Daiwa's View

Apr BOJ *Financial System Report*

➢ Strengthening of interlinkage of global financial systems, for which "epicenter" is non-banks

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Apr BOJ *Financial System Report*

Strengthening of interlinkage of global financial systems, for which "epicenter" is non-banks

On 20 April, the BOJ released its *Financial System Report* (*FSR*). It assessed that Japan's financial system "has been maintaining stability on the whole," similar to the view in the previous October report. Three future risks, pointed out in the report, are also unchanged from those in the previous report.

Regarding the "rise in credit costs," the main theme in the previous *FSR*, the April report emphasized that various measures to support corporate financing "have been highly effective" for containment of the future risks in the situation where "firms' challenge is gradually shifting from securing funds to repayment."

Rather, the characteristic and biggest theme in this report is overseas financial market trends, which are receiving great interest internationally. In particular, the report analyzed and depicted the impact of "the growing presence of non-bank financial intermediaries (NBFIs) in the global financial system" on the financial system in Japan.

Showing the awareness of this problem, the report pointed out that "the interlinkage of the Japanese and overseas financial systems has strengthened, giving rise to structural changes in global transmission channels of market shocks," as overseas NBFIs expand their presence. It regarded the fact that "the extent to which market risk faced by individual financial institutions in Japan is amplified through the trading activities of overseas investment funds and other entities has increased" as a risk.

In the situation where the current BOJ's "policy framework continues to be the basic guideline for the Bank's monetary easing for a few years to come (Summary of Opinions of Monetary Policy Meeting [MPM]), "the low interest rate environment and structural factors will continue to exert downward pressure on financial institutions' profits (*FSR*)." Therefore, "the basic picture that Japanese financial institutions emphasize risk-taking through investment in securities" is unlikely to change going forward.

Accordingly, the report implied "amplification of the extent to which market risk faced by individual financial institutions" in the case of a rise in market volatility through the trading activities of overseas investment funds. We think it natural for the BOJ to pick up the stronger "interlinkage of the Japanese and overseas financial systems" from the viewpoint of the stability of Japan's financial system.

Under the situation where US (Fed) monetary policy operations are expected to become a key theme in 2021, this *FSR* picked up on the structural vulnerabilities of the global market, which is garnering very strong attention internationally. We thus can say that this report is very beneficial and timely for market participants as well.

◆ Assessment and risk regarding the stability of Japan's financial system

First, the report assessed that "Japan's financial system has been maintaining stability on the whole," using exactly the same expression as the previous one. That said, the phrase "corporate financing is under considerable stress" was removed. Also, regarding the international financial market, the key theme in the latest *FSR,* the tone has become more optimistic—"investors' risk sentiment has improved and inflows of funds to the stock market and emerging market economies have been increasing rapidly" (vs. "Financial markets have generally started to regain stability after they were significantly destabilized in March 2020, although they have remained sensitive to uncertainty" in previous report).

BOJ *Financial System Report* (Apr 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.

Three future risks were pointed out, as in the previous October report. Specifically, they are "an increase in credit costs due to a delay in economic recovery at home and abroad,[1]" "deterioration in gains/losses on securities investment due to substantial adjustments in financial markets," and "destabilization of foreign currency funding due to the tightening of foreign currency funding markets, mainly for the US dollar."

Of the three, the "rise in credit costs" was the key theme in the previous *FSR*. However, "financial market trends"—especially "the growing presence of NBFIs in the global financial system"—became the biggest theme in the April report.

With respect to the third risk "US dollar funding environment," the premiums for US dollar funding through the dollar/yen foreign exchange swap market are stable at "mostly the same levels as before the COVID-19 outbreak," as the report described. Currently, this is regarded as a spillover risk of the second risk. In short, the impacts of "the domestic credit risk" due to the delayed recovery of the real economy and "fluctuation risks to the international financial market" on the Japanese financial system are the two major themes in the latest report.

