Daiwa Securities

Daiwa's View

Oct BOJ *Financial System Report*

- Structural problems predating the pandemic fortuitously highlighted by analyses positioned as extensions of April *FSR*

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Structural problems predating the pandemic fortuitously highlighted by analyses positioned as extensions of April *FSR*

On 21 October, the BOJ released its *Financial System Report* (*FSR*). Similar to the view in the previous report released in April, its assessment was that Japan's financial system "has been maintaining stability on the whole." Three future risks, pointed out in the report, are also unchanged from those in the previous report.

The latest *FSR* is also positioned as an extension of the previous *FSR* in terms of awareness of problems and analyses based on such awareness. This is mainly because (1) the domestic environment surrounding financial institutions has been largely unchanged since April and (2) "accommodative financial conditions" are continuing in the international financial market, despite increasing speculation of earlier monetary policy normalization in a reflection of the prolonged rising inflation.

Rather, the latest *FSR* is characterized by deeper and more sophisticated analyses via more emphasis on concrete data for individual companies and financial institutions in such a transition period. As a result, it highlighted structural problems in the Japanese financial system that already existed before the pandemic, which is also an interesting point. Keeping in these points in mind, we overview the latest *FSR*.

◆ Assessment regarding the stability of current financial system, and future risks

First, the report assessed that "Japan's financial system has been maintaining stability on the whole," keeping the judgment of the previous and earlier reports. In addition, three future risks are also unchanged—(1) an increase in credit costs due to a delay in economic recovery at home and abroad, (2) deterioration in gains/losses on securities investment due to substantial adjustments in financial markets, and (3) destabilization of foreign currency funding due to the tightening of foreign currency funding markets.

BOJ *Financial System Report* (Oct 2021)
・Japan's financial system has been maintaining stability on the whole, while COVID-19 continues to have a significant impact on economic and financial activity at home and abroad.

This is mainly because the environment surrounding financial institutions has been largely unchanged since April. In other words, Japan's economic recovery has been delayed in line with the spread of the Delta variant, despite the progress in vaccinations. Meanwhile, overseas yields have declined further, despite speculations on earlier monetary policy normalization in line with the "faster-than-expected pace of recovery in the US economy" and "expectations for economic recovery that reflects progress with COVID-19 vaccinations." Therefore, the report stated that "in financial markets, with risk sentiment remaining favorable on the whole, there have been continuing inflows of funds to the stock market and emerging market economies[1].

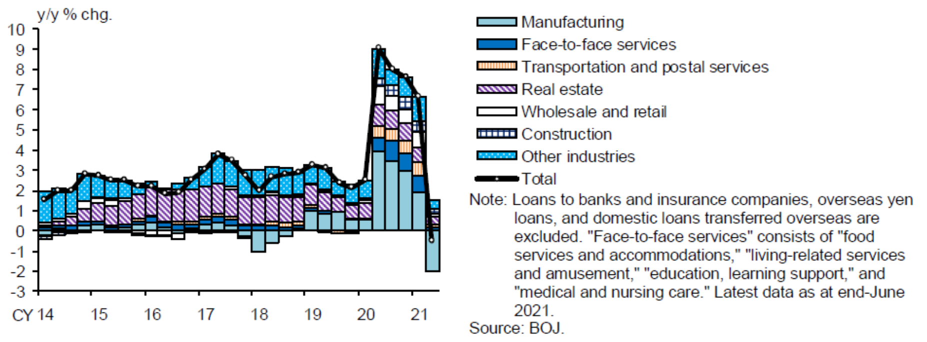
[1] Previous *FSR* in Apr said that "In financial markets, investors' risk sentiment has improved and inflows of funds to the stock market and emerging market economies have been increasing rapidly."

As a result, the report said that "the course of the pandemic and its impact on the domestic and overseas economies remain uncertain," but this is an upward revision from the assessment of "highly uncertain" of previous reports. In fact, the analysis of the GDP-at-risk (GaR) shows that the lower tail of the distribution, which at one point was fatter than during the asset bubble period after the outbreak of COVID-19, has shrunk, suggesting that "tail risks to the real economy have declined."

