Unofficial translation

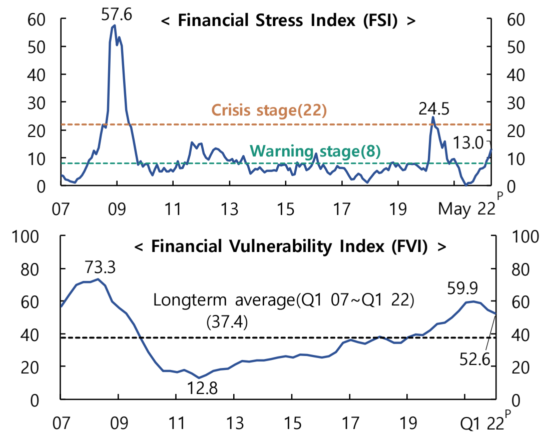
Please refer to the original report in Korean for the most accurate contents.

Overview

Since the second half of last year, financial market volatility appears to have expanded as external risks have increased significantly. Elevated global inflationary pressures, the accelerated pace of the Federal Reserve's rate hikes, and escalated geopolitical risks associated with the Ukraine crisis caused stock and bond prices to fall substantially, resulting in the Financial Stress Index (FSI), which reflects the level of instability in the financial system, to enter into the warning stage (threshold 8). However, Korea's financial system generally remained stable, supported by solid business operations and resilience of financial institutions, with the financial intermediary function working well.

In the meantime, the potential vulnerability within the financial system from a medium- to long-term perspective is assessed to have remained high. The accumulated household debt and elevated housing prices are some of the key potential risks to the economy. The Financial Vulnerability Index (FVI), which shows overall vulnerabilities in the financial system from a medium- to long-term perspective, reversed to a decrease as asset prices partly underwent an adjustment since the second half of last year, but is still running above the historical long-term average.

Financial Stress Index (FSI)[1] and Financial Vulnerability Index (FVI)[2]



Notes: 1) A composite index (0-100) calculated by standardizing 20 monthly real and financial sector indicators related to financial instability. The warning and crisis stage thresholds are set at 8 and 22 respectively, using the "noise-to-signal" ratio method.
2) A composite index (0-100) calculated by standardizing 39 quarterly indicators concerning three criteria for assessment (asset prices, credit accumulation and financial system resilience).
Source: Bank of Korea.

In the credit market, the rate of private credit growth slowed modestly, particularly in household credit, while the private credit-to-nominal GDP ratio remained high. The household and corporate debt servicing capacity in general appeared favorable, boosted by economic recovery and financial support. However, insolvency risks could materialize, particularly among marginalized companies, vulnerable households and the self-employed, depending on market rate hikes and the characteristics of economic recovery by sector.

In the asset markets, financial market volatility expanded with a substantial fall in stock and bond prices, caused by an increase in global inflationary pressures and changes in expectations for monetary policy in major countries. The pace of housing price growth slowed significantly, but remained at a high level compared to underlying economic conditions. Vigilance will be needed toward the possibility of a further escalation of asset price volatility, in the event that risk appetite changes rapidly in response to changes in financial and economic conditions at home and abroad.

With regard to financial institutions, profitability improved and asset quality remained solid, due to an increase in lending and extension of financial support measures. Nevertheless, bad loans could increase, particularly associated with non-bank financial institutions, in the process of the winding down of government support and hiking of market rates.

As for capital inflows, stock investment continued to record a net outflow, while the amount of net foreign bond inflow narrowed. Going forward, attention should be paid to the possibility of increased capital flow volatility, depending on the pace of interest rate hikes in major economies and changes in global financial market conditions.

The financial system's resilience, which means the capacity to withstand domestic and external shocks, has remained favorable, with the capital ratios of both banks and non-bank financial institutions standing significantly above the regulatory standards. Korea's external payment capacity remains stable overall.

Looking at the situation more broadly, the Korean financial system has been stable, albeit with vulnerability factors such as an accumulation of private debt, elevated housing prices, and the possibility of an increase in insolvency due to the uneven recovery across the corporate sector. Recently, risk factors including a rise in global inflationary pressures, the accelerated pace of policy rate hikes in major economies, global geopolitical risks, and possible turbulence in emerging market economies such as China could have adverse effects on our financial stability. Accordingly, this report examines in depth key financial stability issues in consideration of Korea's financial system vulnerabilities and risk factors.

