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Monetary Policy Report

2021. 12

BANK OF KOREA

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

- **Vision**

  The Bank of Korea
  : Taking the lead in stabilizing and developing the national economy

- **Strategic Directions**

Agility	Pursue Innovation in a Flexible and Swift Manner
Collaboration	Bolster Synergy Through Collaboration
Expertise	Reinforce Policy and Research Capability

BANK OF KOREA

Monetary Policy Report

2021. 12

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 December 2021 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 August 2021 through the date of the Monetary Policy Board meeting for monetary policy decision-making in November 2021.

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.

December 2021

Juyeol Lee

Lee, Juyeol

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 lag 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 on a comprehensive evaluation of inflation and growth outlooks as well as their uncertainties and risks, the degree of anchoring of inflation expectations, and 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 channel 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 accumulation 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 accumulation of financial imbalances.

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1 A look at financial and economic conditions at home and abroad between August and November 2021 finds the following. The trend of recovery in the global economy was sustained, despite the continued spread of virus variants and ongoing global supply constraints. Advanced and emerging market economies, having somewhat stagnated in the third quarter, maintained their recoveries in the fourth quarter as global supply disruptions have eased gradually. The US economy continued to recover robustly amid accelerated consumption and employment growth, while the euro area recovered at a somewhat slower pace in line with the resurgence of COVID-19 in some euro area countries. China's growth slowed, in part due to concerns about a potential bankruptcy in China's real estate sector (the Evergrande Group issue) and to power shortages. Japan showed signs of improvement, such as an easing of the effects of automobile production disruptions.

Economic growth in major economies[1)]

(%)

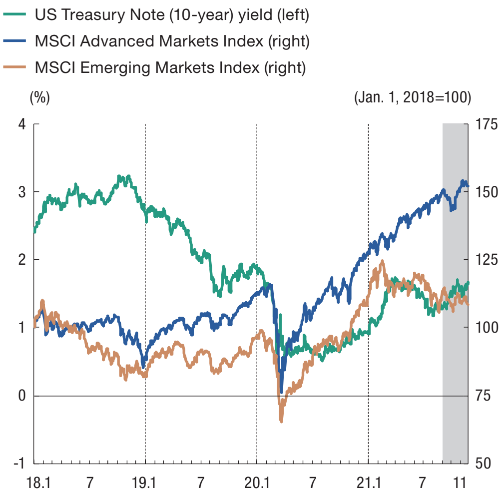
	2019	2020					2021		
	Year	Year	Q1	Q2	Q3	Q4	Q1	Q2	Q3
US	2.3	-3.4	-1.3	-8.9	7.5	1.1	1.5	1.6	0.5
Euro area	1.6	-6.4	-3.5	-11.7	12.6	-0.4	-0.3	2.1	2.2
China	6.0	2.3	-6.8	3.2	4.9	6.5	18.3	7.9	4.9
Japan	0.0	-4.6	-0.6	-8.0	5.4	2.8	-1.1	0.4	-0.8

Note: 1) The quarterly rates of growth are quarter-on-quarter (seasonally adjusted) for the US, Japan and the euro area, and year-on-year for China.

Sources: Individual countries' published statistics.

In the international financial market, risk aversion strengthened and the volatility of price variables increased, affected largely by major countries' moves toward monetary policy normalization and concerns about default risks in the Chinese real estate sector. The US Treasury yield rose in September amid the US Federal Reserve's looming tapering of its asset purchases, and then shifted to a decline in late October, affected by the sluggishness of some economic indicators and the weakening expectations regarding an early policy rate hike. The yield rose again from early November, as the US consumer price index exceeded market expectations, concerns about continued inflation increased, and expectations for an early Fed rate increase strengthened. Stock prices in advanced economies declined in September owing in part to the hawkish FOMC meeting result, and then rebounded in October on the back of robust corporate performance in the third quarter and the passage of a US infrastructure bill. Stock prices in emerging economies fell in September due mainly to the Evergrande liquidity crisis, and then fluctuated from October in line with financial market developments in advanced countries. The US dollar remained strong against the euro from September, on the forecast that the US and the euro area would show different paces of monetary policy normalization and economic recovery.

US long-term interest rate, share price indices of advanced and emerging markets



Source: Bloomberg.

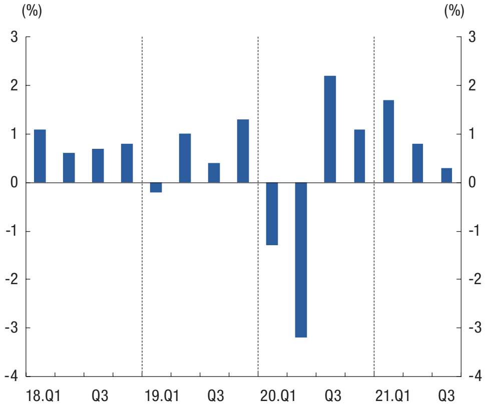
2 The favorable trend of recovery in the Korean economy has continued. Although investment has been affected somewhat by global supply bottlenecks, exports have sustained their buoyancy and private consumption has rebounded rapidly, boosted chiefly by accelerated vaccinations, the easing of domestic COVID-19 restrictions, and the provision of emergency disaster relief funds. Accordingly, the real GDP growth rate is expected to increase in the fourth quarter compared to the previous quarter (0.3% quarter-on-quarter).

By sector, private consumption (based on GDP) in the third quarter exhibited a slower recovery, declining 0.2% quarter-on-quarter owing largely to the heightened social distancing measures following the resurgence of COVID-19. Private consumption showed a trend of recovery from September, led mainly by accelerated vaccinations and the provision of emergency disaster relief funds. The retail sales index increased 2.4% month-on-month in September, mainly due to contributions from clothing and cosmetics, and went up by 0.2% month-on-month in October, centered on electronic devices and clothing. Government consumption rose in the third quarter due to increased expenditure on purchases of COVID-19 vaccines.

Facilities investment underwent a slight adjustment, declining 2.4% quarter-on-quarter in the third quarter of this year. In October, the Equipment Investment Index dropped by 5.4% month-on-month as machinery and transportation equipment all decreased due to the shortage of auto semiconductors. Construction investment was also sluggish, falling 3.5% quarter-on-quarter in the third quarter. Both building construction and civil engineering decreased owing to severe weather conditions, soaring costs of construction materials, and the reduced SOC budget. In October, the value of construction completed also declined 1.3% month-on-month, in part due to the effects of substitute holidays and a larger increase in material costs.

Exports (customs-clearance basis) remained favorable in the third quarter, and the daily average export value hit a record high. Exports of IT products and most non-IT products excluding automobiles grew rapidly. Since October as well, there has been a continued year-on-year increase in exports of major products, such as semiconductors, petroleum and chemical goods, and steel.

Real GDP Growth[1)]

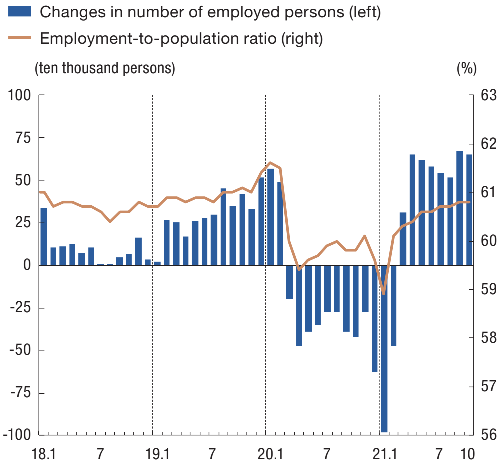


Note: 1) Quarter-on-quarter (seasonally adjusted), reflects preliminary figures.
Source: Bank of Korea.

Employment conditions have continued to improve recently with the sustained growth in the number of persons employed. Total payrolls increased by 652,000 year-on-year in October. Private nonfarm payrolls (excluding agriculture and fisheries, public administration, and health and social welfare) have continued to improve, increasing by more than 300,000 year-on-year as in September. The (seasonally-adjusted) employment-to-population ratio stood at 60.8% in October, remaining at the same level as in the preceding month.

Nominal wages increased by 5.0% year-on-year in the third quarter of 2021, continuing their sharp rise from the second quarter.

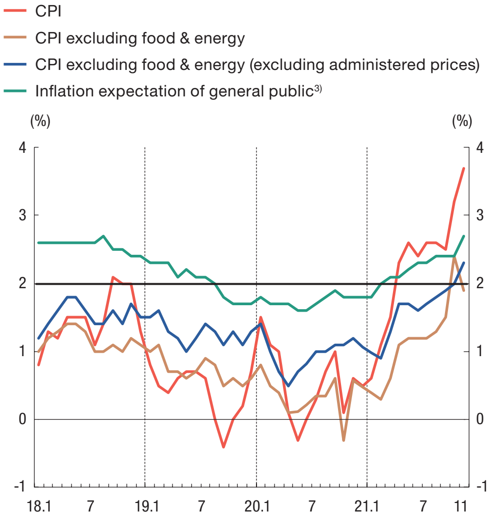
Changes[1)] in number of employed persons and employment-to-population ratio[2)]



Notes: 1) Year-on-year.
2) Seasonally adjusted.
Source: Statistics Korea.

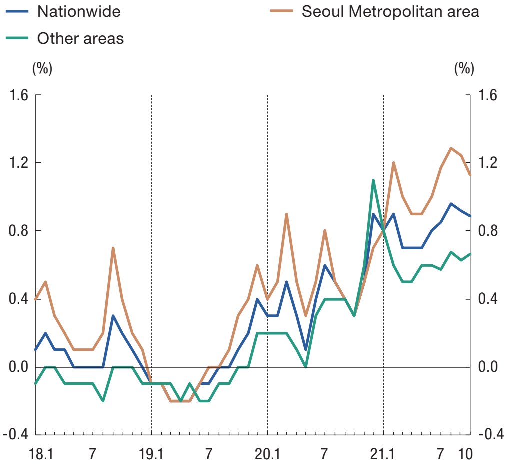
3 Consumer price inflation had remained significantly above 2% since April this year, and then rose to the 3% level during the period between October and November. The recent acceleration in inflation was mainly attributable to gradually rising inflationary pressure on the demand side accompanying economic recovery amid the sustained sharp rise in petroleum product prices. Core inflation (excluding changes in food and energy prices from the CPI) exceeded 2% in October due to the underlying base effect of last year's telecom bill subsidy. In November, with most of the base effect having dissipated, it approached close to 2% level as the inflationary pressure on the demand side increased. When excluding administered prices, core inflation has risen to the 2% level since October. The inflation expectations of the general public have risen to the mid- to upper-2% level.

Inflation[1)2)]



Notes: 1) The bold line indicates the inflation target.
2) Year-on-year.
3) Expectations for the CPI inflation rate one-year ahead.
Sources : Bank of Korea, Statistics Korea.

Housing sales price growth rate[1)]



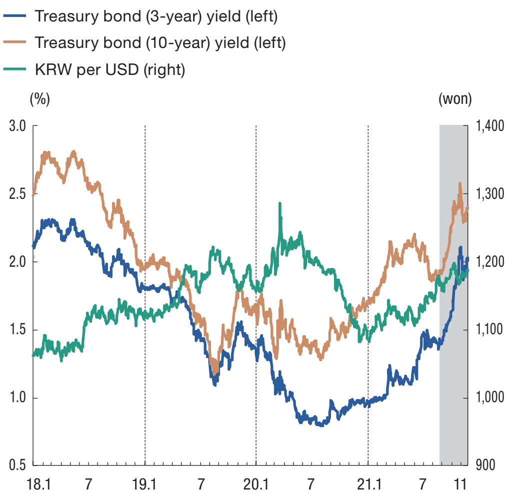
Note: 1) Month-on-month.
Source: Korea Real Estate Board.

Nationwide housing sales prices sustained high rates of increase this year. The margin of increase narrowed somewhat from September but still remained elevated, exceeding the levels of previous years. Nationwide leasehold (*jeonse*) deposit prices rose at a faster pace in the third quarter, remaining higher than in previous years.

4 Korea Treasury bond yields rose significantly due to changes in expectations about monetary policies at home and abroad. Amid sustained expectations of an additional Base Rate hike since September, the 3-year yield surged to 2.11% (on November 1) and the 10-year yield to 2.58% (on October 29), owing to global inflation concerns, the possibility of a change in major countries' monetary policy stances, and the massive sell-off of bond futures by foreign investors. However, the extent of increase narrowed modestly in November, due mainly to the easing of concerns about a shift in monetary policy stances of major countries and to the policy authorities' market stabilization measures.

The Korean won to US dollar exchange rate sustained its uptrend until mid-October, affected largely by the strong US dollar due to the US Federal Reserve's looming tapering and to inflation concerns, and by concerns about a potential default of China's Evergrande Group, to reach a record high for the year (1,198.8 won on October 12). The margin of increase in the exchange rate later narrowed to put the rate at the upper-1,160 won level, supported chiefly by improved investment sentiment following solid earnings reports by US companies and the easing of concerns about a potential default of the Chinese real estate company. Entering November, however, the exchange rate rebounded to the 1,180 won level, affected by apprehension about an early rate hike by the US Federal Reserve owing to concerns over the prospect of prolonged US inflation.

Korea Treasury bond yields and exchange rate (KRW per USD)

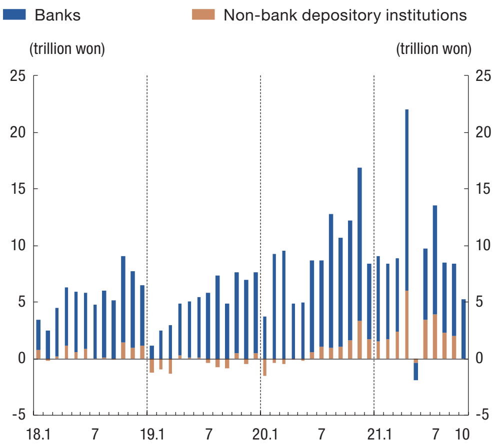


Sources: Bank of Korea, Korea Financial Investment Association.

5 Household lending sustained its high rate of increase, seen in the previous quarter. Growth in banks' household lending expanded slightly quarter-on-quarter in the third quarter. Growth in mortgage loans expanded with the continued demand for funds related to leasehold and sales transactions, while other loans, led by unsecured loans, exhibited slower growth. In monthly terms, the pace of growth in household lending slowed gradually, owing to stronger household loan management by the government and banks and to rising lending rates. In October, household lending growth fell below the monthly average growth from January to September. Growth in household lending by non-bank depository institutions - mutual credit cooperatives and mutual savings banks in particular - slowed slightly in the third quarter.

Growth in direct and indirect corporate financing has accelerated. Corporate lending, especially SME loans, exhibited faster growth in the third quarter. SME loans maintained strong growth, led by the continued supply of COVID-19 financial support and the increased demand for facilities investment funds. Lending to large enterprises inched up, driven mainly by demand for operating funds. Corporate lending by non-bank financial institutions also continued its steep rise as in the second quarter. Direct corporate financing sustained its upward trend in the third quarter, mainly through the issuance of stocks.

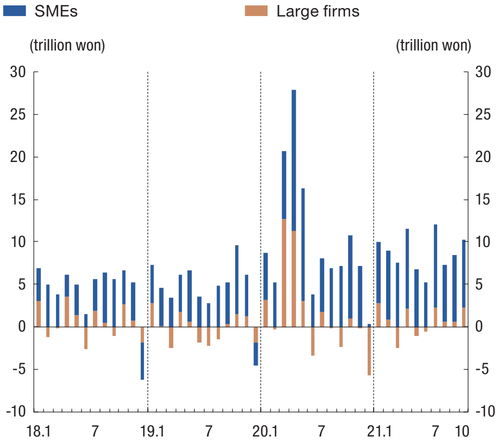
Changes in household loans[1)2)3)]



Notes: 1) Month-on-month.
2) Including mortgage transfers.
3) Figures for October 2021 are based on the Bank of Korea advance estimate for banks and have not been released for non-bank depository institutions.

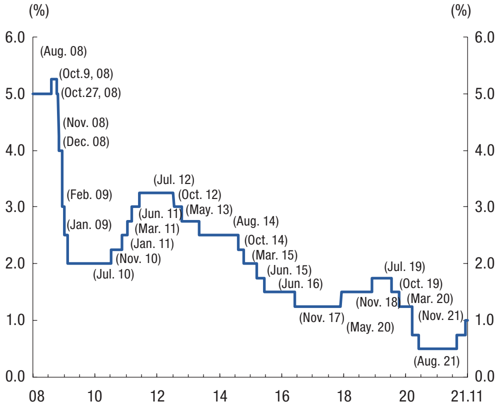
Source: Bank of Korea.

Changes in corporate loans[1)2)]



Notes: 1) Month-on-month.
2) Based on banks.
Source: Bank of Korea.

Bank of Korea Base Rate[1)]



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

[Conduct of Monetary Policy]

6 The Bank of Korea conducted monetary policy in order to sustain the recovery of economic growth and stabilize consumer price inflation at the target level (2%) over a medium-term horizon, while paying attention to financial stability. In this process, it thoroughly assessed global and domestic developments related to COVID-19, changes in the pace of growth and inflation, the risk of a buildup of financial imbalances, and monetary policy changes in major countries. Under this policy stance, the Bank of Korea adjusted the degree of monetary policy accommodation in November 2021 by raising the Base Rate by 25 basis points, from 0.75% to 1.00%.

7 A detailed look at the Base Rate decisions during this period, and the backdrop, are as follows. At the October meeting, the Board left the Base Rate unchanged at 0.75% and decided it would be necessary to further monitor the impacts of changes in domestic and overseas conditions on the overall economic and financial situation, along with developments of financial imbalances. The domestic economy continued its favorable trend of recovery as exports and facilities investment remained buoyant and private consumption, which had previously slowed due to the resurgence of COVID-19, had also rebounded. It was expected that such trend of economic recovery would continue going forward, as exports were expected to remain robust and private consumption to recover at a faster pace thanks to the relaxation of restrictions on economic activity. Consumer price inflation remained high around the mid-2% level as the upward trend of prices of petroleum products and services had accelerated, and it was expected to sustain the mid-2% level for some time going forward. With respect to financial stability, household loans had grown consider-

ably led by home mortgage loans, while housing prices continued to exhibit high rates of increase in both the Seoul Metropolitan region and other areas.

At the November meeting, the Board raised the Base Rate by 25 basis points, from 0.75% to 1.00%. The Board took into account the following aspects. While the domestic economy sustained its robust growth, inflationary pressure was expected to expand more greatly than initially anticipated and there was still a strong need to exercise caution against the risk of a buildup of financial imbalances. Looking at the domestic economy, exports had sustained their buoyancy and private consumption had picked up rapidly on the back of accelerated vaccinations, the mitigation of containment measures, and the provision of emergency disaster relief funds. In the future, these trends of recovery were expected to continue and the GDP growth rate was projected to be around 4.0% in 2021 and around 3.0% in 2022. Consumer price inflation had risen significantly to the lower-3% level, owing to the accelerating increase in the prices of petroleum products as well as the base effect from the decline in the prices of public services last year, and it was expected to run above the target level (2%) for a considerable period of time. Therefore, consumer price inflation for the next year was expected to record the 2% level, greatly exceeding the previous forecast of 1.5%. On the financial stability side, housing prices had continued to rise while the amount of increase in household loans had lessened somewhat. However, members judged that the risk of accumulation of financial imbalances still demanded close attention. In response, the Bank of Korea raised the Base Rate by additional 25 basis points following August. Going forward, it decided to operate its monetary policy in a direction that appropriately reduces the degree of accommodation in line with improvement in economic conditions and the financial imbalance situation.

8 The Bank of Korea is using various policy instruments to promote smooth credit flows and stability in the financial and foreign exchange markets.

The Bank of Korea operates the Bank Intermediated Lending Support Facility in consideration of the financial and economic situation and SMEs' financing conditions. Given that small businesses and SMEs, especially in the face-to-face service industries, continued to face funding difficulties due to the resurgence of COVID-19, the Bank extended the period of the financial support to those affected by the pandemic by six months and decided to increase the ceiling of the Support Program for Small Businesses by 3 trillion won (3 trillion → 6 trillion won), starting from October 1, 2021. Meanwhile, the ceiling for the Support Program for Regional SMEs, scheduled to expire on August 31, was extended by two years to August 31, 2023. The extension was made to sustain the support for regional SMEs that may face deterioration in their funding conditions due to the heightened social distancing measures. Some temporary support measures, whose operation periods expired at end-September this year, were terminated as scheduled.

Programs under the Bank Intermediated Lending Support Facility

(trillion won, %)

Program		Ceiling		Interest rate
		Before	After	
Support Program for Trade Financing		2.5	1.5[3]	0.25
Support Program for New Growth Engine Development and Job Creation[1]		13.0	13.0	0.25
Program for Stabilization of SME Lending[2]		5.5	3.5[4]	0.25
Support Program for Regional SMEs		5.9	5.9	0.25
Ceiling Reserves	Support Program for SMEs Affected by COVID-19	13.0	13.0	0.25
	Support Program for Small Businesses	3.0	6.0[5]	0.25
	Others	0.1	0.1	0.25
Total		43.0	43.0	-

Notes: 1) The Support Program for High-tech and Other Start-up SMEs was expanded and reorganized as the Support Program for New Growth Engine Development and Job Creation (September 2017).
2) Includes the support that had been formerly provided under the Support Program for Facilities Investment.
3) Effective as of December 1, 2021.
4) The ceiling was reduced by 3 trillion won (5.5 trillion won →2.5 trillion won) effective as of October 1, 2021, and then increased by 1 trillion won (2.5 trillion won→3.5 trillion won) effective as of December 1, 2021.
5) Effective as of October 1, 2021.
Source: Bank of Korea.

In addition, the Bank of Korea announced a plan on October 28, 2021 that it would reduce the issuance of Monetary Stabilization Bonds (MSBs) in November and increase the amount of its buyback to improve investor sentiment surrounding Treasury bonds as well as to reduce the volatility of bond yields. This announcement was made against the backdrop of a spike in Korea Treasury bond yields in October as foreign investors sold off Korea Treasury futures amid a surge in interest rates in major economies on widespread concerns over global inflation. More specifically, the Bank decided to scale down its November issuance by 2.4 trillion won (9.0 trillion won → 6.6 trillion won) from the issuance planned in October, and to increase the volume of buyback by 1.0 trillion won (4.0 trillion won → 5.0 trillion won).

Moreover, the Bank of Korea has supported seamless financing of low-rated companies facing difficulties from the prolonged COVID-19 pandemic. On July 23, 2021, the Bank re-extended the first round of loans provided in July last year to a Special Purpose Vehicle (SPV) that purchases corporate bonds and commercial paper worth 4.4 trillion won as of end-October 2021.

9 The Bank of Korea continuously monitored movements in the financial and FX markets at home and abroad. While operating an emergency financial market monitoring and response system activated in the event of major contingencies, it has also closely looked into the evolution of domestic and global risk factors as well as their impacts on financial markets at home and abroad. In particular, the Bank held Financial and Economic Conditions Review Meetings (on September 23 and November 4) with regard to FOMC meetings to discuss international financial market trends and the possible impacts on domestic financial and FX markets. The Bank of Korea also shared views and made efforts to come up with countermeasures regarding the key current issues and potential risk factors pertinent to Korea's financial and economic stability through various consultative bodies including the Macroeconomic and Financial Meeting.

The Bank of Korea has continued to do research on and to make technical preparations for central bank digital currency (CBDC) in order to effectively cope with the rapid progress toward a digital economy. In particular, in the phase 1 pilot test on CBDC set out in August this year, the Bank created a cloud-based virtual experimentation environment, examined basic functions of CBDC including its issuance, circulation and redemption, and conducted tests on related IT systems. In the phase 2 pilot test, scheduled to be carried out until June next year, the Bank will examine more sophisticated functions such as offline payments and enhanced protection of private information.

Meanwhile, the Bank of Korea set up a climate change response task force in order to comprehensively review and analyze the role of the central bank in responding to climate change, and published and presented a report on the Bank's measures to deal with climate change.

⑩ The report illustrated discussions on the role of the central bank when faced with climate change-induced shifts in the economic environment and financial system at home and abroad, and reviewed the seriousness of climate change and the responses by the international community. While analyzing the effects of climate change on Korea's real economy and financial system, the Bank also explored response measures including the review of available policy tools.

[Future Monetary Policy Directions]

The outlooks for growth and inflation are as follows. The GDP growth rate is forecast to record around 4.0% in 2021 and around 3.0% in 2022. The economy is expected to sustain a solid growth trend, as exports are expected to continue increasing, backed by the resumption of economic activities at home and abroad, and the trend of recovery in consumption is expected to accelerate. The recovery of private consumption is projected to accelerate thanks to the government's transition of COVID-19 policy toward a gradual return to normalcy. Facilities investment is also expected to show moderate growth supported by economic recovery at home and abroad and the easing of disruptions in car production. Construction investment is projected to show gradual recovery as civil engineering is likely to increase while building construction continues its trend of improvement. Although exports are expected to grow at a slower pace year-on-year due to a base effect, they are likely to maintain a favorable trend on the back of the global economic recovery. There are various upside and downside risks to the future growth path. The upside risks include a quicker resumption of economic activities in line with the easing of preventive measures across the globe, rapid expansion of vaccinations in EMEs, and early resolution of global supply disruptions. Among the downside risks are intensified spread of COVID-19 in winter at home and abroad, prolonged global supply disruptions and slower growth of the Chinese economy.

Economic growth outlook[1)]

(YoY, %)

	2020	2021			2022e			2023e
	Year	H1	H2e	Yeare	H1	H2	Year	Year
GDP	-0.9	4.0	4.0	4.0	3.0	3.1	3.0	2.5
Private consumption	-5.0	2.4	4.7	3.5	4.1	3.2	3.6	2.5
Facilities investment	7.1	12.6	3.9	8.2	-0.5	5.5	2.4	1.5
Intellectual property products investment	4.0	4.0	4.1	4.1	4.1	3.7	3.9	3.8
Construction investment	-0.4	-1.5	0.1	-0.7	2.1	3.1	2.6	2.1
Goods exports	-0.5	14.4	3.5	8.5	1.9	3.3	2.6	2.5
Goods imports	-0.1	12.5	7.8	10.1	2.4	3.7	3.1	2.6

Notes: 1) Figures are the forecast as of November 2021.
Source: Bank of Korea.