Regarding financial institutions' loans, the report said that "firms' increased needs for funds, including precautionary demand due to the pandemic, have started to calm down on the whole." Repayment of cash reserves has been observed especially at large companies (by corporate size) and manufacturers (by business type). By type of loan, the annual growth rate of loans for working capital has turned negative for large and medium-sized firms.

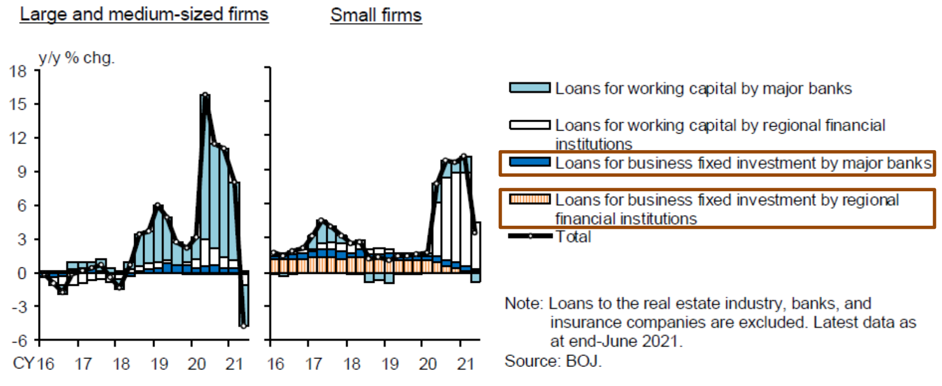
On the other hand, the pace of earnings recovery at SMEs and face-to-face services operators has been moderate, with large heterogeneity by sector and by corporate size. In addition, the growth of loans for business fixed investment has been rather declining. As such, it does not mean that the domestic macro environment has entered a new phase; the environment is an extension of the previous situation. Therefore, there were no changes to the awareness of problems or analyses in the *FSR*.

Banks' Corporate Loans Outstanding by Industry



Source: Extracted from BOJ Financial System Report *(Oct 2021).*

Corporate Loans Outstanding by Size of Firm and Type of Loan



Source: Extracted from BOJ Financial System Report *(Oct 2021).*

Rather, the latest *FSR* is characterized by deeper and more sophisticated analyses via more emphasis on concrete data for individual companies and financial institutions in such a transition period. That said, as we mention later in this report, these analyses highlighted structural problems that predate the pandemic, which is also an interesting point.

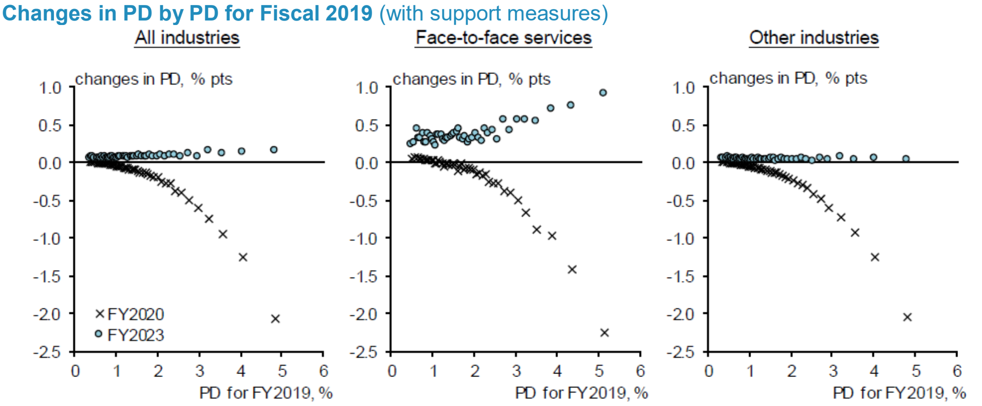
◆ Domestic credit risk and heat map

To examine domestic credit risk, the BOJ ran a simulation of financial positions out to FY23 to analyze the impact on corporate default rates brought by pandemic-induced changes in cash flow and ability to repay debt. It modeled differences across individual companies at a more granular level than the last time it ran this analysis. The results of its analysis are not much different from the last time, however.