As mentioned above, the largest characteristic in the latest report is the shift in the focal point to "overseas/financial market risk (market shock)" from the "risk originating from Japanese/real economy" in the previous report.

BOJ *Financial System Report* (Apr 2021)

・In the event of a substantial and rapid adjustment in global financial markets, a deterioration in financial institutions' financial soundness and the resultant impairment of the smooth functioning of financial intermediation could pose a risk of further downward pressure on the real economy.

In fact, the change in awareness of the problem was caused by a large change in preconditions. In the macroeconomic trends and stress testing sections (to be described later in this report), the report said that "the pace of recovery has been faster than the average forecast of professionals and markets at the time of the previous report" and "the real GDP growth rate of domestic and overseas economies for the second half of 2020 was above what was assumed in the baseline scenario of the macro stress testing in the previous report."

Partly because of the fact that the negative impact of the COVID-19 pandemic on the real economy has peaked out, the report stated that "Even after the pandemic subsides, it is likely that the low interest rate environment and structural factors will continue to exert downward pressure on financial institutions' profits." Like this, the viewpoint has shifted to a medium/long-term one, which can be pointed out as a change from the previous report.

BOJ *Financial System Report* (Apr 2021)

・Even after the pandemic subsides, it is likely that the low interest rate environment and structural factors will continue to exert downward pressure on financial institutions' profits. Against this backdrop, attention should be paid to the risk of a gradual pullback in financial intermediation, or on the contrary, to the possibility that the vulnerability of the financial system increases, mainly as a result of financial institutions' search for yield behavior.

[1] In previous Oct report, first risk was "an increase in credit costs due to the potentially prolonged economic downturn at home and abroad."

◆ Domestic credit risk and heat map

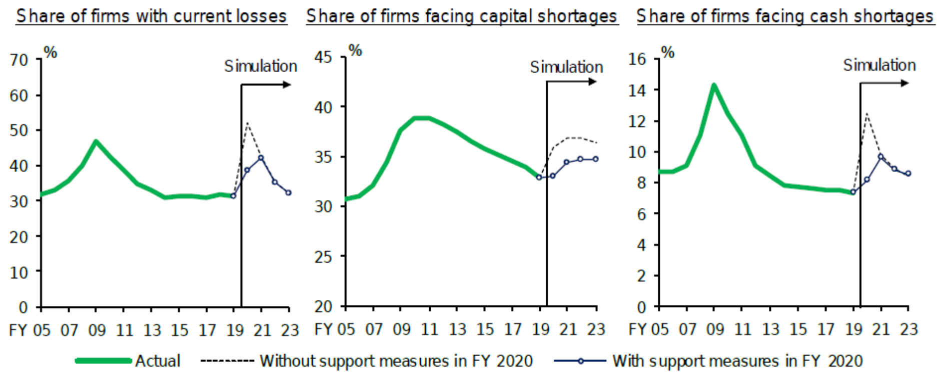
There is a growing divergence across different sectors in companies' ability to obtain funding, particularly among those sectors, including face-to-face services like lodging, dining & drinking, and personal services, hit hardest by the pandemic. Forecasting the stability of Japan's financial system remains critical to gauging the medium-term outlook for the creditworthiness of SMEs, which have been especially vulnerable to these impacts.

In particular, with companies gradually shifting their focus "from securing funds to repaying debts," the latest *FSR* runs a simulation of the impacts until FY23 on corporate default rates from declines in both their ability to secure funds and their creditworthiness, taking into account differences among individual companies in specific characteristics, size, and industry sector (the simulations in previous reports only looked at a single fiscal year).

The results of the simulation were that if there had not been any support from the government, about half of all SMEs would have reported losses for FY20 and the default rate in FY20 would have worsened by about 30bp, primarily from liquidity-driven defaults caused by declines in liquidity on hand. Meanwhile, the government support constrained the increase in the fraction of companies with negative profits or negative net worth, and the increase in cash flow enabled by the cash subsidies and effectively interest-free loans boosted liquidity on hand on the balance sheet, suppressing liquidity-driven defaults.

