Unofficial translation

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

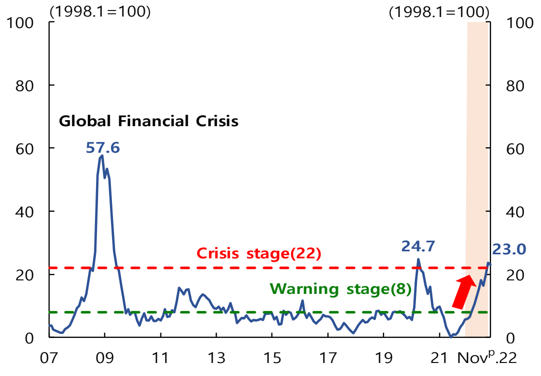
Assessment of Financial Stability Risks

1. Financial Stability Situation

Financial stability of Korea's financial system has been undermined somewhat in some financial markets, amid hightened uncertainties about domestic and global macro-financial conditions in the second half of 2022. Financial intermediation functions of the bond and money markets have weakened due to an accidental credit event on top of expanded financial market volatility and growing concerns for credit risks stemming from the monetary policy tightening by major countries and ongoing global geopolitical risks. Accordingly, the Financial Stress Index (FSI), which reflects the level of short-term instability in the financial system, rose to the crisis stage (threshold 22) in October this year, but then has decreased slightly following the implementation of market stabilization measures by the government and the Bank of Korea in November.

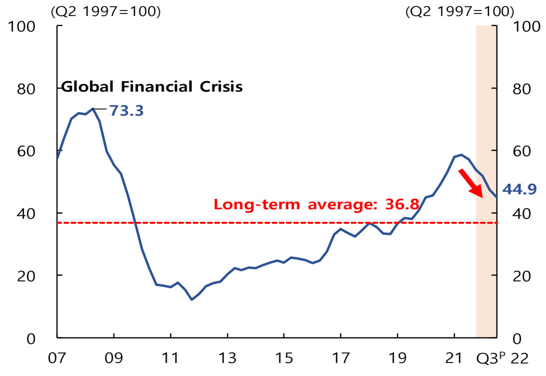
Meanwhile, the vulnerability within the financial system from a medium- to long-term perspective has been moderated somewhat, as financial imbalances built over the years have been gradually reduced along with weakened risk appetite of economic agents. Prices of assets such as stock and property further decreased and a slowdown in household debt growth continued. Financial institutions generally remained stable overall on the back of the favorable soundness and resilience of the banking sector, despite liquidity risks were crystallized and resilience was slightly reduced at some non-bank financial institutions with large exposures to real estate project financing (hereinafter 'PF'). In reflection of this, the Financial Vulnerability Index (FVI), which shows overall vulnerabilities in the financial system from a medium- to long-term perspective, has been declining steadily since the second half of last year.

Financial Stress Index (FSI)



Source: Bank of Korea

Financial Vulnerability Index (FVI)



Source: Bank of Korea

2. Financial Stability Situation by Sector

In the credit market, the private credit-to-nominal GDP ratio remained high, as corporate credit continued to expand at a high growth rate, despite a significant slowdown in the rate of household credit growth. The household debt-to-disposable income ratio declined, and the corporate debt servicing capacity in general appeared favorable, boosted by corporate sales recovery and government's financial support measures. However, attention should be paid to the possibility of insolvencies among vulnerable households, the self-employed businessmen, and marginal firms depending on the pace of interest rate hikes and changes in real estate market conditions in coming months.

The asset markets experienced heightened volatility and a drastic decline of prices. Treasury bond yields rose and corporate bond credit spreads widened significantly, and stock prices continued to show wide fluctuations. Though the financial market conditions are gradually improving, boosted by measures to stabilize markets by the government and the Bank of Korea, and the financial sector's own efforts, price volatility could be amplified again in the hightened uncertainty about the pace of monetary tightening in major countries. In the real estate market where real estate financing has been expanding rapidly since the outbreak of COVID-19, housing prices have reversed to a decline and unsold new houses are rising, all of which are increasing the possibility of financial distress related to real estate financing.