One interesting aspect of these latest results is that companies with higher default rates prior to the pandemic saw a more significant reduction in those default rates in FY20 thanks to government support, whereas companies in a weak financial position prior to the pandemic may see a significant rise in their default rate over the medium term.

It is not clear whether these companies should have gone bankrupt under normal conditions or whether they were strongly affected by the recession that had already begun prior to the pandemic (including impacts from the consumption tax hike). However, structural problems that existed prior to the pandemic may now be hidden because of government support.

Changes in PD by PD for Fiscal 2019 (with support measures)



Note: Firms are grouped into 2-percentile bins based on their PD, which is estimated by the BOJ. The horizontal axes show the median values for each group and the vertical axes show the averages for each group. The top and bottom 4-percentile samples are excluded.

Source: Extracted from BOJ Financial System Report *(Oct 2021).*

This can be confirmed with the heat map. In addition to the four indicators that were flashing red as of the previous report (M2 growth rate, total credit to GDP ratio, household loans to GDP ratio, and real estate loans to GDP ratio), one more is flashing red, the corporate credit to GDP ratio. Consequently, five indicators were flashing red in the most recent (October) *FSR* heat map[2].

All of the flashing indicators in the latest *FSR* are related to either credit or money and can be seen as evidence that aggressive funding support to corporations has been facilitating financial intermediation activity. All these indicators are unquestionably well above their trendline as result of financial institutions accommodating the demand for operating liquidity, including precautionary demand, created by the sharp declines in sales and income caused by the pandemic.

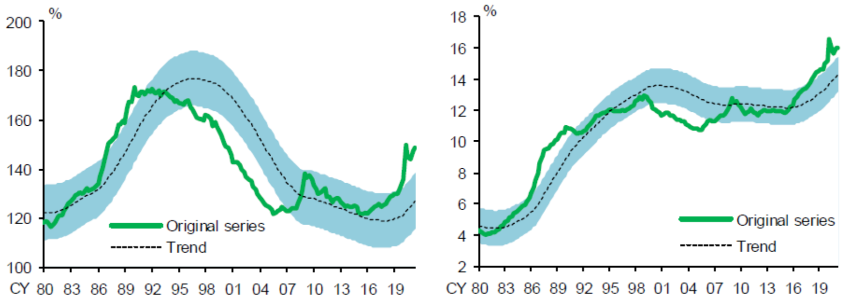
However, the real estate loans to GDP ratio strongly reflects growth since before the pandemic in financial institutions' real estate loans outstanding, primarily for rental properties. In other words, that indicator has been flashing red since 2018, well before the pandemic, and the trendline itself has long been heading upward, an indicator of longer-term issues.

2 More accurately, five indicators were already flashing in July, but this did not become clear until the minutes of the July Monetary Policy Board meeting were released on 28 September. The minutes included the following explanation from the BOJ's Financial System and Bank Examination Department: "With regard to the financial cycle, of the 14 Financial Activity Indexes (FAIXs) that comprise the heat map in the *Financial System Report*, five – including one indicating the amount of financial institutions' credit relative to real economic activity – showed upward deviations from the trends."

The October *FSR* confirmed that domestic banks' real estate loans outstanding have remained at record-high levels, about Y89 trillion as of end-March 2021, and noted that with the growth of pandemic-related loans leveling off, some regional financial institutions have been focusing on lending to the real estate industry to increase their total outstanding amount of loans. This secular trend, driven by weak funding demand and persistently low interest rates, has been in place since before the pandemic[3].

Financial Activity Indexes Flashing Red

Total credit to GDP ratio | Real estate loans to GDP ratio



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. 4-quarter backward moving averages. Latest data as at the April-June quarter of 2021.
Source: Cabinet Office, "National accounts"; BOJ, "Flow of funds accounts."

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. 4-quarter backward moving averages. Latest data as at the April-June quarter of 2021.
Source: Cabinet Office, "National accounts"; BOJ, "Loans and bills discounted by sector."