First of all, Korea's financial system is expected to maintain stable resilience, even if market rates rise and financial market volatility expands due to an acceleration of the Federal Reserve's monetary policy normalization. However, some non-bank financial institutions could see a rise in credit and liquidity risks. In addition, our analysis of the linkage between Korea's household debt and asset markets suggests a possible contraction in household spending with a possible increase in the insolvency risk of household debt, depending on the degree of asset market correction. Moreover, corporate and self-employed lending, which posted a steep increase recently, has worked as a factor that worsens financial imbalances. Regarding corporate lending, the share of lending related to the real estate industry rose steadily, whereas self-employed lending is assessed to have delayed and built up potential insolvency to some extent, due to financial support.

Given that external and internal risks are rising gradually with pockets of vulnerability remaining in the financial system, efforts are needed toward easing financial imbalances and enhancing financial resilience. In order to suppress the accumulation of debt, it will be necessary to devise policies that seek to appropriately adjust the level of lending regulations and COVID-19-related financial support, operate financial support that focuses on solvency rather than liquidity, and use a countercyclical capital buffer (CCyB). In addition, we need to prepare for a potential outbreak of external and internal shocks by improving credit risk assessment and loan loss provisioning standards, as well as strengthening monitoring of FX liquidity of non-bank financial institutions. Lastly, vigilance is needed toward a possible decline in asset value in carbon-intensive industries caused by a surge in carbon credit prices in the process of achieving carbon neutrality, while the regulatory framework for investor and user protection should be improved in response to the growing influence of cryptoassets and Big Tech payment services.

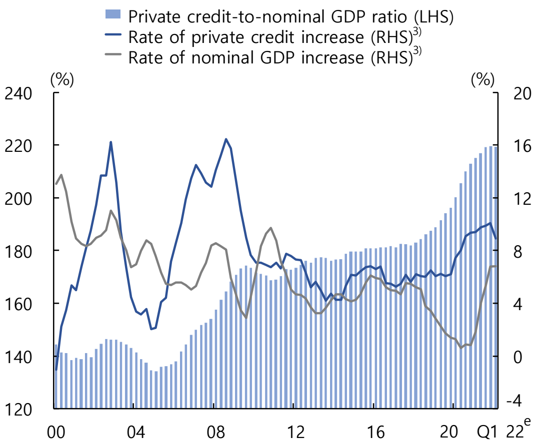
Financial Stability Situation by Sector

Ⅰ. Credit Markets

The increase in private credit has slowed somewhat, led by household credit, but the private credit-to-nominal GDP ratio is still at a high level.

1 The private credit-to-nominal GDP ratio, an indicator of the level of private sector leverage, stood at 219.4% (estimated) at the end of the first quarter of 2022, declining slightly from the previous quarter (219.5%). The high growth trend so far has slowed, due to expanded growth in nominal GDP and a slowdown in household credit growth.

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



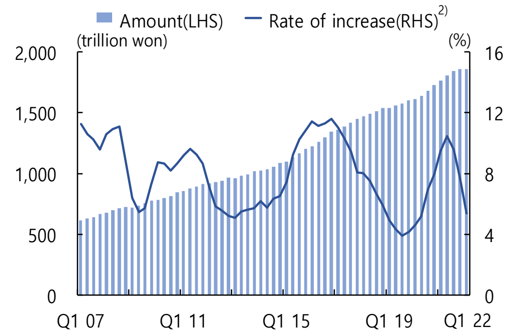
Notes: 1) Flow of funds statistics basis (estimated figures for Q1 2022).
2) Sum of nominal GDPs in quarter concerned and immediately preceding three quarters.
3) Year-on-year basis.
Source: Bank of Korea.

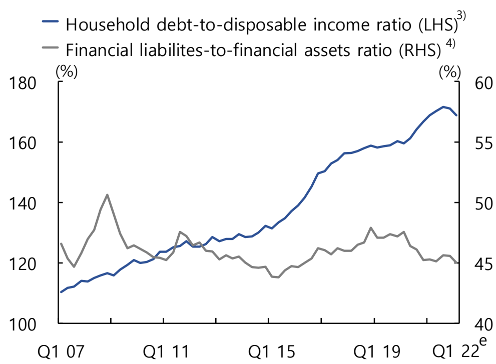
2 Household debt (household credit statistics basis) increased by 5.4% year on year to record 1,859.4 trillion won at the end of the first quarter of 2022, showing a slowdown in growth.

