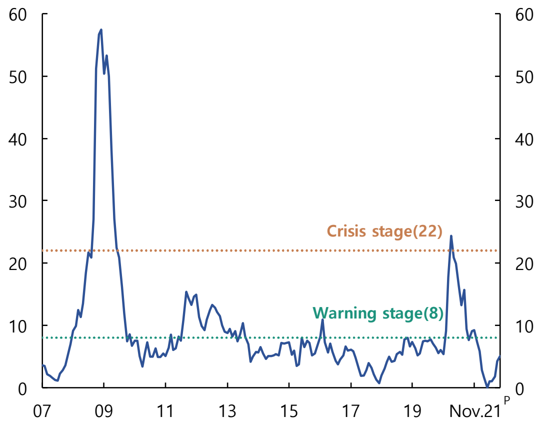
Unofficial translation

Please refer to the original report in Korean for the most accurate contents.

Overview

Korea's financial system has generally been stable since the first half of this year, supported by economic recovery and a sound external position despite increased volatility in the financial market due to inflationary pressure at home and abroad. The Financial Stability Index (FSI), which shows overall financial system conditions, has remained below the warning stage threshold (8) since falling to its lowest level (0) in June this year.

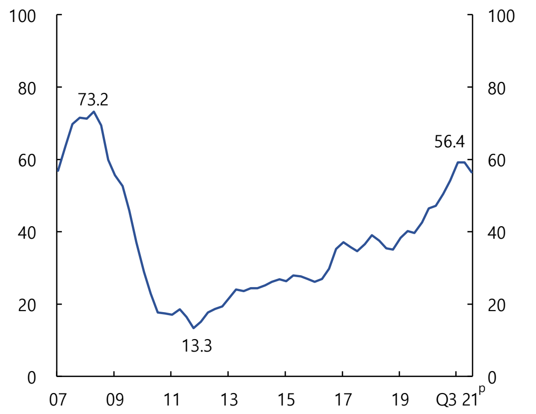
Financial Stability Index (FSI)[1)2)]



Notes: 1) A composite index (0-100) calculated by standardizing 20 monthly real and financial sector indicators related to financial stability. The warning and crisis stage thresholds are set at 8 and 22 respectively, using the "noise-to-signal" ratio method.
2) Preliminary figures for October and November 2021.
Source: Bank of Korea.

However, the potential vulnerability within the financial system from a medium- to long-term perspective is high due to the continued increase in household debt and the high rise in housing prices. The Financial Vulnerability Index (FVI) fell slightly in the second half of this year but remains higher than in previous years.

Financial Vulnerability Index (FVI)[1)2)]



Note: 1) A composite index (0-100) calculated by standardizing 39 indicators concerning three criteria for assessment (asset prices, credit accumulation and financial system resilience).
2) Preliminary figures for Q3 2021.
Source: Bank of Korea.

In the credit market, private credit increased significantly as both households and firms expanded their borrowing. Household income and corporate financial conditions are improving, but there is a possibility that the credit risk of vulnerable borrowers such as self-employed business owners could increase depending on the pattern of economic recovery in the future.

In asset markets, volatility in the bond and stock markets expanded due to inflationary pressure of home and abroad and normalization of monetary policies in major countries, while the high upward trend in housing prices continued along with the increase in private credit. The rise in housing sales prices has slowed slightly since September this year, but concerns over a mismatch between housing supply and demand, abundant market liquidity, and economic agents' risk-taking and search-for-yield are potential vulnerabilities.

With regard to financial institutions, asset soundness and profitability continued to improve on the back of economic recovery, extended financial support measures, and increased lending amid sustained growth in assets. However, bad debts have increased in the food & accommodation industry due to the re-proliferation of COVID-19. The risk of rising delinquency rates may increase due to stricter loan regulations, normalization of financial support and easing measures, and rising lending rates.

The financial system's resilience, i.e. its capacity to withstand domestic and external shocks, has remained favorable, with the capital ratios of both banks and non-bank financial institutions significantly exceeding regulatory standards. In addition, Korea's external payment capacity remained stable, as official foreign exchange reserves recorded a historical high. While overall resilience is expected to remain favorable in the future, the resilience of some financial institutions may weaken depending on changes in financial and foreign exchange market conditions, and in the credit risks of borrowers.

Recently, as financial imbalances in the Korean economy are large and inflationary pressures at home and abroad are increasing, there are concerns about the negative impact on domestic financial stability from the normalization of monetary policy in major countries. Accordingly, this report examines in depth the main risks in terms of the financial stability facing the Korean economy through 「Analysis of Financial Stability Issues」 and 「Boxes」.