The BOJ wrote that "the various measures to support corporate financing introduced in fiscal 2020 are considered to have a substantial impact in terms of reducing the overall PD of SMEs over the next three years," and like in the previous *FSR*, its analysis emphasized just how beneficial strong fiscal and monetary policy support from the government and BOJ was.

Medium-term Simulation Results of Small Firms' Financial Position and Default Rate



Note: Firms facing cash shortages are defined as firms whose net operating cash outflow during the year exceeds their cash reserves at the beginning of the fiscal year.

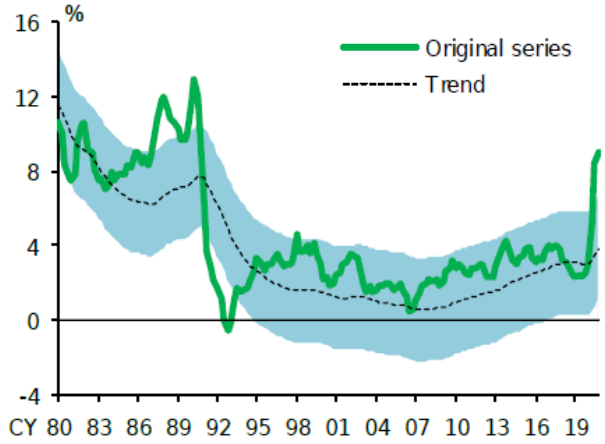
Source: Extracted from BOJ Financial System Report *(Apr 2021).*

In the latest report, the heat map, which in the previous report showed six indicators flashing red, shows four indicators fla*shing red, meaning they have a large upward deviation from their trend. As the* FSR indicates, however, all four of those indicators relate to credit and money and thus benefited from the aggressive policy supporting corporate loans, such that their positivity is mostly near-term. Nevertheless, this assumes that the economy remains on a steady growth trajectory over the near term, and if companies become unable to repay their debt in a timely manner because of falling growth rates or corporate earnings, there is a risk of this triggering a radical unwinding of leverage.

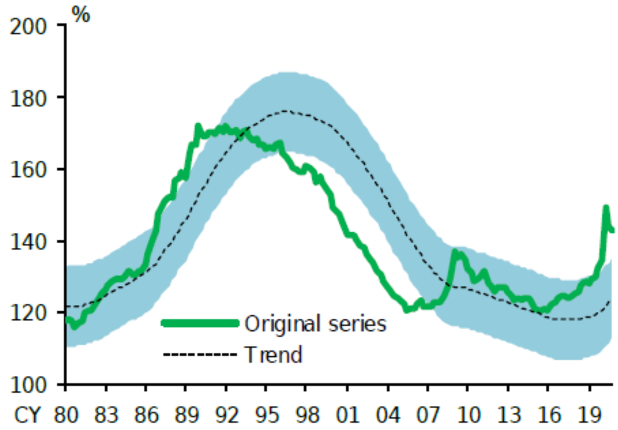
The analysis in the April 2021 *FSR* indicates that the indicators that are still flashing red, one of which is the total credit to GDP ratio, have particularly strong explanatory power for a broader banking crisis, and the probability of a financial crisis occurring increases significantly when these indicators flash red for a period of three years or longer. As we already noted, this latest *FSR* was done with a medium-term perspective, and it is likely that the BOJ will shift the focus of future reports to Japan's sustainable GDP recovery path (sustainable growth path) after the pandemic is defeated.