Consumer price inflation is projected to exceed the August forecast (2.1%) and to record 2.3% in 2021, as inflationary pressure on the demand side has increased gradually and international oil prices have increased at faster rates than initially anticipated. It is forecast to be around 2.0% in 2022, running above the August forecast (1.5%), as inflationary pressure on the demand side is likely to increase due to economic recovery and the effects of global supply bottlenecks are likely to be partly reflected in durable goods prices. There is a mix of both upside and downside risks to the future inflation outlook path. The upside risks include a sustained upward trend in energy prices such as prices of oil and natural gas, a stronger recovery in consumption in line with accelerated vaccinations and the transition of COVID-19 policy, and greater impacts of supply bottlenecks on inflation. Among the downside risks are a slow recovery in consumption caused by the pandemic resurgence in winter and a decline in energy prices including oil prices.

Inflation outlook[1)]

(YoY, %)

		2020	2021			2022^{e}			2023^{e}
		Year	H1	H2^{e}	Year^{e}	H1	H2	Year	Year
CPI inflation		0.5	1.8	2.8	2.3	2.3	1.8	2.0	1.7
Core inflation	CPI excluding food & energy	0.4	0.8	1.6	1.2	2.0	1.7	1.8	1.6
	CPI excluding agricultural products & oil	0.7	1.2	2.1	1.6	2.3	1.9	2.1	1.7

Note: 1) Figures are the forecast as of November 2021.
Source: Bank of Korea.

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

The Bank of Korea will appropriately adjust the degree of monetary policy accommodation as the Korean economy is expected to continue its sound growth and inflation to run above the target level for a considerable time, despite underlying uncertainties over the virus. In this process the Bank will judge when to further adjust the degree of accommodation while thoroughly assessing developments related to COVID-19, changes in the pace of growth and inflation, the risk of a buildup of financial imbalances, and monetary policy changes in major countries.

I

Monetary Policy Operating Conditions

1. Global Economy

Global economic recovery continues

The trend of recovery in the global economy was sustained, despite the continued spread of virus variants and ongoing global supply disruptions. Advanced and emerging market economies, having somewhat stagnated in the third quarter, maintained their recoveries in the fourth quarter as global supply disruptions have eased gradually. The global manufacturing and service PMIs both exceeded the 50-point benchmark to considerable extents. A look at global trade finds that trade in goods[1] is expected to continue its sound growth trend with the mitigation of shipping delays and production disruptions, and trade in services[2] is moderately recovering from its sluggishness. However, uncertainties still remain high regarding the development of the pandemic, supply bottlenecks, and the economic slowdown in China.

By country, the US economy continued to recover robustly amid accelerated consumption and employment growth.[3] Meanwhile, the euro area recovered at a slightly slower pace[4] in line with the resurgence of COVID-19 in some euro area countries. Japan showed signs of improvement[5], such as an easing of the effects of automobile production disruptions. Among emerging market economies, China's growth slowed, in part due to the Evergrande Group issue and power shortages. India sustained its growth trend, with high growth in exports continuing and the manufacturing and service PMIs both far exceeding the benchmark. Economic growth in the ASEAN-5 countries showed sluggishness, influenced by stronger quarantine measures and production disruptions following the spread of COVID-19 in the third quarter, and then showed signs of recovery again since the beginning of October, as the spread of COVID-19 mitigated somewhat.

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1) Trade in goods in third quarter grew at a slightly slower pace, due to global shipping delays and the weakening base effect. (Global trade volume in goods (year-on-year basis, %) : 6.5% in Q1 2021 → 21.1% in Q2 → 9.0% in Q3)

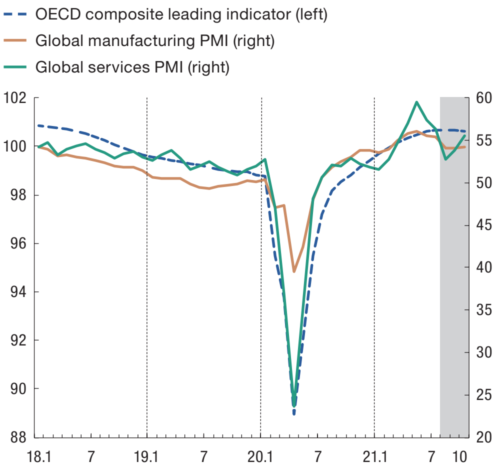
2) Global trade volume in services in September this year (based on data from 14 countries compiled by the World Trade Organization) was up 23.0% year-on-year, sustaining its high rate of increase, as in the previous month (25.5%). However, it is still running below the level seen in January 2019. (January 2019=100 : 94.1 in July 2021 → 97.0 in August → 99.8 in September)

3) The number of employed persons increased at a faster pace, led by leisure, hotels and restaurants, and retail sales showed the largest increase since April. (Change in the number of employed persons (nonfarm payrolls, ten thousand persons): 48.3 in August → 31.2 in September → 53.1 in October, retail sales (month-on-month, %) : 1.2 in August → 0.8 in September → 1.7 in October)

4) The number of new COVID-19 cases in the EU increased again from October (the number of new cases per million persons (seven-day moving average, persons) : 489 on November 8, 2020 → 30 on June 30, 2021 → 492 on November 21).

5) Exports shifted to an increase in October, and automotive production disruptions had been mitigated gradually since the beginning of the fourth quarter. (Exports (month-on-month, %) : -3.9 in September → 2.7 in October, production cut in the number of automobiles due to production disruptions (IHS Markit, based on the outlook in the first week of November 2021, in ten thousand units) : 56.6 in Q3 → 37.4 in Q4[e])

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



Note: 1) The composite leading indicator includes OECD member countries and six emerging countries (China, Brazil, India, Russia, Indonesia, and South Africa).
Sources: OECD, Bloomberg.

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

(%)

	2019	2020					2021		
	Year	Year	Q1	Q2	Q3	Q4	Q1	Q2	Q3
World	2.8	-3.2	-	-	-	-	-	-	-
Advanced economies	1.6	-4.6	-	-	-	-	-	-	-
US	2.3	-3.4	-1.3	-8.9	7.5	1.1	1.5	1.6	0.5
Euro area	1.6	-6.4	-3.5	-11.7	12.6	-0.4	-0.3	2.1	2.2
Japan	0.0	-4.6	-0.6	-8.0	5.4	2.8	-1.1	0.4	-0.8
Emerging market and developing economies	3.7	-2.1	-	-	-	-	-	-	-
China	6.0	2.3	-6.8	3.2	4.9	6.5	18.3	7.9	4.9
India[3)]	4.0	-7.3	3.0	-24.4	-7.4	0.5	1.6	20.1	8.4
ASEAN-5[4)]	4.9	-3.4	1.5	-8.5	-4.0	-2.5	-0.6	8.8	1.0
Brazil	1.2	-3.9	-0.1	-10.7	-3.7	-0.9	1.3	12.3	4.0
Russia	2.0	-3.0	1.4	-7.8	-3.5	-1.8	-0.7	10.5	4.3

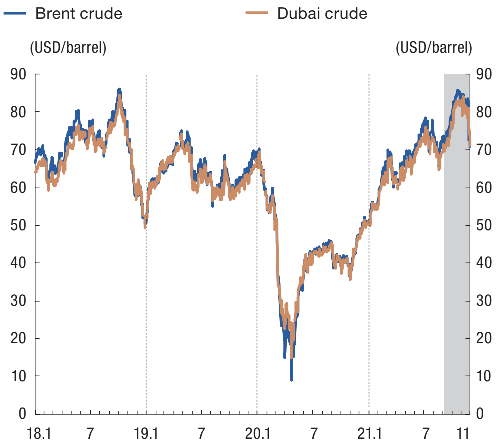
Notes: 1) Based on IMF statistics, except in the cases of individual countries, the euro area, and ASEAN-5 which are based on their own published statistics.
2) The quarterly rates of growth are quarter-on-quarter (seasonally adjusted) for advanced economies, and year-on-year for the others.
3) The annual 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.

Volatility of international oil prices rises

The volatility of international oil prices (based on Dubai crude oil) increased greatly after October. The prices rose to the lower-80 dollar range per barrel in November, as production in major oil producing countries including the United States and OPEC+ failed to meet demand, while demand increased significantly due to economic recovery. However, the prices fell to the 70-dollar range afterwards, due to heightened concern[6)] about the spread of the Omicron variant.

6) The World Health Organization designated the new COVID-19 variant Omicron as a variant of concern (on November 26), following the Delta variant.

Figure I-2. International oil prices



Sources: Bloomberg, Reuters.

International financial market volatility heightens

In the international financial market, risk aversion strengthened and the volatility of price variables increased, affected largely by major countries' moves toward monetary policy normalization and concerns about default risks in the Chinese real estate sector.

The US Treasury yield rose in September amid the US Federal Reserve's looming tapering[7)] of its asset purchases (hereinafter referred to as 'tapering'), and then shifted to a decline in late October, affected by the sluggishness of some economic indicators[8)] and the weakening expectations[9)] regarding an earlier than expected policy rate hike. The yield rose again from early November, as the US consumer price index exceeded market expectations, concerns about continued inflation increased, and expectations for an early Fed rate increase strengthened.[10)] Germany's government bond yield rose significantly, due to concern about inflation in September, but the extent of rise has decreased since end-October, affected by the possibility[11)] of the ECB maintaining its accommodative monetary policy stance.

7) In the September FOMC press conference (on September 22), Federal Reserve Chainman Jerome Powell noted that tapering would end by the middle of 2022. After that, he announced at the November FOMC meeting (on November 3) that the Federal Reserve would begin tapering its asset purchases.

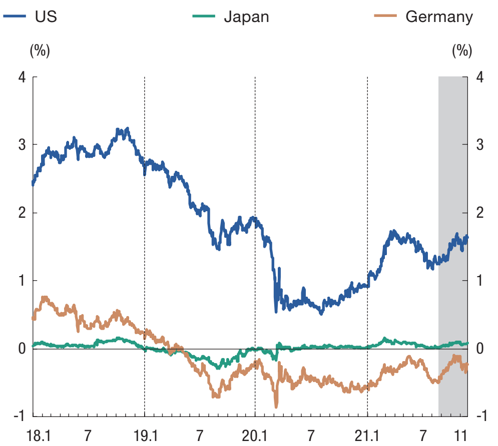
8) The US Manufacturing Purchasing Managers Index (PMI), which was released on October 22, fell to 59.2 in October (60.5 expected) from 60.7 in September.

9) After Chairman Powell noted that the US Federal Reserve's decision to begin tapering its asset purchases did not imply any direct signal regarding its interest rate policy and the Federal Reserve would be patient in responding to inflation, the market expectations of an early Federal Funds rate hike weakened.

10) As of November 24, the number of the Federal Funds rate hikes by the US Federal Reserve in 2022 implied by the interest rate futures market (Overnight Index Swaps) reached 2.4 times, showing that the pace of the Federal Rate hikes expected by the market exceeded the Federal Reserve's projection (once, based on the median value of the September FOMC dot plot) (Source : Bloomberg).

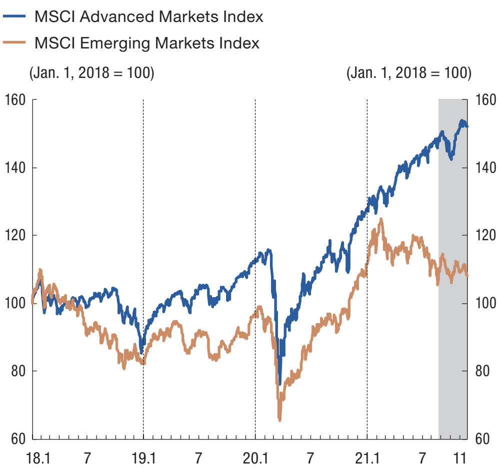
11) On November 3, European Central Bank President Christine Lagarde commented that in the ECB's forward guidance interest rates, they have articulated the three conditions that need to be satisfied before rates will start to rise, but these are very unlikely to be satisfied in 2022. The conditions are ① inflation should be seen reaching 2% well ahead of the end of their projection horizon, ② the inflation should be lasting durably for the rest of the projection horizon, and ③ realized progress in underlying inflation should, in ECB's judgment, be sufficiently advanced to be consistent with inflation stabilizing at 2% over the medium term.

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



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

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



Source: Bloomberg.

Stock prices in advanced economies declined in September owing in part to the hawkish FOMC meeting result[12], and then rebounded in October on the back of robust corporate performance[13] in the third quarter and the passage of a US infrastructure bill.[14] Stock prices in emerging market economies fell in September due mainly to the Evergrande liquidity crisis, and then fluctuated from October in line with financial market developments in advanced countries.

The volatility of US stock prices increased slightly in September, due to uncertainties related to the China Evergrande Group and the US debt ceiling negotiations. The volatility decreased from October, on continued investment sentiment toward US stocks, influenced by companies' announcements of favorable earning reports and the implementation of stimulus packages in the United States. Meanwhile, US interest rate volatility increased sharply[15], due to uncertainties related to a US policy rate hike stemming from concerns about inflation.

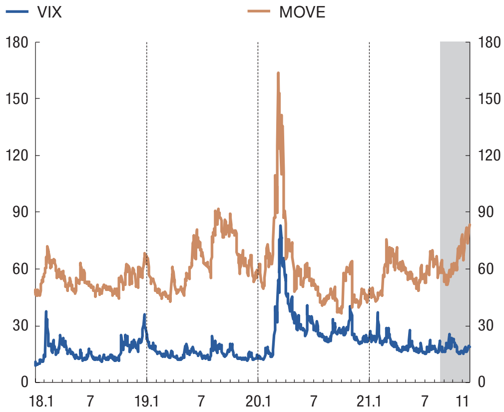
12) The US Federal Reserve made an upward revision the projection for the number of hikes on the dot plot at the September FOMC meeting (0 → 1 in 2022, 2 → 3 in 2023).

13) Among the 469 companies in S&P500 that had released their corporate earnings for the third quarter during the period between October 1 and November 23, 82.1% saw their earnings per share exceeding their market expectations, and among the 421 companies in STOXX Europe 600, 56.9% witnessed their earnings per share surpassing their market expectations.

14) The 1.2 trillion dollar US infrastructure bill, passed the US Congress on November 5, was signed into law by President Biden on November 15.

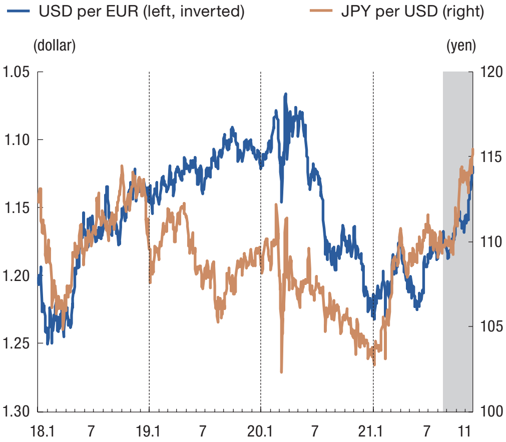
15) As of November 24, 2021, the US interest rate volatility index rose to 83.15, the highest level since March 31, 2020 (83.87).

Figure I-5. Volatility Index (VIX) and Merrill Lynch Option Volatility Estimate (MOVE) Index[1]



Note: 1) Volatility indices for US equity and Treasury bond prices.
Source: Bloomberg.

Figure I-6. Major exchange rates[1]



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

The US dollar remained strong against the euro[16] from September, on the forecast that the United States and the euro area would show different paces of monetary policy normalization and economic recovery. The US dollar strengthened against the Japanese yen as well, due to the widening interest rate differential between the United States and Japan, following rises in US long-term and short-term interest rates.

16) As of November 24, 2021, the US dollar index rose to 96.88, the highest since July 7, 2020 (96.88).

2. Real Economy

(1) Economic growth

Favorable trend of recovery in Korean economy continues

The favorable trend of recovery in the Korean economy has continued. Although investment has been affected somewhat by global supply bottlenecks, exports have sustained their buoyancy and private consumption has rebounded rapidly, boosted chiefly by accelerated vaccinations, the easing of domestic COVID-19 restrictions, and the provision of emergency disaster relief funds. Accordingly, the real GDP growth rate is expected to be higher in the fourth quarter than that of the previous quarter (+0.3% quarter-on-quarter).

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

(%)

	2019	2020				2021		
	Year	Year	Q2	Q3	Q4	Q1	Q2	Q3[2)]
Real GDP	2.2	-0.9	-3.2 (-2.6)	2.2 (-1.0)	1.1 (-1.1)	1.7 (1.9)	0.8 (6.0)	0.3 (4.0)
Private consumption	2.1	-5.0	1.2 (-4.2)	0.2 (-4.5)	-1.3 (-6.6)	1.2 (1.2)	3.6 (3.7)	-0.2 (3.3)
Government consumption	6.4	5.0	1.0 (6.2)	0.1 (4.6)	-0.4 (2.3)	1.6 (2.3)	3.9 (5.3)	1.3 (6.5)
Facilities investment	-6.6	7.1	0.7 (4.5)	5.8 (10.7)	-0.6 (6.1)	6.1 (12.4)	1.1 (12.8)	-2.4 (4.2)
Construction investment	-1.7	-0.4	-2.9 (-0.4)	-3.9 (-1.5)	3.5 (-2.9)	1.3 (-1.8)	-2.3 (-1.2)	-3.5 (-1.2)
Goods exports	-1.1	-0.5	-16.2 (-11.9)	18.1 (-0.3)	5.4 (3.8)	2.1 (6.4)	-2.7 (23.5)	1.3 (6.0)
Goods imports	-2.5	-0.1	-4.3 (-5.6)	6.6 (0.3)	1.7 (2.3)	5.3 (9.2)	1.6 (16.0)	0.7 (9.6)

Notes: 1) Quarter-on-quarter (seasonally adjusted); figures in parentheses are non-seasonally adjusted year-on-year rates.
2) Reflects preliminary figures.
Source: Bank of Korea.

(A) Expenditure

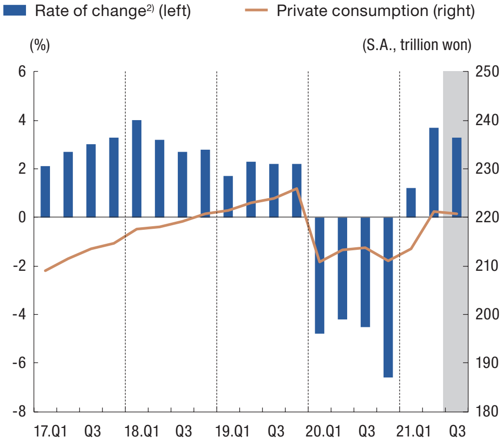
Private consumption improves rapidly after weakening temporarily, and government consumption rises

Private consumption (based on GDP) in the third quarter exhibited a slower recovery, declining 0.2% quarter-on-quarter (+3.3% year-on-year) owing largely to the heightened social distancing measures following the resurgence of COVID-19. By type, goods consumption grew, led by increases in semi-durable goods such as entertainment goods, and non-durable goods including food, while service consumption decreased, due to a decline in face-to-face services such as food and accommodation; and leisure and entertainment services.

However, private consumption showed a trend of recovery from September, led mainly by accelerated vaccinations and the provision of emergency disaster relief funds. The Retail Sales Index increased 2.4% month-on-month (+3.6% year-on-year) in September, mainly due to contributions from clothing and cosmetics, and went up by 0.2% month-on-month (+7.4% year-on-year) in October, centered on electronic devices and clothing.[17)]

Government consumption rose by 1.3% quarter-on-quarter (+6.5% year-on-year) in the third quarter due to increased expenditure on purchases of COVID-19 vaccines.[18)]

Figure I-7. Private consumption trend[1)]

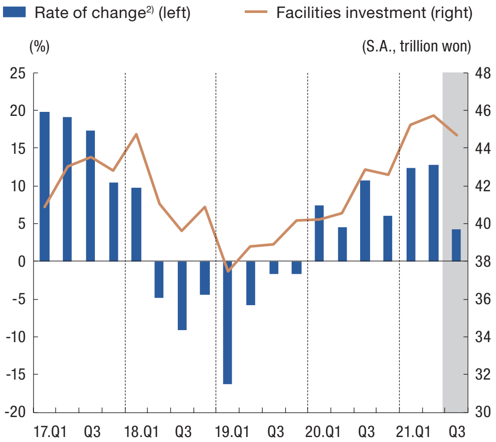


Notes: 1) Reflects preliminary figures.
2) Year-on-year.
Source: Bank of Korea.

Facilities investment undergoes slight adjustment

Facilities investment underwent a slight adjustment, declining 2.4% quarter-on-quarter (+4.2% year-on-year) in the third quarter of this year. By sector, investment in machinery rose slightly, led by investment in semiconductor manufacturing equipment, but investment in transport equipment fell substantially, due to a fall in investment in automobiles stemming from disruptions in supply of semiconductors for automobiles. The Equipment Investment Index compiled by Statistics Korea dropped by 5.4% month-on-month (+2.9% year-on-year) in October as well. Investment in machinery went down, led by special industrial machinery such as display manufacturing equipment. Investment in transport equipment fell due to a decline in investment in ships, with purchases of automobiles remaining on a decline owing to supply disruptions.

Figure I-8. Facilities investment trend[1)]



Notes: 1) Reflects preliminary figures.
2) Year-on-year.
Source: Bank of Korea.

Construction investment is sluggish

Construction investment was also sluggish, falling 3.5% quarter-on-quarter (-1.2% year-on-year) in the third quarter. By sector, both building construction and civil engineering decreased owing to severe weather conditions[19)], soaring costs of construction ma-

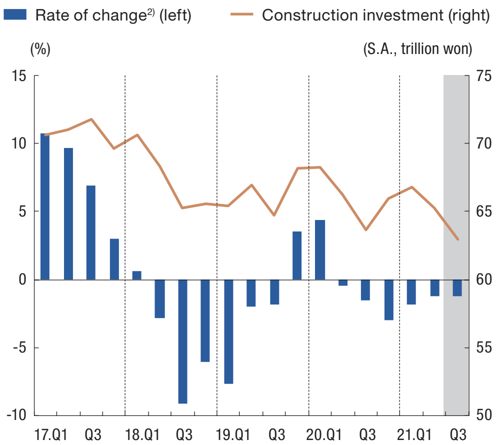
17) A look at card usage amount finds that private consumption recovery has expanded since mid-October, due to the partial relaxation of social distancing measures (on October 18) and a gradual return to normalcy (on November 1).

18) The expenditure on purchases of COVID-19 vaccines was increased by 1.5 trillion won as the second supplementary budget was finalized at the National Assembly on July 24, and goods expenses of the Korean central government grew by 22.2% year-on-year in the third quarter.

19) In July, the number of days of heatwaves nationwide stood at 8.1 days, far surpassing those for past years (average of 4.1 days for the past 30 years). In August, the number of days with precipitation nationwide stood at 16.4 days, far surpassing those for past years (average of 13.8 days).

terials[20], and the reduced SOC budget. In October, the value of construction completed also declined 1.3% month-on-month (-0.8% year-on-year), in part due to the effects of substitute holidays and a larger increase in material costs. Civil engineering increased, on the back of an increase in plant construction, while construction of buildings declined, centered on non-residential buildings, due to the reduced area of new construction starts and slower progress in construction of industrial buildings.

Figure I-9. Construction investment trends[1)]



Notes: 1) Reflects preliminary figures.
2) Year-on-year.
Source: Bank of Korea.

Exports remain strong, current account surplus widens

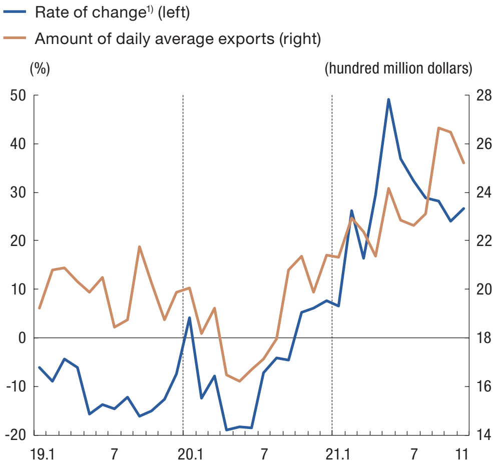
Exports (customs-clearance basis) remained favorable in the third quarter, and the daily average export value hit a record high. The year-on-year growth rate for exports decelerated[21] due mainly to a base effect. With respect to exports of IT products, exports of semiconductors and computers grew at faster paces, driven by favorable server and mobile demand. Exports of non-IT goods showed high growth in most products, including petroleum goods (chemical products and petroleum products) and steel products, due to an increase in commodity prices and recovery in demand for imports in major economies. However, growth in exports of automobiles slowed sharply[22], on ongoing disruptions in supply of semiconductors for automobiles. Since October, there has been a continued year-on-year increase in exports of major products, such as semiconductors, petroleum and chemical goods, and steel.

20) Growth in supply prices of intermediate goods for construction accelerated in the third quarter to 24.7% year-on-year from the preceding quarter (17.1%).

21) Growth rate for exports (customs-clearance basis, year-on-year) : 29.7% (32.3%, daily average basis) in July 2021 → 34.7% (28.9%) in August → 16.9% (28.1%) in September → 24.1% (24.1%) in October → 32.1% (26.6%) in November.

22) At first, disruptions in supply of semiconductors for automobiles were expected to be mitigated slightly in the second half of this year, but improvements were delayed in the third quarter as well, due to the spread of the Delta variant in Southeast Asia. Automobile production in Korea (year-on-year) decreased by 17.3% in the third quarter and 21.6% in October, while automobile exports (year-on-year) fell by 5.8% in September and 3.1% in October, before rising slightly (2.2%) in November.

Figure I-10. Daily average exports calculated on customs clearance basis



Note: 1) Year-on-year.
Source: Korea Customs Service.