First of all, despite the surge in household borrowing, household debt does not appear to have reached the level of limiting household consumption, although continued accumulation of household debt could lead to further expanded volatility in the financial and real economy and decreased stability of the financial system. In addition, even if monetary policy normalization in major countries proceeds, foreign securities funds are unlikely to le ak out of the country on a large scale considering Korea's economic fundamentals. However, vigilance is needed with respect to the risk of faster-than-ex pected monetary policy normalization by central banks in major countries, leading to increased volatility in the international financial market. In addition, if the real economy recovers sluggishly due to Chinese economic risks amid rising global inflationary pressure at home and abroad, risks such as a decline in the resilience of financial institutions and rises in delinquency and default on loans to self-employed business owners could increase. Therefore, special monitoring and response in this regard will be needed.

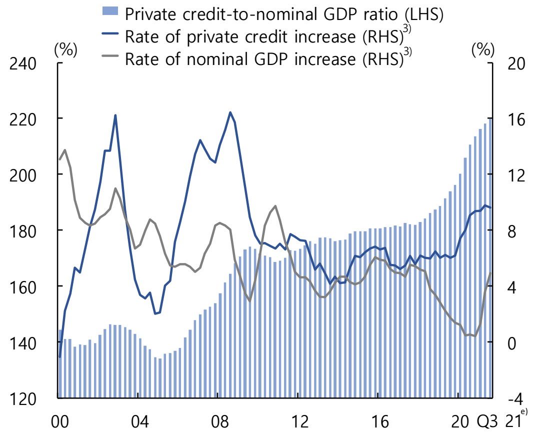
Accordingly, the policy authorities and the financial sector must continue their efforts to respond with policies to curb private debt growth while alleviating economic agents' risk-taking and search-for-yield in the future. However, as credit risks in vulnerable sectors may increase due to the normalization of financial easing measures, efforts to strengthen risk management for these borrowers are also needed. In addition, financial institutions should improve their external payment capabilities and asset soundness to be prepared against external risks and the possibility of expanding credit risks for vulnerable borrowers, while strengthening preemptive capital accumulation expansion efforts.

Financial Stability Situation by Sector

Ⅰ. Credit Markets

1 The private credit-to-nominal GDP ratio, an indicator of the level of private sector leverage, stood at 219.9% (estimated) at the end of the third quarter of 2021, showing a sharp rise of 9.4%p from the same period of last year. This was attributable to the faster increase in private credit, due mainly an increase in household loans, to corporates' increased demand for funds due to the resurgence of the pandemic, and to the government's financial support and easing measures, despite expanded growth in nominal GDP.

Private credit[1)]-to-nominal GDP[2)] ratio



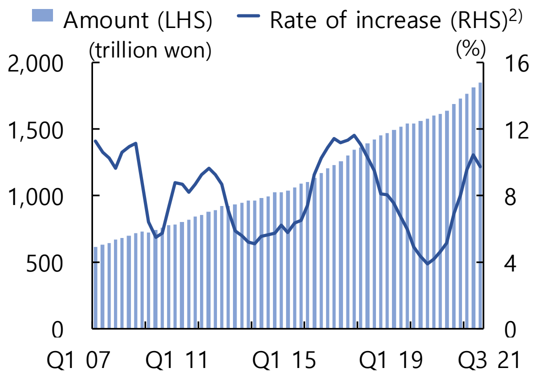
Notes: 1) Estimated figures for Q3 2021.
2) Sum of nominal GDPs in quarter concerned and immediately preceding three quarters.
3) Year-on-year basis.
Source: Bank of Korea.

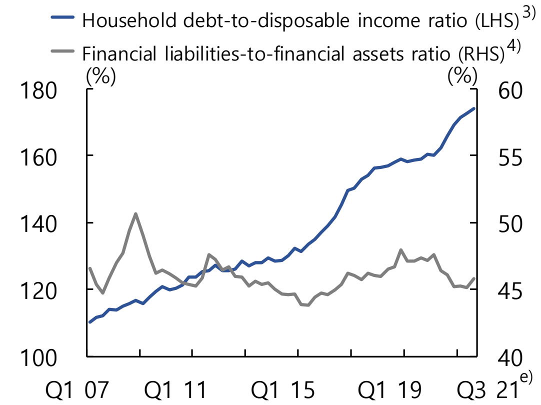
2 Household debt (household credit statistics basis) increased by 9.7% year on year to record 1,844.9 trillion won at the end of the third quarter of 2021, showing a continued high rate of growth.