Financial Activity Indexes Flashing Red

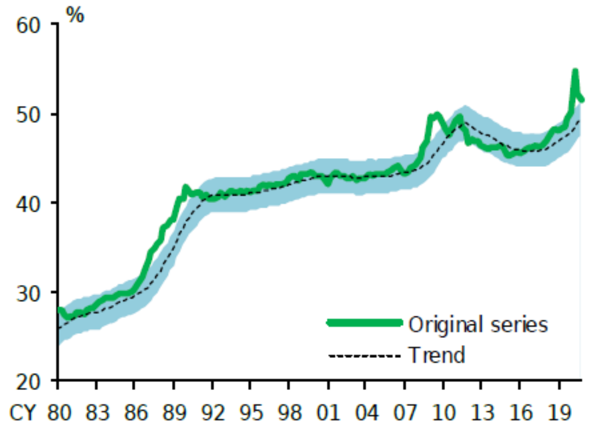
Growth rate of M2



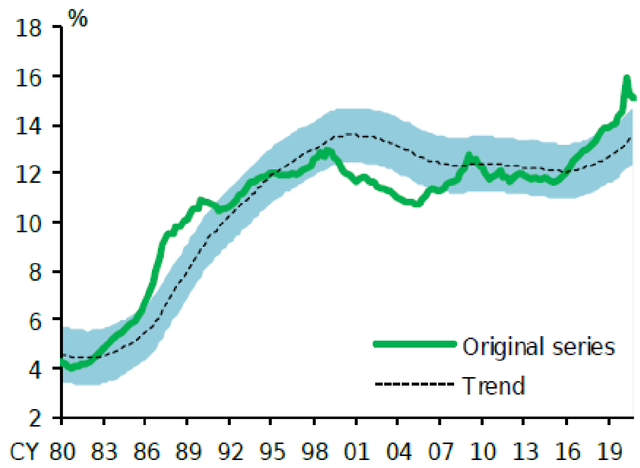
Total credit to GDP ratio



Household loans to GDP ratio



Real estate loans to GDP ratio



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

◆ <u>Actions by overseas NBFIs and interconnectedness in global financial markets</u>

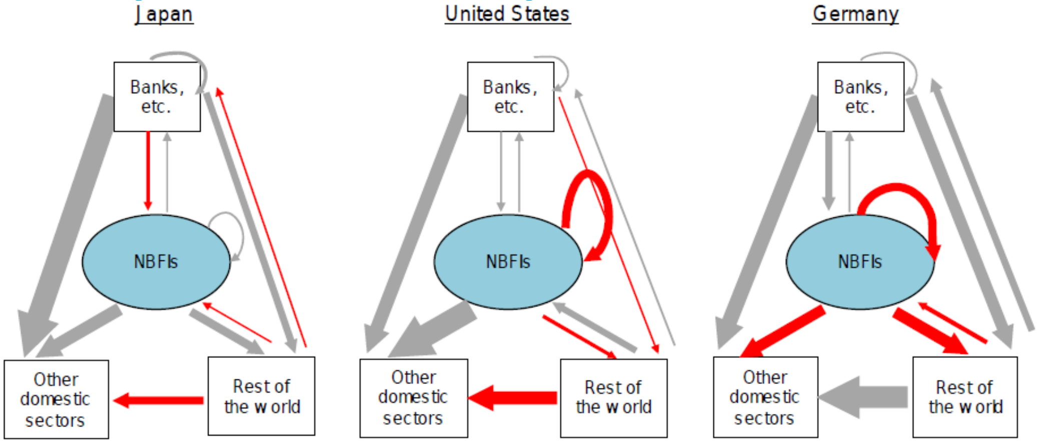
The biggest emphasis in the latest report is on how overseas financial market risks (market shocks), particularly the behavior of overseas NBFIs, can amplify the effects on Japan's financial system. This has recently become an important topic of discussion in global markets, as well.

Referring to the recent trend in global financial markets, the report notes there has been significant improvement in the global financial environment recently, because "inflows of funds to the stock market and emerging market economies have been increasing rapidly, mainly on the back of expectations for the distribution of COVID-19 vaccines and reduced uncertainties over political developments."

However, the report also emphasized that "the structural vulnerabilities that led to the sudden rapid outflow of funds from, for example, foreign investment funds when the market turmoil in March 2020 occurred have not been fundamentally resolved" and that "close attention needs to be paid to the possibility that there could be an adjustment in the prices of risky assets."