Imports (customs-clearance basis) sustained a high rate of growth year-on-year in the third quarter.[23] Faster growth was seen in imports of commodities, led by crude oil and steel products, stemming from an increase in commodity prices. Both consumer goods and capital goods imports continued to increase, led by increased demand for imported eco-friendly automobiles, and imports of high-priced semiconductor equipment, respectively. Since October, imports have continued to expand significantly.

The current account surplus widened in the third quarter this year (25.8 billion dollars) compared to the third quarter of last year (24 billion dollars). The goods account surplus narrowed, due to a sharp increase in imports in line with a surge in commodity prices, despite strong exports. Meanwhile, the services account shifted to a slight surplus, thanks to the widened surplus in the transportation services account stemming from increased freight rates and freight capacity. The primary income account surplus also widened, thanks to increased dividends from local subsidiaries overseas. In October, despite improvements in the services account, the current account surplus narrowed in October (6.9 billion dollars) compared to that in October 2020 (11.6 billion dollars), due to narrower surpluses in the goods and primary income accounts.

Table I-3. Current account

(billion dollars, %)

	2019	2020		2021				
	Year	Year	Q4	Q1	Q2	Q3	Oct.	Nov.
Current account	59.7	75.3	32.2	22.8	21.5	25.8	6.9	..
Goods	79.8	81.9	30.6	19.6	18.5	20.8	5.6	..
Exports[1]	542.2	512.5	141.9	146.4	156.7	164.6	55.6	60.4
(Rate of change[2])	-10.4	-5.5	4.1	12.5	42.1	26.5	24.1	32.1
Imports[1]	503.3	467.6	123.7	136.5	149.1	156.9	53.8	57.4
(Rate of change[2])	-6.0	-7.1	-1.7	12.3	37.6	37.5	37.7	43.6
Services	-26.8	-16.2	-2.3	-1.4	-1.5	0.9	0.6	..
Credit	103.8	90.1	25.8	25.4	28.2	31.2	10.3	..
Debit	130.7	106.3	28.1	26.8	29.7	30.3	9.7	..
Primary income	12.9	12.1	5.2	5.7	6.1	4.7	0.7	..
Secondary income	-6.1	-2.5	-1.2	-1.2	-1.6	-0.6	0.0	..

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

(B) Production

Based on the production approach, GDP continued to recover in the third quarter, as manufacturing production maintained the level seen in the preceding quarter, and growth in services continued, despite a decline in construction. In October, the Index of All Indus-

23) Growth rate for imports (customs-clearance basis, year-on-year) : 38.2% (41.0%, daily average basis) in July 2021 →44.0% (37.7%) in August → 31.0% (43.5%) in September → 37.7% (37.7%) in October → 43.6% (37.6%) in November.

try Production (IAIP) compiled by Statistics Korea fell (-1.9% month-on-month), led by manufacturing (-3.1%) and public administration (-8.9%).

Table I-4. Production indicators[1]

(QoQ, %)

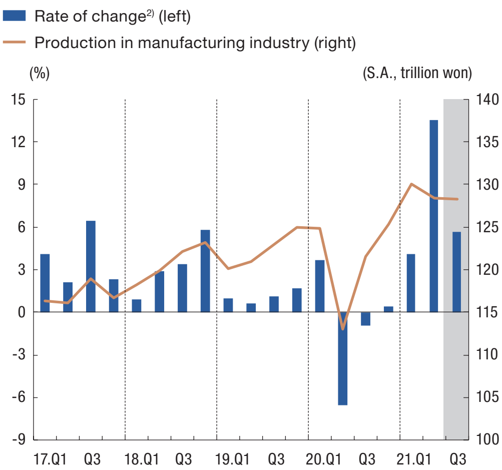
	2019	2020				2021		
	Year	Year	Q2	Q3	Q4	Q1	Q2	Q3[2]
GDP by production approach	2.2	-0.9	-3.2 (-2.6)	2.2 (-1.0)	1.1 (-1.1)	1.7 (1.9)	0.8 (6.0)	0.3 (4.0)
Agriculture, forestry and fisheries	3.9	-4.0	-8.6 (-6.7)	0.0 (-6.9)	4.3 (-1.3)	7.5 (2.6)	-12.7 (-2.4)	8.9 (6.5)
Mining	-6.2	-0.2	-4.8 (-2.6)	0.5 (-2.1)	10.9 (2.6)	-9.6 (-4.2)	12.6 (13.4)	-0.2 (12.2)
Manufacturing	1.1	-0.9	-9.4 (-6.5)	7.5 (-0.9)	3.1 (0.4)	3.8 (4.1)	-1.3 (13.5)	0.0 (5.7)
Electricity·gas·water supply	4.3	4.2	-1.5 (-1.3)	-2.6 (7.3)	3.9 (6.2)	5.9 (5.7)	-4.1 (3.1)	1.9 (7.5)
Construction	-2.6	-1.4	-1.1 (-0.9)	-4.5 (-2.6)	1.4 (-3.6)	0.9 (-3.2)	-1.3 (-3.4)	-2.4 (-1.6)
Services	3.4	-1.0	-0.8 (-1.4)	1.0 (-1.3)	0.6 (-1.8)	0.7 (1.5)	2.1 (4.4)	0.5 (3.9)
Taxes less subsidies on products	0.8	0.0	-0.4 (-0.9)	1.8 (1.2)	-2.3 (-0.5)	1.0 (0.1)	3.7 (4.2)	-0.5 (1.9)

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

Manufacturing undergoes slight adjustment

Manufacturing production remain unchanged in the third quarter of this year (+5.7% year-on-year) from the preceding quarter. It maintained the level seen in the preceding quarter, thanks to an increase in production in the non-IT sector, led by machinery equipment (+5.4%), despite a decline in production in the IT sector. The October Manufacturing Production Index by Statistics Korea saw its improvement constrained, influenced by substitute holidays. It declined by 3.1% month-on-month (+4.6% year-on-year), due to a contraction in automobile production (-5.1%) following supply disruptions in semiconductors for automobiles, and a shift to a decline in production of basic metal products (-5.9%) resulting from facilities maintenance at major companies.

Figure I-11. Manufacturing trend[1]

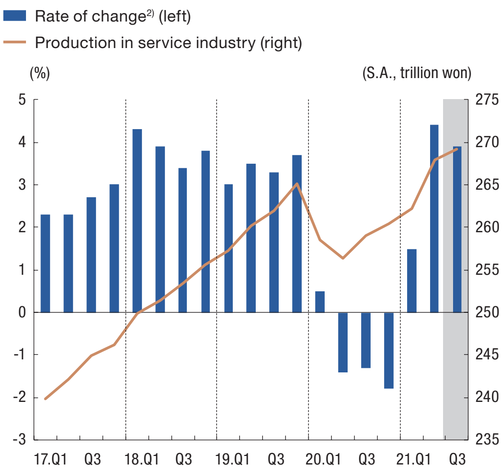


Notes: 1) Reflects preliminary figures.
2) Year-on-year.
Source: Bank of Korea.

Trend of recovery in services continues

Production in the service industry continued to recover in the third quarter of this year, growing at 0.5% compared to the quarter before (+3.9% year-on-year). By sector, while production in accommodation and food, and transportation services declined due to the tightening of social distancing measures, that in the finance and insurance services and information and communication services increased. The Service Industry Activity iIndex compiled by Statistics Korea maintained a trend of recovery in October, as face-to-face service industries such as accommodation and food services rose after remaining unchanged, although production in finance and insurance services fell to record a 0.3% decline month-on-month (+5.2% year-on-year) due to a decreased number of business days stemming from the designation of two days as substitute holidays.

Figure I-12. Service production trend[1)]



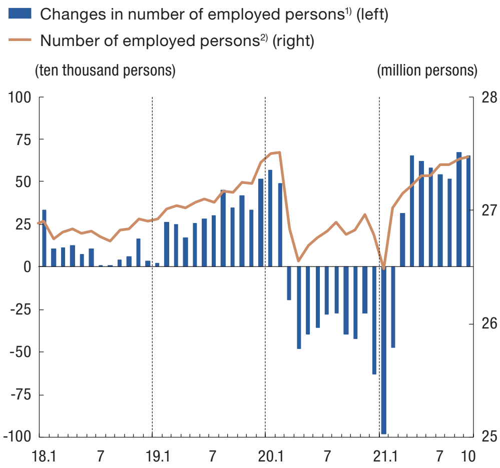
Notes: 1) Reflects preliminary figures.
2) Year-on-year.
Source: Bank of Korea.

(2) Employment

Employment continues to improve

Employment conditions have continued to improve recently with the sustained growth in the number of employed persons. Total payrolls increased by 652,000 year-on-year in October, recovering to 99.9% of the pre-pandemic level (in February 2020). Private nonfarm payrolls (excluding agriculture and fisheries, public administration, and health and social welfare) have continued to improve, increasing by more than 300,000 year-on-year as in September.[24)]

Figure I-13. Number of employed persons



Notes: 1) Year-on-year.
2) Seasonally adjusted.
Source: Statistics Korea.

By industry, the number of employed persons continued to rise in the service industries, especially in health and social welfare, transportation and warehousing, and education services. In particular, the number of employed persons in health and social welfare services sustained high growth, driven by the government project to support employment, disease control responses, and increased demand for childcare and social welfare services. In face-to-face services[25)], the number of employed persons in accommodation and food services increased slightly, thanks to increased face-

24) Changes in the number of employed persons excluding the agricultural and fisheries; public administration; and health and welfare sectors (year-on-year, ten thousand persons) : +20.2 in July → +19.1 in August → +37.0 in September → +36.5 in October.

25) The face-to-face service industry includes wholesale and retail trade; accommodation and food; education, arts, sports and leisure-related services, repair and other personal services.

to-face economic activities following expanded COVID-19 vaccinations, while those in wholesale and retail services still remained sluggish. The number of employed persons in the manufacturing sector decreased in the third quarter, influenced by disruptions in automobile production, but the pace of decrease was gradually slowing. The number of employed persons in the construction industry still maintained a trend of growth, although the pace of growth slowed somewhat.

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

(YoY, ten thousand persons)

	2019	2020		2021				
	Year	Year	Q4	Q1	Q2	Q3	Sep.	Oct.
Changes in number of employed persons	30.1	-21.8	-44.1	-38.0	61.8	57.7	67.1	65.2
Manufacturing	-8.1	-5.3	-10.7	-2.8	0.6	-3.5	-3.7	-1.3
Construction	-1.5	-0.4	4.5	3.4	13.7	9.1	5.7	5.2
Services	34.8	-21.6	-41.8	-37.9	47.6	50.3	63.3	59.1
Wholesale & Retail	-6.0	-16.0	-18.4	-19.3	-16.1	-14.0	-12.2	-11.3
Transportation & Warehousing	2.5	5.1	2.7	4.2	9.6	13.0	16.3	16.3
Accommodation & Food	6.1	-15.9	-23.4	-20.9	2.6	-0.4	3.9	2.2
Information & Communication	2.3	-1.4	-1.8	0.4	4.2	7.2	9.7	10.3
Education	3.6	-8.6	-10.3	-4.2	4.3	5.9	9.8	10.8
Personal services	-0.3	-4.4	-4.3	-8.6	-4.3	-4.4	-4.1	-5.7
Public administration	-3.3	3.6	12.2	5.1	8.3	4.6	-0.1	-3.3
Health	16.0	13.0	8.8	6.3	22.4	25.3	28.0	30.0

Source: Statistics Korea.

By employment status, the number of regular workers continued to increase significantly, while the pace of increase in the number of temporary and daily workers declined sharply in October. As for self-employed workers, the number of self-employed workers with employees continued to decrease but the pace of decline slowed.

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

(YoY, ten thousand persons)

	2019	2020		2021				
	Year	Year	Q4	Q1	Q2	Q3	Sep.	Oct.
Changes in number of employed persons	30.1	-21.8	-44.1	-38.0	61.8	57.7	67.1	65.2
Wage and salaried worker	35.7	-10.8	-33.0	-20.6	64.6	60.8	73.4	67.1
Regular workers	44.4	30.5	1.9	10.9	32.9	40.0	51.5	61.5
Temporary & Daily workers	-8.7	-41.3	-34.9	-31.5	31.7	20.8	21.9	5.6
Self-employed workers	-5.6	-11.0	-11.1	-17.4	-2.8	-3.1	-6.3	-1.9
Self-employed businesses with employees	-11.4	-16.5	-14.0	-13.6	-7.2	-6.0	-4.8	-2.6
Self-employed businesses without employees	8.1	9.0	7.4	3.0	6.4	5.5	2.2	4.5
Unpaid family workers	-2.4	-3.5	-4.4	-6.8	-2.1	-2.5	-3.7	-3.7

Source: Statistics Korea.

By age, the numbers of employed youth (aged between 15 and 29) and senior persons (aged 60 and over) continued to rise greatly, while those in their 40s and 50s climbed modestly. The number of employed persons in their 30s declined slightly, which appears attributable[26) mostly to demographic factors.

26) Despite the fall in the number of persons employed, the employment-to-population ratio of those in their 30s remained on the rise (74.7% in August → 75.4% in September → 75.6% in October).

Table I-7. Changes in the number of employed persons by age group

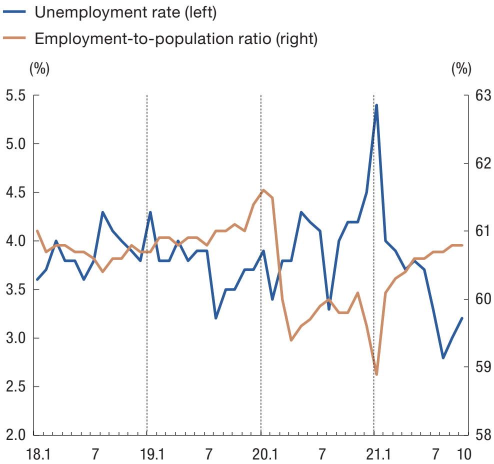
(YoY, ten thousand persons)

	2019	2020		2021				
	Year	Year	Q4	Q1	Q2	Q3	Sep.	Oct.
Changes in number of employed persons	30.1	-21.8	-44.1	-38.0	61.8	57.7	67.1	65.2
Aged 15~29	4.1	-18.3	-26.5	-10.3	17.6	18.2	21.9	18.0
Aged 30~39	-5.3	-16.5	-22.7	-22.7	-9.3	-7.4	-1.2	-2.4
Aged 40~49	-16.2	-15.8	-17.0	-15.4	-0.2	1.3	1.8	2.0
Aged 50~59	9.8	-8.8	-11.1	-9.9	9.6	10.3	12.4	12.4
Aged 60 and over	37.7	37.5	33.2	20.2	44.1	35.3	32.3	35.2

Source: Statistics Korea.

The employment-to-population ratio (seasonally adjusted) stood at 60.8% in October, remaining at the same level as in the preceding month. The unemployment rate (seasonally adjusted) reached 3.2% in October, a modest increase from 3.0% in September. The extended unemployment rate (labor underutilization indicator 3)[27], which includes time-related underemployed persons and the potential labor force, has been on the decline since February this year and recorded 11.7% in October, down by 1.5%p year-on-year. The number of temporarily absent workers[28] decreased slightly to 375,000 in October from 394,000 in September.

Figure I-14. Employment-to-population ratio[1] and unemployment rate[1]



Note: 1) Seasonally adjusted.
Source: Statistics Korea.

27) The extended unemployment rate encompasses the unemployed, those working part-time and searching for decent jobs at the same time, and potential job seekers who are not seeking work but 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 under-employed persons</td><td>Unavailable jobseekers</td><td>Available potential jobseekrs</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 for the last four weeks but unavailable to work during the surveyed week.
3) Those not seeking work for the last four weeks but want to work and available to work during the surveyed week.

28) They are defined as people with jobs or business establishments who are unable to work due to temporary illnesses, accidents, annual leave or holiday, education or training, business slump or shutdown, etc., but are able to work again if the reasons for temporary absence are resolved.

Table I-8. Major and ancillary indicators related to employment

(ten thousand persons, %)

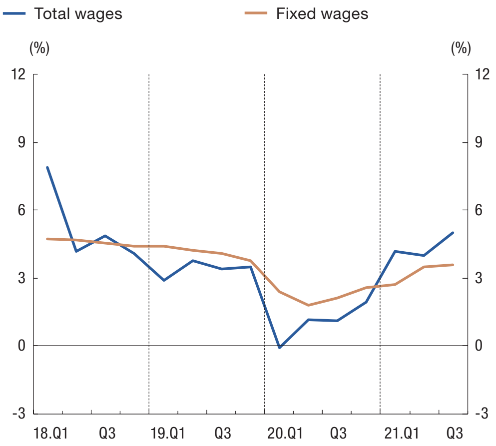
	2019	2020		2021				
	Year	Year	Q4	Q1	Q2	Q3	Sep.	Oct.
Changes in number of employed persons	30.1	-21.8	-44.1	-38.0	61.8	57.7	67.1	65.2
Employment-to-population ratio[1]	60.9	60.1	59.8	59.8	60.6	60.7	60.8	60.8
(Based on people aged between 15 and 64)	66.8	65.9	65.6	65.6	66.6	66.8	67.0	67.0
Labor force participation rate[1]	63.3	62.5	62.5	62.5	62.9	62.6	62.7	62.8
Rate of change in the number of economically active population[2]	1.0	-0.6	-1.0	-0.6	1.9	1.4	1.5	1.5
Unemployment rate[1]	3.8	4.0	4.3	4.4	3.7	3.0	3.0	3.2
Labor underutilization indicator 1[3]	6.4	7.8	7.7	9.1	7.8	6.6	6.3	6.2
Labor underutilization indicator 2[4]	9.3	10.0	9.9	11.7	9.8	8.8	8.6	8.5
Labor underutilization indicator 3[5]	11.8	13.6	13.6	15.6	13.4	12.4	12.0	11.7
Temporarily absent workers	40.7	83.7	57.2	67.2	40.9	50.8	39.4	37.5

Notes: 1) Seasonally adjusted.
2) Year-on-year.
3) (Unemployed persons + time-related underemployed persons) / economically active population.
4) (Unemployed persons + potential labor force) / (economically active population + potential labor force).
5) (Unemployed persons + time-related underemployed persons + potential labor force) / (economically active population + potential labor force).
Source: Statistics Korea.

Nominal wage growth continues

Nominal wages increased by 5.0% year-on-year in the third quarter of 2021, continuing their sharp rise. The wages of regular employees rose 5.1% year-on-year as fixed wages and special wage[29]) payments continued their high growth. The wage growth of temporary and daily workers accelerated to 4.2% (3.2% in the second quarter).

Figure I-15. Nominal wage growth[1]



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

Table I-9. Nominal wage growth by category

(YoY, %)

	2019	2020			2021		
	Year	Year	Q3	Q4	Q1	Q2	Q3
Total wage[1]	3.4	1.1	1.1	2.0	4.2	4.0	5.0
Regular workers	3.1	0.4	0.6	1.7	4.2	4.3	5.1
(Fixed wages)	4.1	2.2	2.1	2.6	2.7	3.5	3.6
(Excess wages)	2.7	-0.9	-0.1	2.5	1.2	8.4	3.3
(Special wages)	-2.8	-9.9	-7.5	-4.6	13.2	9.8	15.1
Temporary & daily workers	6.2	7.8	7.2	7.4	5.1	3.2	4.2

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

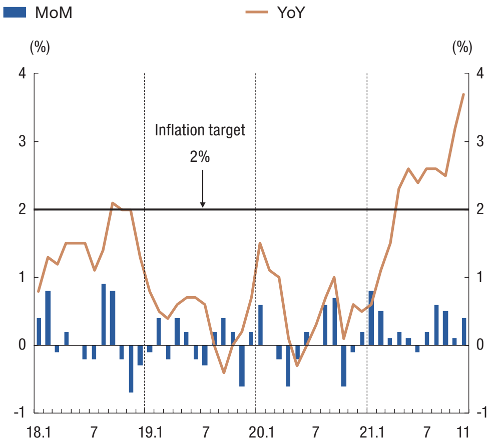
29) The special wage growth in 2021 is attributable to the base effect of last year's plunge and to increased bonus payments in line with the economic recovery.

3. Prices

Consumer price inflation runs above 3%

Consumer price inflation had remained significantly above 2% since April this year, and then rose to the 3% level during the period between October and November. The recent acceleration in inflation was mainly attributable to gradually rising inflationary pressures on the demand side accompanying economic recovery amid the sustained sharp rise in petroleum product prices.

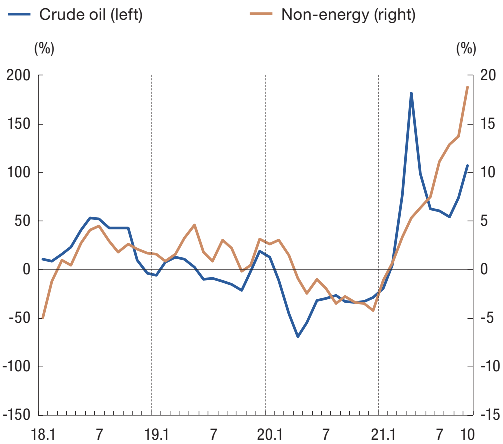
Figure I-16. CPI inflation



Sources: Bank of Korea, Statistics Korea.

Looking at overseas factors affecting consumer price inflation, crude oil import prices[30] continued to rise owing to rapid increases[31] in international oil prices. The prices of non-energy imports[32] increased faster, as the extent of change[33] in the Korean won/US dollar exchange rate (year-on-year) widened following October after having shifted positive, while commodity prices continued to surge.[34]

Figure I-17. Import prices (Korean won basis)[1]



Note: 1) Year-on-year.
Source: Bank of Korea.

As for domestic factors, demand-side inflationary pressures rose gradually, as the upward trend[35] of personal service prices accelerated in line with the economic recovery. On

30) The rate of increase in crude oil import prices (Korean won basis, year-on-year) declined from 101.5% in the second quarter of 2021 to 62.7% in the third quarter, and rose again to 107.3% in October.

31) The rate of increase in international oil prices (Dubai crude oil basis, year-on-year) slowed from 109.2% in the second quarter of this year to 68.2% in the third quarter, and rose again to 95.8% during October and November.

32) The rate of increase in non-energy import prices (Korean won basis, year-on-year) rose from 6.4% in the second quarter of this year to 12.6% in the third quarter, and rose to 18.8% in October.

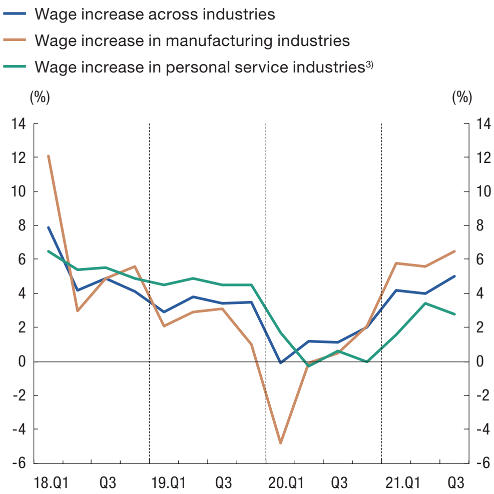
33) The extent of change in the Korean won/US dollar exchange rate (year-on-year) narrowed from -8.1% in the second quarter of this year to -2.5% in the third quarter, before widening to 4.9% in October and November.

34) The rate of increase in international non-energy commodity prices (S&P GSCI basis, year-on-year) reached 50.5% in the second quarter of this year, recorded 33.6% in the third quarter, and remained high at 27.0% in October and November.

35) Personal service prices in November 2021 rose by 2.9% relative to end-2020, surpassing the average years (2.1%, annual average between 2015 and 2019).

the cost side, wage growth across all industries climbed at a higher rate[36], led mainly by the manufacturing sector, thanks to improved corporate profitability and the rise in special wage payments.[37]

Figure I-18. Rate of wage increase (per employee)[1)2)]



Notes: 1) Based on firms with one or more permanent employees.
2) Year-on-year.
3) 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.

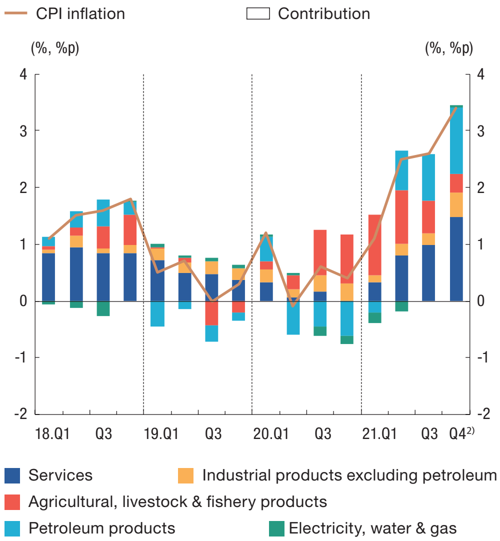
As for other factors, prices of agricultural and livestock products and government policies acted to push consumer price inflation up. Livestock product prices continued to rise sharply, due to the rises in household demand and logistics costs, while agricultural product prices picked up driven by vegetable prices due to the cold spell in November. Government policies exerted upward pressures on inflation as the expansion of free high school education[38] and free school lunches[39] introduced last year no longer[40] acted to push inflation down and there was also a base effect from the government subsidies for mobile phone bills.[41] Meanwhile, the effects of the reduction in fuel taxes[42] implemented in November on the fall in prices are likely to manifest[43] in full swing from December. The uptrend in housing rental fees accelerated, owing to continued increases in leasehold (*jeonse*) deposits and monthly rents (new contract basis).[44]

Looking at changes in consumer price inflation by product, the upward trend of prices of agricultural and livestock products slowed while the extent of rise in petroleum product

36) The rate of growth in nominal wages (year-on-year) across all industries increased from 4.0% in the second quarter of this year to 5.0% in the third quarter.
37) The growth rate of special wages (year-on-year) for regular workers across all industries increased from 9.8% in the second quarter to 15.1% in the third quarter due to the payment from wage negotiation settlement in the auto industry.
38) Free high school education was expanded to include second graders in April 2020, and first graders in 10 regions including Seoul and Busan in September.
39) Free high school lunches were expanded to include second graders in Seoul and Busan and third graders in Daegu and Gyeongbuk province in May 2020, and to include first graders in Busan in September 2020.
40) Year-on-year consumer price inflation dissipates after downward inflationary effects have continued for a year.
41) Affected by the telecom subsidies by the government (4th supplementary budget) in the fourth quarter of 2020, phone bills plunged temporarily (-21.7% in October 2020 → +25.5% in October 2021).
42) The government cut fuel taxes on gasoline, diesel, LPG butane (Auto LPG, butane gas) by 20%, from November 12, 2021 to April 30, 2022, and adjusted the tariffs on LNG imports from 2% to 0%.
43) If the retail prices of gasoline are lowered by the full extent of the reduction in fuel taxes, gasoline prices are expected to go down by 164 won.
44) The Housing Rental Price Index comprising of *jeonse* and monthly rents (Korea Real Estate Board) was up 4.4% in October relative to the last month of the preceding year, recording a higher rise than that in the same period of 2020 (2.1%).

prices expanded in the third quarter. Personal service prices increased at a faster pace led by dining out costs, and housing rents also picked up. The decline in public service prices slowed as downward inflationary pressures from the expansion of free high school education were lessened. In October and November, the growth in prices of agricultural and livestock products declined slightly, while those of petroleum products rose more considerably. As for services, public service prices shifted to an increase due to the base effect from the government subsidies for telecommunications fees, while personal service prices showed a high uptrend, led by dining out costs.