The household debt-to-disposable income ratio stood at 174.1% (estimated) at the end of the third quarter of 2021, a rise of 8.1%p from the same period of last year (166.0%), indicating an increase in the debt servicing burden for households. The financial liabilities-to-financial assets ratio (flow of funds statistics basis), however, dropped by 0.3%p to 45.8% (estimated) at the end of the third quarter of 2021 from a year earlier (46.1%), due to an increase in financial assets, influenced by the rise in stock prices.

Although the delinquency rate of household loans remains low, backed by rapid growth in lending, the rate of heavily indebted households and vulnerable households in particular may increase in the process of normalization of financial easing policy going forward.

Household credit[1)]





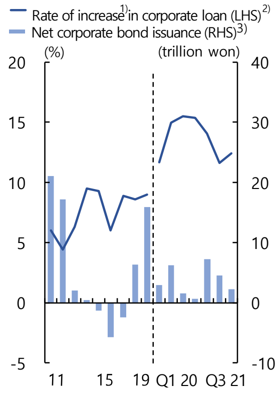
Notes: 1) Household credit statistics basis.
2) Year-on-year basis.
3) Disposable income for Q3 2021 is estimated using the average of the household disposable income-to-gross national income ratios for the immediately preceding three years.
4) Based on flow of funds statistics; estimated figure for Q3 2021.
Source: Bank of Korea.

3 Corporate credit has maintained high growth due to an increase in corporate demand for funds stemming from the resurgence of the COVID-19 pandemic and the expansion of investment related to facilities and real estate, as well as sustained financial support and easing measures, while issuance of corporate bonds and CP also has increased due to demand for issuance in advance in expectation of a rise in interest rates. Corporate loans maintained strong growth to increase by 12.4% to 1,497.8 trillion won at the end of the third quarter of 2021 from the same period last year. By company size, the growth rate of loans to large enterprises decreased year on year, while that of loans to small and medium-sized enterprises (SMEs) showed strong growth driven by the extension of support for SMEs hit by COVID-19, and increased demand for funds to be used for facilities.

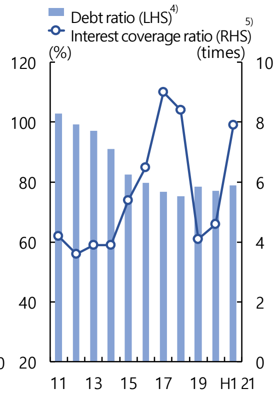
Corporate financial soundness has improved, backed by recovery in the real economy. The overall corporate debt ratio (debt / equity) in the first half of 2021 rose slightly to 78.9% from 77.2% at end-2020. However, the share of companies with a debt ratio exceeding 200% decreased (15.3% at end-2020 → 12.3% at end-June 2021). The interest coverage ratio (operating income / total interest expenses) increased substantially to 7.9 from 4.6 in 2020.

In the future, the overall financial soundness of the corporate sector is expected to continue to improve, along with the economic recovery. However, attention should be given to the possibility of the risk of default by vulnerable companies, due mainly to the uneven recovery between company sizes and industries.

Corporate credit



Corporate financial soundness



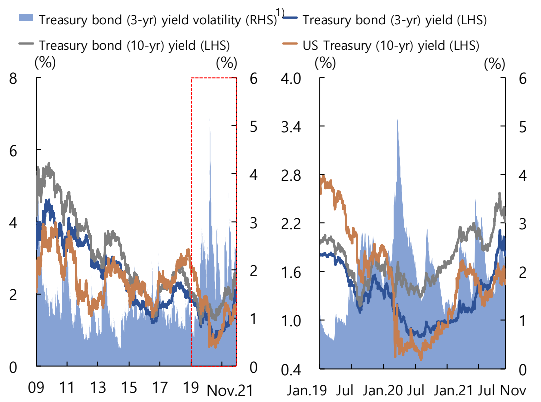
Notes: 1) Based on deposit-taking banks and non-bank financial institutions (mutual credit cooperatives, mutual savings banks, insurance companies and credit-specialized financial companies); corporate loans by NBFIs for certain periods or sectors include loans to financial and insurance businesses, due to the limited availability of data.
2) Year-on-year basis.
3) During the quarter (since 2020).
4) Debt / Equity; end-period basis.
5) Operating income / Total interest expenses.

Sources: Bank of Korea, Korea Securities Depository, KIS-Value, Financial institutions' business reports.

Ⅱ. Asset Markets

1 Treasury bond yields rose significantly, affected by changes in expectations about home and abroad monetary policies, and by foreign investors' net sales of Korean Treasury Bond futures.