One of the most important topics dealt with in this latest *FSR* is the implication for financial system stability of the financial intermediation activities of investment funds and other NBFIs, which was one source of the market turmoil of March 2020.

Structural Changes in Interconnectedness Surrounding Non-banks



Note: 1. Covers loans, debt securities, equities, and investment trust beneficiary certificates (fund shares). Estimates by the BOJ.
2. The thickness of the arrows indicates the relative amount within each country as of 2020.
3. Red arrows indicate the top four links with the highest percentage increase compared to 2010 within each country.

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

The report notes the rising interest in this globally, and in fact the Financial Stability Board along with the various country-level financial regulators have already begun actively debating what policies should look like in light of what happened. The Fed, which has jurisdiction over the US Treasury market, the epicenter of the global drying up of liquidity that occurred in March 2020, has shown a particularly strong interest in getting a handle on the situation at non-banks (shadow banks) and on dealing with structural changes in financial markets.

◆ **Boston Fed President Eric Rosengren** (12 Apr 2021)

・So the problem that we had with money-market funds and the run on prime money-market funds that happened, both during the pandemic and during the financial crisis, was a problem that should have been corrected prior to the pandemic, and certainly should be corrected after the pandemic. … I think it would be risky not to have a more robust infrastructure than we currently have…. A second high priority is the Treasury securities market is a critically functioning market for the United States economy and actually for the global economy.

◆ **San Francisco Fed President Mary Daly** (15 Apr 2021)

The stability of hedge funds and money market funds is an important priority…. New risks emerge as the economy evolves and we need to ensure that we are prepared for what is ahead…. Without changes to our financial infrastructure, the Federal Reserve may regularly be called to step in to stabilize markets during turbulent periods.

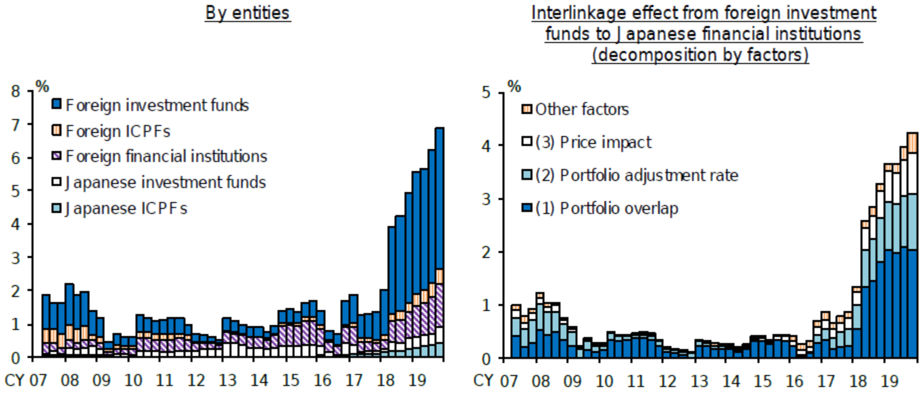
In fact, the latest *FSR* is written with the understanding that as overseas NBFIs have increased their presence, "the strengthening of interlinkages between the Japanese and overseas financial systems" has given rise to structural changes in the "global transmission channels of market shocks," and that this has increased "the extent to which market risk faced by individual financial institutions in Japan is amplified through the trading activities of overseas investment funds and other entities."

It also pointed out that although this rising interconnectedness of financial flows between overseas and domestic sectors is a phenomenon shared by many countries, the rate of increase in the interconnectedness effects faced by Japan's financial system has been greater than it has been in the US and Europe. Specifically, the *FSR* uses Boxes to analyze, using a time series model, the propagation effects (interlinkage effects) of external shocks to asset prices, like those seen in March 2020, as amplified through the trading activities of each entity within the financial network.

In this model, the size of the interlinkage effect depends primarily on (1) the degree of portfolio overlap (how similar portfolios are between different entities in terms of market value fluctuations); (2) the portfolio adjustment rate (how much an entity sells assets for when prices fall); and (3) the degree of price impact (how much the following of asset sales by an entity affects market prices), and there has clearly been an increase in how much overseas investment funds are contributing to this interlinkage effect in Japan.