The household debt-to-disposable income ratio stood at 168.9% (estimated) at the end of the first quarter of 2022, a decline of 2.2%p from the end of last year. The financial liabilities-to-financial assets ratio (estimated figure based on flow of funds statistics) declined to 45.0% from 45.6% at the end of last year.

The delinquency rate of household loans remains low, but attention should be given to the possibility of increasing delinquency of vulnerable borrowers due to an increase in lending rates.

Household credit[1)]





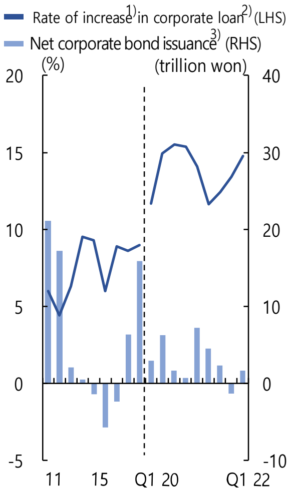
Notes: 1) Household credit statistics basis.
2) Year-on-year basis.
3) Disposable income for Q1 2022 is estimated using the average of the household disposable income-to-gross national income ratios for the immediately preceding three years.
4) Based on flow of funds statistics (estimated figure for Q1 2022).
Source: Bank of Korea.

3 Corporate credit has maintained high growth due to the extension of financial support measures related to COVID-19, growing demand for facilities loans, and banks' efforts to increase handling of corporate loans. Issuance of corporate bonds and CP has increased as well. Corporate loans rose 14.8% year-on-year to 1,609.0 trillion won at the end of the first quarter 2022. By company size, the growth rate of loans to large enterprises rose by 7.8% year-on-year due to growing demand for funds to be used for facilities in line with economic recovery, and loans to small and medium-sized enterprises (SMEs) showed a strong growth rate of 16.0% as demand for facilities loans continued amid the extension of financial support measures related to COVID-19.

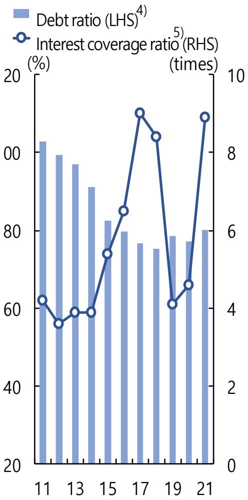
Corporate financial soundness has improved rapidly due to recovery in performance and growing profitability. The overall corporate debt ratio (debt/equity) rose to 80.1% at the end of 2021, from 77.2% at the end of 2020. However, the share of companies with a debt ratio exceeding 200% (heavily indebted companies) fell to 14.6%, from 15.3% at the end of 2020. The interest coverage ratio (operating income/ total interest expenses) increased substantially to 8.9 from 4.6 in 2020.

However, potential insolvencies could materialize, led by marginal businesses and the vulnerable self-employed, as upward pressures on lending rates increase amid growing uncertainties surrounding business management conditions due to rising raw material prices and increasing exchange rate volatility.

Corporate credit



Corporate financial soundness



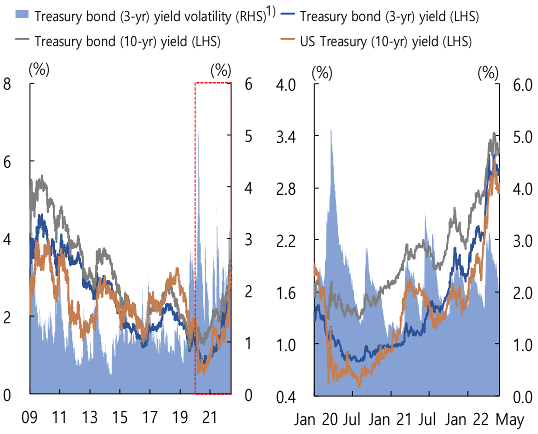
Notes: 1) Year-on-year basis.
2) Based on excluding financial and insurance companies, but the data of some NBFIs include loans to financial and insurance companies.
3) Quarterly basis.
4) Debt/ Equity; end-period basis.
5) Operating income/Total interest expenses.
Sources: Bank of Korea, Korea Securities Depository, KIS-Value, Financial institutions' business reports.