Figure I-19. Contributions to CPI inflation[1)]



Notes: 1) Year-on-year.
2) Based on October~November 2021.
Sources: Bank of Korea, Statistics Korea.

Table I-10. CPI inflation

(YoY, %)

	2019	2020			2021				
	Year	Year	Q3	Q4	Q1	Q2	Q3	Oct.	Nov.
Consumer Price Index	0.4	0.5	0.6	0.4	1.1	2.5	2.6	3.2	3.7
Agricultural, livestock & fishery products	-1.7	6.7	10.3	11.4	13.3	11.9	6.9	0.2	7.6
(Agricultural products)	-3.0	6.4	12.3	14.5	17.2	16.2	5.4	-6.3	5.7
(Livestock products)	0.0	7.3	9.0	8.9	12.0	10.3	12.7	13.3	15.0
Industrial products	-0.2	-0.2	-0.5	-0.9	-0.2	2.7	3.1	4.3	5.5
(Petroleum products)	-5.7	-7.3	-10.7	-13.8	-4.6	18.7	21.1	27.3	35.5
(Industrial products excluding petroleum)	0.7	0.8	1.0	1.0	0.5	0.7	0.7	1.3	1.7
Electricity, water & gas	1.5	-1.4	-4.3	-4.1	-5.0	-4.8	0.1	1.1	1.1
Services	0.9	0.3	0.3	0.0	0.6	1.5	1.8	3.2	2.2
(Housing rent)	-0.1	0.2	0.3	0.6	0.9	1.3	1.6	1.8	1.9
(Public service charges)	-0.5	-1.9	-1.7	-3.5	-2.1	-0.7	-0.4	5.4	0.6
(Private service charges)	1.9	1.2	1.2	1.4	1.6	2.4	2.7	2.7	3.0
CPI for living necessities	0.2	0.4	0.5	-0.3	1.0	3.0	3.3	4.6	5.2
CPI excluding food & energy	0.7	0.4	0.4	0.2	0.4	1.1	1.3	2.4	1.9
CPI excluding agricultural products & oils	0.9	0.7	0.8	0.7	0.9	1.4	1.8	2.8	2.3

Source: Statistics Korea.

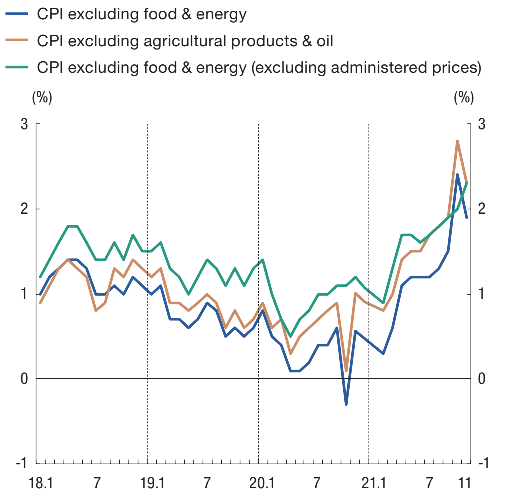
Underlying inflation rises greatly

Core inflation (excluding changes in food and energy prices from the CPI) exceeded 2% in October as phone bills, which are administered prices, rose sharply[45)] due to the base effect of last year's telecom bill subsidy. Most of the base effect dissipated in November, but core inflation approached close to 2% as the inflationary pressures on the demand side increased. Taking into account the significant effect that government policies have on core inflation, core inflation excluding administered prices[46)] has risen to the 2% level since October.

45) As a result, the contribution of administered prices to core inflation surged from 0.0%p in September to 0.9%p in October, and declined to 0.1%p as most of the base effect dissipated in November.

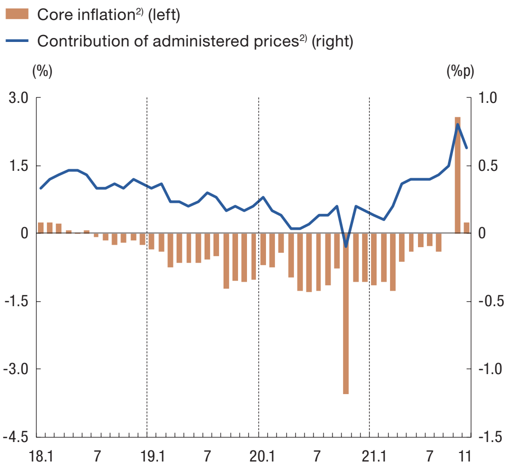
46) Administered prices refer to the prices of public services, electricity, water and gas, and school meals, which are greatly affected by government policies both directly and indirectly. Core inflation excluding administered prices is calculated by leaving out the administered prices from core inflation (excluding food and energy).

Figure I-20. Underlying inflation[1)]



Note: 1) Year-on-year.
Sources: Bank of Korea, Statistics Korea.

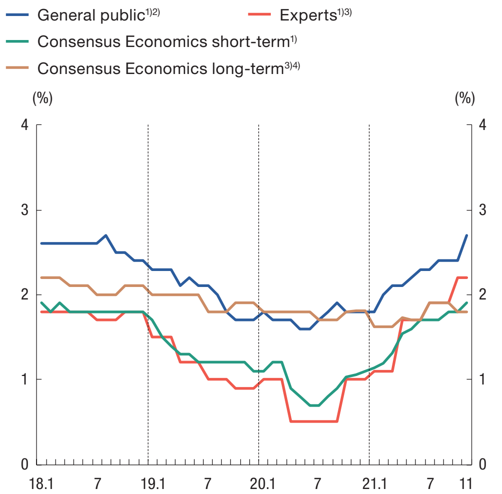
Figure I-21. Contribution of administered prices to core inflation[1)]



Notes: 1) Excluding food & energy.
2) Year-on-year.
Sources: Bank of Korea, Statistics Korea.

The short-term inflation expectations of the general public have risen to the mid- to upper-2% level. The long-term (five-year) inflation expectations of a group of experts (survey conducted by Consensus Economics[47)]) have maintained the upper 1%-level.

Figure I-22. Inflation expectations



Notes: 1) Expected CPI inflation rates for the next 12 months.
2) Based on new samples since September 2018.
3) Surveyed four times a year (in the first month of every quarter).
4) Expected CPI inflation rates after five years.
Sources: Bank of Korea, Consensus Economics.

Housing sales prices continue to rise

Nationwide housing sales prices sustained their high rates of increase this year. The margin of increase narrowed somewhat from September but still remained elevated[48)49)], exceeding the levels of previous years. By re-

47) The figures are results of surveys of domestic and foreign investment banks, securities companies and market research institutions conducted by Consensus Economics.
48) Nationwide housing sales prices rose by 0.7% in May, 0.8% in June, 0.9% in July and 1.0% in August.
49) In November, nationwide apartment sales prices increased by 0.23% in the first week, 0.22% in the second, 0.20% in the third, and 0.17% in the fourth week.
50) In October 2021, housing sales prices rose by 1.3% in Gyeonggi province (1.7% in August and 1.6% in September) and 1.5% in Incheon (1.4% in August and 1.5% in September).

gion, the uptrend[50] was observed mainly in Gyeonggi province and Incheon for the Seoul Metropolitan region, and the growth trend had also continued[51] in metropolitan cities. Meanwhile, the expectations of price hikes stemming from anticipated development have shown some signs of easing[52] due to the heightened lending regulations recently put in place.

Nationwide leasehold (*jeonse*) deposit prices rose at a faster pace in the third quarter, remaining higher than previous years. The leasehold deposit prices increased by a large margin, as leasehold (*jeonse*) demand expanded owing to housing demolition and moving related to reconstruction, and to those who are waiting to apply for new apartment subscription in the third phase new residential towns.

Table I-11. Rates of increase in housing sales and leasehold (*jeonse*) deposit prices[1)]

(%)

	2019	2020			2021				
	Year	Year	Q3	Q4	Q1	Q2	Q3	Sep.	Oct.
Housing sales prices	-0.4	5.4	1.5	1.8	2.4	2.2	2.8	0.9	0.9
Seoul Metropolitan area	0.5	6.5	1.8	1.5	3.0	2.8	3.7	1.2	1.1
(Seoul)	1.2	2.7	1.4	0.6	1.3	1.2	2.0	0.7	0.7
Other areas	-1.1	4.3	1.3	2.0	2.0	1.6	1.9	0.6	0.7
Sales prices of apartments for reconstruction	12.4	13.1	5.5	3.6	4.2	4.3	3.0	0.7	0.8
Leasehold (*jeonse*) deposit prices	-1.3	4.6	1.3	2.1	1.8	1.2	1.8	0.6	0.6
Seoul Metropolitan area	-0.8	5.6	1.6	2.2	1.9	1.3	2.5	0.8	0.7
(Seoul)	-0.4	3.7	1.1	1.5	1.2	0.7	1.6	0.5	0.5
Other areas	-1.7	3.7	1.0	2.0	1.7	1.1	1.3	0.4	0.5

Note: 1) Compared with the last survey dates of the previous period.
Sources: Korea Real Estate Board, Real Estate 114.

51) Housing sales prices in Metropolitan cities other than Seoul rose by 0.7% in October 2021 (0.8% in August and 0.7% in September).

52) The housing price forecast CSI stood at 127 in June, 129 in July, 129 in August, 128 in September, 125 in October and 116 in November. The Supply and Demand Trends Index for housing transactions nationwide came to 112.5 in June, 117.3 in July, 119.5 in August, 118.8 in September and 110.6 in October.

4. Financial and Foreign Exchange Markets

Korea Treasury Bond yields rise sharply

Korea Treasury bond yields rose significantly due to changes in expectations about monetary policies at home and abroad. Amid sustained expectations of an additional Base Rate hike since September, the 3-year yield surged to 2.11% (November 1) and the 10-year yield to 2.58% (October 29), owing to global inflation concerns, the possibility of a change in major countries' monetary policy stances, and the massive sell-off[53] of bond futures by foreign investors. However, the extent of increase narrowed modestly in November, due mainly to the easing of concerns about a shift in monetary policy stances of major countries and to the policy authorities' market stabilization measures.[54] (As of November 24, the 3-year yield is 2.01% and the 10-year yield is 2.39%.)

Figure I-23. Yields on Korea Treasury Bond and US Treasury Note

Sources: Korea Financial Investment Association, Bloomberg.

Short-term market interest rates rise

Short-term market interest rates moved up on the back of expectations for an additional hike in the policy rate within this year. The Monetary Stabilization Bond (91-day) rate had generally remained at the policy rate levels until the end of September, and increased significantly afterwards to rise to 0.89% at the end of October. In November, the rate fell slightly due to the rebound in sentiment of short-term bond purchases, and rose again to reach 0.95% at the end of the month. CD (91-day) rates surged, affected by the rise in bank debenture (3-month) rates.[55] CP (91-day, rated A1) rates

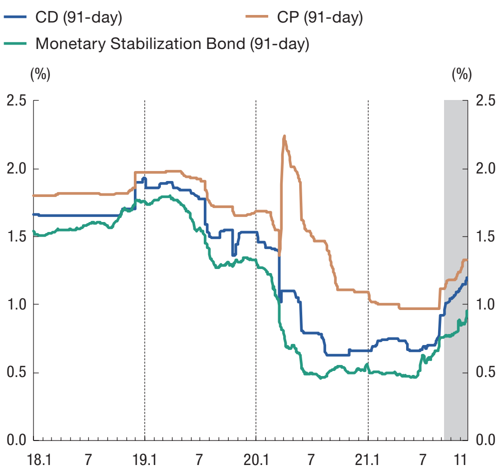
53) In September 2021, net selling of 3-year and 10-year Treasury bond futures posted by foreign investors recorded 150,000 and 38,000, respectively, marking all-time highs during the month for both bond futures.

54) The Bank of Korea announced a plan on October 28, 2021 to reduce the issuance and to increase the buyback of Monetary Stabilization Bonds (MSBs) in November, and the government implemented an emergency buyback (announced on November 2) of Treasury bonds worth 2 trillion won on November 5, 2021.

55) The rise in bank debenture rates was attributable mainly to the expectations for another interest rate hike within this year and the increase in issuance of bank debentures (net issuance of 12.6 trillion won between September 1 and November 24, 2021). Bank debenture (3-month, rated AAA) rates (%) : 0.90 at end-August, 2021 → 0.97 at end-September → 1.15 at end-October → 1.31 on November 24.

rose greatly, affected by the overall upward movements in short-term market interest rates and reflected by the effects of the policy rate hike in August with a time lag.

Figure I-24. Short-term interest rates[1)]

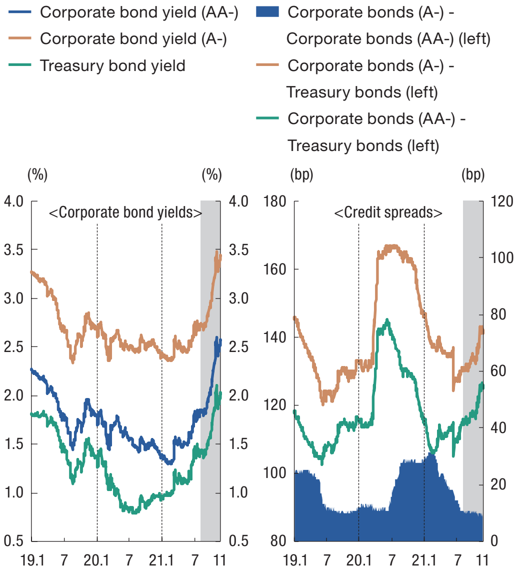


Note: 1) Monetary Stabilization Bond rates based on average rates estimated by private credit rating agencies; CD and CP rates based on final quoted yields.
Source: Korea Financial Investment Association.

Corporate bond credit spread widens slightly

The credit spread for corporate bonds (3-year) widened slightly, both for prime bonds (rated AA-) and subprime bonds (rated A-), as the investor sentiment for credit bonds with relatively low liquidity somewhat softened due to the rise in volatility in rates on benchmark Treasury bonds. As of November 24 the credit spread for prime bonds stood at 55bp, up by 13bp at end-August, while that of subprime bonds came to 142bp, up by 11bp. The spread between different credit ratings (A- and AA-) generally remained the same as the credit spreads for prime and subprime bonds increased.

Figure I-25. Corporate bond yields and credit spreads[1)]



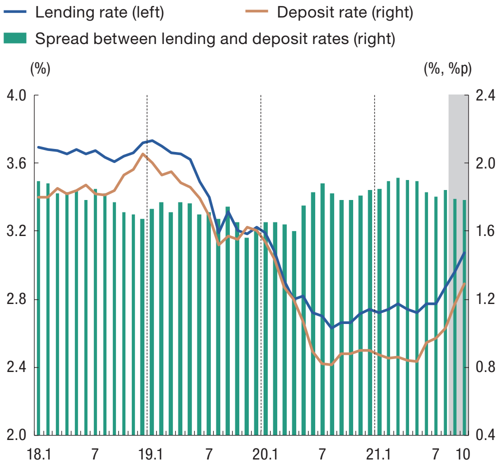
Note: 1) 3-year maturity basis; Treasury bond yields based on final quoted yields, and corporate bond yields on average yields estimated by four private credit rating agencies.
Source: Korea Financial Investment Association.

Bank lending and deposit rates rise

Bank lending rates (new loans basis) moved up greatly, as the effects of the policy rate hike were rapidly transmitted. Since September, corporate lending rates both for large corporations and SMEs increased substantially due to the rise in major benchmark rates.[56)] Household lending rates rose by a larger margin as banks raised spreads to curb the rising household debt. Deposit rates (new deposits basis) also climbed up considerably due to the rise in market interest rates and greater funding incentives for banks.

56) Increase range (bp) of major benchmark rates (monthly averages) between September and October : +31 for CD (91-day), +24 for KORIBOR (3-month), +16 for COFIX (new), +21 for bank debenture (3-month), +50 for bank debenture (5-year).

Figure I-26. Bank lending/deposit rates and spread



Source: Bank of Korea.

Stock prices decline sharply

Stock prices (KOSPI) plunged due to global supply disruptions, inflation concerns and the possible default of a real estate corporation in China, staying below the 3000-point mark in early October for the first time since March 2021. In the mid-October, they showed a modest rebound on the back of favorable performance of domestic and global businesses and inflows of funds for stock purchases at low prices, but have declined again since the end of October due to the continued concerns about global supply chain bottlenecks and changes in expectations for monetary policy normalization of major economies. The stock price volatility index (V-KOSPI) temporarily rose slightly due to external factors in early October, but declined again.

Figure I-27. KOSPI and stock volatility index

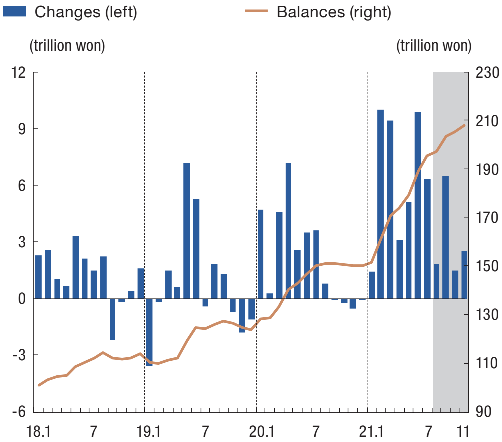
Source: Korea Securities Computing Corporation.

Foreign portfolio investment rises

Foreigners' domestic securities investment shifted to a rise and their bond investment continued to grow, leading to higher investment overall.

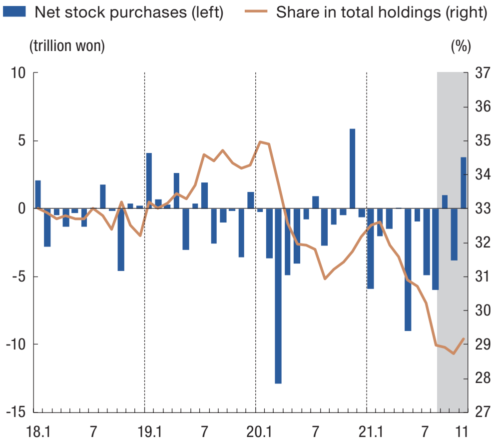
Bond investment jumped considerably, driven by robust domestic economic conditions and relatively high domestic yields. It grew around 6 trillion won in September and also continued its upward trend in October and November. As a result, outstanding bond holdings of foreigners recorded all-time highs every month and stood at 207.7 trillion won as of November 24.

Figure I-28. Changes[1)] in and balances[1)] of foreigners' bond holding



Note: 1) Based on November 24 for November 2021 figures.
Source: Financial Supervisory Service.

Figure I-29. Foreigners' net stock purchases[1)2)] and share in total holdings[1)3)]



Notes: 1) Based on November 24 for November 2021 figures.
2) Sum of net purchases in KOSPI and KOSDAQ markets.
3) Based on stock market capitalization.
Source: Korea Securities Computing Corporation.

Foreigners engaged in net buying of stocks in major Asian countries in general in September. Foreign investors showed modest net buying in Korea as well, led by global funds but they shifted to considerable net selling owing to changes in expectations for monetary policy normalization of major economies and concerns about global supply disruptions since end-September. Entering November, however, foreigners' stock investment turned to considerable inflows in line with improved investor sentiment regarding the semiconductor industry.

Household debt sustains its high uptrend

Household lending (based on deposit-taking institutions) sustained its high rate of increase seen in the previous quarter.

The growth in banks' household lending expanded slightly in the third quarter from the previous quarter's high rate of growth. By loan type, growth in mortgage loans expanded with the continued demand for funds related to leasehold (*jeonse*) deposits and sales transactions, while other loans, led by unsecured loans, exhibited slower growth. In monthly terms, the pace of growth in household lending slowed gradually, owing to stronger household debt management measures[57)] taken by the government and banks as well as the rising lending rates. Notably, house-

57) 「In accordance with the Household Debt Management Measures」 (announced by the Financial Services Commission on April 29), the individual borrower-level DSR (1st phase) has been put in place since July, some financial institutions with high growth rates of household loans suspended some or the entire mortgage loans after end-August, and most financial companies limited the ceiling of general unsecured loans within borrowers' annual income (within 50 million won for account overdraft loans).

hold lending in October increased by 5.2 trillion won, falling below the monthly average growth (7.1 trillion won) between January and September.

Meanwhile, growth in household lending by non-bank depository institutions - mutual credit cooperatives and mutual savings banks in particular - slowed slightly in the third quarter, on the back of financial institutions' efforts to rein in rising household lending.

Table I-12. Household lending by depository institutions[1)]

(trillion won, %)

	2019	2020			2021			
	Year	Year	Q3	Q4	Q1	Q2	Q3	Oct.[2)]
Total loans	56.3	108.1	32.1	37.5	26.3	29.9	30.4	··
(Rate of change[3)])	(4.9)	(9.0)	(7.8)	(9.0)	(9.3)	(10.1)	(9.7)	··
Commercial & specialized banks[4)]	60.7	100.5	29.0	30.9	20.8	20.9	22.1	5.2
Mortgages[4)5)]	45.8	68.3	16.6	19.3	17.1	13.3	17.5	4.7
Others	14.9	32.2	12.3	11.5	3.6	7.6	4.6	0.5
Non-bank depository institutions[4)]	-4.5	7.6	3.1	6.6	5.6	9.1	8.2	··
Mutual finance	0.6	6.0	2.1	3.7	3.8	5.7	5.2	··
Credit unions	-0.8	-0.7	-0.1	0.5	0.0	0.2	0.6	··
Korean Federation of Community Credit Cooperatives	-6.8	-3.2	-0.8	0.4	-0.1	0.5	0.9	··
Mutual savings banks	2.6	5.5	1.8	2.0	1.9	2.5	1.5	··
Others[6)]	-0.1	-0.1	0.0	0.1	-0.1	0.0	0.1	··

Notes: 1) Based on changes in balances during the periods.
2) Based on Bank of Korea advance estimate for October 2021 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.

Corporate lending grows in size

Growth in direct and indirect corporate financing has accelerated.

Corporate lending, especially SME loans, exhibited faster growth in the third quarter. SME loans maintained strong growth, led by the continued supply of COVID-19 financial support[58)] and the increased demand for facilities investment funds. Lending to large enterprises inched up, driven mainly by demand for operating funds. Corporate lending by non-bank financial institutions also continued its steep rise as in the second quarter. Bank lending to both large corporations and SMEs expanded significantly in October, affected chiefly by seasonal factors, such as the relending of loans temporarily redeemed at the previous quarter-end and demand for funds for value-added tax payments, and by the efforts of some banks to expand their corporate lending.

Direct corporate financing sustained its upward trend in the third quarter, mainly through the issuance of stocks. While there was a reversal to net redemption of CP and short-term bonds, the net issuance[59)] of corporate bonds continued. Fundraising through the stock market recorded its largest-ever quarterly growth, owing chiefly to some corporations' massive initial public offerings (IPOs).[60)]

58) The measures adopted since the outbreak of COVID-19 remained in place, including the financial support program for small businesses and policy financing for small-and medium-sized and mid-market enterprises. Loan maturity extension and deferral of principal and interest payments were provided to businesses affected by COVID-19 for six more months from the end of September 2021 until the end of March 2022 (announced by the Financial Service Commission on September 16).

Table I-13. Corporate funding[1)]

(trillion won, %)

		2019	2020			2021			
		Year	Year	Q3	Q4	Q1	Q2	Q3	Oct.[2)]
Corporate loans	Total	90.2	169.6	32.9	26.6	38.9	40.9	47.4	··
	(Rate of change)[3)]	(9.0)	(15.5)	(15.6)	(15.5)	(14.1)	(11.5)	(12.4)	··
	Banks	47.7	110.8	19.6	12.4	24.1	21.9	27.8	10.3
	Large firms	-1.8	20.9	-0.8	-4.8	1.2	0.6	3.5	2.3
	SMEs	49.4	90.0	20.3	17.2	22.9	21.3	24.3	8.0
	Non-banks[4)]	42.5	58.8	13.4	14.2	14.8	19.0	19.6	··
Direct funding	Net corporate bond issuance[5)]	15.8	15.5	3.0	1.7	7.8	5.8	3.3	0.2
	Net CP·Short-term bond issuance[6)]	0.3	2.3	-1.8	-3.4	5.9	2.1	-0.5	-1.0
	Stock issuance[7)]	6.3	11.0	3.5	5.1	8.9	5.8	10.2	1.1

Notes: 1) Based on changes in balances during the periods.
2) Bank of Korea advance estimates for October 2021 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 but including P-CBOs).
6) Non-financial corporations.
7) Initial public offerings and paid-in capital increases.

Sources: Bank of Korea, Financial Supervisory Service, Korea Securities Depository, Korea Credit Information Services.