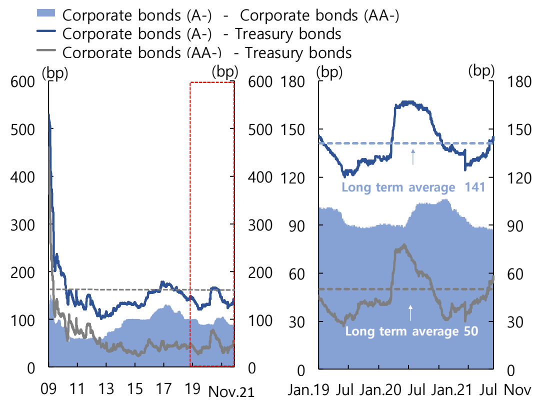
Korean and US Treasury bond yields



Note: 1) Daily volatility calculated using exponential weighted moving average (EWMA) method.
Sources: Korea Financial Investment Association, Bloomberg.

Corporate bond credit spreads remained stable but have widened slightly since mid-September due to the heightened volatility of Treasury bond yields.

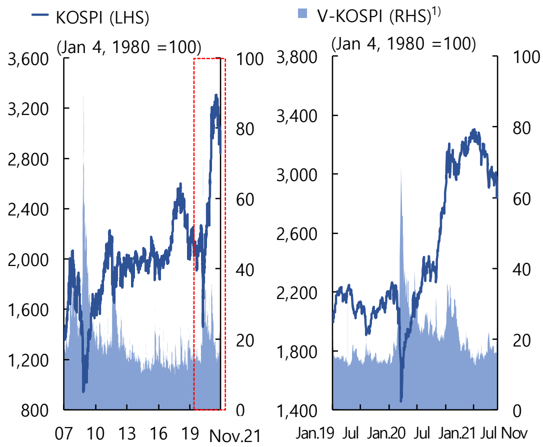
Corporate bond credit spreads,[1)2)] and spread across credit ratings



Notes: 1) 3-yr maturity basis.
2) The long-term average is for the period between January 2010 and November 2021.
Source: Korea Financial Investment Association.

2 Stock prices reached a record high in early July (3,305 on July 6) but then fell considerably, affected by foreign investors' large-scale net sales in mid-August stemming from concerns about a slowdown in the semiconductor industry. Stock prices bounced back in early September, driven by improvements in corporate performances, but then fell back again, caused by global supply disruptions and changes in expectations related to monetary policy normalization in major countries. Stock prices declined at a faster pace in late November due to concerns about a new COVID-19 variant, but then rebounded afterwards, caused by the recognition that stock prices had fallen excessively. The stock price volatility index (V-KOSPI) temporarily rose and fell at around early October, influenced by external factors, but then rose again in late November due to concerns about the spread of the virus variant.

Stock price and stock price volatility indices

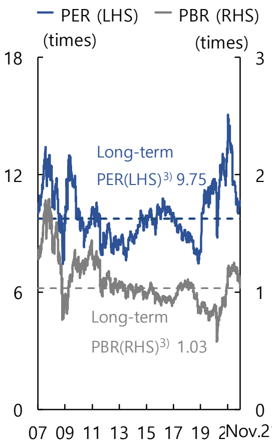


Note: 1) Volatility index calculated based on prices for options on the KOSPI200 index.

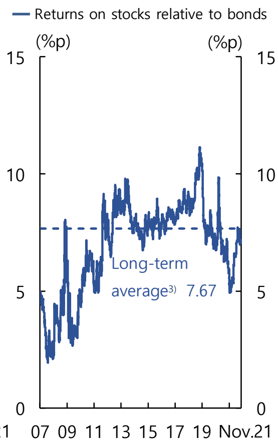
Source: KOSCOM.

The overvaluation of the stock market was mitigated following declines in stock prices, but stock prices still remain high compared to past years. The price-earnings ratio (PER), showing the level of a firm's stock price relative to its profit, stood at 10.67 as of end-November, running slightly above its long-term average (9.75 since 2010). Meanwhile, the equity risk premium (a lower equity risk premium is associated with greater risk-taking behavior by investors) stood at 7.17%p, remaining below its long-term average (7.67%p since 2010).

PER[1] and PBR[2]



Stock risk premium[4]



Notes: 1) MSCI basis (12-month forward PER)
2) KOSPI basis.
3) Long-term average in the January 2010-November 2021 period.
4) Earnings-price ratio (the inverse of 12-month-forward PER based on the MSCI) - Treasury bond yield (10-yr).