With regard to financial institutions, banks continued to report favorable profitability, along with their substantial asset growth, thanks to the corporate lending growth and inflows of market liquidity into bank time deposits. In the meantime, non-bank financial institutions saw their asset growth and profitability weakened, particularly in insurance companies, securities companies, and mutual savings banks, due to a decline in asset valuations and concentration of liquidity in the banking sector. Nevertheless, asset soundness of financial institutions generally remained favorable, at both banks and non-bank financial institutions.

As for capital flows, foreigners' domestic portfolio investment continued a net inflow, but the inflow narrowed due to heightened uncertainties surrounding the global financial markets and the strong dollar. While foreigners' domestic bond investment showed a slight net inflow driven by increased arbitrage incentives, foreigners' funds for domestic stock investment saw a net outflow.

3. Resilience of Financial System

The financial system's resilience, which means the capacity to withstand domestic and external shocks, has remained stable overall, backed by commercial banks' strong loss absorption and liquidity capacities. The resilience of non-bank financial institutions also has remained solid with the capital ratios of most non-bank sectors significantly exceeding the regulatory standards. However, liquidity risks of securities companies and credit-specialized financial companies, which have a high dependence on wholesale funding, have expanded due to a combination of liquidity inflows to the banking sector and growing concerns about the deterioration of their real estate PF exposures.

Korea's external payment capacity deteriorated somewhat compared to the first half, even though it remained solid overall, as net external assets have decreased due to a decline in official foreign reserves following the government's measures to reduce foreign exchange market volatility as well as a decrease in overseas securities investment by other financial institutions.

Meanwhile, payment and settlement systems have operated smoothly under the increased uncertainties at home and abroad. The amount of settlement on major payment and settlement systems such as BOK-Wire has continued to increase, driven mainly by securities settlements by financial institutions and electronic funds transfers by individuals and companies. Settlement risks have also been managed stably.

4. Major Financial Stability Risk Assessment

As we have seen above, the high level of private credit, increased exposures to real estate financing, and weakened resilience of non-bank financial institutions still remain as vulnerabilities of Korea's financial system. Under these circumstances, changes in domestic and external conditions following the second half of this year such as the persistent rise in interest rates at home and abroad, falls in asset prices, currency depreciation, and unrest of global financial markets could not only affect our financial system either directly or indirectly, but also could pose financial risks to the financial system. This report thus mainly examines the effects that these changes in macro-financial conditions have on the financial system and related potential risks.

First of all, our analysis results show that the policy rate rises have contributed to easing financial imbalances such as the steep credit accumulation and overvaluation of asset prices to some extent, in the meantime that market liquidity has been reduced notably in the money market due to the rises in the policy rate combined with external uncertainties, Kepco and bank bonds'crowding-out of corporate credit bonds, and the spread of credit risk aversion triggered by an unexpected credit event. In addition, with corporate and household debt repayment burdens increasing due to the rise in interest rates amid a high level of private debt, it is analyzed that the default risk of vulnerable households, self-employed businessmen, and marginal firms increased more significantly. Going forward, financial institutions are expected to remain resilient, even if drops in asset prices and economic slowdown take place at the same time as interest rates are raised. However, in case of unexpected shocks including abrupt collapses in asset prices, some non-bank financial institutions could be exposed to increasing liquidity and credit risks and their capital ratio could fall below the regulatory standard.

In addition, as real estate prices are decreasing, concerns about liquidity and credit risks of real estate-related corporate financing have grown. Real estate PF and other loans to the construction and real estate sectors extended especially by non-bank financial institution have rapidly increased so far, and the real estate PF has become increasingly intertwined with capital markets due to growing securitization of the PF loans, which have expanded the vulnerability of real estate financing in line with the declining housing prices. Recently, as the slowdown in the real estate market is met with an unexpected credit event, the new issuance and rollover of PF asset-backed commercial paper (PF-ABCP) have been reduced significantly and the liquidity risks of securities companies and construction companies that provided guarantees to purchase unsold PF-ABCPs have increased greatly. The soundness indicators of real estate PF exposures still remains solid, but if falls in housing prices widen and property markt recession prolongs going forward, the capital ratio of non-bank financial institutions, in particular which have relatively large exposures to the real estate PF and insufficient capital buffer, could decrease sharply.