Korean won/US dollar exchange rate rises

The Korean won to US dollar exchange rate sustained its uptrend until mid-October, affected largely by the strong US dollar due to the US Federal Reserve's looming tapering and to inflation concerns, and by concerns about a potential default of China's Evergrande Group[61)], to reach a record high for the year (1,198.8 won on October 12). The margin of increase in the exchange rate later narrowed to put the rate at the upper-1,160 won level, supported chiefly by improved investor sentiment following solid earnings reports by US companies and the easing of concerns[62)] about a potential default of the Chinese real estate company. Entering November, however, the exchange rate rebounded to the 1,180 won level, affected by apprehension about an early rate hike by the US Federal Reserve owing to concerns over the prospect of prolonged US inflation.[63)]

The nominal effective exchange rate (NEER) index of the Korean won declined until mid-October, owing mainly to the strength-

59) By credit rating, there were net redemptions of prime bonds during July through October this year, while there were substantial net issuances of subprime bonds from growing investment demand due largely to relatively high yields.

(trillion won)

	2019	2020					2021			
	Year	Year	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Oct.
Prime bonds (rated AA and above)	9.8	10.9	3.0	6.4	2.2	-0.7	5.0	4.8	-0.5	-1.2
Subprime bonds (rated A and below)	6.1	0.5	-0.1	-0.2	-0.6	1.4	2.2	-0.3	2.8	1.1

Note: 1) Public offering and general companies basis, ABS and P-CBO excluded.
Source: Korea Securities Depository.

60) Volume of IPOs (trillion won) : 2.1 (22 cases) in 2021. Q1 → 2.8 (15 cases) in Q2 → 8.5 (25 cases) in Q3.

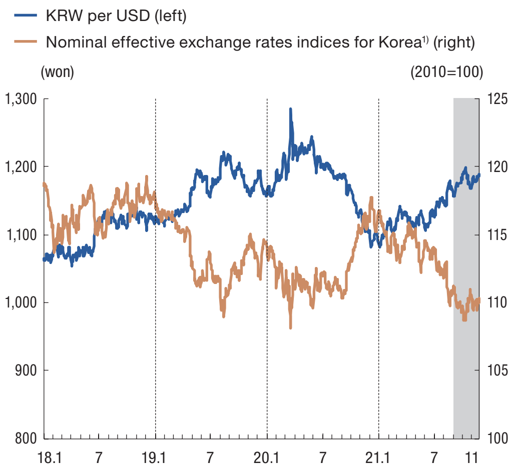
61) The China Evergrande Group missed paying a substantial part of US dollar bond interest on the due dates (on September 23 and 29), and shares in the Evergrande Group and its subsidiary (Evergrande Property Services Group) were halted in stock trading in Hong Kong (on October 4), adding to concerns about a potential default of the group.

62) Concerns about a potential default of the Evergrande Group eased, as the group made the US dollar bond interest payment (on October 21 and 28), initially due in September, before the grace period ended.

63) The US consumer price index for October rose 6.2% year-on-year, exceeding market expectations (5.9%) (on November 10).

ening of the yuan following China's strong exports[64] and to the strengthening of the US dollar due to the US Federal Reserve's looming tapering, more than offsetting the weakening of the yen resulting from the widening interest rate differential between the United States and Japan.[65] The decline slowed later, affected largely by the strengthening of the won in line with the recovery of global investment sentiment. Entering November, despite the weakening of the euro resulting mainly from expectations of the ECB's sustained accommodative monetary policy[66], the NEER fell again, influenced chiefly by the continued strong yuan and the strengthening of the US dollar due to apprehension about an early rate hike by the US Federal Reserve.

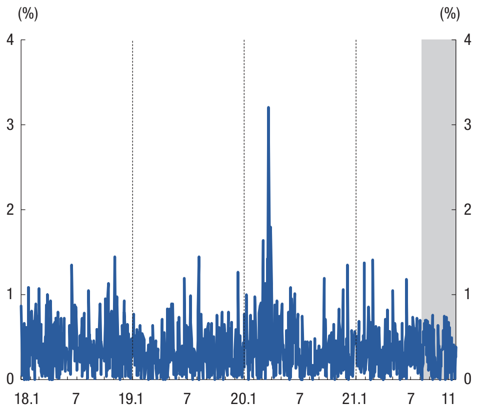
Figure I-30. Exchange rate, nominal effective exchange rate indices for Korea[1)]



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

The volatility in the Korean won/US dollar exchange rate (day-to-day change) was stable overall, fluctuating at around the average for this year (0.33%).

Figure I-31. KRW per USD exchange rate volatility[1)]



Note: 1) Daily change rate of the exchange rate.
Source: Bank of Korea.

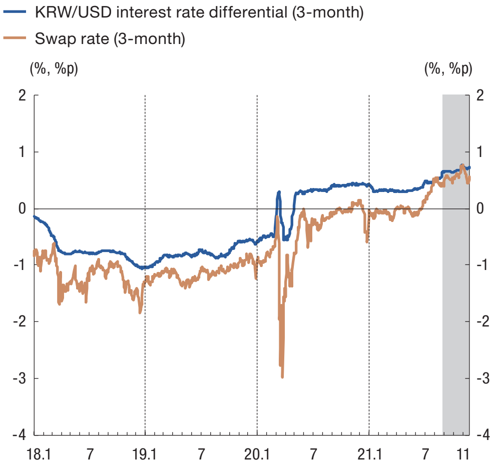
The swap rate (3-month) rose on the widening interest rates differential between the United States and Korea due to the possibility of additional upward adjustment of the Base Rate in Korea and on favorable US dollar liquidity conditions at domestic banks. The rate then retraced the gain from November, affected largely by institutional investors' demand for foreign currency funds for the purpose of overseas investment.

64) The rate of growth in China's export value (year-on-year) remained robust, exceeding market expectations during August through October (August : 25.6%, 17.3% expected; September : 19.9%, 13.3% expected; October : 27.1%, 22.8% expected).

65) The interest rate differential between the United States and Japan (10-year Treasury bond) increased from 128bp on September 21 to 161bp on October 21.

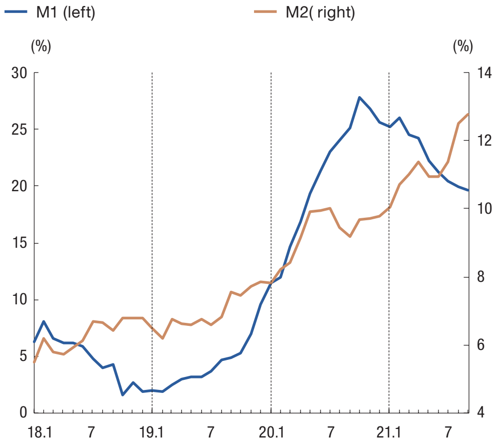
66) ECB President Lagarde commented that the outlook for inflation over the medium term remained subdued and the conditions for a rate hike were unlikely to be met next year (on November 3).

Figure I-32. KRW/USD interest rate differential and swap rate



Note: 1) Yield on Korean Monetary Stabilization Bonds (MSBs) (3-month) - LIBOR (3-month).
Source: Bank of Korea.

Figure I-33. Growth rate of key money supply indicators[1)]



Note: 1) Period-average basis; year-on-year.
Source: Bank of Korea.

Liquidity growth continues, and Financial Conditions Index remains accommodative

M2 (broad money) growth (average basis, year-on-year) continued its high rate of growth exceeding 10% during July through September. The degree of easing in the Financial Conditions Index (FCI)[67)] decreased in October, affected by the rise in the Treasury bond yields and stock price adjustments, but remained substantially accommodative.

Figure I-34. 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). The analysis period is from January 2000 to October 2021.
Source: Bank of Korea.

67) The Financial Conditions Index (FCI) assesses whether financial conditions are accommodative or tight, and is calculated by standardizing the weighted sum of six major financial variables that are important in assessing financial conditions, such as interest rates, exchange rates and stock prices.

Box I-1.

Assessment of Recovery Momentum in Future Private Consumption

Private consumption has been returning to the path of recovery since September, led by accelerated vaccinations and the gradual easing of disease-control measures, after having remained sluggish for some time since the fourth wave of COVID-19. Going forward, the recovery momentum of private consumption is expected to be affected largely by changes in economic agents' consumption patterns following the revision of the social distancing scheme. In this respect, this analysis examines conditions surrounding the recent changes in consumption as well as risk factors, and assesses the consequent momentum of private consumption recovery.

(Assessment of recovery momentum of private consumption)

For assessing the recovery momentum of private consumption, the government's revision of the social distancing scheme should be considered first. In line with accelerated vaccinations, the government changed its COVID-19 policy to gradual return to normal[1] in November. This move is seen to have helped to provide more consumption opportunities for economic agents and to create a momentum of private consumption recovery. Given the recent pandemic situation, however, uncertainties regarding the disease control policy seem to remain somewhat high.

The revision of the social distancing scheme consists of three phases. The face-to-face services sector[2] is likely to recover substantially during the Phase 1 period in which restrictions on the operation of restaurants and other facilities and limits on private gatherings are eased significantly. Data indicates a surge in late-night traffic since the easing of restrictions on the business hours of restaurants and other facilities in November, suggesting an expansion in consumption by economic agents. In reflection of this, credit card payments for face-to-face services have increased significantly, particularly in food and accommodation, to exceed the level before the fourth wave of COVID-19. In December, however, uncertainties surrounding the recovery of consumption seem to have increased somewhat, as disease control measures such as restrictions on private gatherings were strengthened[3] again.

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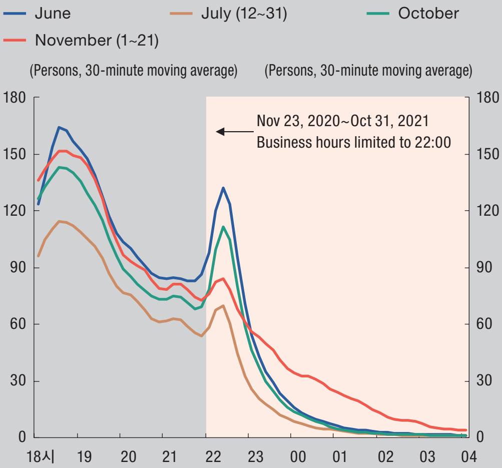
1) On November 1, 2021, the government has implemented a "Phased Roadmap for Gradual Return to Normal." This roadmap greatly eases restrictions on the operation of public facilities and the limitation on private gatherings. In Phase 1, restrictions are eased on the operation of facilities directly linked with livelihoods, and private gatherings are allowed nationwide (8 people → 10 people for the Seoul Metropolitan area, 10 people → 12 people for other areas). In Phase 2, large-scale events (accommodating 500 or more people) may be held. In Phase 3, any events such as shows and private gatherings are allowed regardless of the number of people, and the limit on the number of attendees at events including concerts as well as on private gathering size are lifted.

2) Unless mentioned, accommodation and food; transportation and storage; education; and art, sports and recreation related services are classified as face-to-face services in this section.

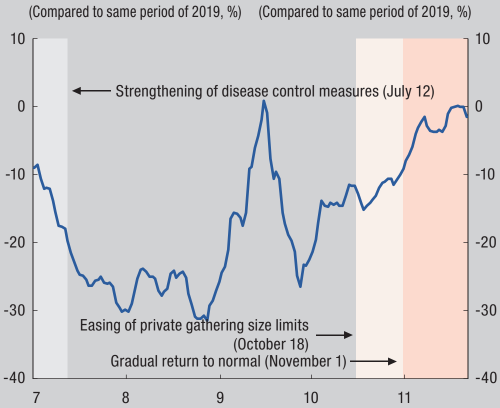
3) On November 29, 2021, in consideration of the pandemic situation such as the recent spike in confirmed cases, the government delayed the Phase 2 implementation and maintained the current level of the social distancing measures for the following four weeks. On December 6, the government strengthened some of its social distancing measures, reducing the private gatherings to 6 people for Seoul Metropolitan area (and 8 people for other areas) for the following four weeks.

Traffic[1] by time of day



Note: 1) Average traffic of seven spots in Gangnam-gu district.
Source: City Data Center operated by Seoul Metropolitan Government.

Credit card usage amount[1)2)] for face-to-face services



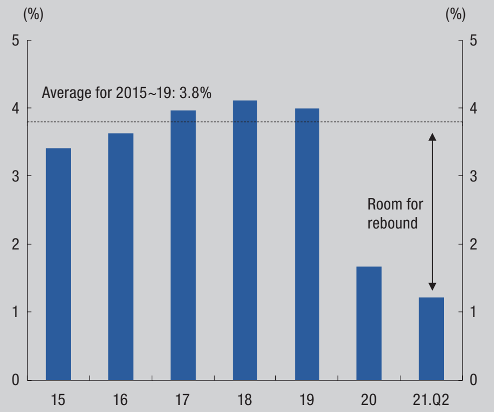
Notes: 1) The amount includes food and accommodation, transportation and storage, and art, sports, and leisure services, but excludes education, for which credit card spending is highly volatile.
2) The large fluctuation during September was due to the effects of Chuseok holidays.
Source: Shinhan Card.

If the social distancing scheme continues to be phased out, it is expected that economic agents will have increased opportunities for consumption in the future, especially in sectors such as arts, sports and recreation related services[4] that have experienced relatively slower recovery. Under the Phase 2, large-scale events will be permitted, and under Phase 3, the current attendee limits for events including concerts will be completely lifted.

Second, the degree of recovery in overseas consumption should be considered. With an easing of disease control measures globally, and the resumption of cross-border travel which had been severely curtailed since the start of the pandemic, overseas consumption is expected to increase and travel-related industries are also likely to be boosted. Overseas consumption, which had accounted for 4.0% of total private spending in 2019 and declined to 1.2% in the second quarter of 2021, is likely to rebound greatly once cross-border travel resumes. Furthermore, Korean residents traveling abroad are estimated to have spent approximately 22% of their total travel expenditure at home, suggesting that cross-border travel will have positive impacts[5] on domestic industries through oversea consumtion and services consumption related to air transportation and travel agencies and goods consumption, i.e. purchases of travel items.

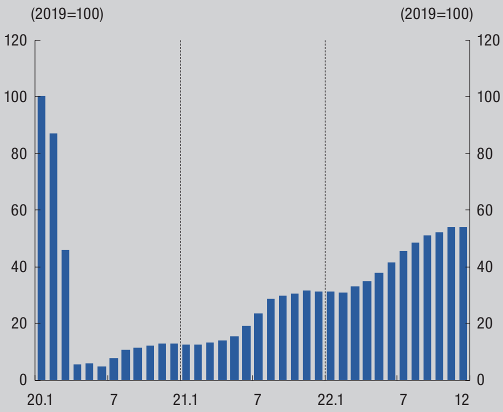
4) As of October 2021, the Index of Services stood at 89.8% compared to end-2019 for food and accommodation; 93.3% for transportation and storage; 97.6% for education; and 72.8% for art, sports, and leisure.
5) As growth in overseas consumption is counted as growth in services imports and thereby deducted from GDP, it is neutral to GDP but acts as a factor expanding derived domestic consumption.

Share[1] of overseas spending



Note: 1) Share of overseas consumption in private consumption on a nominal basis.
Source: Bank of Korea.

Global air travel demand[1] outlook



Note: 1) Based on Revenue Passenger Kilometer.
Source: International Air Transport Association.

In this situation, foreign institutions including the International Air Transport Association (IATA) forecast that global air demand will recover going forward, and overseas spending is accordingly expected to improve gradually next year. Due to concerns about the recent spread[6] of virus variants, however, uncertainties regarding global disease-control policies seem to have increased somewhat.

An assessment of the momentum of private consumption recovery needs to consider household savings, which have increased since the outbreak of COVID-19. The household income surplus rate[7] from the Household Income and Expenditure Survey compiled by Statistics Korea indicates that household savings have increased significantly, led by the resurgence of the pandemic and the support programs[8] by the Korean government, leading to substantially accumulated excess savings.[9] With this taken into consideration, effects of pent-up demand[10] for face-to-face services[11] including dining-out, travel and concerts/performances are likely to appear as the social distancing scheme is phased out.

6) On November 26, the WHO gave the name “Omicron” to a new variant of COVID-19 first detected in South Africa, and classified it as the next variant of concern following the Delta variant.

7) The household income surplus rate = (household disposable income - consumption expenditure) / household disposable income × 100.

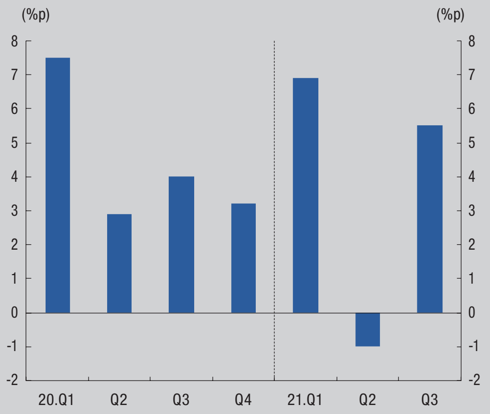
8) The Household Income and Expenditure Survey shows that household transfer income from the government increased by an average of 50.3% from the first quarter of 2020 to the third quarter of 2021 compared to that of 2019.

9) Out of the household income surplus from the first quarter of 2020 to the third quarter of 2021, the total amount exceeding the household income surplus during the same period of 2019 stood at an average of 3.1 million won per household, 7.6% of household disposable income in 2019.

10) This refers to a phenomenon in which the demand for consumption, which had been suppressed during the economic downturn, erupts significantly thanks to the economic recovery.

11) Carroll et al. (2021) found that memorable services of similar nature to that of durables, such as travel, leisure and culture services and dining-out, would rebound significantly thanks to delayed demand as economies reopen.

Rate of household income surplus[1] compared to 2019



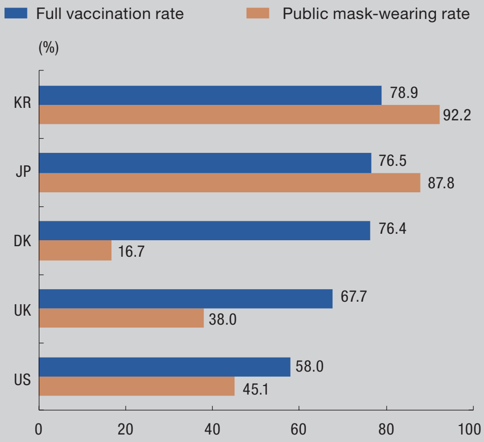
Note: 1) The extent to which the household income surplus rate from the Household Income and Expenditure Survey exceeds the surplus rate during the same period of 2019.
Source: Statistics Korea.

(Examination of risk factors)

While private consumption is expected to sustain its recovery because of the above-mentioned factors, there will be some downside risks to the recovery path. Among these risks, growing uncertainty surrounding disease-control policy, weakening purchasing power of households, and disruptions in passenger car production are seen as major risk factors.

The first risk is growing uncertainty regarding disease-control policy. Since the phased revision of the social distancing scheme, the number of new confirmed cases has surged and the COVID-19 alert level[12] has remained high. Moreover, the spread of virus variants is further heightening uncertainties surrounding COVID-19 developments, adding to the difficulties in determining future disease-control measures. Considering the learning effect from past experience and the high rate of vaccination, however, the pandemic is having less impacts on economic activity than in the past, and the momentum of recovery in private consumption is therefore expected to continue unless strong disease-control measures remain in place for a long period of time as they did during the previous waves of the COVID-19 pandemic.

Vaccination[1] and mask-wearing[2] rates



Notes: 1) As of November 21, 2021.
2) Based on the survey conducted during November 2021.
Sources: Our World in Data, Premise.

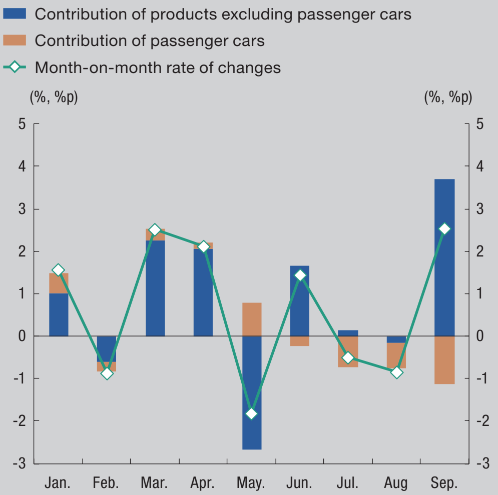
The second downside risk is the possibility of weakening household purchasing power from inflation. Food and fuel prices, which had been on the rise since the second quarter of 2021, continued their uptrend mainly in processed food and petroleum products in October, with some effect seen on households' real purchasing power. However, as the uptrend in agricultural product prices has slowed somewhat recently and fuel taxes were cut as of November, consumption is expected to be less constrained by inflation. Furthermore, accumulated household savings

12) The alert level is assessed based on the occupancy rate of intensive care unit beds, the number of new critical cases, and the booster vaccination rate of people aged 60 or older. According to the alert level assessment as of the fourth week of November, the alert level in the Seoul Metropolitan area was "very high," other areas "medium" and the country "very high."

are likely to partly offset the decline in purchasing power caused by inflation.

Another risk factor affecting the recovery path is disruptions in passenger car production. A decline in car production due to a shortage of automotive semiconductors has led to sales sluggishness, with the Retail Sales Index of motor vehicles decreasing for four consecutive months starting in June. However, car production disruptions had the largest impact in the third quarter of 2021, and is expected to have a waning impact on the future consumption trend. Production disruptions eased somewhat, with domestic auto production[13] in October increasing by around 15% month-on-month, while foreign investment banks forecast that global auto production bottomed out in the third quarter of 2021 and will gradually increase in the future. Taking this into consideration, passenger car sales are expected to improve gradually starting from the fourth quarter of 2021.

Contribution of passenger car sales to retail sales



Source: Statistics Korea.

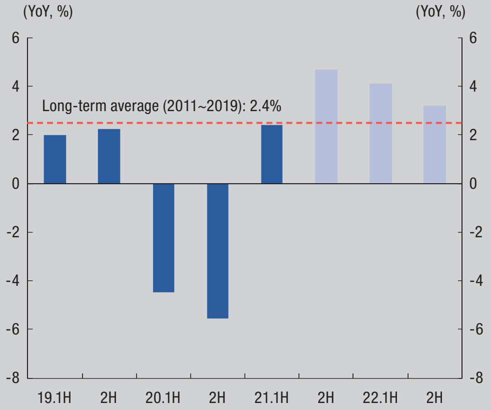
(Overall assessment)

The momentum of future private consumption is forecast to be relatively strong in the fourth quarter of 2021 and the first half of next year, boosted by changing conditions such as adjustments to the social distancing scheme. With the revision of the social distancing scheme, face-to-face services have been leading the recent rapid recovery in private consumption, and it is forecast that overseas consumption will improve gradually and the accumulated purchasing power of households will support a sustained recovery in consumption next year. Since private consumption, especially in the services, remains far below its trend, the expected rate of growth in private consumption until 2022 is to exceed its long-term average (annualized 2.4%).

There are various downside risks to this path of consumption recovery, such as growing uncertainty surrounding disease-control policy, weakening household purchasing power from inflation, and disruptions in passenger car production. In consideration of the size and the possible materialization of these risks, the trend of recovery in private consumption from the pandemic shock is likely to continue.

13) Domestic auto production (Korea Automobile Manufacturers Association): 298,000 in July → 235,000 in August → 229,000 in September → 264,000 in October.

Private consumption outlook



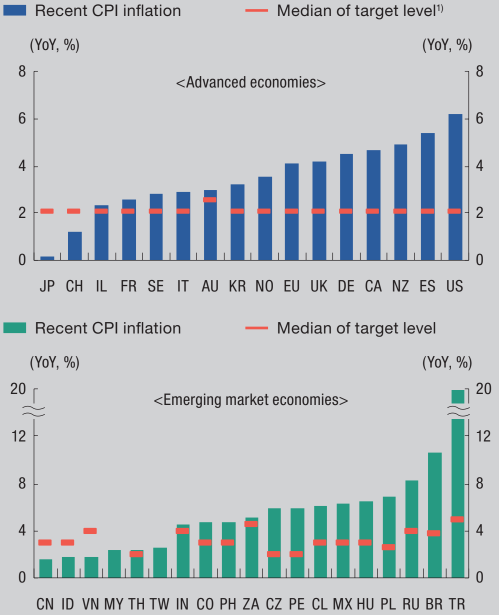
Source: Bank of Korea.

Box I-2.

Review of Recent Global Inflation Situation

Most major economies have recently witnessed continued high inflation running above the central bank's target level. In October, consumer price inflation in the United States stood at 6.2%, exceeding 6% for the first time since December 1990 (6.3%). In the euro area, CPI recorded 4.1%, the highest level since July 2008 (4.1%). The global inflation rate[1] calculated through a GDP-weighted average of consumer prices of major economies rose to the highest level since 2008. As a result, there has been growing concerns on the causes of this upward trend of inflation and whether it will continue. In the following section, we look into the background of the high inflationary pressures around the world, how long they will last, and what impacts they will have on domestic inflation.

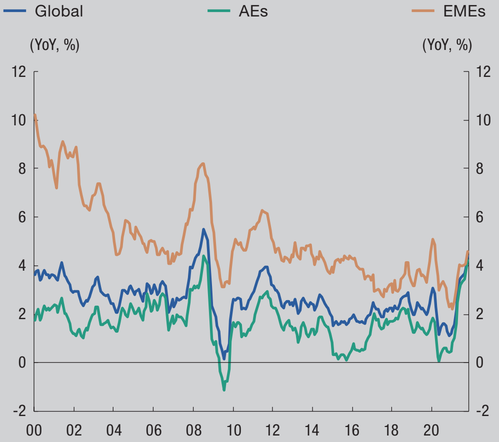
CPI inflation in major economies



Note: 1) For Germany, France, Italy, and Spain, the ECB's inflation target (2%) is applied.

Sources: Published statistics of central banks, Bloomberg.

Global inflation rate[1]



Note: 1) Major 34 countries (15 AEs, 19 EMEs).

Sources: IMF, Bank of Korea.