Source: Extracted from BOJ Financial System Report *(Oct 2021).*

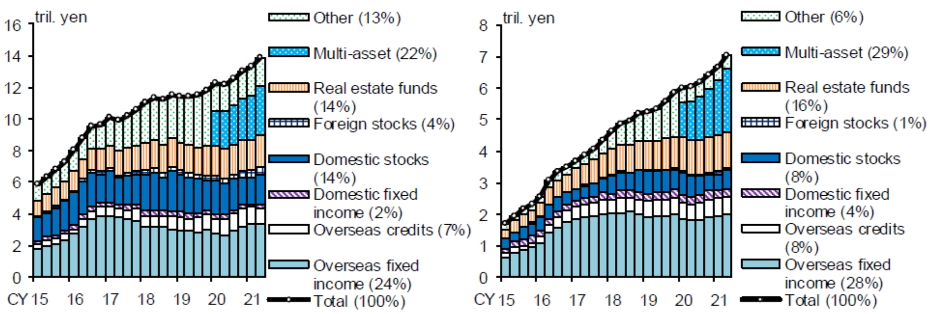
◆ <u>The rising interlinkage of global financial markets and homogeneity of securities portfolios</u>

As noted above, continued positive risk sentiment driven by expectations of a global economic recovery and the persistent hunt for yield by investors has driven share prices in the US and Europe significantly higher while corporate bond spreads, particularly on high-yield debt, have been narrowing, and monetary conditions remain accommodative.

Under this environment, among Japan's financial institutions, the major banks increased their holdings of stock investment trusts until end-FY20, while regional financial institutions, in an effort to increase their interest and dividend income, have been increasing their holdings of investment trusts, primarily multi-asset and overseas fixed income funds.

Breakdown of Outstanding Amount of Investment Trusts Among Regional Financial Institutions

<u>Regional banks</u> | <u>*Shinkin* banks</u>



Note: 1. Based on book values. The figures in parentheses in the chart indicate the share of the respective product types in the latest period.
2. "Other" includes other foreign securities.
3. Up to end-December 2019, "Other" includes "Multi-asset."
4. Latest data as at end-June 2021.
Source: Extracted from BOJ Financial System Report *(Oct 2021).*

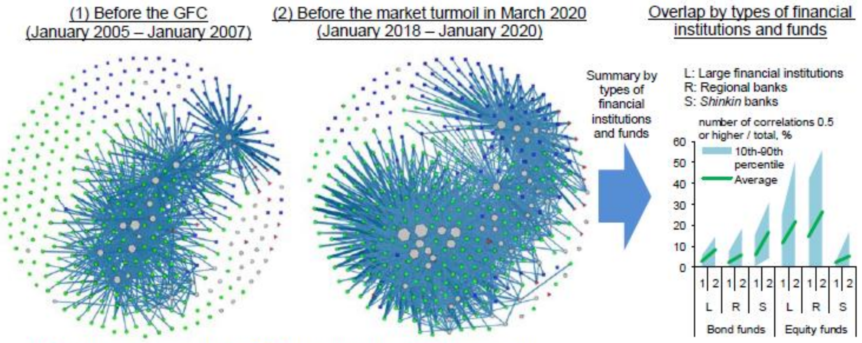
3 Box 2, toward the end of the latest *FSR*, shows the real estate market trend.

[The April 2021 *FSR*] noted that trading activity in overseas investment funds amplified the interlinkage effect, i.e., increased the price volatility in the securities portfolios of Japan's financial institutions, but the October *FSR* analyzed securities portfolio overlap (homogeneity) at a more granular level based on institution and fund type.

What it found is that the overlap between financial institutions and the different investment funds has overall been rising since before the sharp change in markets triggered by the pandemic in March 2020, and that the portfolios of financial institutions with greater overlap are at greater risk of negative impacts. That overseas investment funds have themselves been increasing their investments in Japan recently has also strengthened the interconnectedness between Japanese financial institutions and investment funds.

In other words, apart from risk-taking by the financial institution, the impacts from market shocks in global financial markets on those financial institutions' securities portfolios wind up being amplified by the behavior of the investment funds.

Portfolio Overlap Between Japanese Financial Institutions and Investment Funds



Red▲: Large financial institutions, Blue■: Regional banks, Green●: *Shinkin* banks,
Gray hexagon: Investment funds

Note: A line is drawn when the overlap between a financial institution's securities portfolio and AUM (assets under management) of an investment fund is high (i.e. correlation of price changes is 0.5 or higher). Shapes are larger the more they are connected.