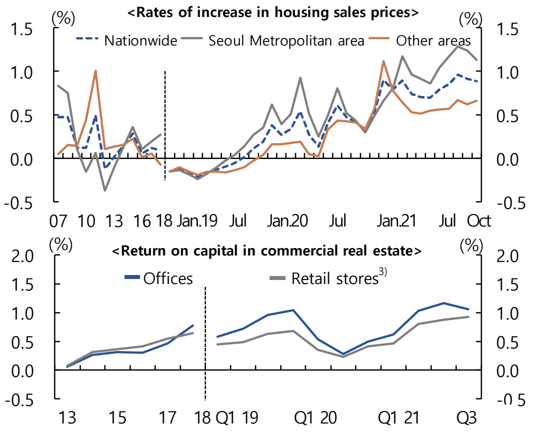
Sources: Bloomberg, Refinitiv.

3 Housing sales prices sustained their steep uptrend, despite a reduction in sales transactions, affected by continued expectation for price hikes. Leasehold deposit (*jeonse*) and monthly rental prices continued to rise, while the volume of transactions increased mainly on monthly rentals.

In the commercial real estate market, rental prices further weakened affected by stricter social distancing measures. However, due to sustained investment demand, return on capital remained high and transaction volume continued to rise.

Exposure to real estate financing continued to expand as the market remained favorable. Nevertheless, the need for preemptive risk management is growing over the possibility that related loans will become insolvent due to rising loan interest rates and the possibility of a real estate market adjustment in the future.

Rates of increase[1] in housing sales prices and return on capital[2] in commercial real estate



Notes: 1) For 2018 and earlier, annual average of monthly growth; for 2019 onward, month-on-month increase.
2) Quarter-on-quarter rate of increase in asset value reflecting changes in land and building prices. For 2018 and earlier, annual average.
3) Medium- and large-sized property basis.
Source: Korea Real Estate Board.

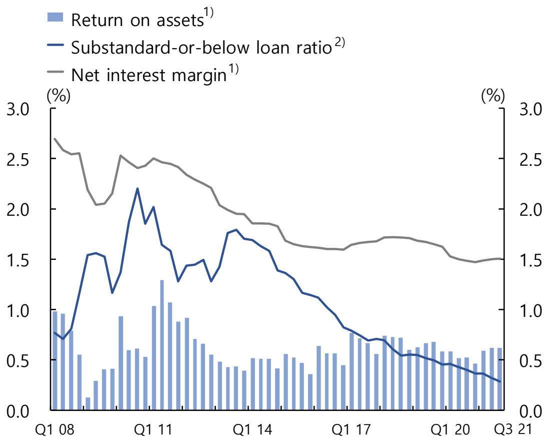
Ⅲ. Financial Institutions

1 The financial soundness of commercial banks remained generally solid, in terms of both their profitability and asset soundness.

Commercial banks' total assets grew by 11.0% from a year earlier to 2,088 trillion won at the end of the third quarter of 2021, showing the largest increase since the first quarter of 2009 (+14.8%). Their asset soundness continued to improve with the substandard-or-below loan ratio falling to 0.29%, thanks to economic recovery, and government's financial support and easing measures. Their profitability also improved owing to a growth in interest income. Their return on assets (ROA) stood at 0.62% (annualized) in the third quarter of 2021, up 0.10%p from the same period of last year (0.52%).

However, given that distressed debt appears to be growing in certain self-employed businesses affected by the resurgence of COVID-19, such as those in the food & accommodation industry. Banks should continue to closely monitor the quality of loans, particularly those extended to vulnerable sectors.

Commercial bank asset soundness and profitability



Notes: 1) Accumulated quarterly incomes annualized.
2) End-period basis.
Sources: Commercial banks' business reports.

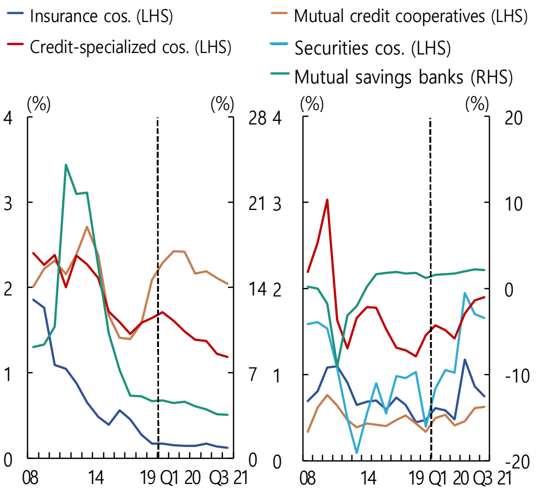
2 The financial soundness of NBFIs remained favorable. Their asset soundness and profitability improved from a year earlier in all NBFI sectors.