In addition to portfolio overlap, the portfolio adjustment rate and degree of price impact are also contributing more, and this appears to have made it more likely that the price impact from a specific entity selling an asset will propagate further.

Decomposition of Interlinkage Effect Faced by Japanese Financial Institutions



Note: 1. The interlinkage effect is the amplification mechanism of a price shock through transactions between entities, which shows how much one standard deviation price shock is amplified in terms of percentage.
2. Latest data as at the October-December quarter of 2019.

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

In fact, there has been no change in the basic picture that Japan's financial institutions emphasize "risk-taking through investment in securities in order to secure profits," and they are becoming more aggressive in their investments, in part to accommodate the inflow of deposits brought by rising market prices and expanded fiscal stimulus.

Regional financial institutions have been actively investing in investment trusts, greatly increasing their holdings of products that are exposed to various market risks, including stocks, credit, real estate, and foreign exchange, and the amount of exposure to stock market risks relative to equity capital is now about 20% both for the major banks and regional banks, a level that can still have a substantial impact on their business strength and earnings. This suggests that if the trading activities of overseas investment funds cause an increase in market volatility, the degree to which that increase amplifies the market risk faced by financial institutions has also increased.

◆ Macro stress test based on two types of downside scenarios

To reflect the two major risks noted above, those originating domestically and those originating overseas, the stress test in the latest *FSR* checks the resilience of financial institutions and the financial system using two types of downside scenarios.

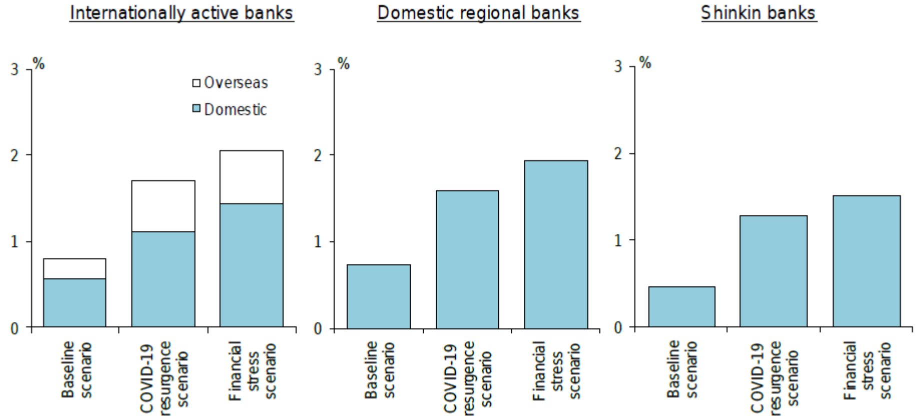
The first is a scenario of risk to the real economy in which a resurgence of COVID-19 at end-2021 caused by the spread of variant strains suppresses economic activity (COVID-19 resurgence scenario), while the latter (financial adjustment scenario) is a scenario of the risk of a large and rapid correction in global financial markets damaging the financial intermediation function and exerting downward pressure on both domestic and overseas economies.

The latter scenario assumes a negative shock as big as the GFC but also assumes that market shocks are propagated at an even faster speed because of the increased presence of NBFIs and greater interconnectedness of financial systems.

The results of its stress test were that for all sectors, credit costs ratios were raised more by the financial adjustment scenario than by the COVID-19 resurgence scenario. The high credit cost ratios for overseas loans written by global standard banks have a particularly strong impact. Domestic loans outstanding also decline under the financial adjustment scenario, primarily as a reflection of weaker demand for funding caused by deteriorating domestic and overseas economies and a reduced capacity to lend caused by worsening equity capital ratios. Additionally, a worsening of portfolio security valuation gains/losses worsened the decline in the equity capital ratio relative to the base scenario.

