose by 0.15 percentage points for many loans in the period through December 2024 following the policy interest rate hike in July 2024, by another 0.25 percentage points in the period through June 2025 following the hike in January 2025, and by another 0.25 percentage points in the period through June 2026 following the hike in December 2025 (left panel of Chart B1-1). Rates are expected to rise further going forward as a result of the policy interest rate hikes in June and September 2026. Data from the common data platform on housing loans at member banks of the Regional Banks Association of Japan (regional banks I) show that, although the interest rates applied to many floating-rate loans now exceed 1 percent, only a limited share of loans have experienced increases in repayment amounts. This reflects the fact that many floating-rate loans incorporate measures to prevent drastic changes in repayments, such as the "5-year rule."⁶⁵ On this basis, for existing loans with applied interest rates scheduled for revisions during fiscal 2026, monthly repayments are expected to increase by around 5,000 yen at the mode (right panel of Chart B1-1).⁶⁶ Although repayment amounts are expected to continue to increase with a lag in response to hikes in applied interest rates, improvements in the employment and income situation, such as recent wage growth, are likely to mitigate the repayment burden (Chart B1-2).⁶⁷

Housing loans originated in recent years tend to be larger in size, mainly reflecting the rise in property prices (Chart B1-3). Amid these developments, the use of super-long-term housing loans has increased to keep monthly repayments within a certain range, and at regional banks I, housing loans with maturities of more than 35 years now account for the majority of newly originated housing loans; moreover, even on an outstanding balance basis, they now account for more than 10 percent (Chart B1-4). For floating-rate loans with super-long repayment terms, an increase in the applied interest rate results in a larger increase in repayment amounts, partly because the principal balance declines only slowly under such loan structures (Chart B1-5).

⁶⁵ The "5-year rule" is a measure under which the monthly principal and interest payment amount remains constant for five years by postponing part of the principal repayment, even if loan interest rates rise. Given that many loans incorporate the 5-year rule at origination, the percentage of loans that actually experience an increase in repayment amounts remains at around 20 percent per year. Even when repayment amounts are revised after five years have elapsed, the revisions are to be reflected in actual repayments only after a lag of several months. This is because October is typically used as the reference date, with the revised repayment amounts reflected in repayments from December onward. Thus, increases in repayment burdens are expected to be mitigated in the short run. That said, it should be noted that, when repayment amounts are revised, the magnitude of the change may reflect the cumulative effect of changes in applied interest rates over the preceding five years. For details, see Box 2 in the April 2024 issue of the *Report* and Box 1 in the October 2025 issue of the *Report*.

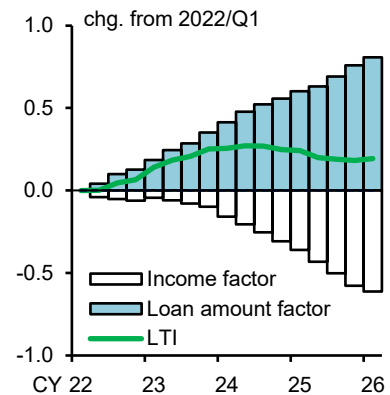
⁶⁶ Another measure to prevent drastic changes in housing loan repayments is the "125 percent rule." This rule ensures that monthly principal and interest payment amounts, after five years, do not exceed 125 percent of the amounts paid prior to the revision. The estimates in this Box indicate that, among existing loans whose applied interest rates are scheduled to be revised during fiscal 2026, loans for which repayment amounts increase to more than 125 percent of their previous levels account for only 0.7 percent.

⁶⁷ For a discussion of the effects of policy interest rate hikes on households, see Box 4 of the *Outlook for Economic Activity and Prices*, July 2026.

Chart B1-1: Applied interest rates and changes in repayment amount for floating-rate housing loans

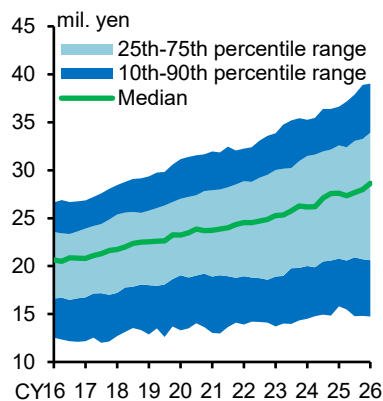
Note: The data cover floating-rate housing loans issued by regional banks I that remained on the books of the sample banks from March 2024 to March 2026. The figures for "Changes during 2024" and "Changes during 2025" aggregate loans where the repayment amounts differ between March 2024 and March 2025 and between March 2025 and March 2026, respectively. The figures for "Changes during 2026 (estimate)" are estimates based on data as of end-March 2026, assuming that the "5-year rule" is applied to all loans.

