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Monetary Policy Report

2023. 6

BANK OF KOREA

Bank of Korea Mid- and Long-term Strategic Plan (BOK 2030)

• **Vision**	**Bank of Korea** **: Taking the lead in stabilizing and developing the national economy**	
• **Strategic Directions**	**A**gility	Pursue Innovation in a Flexible and Swift Manner
	Collaboration	Bolster Synergy Through Collaboration
	Expertise	Reinforce Policy and Research Capability

BANK OF KOREA

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Monetary Policy Report

2023. 06

The Bank of Korea sets and implements its monetary and credit policies in order to contribute to the sound development of the national economy by pursuing price stability, and in the process pays attention to financial stability as well.

The Bank of Korea Act stipulates that the Bank of Korea, to fulfill its accountability corresponding to these mandates, should compile at least twice each year a report on the implementation of its monetary and credit policies.

In line with this the Bank of Korea prepares the Monetary Policy Report, containing the details of and backgrounds to its monetary policy decisions, the future monetary policy directions, etc., four times per year, and submits it to the National Assembly.

This June 2023 Monetary Policy Report has been drawn up to cover the time period from after the Monetary Policy Board meeting for monetary policy decision-making in February 2023 through the date of the Monetary Policy Board meeting for monetary policy decision-making in May 2023.

We sincerely hope that this Monetary Policy Report will be of help in ensuring that the public well understands the Bank of Korea's monetary policy operations, and forms rational expectations concerning the future policy directions.

<Bank of Korea Act>

Article 96 (Reporting to National Assembly)

(1) The Bank of Korea shall prepare an assessment report on progress in implementing monetary and credit policies and macro-financial stability conditions at least twice every year and submit it to the National Assembly.

(2) The Governor shall attend a meeting and answer questions, when the National Assembly or any of its committees requests him/her to attend the meeting in connection with the report submitted pursuant to paragraph (1).

This Monetary Policy Report is published in accordance with the provision of Article 96 of the Bank of Korea Act, and upon the resolution of the Monetary Policy Board.

June 2023

Rhee, Chang Yong
Governor
Bank of Korea

General Principles of Monetary Policy Operation

The Bank of Korea Act stipulates the goal of monetary policy as follows: "The Bank shall contribute to the sound development of the national economy through ensuring price stability, while giving due consideration to financial stability in carrying out its monetary policy." In order to enhance the transparency, predictability and effectiveness of monetary policy, the Bank will carry out its task by setting specific targets and objectives in accordance with this goal.

☐ **(Inflation targeting)** The Bank of Korea maintains a flexible inflation targeting system to effectively achieve price stability, which is the primary objective of monetary policy. The inflation target is currently set at 2% in terms of consumer price inflation (year-on-year).

o **(Medium-term horizon)** Since consumer price inflation is affected not only by monetary policy but also by various other factors at home and abroad, the inflation target is meant to be achieved over a medium-term horizon, in consideration of price changes owing to transitory and irregular factors and of the lags in monetary policy transmission.

o **(Forward-looking operation)** The Bank conducts its monetary policy in a forward-looking manner, while considering symmetrically the risks of inflation remaining persistently above or below the target.

- The path of convergence of inflation toward the target is assessed based comprehensively on inflation and growth outlooks as well as their uncertainties and risks, on the degree of anchoring of inflation expectations, and on financial stability conditions.

o **(Flexible operation)** The Bank conducts its monetary policy to support real economic growth to the extent that this does not hinder attaining the inflation target over the medium term.

☐ **(Consideration of financial stability)** Achieving price stability over the medium term should be based on financial stability, and the Bank pays careful attention to financial stability conditions in its conduct of monetary policy.

o **(Efforts to stabilize financial market)** The Bank makes efforts to stabilize the financial market and restore the financial intermediary function in the event of financial unrest, given that it constrains the monetary policy transmission channels and undermines macroeconomic stability.

o **(Attention to financial imbalances)** As persistent financial imbalances such as the buildup of debt could undermine macroeconomic stability, the Bank pays due attention to financial imbalances in conducting its monetary policy.

- The Bank examines, assesses and announces financial stability conditions on a regular basis, to prevent excessive buildup of financial imbalances that may be brought about by monetary policy implementation.

- Since there are limits to maintaining financial stability solely through monetary policy, which affects the whole economy, monetary policy needs to be complemented by macroprudential policies to prevent buildup of financial imbalances.

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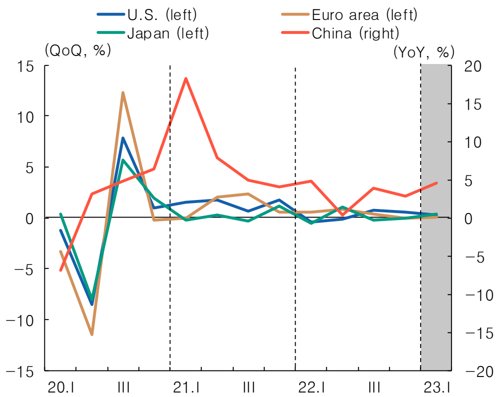
Executive Summary

[Recent Economic and Financial Developments]

1 A look at financial and economic conditions at home and abroad between March and May 2023 finds the following. Global economic growth was more favorable than expected, in the service sectors, boosted by robust employment conditions in major advanced economies, and by China's reopening. In the United States, the economy showed a trend of modest growth in the first quarter, bolstered by robust employment, while investment saw a slowing trend due to the high interest rates. In the euro area, a trend of recovery was weak, affected by high inflation and interest rates, and lackluster exports, despite the easing of disruptions in energy supply. In China, domestic demand was recovering rapidly thanks to its reopening, but its external trade was relatively sluggish. Japan resumed a trend of moderate recovery, thanks to pent-up demand and the easing of supply disruptions in the automobile industry.

Economic growth in major economies

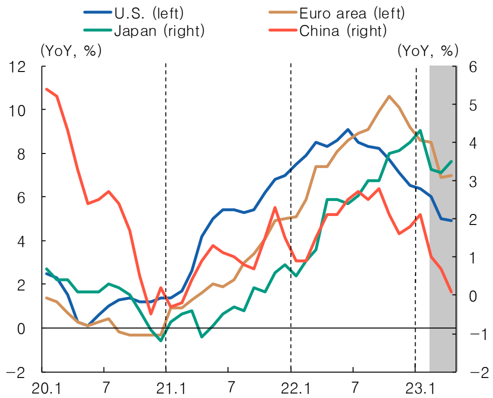


Sources: U.S. Bureau of Economic Analysis (BEA), Eurostat, Statistics Bureau of Japan, National Bureau of Statistics of China.

Global inflation slowed, influenced by declines in energy and grain prices, but it still remained elevated, running well above the target, especially in major economies. Core inflation, in particular, showed a slower pace of decline, driven by service prices.

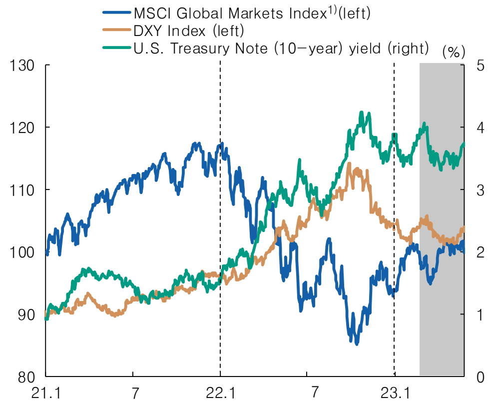
In the international financial markets, the volatility of major price variables increased after March since various issues overlapped. These issues include banking sector turmoil in major economies due to the bankruptcy of Silicon Valley Bank in the U.S. and the M&A of Credit Suisse, emerging concerns over

Consumer price inflation in major economies



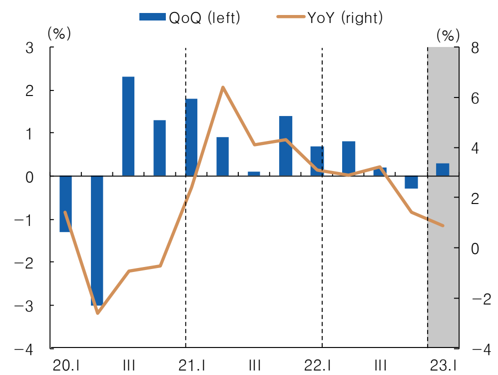
Sources: U.S. Bureau of Labor Statistics (BLS), Eurostat, Statistics Bureau of Japan, National Bureau of Statistics of China.

U.S. interest rate, global stock price index and dollar index



Note: 1) January 1, 2021 = 100.
Source: Bloomberg.

Real GDP growth[1)]



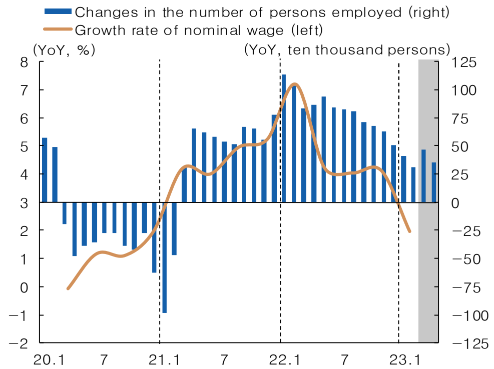
Note: 1) Reflects preliminary figures.
Source: Bank of Korea.

persistent inflation and economic slowdown together with Central bank's responses to these issues, and the U.S. government's debt ceiling negotiations. U.S. Treasury bond yields fell significantly, global stock prices rose, and the U.S. dollar weakened, as expectations for the U.S. Federal Reserve's early termination of its tightening stance spread, due mainly to concerns about the stress in banks. After mid-May, however, the U.S. dollar fluctuated, influenced by favorable economic indicators exceeding market expectations, and the U.S. debt ceiling negotiations, and long-term government bond yields in major economies rose, after fluctuating within a narrow range.

2 Korea's economic growth continued to slow as exports continued to be sluggish, although a trend of recovery in private consumption resumed. Accordingly, real GDP growth in the first quarter shifted to an increase of 0.3% from the preceding quarter, led by private consumption, but its year-on-year growth (+0.9%) was lower than that in the fourth quarter of last year (+1.4%). By sector, private consumption increased, thanks to an additional lifting of COVID-19 restrictions. Meanwhile, facilities investment shrank due to the downturn of the IT industry, and exports continued their year-on-year downward trend as sluggish exports to China continued owing to limited spillover effects of China's reopening amid a significant decline in semiconductor exports stemming from a decline in semiconductor prices and weak demand from downstream industries. In April, with exports continuing their downward trend, consumption underwent adjusting.

While employment conditions remained favorable overall, growth in the number of persons employed continued to slow at a modest pace. In April, the number of employed persons in the manufacturing industry decreased for the four consecutive months owing primarily to sluggish exports, while the number of persons employed in the services industry maintained strong growth, particularly in the face-to-face services industry. Nominal wages rose by 2.0% year-on-year in the first quarter, indicating a deceleration in the upward trend.

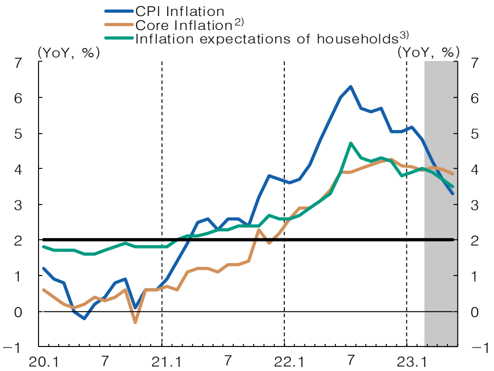
Changes in number of persons employed and nominal wage growth[1]



Note: 1) Nominal wage growth is based on quarterly data.
Sources: Statistics Korea, Ministry of Employment and Labor.

3 Consumer price inflation had been sustaining its slowing trend since the middle of last year and declined to the upper 3% range for the first time in 15 months, in April. It continued to decelerate at 3.3% in May. Core inflation has been continuing its moderating trend since the end of last year, but the trend has remained at a significantly slower pace. Meanwhile, short-term inflation expectations of households fell to the 3% level after March.

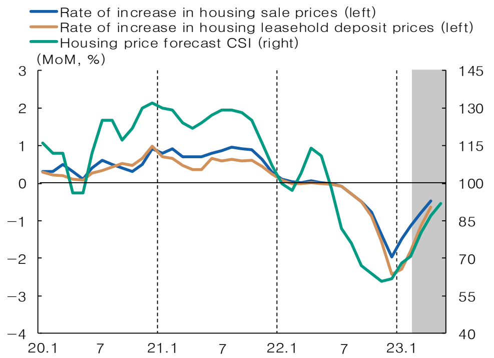
Inflation[1]



Notes: 1) The bold line indicates the inflation target.
2) Excluding food and energy.
3) Expectations for the consumer price inflation rate over the next 12 months.
Sources: Bank of Korea, Statistics Korea.

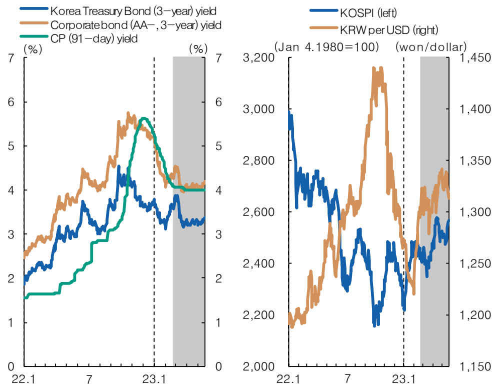
Nationwide housing sale prices showed smaller declines, influenced by the easing of the government's real estate-related regulations and declines in lending rates. Sentiment indicators including housing price forecast CSI (Consumer Sentiment Index) still remained low, but had been improving since December last year. Nationwide leasehold (*jeonse*) deposit prices also showed smaller declines, as declines in lending rates led to the increased demand for *jeonse*.

Housing sales and leasehold (*jeonse*) deposit prices rate of increase and housing price forecast CSI



Sources: Bank of Korea, Korea Real Estate Board.

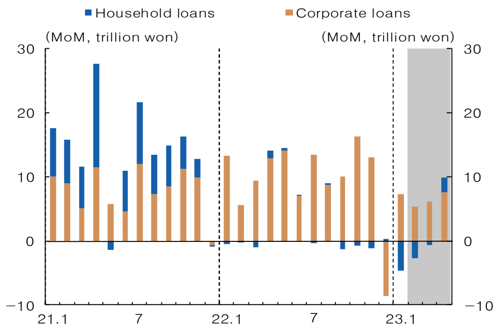
Domestic interest rates, stock prices and exchange rate



Sources: Bank of Korea, Korea Financial Investment Association, Koscom Corporation.

[4] In domestic financial and foreign exchange markets, Treasury bond yields and the Korean won/U.S. dollar exchange rate fell, as global risk aversion increased, affected by the bankruptcy of Silicon Valley Bank in the U.S. and the M&A of Credit Suisse since mid-March, and as expectations for the easing of tightening by the U.S. Federal Reserve increased. After April, Treasury bond yields fluctuated within a relatively narrow range and then rose, influenced by the movements of the U.S. Treasury bond yields. Despite the sustained weakening trend in the U.S. dollar, the Korean won/U.S. dollar exchange rate rose, due to the continued trade deficit, and increased overseas remittances of foreign investors' dividends.

Changes in loans by deposit-taking banks[1)2)]



Notes: 1) Including mortgage transfers by Korea Housing Finance Corporation.
2) Figures for April 2023 are based on Bank of Korea advanced estimate.
Source: Bank of Korea.

Looking at credit supply by deposit-taking banks, household lending declined significantly in the first quarter of this year, due to high lending rates and sluggish demand for funds related to housing. However, it shifted back to an increase in April. Corporate lending, and lending to large corporations in particular, grew at a slower pace, affected by increased direct corporate financing by corporations stemming from the easing of the stress in the corporate bond market. It then grew at a somewhat faster pace in April, owing to demand for working capital by corporations.

An increase in direct corporate financing was observed. Corporate bonds saw a significant net issuance as investment demand recovered due to the easing of credit risk aversion at the beginning of this year. In the case of commercial paper (CP) and short-term bonds, the net issuance decreased, as a few companies converted funds raised through high-interest rate CP in the fourth quarter of last year into corporate bonds. Meanwhile, in April, there was a slight contraction in the volume of corporate financing, primarily driven by net redemption of corporate bonds following a massive amount of corporate bonds maturing at some corporations.

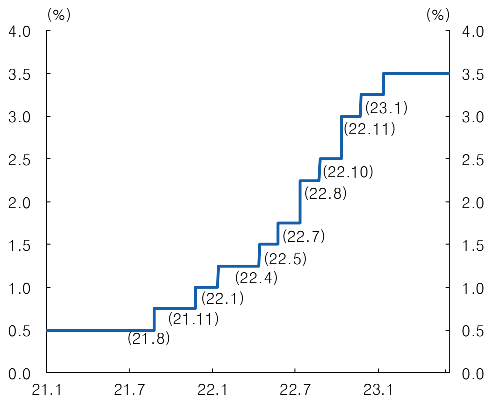
[Monetary Policy Implementation]

5 The Bank of Korea conducted monetary policy in order to stabilize consumer price inflation at the target level (2%) over a medium-term horizon as it monitored economic growth, while paying attention to financial stability. Under this policy stance, the Bank maintained the Base Rate at 3.50%, and decided to judge the need for a further Base Rate raise while assessing the changes in domestic and external policy conditions.

The Bank of Korea decided to leave the Base Rate unchanged at 3.50% in April, as it was forecast that inflation would stay above the target level for a considerable period of time although it was projected to continue to slow, and as uncertainties surrounding the policy decision were also judged to be high, with the risks to financial sector elevated in major countries. The Bank, therefore, considered it appropriate to judge the need for a further Base Rate hike while assessing the pace of inflation slowdown, financial stability conditions, and other developments in uncertainties.

The Base Rate was also maintained at 3.50% in May, a decision based on the judgment that the current tightening stance should be maintained as

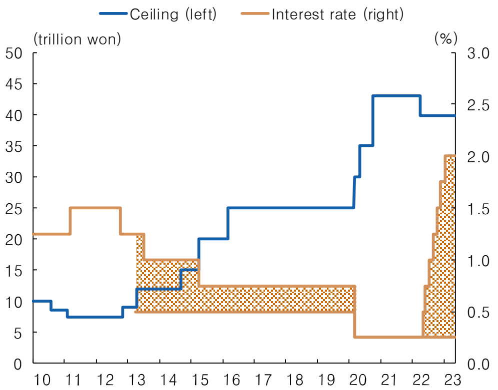
Bank of Korea Base Rate[1)]



Note: 1) Figures in parentheses refer to the months of Base Rate adjustments
Source: Bank of Korea.

inflation is projected to keep slowing down but to remain above the target level for a considerable time. The Bank decided to judge the need for an additional hike based on its monitoring of changes in the domestic and external policy conditions.

Ceiling and interest rates of Bank Intermediated Lending Support Facility[1]



Note: 1) Shaded area represents the time frame where interest rates were different for each program.
Source: Bank of Korea.

6 The Bank of Korea is using various policy instruments to promote smooth credit flows and stability in financial and foreign exchange markets. As for the Bank Intermediated Lending Support Facility, ceilings for each program are as follows: 1.5 trillion won for Trade Financing, 13 trillion won for New Growth Engine Development and Job Creation, 0.3 trillion won for Stabilization of SME Lending, 5.9 trillion won for Regional SMEs, 13 trillion won for SMEs Affected by COVID-19, and 6 trillion won for Small Businesses. The total ceiling is 39.8 trillion won including 0.1 trillion won in ceiling reserves. Furthermore, in order to support SMEs hit by wildfire in Gangneung in April, the Bank of Korea urgently allocated 10 billion won from the ceiling reserves of the Bank Intermediated Lending Support Facility to its Gangneung branch whose jurisdiction covers the damaged area (April 17).

The Bank of Korea temporarily expanded in November 2022 the range of eligible collateral for its lending facilities and for guaranteeing net settlements, as well as for securities eligible for RP transactions under open market operations, with a view to ensure stability in the short-term money and bond markets. It extended the expiration date of the temporary expansion for another three months from the initially scheduled date at end-April. This extension was aimed at promoting financial stability at a time of elevated uncertainties abroad in the wake of the bankrputcy of Silicon Valley Bank in the U.S. and the M&A of Credit Suisse in March. In order to prevent any spread of financial market strains, the Bank continued to purchase repos from financial institutions participating in capital calls for the bond market stabilization fund activated in December 2022.

[Policy Considerations and Outlook]

⑦ The Korean economy will continue its sluggish growth for some time, mainly due to a further contraction in the IT sector and the delayed effects from China's reopening. It is expected to improve gradually in the second half of this year, but the pace of recovery will be slower than initially expected. Korea's real GDP growth is projected to be 1.4% in 2023 and 2.3% in 2024. Private consumption is expected to recover moderately, driven by the increase in household income and the improvement in consumer sentiment. In contrast, facilities and construction investments are forecast to be weak, affected by the IT sector slump and the slowdown in real estate market, respectively. Exports will remain sluggish for some time, but is likely to improve gradually in the second half of this year, led by the impact of China's reopening and the recovery in the IT industry. Uncertainties remain high over Korea's growth outlook, concerning the timing of the IT sector rebound, the extent of spillover effects from the Chinese recovery, and economic conditions in major advanced economies.

Consumer price inflation is expected to be generally in line with the February forecast (3.5%), while core inflation is projected to be above the previous forecast (3.0%), at 3.3%. Core inflation is expected to be higher compared to the previous outlook path on the back of the sustained impact of accumulated cost pressures and stronger-than-expected demand for services and labor market trends. However, uncertainties remain significant regarding future inflation path due to the factors such as fluctuations in international oil prices, economic developments at home and abroad, and the extent of public utility rate hikes, including their corresponding spillover effects.

8 The Bank of Korea will continue to conduct monetary policy in order to stabilize consumer price inflation at the target level (2%) over a medium-term horizon as it monitors economic growth, while paying attention to financial stability.

Although the domestic economy will continue its weak growth, inflation is projected to remain high above the target level for a considerable time, and uncertainties surrounding the policy decision remain elevated. The Bank of Korea, therefore, deems it warranted to continue the tightening stance for a considerable time with an emphasis on achieving price stability. The Bank will judge whether an additional Base Rate hike is needed while closely monitoring the pace of inflation slowdown, downside risks to growth, financial stability risks, the effects of previous Base Rate hikes, and monetary policy changes in major economies.

I

Recent Economic and Financial Developments

1. Global Economy

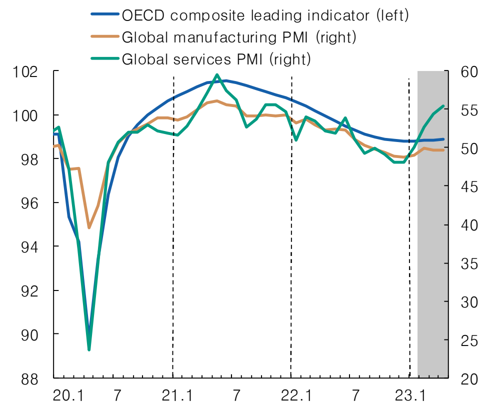
Global economy shows more favorable growth than expected

Global economic growth was more favorable than expected, mainly in the service industry, boosted by robust employment conditions in major advanced economies, as well as China's reopening.[1] However, the manufacturing industry was in a downward trend due to monetary tightening in major countries. Global trade was slow mostly in commodities[2] as manufacturing industry production and investment contracted and the impact of China's reopening occurred mostly in the service industry.

By country, the economy of the United States showed a trend of modest growth in the first quarter, bolstered by robust employment, while investment saw a slowing trend due to high interest rates. In the euro area, recovery was weak, affected by high inflation, interest rates, and lackluster exports, despite the easing of energy supply disruptions. In China, domestic demand recovered rapidly thanks to the country's reopening, but its external trade was relatively sluggish. Japan resumed its trend of moderate recovery owing to pent-up demand[3], and the easing of supply disruptions in the automobile industry. Growth in the ASEAN-5 countries weakened due to slowing exports.[4]

Global inflation slowed, influenced by declines in energy and grain prices, but remained elevated, running well above the target, especially in major economies. Core inflation, in particular, showed a slower pace of decline, driven by service prices.

Figure I-1. Composite leading indicator[1] and global PMI



Note: 1) Based on G20 member countries.
Sources: OECD, JPMorgan.

1) Global Composite PMI continued to rise, mostly in the service industry, since exceeding the benchmark in February.
Global Composite PMI (benchmark=50): 48.4 in fourth quarter of 2022 → 51.8 in first quarter of 2023 → 54.2 in April.
2) World merchandise trade volume (CPB, quarter-on-quarter, %): -1.9 in fourth quarter of 2022 → 0.3 in January → -0.9 in February.
3) Private consumption in Japan (quarter-on-quarter, %): 0.0 in third quarter of 2022 → 0.2 in fourth quarter of 2022 → 0.6 in first quarter of 2023.
4) Export growth rate in ASEAN-5 countries (year-on-year, %): -1.0 in fourth quarter of 2022 → -5.0 in first quarter of 2023.

Table I-1. Economic growth in major economies[1)2)]

(%)

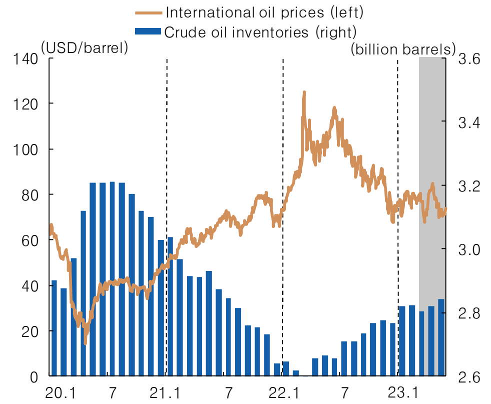
	2020	2021	2022					2023
	Year	Year	Year	Q1	Q2	Q3	Q4	Q1
World	-2.8	6.3	3.4	-	-	-	-	..
Advanced Economies	-4.2	5.4	2.7	-	-	-	-	..
U.S.	-2.8	5.9	2.1	-0.4	-0.1	0.8	0.6	0.3
Euro Area	-6.1	5.4	3.5	0.6	0.9	0.4	0.0	0.1
Japan	-4.3	2.2	1.0	-0.5	1.1	-0.2	0.0	0.4
Emerging market and developing economies	-1.8	6.9	4.0	-	-	-	-	..
China	2.2	8.4	3.0	4.8	0.4	3.9	2.9	4.5
India[3)]	-5.8	9.1	7.0	4.0	13.1	6.2	4.5	6.1
ASEAN-5[4)]	-3.8	3.4	5.9	4.9	6.0	7.8	5.1	4.7
Brazil	-3.3	5.2	2.9	2.4	3.7	3.6	1.9	..
Russia	-2.7	5.6	-2.1	3.0	-4.5	-3.5	-2.7	-1.9

Notes: 1) Based on IMF statistics, except in the cases of individual countries, the euro area, and ASEAN-5 which are based on their own published statistics.
2) The quarterly rates of growth are quarter-on-quarter (seasonally adjusted) for advanced economies, and year-on-year for the others.
3) The annual growth rates are based on the fiscal year (April of the current year to March of the next year).
4) Indonesia, Thailand, Malaysia, the Philippines, and Vietnam.
Sources: IMF, Individual countries' published statistics.

International oil prices decline to mid-70 dollar range

International oil prices (Dubai Crude) fluctuated significantly due to changes in global supply and demand factors, such as the collapse of Silicon Valley Bank and the merger of Credit Suisse in March (hereinafter, the "SVB-CS incident"), and the production cut decision made by OPEC+ in April, and declined substantially amid growing concern over an economic downturn in major economies after mid-April. Recently, international oil prices were around the mid-70 dollar range.

Figure I-2. International oil prices and crude oil inventories[1)]



Note: 1) Based on OECD commercial oil inventories.
Sources: Bloomberg, EIA.

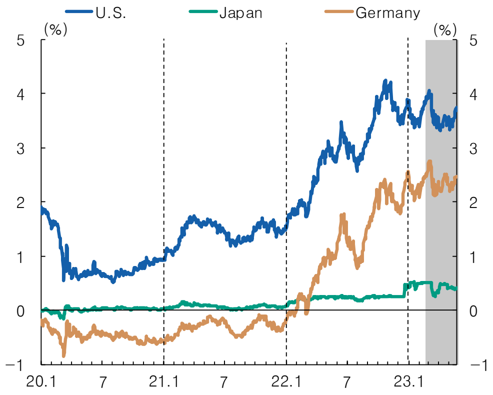
Volatility in international financial markets moderates after surge

In international financial markets, the volatility of major price variables increased significantly[5)] after March due to a variety of overlapping issues. These included concerns over the stability of major banking systems due to the SVB-CS incident, ongoing worries about persistent inflation, and an economic slowdown, together with central bank responses to these issues, and the U.S. government's debt ceiling negotiations (X-date[6)]).

5) The U.S. interest rate volatility index (MOVE) rose significantly from 123.6 at the end of February 2023 to 198.7 on March 15, exceeding the peak it had reached during COVID-19 (163.7 on March 9, 2020), but it began to slide from late March, reaching 132.3 on May 24. The U.S. stock price volatility index (VIX) climbed to 26.5 on March 13, 2023, and fell to 20.0 on May 24.

U.S. Treasury bond yields fell significantly as expectations for the U.S. Federal Reserve's early termination of its tightening stance spread, due mainly to concerns about the stress on banks and despite the 25 bp policy rate hike made by the U.S. Federal Reserve in March 2023. After mid-May, U.S. Treasury bond yields rose again after fluctuating within a narrow range. German government bond yields declined due to unrest in the banking system and then rose on expectations of an interest rate hike by the ECB[7] after the fluctuations. Japanese government bond yields moved in tandem with the interest rates of major countries, but remained within the tolerance range of its long-term yields (±0.5%).

Figure I-3. Long-term market interest rates[1] in major economies



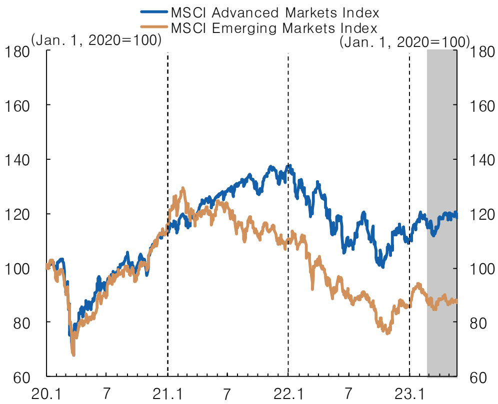
Note: 1) Treasury bond (10-year) yields.
Source: Bloomberg.