NBFIs' assets recorded 3,311 trillion won at the end of the third quarter of 2021, up by 7.9% year on year. Mutual savings banks showed particularly rapid growth at 32.1% compared to a year earlier. Asset quality strengthened, with delinquency rates and substandard-or-below loan rates falling in most NBFI sectors, particularly in mutual savings banks and credit-specialized financial companies.

Profitability improved significantly, led by mutual savings banks and credit-specialized financial companies. The drivers of this improvement were increased interest income following an expansion in unsecured household loans for mutual savings banks, and substantial growth in fee and interest income for credit-specialized financial companies.

NBFI substandard-or-below loan ratios[1)2)]

NBFI returns on assets (ROAs)[2)3)]



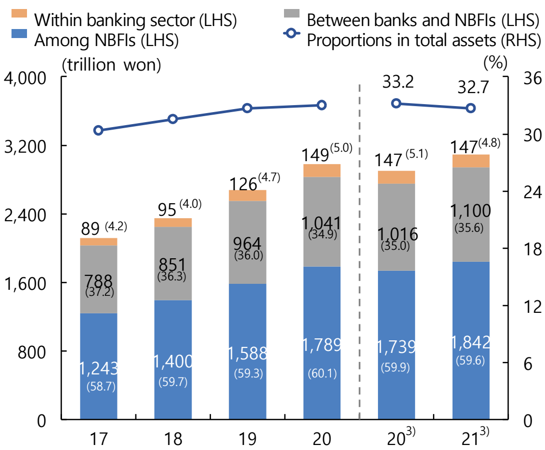
Notes: 1) End-period basis, excluding securities cos.
2) For 2019 and earlier, annual basis; for 2020 onward, quarterly basis.
3) Accumulated quarterly income annualized.
Sources: Financial institutions' business reports.

3 The growth in financial institutions' interconnectedness through their funding and operations has slightly slowed, as their fund operations through the household and corporate sectors expanded. Mutual transactions among financial institutions amounted to 3,090 trillion won at the end of the second quarter of 2021, rising only by 6.5% from the same period of last year (10.4% at Q2-end 2020). Mutual transactions accounted for 32.7% of the total assets of the overall financial sector, down by 0.5%p from the same period of last year.

Looking at mutual transactions across financial sectors, those between banks and NBFIs and those among NBFIs rose by 8.4% and 5.9% respectively, while those among banks declined by 0.2%. As a result, the proportions of mutual transactions within the banking sector of total mutual transactions went up by 0.6%p to 35.6% at the end of the second quarter of 2021.

Analysis of the default contagion and concentration risks based on the structure of mutual transactions across financial sectors shows that both remained at similar levels to those of last year.

Mutual transactions among financial institutions and across sectors[1)2)]



Notes: 1) Mutual transactions amounts are on an end-period basis (flow of funds statistics).
2) ( ) indicates proportions in total amount of mutual transactions.
3) End of the second quarter of each year basis.
Source: Bank of Korea.

Ⅳ. Capital Flows

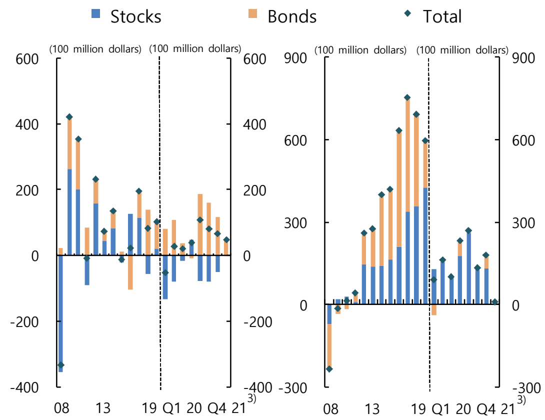
From January to November 2021, foreigners' domestic stock investment recorded a net outflow while foreigners' domestic bond investment registered a net inflow. Foreigners' funds for stock investment showed a net outflow due to concerns over the slowing increase in corporate profits in major industries. However, foreigners' funds for bond investment continued to show net inflows, driven by public funds, thanks to Korea's favorable external soundness and relatively high domestic interest rate levels.

Going forward, the volatility of foreigners' domestic portfolio investment is expected to expand, affected by the pace of monetary policy normalization in major economies, and the pace of economic recoveries at home and abroad. Net inflows of bond investment are projected to continue for some time, considering the level of domestic interest rates.