Ⅱ. Asset Markets

Stock and bond prices declined and volatility increased greatly, due to accelerated moves to raise policy rates at home and abroad and growing geopolitical risks. The rise in housing prices has slowed significantly after the second half of last year, but are still at a high level relative to economic fundamentals.

1 Treasury bond yields rose significantly, affected mainly by accelerated policy rate hikes at home and abroad.

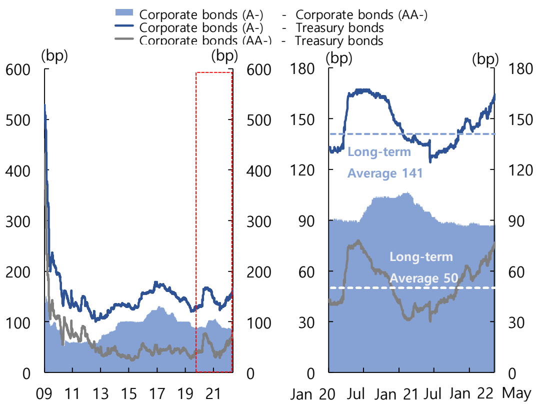
Korean and US Treasury bond yields



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

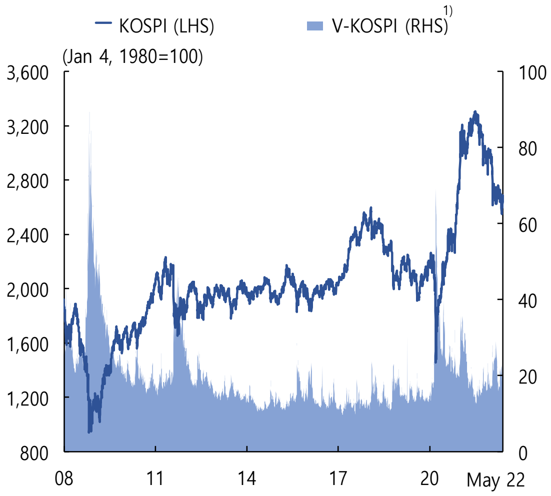
Corporate bond credit spreads showed a gradual expansion as investor sentiment shrank due to increased interest rate volatility on Treasury bonds and increased geopolitical risks.

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 May 2022.
Source: Korea Financial Investment Association.

Stock price and stock price volatility indices

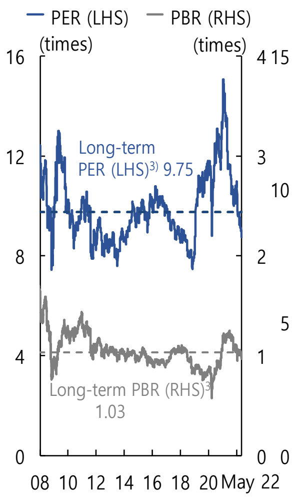


Note: 1) Volatility index calculated based on prices for options on the KOSPI200 index.
Source: KOSCOM.

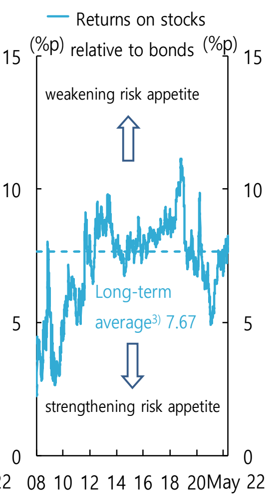
2 Stock prices declined considerably, affected mainly by external factors, such as accelerated policy rate hikes in major countries, geopolitical risks related to Ukraine and the resurgence of COVID-19 in China. The stock price volatility index (V-KOSPI) rose compared to the second half of last year, as external uncertainty increased.