Stock prices in advanced countries fell, driven by the banking sector, as risk aversion sentiment surged after the SVB-CS incident and then rebounded on expectations that the U.S. Federal Reserve would ease its tightening stance. Although bank stocks fell due to concern over small and medium-sized banks, as the favorable earnings of big tech firms led technology stocks to rise, the stock market was modest overall. Stock prices in emerging market economies showed generally similar trends to those in advanced countries, being affected by the change in global risk aversion sentiment. However, from May 2023, with some economic indicators in China showing signs of a slowdown[8], stock prices

6) This refers to the time at which the federal government is unable to meet its payment obligations due to the depletion of operating funds in the account that the Department of Treasury maintains with the Federal Reserve, the Treasury General Account (TGA).
7) CPI inflation in the euro area remained at around 7%, and core inflation moderated at a slower pace, leaving expectations regarding the ECB's rate hikes unabated. However, with the assessment that the policy rate had nearly peaked emerging after the ECB's 25 bp rate hike in May 2023, market projection for Treasury bond yields were adjusted downward.
8) In April 2023, China's manufacturing purchasing manager's index (PMI) edged down to 49.2, falling below the benchmark (50) for the

were relatively lackluster.

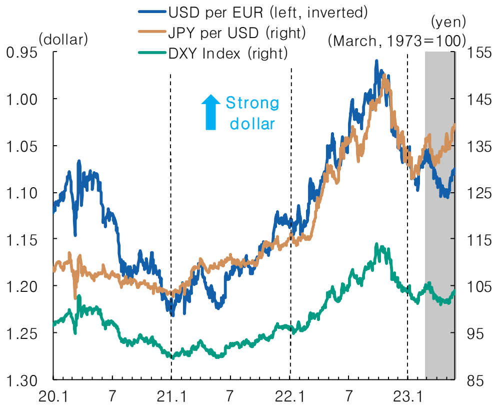
Figure I-4. Stock price indices of advanced and emerging markets



Source: Bloomberg.

The U.S. dollar retreated with growing expectations that the U.S. Federal Reserve may terminate its interest rate hikes. However, the U.S. currency fluctuated after mid-May, driven by more-favorable-than-expected economic indicators[9] and U.S. debt ceiling negotiations. The U.S. dollar weakened against the euro as the expected gap between the policy rates of the U.S. Federal Reserve and the ECB narrowed[10] amid persistent expectations that the ECB would increase interest rates due to continued high inflation in the euro area. The U.S. dollar fell against the Japanese yen after the SVB-CS incident and regained strength as the Bank of Japan decided to maintain its ultra-loose monetary policy in late April.[11]

Figure I-5. U.S. dollar exchange rates[1] and index



Note: 1) Based on the New York market rate at 16:30.
Sources: Reuters, Bloomberg.

first time since reopening, and real economy indicators, such as industrial production and retail sales, were in a slump in April, raising market concern over slower growth in China.

9) The U.S. unemployment rate for April 2023 was 3.4%, the lowest since May 1969, and non-farm payroll for April 2023 increased by 253,000 over the previous month, beating the forecasted growth of 185,000.

10) The gap in policy rate expectations between the U.S. Federal Reserve and the ECB for the end of 2023 (Fed fund rate - ECB deposit facility rate) narrowed significantly from 148.4 bp at the end of February 2023 to 111.9 bp on May 24.

11) At the first monetary policy meeting (April 27-28, 2023) hosted by its new governor, Kazuo Ueda, the Bank of Japan decided to leave its ultra-loose monetary policy untouched and review the overall status of its monetary policy for the following year. The Japanese yen depreciated on the assessment that the loose monetary policy was less likely to be adjusted soon.

2. Real Economy

(1) Economic growth

Domestic economic growth continues to slow

Korea's economic growth continued to slow as exports remained sluggish, although the trend of recovery in private consumption resumed. Accordingly, real GDP growth in the first quarter shifted to an increase of 0.3% from the preceding quarter, led by private consumption, but its year-on-year growth (+0.9%) was lower than that in the fourth quarter of last year (+1.4%). In April, with exports still on a downward trend, consumption underwent an adjustment.

Table I-2. Major economic growth indicators[1]

(QoQ, %)

	2020	2021	2022					2023
	Year	Year	Year	Q1	Q2	Q3	Q4	Q1[2]
Real GDP	-0.7	4.3	2.6	0.7 (3.1)	0.8 (2.9)	0.2 (3.2)	-0.3 (1.4)	0.3 (0.9)
(Private consumption)	-4.8	3.6	4.1	-0.6 (4.0)	2.9 (4.1)	1.6 (5.2)	-0.5 (3.3)	0.6 (4.6)
(Government consumption)	5.1	5.5	4.0	0.1 (6.5)	1.0 (3.6)	0.1 (2.2)	2.5 (3.6)	0.4 (4.0)
(Facilities investment)	7.2	9.3	-0.9	-4.2 (-7.3)	1.6 (-6.7)	7.0 (4.4)	2.4 (6.5)	-5.0 (5.9)
(Construction investment)	1.5	-1.6	-2.8	-2.5 (-3.8)	-0.6 (-3.7)	-0.1 (-2.0)	1.3 (-1.8)	1.3 (1.9)
(Goods exports)	-0.2	10.7	3.6	4.2 (6.7)	-2.6 (5.2)	0.2 (5.6)	-4.2 (-2.5)	5.1 (-1.7)
(Goods imports)	0.3	12.6	4.3	0.0 (6.6)	-1.8 (2.9)	5.7 (8.5)	-3.9 (-0.3)	4.6 (4.3)

Notes: 1) Figures in parentheses are year-on-year changes in the original series.
2) Reflects preliminary figures.
Source: Bank of Korea.

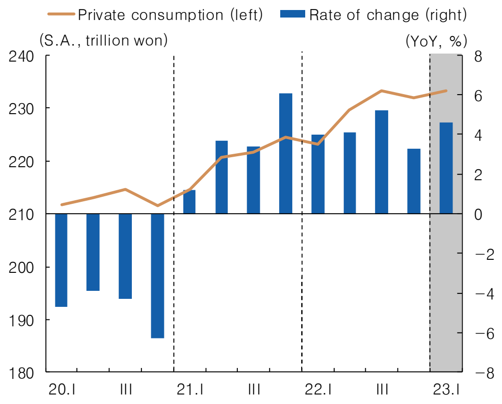
(A) Expenditures

Private consumption resumes gradual recovery, government spending rises slightly

In the first quarter, private consumption (in GDP) rose by 0.6% quarter-on-quarter (+4.6% year-on-year) thanks to the lifting of more COVID-19 restrictions. By type, the consumption of goods decreased as non-durable goods, such as food and beverages, fell due to an increase in outdoor activities, while service consumption increased, led by face-to-face services, such as entertainment & culture and food & accommodations. In April, the Retail Sales Index released by Statistics Korea decreased by 2.3% month-on-month (-1.1% year-on-year) as passenger cars and clothing were adjusted downward after recording sharp increases in February and March.

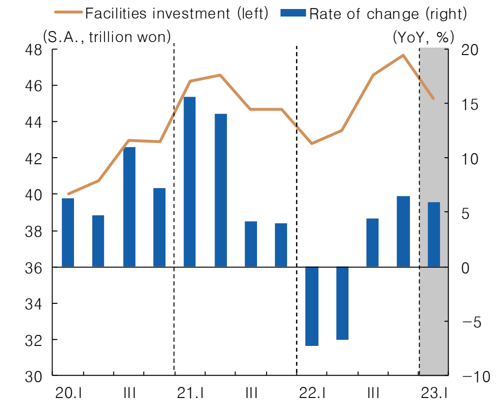
Government consumption edged up by 0.1% quarter-on-quarter (+3.9% year-on-year) as health insurance benefit expenditures climbed due to a rise in respiratory diseases after the lifting of more COVID-19 restrictions and despite the decrease in spending on goods and services in the first quarter.

Figure I-6. Private consumption[1)]



Note: 1) Reflects preliminary figures.
Source: Bank of Korea.

Figure I-7. Facilities investment[1)]



Note: 1) Reflects preliminary figures.
Source: Bank of Korea.

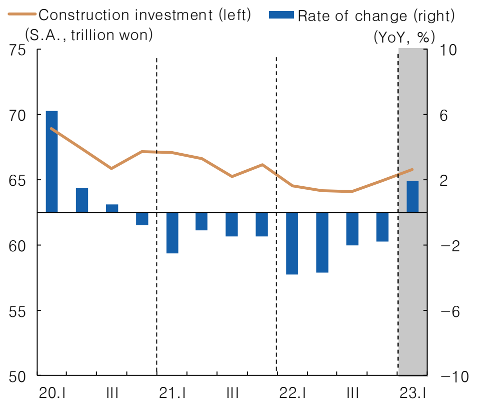
Facilities investment shrinks

In the first quarter, facilities investment declined by 5.0% quarter-on-quarter (+5.9% year-on-year) due to the impact of the sluggish IT business. By sector, while transport equipment investment increased mostly in automobiles, investment in machinery decreased as investment in semiconductor and display manufacturing equipment fell significantly amid the IT business slump. The Equipment Investment Index for April published by Statistics Korea rose by 0.9% month-on-month (+4.4% year-on-year) as investment in transport equipment, such as aircraft, soared due to the growing demand for overseas travel, despite the sluggish investment in machinery.

Stagnation in construction investment eases

In the first quarter, construction investment rose by 1.3% quarter-on-quarter (+1.9% year-on-year) as the pace of progress on projects already underway increased thanks to favorable weather conditions. By sector, building construction increased, led by reconstruction projects and plant construction, while civil construction fell due to the reduction in the social overhead capital (SOC) budget. The value of construction for April released by Statistics Korea rose by 1.2% over the previous month (+12.2% year-on-year).

Figure I-8. Construction investment[1)]



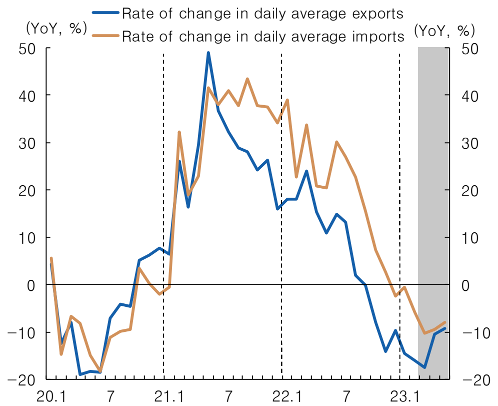
Note: 1) Reflects preliminary figures.
Source: Bank of Korea.

Exports continue to decline, recording current account deficits

In the first quarter, exports on a customs clearance basis continued to decline rapidly, owing to the limited effect of the Chinese reopening and deepening slump in the IT business. Exports in the IT sector fell substantially due to a decline in semiconductor prices and sluggish demand for downstream industries related to mobile phones and servers. Exports of non-IT sectors differed by item. Exports of automobiles soared thanks to the easing of supply chain disruptions in parts and favorable demand for eco-friendly vehicles, and exports of ships climbed, as well, due to the delivery of accumulated orders. On the other hand, exports of chemical and steel products showed a downward trend amid the slowdown in the global manufacturing industry. By region, while exports to the United States and euro area increased, exports to China and to the ASEAN-5 economies fell significantly. After April, exports continued to decline, driven by sluggish exports to China[12)] and of IT products.

In the first quarter, imports on a customs clearance basis shifted to a moderate decline compared with the same period last year. Imports of raw materials fell due to a decline in energy prices, imports of capital goods declined amid the sluggishness of the IT business, and imports of most consumer goods, except for passenger cars, decreased. After April, imports continued their downward trend across all products.

Figure I-9. Daily average exports and imports calculated on customs clearance basis



Source: Korea Customs Service.

12) Daily average of exports to China (year-on-year, %): -23.4 in fourth quarter of 2022 → -32.4 in first quarter of 2023 → -23.2 in April → -15.3 in May.

In the first quarter, the current account balance recorded a deficit of USD 4.5 billion, due largely to the deficit in the goods account as exports slowed and energy imports remained high. The services account continued to register a deficit as the transportation and travel accounts deteriorated with a decline in the volume of exports and imports and an increase in overseas travel. However, the primary income account saw its surplus expand significantly as dividend revenue increased following recent tax reforms.[13]

Table I-3. Current account

(hundred million dollars, %)

	2021	2022					2023		
	Year	Year	Q1	Q2	Q3	Q4	Q1	Apr.	May
Current Account	852	298	149	100	9	41	-45	..	..
Goods[1]	757	151	115	99	-39	-24	-97	..	..
Exports[2]	6,444	6,836	1,734	1,771	1,740	1,590	1,513	496	522
(Rate of change[3])	25.7	6.1	18.4	13.0	5.8	-10.0	-12.7	-14.3	-15.2
Imports[2]	6,151	7,314	1,779	1,835	1,923	1,776	1,739	522	543
(Rate of change[3])	31.5	18.9	30.2	23.0	22.6	3.1	-2.2	-13.3	-14.0
Services	-53	-55	-6	-4	-23	-23	-72	..	..
Credit	1,199	1,302	318	338	325	321	279	..	..
Debit	1,252	1,357	324	341	348	344	351	..	..
Primary Income	194	229	45	14	79	91	133	..	..
Secondary income	-47	-26	-5	-9	-8	-3	-8	..	..

Notes: 1) Balance of payments basis.
2) Customs-clearance basis.
3) Year-on-year.
Sources: Bank of Korea, Korea Customs Service.

(B) Production

By economic activity, in the first quarter, the manufacturing industry continued its sluggishness, while the service industry remained favorable. The Index of All-Industry Production (IAIP) for April published by Statistics Korea showed that production decreased by 1.4% month-on-month (-0.8% year-on-year), led by public administration (-12.4%) and the manufacturing industry (-1.2%).

Table I-4. Production indicators[1]

(QoQ, %)

	2020	2021	2022					2023
	Year	Year	Year	Q1	Q2	Q3	Q4	Q1[2]
GDP by production approach	-0.7	4.3	2.6	0.7 (3.1)	0.8 (2.9)	0.2 (3.2)	-0.3 (1.4)	0.3 (0.9)
(Manufacturing)	-1.1	7.1	1.5	2.3 (3.1)	-0.2 (2.7)	-0.6 (3.0)	-3.9 (-2.6)	1.3 (-3.3)
(Electricity · gas · water supply)	4.1	2.7	1.9	2.1 (1.5)	-0.2 (2.4)	-0.3 (1.9)	0.1 (1.7)	-3.2 (-3.3)
(Construction)	-1.3	-1.9	0.7	-0.5 (-1.3)	-1.4 (-1.5)	2.1 (1.9)	2.9 (3.2)	3.0 (6.8)
(Services)	-0.8	3.8	4.2	0.4 (4.1)	1.7 (4.4)	0.6 (4.4)	1.1 (3.9)	0.0 (3.4)

Notes: 1) Figures in parentheses are year-on-year changes in the original series.
2) Reflects preliminary figures.
Source: Bank of Korea.

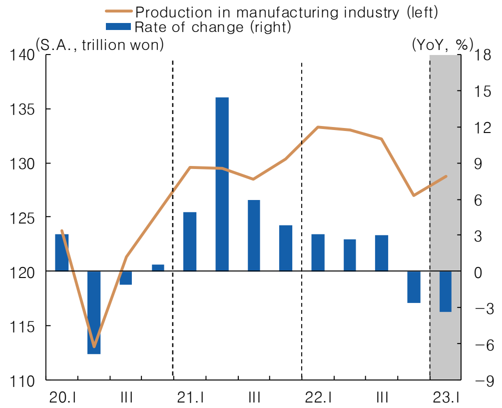
Manufacturing sluggishness continues

After a sharp decline in the fourth quarter of last year, manufacturing production increased

13) With the revision of the Corporate Tax Act (creation of a provision for "the exclusion of dividends received from foreign subsidiaries from gross income"), the tax rate on dividends received in Korea from subsidiaries overseas was reduced (enacted in January 2023).

by 1.3% quarter-on-quarter as the production of automobiles increased remarkably due to an improvement in supply disruptions in parts in the first quarter. However, because of the IT sector's persistent downward trend, production in the manufacturing industry remained low (-3.3% year-on-year). The Manufacturing Industry Production Index for April published by Statistics Korea declined by 1.2% month-on-month (-9.0% year-on-year), led by non-IT sectors, such as machinery, medicine & medical supplies, and steel.

Figure I-10. Manufacturing production[1)]

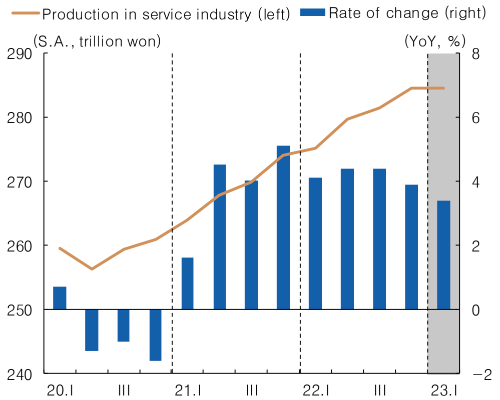


Note: 1) Reflects preliminary figures.
Source: Bank of Korea.

Service industry remains favorable

In the first quarter, production in the service industry remained unchanged quarter-on-quarter as medical and health services and social welfare services continued to grow, while wholesale & retail trade and food & accommodation services slowed after having expanded significantly for three consecutive quarters. The Index of Services for April published by Statistics Korea declined by 0.3% month-on-month (+3.1% year-on-year) as production in transportation services & warehousing and in food & accommodation services decreased, while financial & insurance services and health & social welfare services both increased.

Figure I-11. Service production[1)]



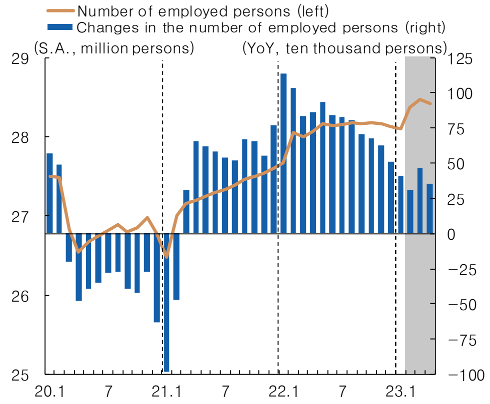
Note: 1) Reflects preliminary figures.
Source: Bank of Korea.

(2) Employment

Growth in employed persons slows

While employment conditions remained favorable overall, growth in the number of persons employed continued to slow at a modest pace. The number of persons employed in April rose by 354,000 year-on-year and declined by 47,000 month-on-month on a seasonally-adjusted basis after recording an increase for two consecutive months.

Figure I-12. Number of employed persons



Source: Statistics Korea.

By industry, the number of persons employed in the manufacturing industry declined for four consecutive months owing primarily to sluggish exports, and the number employed in the construction industry declined by a larger margin. The number of employed persons in face-to-face services, such as food & accommodation services, rose as face-to-face activities increased with the lifting of more COVID-19 restrictions at the beginning of the year, and the number employed in health & welfare services continued to rise significantly amid a surge in demand for care and social welfare services. On the other hand, the number of persons employed in wholesale & retail trade continued to decline, showing continued stagnation.

Table I-5. Changes in the number of employed persons by industry

(YoY, ten thousand persons)

	2021	2022				2023		
	Year	Year	Q2	Q3	Q4	Q1	Mar.	Apr.
Changes in the number of employed persons	36.9	81.6	88.0	78.0	60.4	39.7	46.9	35.4
Manufacturing	-0.8	13.5	13.2	21.4	12.9	-3.7	-4.9	-9.7
Construction	7.4	3.3	5.7	-0.6	0.4	-2.1	-2.0	-3.1
Services	29.2	57.5	58.9	47.4	43.8	46.9	50.0	46.9
(Wholesale & Retail)	-15.0	-4.1	-3.1	-1.6	-7.0	-6.8	-6.6	-6.2
(Transportation & Warehousing)	10.3	6.9	11.1	6.1	-0.7	-3.5	-1.0	-1.3
(Accommodation & Food)	-4.7	8.4	1.1	7.2	20.0	18.9	17.7	17.1
(Information & Communication)	5.4	8.0	8.6	7.7	5.4	6.0	6.5	3.0
(Education)	4.2	6.2	7.0	5.8	3.0	0.2	0.8	0.7
(Personal services)	-5.5	-1.6	-1.2	-2.9	0.6	2.6	2.9	2.4
(Public administration)	3.1	7.1	9.0	6.9	6.7	3.4	1.4	1.8
(Health)	19.8	18.0	19.5	12.3	15.1	19.9	18.6	14.8

Source: Statistics Korea.

By employment status, the increase in the number of regular workers slowed gradually, and the number of temporary and daily workers continued to decline. As for non-salaried workers, while the number of self-employed businesses increased, the number of unpaid family workers continued to decline. By age, the number of persons employed among seniors (aged 60 and over) continued to grow by a large margin, and the number of persons employed in the prime-working age group (30- to 59-years-old) also increased slightly. However, the number of persons employed among the youth (15- to 29-years-old) fell significantly.

Table I-6. Changes in the number of employed persons by employment status and age group

(YoY, ten thousand persons)

	2021	2022				2023		
	Year	Year	Q2	Q3	Q4	Q1	Mar.	Apr.
Changes in the number of employed persons	36.9	81.6	88.0	78.0	60.4	39.7	46.9	35.4
By employment status								
Wage and salaried worker	42.1	74.9	83.8	69.4	54.0	40.7	43.3	28.8
(Regular workers)	36.6	80.5	90.9	87.3	68.4	51.4	49.7	46.4
(Temporary & Daily workers)	5.5	-5.7	-7.1	-17.9	-14.4	-10.7	-6.4	-17.6
Self-employed workers	-5.3	6.8	4.2	8.7	6.4	-1.0	3.6	6.6
(Self-employed businesses with employees)	-6.5	5.8	7.5	7.5	4.0	6.3	8.1	5.5
(Self-employed businesses without employees)	4.7	6.1	2.4	7.5	8.5	-0.7	1.0	5.6
(Unpaid family workers)	-3.5	-5.2	-5.7	-6.3	-6.1	-6.6	-5.5	-4.5
By age group								
Aged 15~29	11.5	11.9	16.2	6.3	-0.3	-8.8	-8.9	-13.7
Aged 30~39	-10.7	4.6	1.9	8.4	5.6	2.2	2.4	1.5
Aged 40~49	-3.5	0.3	1.8	-0.9	-2.5	-6.8	-6.3	-2.2
Aged 50~59	6.6	19.6	23.0	18.1	11.6	7.8	5.0	5.5
Aged 60 and over	33.0	45.2	45.1	46.1	46.0	45.3	54.7	44.2

Source: Statistics Korea.

In April, the ratio of employment to population (seasonally adjusted) and the unemployment rate (seasonally adjusted) stood at 62.6% and 2.6%, respectively, both down 0.1%p from the previous month. The extended unemployment rate (Labor Underutilization Indicator 3, original series)14), which includes the number of time-related underemployed persons and the potential labor force, dropped by 1.8%p year-on-year to 9.1%. The number of temporarily-absent workers15) fell by 83,000 year-on-year to 374,000 in April.

Figure I-13. Employment-to-population ratio and unemployment rate

Source: Statistics Korea.

14) The extended unemployment rate encompasses the unemployed, those working part-time and searching for jobs at the same time, and potential job seekers who are not seeking work but who wish to work.

<table>
<tr><td rowspan="3">Employment Indicators</td><td colspan="3">Economically active population</td><td colspan="3">Economically inactive population</td></tr>
<tr><td colspan="2">Employed persons</td><td rowspan="2">Unemployed persons</td><td colspan="2">Potential labor force</td><td rowspan="2">Others</td></tr>
<tr><td>Others</td><td>Time-related underemployed persons1)</td><td>Unavailable potential jobseekers2)</td><td>Available potential jobseekers3)</td></tr>
<tr><td rowspan="3">Range of labor underutilization indicators</td><td></td><td colspan="2">Labor underutilization indicator 1</td><td colspan="3"></td></tr>
<tr><td colspan="2"></td><td colspan="3">Labor underutilization indicator 2</td><td></td></tr>
<tr><td></td><td colspan="4">Labor underutilization indicator 3</td><td></td></tr>
</table>

Notes: 1) Those who work less than 36 hours per week but want to and can work additional hours.
2) Those seeking work over the past four weeks but are unable to work during the surveyed week.
3) Those not seeking work for the past four weeks but who want to work and who are available to work during the surveyed week.

15) Temporarily-absent workers are defined as people with jobs or businesses who are unable to work due to a temporary illness, accident, annual leave, holiday, education, training, or business slump or shutdown, among other factors, but who would be able to work again if these situations were resolved.

Table I-7. Ancillary indicators related to employment

(ten thousand persons, %)

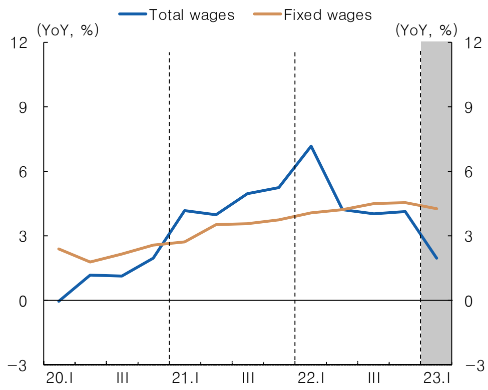
	2021	2022				2023		
	Year	Year	Q2	Q3	Q4	Q1	Mar.	Apr.
Labor underutilization indicator 1[1]	7.4	5.8	5.9	5.3	5.1	5.7	5.5	5.3
Labor underutilization indicator 2[2]	9.7	7.9	8.0	7.3	7.0	7.5	7.0	6.6
Labor underutilization indicator 3[3]	13.3	10.6	10.7	10.1	9.5	9.9	9.4	9.1
Temporarily absent workers	49.0	48.3	41.2	49.9	41.2	51.5	36.0	37.4

Notes: 1) (Unemployed persons + time-related underemployed persons) / economically active population.
2) (Unemployed persons + potential labor force) / (economically active population + potential labor force).
3) (Unemployed persons + time-related underemployed persons + potential labor force) / (economically active population + potential labor force).
Source: Statistics Korea.

Nominal wage growth slows

Nominal wages rose by 2.0% year-on-year in the first quarter, indicating a deceleration in their upward trend. The wages of regular workers rose by 2.4% year-on-year as the growth of fixed wages slowed moderately and as special wages declined due to underperforming corporate earnings and due to the base effect of a significant increase in the previous year. Wage growth for temporary and daily workers declined significantly to 0.9%.

Figure I-14. Nominal wage growth[1] (per employee)



Note: 1) Based on firms with one or more permanent employees.
Source: Ministry of Employment and Labor.

Table I-8. Nominal wage growth by category

(YoY, %)

	2021	2022					2023
	Year	Year	Q1	Q2	Q3	Q4	Q1
Total wage[1]	4.6	4.9	7.2	4.2	4.0	4.1	2.0
Regular workers	4.7	5.2	7.6	4.4	4.3	4.3	2.4
(Fixed wages)	3.4	4.3	4.1	4.2	4.5	4.5	4.3
(Excess wages)	3.7	5.7	5.7	5.9	6.3	5.1	-0.2
(Special wages)	14.3	10.4	25.0	5.7	2.6	2.8	-4.5
Temporary & daily workers	3.9	2.8	3.3	2.4	2.6	2.8	0.9

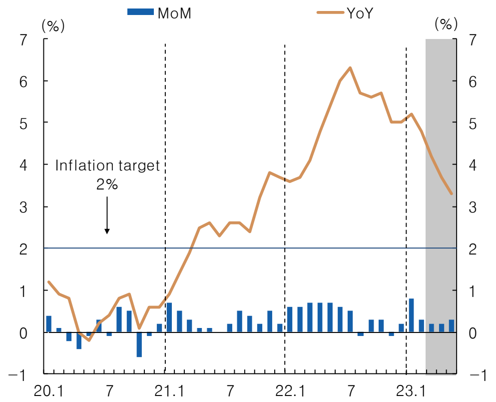
Note: 1) Based on firms with one or more permanent employees.
Source: Ministry of Employment and Labor.

3. Prices

Consumer price inflation slows to around 3% range

Consumer price inflation has been sustaining its slowing trend since the middle of last year, falling to the 3% range in the second quarter this year. This is mainly attributed to the significant decline in the prices of petroleum products year-on-year, along with the substantial base effect of the sharp increase in international oil prices last year. Core inflation has been continuing its moderating trend since the end of last year, but the trend has been decelerating at a significantly slower pace.

Figure I-15. CPI inflation

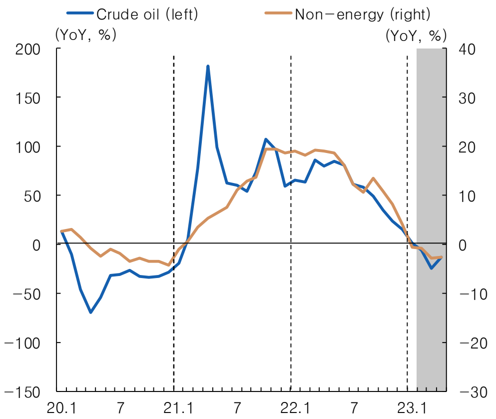


Sources: Bank of Korea, Statistics Korea.

Looking at overseas factors affecting consumer price inflation, international oil prices[16] declined significantly year-on-year, recently fluctuating at around the 70 dollar range, with the Korean won/U.S. dollar exchange rate[17] fluctuating at slightly above 1,300 won. As a result, crude oil import prices[18] have maintained their downward trend year-on-year since February this year. In addition, non-energy import prices[19] have continued to fall year-on-year since this year as the decline in commodity prices increased.[20]

16) The rate of increase in international oil prices (Dubai Crude, year-on-year) fell from -18.2% in the first quarter of this year to -27.3% during April and May this year, showing an accelerating decline.
17) The rate of change in the Korean won/U.S. dollar exchange rate (year-on-year) in the first quarter of this year was 5.9% and remained at a similar level in April and May.
18) The rate of increase in crude oil import prices (Korean won basis, year-on-year) continued to decline from 25.0% in the fourth quarter of last year to -11.2% in the first quarter of this year and to -13.1% in April.
19) The rate of increase in non-energy import prices (Korean won basis, year-on-year) decelerated from 7.7% in the fourth quarter of last year to -1.4% in the first quarter of this year and further to -2.7% in April.
20) The rate of increase in non-energy international commodity prices (S&P GSCI, year-on-year) decelerated from -0.4% in the fourth quarter of last year to -7.8% in the first quarter of this year and further to -14.6% during April and May.

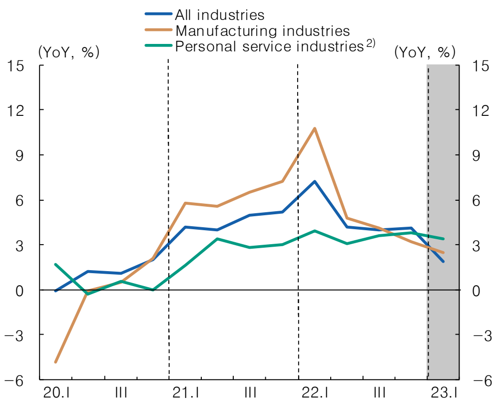
Figure I-16. Import prices (Korean won basis)



Source: Bank of Korea.