Source: BOJ.

Chart B1-2: LTI at the time of housing loan origination

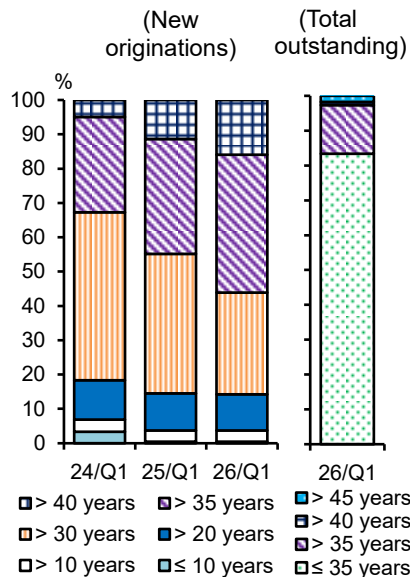
Note: Covers major, regional, and *shinkin* banks. 4-period backward moving averages. Latest data are as of 2026/Q1.

Source: BOJ.

Chart B1-3: Loan amount per loan at the time of housing loan origination

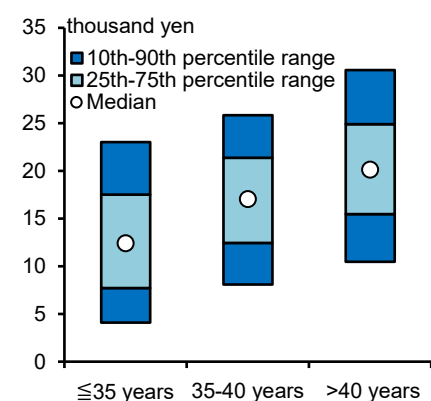
Note: Covers major, regional, and *shinkin* banks. Latest data are as of 2026/Q1. 4-period backward moving averages.

Source: BOJ.

Chart B1-4: Composition of housing loans outstanding by repayment periods

Note: Share of loan amount. The left-hand chart covers floating-rate housing loans issued by regional banks I that were newly originated during each quarter. The right-hand chart covers all housing loans held by regional banks and *shinkin* banks as of 2026/Q1 (sum of floating-rate and fixed-rate types).

Source: BOJ.

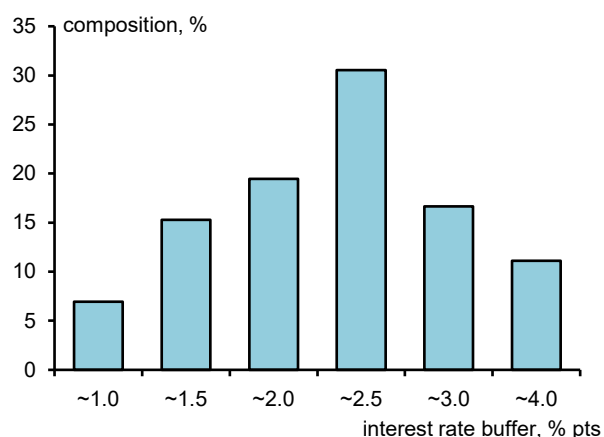
Chart B1-5: Increase in loan repayments amid rising interest rates

Note: The chart shows changes in monthly repayment amount when interest rates rise by +1 percentage point. Measures to prevent drastic changes in repayments, such as the 5-year rule, are not taken into account. Covers floating-rate housing loans issued by regional banks I that were newly originated in 2026/Q1.

Source: BOJ.

In general, credit screening at origination for housing loans takes into account the risk that borrowers' debt servicing capacity may deteriorate over the loan term by applying a stress interest rate that is higher than the actual lending rate. That is, during the screening process, banks typically decline applications for housing loans that would be vulnerable to interest rate increases by securing a sufficient "interest rate buffer" or a gap between the stress interest rate and the actual loan interest rate. In fact, many banks maintain interest rate buffers of around 2 to 3 percentage points (Chart B1-6). Therefore, it can be judged that recently originated super-long-term housing loans also have a considerable degree of resilience to interest rate increases. Moreover, risks are more diversified in housing loans than in corporate loans and, based on the track record, credit costs have remained low (Chart B1-7). Nevertheless, banks are expected to provide sufficient explanations to borrowers and conduct careful portfolio management and use the insights gained from it to refine their screening process, particularly for super-long-term housing loans, taking into account the possibility that interest payments may increase and borrowers' debt servicing capacity may deteriorate over the long loan term.⁶⁸