Meanwhile, the channels through which exchange rates affect the domestic financial system have become diversified, and the impact of exchange rates has become greater. It is analyzed that the weakening won has had bigger effects on foreign currency market, the bond market, and the money market compared to the previous period of great depreciation of the won, and that it has led to the fall in banks'BIS total capital ratio through the rise in the won-converted value of foreign currency-denominated risk-weighted assets due to the weak won. Moreover, the weaker won has also increased liquidity risks of financial institutions through the foreign exchange hedging costs and the additional margin call payment in foreign exchange derivatives and foreign currency-denominated repo transactions. It has been assessed that financial institutions are capable of fully handling the decline in the capital ratio and liquidity ratio stemming from the currency depreciation so far. However, we need to manage the situation as to prevent the greater exchange rate volatility from escalating into a liquidity crunch of financial institutions and money market.

Policy Recommendations

The policy authorities need to take preemptive and active measures to mitigate market liquidity risks such as worsening liquidity condition in the market, rather than the risk of default of individual financial institutions. They need to respond actively with microscopic market stabilization measures to prevent liquidity crunch in some financial markets from spreading throughout the whole financial system, while maintaining harmony with the stance of monetary policy. In addition, financial institutions should also make their own efforts at the same time as to ensure smooth fund flows and continuous credit provision within the financial system.

In preparation for ongoing interest rate hikes and economic slowdown, efforts to manage risks associated with private credit should be maintained as well. While restricting excessive credit provision to a specific sector such as the real estate rental business, the authorities need to continue to provide selective support such as the debt refinancing for vulnerable groups, with encouraging existing borrowers to pay off their loans through the increase in the share of amortization at the same time.

It is necessary to improve resilience of financial institutions. Non-bank financial institutions in particular need to expand emergency liquidity funding channels, build additional loan-loss provisions, and enhance their total loss absorption capacity through recapitalization. Banks should reexamine their credit risk assessment and the level of loan-loss provisions given the possible underestimation of credit risks, and pay attention to foreign currency liquidity management in order to prevent risks caused by foreign exchange volatility from being transmitted to the financial system as a whole.

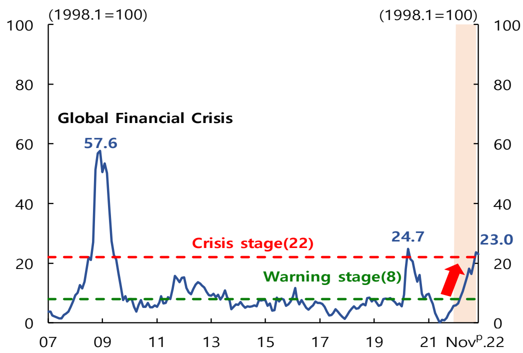
Moreover, it is also necessary to prepare against mid-to long-term financial stability risks that could be created by changes in the new financial environment. The authorities also need to take preemptively measures to cope with the international community's carbon neutrality policy, while improving the regulatory framework for the crypto asset market given its growing influence in the financial market.

【 Key indicators of Financial Stability 】

1 Overall Assessment

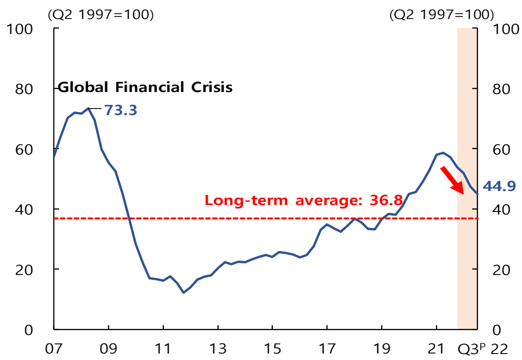
Increase in short-term financial stress (FSI),
Decline in mid- to long-term vulnerabilities (FVI)

Financial Stress Index (FSI)



Source: Bank of Korea.