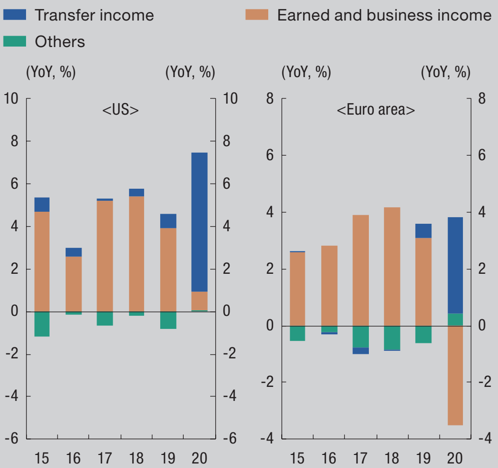
1) The global inflation rate is measured by using the GDP-weighted average of year-on-year consumer price inflation of 34 major countries, including 15 advanced economies and 19 emerging market economies.

(Background of high global inflationary pressures)

The recent high global inflation rate is owing to a combination of factors, such as rising demand seen in the process of rapid economic recovery since the COVID-19 crisis, the subsequent rise in international commodity prices (rise in costs)[2], supply bottlenecks resulting from the characteristics of the pandemic, and climate change.

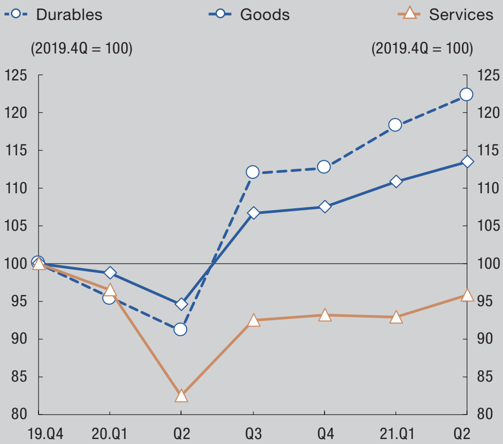
More specifically, on the demand side, goods consumption has grown substantially in line with the global economic recovery. Although households' earned and business income has declined due to the effects of COVID-19, their consumption capacity has recovered quickly as the decrease had been offset by government subsidies and the rise in the income of contact-free industry workers. On the cost side, as international commodity prices have surged due to rising global demand, corporate production costs have increased.

Households' disposable income in the US and the euro area by income source[1]



Note: 1) Contribution by income source.
Sources: Bureau of Economic Analysis, European Central Bank.

Households final consumption expenditure by consumption type in major advanced economies[1]



Note: 1) Based on the total of G7 countries.
Source: OECD.

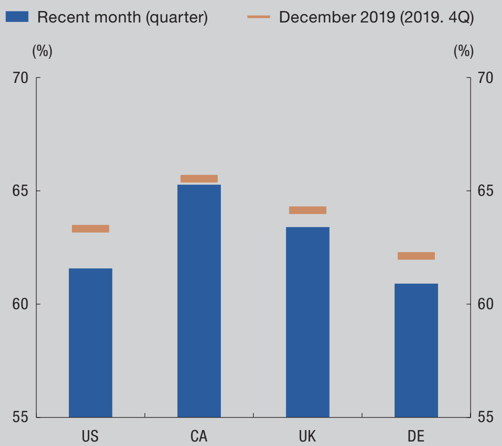
During past episodes of rising global inflation as well, such as 2007-08 and 2010-11, the main contributors were growing demand and the subsequent rise in international commodity prices in line with the global economic recovery. This time, supply bottlenecks and climate change, which were not seen during past inflationary periods, have exerted additional global inflationary pressures.

Supply bottlenecks stemming from global production and logistics disruptions are attributable to the special characteristics of the COVID-19 pandemic. In other words, as the government's containment measures have constrained service consumption, the demand for consumption has thus focused on goods. Meanwhile, on the supply side, production and logistics have suffered delays due to plant shutdowns and labor shortages from COVID-19 concerns. This has resulted in a situation where demand outpaces supply in the goods market. Therefore, spending on goods consumption in major economy

2) During past periods of rising global inflation (2007-08, 2010-11), the main drivers were growing demand in the process of global economic recovery or expansion as well as subsequent rises in international commodity prices.

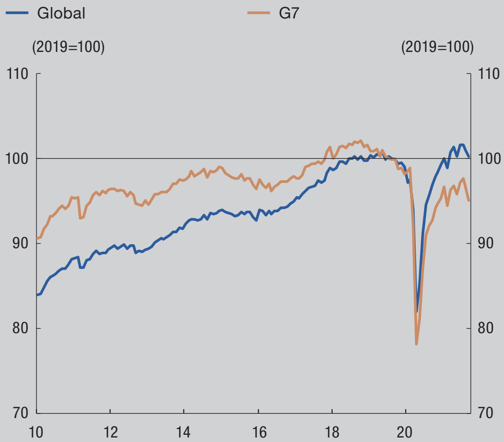
households has far exceeded the pre-pandemic level. In contrast, global production has recently started to surpass the pre-pandemic level only by a slight margin.

Labor participation rate in major countries[1)]



Note: 1) Seasonally adjusted.
Sources: Eurostat, CEIC.

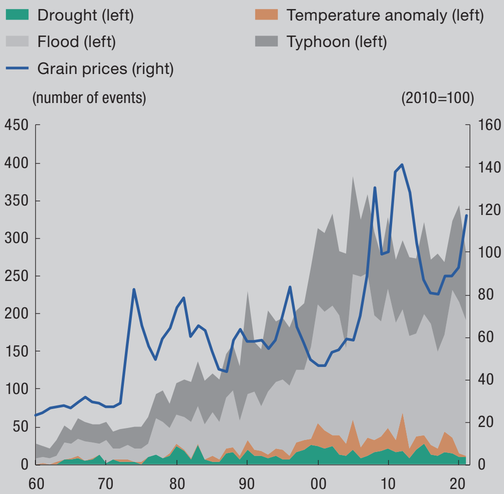
Global industrial output[1)]



Note: 1) Major 34 countries (15 AEs, 19 EMEs).
Source: OECD, CEIC.

Regarding climate change, the slowdown in grain supply caused by more frequent extreme weather events has pushed up grain prices, and the increased investment in environmentally friendly industries has led to soaring prices of commodities[3)] such as copper and nickel.

Global extreme weather events and grain prices[1)]



Note: 1) Figures for 2021 are based on October 2021.
Sources: EM-DAT, World Bank.

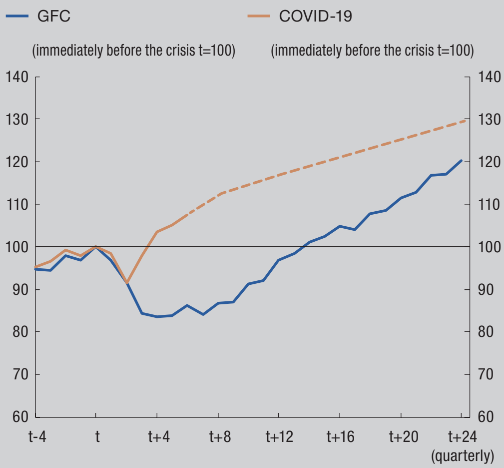
(Possibility of prolonged high global inflation)

Considering inflationary pressures on the demand and cost sides in major economies, delayed resolution of supply bottlenecks, rises in wages and inflation expectations, the upward trend of housing costs, and structural factors such as climate change, the ongoing uptrend in global inflation is expected to be more prolonged[4)] than initially expected[5)] and is projected to last through the first half of 2022 at least.

3) Some argue for a potential "super cycle" in which prices of essential materials, such as copper and nickel, for electric vehicles and robots are likely to sustain their strong upward trend for a long time. Demand for natural gas has recently increased dramatically, affected by China and other countries' carbon neutrality policies and policies to reduce coal use.

First of all, as slack in production capacities of major economies decreases[6] considerably 2022, demand-side inflationary pressures are expected to grow. With international commodity prices, which were forecast to stabilize in the second half of this year, continuing their upward trend due to major countries' rising demand and greater investment in IT and in environmentally friendly and new industries, corporate expenses are also expected to increase further.

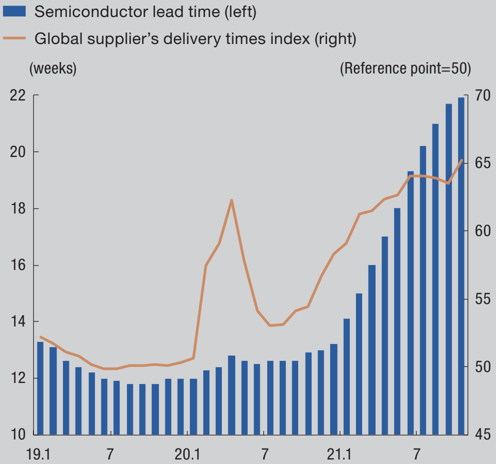
Private investment outlook in major economies[1)2)]



Notes: 1) Based on private sector fixed asset investment in the United States, the euro area, and China.
2) The dotted line is the forecast of the IHS Markit (September 2021).
Sources: CEIC, IHS Markit.

The expected point of time when global supply bottlenecks are to be mitigated has been pushed back as well. The concentration of consumer demand in goods, delayed return of the workforce, and lack of vessels, which triggered supply bottlenecks, still remain unresolved. Moreover, with the recent power shortage in China and the rise in demand at the year-end shopping season, it is assessed that the demand will continue to outpace supply in the goods market for the time being. As for automobile semiconductors, although production facilities are being expanded, it will take some time for this expansion to lead to an actual increase in production. Therefore, the accumulated supply shortages are expected to be resolved after the first half of 2022.

Global supplier's delivery times index and semiconductor lead time[1)]



Note: 1) The time from the placement of an order to delivery.
Sources: IHS Markit, Susquehanna Financial Group.

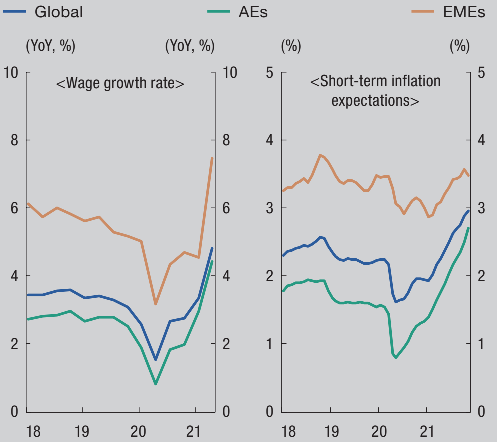
4) Some argue, however, that the recent global inflation is transitory, on the grounds that inflationary pressures on the cost and supply/demand sides could be mitigated depending on factors such as increases in oil production, weaker demand for goods, and recovery of labor supply in advanced economies, as well as that the recent spike in prices has been driven by some products alone.

5) Up until the first half of this year, the prevailing view was that the upward trend of inflation in major economies would gradually ease starting next year, owing to the increased oil production, early normalization of disruptions in production and logistics, the anchoring of long-term inflation expectations, and structural factors behind low inflation (i.e. technological innovation, globalization).

6) According to the OECD (October 2021), the output gap of advanced countries (GDP-weighted average of 10 countries including the United States) is projected to be -2.1% in 2021, 0.1% in 2022, and 0.5% in 2023.

Wage growth and rises in short-term inflation expectations, as well as the increased burden of housing costs, are likely to act as factors prolonging inflationary pressures. As inflation expectations have increased rapidly in major economies and wage growth has expanded in most sectors, there is a growing concern about a possible vicious cycle of wage and inflation, in which inflation expectations lead to calls for wage raises which in turn result in a rise in product prices. Furthermore, since changes in housing prices are reflected in the CPI as cost of shelter, such as owners' equivalent rent (OER), with a time lag, soaring housing prices since the outbreak of COVID-19 are expected to gradually push up inflation for a considerable period of time.

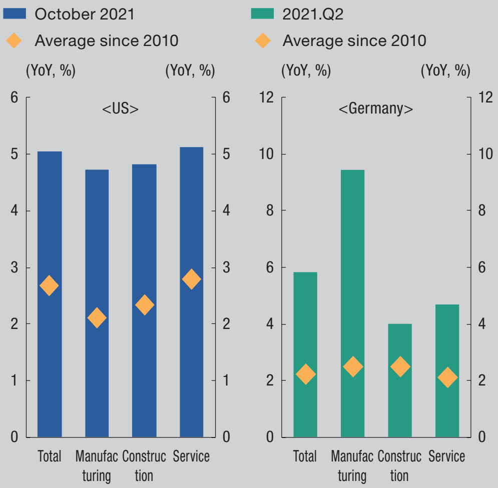
Wage growth rate[1)] and short-term inflation expectations[1)2)] of major economies



Notes: 1) GDP-weighted average.
2) Based on experts' inflation expectations for the next 12 months.

Sources: Published statistics of central banks, Haver, CEIC, Consensus Economics.

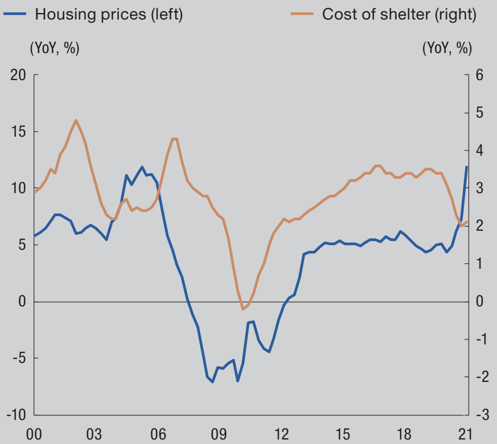
Wage growth rate by industry[1)]



Note: 1) Based on an hourly wage per person for the United States, monthly wage per person for Germany.

Sources: U.S. Bureau of Labor Statistics, German Federal Statistical Office.

US housing prices and cost of shelter in CPI[1)]



Note: 1) Based on rents and home owners' housing costs.

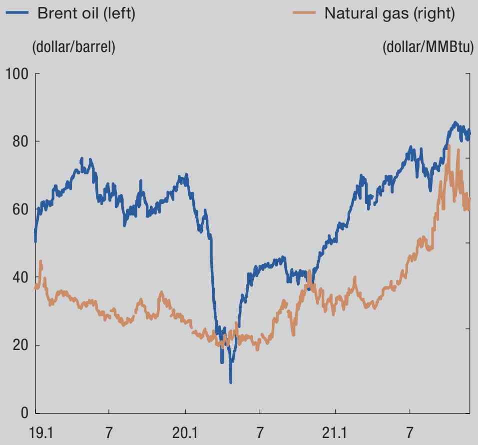
Sources: Federal Housing Finance Agency, U.S. Bureau of Labor Statistics.

From a structural perspective, while the effects of structural factors pushing down inflation such as globalization are diminishing[7)], climate change and the transition to a low carbon and environmentally friendly economy, which have garnered

7) Trade conflicts among major countries, policies prioritizing domestic workers for hiring, and disruptions in interregional human and physical exchanges due to COVID-19 are working as factors weakening global value chains.

global interest in recent times, are expected to act as inflationary pressures over the long term. As carbon reduction policies have recently acted as a factor[8] behind a surge in natural gas prices, investment in environmentally friendly industries is projected to boost demand for related commodities, and imposition of carbon taxes in carbon-intensive industries is expected to increase these industries' production costs.

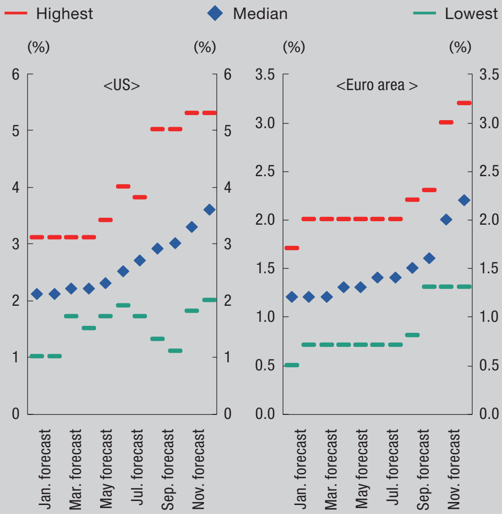
International energy commodity prices and natural gas prices[1]



Note: 1) Based on spot prices for oil and recent monthly futures prices for natural gas.
Sources: Bloomberg, Reuters.

In reflection of this, major central banks have gradually recognized[9] the importance of the upside risk of inflation, and projections for consumer prices in major economies have been continuously revised upward in the financial markets. Recently, more than half of investment banks[10] have predicted the US CPI growth rate for the next year to be over 3%, and there have been rapid increases in expected inflation embedded in the BEI, and inflation hedging costs, reflected in price variables in financial markets.

IB forecasts for 2022 CPI growth rate[1]



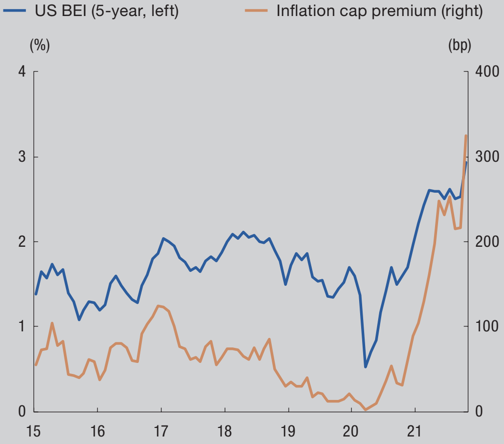
Note: 1) Based on 70 investment banks in the US and 49 investment banks in the euro area.
Source: Bloomberg.

8) The recent surge in natural gas prices has been fueled by the transition to a low-carbon economy (carbon reduction policy) and climate change-related factors such as extreme weather events (decline in wind generation), in addition to cyclical factors (higher global economic growth) having a common effect on international commodity prices.

9) US Federal Reserve Chairman Jerome Powell assessed at the Jackson Hole Symposium (August 27, 2021) that the high inflationary trend in the first half of the year was transitory, but he mentioned at the latest FOMC meeting (November 3, 2021) that supply bottlenecks and high inflation will last into the next year. In testimony before the Senate Banking Committee (November 30, 2021), he assessed that the risk of inflation had increased more than initially expected and expressed the view that FOMC members could discuss ways to end tapering earlier at the December FOMC meeting.

10) The proportion of investment banks (based on outlooks of 70 investment banks) that predicted the US CPI growth rate for 2022 to be over 3%: 5.5% in March 2021 → 16.4% in June → 59.4% in October.

US BEI and inflation cap premium[1)]

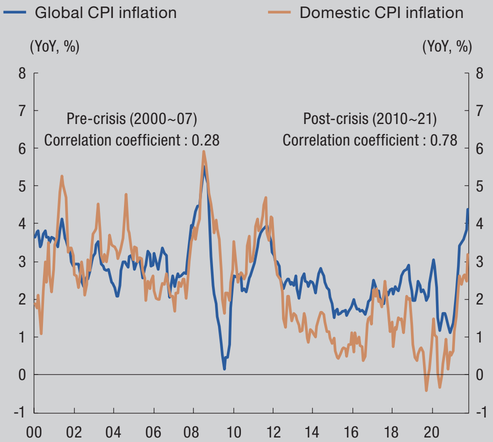


Note: 1) Based on transactions that will be profitable if the inflation rate runs above 2% two years later.
Source: Bloomberg.

(Impacts on domestic inflation)

Meanwhile, the effects[11)] of global inflation on domestic inflation are analyzed to have increased from the past, due to Korea's higher trade dependency[12)] on other economies. The simple correlation coefficient between the global inflation rate and the domestic consumer price inflation rate went up from 0.28 between 2000 and 2007 to 0.78 between 2010 and 2021, showing enhanced synchronization between them. Even through an analysis using a econometric model[13)], the effects of a 1%p rise in global inflation on domestic inflation are estimated to have increased from 0.1%p between 2000 and 2007 to 0.26%p between 2010 and 2021, and the significance also strengthened. In addition, the periods of 2007-08, 2010-11, and 2017-18 generally coincided with the periods when global inflationary pressures were heightened.

Global[1)] and domestic CPI inflation



Note: 1) Major 34 countries (15 AEs and 19 EMEs).
Sources: IMF, Bank of Korea.

As high global inflationary pressures are expected to last longer than anticipated amid the growing effects of global inflation on domestic inflation, we need to look into changes in the trend of factors mainly responsible for the recent high increase in the global inflation rate, such as global demand and costs, supply bottlenecks and climate change, and closely monitor the effects of these changes on domestic consumer price inflation.

11) Global prices primarily affect domestic prices through the import prices of commodities, intermediate goods and consumer goods, which in turn have secondary impacts on domestic wages, inflation expectations, and product prices.

12) The proportions of exports and imports relative to GDP (average, %): 56.4% in 2000-07 (28.3% for exports and 28.1% for imports) → 79.6% in 2010-21 (42.7% for exports, 36.9% for imports).

13) We used the domestic output gap, global CPI inflation, and the growth rate of Producer Price Index (PPI) for agricultural, forestry, and marine products as explanatory variables, and estimated the growth rates of domestic CPI for the periods of 2000-07 and of 2010-21.

Box I-3.

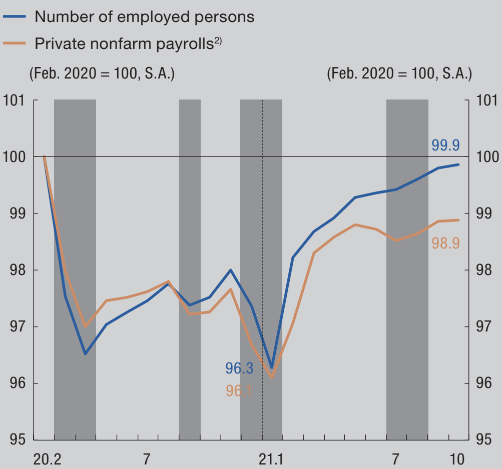
Assessment of Degree of Employment Recovery after Outbreak of COVID-19

With the third resurgence[1] of the COVID-19, the number of employed persons (seasonally adjusted) declined drastically, mainly in face-to-face services sectors, in January 2021, and has been on the rise thereafter. The recovery in employment in 2021 is mainly attributable to improvements in the domestic and global economy, expanded vaccine supplies, and the government's employment policy.[2] Despite the trend of recovery in overall employment in general, there are sectoral imbalances as some vulnerable sectors continue to experience weak employment. By using various employment indicators, this analysis assesses the degree of employment recovery after the outbreak of COVID-19 and draws implications for future employment path.

(Number of employed persons)

Despite the resurgence of COVID-19 in the second half of 2021, the impact on employment is assessed to have been smaller than anticipated, partly attributable to the learning effect of economic agents concerning the disease. As of October 2021, the number of employed persons (seasonally adjusted) has recovered to 99.9% of the pre-pandemic level (in February 2020), retracing most of the decline stemming from the COVID-19 shock. Private nonfarm payrolls (excluding agriculture and fisheries, public administration, and health and welfare sectors) have shown a relatively slow recovery trend, regaining 98.9% of the pre-pandemic level.

Path of number of employed persons[1]

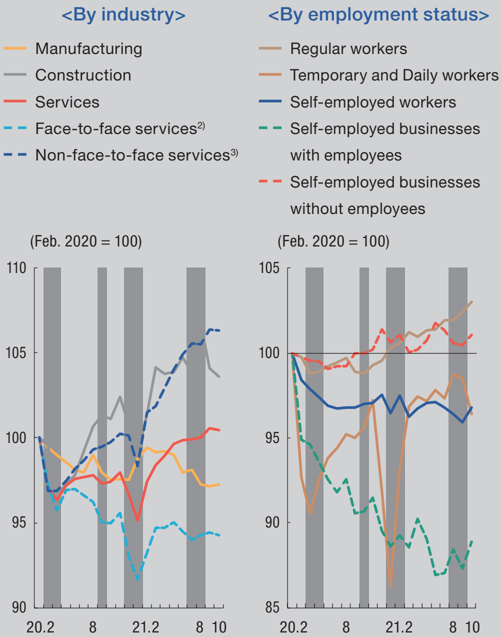


Notes: 1) Seasonally adjusted; shaded areas represent the periods of COVID-19 spread.
2) Excluding agriculture and fisheries, public administration, health and welfare sectors
Source: Economically Active Population Survey by Statistics Korea.

By industry, there is noticeable improvement in the employment of construction and contact-free services industries, while employment in face-to-face services is still in a slump. By employment status, employment of regular workers exceeded pre-pandemic levels, and that of temporary and daily workers shows a rapid recovery. However, weak employment in self-employed bussinesses has continued[3], especially in self-employed businesses in those with employees.

1) The first phase of COVID-19 spread was set between March and April 2020, the second phase in September 2020, the third phase between December 2020 and January 2021, and the fourth phase between July and August 2021.
2) The government increased the size of direct job creation programs in response to the COVID-19 shock (785,000 in 2019 → 945,000 in 2020 → 1.042 million in 2021, based on the main budget), and front-loaded most of the budget for job creation in 2021.1H (execution rate in the 2021.1H : 75.3%, based on the main budget).
3) On the other hand, employment continues to increase in transportation and warehousing (by industry) and self-employed businesses without employees (by employment status) due to growing demand for parcel services and delivery.

Paths of number of employed persons by sector[1)]



Notes: 1) Seasonally adjusted; shaded areas represent the periods of COVID-19 spread.
2) Food and accommodation; wholesale and retail; education; arts, sports and leisure; personal services.
3) Services excluding face-to-face services.
Source: Economically Active Population Survey by Statistics Korea.

A look at the degree of employment recovery by industry and by employment status after the outbreak of COVID-19 shows that, in face-to-face services sectors, employment recovery for temporary and daily workers and for self-employed businesses with employees has proceeded relatively slowly.[4)] As of October 2021, the number of employed (seasonally adjusted)[5)] temporary and daily workers and of employed persons in self-employed businesses with employees in face-to-face service industries was 250,000 and 80,000 less, respectively, than the levels of the pre-pandemic period (in February 2020). This is in stark contrast to the employment of regular workers and self-employed businesses without employees in non-face-to-face industries such as manufacturing and construction which had already recovered to the pre-pandemic levels.