As for domestic factors, consumption and employment, mostly in the service industry, have been showing a good recovery. On the cost side, the wage growth rate is slowing, led by the manufacturing industry.

Figure I-17. Nominal wage growth (per employee), by industry[1)]



Notes: 1) Based on firms with one or more permanent employees.
2) Simple average of the wage increase in the industries related to personal services such as the accommodation and food service industries.
Source: Ministry of Employment and Labor.

As for other factors, the decline in petroleum product prices has intensified since shifting to a decline year-on-year in February. The upward trend in prices of processed foods has been slowing from a high level since March this year. Regarding government policies, electricity fees were raised in January this year, and electricity and gas fees were hiked in May.[21)] There is high uncertainty over whether or not public utility charges will be raised further.

Looking at changes in consumer price inflation by product, growth in the prices of agricultural and livestock products slowed this year and declined slightly in May year-on-year, mainly due to the increased pace in the decline in livestock prices. Prices of petroleum products fell at a faster pace due to the base effect from the sharp rise in international oil prices last year. Prices of industrial products except for petroleum products slowly moderated as the prices of textile products and durable goods climbed at a higher rate despite the slower rise in prices of processed food. As for service prices, the growth rate of public service prices remained low, rising by about 1%, and housing rents continued to slow.[22)] Meanwhile, personal service prices increased at a slower pace in May after sustaining a rigidly upward trend.

21) In January this year, electricity fees were raised by 13.1 won/kWh, and on May 16, electricity and gas fees were raised by 8 won/kWh and 1.04 won/MJ, respectively.

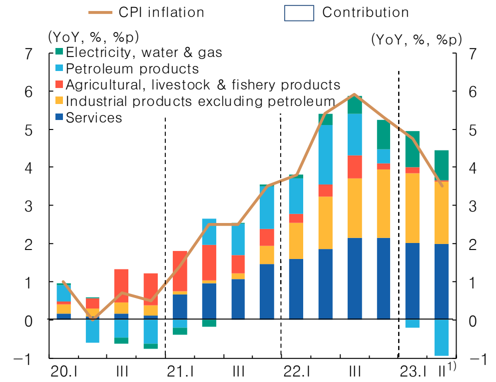
Table I-9. CPI inflation

(YoY, %)

	2021	2022					2023		
	Year	Year	Q1	Q2	Q3	Q4	Q1	Apr.	May
Consumer Price Index	2.5	5.1	3.8	5.4	5.9	5.3	4.7	3.7	3.3
Agricultural, livestock & fishery products	8.7	3.8	2.7	3.6	6.8	1.9	1.7	1.0	-0.3
(Agricultural products)	8.3	2.4	-0.6	-0.2	9.2	1.2	1.9	1.1	1.9
(Livestock products)	12.7	6.0	9.3	9.9	4.5	1.1	-1.0	-1.1	-5.8
Industrial products	2.3	6.9	5.4	8.5	7.5	6.1	4.7	2.0	1.8
(Petroleum products)	15.2	22.2	22.5	36.3	23.7	7.6	-4.1	-16.4	-18.0
(Industrial products excluding petroleum)	0.6	4.7	3.1	4.5	5.1	5.9	6.1	5.4	5.4
Electricity, water & gas	-2.1	12.6	2.9	8.7	15.3	23.1	28.4	23.7	23.2
Services	2.0	3.7	3.0	3.5	4.1	4.1	3.8	4.0	3.7
(Housing rent)	1.4	1.9	2.1	2.0	1.8	1.5	1.1	0.8	0.6
(Public service charges)	1.0	0.8	0.8	0.7	0.7	0.8	1.0	1.0	1.0
(Private service charges)	2.6	5.4	4.2	5.1	6.1	6.2	5.8	6.1	5.6
CPI for living necessities	3.2	6.0	4.4	6.6	7.1	5.9	5.3	3.7	3.2
CPI excluding food & energy	1.4	3.6	2.8	3.5	4.0	4.2	4.0	4.0	3.9
CPI excluding agricultural products & oils	1.8	4.1	3.2	4.0	4.5	4.8	4.9	4.6	4.3

Source: Statistics Korea.

Figure I-18. Contributions to CPI inflation



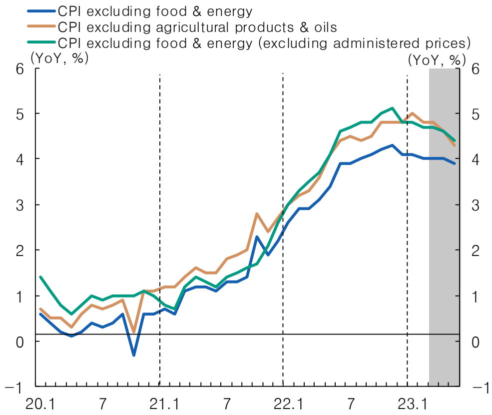
Note: 1) From April to May 2023.
Sources: Bank of Korea, Statistics Korea.

Core inflation continues to moderate at a slow pace

Core inflation (excluding changes in food and energy prices from the CPI) remained firmly at around 4% this year and slipped slightly in May. Taking into account the significant impact of government policies on core inflation, core inflation excluding administered prices[23] remained in the mid-4% range in May.[24]

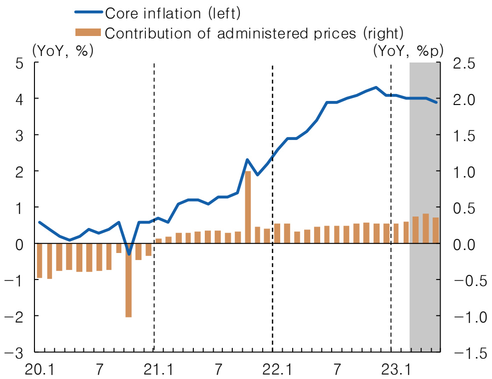
22) The rate of increase in leasehold deposit prices (Korea Real Estate Board, year-on-year) declined from -3.2% in the fourth quarter of last year to -9.2% in the first quarter of this year and further to -11.0% in April, showing an accelerating decline.
23) Administered prices refers to the prices of public services, electricity, water, gas, and mobile phone service, which are greatly affected, both directly and indirectly, by government policies. Core inflation excluding administered prices is calculated by leaving out the administered prices from core inflation (excluding food and energy).
24) Core inflation excluding administered prices is higher than core inflation (excluding food and energy prices) because the rate of growth in the prices of public services, one of the items included in administered prices, still remains at a lower rate of increase than other core items.

Figure I-19. Core inflation



Sources: Bank of Korea, Statistics Korea.

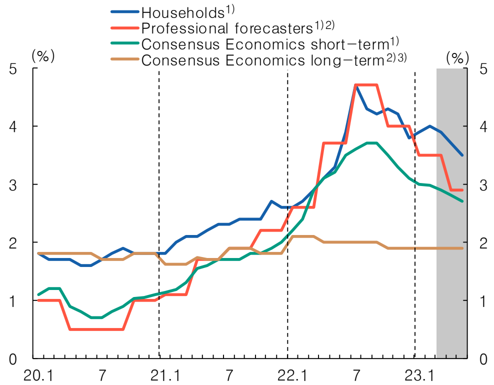
Figure I-20. Contribution of administered prices to core inflation[1]



Note: 1) Excluding food & energy.
Sources: Bank of Korea, Statistics Korea.

Short-term inflation expectations (1-year ahead) of households declined to the mid-3% range after March.[25] Long-term inflation expectations (5-years ahead) among professional forecasters remained generally stable at around the target level (2%).

Figure I-21. Inflation expectations



Notes: 1) Expected CPI inflation rates for the next 12 months.
2) Surveyed four times a year (in the first month of every quarter).
3) Expected CPI inflation rates after five years.
Sources: Bank of Korea, Consensus Economics.

Reduction of declines in housing sales and leasehold deposit prices

Nationwide housing sale prices showed smaller declines, influenced by the easing of the government's real estate-related regulations and declines in lending rates.[26] Sentiment indicators, including the housing price forecast CSI (Consumer Sentiment Index), remained low, but have been improving since December last year.[27] By region, in April, the decline in housing sale

25) The short-term inflation expectations of households (1-year ahead) fell from 3.9% in March this year to 3.7% in April and to 3.5% in May.
26) Interest rates on home mortgage loans (new-loan basis, %): 4.73 in fourth quarter of 2022 → 4.58 in January 2023 → 4.56 in February → 4.40 in March.
27) Housing price forecast CSI (base value=100): 107.7 in second quarter of 2022 → 75 in third quarter → 64 in October → 61 in November → 62 in December → 68 in January 2023 → 71 in February → 80 in March → 87 in April → 92 in May.

prices eased, led by Seoul, Gyeonggi, and Incheon for the Seoul metropolitan area[28], and led by Daejeon, Ulsan, and Busan for the rest of the country.[29] After mid-May, housing sale prices rose slightly in some regions, such as Seoul and Sejong.[30]

Nationwide, leasehold deposit (*jeonse*) prices also showed smaller declines, as declines in lending rates led to increased demand for *jeonse*.[31] After mid-May, however, *jeonse* prices rose slightly in Seoul and Sejong.[32]

Table I-10. Rate of increase in housing sales and leasehold(*jeonse*) deposit prices

(%)

	2021	2022					2023		
	Year[1]	Year[1]	Q1[1]	Q2[1]	Q3[1]	Q4[1]	Q1[1]	Mar.[2]	Apr.[2]
Housing sales prices	9.9	-4.7	0.1	0.1	-0.8	-4.1	-3.4	-0.8	-0.5
Seoul Metropolitan area	12.8	-6.5	0.0	-0.1	-1.2	-5.3	-4.1	-0.9	-0.5
(Seoul)	6.5	-4.8	0.0	0.1	-0.8	-4.1	-2.6	-0.5	-0.3
Other areas	7.4	-3.0	0.3	0.2	-0.5	-3.0	-2.7	-0.7	-0.4
Sales prices of apartments for reconstruction	17.0	-2.8	0.5	0.4	-1.0	-2.7	-1.9	-0.5	-0.2
Leasehold (*jeonse*) deposit prices	6.5	-5.6	0.1	0.0	-0.9	-4.8	-5.1	-1.1	-0.6
Seoul Metropolitan area	7.7	-8.0	-0.1	-0.1	-1.2	-6.7	-7.0	-1.4	-0.7
(Seoul)	4.9	-6.5	-0.1	-0.1	-0.7	-5.8	-6.3	-1.3	-0.6
Other areas	5.5	-3.3	0.2	0.0	-0.5	-3.0	-3.4	-0.9	-0.5

Notes: 1) Compared to the last survey dates of the previous period.
2) Month-on-month.

Sources: Korea Real Estate Board, Real Estate 114.

28) Rate of increase in housing sale prices (March 2023 → April, %): Seoul (-0.5 → -0.3), Gyeonggi (-1.1 → -0.6), Incheon (-0.8 → -0.3).

29) Rate of increase in housing sale prices (March 2023 → April, %): Daejeon (-1.1 → -0.5), Ulsan (-1.2 → -0.7), Busan (-1.1 → -0.7).

30) Rate of increase in housing sale prices (fourth week of May 2023 → fifth week of May, week-on-week, %): Seoul (+0.03 → +0.04), Sejong (+0.19 → +0.13).

31) Share of *jeonse* transactions (share of *jeonse* transactions out of sum of both *jeonse* and monthly rent contracts, based on reporting date, %): 45.4 in January 2023 → 44.2 in February → 45.6 in March.

32) Rate of increase in *jeonse* prices (fourth week of May 2023 → fifth week of May, week-on-week, %): Seoul (+0.01 → +0.05), Sejong (+0.05 → +0.03).

4. Financial and Foreign Exchange Markets

Korea Treasury Bond yields decline significantly

Korea Treasury Bond yields fell significantly as global risk aversion strengthened after mid-March following the bankruptcy of Silicon Valley Bank (SVB) and the M&A of Credit Suisse (CS), and amid growing expectations that the U.S. Federal Reserve would ease its tight monetary policy.

Treasury bond yields (3-year) continued to rise in February with growing concern over a stronger tightening stance amid solid employment indicators in the United States, a higher-than-expected rise in the Personal Consumption Expenditure Price Index (PCEPI), and hawkish messages from U.S. Federal Reserve officials. However, after mid-March, as the flight-to-quality strengthened and as expectations of U.S. policy rate hikes weakened[33] due to worries over bank defaults in the United States and Europe after the SVB-CS incident, Treasury bond yields dropped substantially below the Base Rate. After the Monetary Policy Board meeting in April, Treasury bond yields fluctuated within a narrow range (3.20%-3.34%) amid upside factors, such as the burden of lower interest rates and the easing of unrest at U.S. regional banks[34], coupled with downside factors, such as the FOMC in May hinting at a pause in policy rate hikes.[35] After mid-May, Treasury bond yields rose, influenced by the movement of U.S. Treasury bond yields[36] (as of May 24: 3-year 3.38%, 10-year 3.50%).

Meanwhile, the spread between long-term and short-term (10-year and 3-year) yields shifted to a slightly positive level in late March, as 3-year Treasury bond yields declined further in the wake of the SVB-CS incident, ending the inverse yield curve that had persisted since February 7 (as of May 24, 12 bp).

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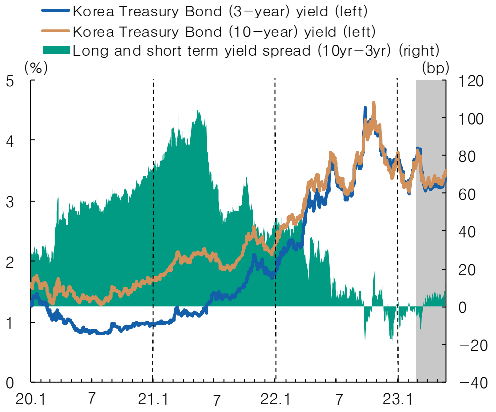
33) At the FOMC press conference in March 2023, Chairman Powell said that tighter credit conditions after the stress in the banking sector, including the SVB incident, had the effect of replacing interest rate hikes, and the majority of FOMC participants reflected this view in the summary of economic projections (SEP).

34) With the announcement of massive deposit withdrawals from First Republic Bank in the first quarter of 2023 and a plunge in stock prices (April 25), concern over U.S. regional banks reemerged, but with the decision by JP Morgan to take over all the assets and deposits of the bank (May 1), related unrest subsided.

35) The policy rate was raised by 25 bp, but the FOMC meeting statement hinted at a pause in the rate hike campaign and remarks made at the press conference that the policy rate may have arrived at a sufficiently restrictive level were viewed as dovish.

36) U.S. Treasury bond yields (10-year) rose from 3.53% on May 16 to 3.74% on May 24.

Figure I-22. Korea Treasury Bond yields and spread between long-term and short-term yields



Sources: Korea Financial Investment Association, Bloomberg.

Short-term market interest rates rebound after a decline

Short-term market interest rates declined as investment demand rose on the back of stronger incentives for short-term funds operation amid elevated uncertainty after the SVB-CS incident and the relative rate advantage of short-term instruments due to the decline in Treasury bond yields. After mid-April, however, short-term interest rates rebounded[37] due to the burden of the spread over the Base Rate, the decrease in MMF deposits[38], and the increase in the issuance of short-term instruments.[39]

Monetary Stabilization Bond yields (91-day) declined significantly after mid-March as demand for short-term, risk-free bonds surged due to stronger risk aversion in the wake of the SVB-CS incident amid increasing purchases by foreign investors led by favorable arbitrage opportunities.[40] However, after mid-April, due to the impact of increased issuance, as well as the realization that the fall below the Base Rate was somewhat excessive, Monetary Stabilization Bond yields rebounded (as of May 24, 3.47%). The CD rate (91-day) declined after late March, reflecting the expansion of investment in CDs to meet the standards to maintain the amortized cost method in valuating assets of MMFs[41], but after mid-April, it rebounded

37) Monetary Stabilization Bond yields (91-day) declined by 30 bp until April 10, after the Monetary Policy Board meeting for monetary policy decision-making held on February 23 this year, and rose by 25 bp until May 24. CD rates (91-day) fell by 13 bp from February 23 to April 12 and then rose by 30 bp until May 24.

38) The balance of MMF deposits stood at 179.5 trillion won on May 23, having fallen by 13.0 trillion won from April 14 (192.5 trillion won).

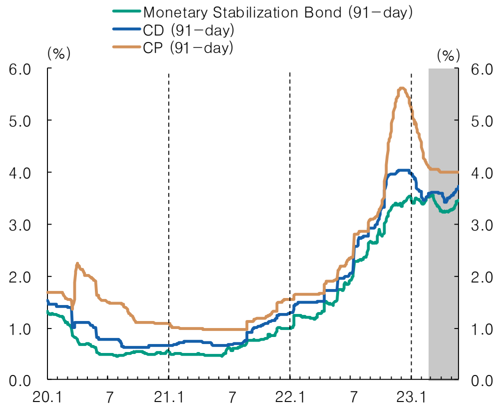
39) The total value of Monetary Stabilization Bonds issued (91-day) increased from 1.1 trillion won (daily average on issuance day) in March to 1.4 trillion won and 1.7 trillion won in April and May, respectively, and the net issuance of CDs rose from 2.4 trillion won (March 1 to April 12) to 3.8 trillion won (April 13 to May 23).

40) The arbitrage profit expected by a foreigner who borrows U.S. dollars, exchanges them for Korean won, and invests the funds into Monetary Stabilization Bonds, after hedging against the FX risks, can be calculated as "interest rate differential (Monetary Stabilization Bond yield - USD LIBOR rate) - swap rate".
Arbitrage incentive (bp) for 3-month instruments: -8 in January 2023 → 16 in February → 48 in March → 18 in April → 19 from May 1 to 24.

41) With the termination of the postponement of the mark-to-market valuation of corporate MMFs (April 2022 to March 2023), asset management companies responded by putting more stable assets, such as CDs (Treasury bonds, Monetary Stabilization Bonds, CDs, call loans, bank deposits, etc.), into their MMFs so that their assets could continue to be valued according to the amortized cost method. If the share of stable assets in the MMFs exceeds 30%, valuation based on the amortized cost method is allowed.

substantially owing to the burden of dipping below the Base Rate and the increased issuance of CDs, rising above the Base Rate (as of May 24, 3.73%). The CP rate (91-day, rated A1) continued to fall due to the easing of credit risk aversion, and after April, the spread over the Base Rate approached its long-term average[42] and remained steady (as of May 24, 4.01%). Meanwhile, in the PF-ABCP market, with credit risk aversion lingering, subprime bonds were issued at high interest rates, and thus differentiation between prime bonds and subprime bonds continued.[43]

Figure I-23. Short-term interest rates[1]



Note: 1) Monetary Stabilization Bond rates based on average rates estimated by four private credit rating agencies; CD and CP rates based on final quoted yields.
Source: Korea Financial Investment Association.

Corporate bond credit spread widens

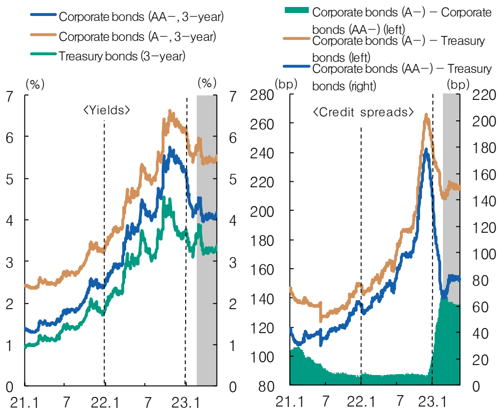
The credit spread on corporate bonds (3-year) widened significantly as investment sentiment contracted due to stronger credit risk aversion and to the expansion of interest rate volatility following the SVB-CS incident after mid-March. However, after April, as the unrest in U.S. regional banks was relieved and as interest rate volatility subsided, the spread fluctuated within a narrow range around the level seen at the end of March. As of May 24, the credit spread on prime bonds (rated AA-) was 81 bp, up 12 bp from the end of February, while that on subprime bonds (rated A-) widened by 5 bp to 216 bp. Meanwhile, the spread between credit ratings (AA- and A-) narrowed slightly[44] because of the emergence of an interest rate advantage for subprime bonds, whose credit spread had not narrowed much, thus increasing demand for investment in subprime bonds.

42) The spread of CPs (91-day, A1) over the Base Rate rose to 247 bp on November 23, 2022, and fell steadily to around 51 bp after March 29, 2023, approaching its long-term average (since 2010, 44 bp).

43) From May 1 to 23, 2023, the issuance yields of subprime PF-ABCP (weighted average of maturities for 75 to 104 days) was in the low-6% range for A2+ and in the mid-7% range for A2, remaining significantly higher than the issuance yields of prime bonds (mid-4% range for A1).

44) Credit spread (bp) between credit ratings of corporate bonds ((A-) - (AA-)): 142 at the end of February 2023 → 137 at the end of March → 136 at the end of April → 135 on May 24.

Figure I-24. Corporate bond yields and credit spreads[1]

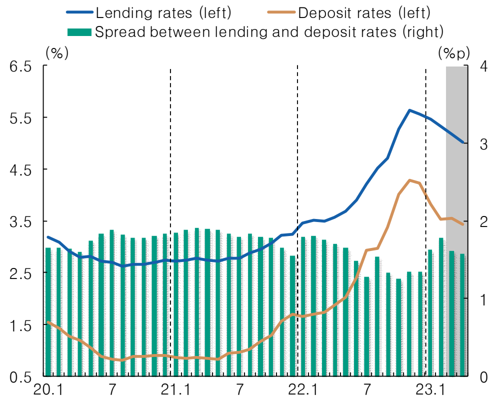


Note: 1) 3-year maturity basis; Treasury bond yields based on final quoted yields, and corporate bond yields on average yields estimated by four private credit rating agencies.
Source: Korea Financial Investment Association.

Bank lending and deposit rates decline

Bank lending rates (new-loan basis[45]) fell significantly on the decline of market interest rates[46] during March and April. Lending rates for households dropped substantially in line with the decline in long-term and short-term market interest rates, the reduction in premiums by banks, and the supply of special *Bogeumjari* Loan.[47] Corporate lending rates for both large corporations and small and medium-sized enterprises (SMEs) fell as major short-term benchmark rates declined and some banks reduced their premiums. Meanwhile, deposit rates at banks (new-deposit basis[45]) declined slightly during March and April, reflecting the decline in market interest rates and lower incentives at banks to raise funds.

Figure I-25. Bank lending/deposit rates[1] and spread



Note: 1) New-loands and deposits basis.
Source: Bank of Korea.

Stock prices rise significantly

Stock prices (KOSPI) fell as concerns over monetary tightening at the U.S. Federal Reserve heightened due to favorable U.S. employment indicators in March, and as global risk aversion surged after the SVB-CS incident the magnitude of the fall increased. However, after mid-March, stock prices rebounded by a large margin thanks to policy responses in major countries, such as the

45) Bank lending and deposit rates on an outstanding amount basis rose by 2 bp and 4 bp, respectively, from March to April.
46) Changes (bp) in major benchmark interest rates during March and April (monthly average): -2 for CDs (91-day), -12 for 3-month bank debentures, -15 for 6-month bank debentures, -16 for 1-year bank debentures, and -29 for 5-year bank debentures.
47) Interest rates on special *Bogeumjari* Loan from the Korea Housing Finance Corporation were between 4.05% and 4.55%, lower than those for other types of home mortgage loans. Applications were received from January 30, and the loans were extended from March.

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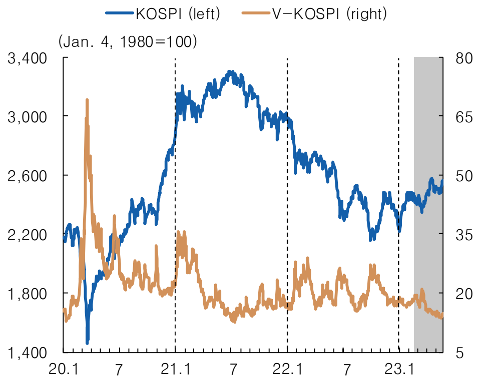
United States, expectations for an easing of monetary tightening at the U.S. Federal Reserve, and the emergence of an incentive to invest in the domestic electric and electronics industry.[48] However, after late April, as investment sentiment cooled amid unrest at U.S. regional banks and concern over a delay in the debt ceiling deal and credit risk aversion against some overheated stocks, the rate of increase moderated. Meanwhile, the Korean Stock Volatility Index (V-KOSPI) temporarily rose on unrest in the banking sector in March, but remained stable overall at a low level.

Figure I-26. KOSPI and stock volatility index

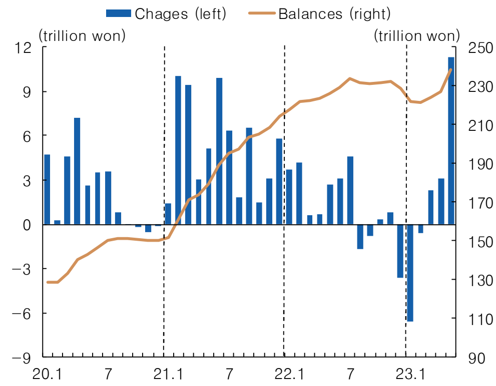


Source: Koscom Corporation.

Foreign portfolio investment in domestic securities increases

Foreign portfolio investment in domestic securities increased both in bonds and stocks. Foreign bond investments shifted to a positive trend as arbitrage opportunities emerged despite unrest in international financial markets following the SVB-CS incident in March, and the extent of the rise expanded significantly as foreign purchases from international organizations and private banks persisted amid continued arbitrage opportunities and despite an additional widening of the policy rate differential between Korea and the United States.[49]

Figure I-27. Changes in and balances of foreigners' bond holdings[1)]



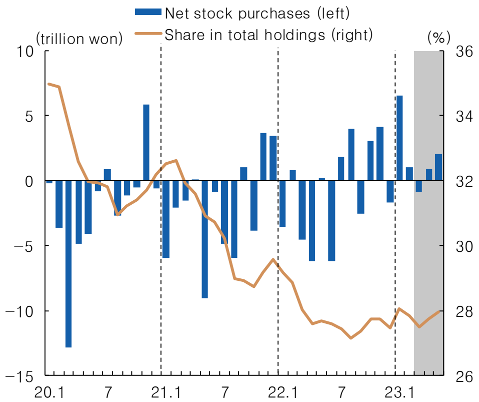
Note: 1) Based on May 24 for May 2023 figures.
Source: Financial Supervisory Service.

48) The announcement of an additional production cut by Micron Technology (March 29), the passing of the amended Special Tax Treatment Control Law to increase the tax deduction rate on semiconductor investments (known as the K-Chips Act) by the National Assembly (March 30), and the announcement of the details of the U.S. Inflation Reduction Act (IRA), which is favorable for Korean firms (March 31), all served to boost incentives to invest in the domestic electrical and electronics industry.

49) The differential in Korea-U.S. policy rates (based on the upper limit of the policy rate range in the U.S.) widened from 125 bp at the end of February to 150 bp after the March FOMC meeting (March 22) and further to 175 bp after the May FOMC meeting (May 3).

Looking at foreign stock investments, foreigners sold more stocks than they bought in March as global risk aversion strengthened in the wake of the SVB-CS incident. However, while market stress was relieved somewhat thanks to policy responses in major countries, foreign stock investments shifted to net purchases in April, and the trend continued in May, as foreign investment inflows continued mostly from global funds due to expectations of an improvement in the semiconductor business.

Figure I-28. Foreigners' net stock purchases[1)2)] and share in total holdings[1)3)]



Notes: 1) Based on May 24 for May 2023 figures.
2) Sum of net purchases in KOSPI and KOSDAQ markets.
3) Based on stock market capitalization.
Source: Koscom Corporation.

Household lending shifts upward after significant decrease

Household lending (by deposit-taking institutions) declined significantly in the first quarter this year owing to the high lending rates[50)] and sluggish demand for funds related to housing. However, it increased again in April.

In the first quarter of this year, bank lending to households declined at a significantly larger margin. The growth of home mortgage loans moderated due to weak demand for funds for housing purchases[51)] and for leasehold deposits[52)], and other loans decreased by a larger margin, driven by unsecured loans, reflecting the high lending rates and DSR regulations. However, as the impact of the increase in housing transactions after February led to an increase in home mortgage loans with a time lag, and as other loans declined at a slower pace, bank lending to households shifted upward in April.

In the first quarter, lending to households by non-bank deposit-taking institutions fell dramatically, mostly at mutual credit cooperatives and at MG Community Credit

50) Lending rates at deposit-taking banks from January to March 2023 (new-loan basis, %): 5.22 for household loans, 4.51 for home mortgage loans, 6.73 for unsecured loans.
51) The volume of nationwide housing sale transactions remained low until January this year and showed signs of a moderate recovery after February.
Volume of nationwide housing sale transactions (based on contract date, 10,000 units): 2.4 in November 2022 → 2.2 in December → 2.5 in January 2023 → 4.0 in February → 4.6 in March.
52) Change in leasehold deposit fund loans (trillion won): -1.2 in the fourth quarter of 2022 → -6.6 in the first quarter of 2023.

Cooperatives, owing to higher lending rates.

Table I-11. Household lending by depository institutions[1]

(trillion won, %)

	2021	2022					2023	
	Year	Year	Q1	Q2	Q3	Q4	Q1	Apr.[1]
Total loans	99.1	-9.0	-4.2	2.5	-1.9	-5.4	-17.7	‥
(Rate of change[3])	(7.6)	(-0.6)	(5.1)	(3.0)	(0.6)	(-0.6)	(-1.6)	‥
Commercial & specialized banks[4]	71.5	-3.0	-1.7	1.7	-1.4	-1.6	-8.0	2.3
(Mortgages)[4)5]	57.0	19.1	5.4	4.1	4.3	5.3	2.0	2.8
(Others)	14.6	-22.1	-7.1	-2.4	-5.7	-6.9	-10.0	-0.5
Non-bank depository Institutions[4]	27.6	-6.0	-2.5	0.9	-0.6	-3.8	-9.7	‥
(Mutual finance)	13.7	-10.2	-2.5	-1.3	-2.3	-4.1	-6.1	‥
(Credit unions)	2.5	0.4	0.2	0.3	0.0	0.0	-1.0	‥
(Korean Federation of Community Credit Cooperatives	5.0	1.2	-0.6	0.4	0.8	0.6	-2.1	‥
(Mutual savings banks)	6.3	2.4	0.4	1.4	1.0	-0.4	-0.3	‥
(Others)[6]	0.1	0.3	0.0	0.1	0.0	0.2	-0.2	‥

Notes: 1) Based on changes in balances during the periods.
2) Based on Bank of Korea advance estimate for April 2023 figures.
3) Year-on-year growth rate of loan balances.
4) Including mortgage transfers by Korea Housing Finance Corporation.
5) Including housing-related loans, such as loans for leasehold deposits, moving expenses and intermediate payments, that are not collateralized by houses.
6) Trust accounts of banks and postal savings.
Sources: Bank of Korea, Korea Housing Finance Corporation.