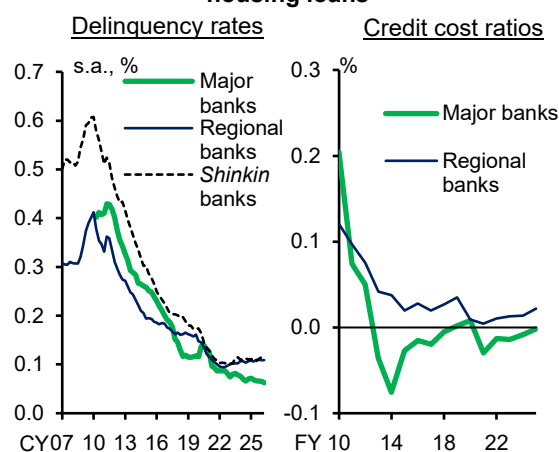
Chart B1-6: Interest rate buffers on housing loans



Note: 1. Based on a survey of regional banks conducted in July 2026.
 2. Interest rate buffer is calculated as: stress interest rate - interest rate on new loans (both rates are for floating-rate loans).
 3. Stress interest rates are as of July 2026, and interest rates on new loans are as of 2026/Q1.

Source: BOJ.

Chart B1-7: Credit risk indicators of housing loans



Note: 1. Latest data for the left-hand chart are as of June 2026, and FY2025 for the right-hand chart.
 2. Delinquency rates in the left-hand chart are calculated as follows: loans overdue by three months or more / loans outstanding.
 3. The credit cost ratio in the right-hand chart is calculated as follows: (credit costs on a non-consolidated basis + credit costs of affiliated guarantee companies) / (outstanding amount of housing loans without guarantees + outstanding amount of housing loans with affiliated companies' guarantees).

Source: BOJ.

⁶⁸ The Japanese Bankers Association (JBA) made an agreement to provide sufficient explanations to housing loan borrowers regarding the risk of changes in interest rates. For details, see the document released by the JBA in June 2026 (available in Japanese).

Box 2: Frontier AI and cybersecurity

Amid rapid advances in the capabilities of generative AI, frontier AI -- AI with the most advanced capabilities currently available -- is becoming increasingly capable of performing more advanced tasks, such as complex problem-solving, code generation, and the use of external tools. While such technological advances contribute to greater efficiency and sophistication in operations across a wide range of fields, including finance, they also present additional risk management challenges for financial institutions, including those related to cybersecurity.

In the field of cybersecurity, generative AI has already been exploited to enhance and streamline existing attack techniques, such as by crafting phishing emails, facilitating social engineering, and developing malware. Furthermore, advances in AI agent technologies, along with improvements in capabilities such as vulnerability discovery and code analysis, have recently raised concerns that parts of the entire process -- from target reconnaissance and vulnerability identification to the development and execution of attack techniques -- could become increasingly automated and sophisticated. Against this backdrop, since the spring of 2026, a number of initiatives have been undertaken in Japan and abroad to assess the cyber capabilities of frontier AI, explore its use for defensive purposes, and coordinate public- and private-sector responses to the evolving threat landscape (Chart B2-1).

Chart B2-1: Developments in frontier AI and cybersecurity measures in 2026

April 7	Anthropic announced Claude Mythos Preview. Given concerns over its advanced cyber capabilities, the model was not made publicly available and was provided only to selected users. Anthropic launched "Project Glasswing," an initiative to enhance cyber defense, under which around 50 companies and organizations used Mythos to identify and remediate vulnerabilities.
April 13	The UK AI Security Institute (AISi) published its evaluation of Claude Mythos Preview's cyber capabilities (evaluation of OpenAI's GPT-5.5 was published on April 30).
April 24	The Financial Services Agency (FSA) held the "Public-Private Coordination Meeting on Strengthening Cybersecurity Measures in the Financial Sector Against AI-Related Threats."
May 14	The working group under the Public-Private Coordination Meeting was held to deepen practitioner-level discussions on short-term measures by financial institutions and other entities to AI-related cyber threats.
May 22	The FSA and the Bank of Japan jointly published a report titled "Request Regarding 'Short-Term Measures for Financial Institutions in Response to Changes in Threat Posed by Frontier AI,'" calling for the identification of prioritized systems, confirmation of patch application, and reviews of defense-in-depth measures.
June 16	The Japanese Bankers Association (JBA) published a report regarding cybersecurity management frameworks in light of the evolving threat landscape posed by frontier AI (available in Japanese), providing reference examples for strengthening cybersecurity management frameworks at financial institutions and service providers.
July 7	The ECB issued a letter to CEOs of supervised significant institutions, requesting an assessment of AI-enabled cybersecurity threats and submit action plans to strengthen controls by the end of October.
August 31	The FSB Chair published a letter to G20 Finance Ministers and Central Bank Governors, identifying frontier AI-related cyber risks as one of the most immediate concerns for the financial system and highlighting the need for safe development and deployment of AI, as well as enhanced resilience of financial institutions.