Source: Extracted from BOJ Financial System Report *(Oct 2021).*

◆ <u>Macro stress tests and rising US long-term rates</u>

Thus, although financial conditions currently remain accommodative, the sharp rise in US long-term rates and the trend in COVID-19 infections, including variants, could cause a correction of risk assets prices, and if that occurs there is a risk of the market shock being amplified through interlinkage effects.

Based on this understanding of risk, to test the resilience of financial institutions and the financial system, the latest macro stress test adds a third downside scenario, (3) the emerging markets stress scenario, to the two used in the previous stress test: (1) a diverging business conditions scenario[4] and (2) a financial stress scenario[5].

Under the emerging markets stress scenario, a rise in US long-term rates triggers a correction in global financial markets and a weakening of growth in the real economies of Japan and overseas, particularly in emerging markets. In other words, the recent trend in US inflation may push US long-term rates sharply higher, which could create pressures for capital outflows from emerging markets, where the recovery is relatively slower, thereby weakening the growth of real economies, particularly in emerging markets.

[4] This assumes that a resurgence of COVID-19 puts downward pressure on the real economy and causes a divergence of business conditions across and within industry sectors.
[5] This assumes that global financial markets undergo a large and rapid correction, on par with that of the global financial crisis, that puts further downward pressure on the domestic and overseas economies.

Scenarios for Simulation

		Real economy		Financial variables
Baseline scenario		Moderate recovery in line with average forecasts of professionals and markets		Unchanged from the level at end-August 2021
Downside scenarios	Diverging business conditions scenario	Shocks Downturn of domestic and overseas economies with diverging firms' business conditions across and within industries	Propagation →	Historical average reaction to shocks on the real economy
	Emerging markets stress scenario	Significantly slower recovery in emerging economies	← Propagation	Shocks Financial shocks due to a rise in the U.S. long-term interest rate (+100bps)
	Financial stress scenario	Severe downturn of domestic and overseas economies due to financial shocks	← Propagation	Shocks Substantial and rapid financial shocks comparable to the GFC

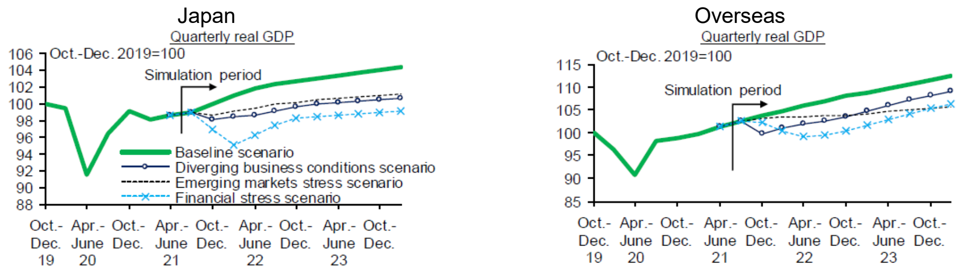
Note: Long- and short-term interest rates evolve in line with the forward rates under the baseline scenario while they fall to the lowest level observed until August 2021 under the diverging business conditions scenario and the financial stress scenario. Under the emerging markets stress scenario, they are subject to the shocks due to a rise in the U.S. long-term interest rate (+100bps).