Growth of corporate financing declines

Direct and indirect corporate financing contracted as the growth of corporate loans by banks and non-bank financial institutions slowed.

In the first quarter, bank lending to the corporate sector rose by a smaller margin than in the previous quarter. Lending to large corporations rose at a slower pace, affected by the increase in direct financing by corporations stemming from the easing of stress in the corporate bond market[53], while lending to small and medium-sized enterprises (SMEs) rose by a larger margin thanks to the persistent demand for working capital and efforts by banks to expand loans. In April, lending to large corporations expanded substantially, driven by retaking loans that they had temporarily repaid in order to manage their financial ratios at the end of the quarter, and by increasing demand for funds to pay out dividends. Lending to SMEs also continued to rise steadily as bank lending attitudes eased. Meanwhile, in the first quarter, the growth of corporate lending by non-bank financial institutions decelerated significantly as demand for loans related to real estate development and rentals shrank amid a slump in the real estate market.

In the first quarter, direct corporate financing increased, and corporate bonds saw a significant net issuance as investment demand at financial institutions recovered due to the easing of credit risk aversion at the beginning of this year. In the case of commercial paper (CP) and short-term corporate bonds, net issuance mostly by prime bonds continued[54],

53) Credit spreads on corporate bonds (rated AA-, bp): 179 at end of November 2022 → 148 at end of December → 101 at end of January 2023 → 69 at end of February → 83 at end of March → 82 at end of April.
54) The amounts of net issuance of CP and short-term corporate bonds, by rating (based on non-financial corporations), are as

but net issuance decreased from the previous quarter as a few companies converted funds raised through high-interest rate CPs amid the unstable corporate bond market in the fourth quarter last year into corporate bonds this year. Meanwhile, in April, there was a slight contraction in the volume of direct corporate financing, driven primarily by the net redemption of corporate bonds following the maturation of a massive amount of corporate bonds at some corporations, despite the continued net issuance of CP and short-term corporate bonds due to the demand for working capital.

Table I-12. Corporate funding[1)]

(trillion won, %)

		2021	2022					2023	
		Year	Year	Q1	Q2	Q3	Q4	Q1	Apr.[1)]
	Total	171.5	196.3	54.4	60.3	50.6	32.7	23.9	··
	(Rate of change[3)])	13.5	13.7	14.3	15.3	15.0	(13.8)	(11.2)	··
Corporate loans	Banks	94.1	114.1	28.1	34.0	32.1	20.7	18.7	7.5
	Large firms	9.0	45.5	5.2	12.7	14.7	11.6	7.5	3.1
	SMEs	85.1	68.5	22.9	21.3	17.4	9.1	11.2	4.4
	Non-banks[4)]	77.4	82.3	26.2	26.4	18.5	12.0	5.2	··
Direct funding	Net corporate bond issuance[5)]	16.2	-5.9	2.2	-2.5	-1.8	-3.7	9.7	-0.9
	Net CP·Short-term bond issuance[6)]	4.1	23.5	10.8	0.5	4.4	7.9	4.9	1.7
	Stock issuance[7)]	28.9	21.7	13.8	5.1	1.3	1.6	2.1	0.1

Notes: 1) Based on changes in balances during the periods
2) Bank of Korea advance estimates for April 2023 figures.
3) Year-on-year growth rate of loan balances.
4) Loans by mutual finance, credit unions, Korean Federation of Community Credit Cooperatives, and mutual savings banks.
5) Corporate bonds issued through public offering by non-financial corporations (excluding ABSs).
6) Non-financial corporations.
7) Initial public offerings and paid-in capital are included

Sources: Bank of Korea, Financial Supervisory Service, Korea Securities Depository, Yonhap Infomax.

Korean won/U.S. dollar exchange rate rises again after a decline

The Korean won/U.S. dollar exchange rate declined in line with expectations for the easing of monetary tightening by the U.S. Federal Reserve due to unrest in the banking sector overseas and then rose, driven primarily by domestic demand and supply factors.

follows.

(trillion won)

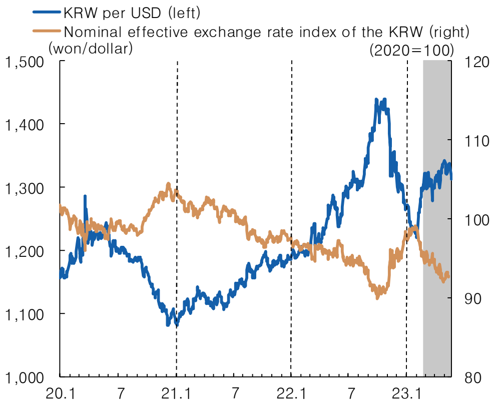
	2022			2023			
	October	November	December	January	February	March	April
A1	2.9	3.7	1.5	6.7	-1.8	0.0	1.5
A2 or below	0.2	-0.4	0.0	0.2	0.1	-0.3	0.2

Source: Yonhap Infomax.

In March, the Korean won/U.S. dollar exchange rate fell from the 1,320 won level at the end of February to the 1,270 won level on March 23 as expectations for an easing in monetary tightening at the U.S. Federal Reserve grew following the SVB-CS incident. The Korean won/U.S. dollar exchange rate soared[55] to 1,342.1 won per dollar, the highest level this year, on May 2, as a result of continued trade deficits amid sluggish semiconductor exports and increased overseas remittance of foreign investor dividends, despite a sustained weakening trend of the U.S. dollar. In May, although the U.S. dollar turned strong, the Korean won/U.S. dollar exchange rate retreated to 1,317.4 won per dollar on May 24 as demand and supply conditions for U.S. dollars improved, including the inflow of foreign portfolio investment funds.

The nominal effective exchange rate (NEER) index of the Korean won fluctuated within a narrow range in March, and in April, it fell significantly as the Korean won depreciated against the currencies of most of Korea's trading partners. However, in May, the Korean won appreciated against the Chinese yuan and the euro, and recovered somewhat after recording a decline in April.

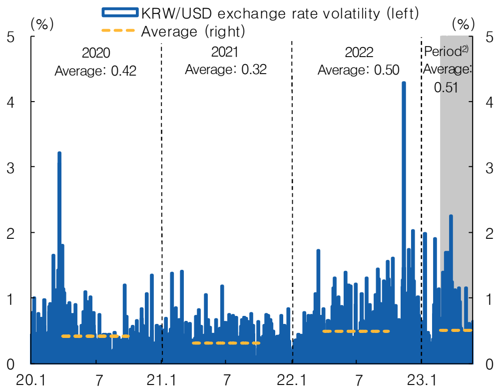
Figure I-29. KRW/USD exchange rate and nominal effective exchange rate index[1] of the KRW



Note: 1) Based on the BIS effective exchange rate index of the Korean won in nominal terms.
Sources: Bank of Korea, Bank for International Settlements.

The volatility of the Korean won/U.S. dollar exchange rate (day-to-day change) surged in the aftermath of the SVB-CS incident in March and gradually moderated to the average level of last year (0.50%).

Figure I-30. KRW/USD exchange rate volatility[1]

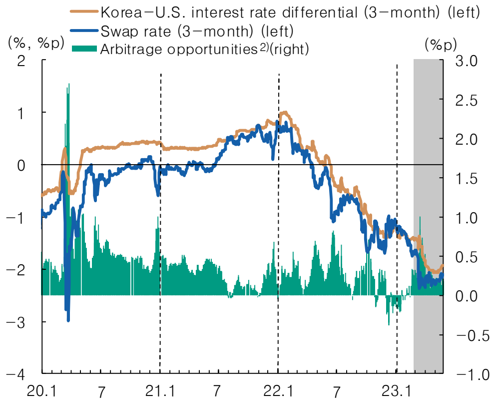


Notes: 1) Daily change rate of the exchange rate.
2) From February 23 to May 24, 2023.
Source: Bank of Korea.

55) This is also because the weak U.S. dollar had a limited direct effect on the Korean won as its weakness stemmed from the strength of the euro (57.6%) and the pound sterling (11.9%), both having higher weights in the U.S. Dollar index (DXY).

The U.S. dollar market in Korea fluctuated, being greatly affected by global financial markets. Arbitrage opportunities[56], which reflect U.S. dollar funding conditions, surged temporarily (100 bp, March 13)[57] amid signs of a global dollar funding crunch associated with the SVB-CS incident in March, but fell rapidly as the unrest eased. After April, with the resumption of the issuance of corporate bonds overseas by domestic firms and the supply of foreign currency due to a rise in foreign bond investment, the foreign exchange swap market was stable overall, with arbitrage opportunities fluctuating at a low level.

Figure I-31. Korea-U.S. interest rate differential[1)] and swap rate



Notes: 1) Yield on Korean Monetary Stabilization Bonds (MSBs) (3-month) - LIBOR (3-month).
2) Korea-U.S. interest rate differential (3-month) - Swap rate (3-month).
Source: Bank of Korea.

Liquidity (M2) growth slows, and Financial Conditions Index continues to show a tightening trend

M2 (broad money) growth (average basis, year-on-year) declined to 3.8% in March due to the decrease in household credit and non-residents' credit.[58] Meanwhile, after January, the Financial Conditions Index[59] rose

56) It is used as a proxy to indicate the foreign currency funding conditions of domestic financial institutions relative to the Korean won funding conditions.

57) Even under the same domestic-international interest rate differential, if foreign currency funding conditions for domestic financial institutions deteriorate, such institutions carry out a spot buy and a forward sell (buy & sell) to raise foreign currency, thus reducing the swap rate and increasing arbitrage opportunities.

58) According to the Depository Corporations Survey (period-end basis), while the growth of corporate credit slowed, household credit and non-residents' credit continued to decline.

(YoY, %)

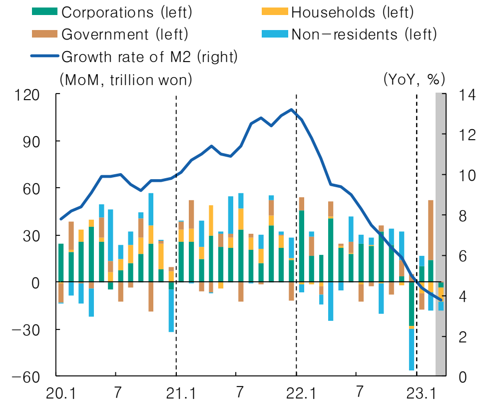
Sector	October 2022	November	December	January 2023	February	March
Household	0.4	-0.4	-0.6	-1.1	-1.5	-1.9
Non-financial corporations	13.5	12.6	10.7	8.9	8.8	7.8
Non-residents	-0.7	1.6	-4.0	-2.4	-4.6	-4.6

Source: Bank of Korea.

59) The Financial Conditions Index (FCI) assesses whether financial conditions are accommodative or tight, and is calculated by

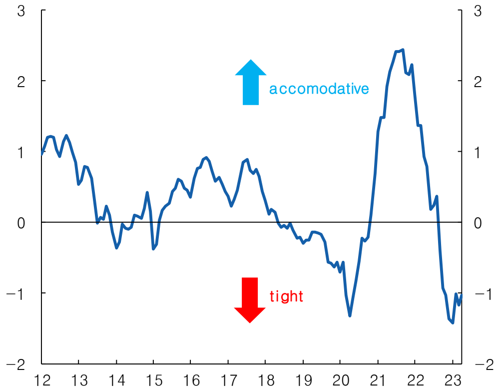
slightly driven by the reduction in credit spreads on corporate bonds (rated AA-, 3-year), but its tightening trend persisted until April as housing prices[60], which had increased dramatically after COVID-19 crisis, continued to decline.

Figure I-32. Growth rate of M2[1] and the changes[2] by supply sector



Notes: 1) Period-average basis.
2) Period-end basis.
Source: Bank of Korea.

Figure I-33. Financial Conditions Index[1]



Note: 1) If the figure is above (below) zero, the long-term equilibrium, it means that financial conditions are accommodative (tight). (analysis period: January 2000 ~ April 2023)
Source: Bank of Korea.

standardizing the weighted sum of six major financial variables that are important in assessing financial conditions, including interest rates, exchange rates, and stock prices (monthly average basis).

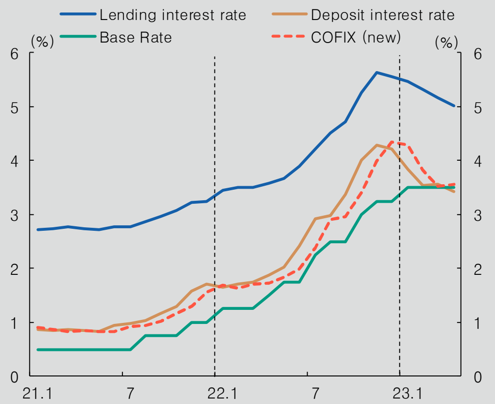
60) From March 2020 to June 2021, the KB Kookmin Bank nationwide housing sale price index increased by about 15%.

Box I-1.

Review of the Effects of the Transmission of Policy Rate Hikes on Lending and Deposit Rates in Major Countries

Bank lending and deposit rates in Korea rose steadily from the second half of 2021, when the Base Rate hikes began, through to last year. In the second half of last year, amid the sharp increase in long- and short-term market interest rates due to the bond market instability related to PF loans, bank lending and deposit rates soared and then fell significantly thanks to the moderation of market unrest amid market stabilization measures, a reduction in the bank lending rate spread, and thanks to a restraint[1)] on raising deposit interest rates. After the Base Rate was raised to 3.50%, lending and deposit rates continued to decline gradually, reaching 5.01% and 3.43%, respectively, in April 2023[2)] as benchmark interest rates declined amid growing expectations that monetary tightening would peak both at home and abroad.

Lending and deposit rates[1)2)] at Korean banks



Notes: 1) Based on new transactions.
2) Base Rate and COFIX (new) are as of the end of the month.
Source: Bank of Korea.

As lending and deposit rates have continued to fall while the Base Rate has stayed at 3.50%, some have raised concerns over the weakened effect of monetary policy. This paper analyzes the spillover of Base Rate hikes onto lending and deposit rates through comparisons with major countries.[3)]

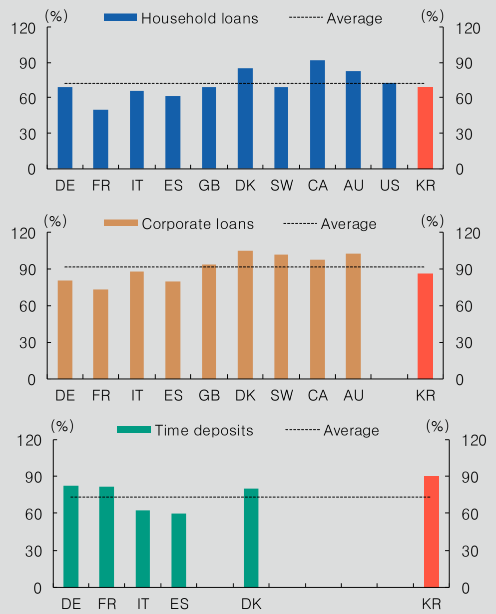
Transmission effect in terms of new transactions

On average, 72% to 91% of policy rate hikes in major countries during this policy rate hike period[4)] was transmitted to lending and deposit rates for new transactions. The average transmission rates[5)]

1) This is assessed to be a measure for relieving side effects, such as expanding the burden of principal and interest repayments on vulnerable borrowers, and intensifying the phenomenon of money reverse movement, in which funds flow only to banks, that appeared during the rapid rise of lending and deposit rates.
2) In May 2023, COFIX (new) (at the end of the month) fell to 3.44%, below the Base Rate, as it reflects changes in the deposit rate with a time lag.
3) We used data from 10 countries (Germany (DE), France (FR), Italy (IT), Spain (ES), the U.K. (GB), Denmark (DK), Sweden (SW), the United States (US), Canada (CA), and Australia (AU)) that started to raise their policy rates after 2021 and for which monthly data on lending and deposit rates are available. However, due to differences in the scope of data availability by country, target countries varied in the detailed analyses.
4) Considering that lending and deposit rates rise in anticipation of policy rate hikes, even prior to the first hike, the analysis was conducted for the period from two months before the first hike until March 2023.

in major countries were 71.8% and 91.3%, respectively, for household loans[6] and corporate loans, and 73.3% for time deposits. For lending interest rates, the spillover effect on household loans was smaller than that on corporate loans. This is because corporate loans are more affected by short-term market interest rates, while household loans are more sensitive to long-term market interest rates, which rose by a relatively smaller margin. By country, transmission rates were high for countries where short-term market interest rates rose more than policy rates.[7][8]

Rate of transmission[1)2)] to new lending and deposit rates, by country



Notes: 1) △ new lending and deposit rates / △ policy rate.
2) Two months before first policy rate hike until March 2023.
Source: Central bank in each country.

5) This section defined the transmission rate as the change in lending and deposit rates divided by the change in the policy rate during the policy rate hike period (△ lending and deposit rates / △ policy rate). However, lending and deposit rates are affected by expectations regarding policy rates, bank funding risk premiums, and the lending interest rate spread, among other things, as well as changes in policy rates in the past, and thus the "transmission" defined in this section may far exceed the changes in policy rates in the past.

6) For Australia and the United States, we used home mortgage loans (same hereinafter).

7) Changes (%p) in policy rates and market interest rates in major countries during this policy rate hike period are as follows.

Category[1)]	Euro area	U.K.	Denmark	Sweden	Canada	Australia	U.S.	Korea
Short-term interest rate	3.36	4.25	3.06	3.33	4.52	3.59	4.85	2.93
Long-term interest rate	1.90	2.94	1.06	2.01	1.84	1.41	2.61	1.79
Policy rate	3.50	4.15	2.60	3.00	4.25	3.50	4.75	3.00

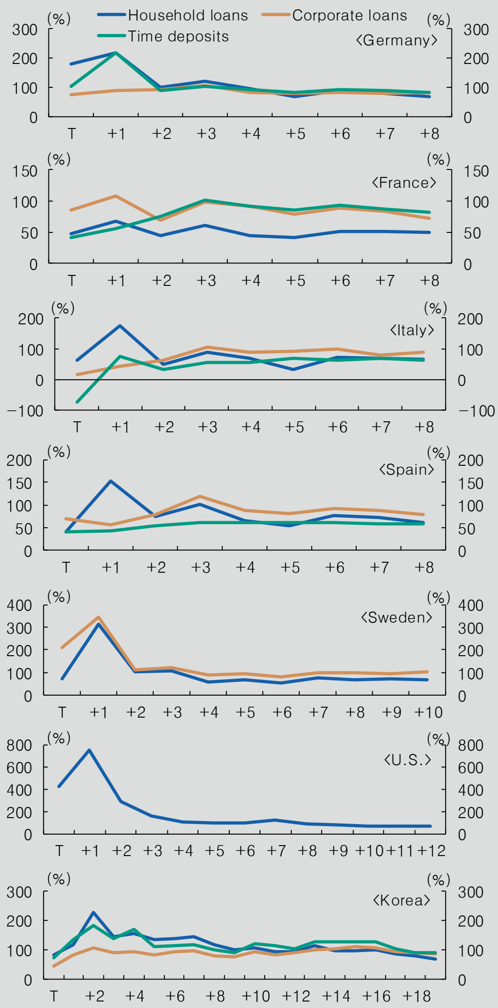
Note: 1) Short-term interest rates (3-month) and long-term interest rates (Treasury bond, 5-year) are based on monthly averages, and policy rates are based on the end of the month.
Source: Central banks in each country.

8) In Canada, Denmark, and Sweden, short-term market interest rates rose by a larger margin than policy rates, leading to a higher rate of transmission to lending interest rates. For Denmark, the transmission rates to both household and corporate loans were high as banks strengthened their risk management of loans. For France, due to the application of a usury rate for home mortgage loans, the transmission rate to household loans was low. The Banque de France determines and publishes monthly usury thresholds for financial institutions. As of March 2023, the usury threshold for home mortgage loans with a variable rate was 3.23%, and for home mortgage loans with a fixed rate and term of 20 years or more was 3.39%, which are relatively low. The rates of transmission to deposit interest rates in Spain and Italy were low mainly because banks there had less incentive to attract deposits, as they can receive funds at ultra-low interest rates via the ECB's Targeted Longer-Term Refinancing Operations (TLTRO Ⅲ). Small banks in the euro area maintained a TLTRO balance until maturity to prevent a rise in funding costs.

The rate of transmission to new lending and deposit rates in major countries declined at a faster pace toward the latter part of the policy rate hike period. During the initial phase of the interest rate hikes, the transmission rate increased due to the rise in market interest rates on expectations of further policy rate hikes and then slipped gradually. In most cases, the transmission rate peaked above 100% within three months of the first rate hike and then declined gradually. As for the United States, in the early phase of the policy rate hikes, expectations that the Federal Reserve's pace of policy rate hikes to fight inflation would accelerate strengthened, leading to a significant rise in long-term interest rates[9] and causing the rate of transmission (cumulative) to household loan interest rates to exceed 700%.

The rate of transmission of Base Rate hikes to new lending and deposit rates in Korea was close to the average of major countries and declined toward the end of the interest rate hike period, which was also the case in major countries. The rate of transmission to time deposits was 90.3%, higher than the average in major countries (73.3%), while the rates of transmission to household and to corporate loan interest rates were 69.0% and 86.0%, respectively, slightly below the averages in major countries (household loans: 71.8%, corporate loans: 91.3%). By phase of the interest rate hike campaign, the transmission rate was highest in the initial phase of the interest rate hike cycle and then declined slowly, as was the case in major countries.

Change in rate of transmission[1)2)] to new lending and deposit rates, by country



Notes: 1) △ new lending and deposit rates / △ policy rate.
2) Two months before first policy rate hike (T) until March 2023.
Source: Central bank in each country.

Transmission effect in terms of outstanding balances

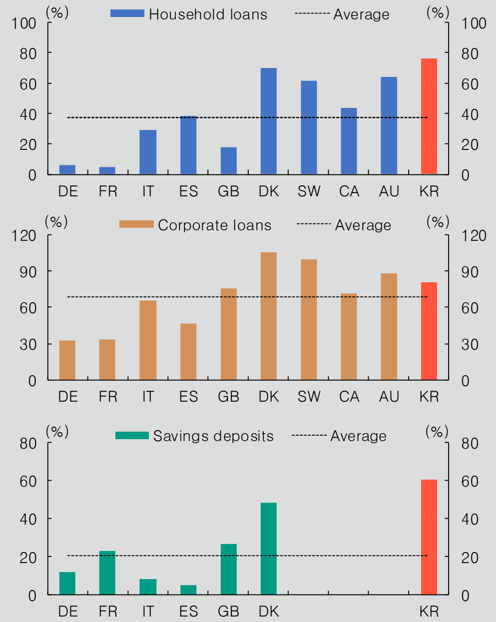
On average, 21% to 69% of policy rate hikes in major countries was transmitted to lending and

9) U.S. mortgage loans are issued mostly with fixed rates, with the interest rate determined by adding a spread to the long-term market interest rates (interest rates for the issuance of 30-year and 15-year MBS).

deposit rates in terms of outstanding balances, and the transmission rates varied depending on the kind of loans or deposits. The average rate of transmission to lending and deposit rates in major countries based on outstanding balances was 37.2% for household loans, 68.7% for corporate loans, and 20.5% for savings deposits. The rates of transmission to household loans and to savings deposits[10)] were much lower than that to corporate loans, which seems to be due to the fact that household loans have a relatively longer maturity with a higher share of fixed interest rate loans and that savings deposits include transferable deposits for which interest rate change is restricted.

By country, higher shares of variable rate for loans[11)] and a higher proportion of time deposits were found to be related to a higher transmission rate. For loans, in countries with a greater share of variable rate loans, the effect of interest rate hikes was rapidly reflected in existing loan balances through interest rate renewal.[12)] For deposits, in countries with a higher share of time deposits, which more effectively reflect changes in market interest rates, the transmission rate was higher.[13)]

Rate of transmission[1)2)] to lending and deposit rates for outstanding balances, by country



Notes: 1) △ lending and deposit rates for outstanding balances / △ policy rate.
2) Two months before first policy rate hike until March 2023.
Source: Central bank in each country.

The rates of transmission to lending and deposit rates based on outstanding balances in Korea were higher than the average of major countries, and the rates of increase were also faster. The rates of transmission to household loans and corporate loans

10) As in Korea, the interest rates of all deposits, including time deposits and transferable deposits (low-cost deposits), were analyzed.
11) The shares of variable-rate home mortgage loans and time deposits in major countries (average of 2022, %) are as follows.

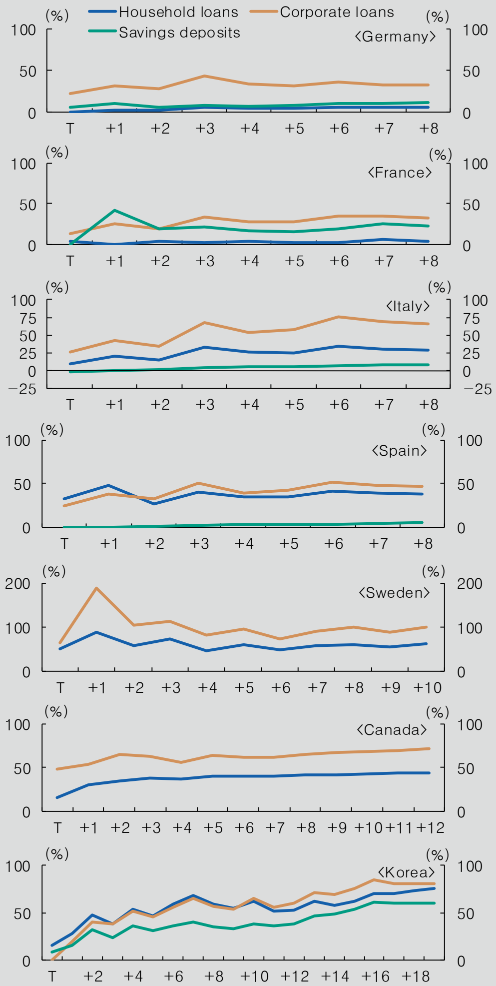
Category	Germany	U.K.	France	Spain	Denmark	Italy	Australia	Korea
Variable rate home mortgage loans[1)]	12.5	4.4	3.3	24.0	90.0	40.0	87.6	46.8
Time deposits[2)]	11.7	12.3	20.7	7.8	6.1	3.5	-	46.7

Notes: 1) Share of variable rate loans among new home mortgage loans.
2) Share of time deposits out of outstanding balances of savings deposits.
Source: Central banks in each country.

12) For both household and corporate loans, the transmission rates in Denmark (household loans: 70.0%, corporate loans: 105.8%) and Sweden (61.7% and 99.7%) were high, and the transmission rates in Germany (6.0% and 32.3%) and France (4.6% and 33.1%) were relatively low.
13) While the transmission rates in Denmark (48.5%), the U.K. (26.5%), and France (23.1%) were high, that in Spain (5.1%) was significantly low. For Denmark, although the share of time deposits is low, unlike in major countries, transferable deposit interest rates rose significantly, reflecting policy rate hikes and leading to a high transmission rate.

were 75.7% and 80.7%, and the rate of transmission to savings deposits was 60.3%, well over the average transmission rate in major countries (household loans: 37.2%, corporate loans: 68.7%, savings deposits: 20.5%). In addition, while the transmission rates rose gradually in most major countries, the rate soared sharply in Korea due to the impact of the higher share of variable rate loans.

Change in rates of transmission[1)2)] to lending and deposit rates for outstanding balances, by country



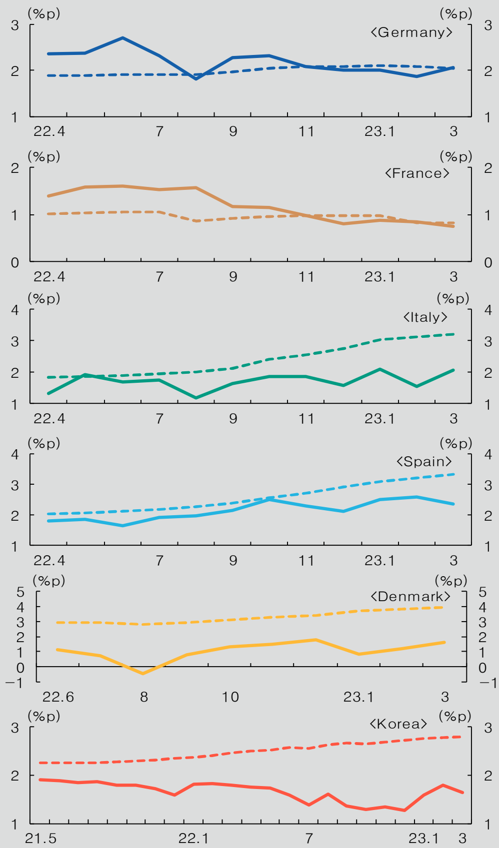
Notes: 1) △ lending and deposit rates for outstanding balances / △ policy rate.
2) Two months before first policy rate hike (T) until March 2023.
Source: Central bank in each country.

Change in spread between lending and deposit interest rates

The spread between lending and deposit rates for new transactions during this policy rate hike period varied depending on a bank's funding and operating conditions, and government regulations, among other factors. While the interest rate spread for new transactions narrowed[14] in Germany and France, it widened in Italy, Spain, and Denmark.[15] The spread between lending and deposit rates based on outstanding balances[16] generally widened in all countries except for France.[17]

During the policy rate hike period, while the spread between lending and deposit rates for new transactions in Korea narrowed, it widened in terms of outstanding balances, as was common in major countries. The degree to which the spread between lending and deposit rates for new transactions narrowed[18] in Korea was 0.26%p, smaller than the average (0.48%p) in major countries that showed a similar pattern (Germany and France).[19] The degree to which the spread between lending and deposit rates for outstanding balances widened in Korea was 0.54%p, which is smaller than the average in major countries (0.73%p).