Major indicators representing the overvaluation of the stock market declined substantially, as stock prices plunged. The price-earnings ratio (PER), showing the level of a firm's stock price relative to its profit, stood at 8.86 as of end-May, running below its long-term average (9.75 since 2010). Meanwhile, the equity risk premium (a higher equity risk premium is associated with weakening of risk-taking behavior by investors) stood at 7.96%p on May 31, remaining above its long-term average (7.67%p).

PER[1] and PBR[2]



Stock risk premium[4]



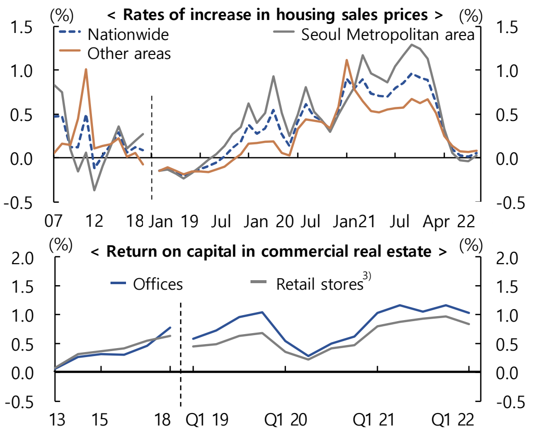
Notes: 1) MSCI basis (12-month forward PER).
2) KOSPI basis.
3) Long-term average for the period between January 2010 and May 2022.
4) Earnings-price ratio (the inverse of 12-month-forward PER based on the MSCI)-Treasury bond yield (10-yr).
Sources: Bloomberg, Refinitiv.

3 Housing sales prices have slowed significantly since the second half of last year. The increase in leasehold deposit (*jeonse*) slowed considerably, and the volume of transactions increased mainly on monthly rentals.

In the commercial real estate market, return on capital declined as price growth slowed due to the reduction of investment demand. Transaction activity alsos fell.

Exposure to real estate financing continued to increase, led by corporate credit, despite a slowdown in the upward trend of housing prices. It is necessary to preemptively strengthen risk management in preparation for the possibility of related loans becoming insolvent due to rising loan interest rates and possible real estate market adjustments in the future.

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



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

While the asset soundness of financial institutions remained solid, the profitability of banks improved in particular .

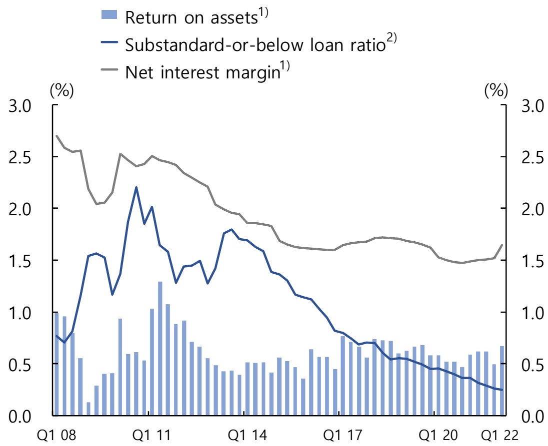
1 The financial soundness of commercial banks remained solid, with asset quality and profitability both improving. Commercial banks' total assets grew by 10.7% year on year to 2,202 trillion won at the end of the first quarter of 2022, sustaining a rapid expansion since the third quarter of 2021 (11.0%).

Their asset soundness remained solid with the substandard-or-below loan ratio falling to 0.25% at the end of the first quarter of 2022, thanks to economic recovery and the extension of the government's financial support measures.

Their return on assets (ROA) stood at 0.67% (annualized) in the first quarter of 2022, up 0.08%p from the same period of last year (0.59%), bolstered by their increased net profit.

However, since there are high uncertainties surrounding economic conditions at home and abroad and upward pressures on market interest rates are increasing, financial institutions should prepare for a possible materialization of potential insolvency risks of vulnerable borrowers, depending on the rollbacks in government financial support.

Commercial bank asset soundness and profitability



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

2 A look at the financial soundness of NBFIs shows that asset quality improved from a year earlier across all NBFI sectors, while profitability varied from sector to sector.