Source: Extracted from BOJ Financial System Report *(Oct 2021).*

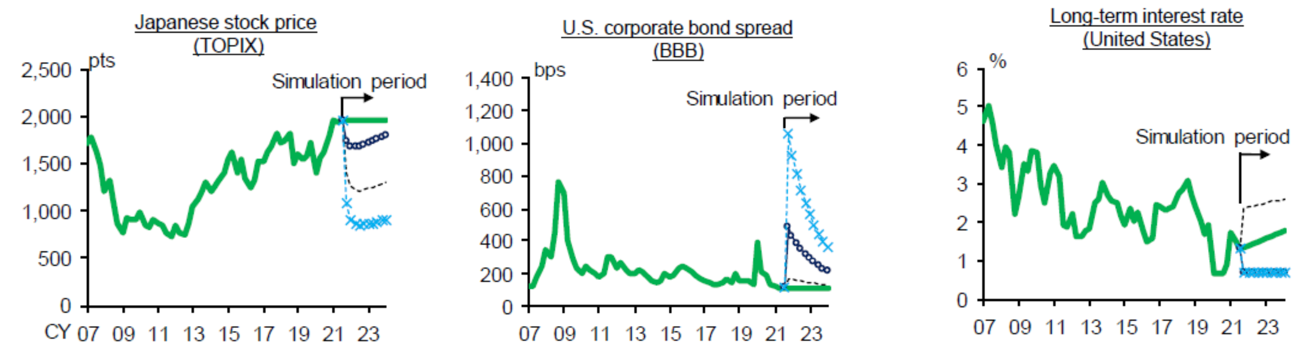
More specifically, the scenario assumes a 100bp rise in US long-term rates and a worsening of prices for each type of financial asset commensurate with what occurred during the taper tantrum of May-Jun 2013, relative to the rise in interest rates that occurred then.

Compared with the assumptions used in the other two scenarios, the assumptions for the real economy and financial variables under this scenario are a considerably weaker GDP in China and elsewhere in the Asia-Pacific region, but less of an impact on the US economy, and a stronger Japanese economy, than under the other scenarios. Regarding the financial variables, the degree of worsening in Japanese share prices (TOPIX) is the next worse after the financial stress scenario, which envisions conditions similar to the global financial crisis, but with only a limited worsening of US corporate bond spreads (BBB-rated).

Economic Scenarios for Simulation



Financial market scenarios for simulation



Source: Extracted from BOJ Financial System Report *(Oct 2021).*

The BOJ added the emerging markets stress scenario, which assumes a sharp rise in US long-term rates triggered by rising US inflation, based on its thinking that it is more likely to occur than the other downside scenarios under current conditions.

The results of the simulation under that scenario include a slightly larger increase in credit costs and slightly larger decline in securities valuation gains at internationally active banks, but overall milder impacts than from the other scenarios for all financial institutions. Additionally, the BOJ maintained its view that "Japan's financial system is likely to remain highly robust," even under the most serious scenario, the financial stress scenario.

Because the market will, ideally, have already priced in the beginning of tapering based on scrupulous communication from the Fed, rather than expecting a taper tantrum, we think it would make more sense to expect the market to start pricing in rate hikes by the world central banks in response to persistently high rates of inflation.

In other words, "if price pressures turn out to be more persistent than anticipated" and the market starts expecting monetary authorities to "act swiftly to counter any possible unmooring of inflation expectations" (from the IMF's *Global Financial Stability Report*), it should have different impacts on financial institution earnings via changes in financial conditions, namely a stronger dollar and a flattening of the yield curve brought by rising rates at the short end.

Or, as the October *FSR* stated, the resilience to stress of Japan's financial system can also be confirmed under a scenario in which trends in China's real estate sector are transmitted globally through China's real economy.

Summary of Opinions at Monetary Policy Meeting on 21-22 Sep

・The global economy has been on a recovery trend, but signs of a slowdown have been observed in the Chinese economy. Close monitoring is required on whether the tightening of various regulations in China will lower the medium- to long-term growth potential of its economy.

・Although financial markets have been stable on the whole, it is necessary to be vigilant in closely monitoring economic and financial developments, including the impact of developments in the Chinese real estate sector on global financial markets, and be ready to respond promptly if necessary.