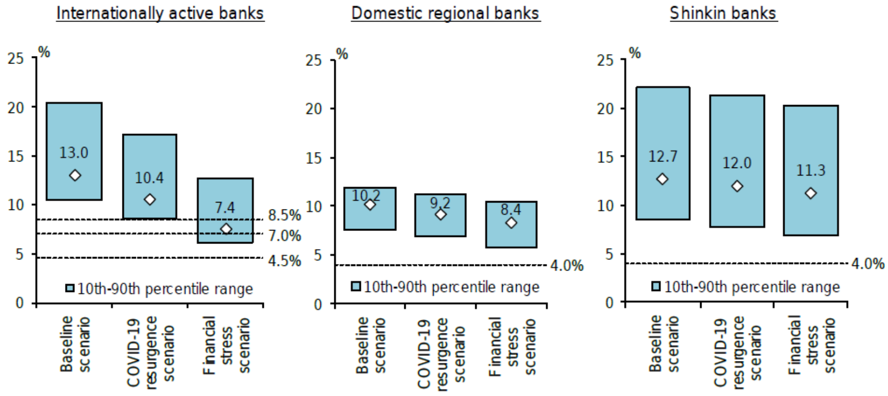
Credit Cost Ratios and Capital Adequacy Ratios in Results of Macro Stress Testing

Credit cost ratios (4-year cumulative totals)



Note: Credit cost ratios are cumulative totals of fiscal 2020 to 2023.

Capital adequacy ratios (FY2023)



Note: 1. The left-hand chart shows the CET1 capital ratios of internationally active banks. The middle and right-hand charts show the core capital ratios of domestic regional banks and shinkin banks. The transitional arrangements are taken into consideration.
2. Markers in the charts indicate the total of financial institutions for each type of bank.

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

The results of these stress tests support the BOJ's view in this latest report that "Japan's financial system is likely to remain highly robust." It had noted that "Japan's financial system may be more susceptible to market shocks than in the past as a result of a strengthened interlinkage with overseas financial systems."

◆ Summary and implications

Based on the BOJ's March policy review and policy response, to ensure the sustainability and flexibility of those policies needed to ensure achievement of the price stability target, the BOJ intends to retain the same basic framework of monetary easing over the next few years (from the Summary of Opinions).

The BOJ's recent policy review appears to be an important step toward the gradual transition of its policy horizon (although this is still difficult to predict) from immediate measures to combat COVID-19 to achieving the price stability target. .

In other words, given that, as noted in the *FSR*, "even after the pandemic subsides, it is likely that the low interest rate environment and structural factors will continue to exert downward pressure on financial institutions' profits," there is a need to judge the policy impacts from the BOJ maintaining its yield curve control policy over the next several years.

Summary of Opinions at BOJ MPM on 18-19 Mar

・With the expectation that monetary easing will be continued for a long period, it is necessary to assess minutely its side effects on the financial system that accumulate over time, as well as with the policy effects. It is therefore appropriate to have the Financial System and Bank Examination Department staff regularly attend the MPMs and explain developments in the financial system.

In this regard, the BOJ has long provided an assessment of the financial system as part of the second perspective on monetary policy in its *Outlook for Economic Activity Prices* report (*Outlook Report*), but it has decided that moving forward, it will have the Financial System and Bank Examination Department produce a report on financial system trends at each policy meeting that it publishes an *Outlook Report*, and that during that policy meeting it will discuss to a greater extent than before the subjects of financial intermediation function and financial stability. We think this is an important step.

Because of the pandemic, the world's central banks now find themselves at the effective lower bound (ELB) with balance sheets having expanded to record-high levels. If these conditions persist, central banks will face the common challenge of having to deal with impacts on financial and financial system stability, both in terms of bubbles and side effects. Partly because shocks are a mix of both country-specific and shared elements, policies must increasingly be synchronized, and this is eliminating the distinction between the roles of conducting monetary policy and macroprudence[2].