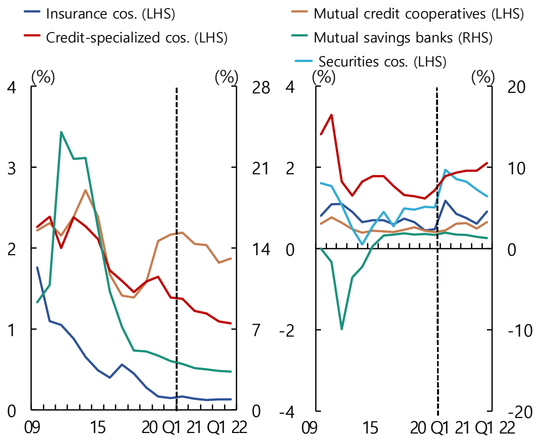
NBFIs' assets recorded 3,391 trillion won at the end of the first quarter of 2022, up by 7.0% year on year. However, growth in assets slowed particularly among insurance companies and securities companies.

The asset soundness of NBFIs remained solid, with the substandard-or-below loan ratios falling across most NBFI sectors.

In terms of profitability, the ROAs of mutual credit cooperatives and credit-specialized financial companies rose from a year earlier, while those of insurance companies, securities companies and mutual savings banks fell.

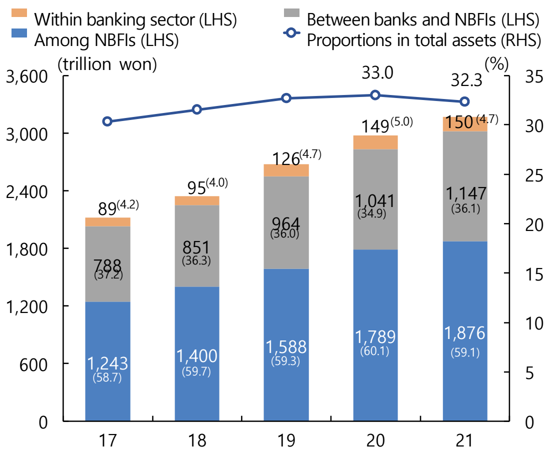
NBFI substandard-or-below loan ratios[1)2)]

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.

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.
Source: Bank of Korea

3 The growth in financial institutions' interconnectedness through their funding and operations has slowed to record 3,173 trillion won at the end of 2021 (rising by 6.5% from the end of the previous year). Mutual transactions accounted for 32.3% of the total assets in the overall financial sector, down by 0.7%p from the end of the previous year.

By sector, mutual transactions between banks and NBFIs and those among NBFIs rose by 10.2% and 4.8% respectively, while those among banks increased only by 1.2%. As a result, the proportions of mutual transactions between banks and NBFIs went up by 1.2%p from the end of the preceding year to 36.1% at the end of 2021.

Analysis of 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 the preceding year.

Ⅳ. Capital Flows

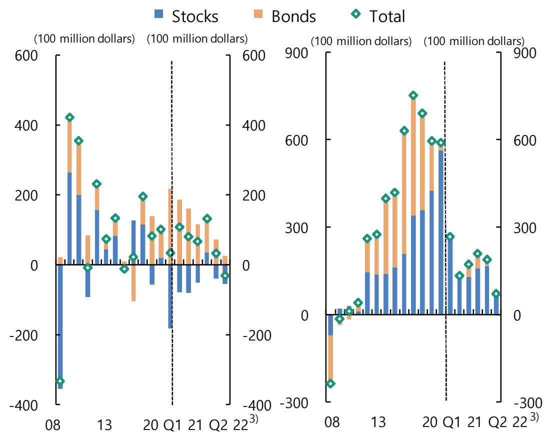
Since the beginning of this year, the net inflow in foreigners' domestic portfolio investment has dropped significantly due to heightened uncertainties in the global financial market, and the rise in residents' overseas portfolio investment has also slowed owing to worsened investment sentiment.

1 From January to May 2022, foreigners' domestic portfolio investment recorded a net inflow of 200 million dollars (with stock investment recording a net outflow of 9.5 billion dollars and bond investment a net inflow of 9.7 billion dollars). Foreigners' funds for stock investment showed a net outflow due to heightened geopolitical risks related to Ukraine, and the prospect of an early tightening by the US Federal Reserve. Foreigners' funds for bond investment continued to record net inflows, but the volume of inflow declined from a year earlier.