Source: Media reports and other publicly available information.

The cyber threats posed by frontier AI lie not only in the creation of entirely new attack techniques but also in the automation and acceleration of cyberattack processes that previously required high levels of expertise and considerable time, thereby substantially reducing the cost of carrying out cyberattacks. For example, if frontier AI is used to identify vulnerabilities through code analysis of open-source software and generate code to exploit such vulnerabilities, the time required from vulnerability identification to attack execution could be significantly shortened. This could reduce the time available for defenders to detect vulnerabilities and deploy patches, while enabling attackers, even with limited personnel, to expand their range of targets, potentially increasing the scale and frequency of cyberattacks.⁶⁹

In the United States, where the development of frontier AI is accelerating, efforts are underway through public- and private-sector cooperation to identify vulnerabilities in existing systems and apply patches. In Japan, financial institutions are also conducting assessments of the high-priority internet-connected systems, such as internet banking, based on the short-term measures requested by the Financial Services Agency (FSA) and the Bank of Japan. The possibility that new challenges may emerge underscores the importance of continued vigilance and strengthened cooperation among domestic and foreign financial authorities, financial institutions, and third-party service providers to enhance cyber resilience.

⁶⁹ For details, in addition to the short-term measures requested by the FSA and the Bank, see, for example, the Five Eyes cyber security agencies, "The AI Shift in Cyber Risk: Why Leaders Must Act Now," June 2026, and the National Cyber Security Centre (NCSC), "Retaining Defensive Advantage in the Age of Frontier AI Cyber Capabilities," April 2026.

Glossary

Financial statements of financial institutions

Net income = operating profits from core business + realized gains/losses on stockholdings + realized gains/losses on bondholdings – credit costs ± others (such as extraordinary gains/losses)

Gross operating profits from core business = core gross operating profits = net interest income + net non-interest income

Operating profits from core business = pre-provision net revenue (PPNR) = net interest income + net non-interest income – general and administrative expenses

Net interest income = interest income – interest expenses

Net non-interest income = net fees and commissions + profits on specified transactions + other operating profits – realized gains/losses on bondholdings

Overall gains/losses on stockholdings = realized gains/losses on stockholdings + changes in valuation gains/losses on stockholdings

Realized gains/losses on stockholdings = gains on sales of stocks – losses on sales of stocks – losses on devaluation of stocks

Overall gains/losses on bondholdings = realized gains/losses on bondholdings + changes in valuation gains/losses on bondholdings

Realized gains/losses on bondholdings = gains on sales of bonds + gains on redemption of bonds – losses on sales of bonds – losses on redemption of bonds – losses on devaluation of bonds

Credit costs = loan-loss provisions + write-offs + losses on credit sales – recoveries of write-offs

Credit cost ratio = credit costs / total loans outstanding

Adjusted OHR = overhead costs / gross operating profits from core business

Capital adequacy ratios of internationally active banks

Common equity Tier 1 (CET1) capital ratio = CET1 capital / risk-weighted assets

CET1 capital consists of common equities and retained earnings, etc. (including accumulated other comprehensive income).

Tier 1 capital ratio = Tier 1 capital / risk-weighted assets

Tier 1 capital includes CET1 capital and preferred equities that meet certain conditions.

Total capital adequacy ratio = Total capital / risk-weighted assets

Total capital includes Tier 1 capital and subordinated bonds that meet certain conditions.

Capital adequacy ratios of domestic banks

Core capital ratio = core capital / risk-weighted assets

Core capital includes common equities and retained earnings as well as preferred equities that meet certain conditions.