It is from this perspective that the entire world shares an interest in the BOJ's framing of the problem and analysis based on that framing, given the BOJ's pioneering role in implementing unconventional monetary policy. While we expect US (Fed) monetary policy to be a major market theme (risk) in 2021, we think the BOJ's most recent *FSR*, which addresses the interconnectedness of the global financial system, is both very beneficial and timely.

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・The Bank of Japan will continue to make efforts to ensure the stability of the financial system and the smooth functioning of financial intermediation, which are prerequisites for achieving sustainable economic growth and price stability. In doing so, the Bank, in close cooperation with the Japanese government and overseas financial authorities, will accurately monitor and understand financial institutions' businesses, including their risk management and financial positions at micro levels, as well as fulfill its leading role on the macroprudential front.

[2] It also noted in this report that the BOJ will "facilitate the strengthening of business foundations of regional financial institutions through the Special Deposit Facility to Enhance the Resilience of the Regional Financial System."

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[Standard & Poor's]

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February 2020

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Other Disclosures Concerning Individual Issues:
1) As of 26 April 2016, Daiwa Securities Co. Ltd., its parent company Daiwa Securities Group Inc., GMO Financial Holdings, Inc., and its subsidiary GMO CLICK Securities, Inc. concluded a basic agreement for the establishment of a business alliance between the four companies.
As of end-December 2017, Daiwa Securities Group Inc. owned shares in GMO Financial Holdings, Inc. equivalent to approximately 9.3% of the latter's outstanding shares. Given future developments in and benefits from the prospective business alliance, Daiwa Securities Group Inc. could boost its stake in GMO Financial Holdings, Inc. to up to 20% of outstanding shares.

2) Daiwa Real Estate Asset Management is a subsidiary of Daiwa Securities Group Inc. and serves as the asset management company for the following J-REITS: Daiwa Office Investment Corporation (8976), Daiwa Securities Living Investment Corporation (8986).

3) Samty Residential Investment became a consolidated subsidiary of Daiwa Securities Group Inc. effective 10 September 2019.

4) On 30 May 2019, Daiwa Securities Group Inc. formalized an equity/business alliance with Samty, and as of 14 June 2019 it owned 16.95% of shares outstanding in Samty along with convertible bonds with a par value of Y10bn. Conversion of all of said convertible bonds into common shares would bring the stake of Daiwa Securities Group Inc. in Samty to 27.28%.

5) Daiwa Securities Group Inc. and Credit Saison Co., Ltd. entered into a capital and business alliance, effective 5 September 2019. In line with this alliance, Daiwa Securities Group Inc. is to acquire up to 5.01% of Credit Saison's total common shares outstanding (excl. treasury shares; as of 31 Jul 2019).

Notification items pursuant to Article 37 of the Financial Instruments and Exchange Law
(This Notification is only applicable to where report is distributed by Daiwa Securities Co. Ltd.)
If you decide to enter into a business arrangement with our company based on the information described in this report, we ask you to pay close attention to the following items.

- In addition to the purchase price of a financial instrument, our company will collect a trading commission* for each transaction as agreed beforehand with you. Since commissions may be included in the purchase price or may not be charged for certain transactions, we recommend that you confirm the commission for each transaction. In some cases, our company also may charge a maximum of ¥2 million per year as a standing proxy fee for our deposit of your securities, if you are a non-resident.
- For derivative and margin transactions etc., our company may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the amount of the transaction will be in excess of the required collateral or margin requirements**.
- There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements.
- There may be a difference between bid price etc. and ask price etc. of OTC derivatives handled by our company.
- Before engaging in any trading, please thoroughly confirm accounting and tax treatments regarding your trading in financial instruments with such experts as certified public accountants.

* The amount of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.
** The ratio of margin requirements etc. to the amount of the transaction cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with our company.

Corporate Name: Daiwa Securities Co. Ltd.
Registered: Financial Instruments Business Operator, Chief of Kanto Local Finance Bureau (Kin-sho) No.108
Memberships: Japan Securities Dealers Association, The Financial Futures Association of Japan, Japan Investment Advisers Association, Type II Financial Instruments Firms Association