Changes in the number of employed persons (seasonally adjusted) by industry and employment status[1)]

(Number of employed persons in Oct. 2021 - number of employed persons in Feb. 2020, ten thousand persons)

Industry / Status	Manufacturing	Construction	Face-to-face services[2)]	Contact free services[3)]
Regular	2.2	10.6	-8.3	44.5
Temporary and daily	-8.8	-5.1	-24.9	20.7
Self-employed business with employees	-3.0	-1.2	-8.3	-2.6
Self-employed business without employees	1.0	2.5	-5.9	5.9

Notes: 1) Seasonally adjusted; darker red shade indicates a more sluggish employment recovery.
2) Food and accommodation; wholesale and retail; education; arts, sports and leisure; personal services.
3) Services excluding face-to-face services.
Source: Economically Active Population Survey by Statistics Korea.

(Unemployment rate)

The unemployment rate (seasonally adjusted) soared to 5.4% in January 2021 and then declined to 3.2% later in October. In terms of the unemployment rate, the employment conditions are assessed as having recovered to the pre-pandemic levels. When compared to the

4) In case of temporary and daily workers in the manufacturing industry, there have been continued structural declines in employment even before the COVID-19 pandemic (-41,000 in 2019 → -42,000 in 2020 → -38,000 between January and October 2021, year-on-year).
5) Among the employed in the face-to-face service industry, temporary and daily workers and self-employed businesses accounted for 28.3% and 28.6%, respectively. Workers in small-sized businesses with ten or fewer employees took up 69.1% (as of 2019).

natural rate of unemployment[6], which shows the equilibrium state of the labor market, the unemployment rate is considerably below the natural rate of unemployment after the third quarter. The bias-adjusted unemployment rate (seasonally adjusted)[7], which corrects for the downward bias stemming from COVID-19 and social distancing measures, declined to the level of the natural rate of unemployment in the third quarter. On the other hand, the number of temporarily absent workers[8], which had surged after the outbreak of COVID-19, declined to the pre-pandemic level. As most temporarily absent workers returned to work or got a new job, the possibility of them being categorized as unemployed is not high.

On the other hand, the composite rate of labor underutilization (labor underutilization indicator 3, seasonally adjusted)[9], which represents the extended labor force in unemployment, has recorded a high level compared to the pre-pandemic period. This is because the labor force in time-related underemployment (employment) and discouraged workers (economically inactive population), which are not classified as unemployed but are likely to be in employment in the future, are hovering above pre-pandemic levels.

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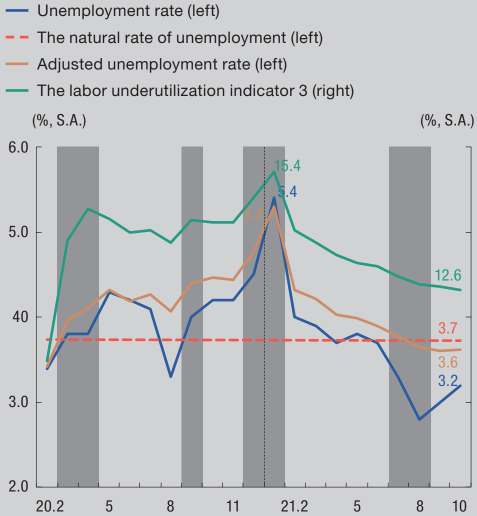
6) The natural rate of unemployment is defined as the unemployment rate determined by structural and frictional factors of the labor market regardless of economic cycle and when an economy is producing the full employment output. We estimated the natural rate of unemployment, using 「Estimation of natural rate of unemployment by distribution of unemployment duration」 (BOK Issue Note, vol. 2021-10) by Oh Samil Lee Jongha- Ahn Hie Joo, and found that the natural rate of unemployment for the third quarter of 2021 is estimated at 3.7%.

7) The distinction between unemployed persons and economically inactive population has become ambiguous as the government's containment measures after COVID-19 limited job seeking and had direct impacts on a condition of the unemployed classification, which is "seeking work more than once over the last four weeks." In reference to 「COVID 19 and downward bias of unemployment rate」 (BOK Issue Note, vol. 2021-24) by Oh Samil Lee Jongha (2021), we eased the condition of the unemployed classification from "seeking work more than once over the last four weeks" to "wanting to work." After estimating the adjusted unemployment rate accordingly, we found that the adjusted unemployment rate was higher than the official unemployment rate by an average of 0.31%p (average between March 2020 and October 2021)

8) Temporarily absent workers are categorized as employed persons according to the ILO standard. They are unable to work during the period surveyed due to temporary illnesses, accidents, annual leave or holiday, education or training, childcare, business slump or shutdown, conflicts between management and the labor union, family issues, etc., but are able to work again if the reasons for temporary absence are resolved. They are divided into paid and unpaid absent workers. The former is categorized as temporarily absent regardless of the period of their absence, while the latter is classified as temporarily absent only in cases when the period of their absence is less than six months, and if they are able to return to work.

9) The composite rate of labor underutilization (labor underutilization indicator 3) is calculated as follows: (time-related underemployed persons + unemployed persons + potential labor force)/extended economically active population. Please refer to Table I-8 on page 16 for details.

Unemployment indicators[1)2)]



Notes: 1) Seasonally adjusted; shaded areas represent the periods of COVID-19 spread.
2) Unemployment rate, adjusted unemployment rate, and labor underutilization indicator 3 are all monthly basis, while the natural rate of unemployment is quarterly basis.

Sources: Economically Active Population Survey by Statistics Korea, Oh Samil·Lee Jongha (2021), Oh Samil·Lee Jongha·Ahn Hie Joo (2021).

Paths of unemployed persons, temporarily absent workers and time-related underemployed persons[1)]

Notes: 1) Seasonally adjusted; shaded areas represent the periods of COVID-19 spread.
2) Those who work less than 36 hours per week but want to and can work additional hours.
3) Discouraged workers are defined as people among the economically inactive population, who have sought work in the past year but have not sought work in the last four weeks due to lack of job positions and skills despite being willing and able to work.

Source: Economically Active Population Survey by Statistics Korea.

(Labor supply and demand)

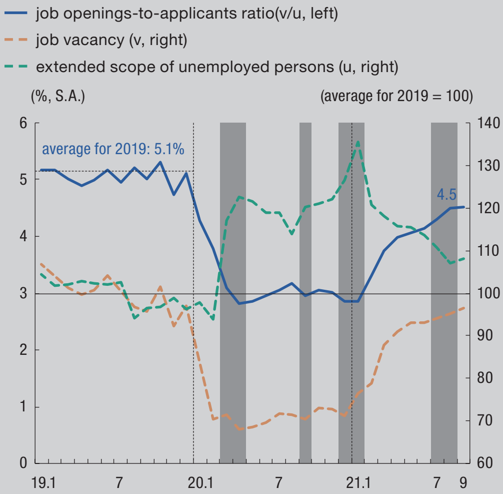
The labor force participation rate (seasonally adjusted)[10)], a major employment indicator showing labor supply and demand conditions, declined to 61.7% in April 2020 from the COVID-19 shock. It then recovered to 62.8% in October 2021, but is still slightly below the pre-pandemic level (63.3% in 2019). The job openings-to-applicants ratio, a major assessment indicator for labor supply and demand conditions, plunged in 2020 due to the COVID-19 shock and continues to gradually rise. As it is still moderately below the pre-pandemic level, employment conditions are

10) The labor force participation rate is defined as the ratio of the employed and the unemployed divided by population over the age of 15.

assessed to have not yet fully recovered in terms of supply and demand conditions.

The job openings-to-applicants ratio[11] had declined significantly in the beginning of 2020 with decreased job openings and an increased number of unemployed persons due to the spread of the pandemic, and remained at a low level until January 2021. As the economy improves, the ratio has shown a high uptrend as job vacancy increased and unemployment decreases since February. However, it remains slightly low compared to the pre-pandemic level. This phenomenon is chiefly attributable to a considerable number of people who are able to work but remain jobless and to a slow recovery of demand in face-to-face services and small-sized businesses.

The job openings-to-applicants ratio and paths[1] of job vacancy, and extended scope of unemployed persons[2]



Notes: 1) Seasonally adjusted, shaded areas represent the periods of COVID-19 spread.
2) Time-related underemployed persons + unemployed persons + potential labor force.

Sources: Labor Force Survey by the Ministry of Employment and Labor, Economically Active Population Survey by Statistics Korea.

The Beveridge curve[12], which represents the negative relationship between the unemployment rate and the job vacancy rate[13], shows that the supply and demand conditions in the labor market have not fully recovered as the labor market slack still stands higher than the pre-pandemic level.

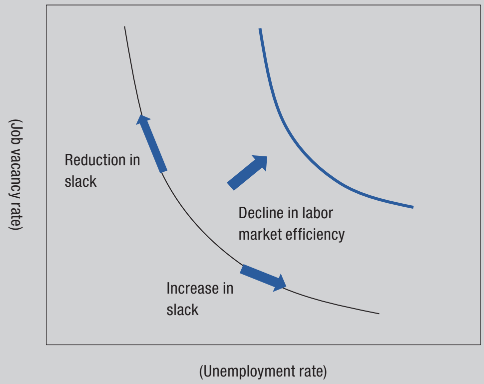
11) The job openings-to-applicants ratio is defined as the ratio of labor demand (job openings) divided by labor supply (the labor force in unemployment). It is an indicator assessing labor market supply and demand conditions, based on the concept that labor market equilibrium (employment, unemployment, economically inactive population, etc.) is decided by matching labor demand (job vacancies) and labor supply (unemployed persons). In the meantime, considering that the employment shock from COVID-19 affected not only the unemployed but also temporarily absent workers (the employed) and discouraged workers (economically inactive population), the scope of the unemployed is calculated by dividing the number of job vacancies by time-related underemployed persons, the unemployed, and the potential labor force. The lower the ratio, the more abundant the labor market slack.

12) The Beveridge curve refers to the relationship between the unemployment rate and the job vacancy rate. In this section, we used the composite rate of labor underutilization (labor underutilization indicator 3). The movement on the curve refers to a change in the labor market slack. For example, if the job vacancy rate gets lower and the unemployment rate gets higher, it suggests higher labor market slack amid the shortage of job vacancies (labor demand) and high number of unemployed persons (labor supply). On the other hand, a shift of the curve itself signifies a change in labor market efficiency. If the Beveridge curve shifts rightward, it means that job matching in the labor market is not smooth, and the unemployment rate for the same job vacancy rate is at a high level (refer to the graph).

Due to economic and employment shocks, the labor market slack increased (①) and job matching by job seekers did not proceed smoothly in 2020. As a result, the efficiency in the labor market has been greatly deteriorated (②). Entering 2021, the slack has been decreasing considerably with a declining unemployment rate and rising job vacancy rate, but it is still somewhat above the pre-COVID-19 level (③). However, it is assessed that labor market efficiency has not fully recovered as there still exists a mismatch associated with low-skilled labor force.

Beveridge curve[1)]

<Theory>



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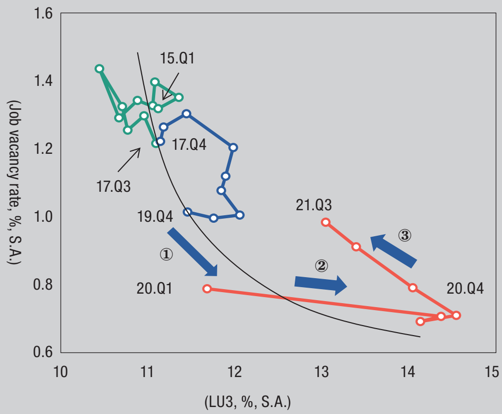


Note: 1) Seasonally adjusted.
Sources: Labor Force Survey by the Ministry of Employment and Labor, Economically Active Population Survey by Statistics Korea.

(Degree of recovery by employment indicator[14)])

We compared the degree of recovery by employment indicator, and found that most employment indicators have shown an easing of sluggishness. In particular, the unemployment

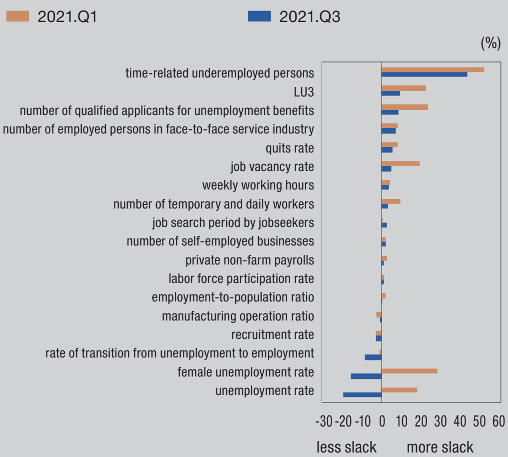
13) The job vacancy rate is defined as the number of job vacancies divided by (the number of job vacancies plus the total number of workers). It refers to the ratio of jobs that are vacant as of the surveyed month, and are expected to be filled within one month.

14) From the dashboard of 26 indicators the Federal Reserve Bank of San Fransisco uses to assess the level of labor market slack in the United States, we used 18 indicators that were available in Korea. (Please refer to 「The Divergent Signals about Labour Market Slack」 (Gilchrist and Hobijn (2021).) The level of employment recovery is assessed by employment indicators by comparing them to the gap (%) relative to each 2019 average.

rate, which recorded a high level in the first quarter of 2021 due to the COVID-19 shock, was significantly below the 2019 average in the third quarter.

However, as noted earlier, employment indicators in vulnerable sectors, such as face-to-face services, temporary and daily workers, and self-employed workers, showed a relatively slow recovery. Moreover, our assessment is that sectoral imbalances in the unemployment cinditions still exist, considering that the composite rate of labor underutilization (labor underutilization indicator 3) is recovering more slowly than the official unemployment rate, and that the job search period by the unemployed has lengthened.[15)]

Labor market slacks by indicator[1)]



Note: 1) For each indicator, the gap (%) between the average level of 2019 and the level of the pertinent period is represented, with the direction of indicators standardized for convenience of interpretation. If the number of employed is below the 2019 level and the unemployment rate exceeds the 2019 level, they are marked as positive.

Sources: Labor Force Survey by the Ministry of Employment and Labor, Economically Active Population Survey by Statistics Korea, Bank of Korea.

(Comprehensive assessment and projection)

In October, the number of employed (seasonally adjusted) nearly reached the level of February of 2020. It is expected to recover to the pre-COVID-19 level sometime between and the end of 2021 and early next year. Although the pace of improvement in employment is slow in some vulnerable sectors impacted by the pandemic, the recovery trend is gradually spreading across the labor market. The unemployment rate has been considerably below the natural rate of unemployment since the third quarter as employment conditions improves. Looking at the supply and demand conditions of the labor market, the labor market slack is moderately higher than the pre-pandemic level, but has been rapidly decreasing as labor demand rises with the economic recovery.

Despite the disparate recovery in employment as presented in each indicator, the Korean economy is assessed to have recovered considerably from COVID-19-induced employment shock amid rapidly improving employment conditions in 2021. However, taking into consideration the still high level of underemployed including time-related underemployed and discouraged workers, a full recovery for the labor market remains slightly distant.

15) Of the unemployed, the share of long-term unemployed who have been seeking a job over four months has shown high levels since the second quarter of 2021 (30.2% in 2019 → 27.7% in 2020 → 30.0% in 2021.Q1 → 31.5% in Q2 → 31.4% in Q3, seasonally adjusted).

Box I-4.

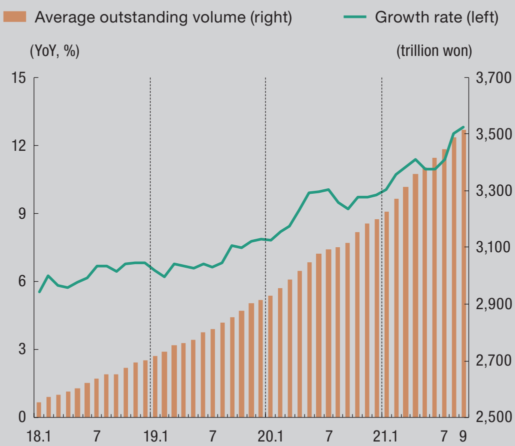
Analysis and Evaluation of the Factors of Recent Rise in Money Growth

(Recent developments)

Money growth[1], which soared during the response to COVID-19, slowed slightly in the second half of 2020 but has been rising rapidly again since the beginning of 2021. The rate of broad money (M2) growth (average outstanding basis, year-on-year), a representative indicator of money stock, slightly moderated to the 9% level during the second half of 2020, but surpassed the 10% level at the start of this year and accelerated to the 11-12% level during the second half of the year. In September, in particular, the growth rate reached 12.8%, recording the highest figure since the global financial crisis (13.1% in December 2018).

The money stock grew at a substantially faster pace than nominal GDP, an indicator of real economic activity. The liquidity gap, which is the difference between the M2-to-nominal GDP ratio (Marshallian K) and the long-term trend, also hit the highest level[2] since the global financial crisis. This section analyses the drivers of money growth in Korea by sector, and draws implications based on assessments of these drivers.

Growth rate and volume of broad money (M2)



Source: Bank of Korea.

1) Narrow money (M1) is an indicator centering on whether the money can be used as a payment and settlement tool, and includes currency in circulation and checkable deposits (demand deposits and demand savings deposits). Broad money (M2) includes M1 as well as term deposits with less than two years of maturity, marketable financial products (CDs, RPs, etc.), dividend paying financial products (money trusts, beneficiary certificates, etc.) and bank debentures.

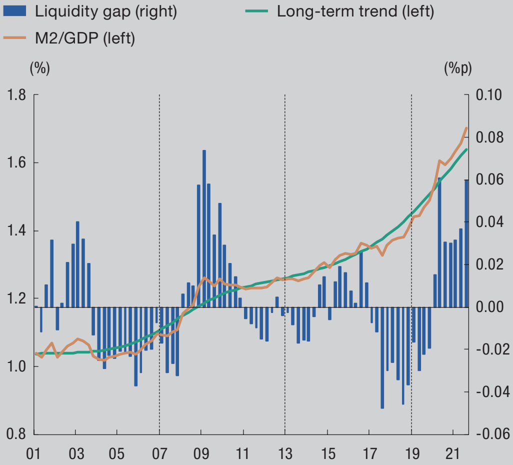
2) In major economies, broad money also grew steeply last year due mainly to low interest rates and increased supply of liquidity in response to COVID-19, but has been slowing this year, unlike in Korea. It should be noted, however, that a direct comparison between countries is difficult due to differences in the composition of money among countries, such as the US (M2), euro area (M3), the UK (M4), and Japan (M3).

(YoY, %)

	Korea(M2)	US(M2)	Euro area(M3)	UK(M4)	Japan(M3)
December 2019	7.9	6.7	5.1	3.8	2.2
December 2020	9.8	24.9	11.5	12.6	7.6
September 2021	12.8	13.0	7.5	6.1	3.7

Source: Central banks of each country.

M2 to nominal GDP[1] ratio (Marshallian K)



Note: 1) Seasonally adjusted.
Sources: Bank of Korea, staff calculation.

(Drivers of money growth by sector)

Looking first at the money supply channels, money supply was driven by rapid growth in private credit, while the contribution of other sectors to total credit growth also expanded. Regarding private credit, corporate credit showed the highest contribution with its pace of growth remaining elevated, while the contribution of household credit ramped up[3] from last year, owing to rapid household debt growth. Credit supply from the government sector also increased[4], as Treasury bond issuance rose from the fiscal expansion due to COVID-19 responses and front-loading[5], with deposit-taking financial institutions expanding their Treasury bond investment. The contribution of external credit strengthened, propelled by the continued current account surplus from sustained global economic recovery and a rise in export unit prices, and by an increase in foreign portfolio investment.

Contribution to total credit growth by sector[1]

(%, %p)

	2018	2019	2020	2021			
				Jan.-Sep.	Q1	Q2	Q3
Total credit growth	6.1	8.3	9.1	10.0	9.5	9.8	10.7
Private credit	5.4	5.7	7.1	7.8	7.4	7.4	8.4
(Corporate)	3.5	4.2	5.4	5.1	4.9	4.7	5.7
(Household)	2.0	1.5	1.7	2.7	2.5	2.8	2.8
Government credit	-1.0	-0.3	0.1	0.3	0.5	0.2	0.1
External credit	0.6	0.8	0.6	1.2	0.8	1.6	1.3
Others	1.1	2.0	1.3	0.8	0.8	0.6	1.0

Note: 1) Term average of monthly year-on-year increase (contribution) rates.
Source: Bank of Korea.

In terms of money supplying institutions[6], non-bank financial institutions' contribution to credit supply increased substantially this year. This was mainly attributable to a surge in household debt[7] extended by non-bank financial institutions, resulting from a gap in regulations imposed on the bank and non-bank sectors. Based on

3) However, a further increase in the contribution of household credit has been somewhat dampened, owing mainly to the recent tightening of regulations on household debt.

4) However, the contribution of the government sector has slowed modestly from the second half of this year, due mainly to favorable tax revenue and a base effect from last year.

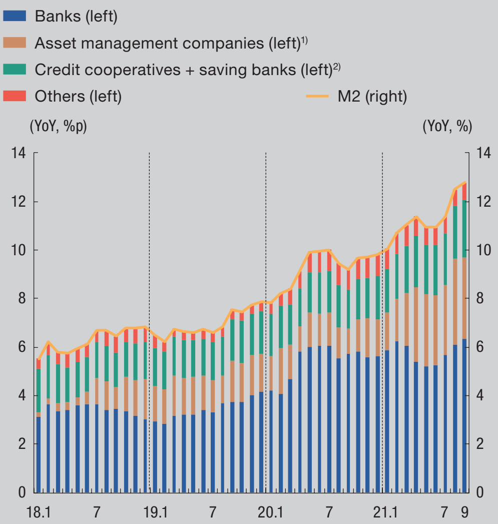
5) Budget execution during the first half of 2021 : 68.2% for central government budget (highest in 10 years), 64.3% for local government budget, 75.6% for local education budget, and 82.9% for the first supplementary budget.

6) Based on the classification of money indicators in Korea, all financial institutions that have financial products categorized as M2 under their liabilities are classified as deposit-taking financial institutions, and they are the money supplying institutions. This paper breaks these institutions down into banks, non-banks (merchant banks, asset management companies, trust companies, mutual savings banks, credit cooperatives, etc.) and others (Export-Import Bank of Korea, post office savings accounts).

7) The rate of household debt growth of non-banks (year-on-year, %): 2.4 in December 2020 → 4.9 in March 2021 → 7.7 in June → 9.3 in September.

increased fund flows into MMFs, beneficiary certificates and money trusts in particular, asset management companies have significantly expanded their credit supply through purchasing corporate bonds, CP and Treasury bonds. By type of money supply, funding through not only financial institutions' lending but also bond and stock issuance, particularly in the corporate sector, reached a record high,[8] causing credit supply through direct financing to also rise.

Contribution to credit supply by institutions



Notes: 1) Asset management companies, trust companies and merchant banks.
2) Mutual savings banks, credit cooperatives (mutual credit cooperatives, community credit cooperatives and credit unions).
Source: Bank of Korea.

In terms of money products, the contribution of M1 products is gradually shrinking, while holding and management of non-M1 components of M2 (M2-M1) rose greatly, resulting in a substantial increase in their contribution. Looking at M2-M1 by product, the contribution of all money products moved up, while dividend-paying products showed a particularly steep rise as search-for-yield sentiment strengthened. Among dividend-paying products, the contribution of beneficiary certificates and money trusts spiked[9], and time deposits also exhibited a significant increase from the third quarter. Despite slowing slightly this year, the pace of M1[10] growth still remains high at around 20%, due mainly to a decline in the opportunity cost of holding money from prolonged low interest rates, and the demand for holding precautionary funds following high uncertainties related to COVID-19, working continually as an upward pressure to M2 growth.

Contribution by money product[1]

(%, %p)

	2018	2019	2020	2021			
				Jan.-Sep.	Q1	Q2	Q3
M2 growth[2]	6.3	7.0	9.3	11.3	10.6	11.1	12.2
M1 products	1.6	1.4	6.4	7.6	8.2	7.7	7.0
M2-M1 products	4.7	5.6	2.8	3.7	2.4	3.4	5.2
Term deposits	3.2	4.5	1.4	0.4	0.0	0.0	1.1
Wholesale funding[3]	0.5	-0.5	-0.5	0.4	0.1	0.3	0.7
Dividend paying[4]	0.8	1.5	1.4	2.6	1.8	2.9	3.2
Others[5]	0.1	0.1	0.6	0.3	0.5	0.2	0.1

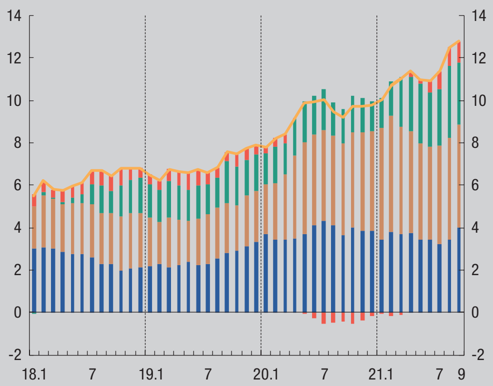
Notes: 1) Term average of monthly year-on-year increase (contribution) rate.
2) Currency in circulation, demand deposits, demand savings deposits.
3) CDs, cover bills, RPs, bank debentures with less than 2-year maturity, etc.
4) MMFs with less than 2-year maturity, beneficiary certificates, money trusts, etc.
5) Bills issued by merchant banks, FX deposits, etc.
Source: Bank of Korea.

8) Funding via issuance of corporate bonds (public offering, general company basis) and stocks between January and September this year stood at 41.8 trillion won, the highest figure since 2001.
9) Beneficiary certificate (year-on-year, %): 2020.Q3 -2.4 → Q4 -2.0 → 2021.1Q 3.4 → 2Q 13.4 → 3Q 18.8.
Money trust (year-on-year, %): 2020.Q3 3.0 → Q4 1.2 → 2021.Q1 11.7 → Q2 12.6 → Q3 14.3.
10) The rate of M1 growth (term average, year-on-year, %): 2020.4Q 26.7 → 2021.1Q 25.2 → 2Q 22.6 → 3Q 20.0.