Change in spread between lending and deposit rates[1)2)], by country



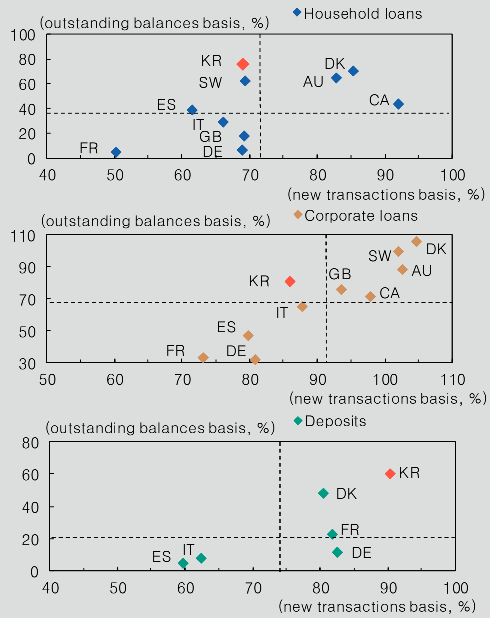
Notes: 1) Solid line indicates spread based on new transactions, and dotted line indicates spread based on outstanding balances.
2) Deposit interest rate in terms of outstanding balances is based on savings deposits (two months prior to first policy rate hike until March 2023).
Source: Central bank in each country.

14) When banks compete to attract loans and deposits during a policy rate hike period, they tend to reduce the spread of lending rates and increase preferential deposit interest rates, due to improved profitability. As a result, the spread between lending and deposit rates for new transactions tends to narrow.
15) In Italy and Spain, a limited rise in time deposit interest rates due to low incentives at banks to attract deposits led to a widening of the spread between lending and deposit rates. In Denmark, a substantial rise in lending interest rates for risk management had the same effect, and led to a widening of the spread between lending and deposit rates.
16) As for the spread between lending and deposit rates for outstanding balances, because deposits include low-cost deposits, which are less sensitive to interest rate changes, deposit rates usually rise less than lending rates during a policy rate hike period, leading to a widening of the interest rate spread for outstanding balances.
17) For France, while the share of variable rate household loans is low and thus the rise in lending interest rates is limited, deposit interest rates rose by a larger margin due to the rate increase for Livret A accounts, a type of savings account with instant withdrawal access regulated by the government (2.0% → 3.0%, February 2023), narrowing the interest rate spread on outstanding balances.
18) Meanwhile, the spread between lending and deposit rates in terms of new transactions (as of March 2023) in Korea was 1.64%p, smaller than the average in major countries (1.78%p), but in terms of outstanding balances, it was 2.80%p, slightly above that of the average in major countries (2.67%p).
19) The average level of change in the spread of major countries, including countries where the spread between lending and deposit rates for new transactions widened (Italy, Spain, and Denmark), was +0.17%p.

Assessment and implications

Compared with major countries, the Base Rate hikes in Korea are assessed to have been smoothly transmitted to lending and deposit rates. The rate of transmission to lending and deposit rates in Korea (△ lending and deposit rates / △ policy rate) for new transactions was close to the average transmission rate of major countries, and the rate of transmission to lending and deposit rates for outstanding balances far exceeded the average transmission rate of major countries.

Rate of transmission[1)2)] to lending and deposit rates, by country



Notes: 1) △ lending and deposit rates / △ policy rate.
2) Two months before first policy rate hike until March 2023.
Source: Central bank in each country.

In Korea, the transmission rate in terms of new transactions is falling due to the recent decline in lending and deposit rates, but this was also observed in the latter part of policy rate hike periods in the past. In terms of outstanding balances, the transmission rate in Korea rose more sharply than in major countries due to the higher share of variable rate loans.

Given that domestic and international financial markets are expected to undergo rapid change, it is necessary to carefully monitor the movement of lending and deposit rates. As the policy rate hike period approaches its end, the rate of transmission to lending and deposit rates is likely to decline. On the other hand, if the unrest in financial markets at home and abroad escalates, if credit risk emerges due to the economic slowdown, and if the delinquency rate rises, the transmission rate is likely to rise again. Taking these points into consideration, it is necessary to closely monitor the movement of lending and deposit rates, changes in upside and downside risks, and associated changes in the interest burden of borrowers, demand for lending, and the flows of funds.

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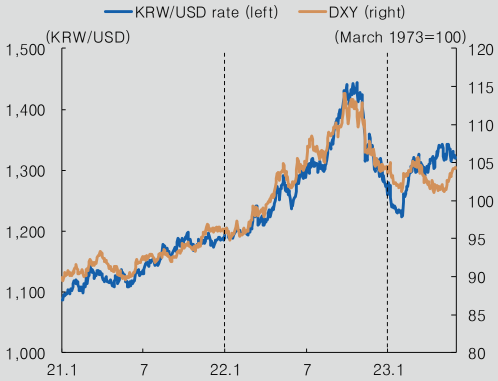
Box I-2.

Recent Exchange Rate Volatility and Fluctuation: An International Comparison and Assessment

Since the U.S. Federal Reserve started its interest rate hiking cycle in March 2022, the exchange rates of advanced and emerging market economies have fluctuated significantly. Although the Korean won/U.S. dollar exchange rate had exhibited a high degree of comovement with the U.S. Dollar Index (DXY), the Korean won fluctuated more sharply than the U.S. dollar from late last year to earlier this year, and even when the U.S. dollar was bearish after last March, the value of the Korean won was weak, showing a significant divergence from the DXY development. Conversely, in May, on expectations of an agreement on the U.S. debt ceiling negotiations, the DXY rose, and the value of the Korean won strengthened mainly due to an improvement in demand and supply conditions.

KRW/USD exchange rate and DXY Index



Source: Bloomberg.

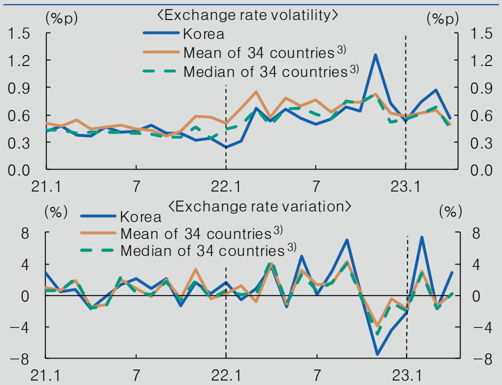
Amid these movements in the KRW/USD exchange rate, the volatility of the exchange rate (calculated as monthly standard deviation of rate of change in KRW/USD exchange rate from the previous day) has continued to remain high since March 2022, and the exchange rate variation (computed as the rate of change in the exchange rate at the end of the month relative to the end of the preceding month) has also increased remarkably since the second half of 2022. Thus, there is concern that such fluctuations could have a negative impact on the foreign exchange market and the macro economy.[1)]

While the exchange rate varies depending on internal and external economic conditions, the magnitude of such fluctuations is associated with exchange rate volatility, which is largely explained by institutional and structural factors, such as the openness of the financial market and the flexibility of the exchange rate regime. Against this backdrop, this section

1) According to the literature, greater exchange rate volatility increases macroeconomic uncertainty, which is more likely to have negative impacts on major economic indicators, such as investment, exports, and productivity (Byrne and Davis, 2005; Arize *et al.*, 2008; Aghion *et al.*, 2009).

compares exchange rate volatility in selected countries and identifies factors resulting in differences among countries through a panel analysis. Next, it compares exchange rate changes in those countries during major global economic events and provides reasons for the recently enlarged fluctuations in the KRW/USD rate through a vector autoregression (VAR).

Recent trends in exchange rate volatility[1] and variation[2] in selected countries



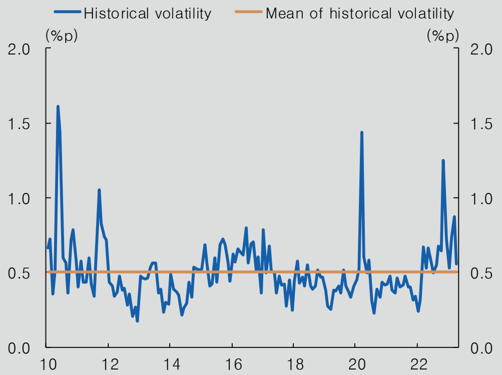
Notes: 1) Monthly standard deviation of rate of change in daily KRW/USD rate relative to previous day.
2) Rate of change in KRW/USD rate at end of month relative to end of previous month.
3) 10 advanced countries and 24 emerging market economies.
Sources: Bloomberg, Bank of Korea.

Determinants of exchange rate volatility

(Exchange rate volatility: Trends and international comparison)

Since the Global Financial Crisis, the volatility of the KRW/USD exchange rate has fluctuated within a narrow range around its long-term average (January 2010 to April 2023, 0.5%p), showing a stationarity, and it used to temporarily hike during global events, such as the COVID-19 pandemic.[2] Since March 2022, when the U.S. Federal Reserve started its policy rate hikes, the exchange rate volatility of the Korean won has generally been above its long-term average.

Korean won exchange rate volatility[1]



Note: 1) Monthly standard deviation of rate of change in daily KRW/USD exchange rate relative to previous day.
Sources: Bloomberg, Bank of Korea.

For the post-Global Financial Crisis period, from January 2010 to April 2023, the long-term mean (0.5%p) of the volatility of the Korean won exchange rate was lower than the mean (0.62%p) and median (0.58%p) of 34 sample countries, ranking 20th among them. By country, the Korean won was less volatile than most currencies of advanced economies (AEs) and emerging market economies (EMEs) in Latin America, but was more volatile than currencies of East Asian countries, such as China, Taiwan, and Thailand.

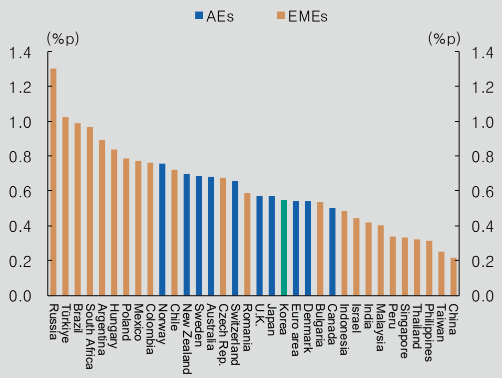
2) The period during which the Korean won exchange rate volatility was above its long-term average lasted three months on average, with the longest period being 11 months (January 2016 to November 2016).

Trends in exchange rate volatility

		Entire period	10~14	15~19	20~21	22	23.1~4
Total	Mean	0.62	0.59	0.60	0.58	0.74	0.60
	Median	0.58	0.59	0.55	0.50	0.64	0.59
AEs[1]	Mean	0.62	0.64	0.59	0.56	0.74	0.65
	Median	0.62	0.63	0.59	0.52	0.76	0.64
EMEs[2]	Mean	0.62	0.56	0.60	0.59	0.75	0.58
	Median	0.57	0.57	0.53	0.50	0.63	0.57
Korea		0.55	0.56	0.51	0.51	0.67	0.70

Notes: 1) Australia, Canada, Switzerland, Denmark, Euro area, U.K., Japan, Norway, New Zealand, Sweden (10 currency areas).
2) Brazil, India, Thailand (24 currency areas, including Korea).
Sources: Bloomberg, Bank of Korea.

International comparison of exchange rate volatility[1]



Note: 1) January 2010 to April 2023.
Sources: Bloomberg, Bank of Korea.

(Determinants of exchange rate volatility)

According to the literature, exchange rate volatility is determined by various factors, such as the rigidity of the exchange rate regime, macroeconomic variables, external trade, the stability of economic policy, and the openness of the capital market (Cady and Gonzalez-Garcia, 2007; Calderón and Kubota, 2018; Devereux and Lane, 2003; Eichler and Littke, 2018). Hence, to identify institutional and structural factors that determine exchange rate volatility, a panel regression analysis was conducted for selected advanced and emerging market economies (total of 31 countries).[3]

The estimation results show that higher financial openness, higher short-term external debts relative to foreign exchange reserves, higher flexibility of the exchange rate regime, and lower U.S. dollar liquidity were associated with higher exchange rate volatility. This is consistent with empirical regularities that whereas exchange rate volatility is relatively higher in advanced economies with higher financial openness, it is lower in East Asian markets with strong capital controls and rigid exchange rate regimes. Meanwhile, as for U.S. dollar liquidity, which is measured with bid-ask spreads of spot exchange rates reflecting the fundamental liquidity of the foreign exchange market and transaction costs, it appears that a greater bid-ask spread (lower U.S. dollar liquidity) is related to a greater exchange rate volatility.

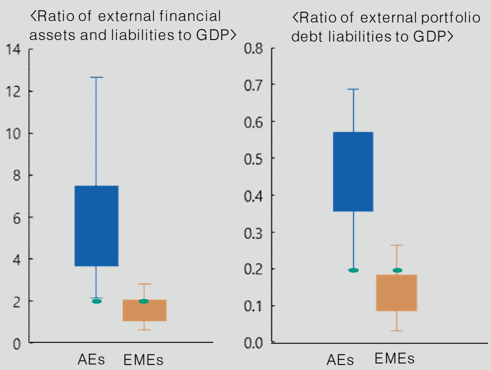
3) Dependent variables of the panel model include exchange rate volatility, and explanatory variables include financial openness (ratio of external financial assets and liabilities to GDP or ratio of external portfolio debt liabilities to GDP), ratio of short-term external debt to foreign exchange reserves, spot exchange bid-ask spread, and exchange rate regime (dummy variable). Annual data for the period from 2010 to 2022 were used.

Determinants of exchange rate volatility[1)2)]

	Model Ⅰ	Model Ⅱ
Ratio of external financial assets and liabilities to GDP	0.37*** (0.099)	-
Ratio of external portfolio debt liabilities to GDP	-	0.28*** (0.065)
Ratio of short-term external debt to foreign exchange reserves	0.09** (0.039)	0.17*** (0.051)
Spot exchange bid-ask spread[3)]	1.06*** (0.134)	1.15*** (0.140)
Exchange rate regime Dummy 1[4)]	0.08** (0.033)	0.11** (0.047)
Exchange rate regime Dummy 2[5)]	0.30** (0.111)	0.34** (0.128)
(within) R^2	0.35	0.37
Number of observations	378	378

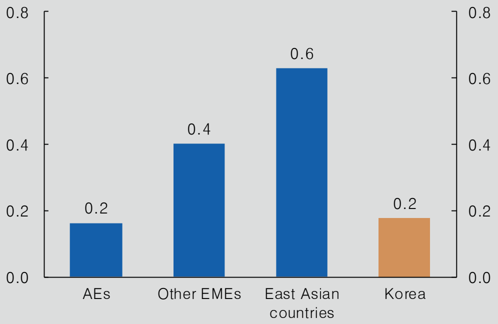
Notes: 1) Included fixed effects of country and time. Used the logarithm value of a variable (excluding spot exchange bid-ask spread and exchange rate regime dummy).
2) Numbers in parentheses indicate the standard error of estimated coefficients, and ***, **, * refer to statistical significances of 1%, 5%, and 10%, respectively.
3) |bid-ask|/median×100
4) Crawling peg and managed float exchange rate regime.
5) Free-floating exchange rate regime.
Source: Bank of Korea.

Financial openness[1)2)] (2022)



Notes: 1) The upper and lower ends of the box indicate the 25-75 percentile of distribution.
2) The green point indicates Korea.
Source: IFS.

Capital control index[1)] (2019)



Note: 1) A higher measure is interpreted as stronger control.
Source: Fernández *et al.* (2016, 2019).

Analysis of recently enlarged exchange rate fluctuation

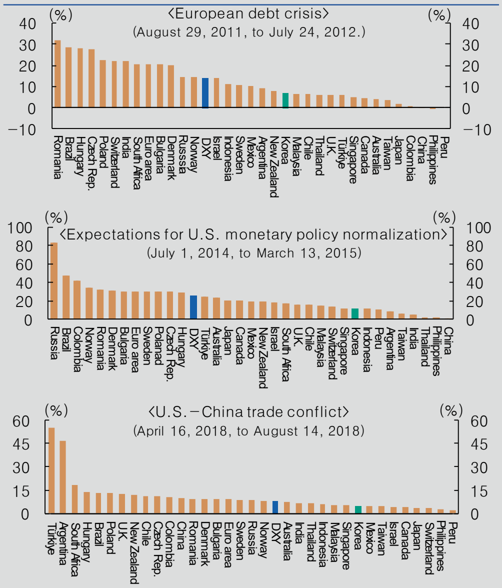
(International comparisons)

During the major global events that strengthened the U.S. dollar after the Global Financial Crisis[4)], the Korean won fluctuated s relatively modestly, comparing to the other currencies in the sample. However, from August 2022 to the beginning of this year, when the U.S. dollar wavered between strength and weakness (strength → weakness → strength), the change rate of the Korean won exchange rate (based on absolute value) far exceeded the average rate of change in other currencies. In particular, in February this year, the depreciation rate of the Korean won was more than double of the sample average, with the Korean won being depreciated highest among 34 countries. This suggests that, recently, the Korean won has faced herd behavior

4) ① European debt crisis (August 29, 2011, to July 24, 2012), ② U.S. monetary policy normalization (July 1, 2014, to March 13, 2015), ③ U.S. - China trade conflict (April 16, 2018, to August 14, 2018).

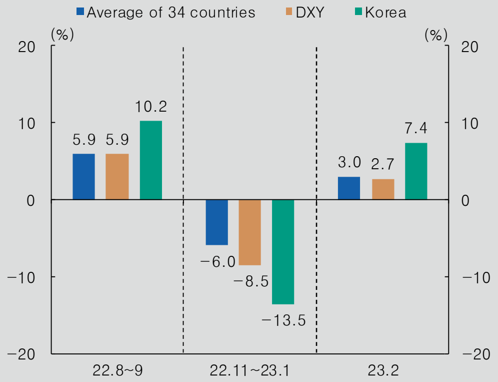
amid an economic environment different from that of the 2010s.

Rate of change in exchange rate during the events of strong U.S. dollar[1)]



Note: 1) Rate of change in exchange rates vis-à-vis the U.S. dollar, from low point to high point of DXY, with DXY being appreciation rate.
Sources: Bloomberg, Bank of Korea.

Recent rate of change in exchange rates vis-à-vis the U.S. dollar[1)]



Note: 1) A positive (+) value refers to depreciation, while a negative (-) value refers to appreciation (with DXY being the rate of change).
Sources: Bloomberg, Bank of Korea.

(Analysis of recent sharp fluctuation in the KRW/USD rate)

To identify the reasons behind the large changes in the Korean won exchange rate against the U.S. dollar earlier this year, a VAR-X model[5)] was estimated using external sector variables of Korea as endogenous variables and a global variable (VIX index) as the exogenous variable.

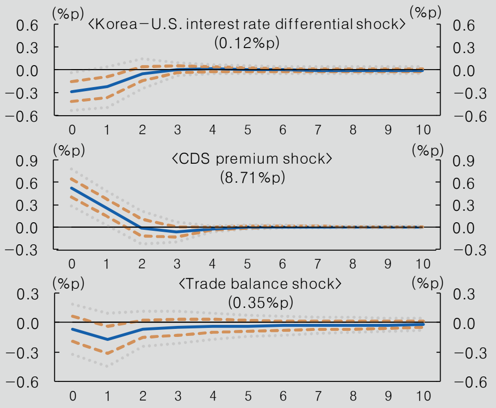
The results of the impulse response analysis[6)] show that the impacts of the Korea-U.S. interest rate differentials and trade balance affected the Korean won exchange rate in a negative direction (appreciation), while the CDS premium did so in a positive direction (depreciation). As for the time lag

5) $Y_t = c + \sum_{i=1}^{p} \Gamma Y_{t-i} + BZ_t + u_t$, with Y_t being the endogenous variable vector, Z_t, the exogenous variable vector, and p, the autoregressive distributed lag. Endogenous variables include the KRW/USD exchange rate (rate of change), CDS premium (rate of change), interest rate differentials (3-month), and the trade balance (share of GDP), and the exogenous variable was the VIX index (rate of change). Monthly data during the estimation period from January 2010 to April 2023 were used with an autoregressive distributed lag of 2.

6) A generalized impulse response analysis (Pesaran and Shin 1998) that is invariant to the ordering of the variables was used.

of responses, impulses from the Korea-U.S. interest rate differentials and the CDS premium affect the KRW/USD rate contemporaneously, while the trade balance shock influences the bilateral exchange rate with a time lag of one month.

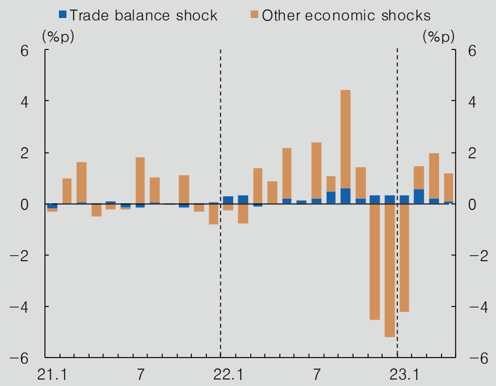
Impulse response analysis of KRW/USD exchange rate[1)2)]



Notes: 1) Impulse response to one standard deviation of each variable (with the x-axis being the time horizon in months following the shock).
2) Dotted lines show confidence intervals of 68% (orange) and 95% (gray).
Source: Bank of Korea.

The historical decomposition results indicate that a significant portion (40%) of the unanticipated rise in the Korean won exchange rate in February this year can be explained by the trade balance shock.[7)] In addition, expectations[8)] for further monetary policy tightening at the U.S. Federal Reserve, albeit not being included in the VAR model, seem to serve as an additional factor of the depreciation.

Historical decomposition of changes in the KRW/USD exchange rate[1)]



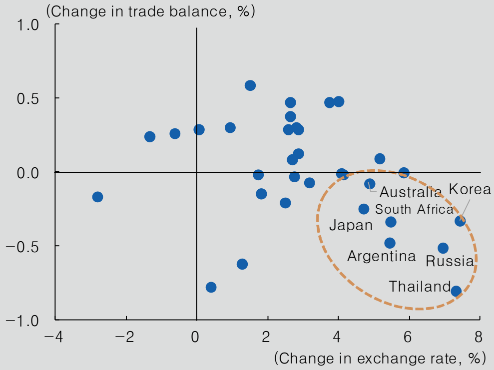
Note: 1) Based on monthly average exchange rate.
Source: Bank of Korea.

Meanwhile, Thailand, South Africa, Argentina, and Russia, whose trade balances deteriorated significantly early this year, also saw their currencies depreciate by a large margin, against the strengthened U.S. dollar in February.

7) The trade deficit in January 2023 reached a record high of USD 12.53 billion.

8) Because the growth of January non-farm payrolls released in early February (month-on-month, +517,000) far exceeded expectations (+188,000) and because the CPI rate published in the same month (year-on-year, 6.4%) also surpassed the expected value (6.2%), expectations for tighter monetary policy at the U.S. Federal Reserve were widespread.

Relationship between recent changes in trade balance[1] and in exchange rate[2]



Notes: 1) Share of change in trade balance between October 2022 and January 2023 relative to GDP.
2) Rate of change in exchange rate between end of January 2023 and end of February 2023.
Sources: IMF, HAVER.

Assessment

Since the Global Financial Crisis, the exchange rate volatility of the Korean won has remained stable overall. Furthermore, although the volatility has been generally higher than that of other East Asian currencies, it has been lower than those of other emerging market countries and advanced economies. This can be attributable to the fact that Korea has higher financial openness and a more flexible exchange rate regime than other East Asian economies, and lower financial openness than advanced countries.

The rate of change in the Korean won exchange rate was also relatively small in magnitude during global events, such as the European debt crisis and the U.S.-China trade conflict. Recently, however, the rate of change has been larger than that of other currencies, which is seen to be partly due to domestic economic factors, such as Korea's continued trade deficit. These analysis results imply that trends in domestic fundamental factors, as well as external factors, need to be closely monitored as they may pose significant exchange rate uncertainty.

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II

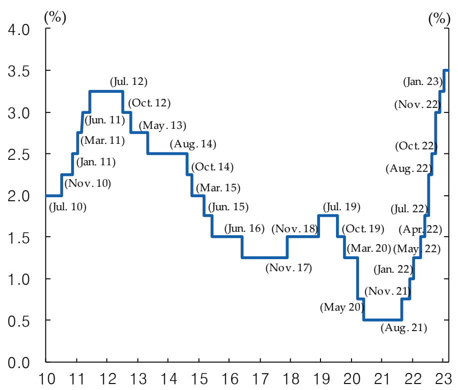
Monetary Policy Implementation

1. Base Rate

Base Rate maintained at 3.50%

The Bank of Korea conducted monetary policy to stabilize consumer price inflation at the target level (2%) over the medium-term horizon as it monitored economic growth while also paying attention to financial stability. Under this policy stance, the Bank maintained the Base Rate at 3.50% and decided to judge the need for a further Base Rate increase while assessing the changes in domestic and external policy conditions.

Figure II-1. Bank of Korea Base Rate[1)]



Note: 1) Figures in parentheses refer to the months of Base Rate adjustments.
Source: Bank of Korea.

The background of the Base Rate determination during this period is reviewed in detail below.

At the April Monetary Policy Board meeting, the Bank of Korea decided to leave the Base Rate unchanged at 3.50%.[61)] This decision was based on the forecast that inflation would stay above the target level for a prolonged period of time, although it was projected to continue to slow, and uncertainty surrounding the policy decision was also judged to be high with risks to the financial sector being elevated in major countries. The Bank will continue to assess the pace of inflation slowdown, financial stability conditions and other uncertain factors to determine the need for further increases. Domestic economic growth has continued to slow with exports continuing to decrease significantly due to deepened sluggishness in the IT industry, although private consumption has recovered somewhat from its slowdown in the fourth quarter last year. Going forward, domestic economic growth is expected to remain weak until the first half of this year, affected by the global economic slowdown and Base Rate increases. From the second half of this year, it is expected to recover gradually with an easing of the sluggishness in the IT industry and the impact of the Chinese economic recovery. Consumer price inflation has continued to moderate, falling to 4.2% in March from 4.8% in February. This is mainly because the decline in the price of petroleum products has accelerated and the

61) All seven members present were in favor of maintaining the Base Rate at the current level.

sustained rise in prices of processed food products has slowed. Core inflation in March recorded 4.0%, the same as in February. Short-term inflation expectations among the general public recorded 3.9%, which is slightly lower than in February. Looking ahead, it is forecast that consumer price inflation will continue to moderate, declining to the 3% range from the second quarter this year, owing to the base effect from the sharp rises in global oil prices last year and weakening pressure from the demand side. Consumer price inflation for the year is expected to be consistent with the February forecast of 3.5%. Meanwhile, it is judged that core inflation for the year is likely to be somewhat higher than the February forecast of 3.0%, considering its recent slow pace of decline. In terms of financial stability, major price variables have become more volatile, affected mainly by global financial market movements. Long-term market interest rates showed a considerable increase, along with government bond yields, in major countries until early March, after which they fell significantly in the aftermath of the failure of Silicon Valley Bank. The Korean won/U.S. dollar exchange rate has been fluctuating considerably, affected by trends in the trade balance, concerns over financial unrest in major countries, and weakening expectations of tightening at the U.S. Federal Reserve. Household loans and housing prices have continued to trend downward, although at a slower pace.

At the May Monetary Policy Board meeting, the Bank decided to leave the Base Rate unchanged at 3.50%[62], based on the judgment that the current tightening stance should be maintained as inflation is projected to keep slowing, but still remain above the target level for a considerable period of time. The Bank decided to judge the need for an additional hike based on its monitoring of changes in domestic and external policy conditions. Domestic economic growth has continued to slow, with ongoing sluggishness of exports and investment, although private consumption has shown a modest recovery, led by services. Going forward, domestic economic growth is expected to remain weak for some time. From the second half of this year, however, it is expected to recover gradually with an easing of the sluggishness in the IT industry and the impact of the Chinese economic recovery. GDP growth for this year is projected to be 1.4%, lower than the February forecast of 1.6%, but the uncertainty regarding the timing of the IT industry's rebound, the domestic impact of the recovery in the Chinese economy, and economic growth in major advanced countries are all judged to be high.

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62) All seven members present were in favor of maintaining the Base Rate at the current level.

Liquidity adjustment made via open market operations

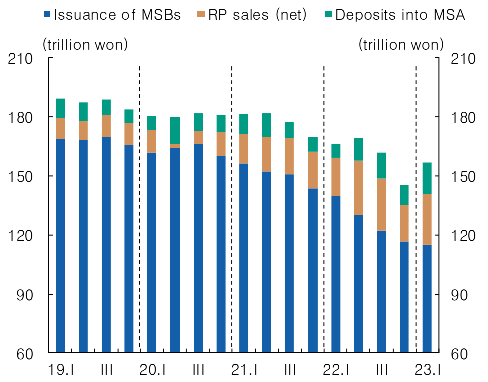
The Bank of Korea adjusts liquidity in the market by utilizing its open market operation instruments, including Monetary Stabilization Bonds (MSBs), repurchase agreement (RP) transactions, and deposits to the Monetary Policy Stabilization Account (MSA), to ensure that the overnight call rate remains generally stable at around the Base Rate.

The total amount of liquidity adjustment needed[63] (average-balance basis) increased in the first quarter of 2023 compared to the previous quarter due to an increase in the reserve deposit supply stemming from an expansion in the government's temporary borrowings from the Bank of Korea. Accordingly, considering that the reserve deposit supply increased as a result of short-term factors, the Bank of Korea maintained the volume of Monetary Stabilization Bond issuance[64] at the level of the previous quarter and significantly expanded the volume of RP transactions[65] and deposits into the MSA.[66] In April 2023, as the required liquidity adjustment amount decreased substantially due to the government's redemption of temporary borrowings, the Bank reduced the volume of RP transactions and deposits into the MSA, which it had temporarily increased.

Meanwhile, to absorb the short-term funds of non-bank financial institutions, which increased significantly due to the remarkable increase in money market funds (MMFs)[67], the Bank of Korea issued non-regular MSBs (28-day)[68] and expanded the issuance of other MSBs (91-day). As a result, the overnight call rate has remained generally stable at a level slightly below the Base Rate since late April.

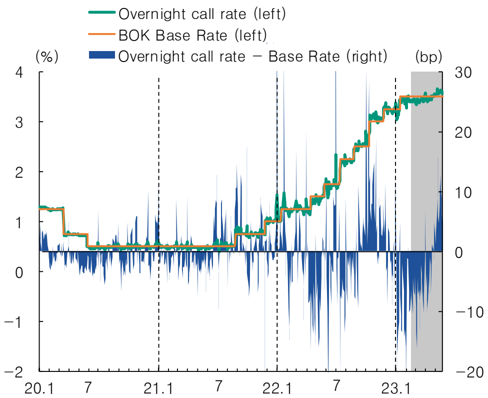
63) The total amount of liquidity adjustment needed is defined as the difference between the reserve deposit supply due to exogenous factors and the reserve deposit demand, which is the legally required reserve deposit that banks are obligated to deposit.
64) The volume of MSBs issued (average-balance basis) fell by 1.5 trillion won in the first quarter of 2023 (quarter-on-quarter) and increased by 0.5 trillion won in April 2023 (month-on-month).
65) Net RP sales (average-balance basis) increased by 7.0 trillion won in the first quarter of 2023 (quarter-on-quarter) and fell by 5.0 trillion won in April 2023 (month-on-month).
66) The average MSA balance (average-balance basis) increased by 5.9 trillion won in the first quarter of 2023 (quarter-on-quarter) and fell by 2.1 trillion won in April 2023 (month-on-month).
67) The balance of MMF rose from 151.5 trillion won at the end of 2022 to 177.4 trillion won at the end of March 2023 and 180.3 trillion won at the end of April 2023.
68) Monetary Stabilization Bonds (28-day) in the amount of 1.57 trillion won were issued on May 4.