Financial Vulnerability Index (FVI)

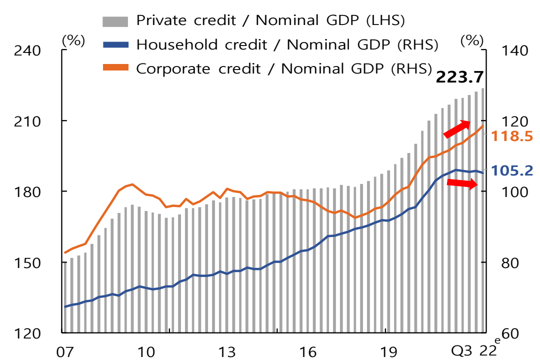


Source: Bank of Korea.

2 Credit Leverage

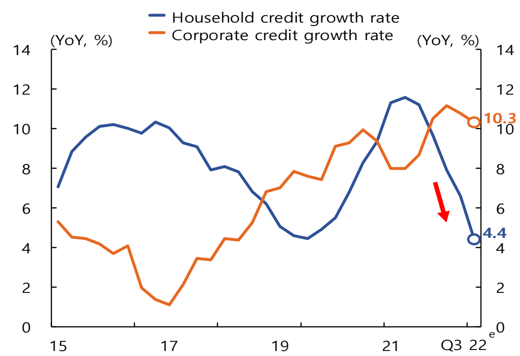
Continued growth in private credit leverage
(Household credit growth rate ↓, corporate credit growth rate ↑)

Private credit-to-nominal GDP ratios



Source: Bank of Korea.

Credit growth by sector

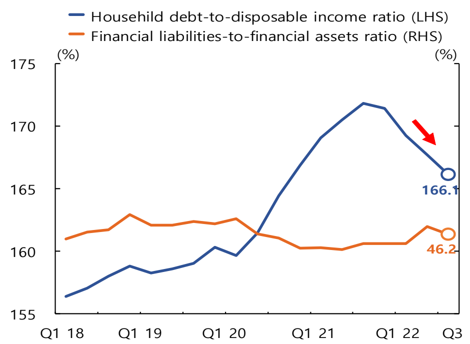


Source: Bank of Korea.

3 Household

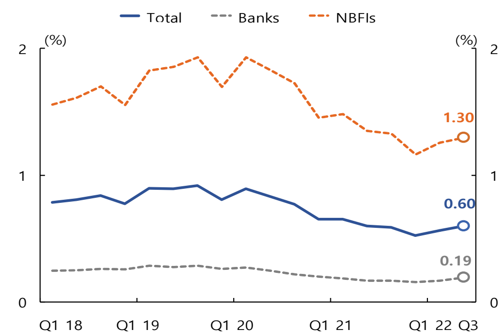
Solid household financial indicators
(Household debt to income ↓, delinquency rates inches up)

Debt repayment capacity



Source: Bank of Korea.

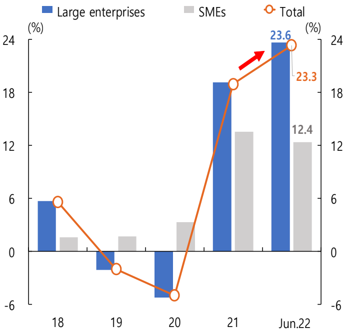
Household loan delinquency rates



Sources: Financial institutions' business reports.

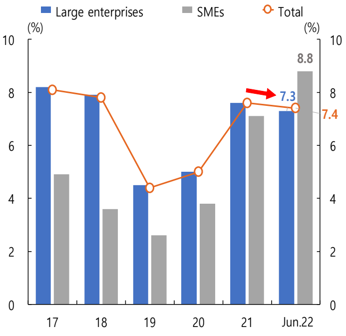
4 Corporate Solid corporate profitability, Weaker interest coverage ratios

Sales growth rates



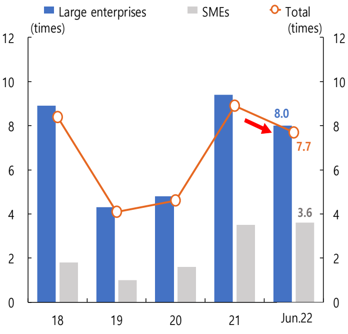
Source: KIS-Value.