Between January and October 2021, residents' overseas portfolio investment increased greatly year on year from 39.4 billion dollars to 58.9 billion dollars, as investment in overseas stocks rose substantially.

Changes[1] in foreigners' domestic portfolio investment

Changes[2] in residents' overseas portfolio investment



Notes: 1) A "+" means net inflow, and a "-" net outflow.
2) A "+" means net investment, and a "-" net withdrawal.
3) Changes in foreigners' domestic portfolio investment are based on October-November; changes in residents overseas portfolio are based on October.
Source: Bank of Korea.

Resilience of Financial System

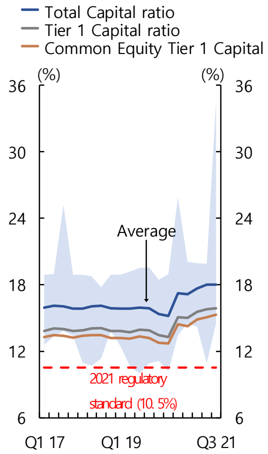
I. Financial Institutions

1 Commercial banks' resilience remained generally solid, with their capital adequacy ratio rising and liquidity ratios exceeding the regulatory standards.

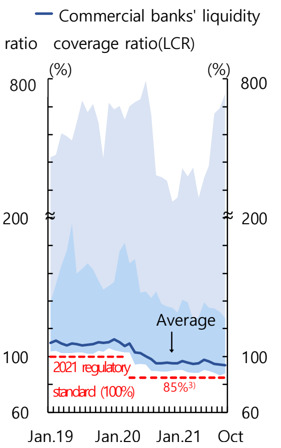
Commercial banks' total capital ratio and Common Equity Tier 1 Capital ratio under Basel III, indicative of their loss absorption capacities, amounted to 17.98% and 15.26% at the end of the third quarter of this year, up by 0.83%p and 0.98%p respectively compared to the end of last year. Commercial banks' liquidity coverage ratio (LCR), measuring the ability to respond to sudden net outflows of funds, declined slightly by 1.2%p from the end of last year to reach 93.9% at the end of October 2021. The decrease was attributable to a rise in net cash outflows affected by an increase in standby money held by corporations.

Financial institutions need to take preemptive actions to enhance their loss absorption capacities, as there is a possibility of relevant risks increasing with the termination of government's financial support and easing measures and rising market interest rates.

Commercial bank total capital ratios[1)]



Commercial bank liquidity coverage ratios (LCRs)[1)2)]



Notes: 1) The shaded area indicates the distribution of individual banks, and the deep shaded area indicates distribution with Internet-only banks excluded.
2) High-quality liquid assets / Total net cash outflows over next 30 calendar days.
3) 85% for a limited period from April 2020 to March 2022.

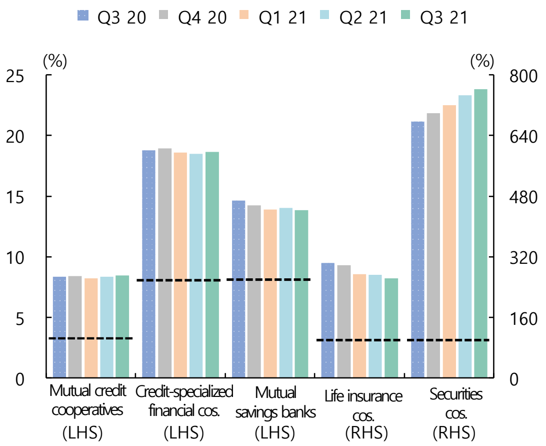
Sources: Commercial banks' business reports.

2 The resilience of NBFIs remained favorable as well, with their capital adequacy ratio exceeding the regulatory standards in all sectors.

The net capital ratio of securities companies moved up by 64.1%p from the end of last year to reach 762.7% at the end of the third quarter of 2021. The risk-based capital ratio (RBC ratio) of life insurance companies declined by 35.1%p compared to the end of last year to stand at 262.2%. Mutual savings banks' BIS capital ratio and credit-specialized financial companies' adjusted capital ratio dropped by 0.4%p and 0.3%p from the end of last year to come to 13.8% and 18.6% respectively due to rises in lending. The net capital ratio of mutual credit cooperatives rose by slightly from the end of last year to reach 8.5%.

Although the resilience of NBFIs is currently at a favorable level, some financial institutions with insufficient loss absorption capacities should make preemptive recapitalization efforts in preparation against changes in conditions at home and abroad.