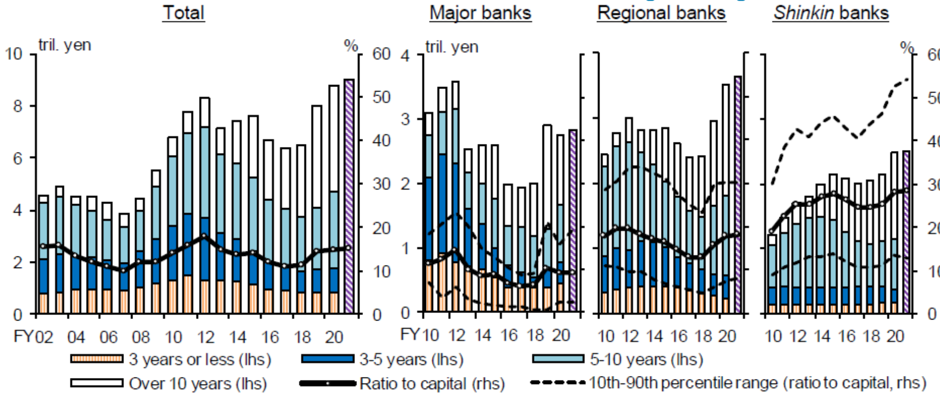
◆ Summary and implications

The October *FSR* provides a granular, deep-dive analysis of future conceivable risks after reflecting the economic conditions that have developed since the previous report and the divergence of earnings across sectors and companies. In that sense, it should be viewed as either an extension, or more developed version of, the previous report.

The domestic environment for financial institutions is not any more severe now than it was in April this year, and it is understandable how difficult it was to move into a new phase of analysis based on a different perspective and way to frame the issues. Although six months have passed, as time has steadily marched on it has become clear that the aggressive real estate lending and asset management approach of accumulating JPY rate risk and exposure to overseas multi-asset investment trusts, both of which began prior to the pandemic, has been accelerated.

Such homogenous financial intermediation behavior by Japan's financial institutions is in some respects increasing their vulnerability to risks through interlinkage effects. This, however, is a result of financial institutions themselves recognizing that even after impacts from the pandemic subside, the low-rate environment and structural factors will continue to exert downward pressure on financial institution earnings.

Interest Rate Risk Associated with Yen-Denominated Bondholdings Among Financial Institutions



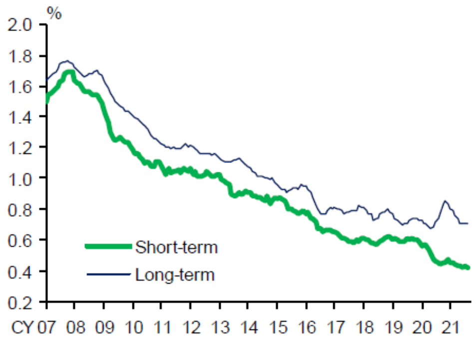
Note: 1. Interest rate risk is a 100 basis point value in the banking book. Convexity and higher order terms are taken into account. The data for fiscal 2021 are estimated as at end-August 2021.

2. Capital represents common equity Tier 1 (CET1) capital for internationally active banks from fiscal 2012 onward, core capital for domestic banks from fiscal 2013 onward, and Tier 1 capital for internationally active banks and domestic banks before fiscal 2012 and fiscal 2013, respectively (excluding the transitional arrangements related to the Basel III framework). Unless otherwise noted, subsequent charts are based on the same definition.

Source: Extracted from BOJ Financial System Report *(Oct 2021).*

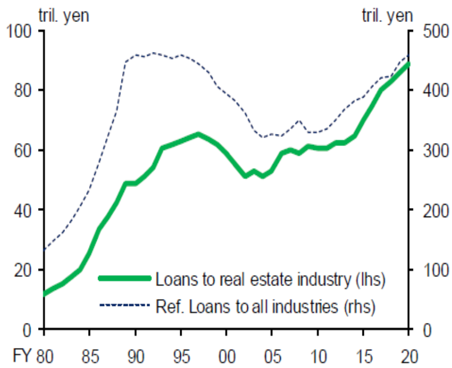
Additionally, as noted regarding the risk of greater adverse impacts from loans to companies that were already financially vulnerable prior to the pandemic, there is a possibility that the structural problems hidden by the pandemic will amplify those vulnerabilities over time[6]. Although the October *FSR* did note that as COVID-19 subsides in Japan and global macro conditions start to improve, near-term risks and uncertainties will abate, it also left a strong impression of the structural problems that predate the pandemic.

Average Contract Interest Rates on New Loans and Discounts Among Domestically Licensed Banks



Note: 6-month backward moving averages. Latest data as at August 2021.
Source: BOJ, "Average contract interest rates on loans and discounts."

Real Estate Loans Among Financial Institutions



Source: Extracted from BOJ Financial System Report *(Oct 2021).*

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[6] Both the long-term rate and the average contracted rate for loans have been declining, in part because the effectively interest-free loan program, which had an upward impact on interest rates, ended at end-May 2021.

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