Operating income-to-sales ratios



Source: KIS-Value.

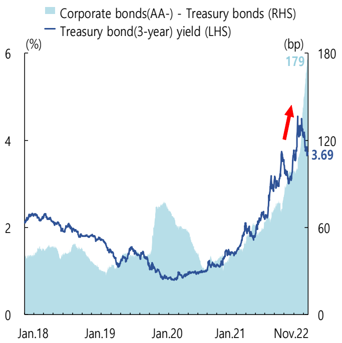
Interest coverage ratios



Source: KIS-Value.

5 Asset Market Higher price volatility (Treasury bond yield ↑, Stock prices ↓, Housing sales prices ↓)

Treasury bond yield & Corporate bond credit spreads

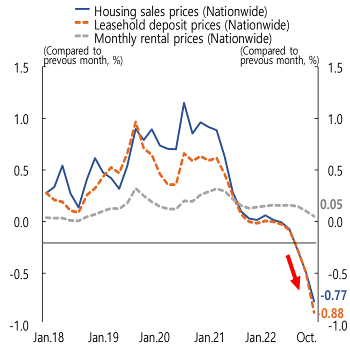


Source: Korea Financial Investment Association.

Stock prices & Stock price volatility

Source: KOSCOM.

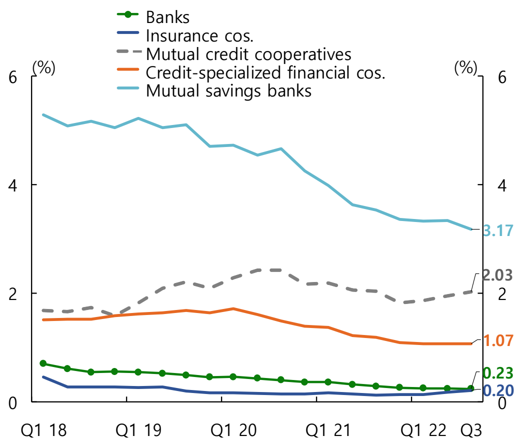
Rates of increase in housing prices



Source: Korea Real Estate Board.

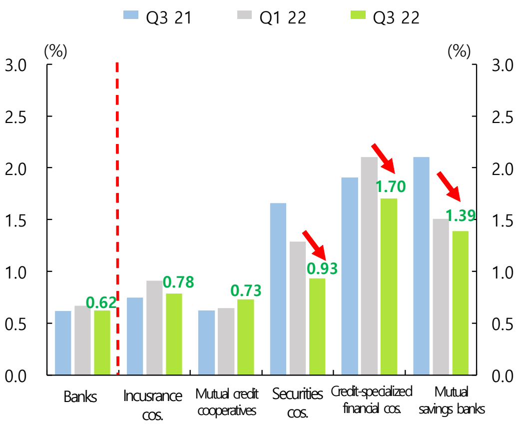
6 Soundness of Financial Institutions Sound financial institution asset quality, Weaker non-bank financial institution profitability

Substandard-or-below loan ratio



Source: Bank of Korea.

Return on assets (ROA)

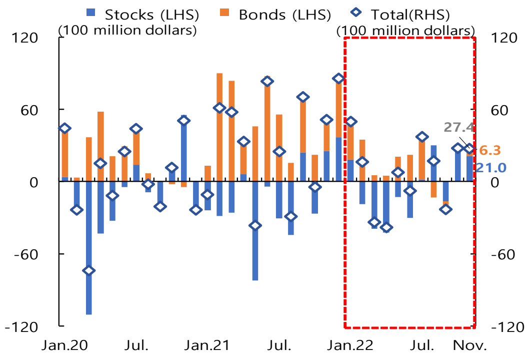


Source: Bank of Korea.