Figure Ⅱ-2. Liquidity adjustment[1] via open market operations



Note: 1) Quarterly average balance basis.
Source: Bank of Korea.

Figure Ⅱ-3. Bank of Korea Base Rate and overnight call rate



Source: Bank of Korea.

2. Bank Intermediated Lending Support Facility

To ensure that banks actively lend to small and medium-sized enterprises (SMEs), the Bank of Korea operates the Bank Intermediated Lending Support Facility. This facility supports banks by extending funds at interest rates lower than the Base Rate. When deemed necessary, the Monetary Policy Board makes adjustments to the total ceiling of the facility, the ceiling and interest rate for each program, and the ceiling reserves, taking into account the financial and economic situation and financing conditions of the SMEs.

The Bank Intermediated Lending Support Facility's program ceilings as of June 2023 are: 1.5 trillion won for Trade Financing, 13 trillion won for New Growth Engine Development & Job Creation, 0.3 trillion won for Stabilization of SME Lending, 5.9 trillion won for Regional SMEs, 13 trillion won for SMEs Affected by COVID-19, and 6 trillion won for Small Businesses. The total ceiling is 39.8 trillion won, including 0.1 trillion won in ceiling reserves.

Furthermore, to support SMEs hit by wildfires in Gangneung in April, the Bank of Korea urgently allocated 10 billion won from the ceiling reserves of the Bank Intermediated Lending Support Facility to its Gangneung branch, whose jurisdiction covers the damaged area (April 17).

The interest rate for the Bank Intermediated Lending Support Facility is 2.00%. However, concerning the Support Program for SMEs Affected by COVID-19 and the Support Program for Small Businesses, which were terminated at the end of September 2022, the Bank of Korea is maintaining its support for existing loans until their maturities (up to one year) and keeping the interest rate low (0.25%) regardless of any Base Rate increases that have been made so far.

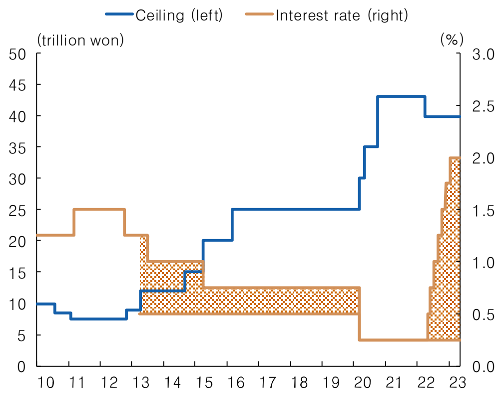
Table Ⅱ-1. Programs under the Bank Intermediated Lending Support Facility

(trillion won, %)

Programs		Ceiling	Interest rate
Support Program for Trade Financing		1.5	2.00
Support Program for New Growth Engine Development and Job Creation		13.0	2.00
Program for Stabilization of SME Lending		0.3	2.00
Support Program for Regional SMEs		5.9	2.00
Ceiling Reserves	Support Program for SMEs Affected by COVID-19	13.0	0.25
	Support Program for Small Businesses	6.0	0.25
Total		39.8[1]	-

Note: 1) Includes 0.1 trillion won Ceiling Reserves (Others).
Source: Bank of Korea.

Figure II-4 Ceiling and interest rates of Bank Intermediated Lending Support Facility[1)]



Note: 1) Shaded area represents the time frame where interest rates were different for each program.

Source: Bank of Korea.

3. Other Monetary Policy Measures

Continued monitoring of financial and foreign exchange market conditions

The Bank of Korea has continuously monitored movements in the financial and foreign exchange markets at home and abroad. It has also looked closely at the development of domestic and global risk factors as well as their impacts on the financial and foreign exchange markets in the event of increased market volatility through the activation of an emergency financial market monitoring system. The Bank discussed the responses of financial markets at home and abroad to the results of the U.S. Open Market Committee (FOMC) meetings (held on March 23 and May 4, 2023), along with the impact of such meeting results, and held a Market Conditions Review Meeting to examine the impact of the U.S. Silicon Valley Bank incident on financial and foreign exchange markets at home and abroad (March 13).

Additional extension of measures to expand the scope of eligible securities for lending facilities and purchase of RP from institutions participating in capital calls for the bond market stabilization fund

In November 2022, the Bank of Korea temporarily expanded the range of eligible collateral for its lending facilities, for guaranteeing net settlements, and for securities eligible for RP transactions under open market operations, with a view to ensuring stability in the short-term money and bond markets. It extended the expiration date of the temporary expansion by another three months[69] from the initially scheduled date at the end of April. This extension was aimed at promoting financial stability at a time of elevated uncertainty abroad in the wake of the bankruptcy of Silicon Valley Bank in the U.S. and of the merger & acquisition of Credit Suisse in March.

To prevent any spread of financial market strain, the Bank continued to purchase RP from financial institutions participating in capital calls for the bond market stabilization fund that was activated in December 2022. Meanwhile, as funding conditions at financial institutions improved, 15.5 billion won of the refinancing bidding for maturing RPs that the Bank had purchased in December 2022 and January 2023 (219.6 billion won) was refinanced.

69) The measure was extended from April 30 to July 31, 2023.

Reform of ratio of loans to small and medium-sized enterprises

The Bank of Korea decided to unify the different ratios[70] of loans to small and medium-sized enterprises that had been applied to commercial and regional banks, setting the new ratio at 50%. The ratio of 50% was a compromise between the current ratios for commercial banks (45%) and regional banks (60%) that was made to address the issue of discrimination toward regional banks stemming from the higher ratio applied to them and to ensure that lending to small and medium-sized enterprises does not contract. The measure will take effect on July 1, 2023, to give banks time to reflect such a change in their fund operation plans.

Swap transactions conducted with National Pension Service

The Bank of Korea and the government entered into foreign exchange swap transactions (maturity of six months or one year) with the National Pension Service[71] on April 13 with the aim of mitigating the exchange rate fluctuation risk associated with overseas investments and increasing the efficiency of foreign currency funds. The swap transactions will be effective until the end of this year with a limit of USD 35 billion. Foreign exchange authorities can address imbalances in supply and demand in the foreign exchange market by absorbing the demand of the National Pension Service to buy spot exchanges at times of strain in the foreign exchange market.

Monitoring of financial system risk factors strengthened

The Bank of Korea monitored various aspects of the financial system in order to preemptively identify financial stability-related risks that could be triggered by heightened uncertainty at home or abroad, including trends in monetary policies in major countries and failures at small and medium-sized U.S. banks, as well as recent rapidly changing domestic conditions, such as the rise in lending rates and the contraction of the real estate sector.

At the March Financial Stability Meeting[72], the Bank of Korea intensively monitored default risks in credit and asset markets

70) The ratio of loans to small and medium-sized enterprises was introduced in April 1965 to provide access to bank funds for small and medium-sized enterprises with insufficient credit ratings and collateral. The system requires banks to lend at least a certain ratio of any increase in their Korean won-denominated loans to small and medium-sized enterprises (commercial banks 45%, regional banks 60%) (Article 2 of the Financial Institutions Loan Operation Regulations).

71) In September 2022, foreign exchange authorities and the National Pension Service responded to elevated volatility in the foreign exchange market through a foreign exchange swap arrangement (until the end of 2022, limit of USD 10 billion).

72) For details, refer to the Bank of Korea press release "Financial Stability Conditions" (March 2023, published only in Korean).

caused by continued financial tightening. In particular, given that household loan delinquency has recently been rising across the financial sector, the Bank analyzed the default probability of households and the burden of debt repayment by sector. Furthermore, it assessed the financial risks of individual construction companies amid the sluggish real estate sector and analyzed, by project site, the risks of PF projects in which non-bank financial institutions were participating. Based on these findings, the Bank examined the resilience of non-bank financial institutions by sector. In addition, it measured the foreign currency liquidity risk of domestic financial institutions due to external financial unrest, such as a collapse of small and medium-sized U.S. banks, and assessed the ability of domestic financial institutions to cope with the impact of the exit of foreign currency from Korea through stress tests.

Meanwhile, the Bank of Korea shared its views on major current issues related to domestic financial and economic conditions, such as household debt and real estate PF and potential risk factors, with relevant consultative bodies, including at the Macroeconomic and Financial Meeting, and made focused efforts to come up with joint countermeasures.

Assessed current financial issues and potential systemic risks through joint examinations of financial institutions

To preemptively assess potential risk factors accumulated in the financial system, the Bank of Korea conducted joint examinations of financial institutions while maintaining its continuous monitoring of outstanding financial issues.

During the risk inspection of individual banks conducted from January through May 2023, the Bank examined bank asset quality, liquidity, and profitability in relation to changes in economic conditions, specific management related matters, and observance of the Bank of Korea's regulations. Moreover, it conducted a sectoral examination of corporate loans and investigated the soundness and potential risks of corporate loans and banks' risk management status. In addition, by providing explanations of the examination results to the Board of Directors of financial institutions, the Bank continued to make efforts to maintain clear and efficient communication with financial institutions.

Table II-2. BOK-FSS joint examination of financial institutions

(number)

2019	2020	2021	2022	2023[1]
6	2	6	5	2

Note: 1) From January to May.
Source: Bank of Korea.

Meanwhile, it reviewed the management conditions of banks and bank holding companies and monitored the impacts of the recently elevated uncertainty at home and abroad and risks related to vulnerable sectors.

Moreover, the Bank of Korea gained a deeper understanding of the global management situation and risk management of large foreign banks operating in Korea and exchanged information about global financial supervisory issues by attending the Supervisory College hosted by major global supervisory authorities.

Strengthened global financial cooperation

The Bank of Korea enhanced the effectiveness of its monetary policy by attending major international conferences, such as those at the BIS, the G20, and the IMF, and collecting information about the policy responses in major countries to global financial and economic situations. At those conferences, the Bank discussed major outstanding issues, such as the impact of tight monetary policy globally, inflation, global economic fragmentation, the global financial safety net, financial vulnerability, and foreign exchange settlement risks.

Meanwhile, the Bank contributed to the successful hosting of the 56th ADB Annual Meeting in Songdo, Incheon, along with the government. At the meeting, it discussed the global economic situation and policy tasks with a focus on the Asia-Pacific region and ways to induce the growth and development of, and to strengthen cooperation among, countries across the region.

In addition, to cope with increasing uncertainty at home and abroad, the Bank continued its efforts to expand the multi-layered financial safety net through currency swap arrangements. In March, it renewed[73] a bilateral local currency swap arrangement with Indonesia for three years under the same conditions stipulated in the existing contract. It also made efforts to enhance the effectiveness of the Chiang Mai Initiative Multilateralization (CMIM) process, an agreement on multilateral currency swaps in the region. Notably, in May, at the ASEAN+3 Finance Ministers′ and Central Bank Governors′ Meeting[74] that convened in Korea, the Bank discussed the future direction of the Regional Financing Arrangement. Hence, it will develop details concerning the lending facility and funding structure of the CMIM and conduct related research.

73) The size of the swap contract was IDR 115 trillion / KRW 10.7 trillion (about USD 10 billion), with the terms and conditions remaining unchanged from the existing contract.

74) The meeting appoints two co-chairs -- one from among the 10 ASEAN member countries and one from among Korea, China, and Japan -- who take turns each year, and this year Japan and Indonesia are acting as the co-chairs.

Improved safety and efficiency of payment and settlement system, and continued research on CBDCs

The Bank of Korea has continued its efforts to improve the safety and efficiency of its payment and settlement systems by monitoring the smooth implementation across the country of the Principles for Financial Market Infrastructures (PFMI)[75] and other international standards in the field of payments and settlements. To this end, since October 2022 it has been conducting an assessment of three key payment and settlement systems operated by the Korea Financial Telecommunications & Clearings Institute, the Check Clearing System, the Interbank Remittance System, and the Electronic Banking System, as well as the Open Banking Joint Business System, and plans to complete its assessment in the first half of this year. Furthermore, since December 2022 the Bank has been assessing BOK-Wire+, and based on the assessment results, it plans to make recommendations where improvements are needed. In addition, in April 2023 the Bank monitored the status of risk management regarding payments and settlements at a domestic bank through a joint examination.

Meanwhile, the Bank of Korea continued to make efforts to reduce the burden[76] of complying with regulations because Treasury bonds and MSBs deposited with the Bank by banks as collateral to guarantee net settlement payment are excluded from high-quality liquid assets (HQLA) when estimating the liquidity ratio under Basel III. In February last year, the Bank, together with the Financial Supervisory Service, prepared and implemented ways to include the collateral for net settlements in its high-quality liquid assets when calculating the liquidity coverage ratio (LCR), a regulatory ratio of short-term liquidity. The Bank is also discussing with the Financial Supervisory Service ways to recognize unused collateral for net settlements as high-quality liquid assets when calculating the net stable funding ratio (NSFR).[77]

The Bank of Korea has continued its research and development into a central bank digital

75) Following the Global Financial Crisis, it was deemed necessary to expand the over-the-counter (OTC) derivatives market infrastructure and strengthen international standards for the operation of financial market infrastructures. Accordingly, in April 2012 the BIS Committee on Payments and Market Infrastructures (CPMI), jointly with the International Organization of Securities Commissions (IOSCO), established and published new international standards for payment and settlement systems, known as the PFMI.

76) If prime bonds, such as Treasury bonds and MSBs deposited by banks to guarantee net settlement, are excluded from high-quality liquid assets, the liquidity ratio of banks declines.

77) The NSFR is the ratio of total available stable funding (liabilities and capital) to total required stable funding (assets). To limit a bank's excessive reliance on short-term wholesale funding, the ratio requires banks to fund a certain portion of their long-term assets with stable liabilities and capital.

currency (CBDC) as a means of preemptively addressing the rapid progress being made in the digital economy and the continued decline in the use of cash. First, the Bank conducted connection tests in cooperation with 15 financial institutions (14 banks and the Korea Financial Telecommunications & Clearings Institute) (July to December 2022)[78] to examine the simulation system established for the CBDC simulation (August 2021 to June 2022)[79] under a more realistic IT system operating environment. In addition, the Bank conducted discussions with the BIS in order to participate in the "Enhancing Cross-Border Payments Using a CBDC" project being implemented by the BIS Innovation Hub. It has also been closely monitoring changes in external conditions related to CBDCs and promoting cooperation by sharing CBDC-related research results with other major central banks and international organizations. The Bank of Korea will step up its technical and institutional research toward finding an optimal design and model that best suits Korea's financial and economic environment. In addition, in the future a variety of usages of CBDCs will be examined in cooperation with the domestic private sector, related agencies, and international organizations.

78) For details about the tests on connecting the simulated CBDC system with financial institutions, refer to the BOK press release "Results of Tests to Connect Simulated CBDC Systems to Financial Institutions" (May 2023, published only in Korean).

79) For details related to research on the CBDC pilot program, please refer to the BOK press release "Results of Stage 2 of the CBDC Simulation Program and Future Plans" (November 2022, published only in Korean).

Box Ⅱ-1.

Current Monetary Policy Stance and Major Risks

From August 2021 to January 2023, the Bank of Korea raised the Base Rate on 10 occasions by a total of 300 bp to cope with the accumulated risk of financial imbalances and to ensure price stability. After that, the Bank has been maintaining its monetary tightening stance, keeping the Base Rate at 3.50%. As two years have passed since discussions on interest rate normalization began, this section reviews the policy operation process, assesses the current policy stance, and examines major risks.

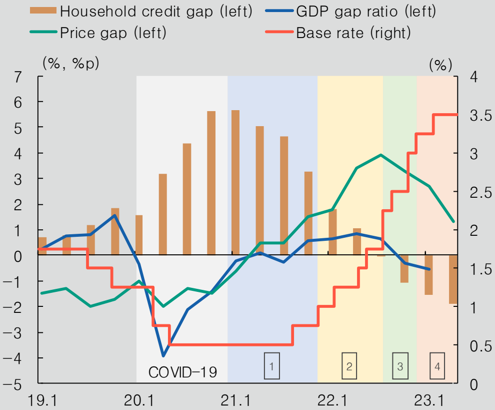
Policy operation process during the interest rate hike period

This interest rate hike period can be divided into four phases depending on whether the internal and external currency value or financial stability was the focus of monetary policy operations.

① Initially, the interest rate hikes started with the aim of coping with financial imbalances. As the economy, which had been sluggish during COVID-19, recovered rapidly, monetary policy normalization was started in August 2021 to address the financial imbalances that had been accumulated under the accommodative financial conditions. At the time, amid the low interest rate environment that was imposed to deal with COVID-19, the search-for-yield among economic agents spread, and prices of assets, such as housing, continued to rise, accelerating the accumulation of debt in the private sector. Unlike in major countries[1], household debt, which had expanded without adjustment after the Global Financial Crisis, is one of the major risk factors in the Korean economy. Hence, based on the assessment that it was necessary to mitigate financial imbalances through monetary policy in order to manage risks to the domestic economy on the medium-term horizon, the Bank of Korea started its interest rate hikes before they began in major countries.

1) Major countries generally experienced deleveraging (a decline in the household debt-to-GDP ratio) before and after the Global Financial Crisis. In the U.S. and the U.K., particularly, the household debt-to-GDP ratio continuously rose after 2000, reaching nearly 100%, and declined rapidly after the Global Financial Crisis. In Korea, however, after the Asian currency crisis in 1998 and the Korean credit card crises in 2003 and 2004, the household debt-to-GDP ratio declined temporarily and has since continuously risen without adjustment.

GDP gap ratio[1], price gap, household credit gap[2] and Base Rate[3]



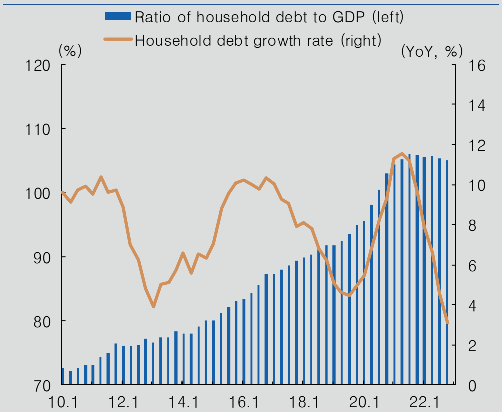
Notes: 1) GDP gap ratio = (real GDP - trend) / trend. Trend was extracted using HP filter (λ=1,600), different from gap ratio estimated using potential GDP.

2) Household credit gap was estimated using one-sided HP filter (λ=25,000), based on the household credit-to-GDP ratio.

3) 1, 2, 3, and 4 indicate the financial imbalance response period, the high inflation response period, the foreign exchange unrest response period, and the financial unrest response period, respectively, corresponding to the numbers in the text.

Sources: Statistics Korea, BIS, Bank of Korea.

The ratio[1] of domestic household debt[2] to GDP and household debt growth rate



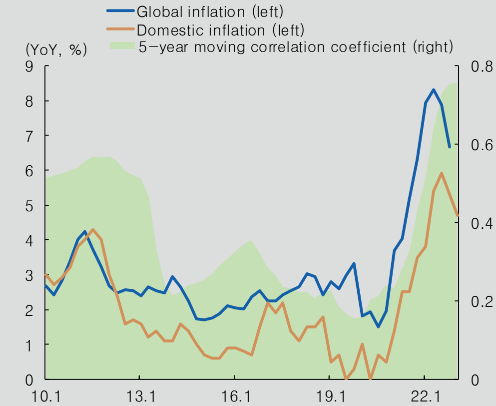
Notes: 1) Relative to nominal GDP.

2) Based on flow of funds statistics.

Source: Bank of Korea.

2 Although the Bank of Korea started its interest rate hikes to address financial imbalances, as prices rose more rapidly than expected, the focus of monetary policy naturally shifted to a response to inflation, and it became increasingly necessary to reduce the degree of accommodative monetary policy. With a mixture of demand and supply factors, such as pent-up demand, global supply chain disruptions, and the rise in commodity prices after the Russia-Ukraine war, the increase in prices accelerated amid soaring inflation in major countries. As inflation climbed, short-term expectations for inflation far exceeded the target level. As a result, central banks in advanced economies, which had viewed inflation as a temporary problem caused by supply factors and tolerated the increase in prices, began to rapidly raise policy rates.

Global[1] and domestic inflation



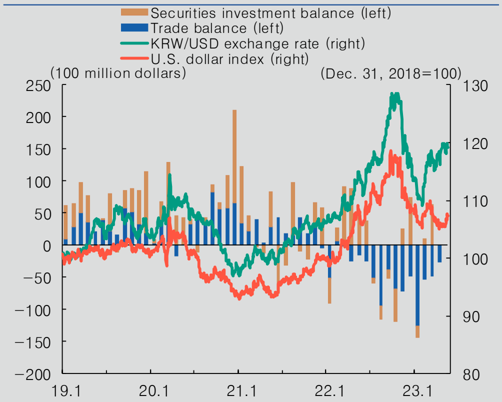
Note: 1) GDP weighted average of CPIs of G20 countries.

Sources: Statistics Korea, IIF, CEIC, OECD, Bank of Korea.

3 In the second half of 2022, both inflationary pressure and foreign exchange sector risks surged due to the rapid rise in exchange rates. As the U.S. Federal Reserve, which had belatedly started monetary tightening, accelerated its policy rate hikes amid continuing geopolitical tension, the U.S. dollar appreciated significantly. With domestic factors, such as the trade deficit, added to this situation, the Korean won/U.S. dollar exchange rate rose sharply.

As a result, the spillover of global inflation onto domestic prices expanded, and foreign exchange sector risks emerged, as well. Hence, the Bank of Korea increased the pace of its Base Rate hikes to achieve a sufficient level of monetary tightening in advance. In the process of accelerating interest rate hikes, there was concern that it would lead to a loss of economic growth in the short-term. However, the Bank of Korea pressed ahead with tightening, based on the belief that, given its experience with high inflation during the oil crises in the 1970s and 1980s, it was more advantageous to achieve price stability quickly in order to secure growth in the long-term.

U.S. dollar index, KRW/USD exchange rate, and foreign exchange demand and supply



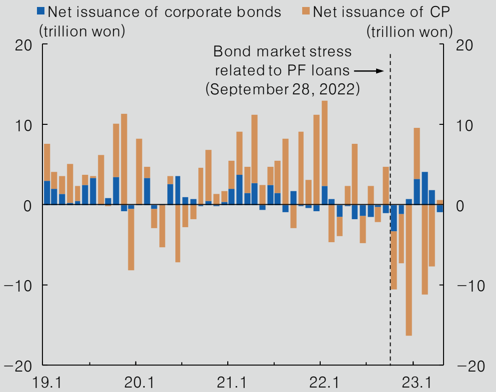
Sources: Korea Customs Service, Bloomberg, Bank of Korea.

4 After the fourth quarter last year, financial market unrest occurred mostly in the real estate sector, which had become vulnerable due to prolonged risk-taking behavior during a low interest rate environment. Amid the growing vulnerability caused by the continued monetary tightening at home and abroad, and the accumulated burden of the bond supply due to the massive issuance of KEPCO bonds, an accidental credit event prompted fears of default on real estate PFs, undermining overall market liquidity and causing fundraising disruptions. The Bank of Korea responded to this financial unrest through market stabilization measures[2], such as liquidity support, and continued its monetary policy tightening with a focus on price stability. As shown by the recent stress in the banking sector that was triggered by the bankruptcy of Silicon Valley Bank (SVB), major countries, as well as Korea, were exposed to financial vulnerability in the course of monetary tightening, and the central banks in major countries responded[3] to such financial unrest by introducing separate measures to promote financial stability while continuing to pursue price stability.

2) These measures included expanding the scope of eligible collateral securities for its lending facilities and guaranteeing net settlements, and of securities subject to RP transactions under open market operations. Additionally, the Bank of Korea purchased bonds in repo auctions to stabilize the short-term money markets, and also provided liquidity to financial institutions participating in capital calls for the bond market stabilization fund through repo purchases. For details, refer to "Recent Stress in the Short-Term Money and Bond Markets and Market Stabilization Measures of the Bank of Korea" (Bank of Korea blog, December 16, 2022, only in Korean).

3) The U.S. Federal Reserve responded to the bankruptcy of Silicon Valley Bank (SVB) (March 2023) by creating the Bank Term Funding Program (BTFP), and the Bank of England temporarily bought Treasury bonds to address the market stress (September through November, 2022) that was triggered by the announcement of tax cuts. Market stabilization measures, such as liquidity supply, and monetary policy tightening may appear to be conflicting responses, but market stabilization measures can be in harmony with tightening stance of monetary policy in that they ultimately promote the smooth operation of transmission channels. This is consistent with efforts to prevent so-called "financial dominance", where the emergence of a vulnerability in the financial sector in the course of interest rate hikes could constrain a central bank's monetary policy operations.

Net issuance of corporate bonds and CP[1]



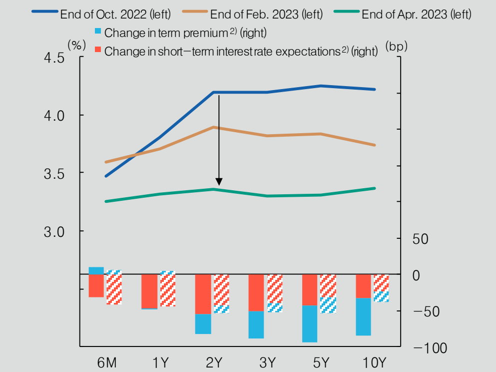
Note: 1) Includes short-term corporate bonds.
Sources: Korea Securities Depository, Yonhap Infomax.

Assessment of current monetary policy stance

The Base Rate has been increased to 3.50% through a series of hikes, and its current level is assessed as being tight, that is, slightly above the range of the neutral interest rate.

In terms of market interest rates, which are the main channel through which the Base Rate is transmitted to financial markets, the rapid decline in short- and long-term Treasury bond yields indicates that the degree of tightening has eased significantly this year. The yield curves of Treasury bonds have been shifting downward since October 2022, and long-term rates fell faster than short-term rates (“bull flattening”). In particular, after the bankruptcy of SVB in March 2023, market interest rates fell sharply and have remained below the Base Rate amid weakening expectations of monetary tightening at home and abroad, and reflecting the flight-to-quality. The results of an analysis using an interest rate term structure model[4] showed that both short-term interest rate expectations and term premiums decreased, and that longer-term bonds were more significantly affected by the contraction in term premiums. In addition, in terms of price factors and real economy factors, while the decline in interest on short-term bonds was driven by price factors (inflation expectations and the risk premium), the decline in interest on long-term bonds can be more effectively explained by real economy factors, such as the possibility of an economic recession and risk aversion (expectations for real short-term interest rates and the risk premium).

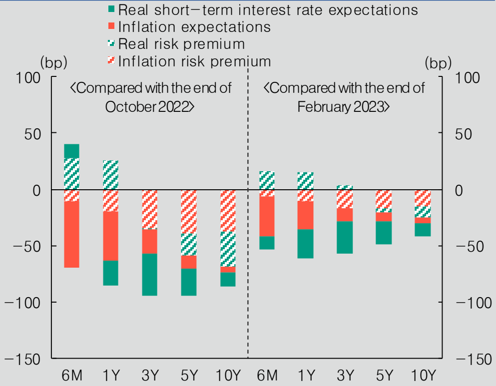
Shift in Treasury bond yield curve[1]



Notes: 1) Based on zero-coupon bond.
2) Average of estimates of three models: Adrian *et al.* (2013), Bauer *et al.* (2014), and Hordähl and Tristani (2014). Bars on left (solid) refer to change from end of October 2022, while bars on right (crosshatch) refer to change from end of February 2023.
Sources: Koscom, Bank of Korea.

4) According to the theory of the term structure of interest rates, long-term interest rates consist of expectations for short-term interest rates and a term premium. Expectations for short-term interest rates are the average of short-term forward rates (e.g., 3-month bonds) embedded in the yield curve and represent market participants’ expectations regarding the average policy rate until bond maturity. In addition, the term premium is compensation for holding bonds for the long-term, consisting of an inflation risk premium (price uncertainty) and a real risk premium (uncertainty related to the economy and demand & supply).

Decomposition of factors of change in interest rates[1)2)]

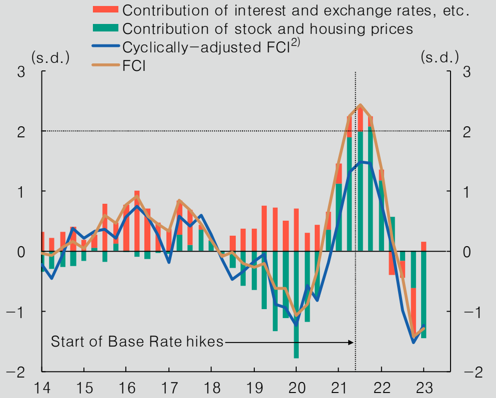


Notes: 1) As of end of April 2023.
2) Based on the methodology of Hordähl and Tristani (2014). Factors of change in interest rates were decomposed using Treasury bond yields by maturity, a Treasury bond market liquidity indicator, and macroeconomic and survey data, based on a New Keynesian model and an interest rate term structure model.

Source: Bank of Korea.

An assessment with the Financial Conditions Index (FCI)5), which considers various price variables comprehensively, showed that financial conditions remained in a tightening stance. The cyclically-adjusted FCI, which eliminates the impact of economic fluctuations on financial conditions, also found that current financial conditions represent a significant tightening stance. Prices of assets, such as housing and equity, which had soared during the COVID-19 pandemic, were adjusted by interest rate hikes, acting as the principal factor in the tightening of financial conditions.

Financial Conditions Index (FCI)[1)] and contribution of its components



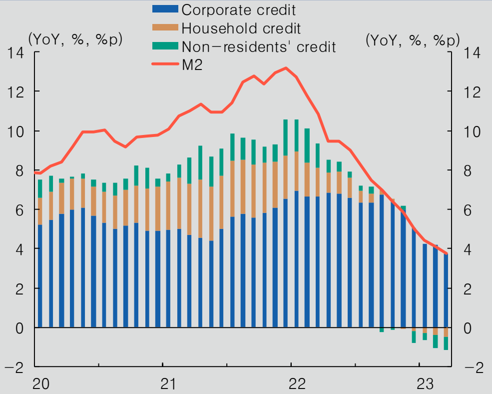
Notes: 1) Contribution of components (asset prices, other) is based on the FCI.
2) The FCI, with the impact of economic fluctuations removed.

Source: Bank of Korea.