Going forward, inflows in foreigners' funds for domestic bond investment are expected to slow, affected mainly by the narrowing spread between domestic and foreign rates and heightened global risks. And the volatility in foreigners' funds flows for domestic stock investment is expected to be high, owing primarily to the prolongation of the crisis in Ukraine, stronger tightening by the US Fed, and concerns about a Chinese economic slowdown.

2 Residents' overseas portfolio investment continued to increase mainly in stocks, but the amount of investment (26.1 billion) in the January-April period this year decreased from 31.7 billion a year earlier due to weak investor sentiment caused by falling stock prices.

Changes[1)3)] in foreigners' domestic portfolio investment | Changes[2)3)] 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) Foreigners' domestic portfolio investment changes are based on April-May, residents' overseas portfolio investment changes are based on April.
Source: Bank of Korea.

Resilience of Financial System

Ⅰ. Financial Institutions

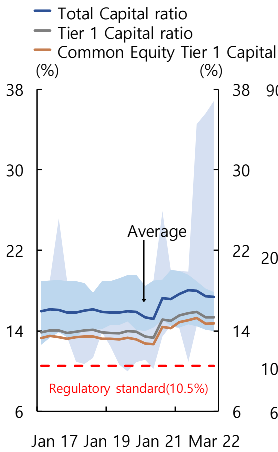
The resilience of commercial banks and NBFIs generally remained solid.

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

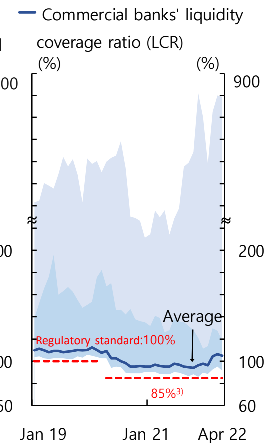
The total capital ratio of commercial banks under Basel III, indicative of their loss absorption capacities, stood at 17.35% at the end of the first quarter of this year, down by 0.06%p from the end of 2021, but still remained considerably above the supervisory standard. Common Equity Tier 1 Capital ratio climbed to 14.78%, up by 0.11%p relative to the end of last year.

The liquidity coverage ratio, which measures the ability to respond to sudden net outflows of funds, reached 104.6% at the end of April 2022, up by 6.7%p relative to the end of 2021.

Commercial bank total capital ratios[1]



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



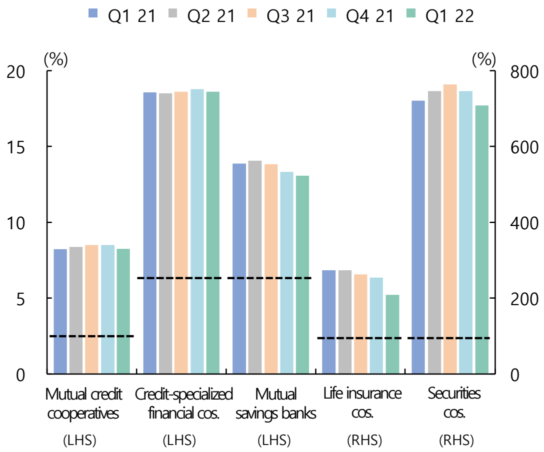
Notes: 1) The shaded area indicates the distribution of individual banks, while the deep shaded area indicates distribution with Internet-only banks excluded.
2) High-quality liquid assets/Total net cash outflows over next 30 calendar days.
3) 85% for a limited period from April 2020 to June 2022.
Source: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

2 The resilience of NBFIs remained generally favorable, with their capital adequacy ratio exceeding regulatory standards across all sectors, but deteriorating slightly relative to the end of 2021.

The net capital ratio of securities companies declined by 37.9%p from the end of 2021 to reach 707.9% at the end of the first quarter of this year. The risk-based capital ratio (RBC ratio) of life insurance companies stood at 208.8%, down by 45.6%p from the end of 2021. Mutual savings banks' BIS capital ratio dropped 0.2%p from the end of last year to 13.1%. Credit-specialized financial companies' adjusted capital ratio and the net capital ratio of mutual credit cooperatives remained at a similar level as the end of last year, at 18.6% and 8.2% respectively.

Although the resilience of NBFIs is currently solid, some financial institutions whose loss absorption capacities have weakened should make preemptive recapitalization efforts in preparation against future changes in domestic and overseas conditions and external shocks.