7 Capital Flows

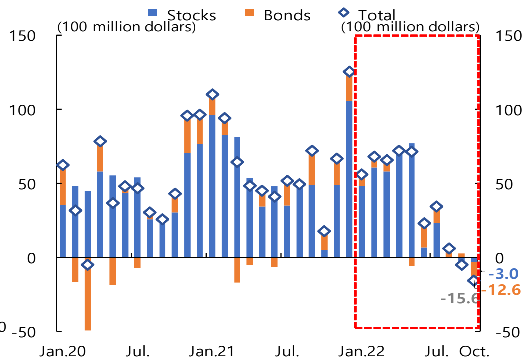
Slowing net inflow of foreingers' domestic portfolio investment, Slower growth in residents' overseas portfolio investment

Changes in foreigners' domestic portfolio investment



Source: Bank of Korea

Changes in residents' overseas portfolio investment

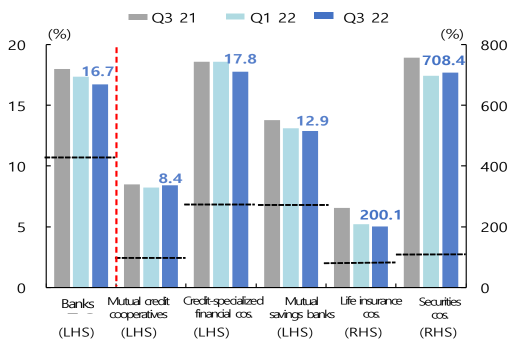


Source: Bank of Korea

8 Resilience of Financial System

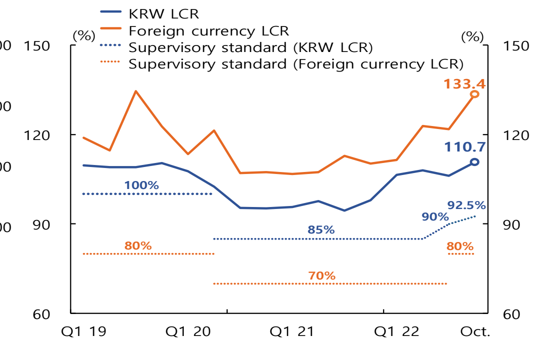
Strong resilience for banks, Moderate decline for non-bank financial institutions

Financial Institutions capital adequacy ratios



Source: Bank of Korea

Commercial banks liquidity coverage ratio (LCR)

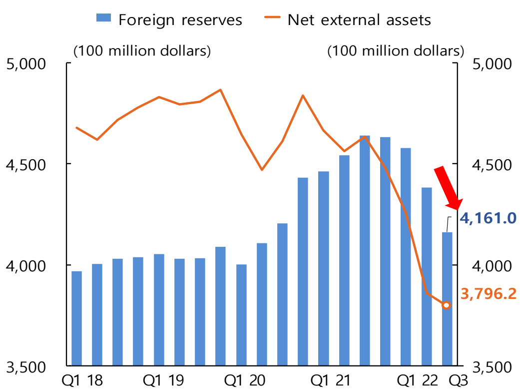


Sources: Commercial banks' business reports.

9 External Payment Capacity & Payment and Settlement Systems

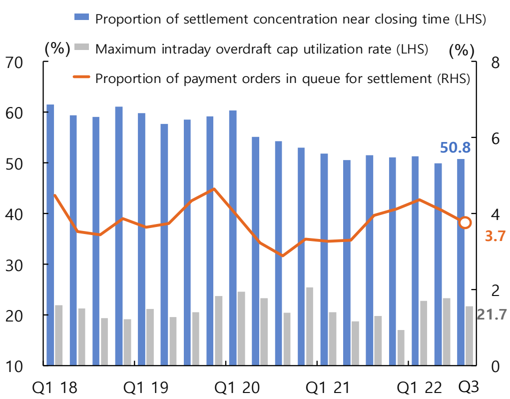
Lower external payment capacity, Stable payment risk management

Official foreign reserves[1] & net external assets



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

Risks related to BOK+ wire



Source: Bank of Korea