Meanwhile, the growth of quantitative indicators, such as liquidity (based on M2) and credit supply, slowed rapidly, but it is rather difficult to clearly judge the degree of the constraints. As for liquidity supply by sector, while household credit and overseas credit have decreased, corporate credit has steadily increased. In addition, while the private credit-to-nominal GDP ratio is above the trend, the ratio of M2 to nominal GDP is below the trend, with different indicators pointing to different conditions.

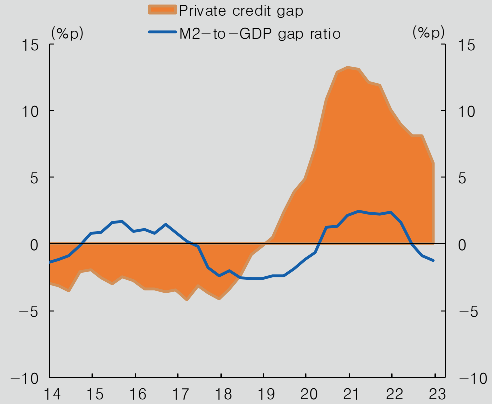
5) The FCI assesses the easing or tightening of financial conditions. It is calculated by standardizing the weighted sum of six financial variables (based on monthly averages), such as interest rates, exchange rates, and stock prices, that are deemed to be important in assessing financial conditions.

M2 growth rate[1)] and contributions by sector[2)]



Notes: 1) Period-average basis.
2) Based on total credit (period-end basis) of Depository Corporations Survey.
Source: Bank of Korea.

Private credit gap[1)] and M2-to-GDP gap ratio[2)]



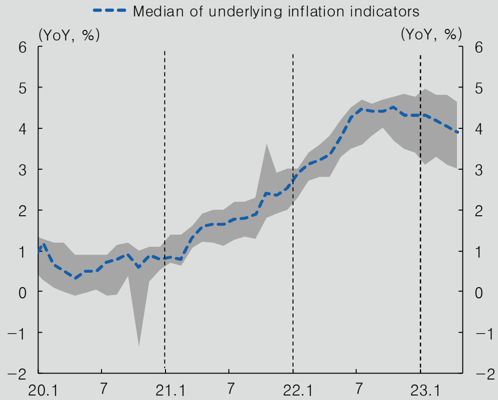
Notes: 1) Private credit gap was estimated using a one-sided HP filter (λ=25,000), based on the private credit-to-GDP ratio.
2) HP filter cyclical components of M2/GDP (λ=1,600)
Source: Bank of Korea.

Examination of major potential risks related to future monetary policy operations

(High uncertainty surrounding inflation)

While inflation is slowing, with long-term inflation expectations staying at around the target level, various core indicators of underlying inflationary pressure remain elevated with downward rigidity, and thus uncertainty over the pace of inflation decline is high.

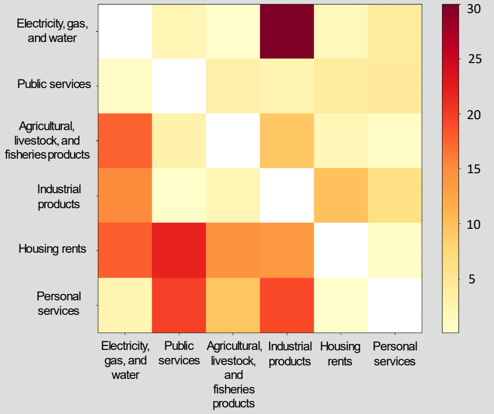
Indicators of underlying inflation[1)2)3)]



Notes: 1) The shaded area indicates the range between maximum and minimum values of underlying inflation indicators (weighted median, trimmed-mean, UIG, core, non-housing services, MCT).
2) The Underlying Inflation Gauge (UIG) is estimated by extracting the medium- and long-term common components of price increases in individual items for the CPI by referring to Amstad *et al.* (2017).
3) The Multivariate Core Trend (MCT) is calculated by extracting the common trends of price increases in sub-items for core CPI, according to Stock and Watson (2016).
Sources: Statistics Korea, Bank of Korea.

In addition, if the delayed increase in public utility charges materializes, it is expected to act as a factor that raises inflation over an extended period through direct and indirect channels. Hikes in public utility charges tend to have significant spillover effects onto other prices and persist for a long period of time as they affect the production costs of businesses. The empirical analysis results showed that electricity, gas, and water bills have considerable spillover effects onto the prices of agricultural, livestock, and fishery products, prices of industrial products, and housing rents. Public service charges were also found to have substantial spillover effects onto housing rents and personal service prices.

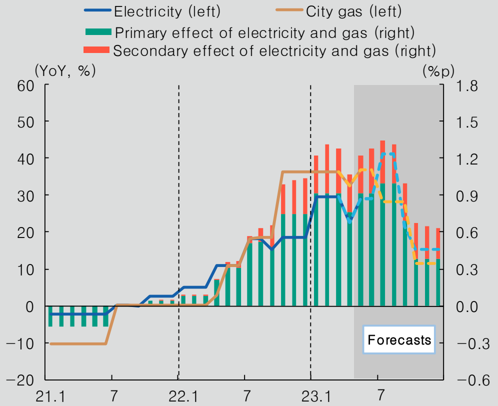
Spillover effects between price sectors (spillover index)[1)2)]



Notes: 1) Spillover effects of shocks from variables in the columns on the variables in the rows. The darker the shade of red, the greater the spillover effect (cumulative effect for 12 months).
2) Based on BIS (2022), Koop *et al.* (1996), Pesaran and Shin (1998), a VAR model was estimated with prices in six sub-sectors of the CPI, and a generalized forecast error variance decomposition was conducted.

Source: Bank of Korea.

Rate of increase in public utility charges and contribution to CPI inflation[1)2)3)]

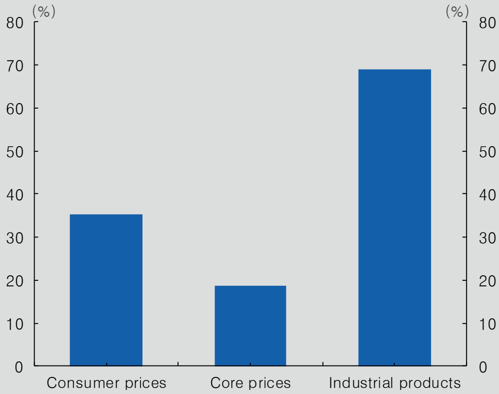


Notes: 1) Assumed that electricity fees and city gas charges rose by 8.00 won and 1.04 won, respectively, and then remained unchanged.
2) Expectations after May.
3) The primary effect is the contribution of the hikes in charges, and the secondary effect is the spillover effect.

Sources: Statistics Korea, Bank of Korea.

Besides, with the deepening global synchronization of inflation, there remains the possibility that an unexpected supply shock could cause a resurgence in global inflation ("second wave"), significantly impacting domestic prices.

Rate of cumulative transmission of global inflation to domestic prices[1)2)]



Notes: 1) Rate of cumulative transmission = (12-month cumulative impulse response function of relevant indicator) / (12-month cumulative impulse response function of global inflation).
2) This is analyzed using a five-variable Bayesian VAR: global inflation (first of main components for 33 countries), exchange rate, import prices, producer prices, and consumer prices.

Source: Bank of Korea.

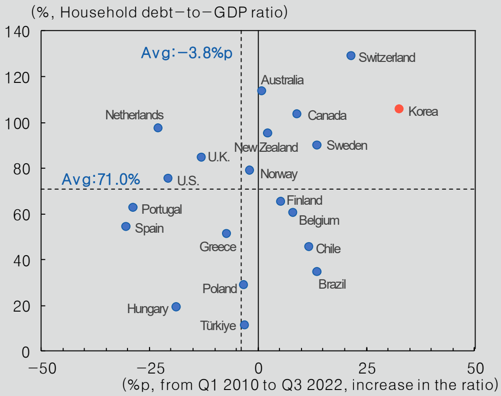
(Possibility of delay in mitigating financial imbalances)

Despite the decline in housing prices and gradual decrease in household debt ratio influenced by the Base Rate hikes, accumulated financial imbalances have not yet eased. Housing prices are still overvalued, deviating from income level, and the household debt ratio remains highly elevated, in spite of the recent decline. Thus, going forward, deleveraging needs to continue steadily in the medium- and long-term. While the high level of household debt constrains household consumption[6)],

6) If the household debt-to-GDP ratio exceeds a certain level (80%-100%), the increase in the burden of principal and interest repayment due to excessive debt can reduce the real disposal income of households, contracting private consumption and shrinking

it could raise the possibility of a financial crisis[7] or reduce growth potential[8], acting as a factor that undermines both the macro economy and financial stability on both the short-term and long-term horizons.

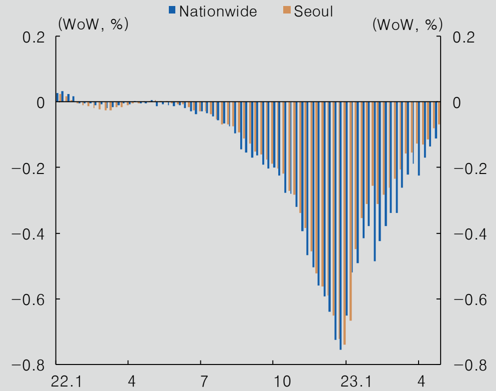
Household debt ratios[1] and their extent of growth, by country



Note: 1) Relative to nominal GDP, as of third quarter 2022.
Source: BIS.

Meanwhile, due to the impact of the government's relaxation of real estate-related regulations to induce a soft landing in the housing market, the decline in housing prices is moderating at a faster pace this year. Furthermore, as bank lending to households is increasing again, led by housing-related loans, it is necessary to be cautious about the potential delay in deleveraging of household debt.

Weekly change in apartment sale prices



Source: Korea Real Estate Board.

(Possibility of stress in foreign exchange sector)

As the U.S. Federal Reserve has signaled that it may end its rate hike cycle[9], a sharp rise in exchange rates or an occurrence of stress in the foreign exchange sector due to a widening domestic-international interest rate differential and to a strong U.S. dollar is less likely for the time being. However, amid continuing current account deficits[10], if the U.S. Federal Reserve does raise interest rates further, or if the domestic monetary policy stance shifts early, upward pressure on exchange rates will

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growth. In particular, if a large portion of the expanded leverage enters the real estate market, the burden of principal and interest repayment continues, putting constraints on household consumption in the long-term (Arcand *et al.*, 2015; Cecchetti and Kharroubi, 2012; Lombardi *et al.*, 2017; Easterly, Islam, and Stiglitz, 2000; Kwon *et al.*, 2023).

7) Excessive household debt can increase the likelihood of a financial crisis by raising the vulnerability to domestic and external shocks. In particular, if the increase in household debt is coupled with asset price bubbles, such as in real estate, a financial crisis becomes more likely, increasing the magnitude of the reduction in the growth rate and protracting the impact period in the case of crisis (Schularick and Taylor, 2012; Jordà *et al.*, 2015).

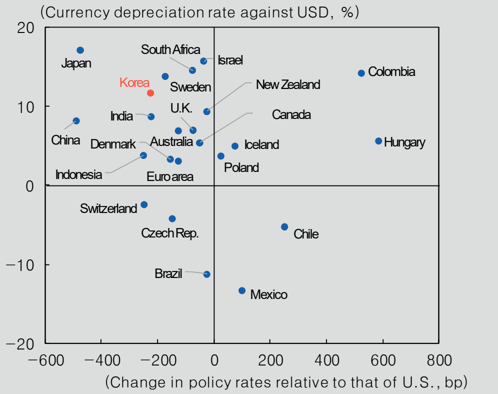
8) Financial imbalances may damage potential growth by reducing the fertility rate and increasing the inefficiency of resource allocation in the medium- and long-term. According to Park (2023), a 1% increase in housing prices reduces the total fertility rate by 0.002 people in the first year and has a lasting long-term effect.

9) The projection of the U.S. Federal Reserve's terminal policy rate level reflected in interest rate futures (median, May 22) was 5.23%, close to the upper limit of its current range (5.25%).

10) Current account balance (100 million dollars): 99.9 in second quarter of 2022 → 8.8 in third quarter → 40.8 in fourth quarter → -44.6 in first quarter 2023.

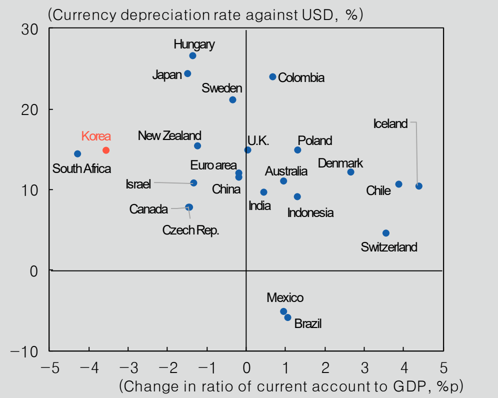
likely rise again.

Change in policy and exchange rates[1)2)]



Notes: 1) Changes from fourth quarter of 2021 to April 2023.
2) Analysis was conducted on 23 countries for which data are provided by the BIS and the OECD (excluding Norway and Türkiye as outliers).
Sources: BIS, OECD.

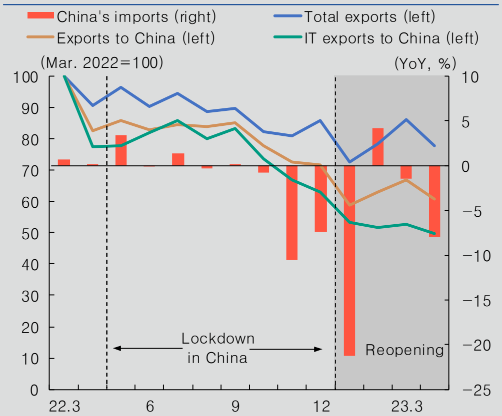
Change in ratio of current account to GDP and change in exchange rates[1)2)]



Notes: 1) Changes from fourth quarter of 2021 to fourth quarter of 2022.
2) Analysis was conducted on 23 countries for which data are provided by the BIS and the OECD (excluding Norway and Türkiye as outliers).
Sources: BIS, OECD.

In addition, it should be noted that if any improvement in the current account is delayed, downside risks to growth and risks of foreign exchange demand and supply imbalances increase, weakening confidence in external soundness. Externally, as the economic recovery in China is driven mainly by domestic demand, such as consumption[11)], Korea's exports to China are likely to remain sluggish. Domestically, the delay in public utility charge hikes, which sustains demand for energy imports, may be a factor in expanding the current account deficit.

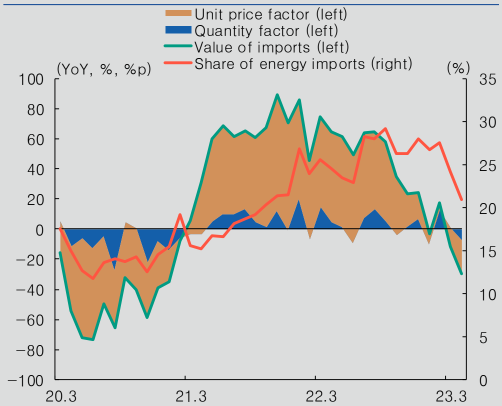
Exports to China and China's imports



Sources: Korea Customs Service, General Administration of Customs of the People's Republic of China.

11) The year-on-year growth rate of retail sales in China rose from -2.7% in fourth quarter of 2022 to 5.8% in first quarter of 2023.

Value and share[1)] of energy imports[2)]

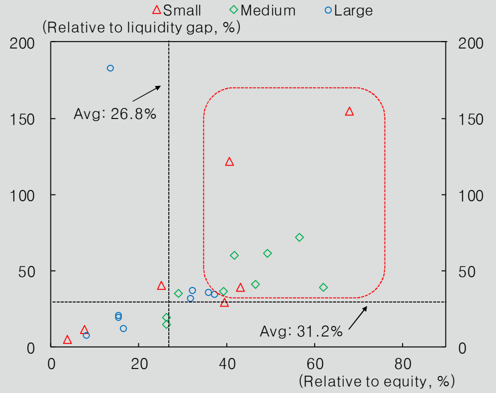


Notes: 1) Energy imports / total imports.
2) Crude oil, coal, and gas.
Sources: Korea Customs Service, Bank of Korea.

(Possibility of recurrence of financial unrest)

As the pace of monetary tightening has slowed at home and abroad, and as expectations for further tightening have moderated, it is less likely that financial unrest will recur amid the growing liquidity risk across markets, as it did during the second half of last year. However, with interest rates remaining elevated, it is still likely that real estate finance-related credit risks among non-bank financial institutions will spread to other sectors, triggering market stress. Since the second half of last year, the delinquency rates of corporate loans extended by non-bank financial institutions, which have a high share of loans issued to the real estate industry, have climbed rapidly. Moreover, market vigilance over securities and construction companies, which have large exposure to PF-backed securities, persists, making rollovers challenging. Securities companies with insufficient liquid assets and higher shares of contingent liabilities may see their capital adequacy fall significantly in the event of contingent liabilities converting into actual liabilities.

Contingent liabilities[1)] relative to the liquidity gap[2)] and equity, by size of securities company[3)]



Notes: 1) Debt guarantee for PF exposure.
2) Liquid assets - liquid liabilities.
3) Based on capital amount as of end of 2022.
Sources: Yonhap Infomax, Financial Supervisory Service, Korea Investors Service.

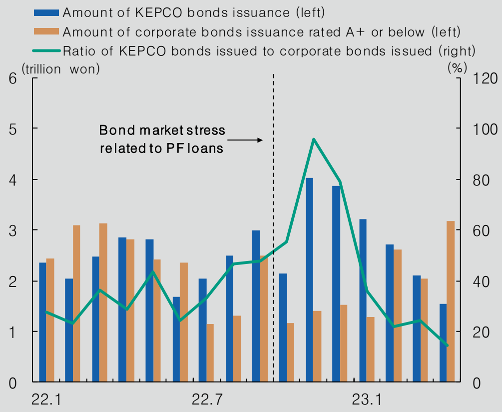
Meanwhile, there are various factors in terms of the demand and supply burdens in the bond market through to year end. Looking at major factors, although the additional issuance of KEPCO bonds is expected to be limited due to the recent rise in electricity fees, there is a possibility of further increase in the issuance of bank debentures, considering the regulatory normalization[12)], with a massive amount of bank debentures maturing in the second and third quarters of this year. Moreover, the Korea Housing Finance Corporation will likely issue additional MBS due to the early exhaustion of special *Bogeumjari* Loan[13)], and Treasury bonds may

12) The limit of bank debentures was increased from 100% of debentures maturing to 125% in March 2023, and with the steady normalization of LCR regulations, the ratio of collateral for guaranteeing net settlements is also scheduled to rise.

■ LCR regulation normalization plan

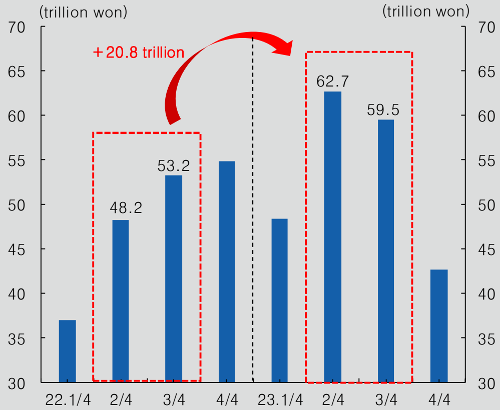
be issued to compensate for insufficient tax revenue.[14] Unlike in the second half of last year when interest rates rose rapidly, it is less likely that the burden of demand and supply will be a primary factor to trigger market stress. However, it should be noted that if the burden suddenly becomes concentrated, it is still possible that investment sentiment could contract, crowding out non-prime bonds and deteriorating liquidity conditions.

Issuance of KEPCO bonds and non-prime corporate bonds



Source: Yonhap Infomax.

Bank debentures to mature



Source: Yonhap Infomax.

Summary and implications

The Bank of Korea embarked on its rate hike campaign to relieve accumulated financial imbalances, and proceeded at an unprecedentedly rapid pace in order to respond to surging prices, lifting the Base Rate to the current tightening status. Meanwhile, through active stabilization measures, the Bank responded to the temporary unrest in the foreign exchange and financial sectors that emerged through the course of tightening.

However, a significant portion of the various risks that arose during the rate hike campaign remains

Through to June 2022	→	July 2022	→	October 2022	→	July 2023	→	October 2023	→	January 2024
85%		90%		92.5%		95%		97.5%		100%

∎ Plan to raise ratio of collateral for guaranteeing net settlement

Through to July 2022	→	August 2023	→	August 2024	→	August 2025
70%		80%		90%		100%

13) As of the end of April 2023, 30.9 trillion won out of a ceiling of 39.6 trillion won (based on amount of applications, 78%) was utilized.

14) The cumulative tax revenue rate of the government from January to March 2023 (tax revenue for January - March / annual tax revenue, 21.7%) is lower than that for the same period last year (28.1%), as well as lower than the average of 2017-2022 (27.0%).

unresolved and lingers as potential risks. These risks are complexly linked to each other and could restrict policy operations. Accordingly, appropriate policy operations that take these risks into account are necessary. While the uncertainty of high inflation persists amid stubborn underlying inflation, the likelihood of financial unrest cannot be excluded, given the vulnerability of real estate finance. Moreover, if improvements in the current account are delayed amid lingering factors that contribute to destabilizing international financial markets, external sector risks are also likely to surge, along with the downside risks to growth. Furthermore, since the recent relaxation of regulations on real estate may somewhat delay the easing of financial imbalances, acting as a factor that undermines the macro economy and financial stability, careful monitoring of developments in this regard is necessary.

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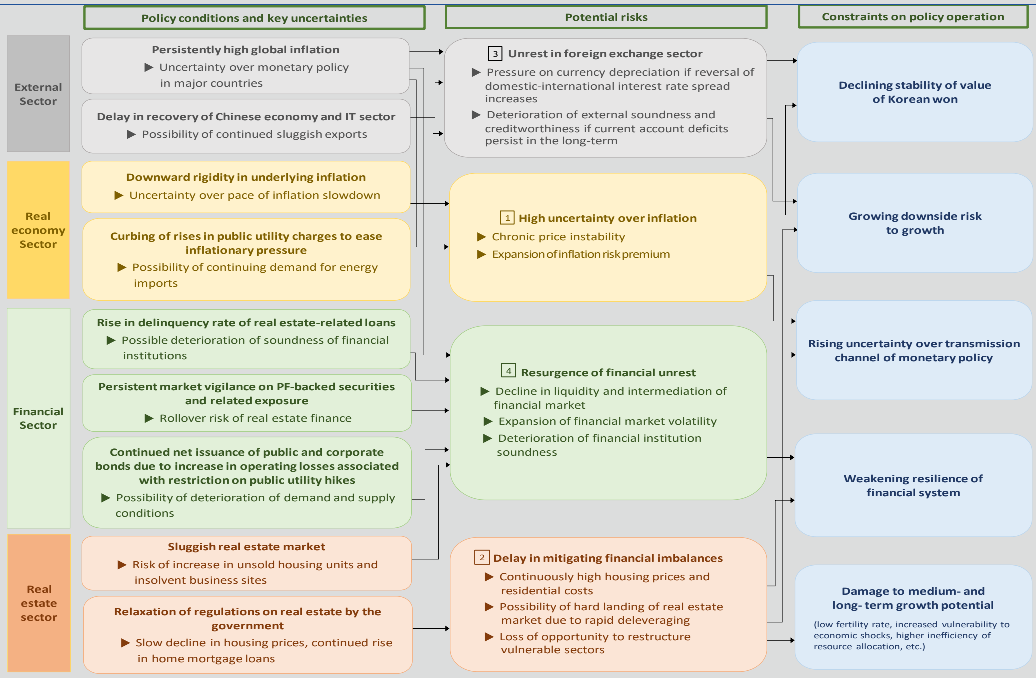
Interconnectedness among major factors of uncertainties and risks



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III

Policy Considerations and Outlook

1. Projections for Growth and Inflation[80)]

Domestic economy expected to show a gradual recovery

The Korean economy will continue its sluggishness for some time, mainly due to a further contraction in the IT sector and the delayed effects of China's reopening. It is expected to improve gradually in the second half of this year, but the pace of recovery will be slower than initially expected. Korea's real GDP growth is projected to be 1.4% in 2023 and 2.3% in 2024.[81)]

Table III-1. Economic growth outlook[1)]

(YoY, %)

	2022	2023e			2024e		
	Year	H1	H2	Year	H1	H2	Year
GDP	2.6	0.8	1.8	1.4	2.4	2.3	2.3
Private consumption	4.3	3.3	1.4	2.3	2.2	2.6	2.4
Facilities Investment	-0.5	5.3	-11.1	-3.2	-1.8	9.8	3.7
Intellectual property products investment	4.7	3.1	3.4	3.3	4.9	2.6	3.7
Construction investment	-3.5	0.7	-1.4	-0.4	-1.7	1.9	0.2
Goods export	3.4	-2.3	3.0	0.4	4.1	2.7	3.3
Goods imports	4.7	2.2	-2.5	-0.2	1.3	5.0	3.1

Note: 1) Figures are the forecast as of May 2023.
Source: Bank of Korea.

By sector, private consumption is expected to recover moderately, driven by the increase in household income and the improvement in consumer sentiment. High interest rates are likely to constrain the increase in the consumption of goods, but service consumption is expected to continue to recover due to sustained pent-up demand and government-implemented measures to support domestic demand. In addition, overseas consumption is projected to show a rapid recovery as international flights rebound.

Facilities investment is expected to continue its sluggish trend due to the contraction of the IT business and the burden of financial costs. While uncertainty in the global economy remains high, and high capital costs are likely to persist, facilities investment for the year will likely decrease. Next year, however, with the easing of uncertainty at home and abroad and a recovery in the IT sector, corporate investment sentiment will recover gradually and investment will shift upward.

Regarding investment in intellectual property products, the current favorable growth is expected to continue owing to the government's policy to support ventures, to expand the R&D budget, and due to the rising demand for AI-related software. This is

80) For details, refer to *Korea Economic Outlook* (May 2023) of the Bank of Korea.
81) The GDP growth projection for 2023 (1.4%) was adjusted downward by 0.2%p from the February projection (1.6%), while the GDP growth projection for 2024 (2.3%) was lowered by 0.1%p from the February projection (2.4%).

despite constraints, such as worsening corporate earnings caused by the global business slowdown and a deterioration in investment sentiment in the wake of the Silicon Valley Bank (SVB) incident.

Investment in construction is forecast to remain sluggish due to the slow real estate sector and the government's reduction in its social overhead capital (SOC) budget. In addition, as the financial soundness of construction companies worsened due to the accumulation of unsold housing units since the second half of last year, supply will likely be restricted. Next year, while civil engineering is forecast to increase, led by large plant constructions, the building of residential units is expected to remain sluggish, likely leading to only a small increase in construction investment.

Goods exports will remain sluggish for some time, but are likely to improve gradually in the second half of the year led by the impact of China's reopening and the recovery in the IT sector. It appears that the current account will be unable to make a clear recovery for some time due to sustained sluggishness in the semiconductor industry and due to slow exports to China, but in the second half external conditions are forecast to improve gradually with the goods account continuing to record a surplus for the entire year.

The outlook for future growth is highly uncertain, including the timing of the rebound in the IT sector, the extent of the spillover effects from the Chinese recovery, and economic conditions in major advanced economies.

Table III-2. Upside and downside risks to growth[1]

<Upside risks>	<Downside risks>
Rapid improvement in domestic exports due to the recovery of Chinese economy	Limited effect of China's reopening and delayed recovery of IT sector
Strong service industry conditions	Deepening economic downturn in advanced economies
	Default in vulnerable domestic sectors

Note: 1) Figures are the forecast as of May 2023.
Source: Bank of Korea.

Consumer price inflation expected to be overall in line with last forecast, while core inflation moves upward

Consumer price inflation for 2023 is expected to be in line with the most recent forecast (3.5%), but core inflation is expected to be above the February forecast (3.0%), at 3.3%. Core inflation is expected to rise above the forecast level due to a sustained spillover of accumulated cost-push pressures and better-than-expected trends in service demand and employment. The projection for consumer price inflation remains unchanged, despite higher upward pressure on core inflation, in consideration of the decline in international oil prices due to concern over a delayed global economic recovery, and a delay in the timing and reduced magnitude of hikes in electricity and natural gas rates.

Looking ahead, consumer price inflation will likely continue to show clear signs of slowing, declining to the 2% level in the middle of the year before rising again and fluctuating at around the 3% level near year-end.

Table III-3. Inflation outlook[1)]

(YoY, %)

	2022	2023e			2024e		
	Year	H1	H2	Year	H1	H2	Year
CPI inflation	5.1	4.0	2.9	3.5	2.5	2.3	2.4
CPI excluding food & energy	3.6	3.8	2.9	3.3	2.1	2.0	2.1

Note: 1) Figures are the forecast as of May 2023.
Source: Bank of Korea.

There is high uncertainty regarding the future path of inflation, including trends in international oil movements, domestic and international business cycles, and the extent of and spillover from public service fee increases.

Table III-4. Upside and downside risks to inflation[1)]

<Upside risks>	<Downside risks>
Continued trend of significant increases in service prices	Accelerating decline in international oil prices
Rising international oil prices	Deepening sluggishness in domestic and global economies
Resurgence of KRW/USD exchange rate	Curbing of rises in public utility charges

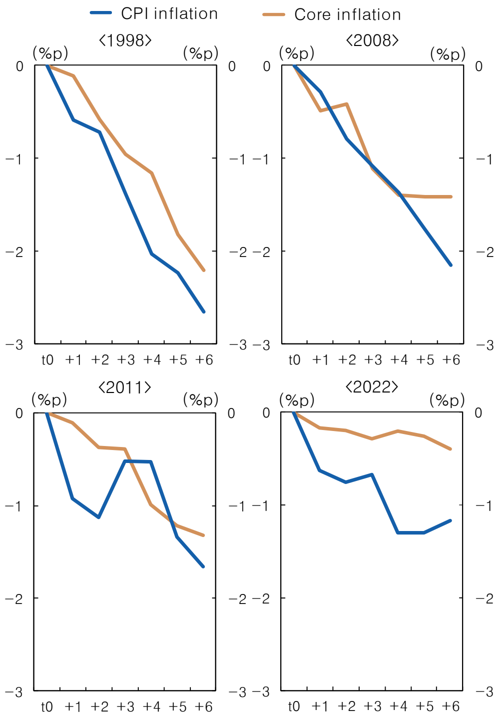
Note: 1) Figures are the forecast as of May 2023.
Source: Bank of Korea.

2. Key Judgments and Risks

Continuing high uncertainty over path of inflation

While domestic consumer price inflation (year-on-year) is gradually moderating thanks to the reduced supply price pressures since the second half of last year, core inflation has not yet shown any clear signs of decline.[82)] Although core prices usually moderate at a slower pace than consumer prices during a price slowdown, recent core prices, especially service prices, are following a significantly slower trend than in past slowdowns.[83)]

Figure III-1. Pace of slowdown in consumer price and core inflation[1)]



Note: 1) t0 is the peak of consumer price or core inflation.
Sources: Statistics Korea, Song *et al.* (2023).