NBFI capital adequacy ratios[1)2)]



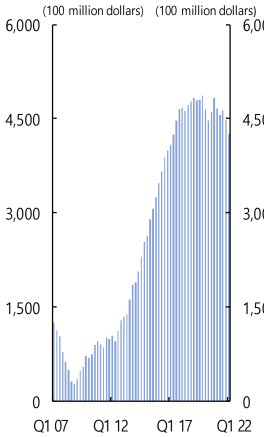
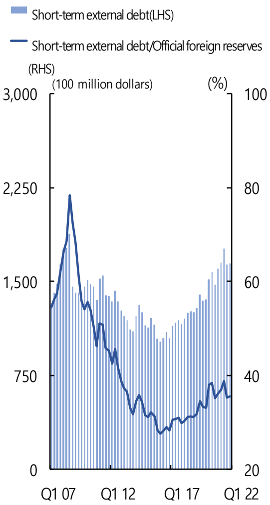
Notes: 1) Mutual credit cooperatives' net capital ratio (supervisory standard 2%; 4% for MG community credit cooperatives and 5% for NongHyup), credit-specialized financial companies' adjusted capital ratio (7%; 8% for credit card companies), mutual savings banks' BIS capital ratio (7%; 8% for banks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

Ⅱ. External Payment Capacity

Korea's external payment capacity remained solid but slightly weakened compared to last year.

1 Net external assets amounted to 425.75 billion dollars at the end of the first quarter of 2022, down by 22.2 billion dollars from the end of 2021. The share of short-term debt in the overall external debt stood at 26.7%, slightly up from the end of last year (26.0%).

2 Official foreign reserves recorded 447.71 billion dollars at the end of May 2022, down by 15.41 billion dollars compared to the end of 2021. The decline was driven mainly by the drop in US dollar conversion of other currencies resulting from the stronger US dollar, and by measures to reduce FX market volatility. The ratio of short-term external debt relative to official foreign reserves increased slightly from the end of 2021 (35.6%) to 38.2% at the end of the first quarter of 2022.

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

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

Ⅲ. Financial Market Infrastructures

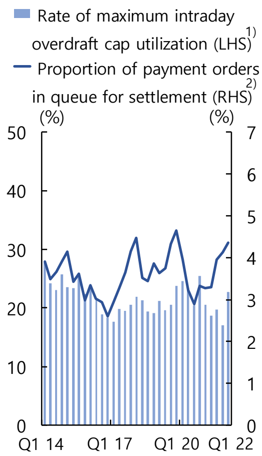
Payment and settlement systems have operated smoothly, with settlement risks managed stably amid a continued increase in the amount of settlement, driven mainly by securities settlements by financial institutions and electronic funds transfers by individuals and companies.

1 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 at 22.8% and 4.4% respectively, during the first quarter of 2022.

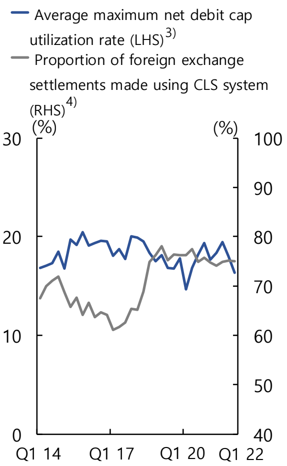
2 The net debit cap utilization rate, which reflects the settlement risks related to the retail payment systems operated by Korea Financial Telecommunications & Clearing Institute, was also solid at 16.3%.

The share of settlements handled by the CLS payment-versus-payment system, which effectively reduces settlement risk by settling foreign exchange transactions without any time lag, maintained a high level of 75.0% in the first quarter of 2022.

Large-value payment system



Retail payment and foreign exchange settlement systems



Notes: 1) Average of daily maximum amounts of intraday overdraft utilized divided by intraday overdraft cap.
2) Average ratio of the amount of payment orders in queue for settlement / Total settlement amount of participants (excluding multilateral settlements for liquidity savings).
3) Average of daily maximum net debit cap utilization rates 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. This proportion rose sharply as five more financial institutions including foreign bank branches joined the CLS in 2018.

Source: Bank of Korea.