NBFI capital adequacy ratios[1)2)]



Notes: 1) Mutual credit cooperatives' net capital ratio (supervisory standard 2%; 4% for MG community credit cooperatives and 5% for NongHyup), credit-specialized financial companies' adjusted capital ratio (7%; 8% for credit card companies), mutual savings banks' BIS capital ratio (7%; 8% for banks with total assets of 1 trillion won or more), insurance companies' risk-based capital ratio (100%), securities companies' net capital ratio (100%).
2) The dotted lines show the supervisory standards.
Sources: Financial institutions' business reports.

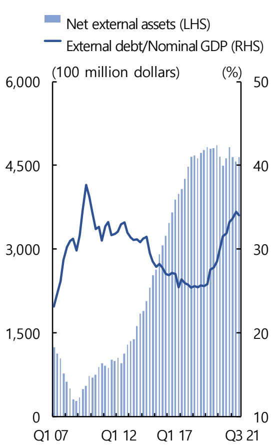
Ⅱ. External Payment Capacity

Korea's external payment capacity remained generally satisfactory.

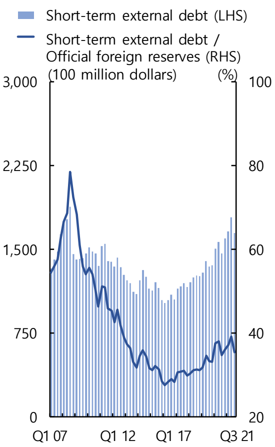
Net external assets increased by 1.8 billion dollars year on year. Official foreign reserves showed volatility in the first half of this year due to changes in the exchange rate, but showed an overall upward trend in the second half to stand at 463.91 billion dollars at the end of November 2021.

The ratio of external debt relative to nominal GDP rose year on year, which is attributable to the increase in foreigners' domestic bond investment, and the soundness of external debt is regarded as generally favorable. The ratio of short-term external debt relative to official foreign reserves increased slightly year on year from 34.7% to 35.5% in the third quarter of 2021.

External debt-to-nominal GDP ratio[1)]



Short-term external debt-to-official foreign reserves ratio[1)]



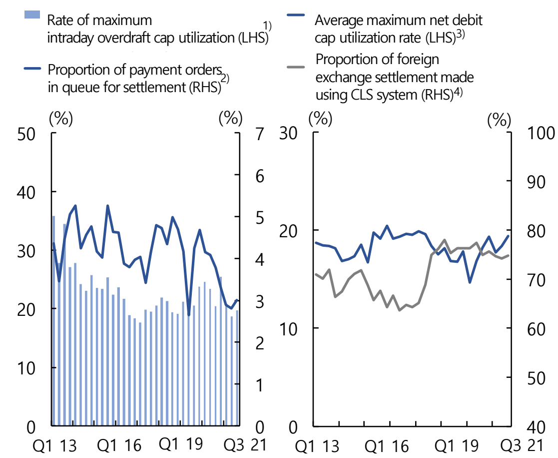
Note: 1) End-quarter basis.
Source: Bank of Korea.

III. Financial Market Infrastructures

The payment and settlement systems have been operated smoothly, with settlement risks managed stably amid an increase in the amount of settlement, driven mainly by securities settlements by financial institutions and electronic funds transfers by general customers and companies.

The rate of maximum intraday overdraft cap utilization and the proportion of payment orders in queue for settlement, both of which are monitored as indicators of the settlement liquidity of BOK-Wire+ participants in the nation’s large-value settlement system, remained generally stable to stand at 19.8% and 3.0%, respectively, during the third quarter of 2021. The net debit cap utilization rate, showing settlement risks related to the retail payment systems operated by Korea Financial Telecommunications & Clearing Institute, was also favorable at 19.4%. Meanwhile, the share of settlements handled by the CLS payment-versus-payment system, which reduces settlement risk effectively through the settlement of foreign exchange transactions without any time lag, maintained a high level of 74.8% in the third quarter of 2021.

Large-value payment system | **Retail payment and foreign exchange settlement systems**



Notes: 1) Average of daily maximum intraday overdraft cap utilization rates of participants.
2) Average ratio of the amount of payment orders in queue for settlement / Total settlement amount of participants (excluding payment orders in queue for liquidity savings).
3) Simple average of daily maximum net debit cap utilization rates (unsettled net debits / net debit caps) of participants during the quarter.
4) Proportions in total CLS eligible FX transactions of those settled through the CLS system, transactions made by domestic banks and foreign bank branches.

Source: Bank of Korea.