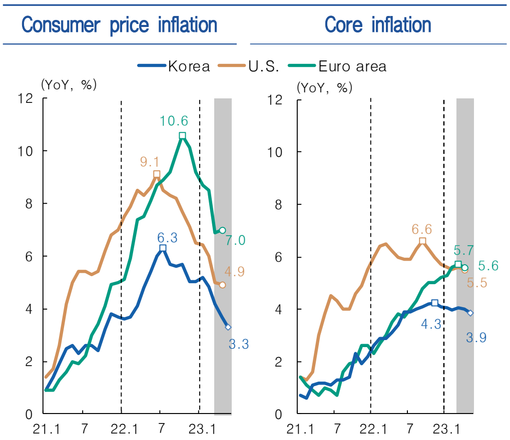
Such developments are also being seen in major economies, including the United States and the euro area.[84)] Because core prices usually indicate fundamental inflation pressure, there is concern that the trend in consumer price inflation exceeding the target level is likely to persist for a considerable period of time.

82) Consumer price inflation in Korea has declined by 3.0%p over the 10 months since it reached its peak (6.3% in July 2022 → 3.3% in May 2023). Core inflation slowed by only 0.4%p over six months (4.3% in November 2022 → 3.9% in May 2023).

83) For details, refer to "An Assessment of Recent Inflation Trends: Headline, Core, and Underlying Inflation" (*BOK Issue Note*, No. 2023-19, June 2023, published only in Korean).

84) Headline inflation in the United States declined by 4.2%p over the 10 months since reaching its peak (9.1% in June 2022 → 4.9% in April 2023), while core inflation slipped by 1.1%p over seven months (6.6% in September 2022 → 5.5% in April 2023). HICP inflation in the euro area fell by 3.6%p over six months after peaking (10.6% in October 2022 → 7.0% in April 2023), but core inflation has shown no signs of slowing (5.6% in February 2023 → 5.7% in March → 5.6% in April).

Figure III-2. Inflation in major economies



Sources: Statistics Korea, U.S. Bureau of Labor Statistics (BLS), Eurostat.

This rigid movement of core inflation is mainly attributed to the second-round effects of accumulated upward cost pressures and to favorable trends in the consumption recovery and employment.[85]

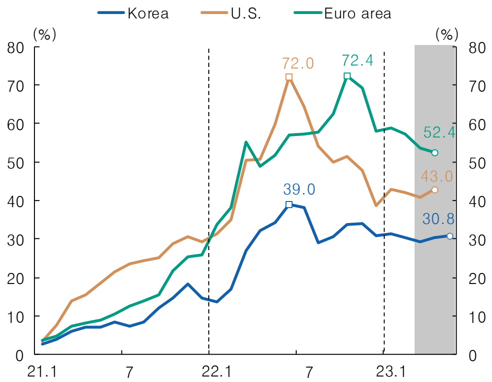
The second-round effects of a rise in energy prices tend to last longer in Korea than in major countries. In the United States and the euro area, cost-push factors were rapidly transmitted to consumer prices, and thus energy prices rose rapidly in the first half of last year and slowed substantially after the second half. In Korea, on the other hand, electricity and natural gas rates rose gradually, resulting in a relatively moderate expansion of energy price hikes. Since then, the rate of increase has not significantly subsided. This is expected to put additional upward pressure on core prices for a considerable period of time. In addition, due to lingering factors around increasing costs that have not eased, there is significant uncertainty over further hikes in public service rates.[86]

Service consumption decreased significantly during the initial phase of the pandemic, but has since risen continuously thanks to pent-up demand after the withdrawal of COVID-19 restrictions. Moreover, with employment rates in Korea and major countries having recently fallen to historic lows, the labor market is in good shape, serving as a factor in increasing prices. Meanwhile, as the labor supply in Korea's service sector increased due to the voluntary employment of seniors in low-wage jobs, wages in the service sector only increased by a small margin, resulting in relatively moderate core inflation in Korea compared to that in major countries. In addition, high rigidity in the decline in prices of services, such as dining out, has contributed to delaying the slowdown in core inflation.

85) For details, refer to "Assessment of Core Inflation Pressures in Korea and the United States" (*BOK Issue Note*, No. 2023-13, April 2023, published only in Korean).

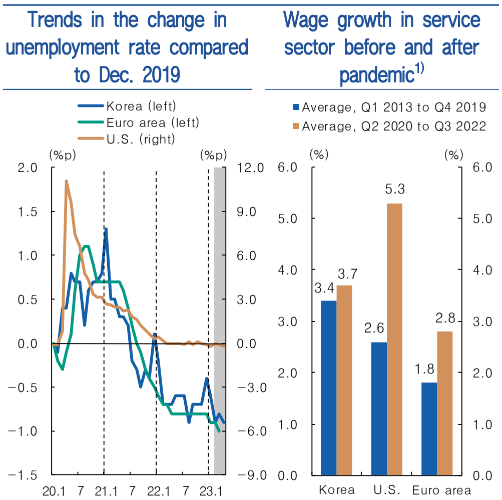
86) At the end of the first quarter of 2023, the accumulated deficits of the Korea Electric Corporation and the Korea Gas Corporation stood at 44.7 trillion won (consolidated basis) and 11.6 trillion won, respectively, indicating that there remains a necessity of further hikes to improve their financial structure.

Figure III-3. Cumulative CPI energy price inflation in major economies[1)]



Note: 1) Compared with December 2020.
Sources: Statistics Korea, U.S. Bureau of Labor Statistics (BLS), Eurostat.

Figure III-4. Changes in unemployment and wage growth rates in major economies



Note: 1) Based on total monthly average wages per employee for Korea, total hourly wages for the U.S., and Labor Cost Index for the euro area.
Sources: Statistics Korea, Ministry of Labor and Employment, U.S. Bureau of Labor Statistics (BLS), Eurostat.

Moreover, if an increase in demand due to the recovery of economic activity in China (reopening) and the impact of a worsening of the war in Ukraine prompt a rebound in the prices of international commodities, such as crude oil, it could put additional upward pressure on domestic prices. The Korean won/U.S. dollar exchange rate may rise again depending on changes in market expectations regarding the monetary policy stance of the U.S. Federal Reserve and the resulting responses of the international financial market, which could delay the slowdown in domestic price inflation.

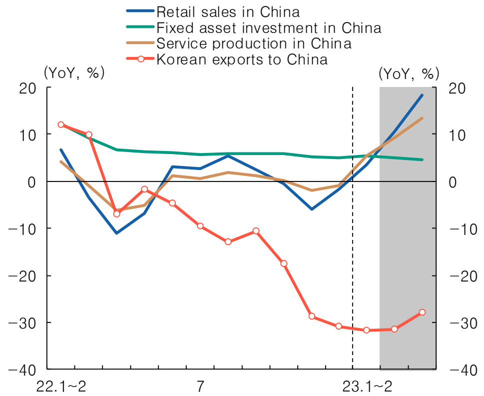
Looking ahead, although domestic inflation is expected to moderate gradually, the moderation of core prices remains slow, and the second-round effects of increases in wages and global energy prices are forecast to last for a prolonged period. With the looming high uncertainty over external conditions, risk factors affecting future domestic prices need to be carefully monitored.

Continued slowdown in growth

As for the domestic economy, despite the recovery of private consumption, exports continued to stagnate, slowing growth. In particular, the improvement in Korean exports appears to have been limited for some time because of the weak spillover effects from China's reopening to Korea's domestic economy, the sluggishness in the IT sector, and lingering repercussions from the financial unrest in advanced economies. Domestically, weakness in the purchasing power of households and private investment due to high prices and interest rates, and due to the sluggishness in the real estate market, could put additional downward pressure on growth.

First, since the recovery of the Chinese economy, which was initially expected to have a positive effect on the Korean economy, occurred mostly in China's domestic demand, such as face-to-face service consumption and public infrastructure investment, any positive spillover leading to an increase in Korean exports to China has been insignificant, so far. The absence of a swift recovery in China's import demand for intermediate goods due to high manufacturing inventory levels, is another factor in the delay of any positive reopening effect. Furthermore, ongoing changes in the Chinese economic structure, such as the underlying trend of weakening import demand for intermediate goods due to the country's efforts to localize supply chains[87], is also impeding the recovery of Korean exports to China. Nonetheless, the resumption of economic activity in China is likely to have a positive impact on Korean exports in the second half. However, as the consumption of durable goods remains sluggish due to the reduction in government support and the weakening effect of pent-up demand, and if the U.S.-China conflict intensifies, there is a risk that the sluggishness in Korean exports to China may deepen.

Figure III-5. Key indicators of domestic demand in China and Korean exports to China



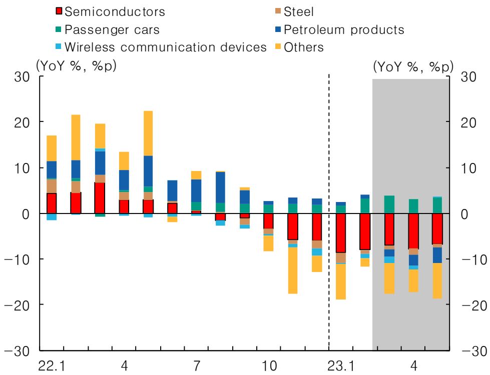
Sources: National Bureau of Statistics of China, Korea Customs Service.

The deterioration of the semiconductor industry due to the slowdown in the global IT business is another factor driving the overall decline in Korean exports. Exports have fallen since September last year, with the export of semiconductors, one of Korea's main export items, continuing to drop rapidly owing to declines in unit prices and in volume amid slowing global demand. Major forecasting institutions predict that the semiconductor industry will rebound in the second half this year as a result of production cuts by global producers and because of the increase in demand for high-performance AI

87) In China, the self-sufficiency rate for intermediate goods is rising as the country has built its own supply chains through which it has pursued advancement in its industrial structure. China's upstream industry participation rate in the global value chain (GVC) declined from 23.1% in 2007 to 18.3% in 2021. For details, refer to "The Impact of China's Reopening on South Korean Economy" (*BOK Issue Note*, No. 2023-6, February 2023).

chips.[88] However, there is significant uncertainty concerning the timing of the semiconductor industry's recovery, given that inventory levels are now higher than in the past, and the possibility of a constraint on durable goods consumption due to persistently high interest rates.

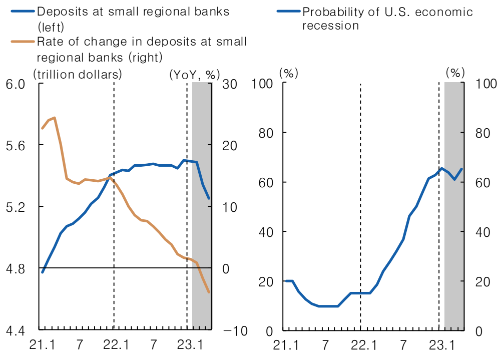
Figure Ⅲ-6. Contributions to rate of change in exports



Source: Korea Customs Service.

Meanwhile, rising risks in the financial sector in major countries and the possibility of a prolonged period of tight monetary policy still exist as downside risks to the global economy. In the Unites States, although a prompt policy response eased the banking sector stress following the SVB incident, the possibility of outflows of funds from small and medium-sized banks and default risks in commercial real estate remain, and if financial unrest spreads to the real economy through tighter credit conditions, economic activity may contract.[89] Moreover, as core inflation moderates at a slower pace, led by service prices, the possibility has emerged that the U.S. Federal Reserve may keep interest rates higher for a longer period of time, steadily fueling recession fears in the U.S. economy. In the euro area, despite the easing of energy supply disruptions, the cumulative effect of policy rate hikes and the inflationary constraint on consumption recovery is likely to result in a smaller-than-expected economic recovery.

Figure Ⅲ-7. Deposits at small U.S. regional banks and probability of economic recession[1)]



Note: 1) Median of the projections of recession probabilities in a year by major institutions.
Sources: FRED, Bloomberg.

Domestically, downside risks may be the contraction in private consumption and investment due to high interest rates, the continued slump in the real estate market,

88) Projected growth rate of global DRAM sales (year-on-year, Gartner): -15.4% in 2022 → -39.4% in 2023 → 86.5% in 2024.
89) For details, refer to "Assessment of the U.S. Economy after Interest Rate Hikes and Implications" (*BOK Issue Note*, No. 2023-10, April 2023, published only in Korean).

including the decline in housing prices, and the limited capacity of increase in government expenditure owing to a decrease in tax revenue.

After the second half of this year, the domestic economy is projected to improve gradually, driven by exports amid improved external conditions, such as the growing effect of China's reopening and the recovery in the IT sector. However, the timing and pace of the economic recovery remains highly uncertain. Hence, it is necessary to closely monitor the development of major domestic and external risks and their impacts on the domestic economy.

Elevated risk in financial sector

Recently, amid the increased default risk of non-bank financial institutions due to the sluggish housing market and the possibility of tighter credit conditions following the bankruptcy of Silicon Valley Bank in the U.S., risk in the financial sector has been soaring.

First, regarding the domestic housing market this year, owing to the government's relaxation of regulations[90], the rate of decline in housing sales and leasehold deposit (*jeonse*) prices decelerated rapidly, and the number of transactions increased. Such moderation of sluggishness in the housing market is positive in that it reduces the default risk of real estate PFs in the event of a sudden drop in housing prices. However, caution is needed concerning the possibility that expectations of price increases could cause an increase in debt, resulting in another spike in financial imbalances. Meanwhile, leasehold deposit prices are seen to still be significantly below the level seen two years ago, which is the usual contract renewal frequency, despite a moderation in the downward trend, raising concern over the difficulty landlords could face due to the fall in leasehold deposit prices (the "reverse-*jeonse* phenomenon"). In particular, in the second half, leasehold deposit contracts for residences purchased through "gap investments" in 2021 are approaching maturity[91] and an increase in new apartment supply[92] is expected to push leasehold deposit prices downward, raising the risk that landlords might not be able to return the leasehold deposits to their tenants. Looking ahead, the housing market is expected to face downward pressure considering the high interest rates and unrest in the leasehold deposit market. Accordingly, related developments need to be

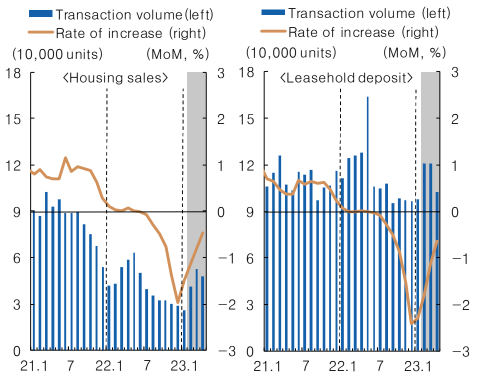
90) To promote a soft landing in the housing market, the government announced housing market regulatory normalization measures, such as the elimination of regulated zones, a reduction in the resale restriction period, and the removal of restrictions on intermediate payment loans ("2023 Major Policy Implementation Plan" , January 3, 2023).

91) Nationwide leasehold deposit (*jeonse*) transactions (based on contract date, 10,000 units): 24.1 in first quarter of 2021 → 24.3 in second quarter → 25.8 in third quarter → 26.7 in fourth quarter.

92) Nationwide supply of new apartments (10,000 units): 8.1 in first quarter of 2023 → 8.9 in second quarter → 9.3 in third quarter → 9.9 in fourth quarter.

continuously monitored against the possibility of a rise in the delinquency rate of household loans[93], especially among vulnerable borrowers, which could lead to elevated risk in the financial sector.

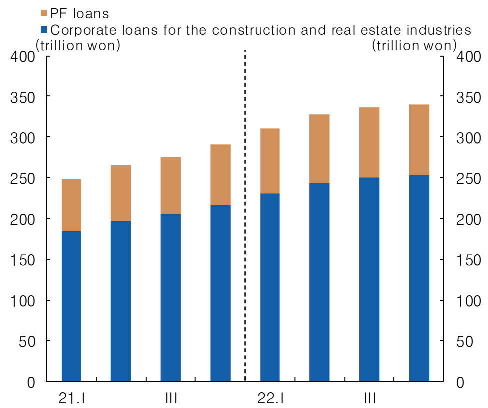
Figure III-8. Housing prices[1] and transaction volumes



Note: 1) Based on nationwide housing sales and leasehold deposit (*jeonse*) price indices.
Sources: Korea Real Estate Board, Ministry of Land, Infrastructure and Transport.

As for the commercial real estate market, continued sluggishness[94] has led to a significant increase in the delinquency rate of real estate-related loans issued by non-bank financial institutions, raising default risks. Despite a slump in the real estate market that has persisted since the second half last year, the balance of real estate-related corporate loans and PF loans issued by non-bank financial institutions has continued to rise, driven mainly by loans for existing contracts. Meanwhile, as most PF loans issued by non-bank financial institutions were extended for the development of commercial and business properties and non-apartment residential buildings, the slump in this sector has led to an increase in delinquency amounts. In addition, because a significant portion of the loans extended to self-employed business owners (SEBOs), which increased[95] substantially after the COVID-19 pandemic, were secured with commercial real estate as collateral, caution is needed regarding the possibility of market stress triggered by sluggishness in the real estate market spilling over into other sectors.

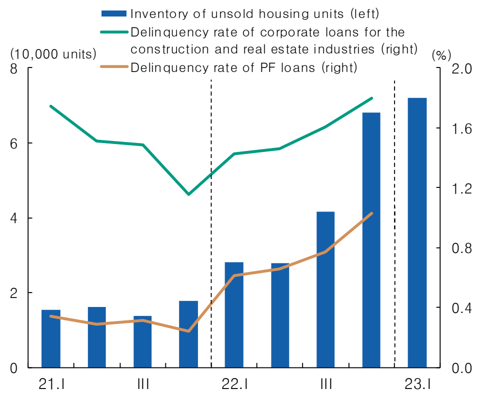
Figure III-9. Balance[1] of real estate-related loans[2] extended by NBFIs



Notes: 1) Based on end-period balances.
2) Excluding mutual credit cooperatives for PF loans.
Sources: Business reports from financial institutions, Yonhap Infomax.

93) Delinquency rates of household loans (%): 0.56 in first quarter of 2022 → 0.56 in second quarter→ 0.60 in third quarter → 0.66 in fourth quarter → 0.83 in first quarter of 2023.
94) Return on capital for medium- to large-sized retail stores nationwide (%): 0.83 in first quarter of 2022 → 0.76 in second quarter → 0.70 in third quarter → -0.01 in fourth quarter → -0.15 in first quarter of 2023.
95) Balance of loans issued to self-employed business owners (trillion won): 684.9 at end of 2019 → 803.5 at end of 2020 → 909.2 at end of 2021 →1,019.8 at end of 2022.

Figure III-10. Unsold housing units and delinquency rate of real estate-related loans extended by NBFIs



Sources: Ministry of Land, Infrastructure and Transport, business reports from financial institutions.

Meanwhile, although the SVB incident in March was addressed by prompt measures from the U.S. government and the Federal Reserve, concern over the interest rate risk management system at financial institutions was heightened in that the collapse of SVB, one of the largest banks in the United States (17th in terms of total assets), was a bank run triggered by significant valuation losses on bonds that it held. The results of an investigation conducted by U.S. financial supervisory authorities found that SVB managed its interest rate risk with a focus on short-term profits and a potential decline in interest rates with insufficient means to hedge against long-term interest rates and interest rate increases. Furthermore, as the bank run proceeded at an unprecedented pace due to the spread of real-time fund transfer instruments, such as mobile banking and the growing impact of social media, the possibility of a default at individual banks being transmitted swiftly to other banks was confirmed. In Korea, because domestic financial institutions have business models that do not lack diversification, unlike the case of SVB, similar cases are not likely to occur, but if high interest rates persist for a considerable time, a broad range of potential risk factors needs to be examined.

Monetary policy operations in major countries and their impact on financial markets at home and abroad

Recently, with global inflation moderating as energy and grain prices stabilize, central banks in major countries, which have raised interest rates rapidly, are adjusting the pace of their rate hikes. However, considering that core inflation is moderating slowly and that the future path of prices is highly uncertain, policy rates are expected to remain elevated for some time. On the other hand, financial markets are weighing the possibility that central banks might change their monetary policy stances amid concerns over a possible contraction in the real economy due to tighter credit conditions for households and businesses in the wake of the SVB incident.

Table III-5. Magnitude of recent interest rate hikes at major central banks[1)2)]

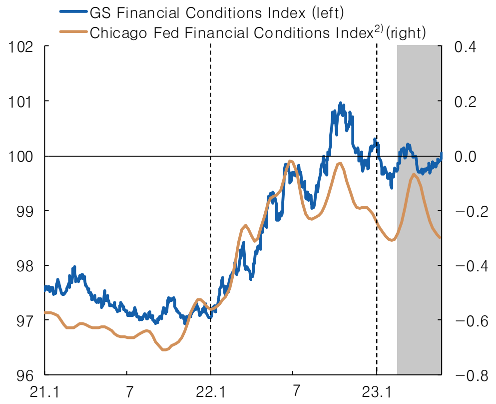
(bp)

	2022			2023		
U.S.	75	75	50	25	25	25
ECB	75	75	50	50	50	25
U.K.	50	75	50	50	25	25
Canada	75	50	50	25	0	0
Norway	50	25	25	0	25	25
Australia	25	25	25	25	0	25
New Zealand	50	50	75	50	50	25

Notes: 1) Based on six most recent interest rate decision meetings (as of May 24, 2023).
2) The darker the color, the larger the magnitude of the interest rate hike.
Source: Bank of Korea.

First, at the May FOMC meeting, the U.S. Federal Reserve raised its policy rate by 25 bp and removed a key phrase from its post-meeting statement that had indicated "additional policy firming may be appropriate." As a result, there were growing expectations in financial markets that the rate increase campaign would be terminated at the current level, considering the possibility of an economic recession and tighter credit conditions related to unrest in the banking sector, and that the U.S. Federal Reserve may adopt a policy pivot in the second half of this year. In April, however, as the turmoil in the banking sector eased, most U.S. Federal Reserve officials, including Chairman Powell, stated[96)] that high interest rates need to be maintained for a considerable period of time because of the overall easing of strain in the U.S. financial market, as well as high inflation and solid labor market conditions, presenting a position somewhat at odds with market expectations.

Figure III-11. U.S. Financial Conditions Index[1)]



Notes : 1) The Chicago Fed Financial Conditions Index converted long-term averages from 1971 to the current time, and the Goldman Sachs Financial Conditions Index converted long-term averages from 2000 to the current time within a range of 0 to 100. Exceeding this range was assessed as tightening, and falling below it was assessed as easing.
2) Removed changes related to the real economy among changes in financial conditions (adjusted FCI).
Sources: Federal Reserve Bank of Chicago, Bloomberg.

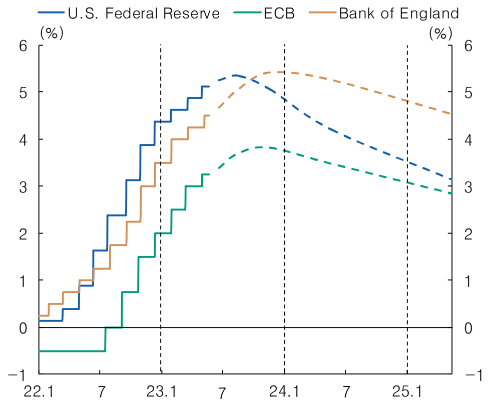
The ECB and the Bank of England each raised interest rates by 25 bp at recent policy decision meetings and signaled[97)] additional hikes while adjusting the pace of tightening. In particular, given that high inflation[98)]

96) At the press conference held immediately after the May FOMC, Chairman Powell said that the current policy stance should be maintained for the time being in order to reach the price target. President Bostic of the Federal Reserve Bank of Atlanta said that he did not anticipate interest rate cuts this year, even with an economic recession (May 15, 2023). President Kashkari of the Federal Reserve Bank in Minneapolis said that despite some evidence that the current high inflation is coming down, tightening needs to be continued for an extended period of time (May 11, 2023).

97) "We are not pausing, that is very clear... We know that we have more ground to cover." (ECB monetary policy meeting press conference, May 4, 2023), "we have to stay the course to make sure inflation falls all the way back to the 2% target." (Bank of England monetary policy meeting press conference, May 11, 2023).

persists, led by food, in the U.K. and in the euro area, and that the path of prices is highly uncertain depending on developments in the war in Ukraine, higher policy rates are expected to be maintained for a longer period than in other advanced economies. Nevertheless, financial markets have bet that the ECB will raise rates on one or two more occasions, that the Bank of England will hike rates once, and that both will then start to cut rates at the end of this year or in 2024. Hence, there are high expectations in markets concerning the termination of central bank rate hikes and the timing of the pivot.

Figure III-12. Policy rates[1] at U.S. Fed[2], ECB, Bank of England

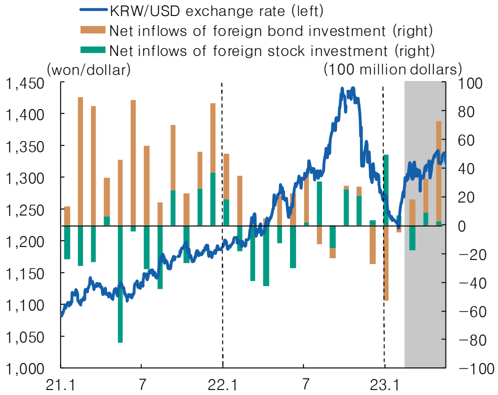


Notes: 1) Policy rates at the U.S. Fed are the midpoint between the lower and upper limits.
2) The path after May 2023 is based on policy rates that are reflected in the overnight index swap (OIS) rates (as of May 24).
Source: Bloomberg.

Meanwhile, in the domestic foreign exchange market, the Korean won depreciated, influenced by an increase in the outbound remittance of foreigners′ dividends, as well as continuing trade deficits. However, in May, although the difference between the policy rates of Korea and the Unites States widened to 175 bp, the largest gap ever recorded, and although the U.S. dollar turned stronger, the Korean won/U.S. dollar exchange rate moved within a narrow range, driven by an improvement in the supply and demand situation associated with inflows of foreigners′ investment funds. However, with significant uncertainty looming over the future path of policy rates in major countries, the expectations of market participants regarding monetary policy at home and abroad will likely change rapidly depending on economic indicators to be announced, and upward pressure on the Korean won/U.S. dollar exchange rate is likely to increase again. Accordingly, the trends in major indicators capable of influencing monetary policy in major countries and their impacts on the domestic foreign exchange sector need to be closely monitored.

98) Consumer price inflation in euro area (%): 8.6 in January 2023 → 8.5 in February → 6.9 in March → 7.0 in April.
Consumer price inflation in U.K. (%): 10.1 in January 2023 → 10.4 in February → 10.1 in March.

Figure Ⅲ-13. KRW/USD exchange rate and net inflows[1] of foreign portfolio investment



Note: 1) Based on the period from the 1st to the 16th for May 2023.
Source: Bank of Korea.

3. Monetary Policy Outlook

Base Rate operations

The Bank of Korea will continue to conduct monetary policy in order to stabilize consumer price inflation at the target level (2%) over the medium-term horizon as it monitors economic growth while also paying attention to financial stability.

Although the domestic economy will continue its weak growth, inflation is projected to remain high above the target level for a considerable time, and uncertainties surrounding the policy decision remain elevated. The Bank of Korea, therefore, deems it warranted to continue the tightening stance for a considerable time with an emphasis on achieving price stability. The Bank will judge whether an additional Base Rate hike is needed while closely monitoring the pace of inflation slowdown, downside risks to growth, financial stability risks, the effects of previous Base Rate hikes, and monetary policy changes in major economies.

Enhancement of monetary policy effectiveness

The Bank of Korea will continue its efforts to enhance monetary policy effectiveness. First, the Bank will work continuously to reinforce its policy communication in order to increase the transparency and predictability of monetary policy. In the course of sustaining monetary tightening to ensure that inflation reaches the target level, the Bank will devote efforts to bringing market expectations of economic agents in line with its policy intention by clearly and effectively communicating the background of its monetary policy decisions and future policy directions.[99] The Bank will provide more economic outlook information by including in-depth research on major economic issues in its Economic Outlook report and by expanding its scenario analysis. In addition, to ensure that inflation expectations among economic agents settle at the inflation target level, the Bank will faithfully communicate with the public and market participants. Furthermore, it will strive to enhance the effectiveness of its open market operations to ensure that monetary policy is transmitted smoothly, and continue exploring ways to increase the effectiveness of the Bank Intermediated Lending Support Facility. Meanwhile, the Bank of Korea will also continue its efforts to examine and improve the current monetary policy framework over the medium- to long-term horizon by

99) The Bank of Korea discloses views held by Monetary Policy Board members on the terminal Base Rate level at the governor's press conferences regarding the monetary policy decision. For April, the Bank said that views on the terminal rate have been divided into two groups: 3.5% (supported by one member) and the 3.5%-3.75% range (supported by five members). At the May press conference, the Bank said that all six members left open the possibility that the terminal rate could be raised to 3.75%.

answering the call for central banks to play a greater role in climate change responses.

Promotion of stability in financial and foreign exchange markets

The Bank of Korea will continue its efforts to maintain stability in financial and foreign exchange markets amid high uncertainty over external and domestic conditions. Amid the elevated uncertainty in the financial market following the bankruptcy of Silicon Valley Bank (SVB) in the U.S. and the M&A of Credit Suisse, the volatility of financial markets at home and abroad may surge depending on prices, economic situations, and changes in the monetary policy stances in major economies. Furthermore, considering that supply and demand conditions in the bond market may deteriorate due to an increase in the net issuance of top-rated bonds and that credit risks may materialize in relation to real estate finance among non-bank financial institutions, caution is needed to ensure that the resulting market stress does not spill over onto other sectors. Should any signs of market stress appear due to changes in financial and economic conditions at home or abroad, the Bank will actively respond by implementing market stabilization measures in a timely manner.

Maintenance of financial system stability

Finally, the Bank of Korea will further strengthen its early warning activities to address potential risks in terms of financial stability, taking note of the monetary policy stances in major economies and changes in conditions at home and abroad. In particular, the Bank will conduct a multi-faceted analysis of the possibility of the risks facing domestic financial institutions materializing as concerns over the stability of the domestic financial system grow due to the rising delinquency rate of non-bank financial institutions and unrest in the global banking sector. It will also carry out a comprehensive analysis of risks that could emerge due to higher interest rates and the sluggish real estate market in terms of households, businesses, and financial institutions, and assess their default probability by identifying vulnerable factors. Furthermore, the Bank plans to derive policy implications by examining the effect of implementation of global capital regulatory framework in major economies and analyze risks that could affect financial stability in the medium- to long-term horizon, such as climate change.

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