Lastly by holder/manager, the pace of M2 growth of the household sector continued to slow this year, while that of companies and other financial institutions sustained its uptrend.[11)] Household M2 growth subsided, as the sector used the funds supplied through lending to invest in non-monetary assets, including real assets (e.g. housing) and financial assets (e.g. stocks). In this process, household investment in stocks flowed into brokerage firms and securities finance, resulting in a rise in the money held by other financial institutions. As for the corporate sector, its M2 growth showed a continued[12)], steep uptrend, owing to a large credit supply through loans and direct financing, with its holding of precautionary funds increased in response to the prolonged COVID-19 pandemic.

On the other hand, the comparison between credit supply and the current status of holding/management of money products showed that the trends of holding monetary assets were clearly differentiated between the household and corporate sectors. The household sector managed its raised funds through investment in non-monetary assets such as stocks or real estate, causing its credit growth to outpace its M2 growth. On the other hand, in the corporate sector, credit supply continued while monetary assets including dividend-paying products expanded, causing M2 to grow faster than credit. Our analysis indicates that such growth in M2 in the corporate sector has given increased space for household credit supply to deposit-taking institutions, contributing to a further rise in money growth.

Contribution by money holder

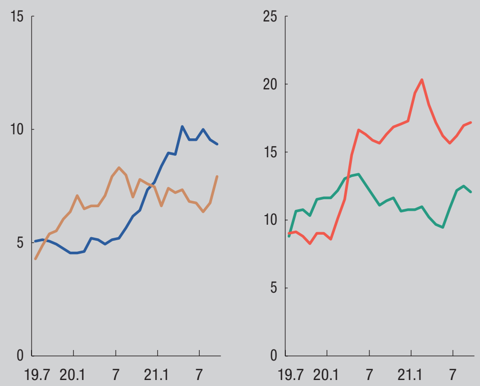


Notes: 1) Non-deposit taking financial institutions

2) Local governments, social security organizations, etc.

Source: Bank of Korea.

Credit and M2 growth by sector



Source: Bank of Korea.

11) The rate of M2 growth by major money holders are as follows:

(Term average of monthly year-on-year increase rates, %)

	2018	2019	2020				2021		
			Q1	Q2	Q3	Q4	Q1	Q2	Q3
Household	4.8	4.8	6.7	7.2	7.8	7.6	7.1	7.0	7.0
Corporate	9.4	8.5	10.1	15.9	16.0	17.1	19.4	16.4	16.8
Other financial institutions	5.1	11.0	10.3	12.0	11.2	10.4	11.6	17.1	19.4

12) In particular, companies managed the increased monetary assets through dividend paying products, working as a factor that increases M2-M1.

(Empirical analysis using money demand function)

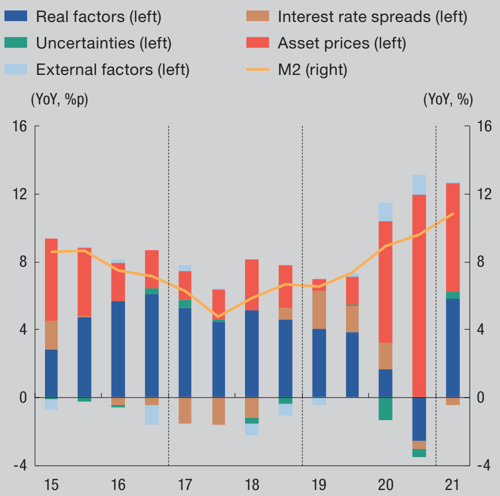
In order to identify the drivers of recent money growth, we analyzed[13] the contribution of each factor to the growth by setting a money demand function. Based on estimation results using the money demand function, M2 growth has been continually deviating from its long-run equilibrium since the COVID-19 pandemic. The gap with the long-run equilibrium widened steadily after 2020, but has been narrowing slightly, despite the recent acceleration of money growth, thanks to strengthened domestic economic growth.

Long-run equilibrium of M2 growth trend

Sources: Bank of Korea, staff calculation.

Looking at money growth since COVID-19, the impact of asset prices including housing prices greatly increased compared to real economic factors such as growth and inflation. As financial conditions change and the external sector has growing influence, the relationship between money stock and real economic variables has been gradually weakening. However, given that the impacts of real economic factors are still valid[14] in the long-term horizon, the strengthened contribution of non-real economic factors appears to be somewhat distinctive. That said, the contribution of real economic factors is estimated to have risen considerably entering this year, based on solid economic growth.

Contribution to M2 growth by factor estimated through monetary demand function



Sources: Bank of Korea, staff calculations.

13) Using the methodology of 「A. Beyer(2009), "A Stable Model for Euro Area Money: Revisiting the Role of Wealth", ECB Working Paper Series No.1111」, a vector error correction model was used, as well as the long-run equilibrium relationship drawn from the model. Variables of the long-run equilibrium relationship are as follows:

$$m = c + \beta_y y + \beta_p p + \beta_i i + \beta_{hp} hp + \beta_{ue} ue + \beta_{er} er$$

m : M2, y : Real GDP, p : GDP deflator, i : 3-year Treasury bond yield-savings deposits interest rate, hp : Housing price index, ue : Financial market volatility index, er : Exchange rate rise expectations

14) At a time when the monetary policy framework was shifted from money targeting to inflation targeting, the short-term causal relationship between the money stock and real economic variables appears to have weakened, but the long-term trend continued to show a causal relationship. Please refer to "Analysis on Relationship between Money Stock and Economy" (BOK Issue Note No.2018-1) for more details.

(Evaluation and implications)

Recently, money growth has been accelerating rapidly and continually as money supply based on credit has increased greatly across all sectors, channels, and types, with mutual interactions and effects. In particular, money demand is assessed to have considerably expanded, driven by asset price factors as the heightened search-for-yield sentiment was met with expectations for asset price hikes amid escalated external and internal uncertainties caused by the prolonged pandemic. As funding costs and the opportunity cost of holding money fell under accommodative financial conditions, money supply and demand both grew, causing accelerated growth in money stock. In addition, increased money holdings by the corporate sector have given greater space for financial institutions to provide credit, further raising credit supply particularly to households, creating a cyclical mechanism[15] of expansion in money stock. It should be noted that if the pace of money growth continues to rise, the pace of private credit growth could further accelerate, possibly resulting in excessive fund flows into asset markets.

15) Around 2015 and 2016, when money growth also remained high and exceeded the long-term trend, a mechanism of money stock expansion seems to have taken place in part, where companies' expanded money holdings led to increased lending capacities of financial institutions, resulting in household credit growth.

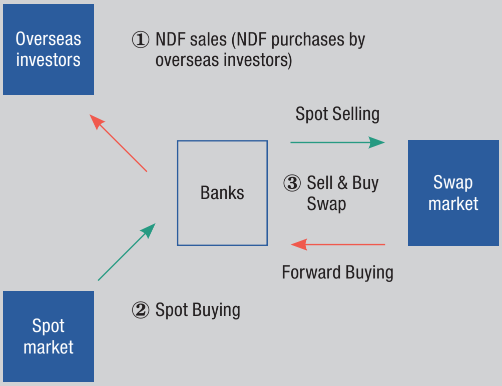
Box I-5.

Recent Changes in Behavior of Foreigners' Interest Rate Arbitrage Transactions and Their Implications

(Trends of incentive for arbitrage transactions)

Since July 2021, the incentive for short-term arbitrage transactions[1] decreased substantially. The three month arbitrage incentive between July and October 2021 was 12bp on a daily basis and this is 26bp lower than the daily figure of 38bp during January and June 2021. On certain dates, the incentive for arbitrage transaction even showed a negative figure (-). This is mainly due to a rise in the swap rate stemming from counterparty banks' supply of foreign currency funds[2] from large-scale non-deliverable forward (NDF) purchases by overseas investors[3] and expectations for widening diffrential between Korean and US interest rates.[4]

Clearing by domestic banks following NDF purchases by overseas investors



Source: Bank of Korea.

While the incentive for long-term (one-year and three-year) arbitrage transactions remained in positive territory, while the decrease was relatively limited. The incentive for one-year arbitrage transactions stood at a daily average of 43bp between July and October 2021, showing a 11bp drop from the daily average of 54bp between January and June 2021. The incentive for three-year arbitrage transactions recorded a daily average of 77bp between July and October 2021, remaining unchanged from the daily average between January and June 2021.

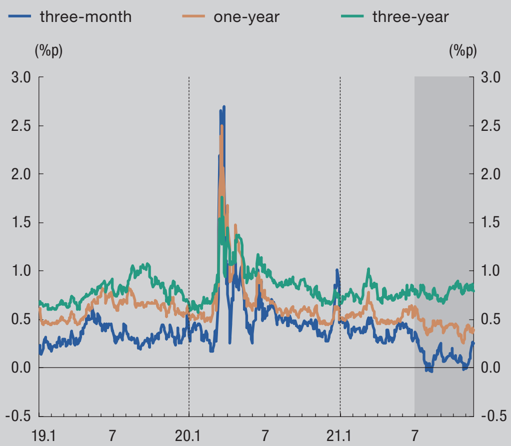
1) The incentive for arbitrage transaction refers to realized profits foreign investors make when they borrow US dollars (funding rate: USD LIBOR), exchange them for KRW, hedge their KRW exposures in the swap market (cost: swap rate), and invest the KRW into Monetary Stabilization Bonds. It is calculated by subtracting the swap rate from the interest rate differential between Korea and US (Monetary Stabilization Bond rate - US dollar LIBOR).

2) When overseas investors buy NDFs, the counterparty banks have a short forward position. To square the short forward position, the banks buy dollars in the spot market and carry out spot sell and forward buy (sell & buy) transactions in the swap market. For sell and buy swaps, spots are sold at the trading time and bought back at maturity, and foreign currency funds are supplied at the trading time.

3) Amid increased risk aversion caused by the prospect of the materialization of a shift in the US Federal Reserve's policy stance, uncertainties related to the China Evergrande Group, and concern about inflation stemming from soaring energy prices, overseas investors purchased more NDFs (volume of net purchases for period between July and September: +20.74 billion dollars).

4) While expectations that the Bank of Korea's Base Rate will be increased are heightening, expectations that the differential between Korean and US interest rates will widen with the Base Rate increase have already been reflected in the swap rate.

Trends of incentive for arbitrage transactions by maturity[1]



Notes: 1) The Korean-US interest rate differential (Monetary Stabilization Bond rate - USD LIBOR) - swap rate for three-month arbitrage transactions, and Korea Treasury Bond yield - currency swap rate for one-year and three-year arbitrage transactions.

Sources: Bank of Korea, Korea Financial Investment Association.

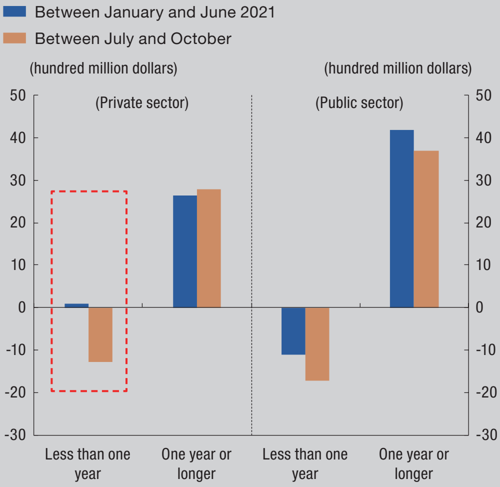
(Impacts on interest rate arbitrage transactions by foreign investors)

Our analysis shows that these changes in arbitrage incentives have affected the investment behavior of some foreign bond investors. Particularly as incentives for short-term arbitrage transactions have decreased, investment in short-term bonds in the private sector, operating funds via arbitrage transactions mainly, has recently decreased substantially. Looking at the flow of private sector bond investment by maturity this year, investment in short-term bonds with residual maturities of less than one year recorded a net inflow of 0.9 billion dollars on a monthly average basis between January and June 2021 when short-term arbitrage incentives were relatively high. However, the flow showed an average monthly net outflow of 1.28 billion dollars between July and October 2021 when the incentive for arbitrage transactions was decreased. On the other hand, bonds with remaining maturities of one year or longer saw an average monthly net inflow of 2.79 billion dollars during July and October 2021, showing no great difference from the volume of the average monthly net inflow of 2.63 billion dollars between January and June 2021. Such trends are presumably because the extent of decrease in the arbitrage incentives for more than one year was limited and still remained in positive territory, and thus the impact on related investment behavior was not significant.

However, bond investment behavior did not show notable differences by maturity for public sectors such as foreign central banks. Investment funds in short-term bonds with remaining maturities of less than one year saw an average monthly net outflow of 1.72 billion dollars from July to October 2021, an 620 million dollar increase from the monthly average of 1.11 billion dollars between January and June 2021. This size is similar to the decrease in the net inflow of bonds with remaining maturities of one year or longer (-480 million dollars[5]). This appears to be attributable to the fact that major investors in the public sector, such as central banks and sovereign wealth funds, have a propensity for mid- to long-term investment and are chiefly influenced by domestic economic fundamentals and international financial market conditions rather than changes in arbitrage incentives.

5) The public sector net bought bonds with remaining maturities of one year or longer worth the monthly average of 4.17 billion dollars for the period between January and June 2021 and the monthly average of 3.69 billion dollars for the period between July and October.

Flows of foreign bond funds by investor and maturity[1)]



Note: 1)Monthly average during the period.
Source: Bank of Korea.

Past developments also indicate that flows of private sector funds are more heavily affected by changes in arbitrage incentives. According to our analysis of fund flows of bond investment funds by month and maturity[6)] since 2010 for periods with high and low incentives for arbitrage transactions[7)], either funds for short-term bond funds shifted to a outflow or inflows of long-term bond funds slowed, when incentives for long-term and short-term arbitrage transactions were below their respective long-term averages. On the other hand, in the case of the public sector, for the periods in which the incentive for short-term arbitrage was lower than the long-term average, the net inflow of short-term bond investment slowed only slightly, and for the periods with low long-term arbitrage incentives, the inflow of long-term bond investment actually increased compared to the periods with high incentives for long-term arbitrage. This implies that the impacts on fund flows of public sector bonds are far larger for the other factors as aforementioned, such as economic fundamentals of individual countries and overall global financial market conditions, compared to the impacts of arbitrage incentives.

Incentives for arbitrage transaction and flows of foreign bond investment funds by investor and maturity[1)]

(hundred million dollars)

Arbitrage incentives	Above or below long-term average[2)]	Flows of private sector bond investment[3)]	Flows of public sector bond investment[3)]
Three-month	· Long-term average or above	8.2	8.9
	· Below long-term average	-1.4	7.3
One-year	· Long-term average or above	15.8	10.2
	· Below long-term average	10.6	15.7
Three-year	· Long-term average or above	14.6	10.9
	· Below long-term average	10.7	15.9

Notes: 1) Monthly average flows during the period.
2) Monthly average for the period between January 2010~ October 2021.
3) Flows related to arbitrage incentives for three-month bonds are based on bonds with residual maturities of less than one year (excluding bonds that have reached maturities), and flows related to arbitrage incentives for one-year and three-year, with remaining maturities of one year or longer.
Source: Bank of Korea.

Influenced by these changes in the private sector's interest rate arbitrage behavior, the net inflow of total foreign bond investment funds stood at a monthly average of 3.48 billion dollars for the period between July and October 2021, a decrease of 2.31 billion dollars from the monthly average for the period between January and

6) Given that the volume of bonds reaching maturity has increased greatly due to expanded inflows of foreign portfolio investment funds since 2010, the volume of bonds reaching maturity was excluded in the calculation of the volume of fund flows of bond investment.
7) The classification was based on the averages for the arbitrage incentives for three-month, one-year, and three-year securities since 2010 (monthly average for the period between January 2010 and October 2021).

June (5.79 billion dollars). By investor type, the decline in the net inflow of private sector bond investment slightly exceeded that of public sector bond investment.[8] As net sales of short-term bonds in the private sector expanded in October 2021, the private sector recorded a net outflow (-40 million dollars) of bonds in October for the first time since November 2020.

Flows of foreign bond investment funds by investor

(hundred million dollars)

	Jan.-Jun. 2021[1]	Jul.-Oct. 2021[1]	Jul.	Aug.	Sep.	Oct.
Total	57.9	34.8	55.7	15.6	46.0	22.0
·Private	27.3	15.2	12.0	15.1	33.9	-0.4
·Public	30.6	19.7	43.7	0.5	12.1	22.4

Note: 1) Monthly average flows during the period.
Source: Bank of Korea.

(Assessments and implications)

Recent changes in arbitrage incentives are assessed to have been a factor that led to a partial decline in fund inflows of foreign bond investment, by weakening the incentive for investing in the private sector, especially in short-term bonds. Given that the trend of inflow for bond investment in the public sector, less affected from arbitrage incentives, is still far above the levels in past years,[9] and that the possibility of an additional decline in short-term arbitrage incentives is constrained by an already significantly low incentive for short-term arbitrage trading, the likelihood that pressures for outflows of total foreign bond investment will increase due to changes in the incentive for arbitrage transactions is not high.

However, taking into account possible volatility in flows of bond investment heightening, if changes in the short-term and long-term Korean-US interest rate differential from monetary policy normalization at home and abroad, and unrest in emerging market economies from changes in global risk appetite[10] act as additional factors causing outflows of public sector bond investment, with outflows of private sector bonds could continue due to low arbitrage incentives in the future, the Bank of Korea is closely monitoring the relevant developments.

8) Private sector bond investment saw a monthly average net inflow of 1.52 billion dollars for the period between July and October 2021, a decrease of 1.21 billion dollars from the average of 2.73 billion dollars for the period between January and June. Public sector investment recorded a monthly average net inflow of 1.97 billion dollars between July and October 2021, a decline of 1.10 billion dollars from the average of 3.06 billion dollars between January and June. The decline in the net inflow of public sector bond investment for the period between July and October is estimated to be attributable to a greater increase in the net inflow in the first half of this year compared to net inflows in past years, as well as to changes in asset management strategies by investor countries in preparation for changes in the monetary policy stances of the US Federal Reserve and other major central banks.

9) The volume of monthly average inflows (1.97 billion dollars) of public sector investment for the period between July and October 2021 was well above that of monthly average inflows (0.34 billion dollars) for the relevant period for the immediately preceding five years (between 2016 and 2020).

10) At times of financial market unrest in emerging market economies, central banks in those countries could withdraw investment funds they manage as their official foreign reserves, to stabilize their foreign exchange markets. On the outset of the COVID-19 pandemic in March 2020, foreign investors made record net sales of 420 billion dollars of US Treasury securities. More than half of the sales were from official investors from abroad including central banks and sovereign wealth funds (Financial Stability Report, US Federal Reserve, November 2021).

II

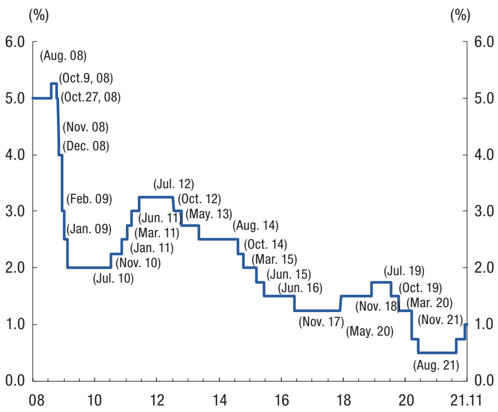
Conduct of Monetary Policy

1. Base Rate

Base Rate raised from 0.75% to 1.00% in November 2021

The Bank of Korea conducted monetary policy in order to sustain the recovery of economic growth and stabilize consumer price inflation at the target level (2%) over a medium-term horizon, while paying attention to financial stability. In this process, it thoroughly assessed global and domestic developments related to COVID-19, changes in the pace of growth and inflation, and the risk of a buildup of financial imbalances, and major countries' monetary policies. Under this policy stance, the Bank of Korea adjusted the degree of monetary policy accommodation in November 2021 by raising the Base Rate by 25 basis points, from 0.75% to 1.00%.

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.

A detailed look at the Base Rate decisions during this period, and the backdrop behind them, are as follows.

At the October meeting, the Board left the Base Rate unchanged at 0.75%[68)] and decided it would be necessary to further monitor the impacts of changes in domestic and overseas conditions on the overall economic and financial situation, along with developments of financial imbalances. The domestic economy continued its favorable trend of recovery as exports and facilities investment remained buoyant and private consumption, which had previously slowed due to the resurgence of COVID-19, had also rebounded. It was expected that such trend of economic recovery would continue going forward, as exports were expected to remain robust and private consumption to recover at a faster pace thanks to the relaxation of restrictions on economic activity. Consumer price inflation remained high around the mid-2% level as the upward trend of prices of petroleum products and services had accelerated, and it was expected to sustain the mid-2% level for some time going forward. With respect to financial stability, household loans had grown considerably, led by home mortgage loans, while housing prices continued to exhibit high rates of increase in both the Seoul Metropolitan region and other areas.

At the November meeting, the Board raised the Base Rate by 25 basis points, from 0.75% to 1.00%.[69)] The Board took into account the following aspects. While the domestic economy

68) Among the total seven members attending, five board members agreed to leave the Base Rate unchanged while two members were opposed.

69) Among the seven board members attending, six members agreed to raise the Base Rate by 0.25%p while one member argued for leaving the Base Rate unchanged.

had sustained its robust growth, inflationary pressure was expected to expand more greatly than initially anticipated and there was still a strong need to exercise caution against the risk of a buildup of financial imbalances. Looking at the domestic economy, exports had sustained their buoyancy and private consumption had picked up rapidly on the back of accelerated vaccinations, the mitigation of containment measures, and the provision of emergency disaster relief funds. These trends of recovery were expected to continue and the GDP growth rate was projected to be around 4.0% in 2021 and around 3.0% in 2022. Consumer price inflation had risen significantly to the lower-3% level, owing to the accelerating increase in the prices of petroleum products as well as the base effect from the decline in the prices of public services last year, and it was expected to run above the target level (2%) for a considerable period of time. Therefore, consumer price inflation for the next year was expected to record the 2% level, greatly exceeding the previous forecast of 1.5%. On the financial stability side, housing prices had continued to rise significantly while the amount of increase in household loans had lessened somewhat. However, members judged that the risk of accumulation of financial imbalances still demanded close attention. In response, the Bank of Korea raised the Base Rate by an additional 25 basis points following August. Going forward, it decided to operate its monetary policy in a direction that appropriately reduces the degree of accommodation in line with improvement in economic conditions and the financial imbalance situation.

Liquidity adjustment via open market operations

The Bank of Korea seeks to ensure that the overnight call rate remains generally stable around the Base Rate by carrying out its open market operation instruments which include the issuance of Monetary Stabilization Bonds (MSBs), repurchase agreement (RP) transactions, and deposits with the Monetary Stabilization Account (MSA).

The total amount of liquidity adjustment needed (average balance basis) decreased in the third quarter owing to an increase in currency demand[70] from the private sector month-on-month, and continued to decline in October. Accordingly, the Bank responded flexibly to changes in supply and demand conditions of short-term funds by reducing the issuance of MSBs[71] and the deposits with the MSA[72] while slightly expanding RP net sales.[73] As a result, the call rate remained generally stable around the Base Rate.

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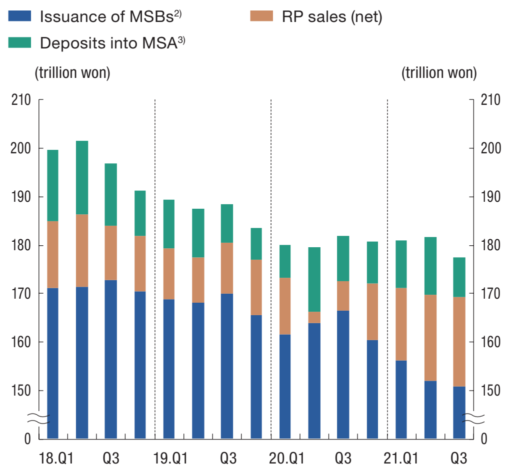
70) In quarter-on-quarter terms, currency issuance (average balance basis) in the third quarter increased by 4.5 trillion won, affected largely by the Chuseok holidays in September (a 4.8 trillion won increase over the 10 business days preceding the holidays). When the reserve requirements are reduced by the increased supply of issued currency, the amount of excess liquidity absorbed declines.

71) The volume of MSB issuance (average balance basis) was reduced by 1.1 trillion won in the third quarter (quarter-on-quarter), and by 4.9 trillion won (month-on-month) in October 2021.

72) The average MSA balance dropped by 3.8 trillion won in the third quarter (quarter-on-quarter) and by 0.6 trillion won (month-on-month) in October 2021.

73) Net RP sales (average balance basis) rose by 0.6 trillion won in the third quarter (quarter-on-quarter), and by 0.8 trillion won (month-on-month) in October 2021.

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



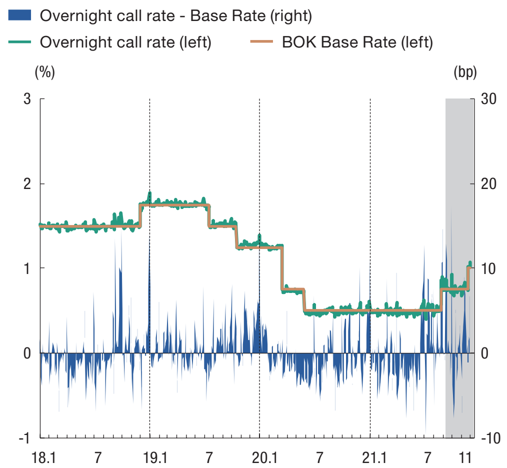
Notes: 1) Quarterly average balance basis.

2) Monetary Stabilization Bonds.

3) Monetary Stabilization Account.

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

Strengthened support for businesses affected by COVID-19 and for small businesses

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

Some temporary support measures, whose operation periods expired at end-September this year, were terminated as scheduled. More specifically, the support program for facilities investment of startups, businesses that create jobs, and material, parts and equipment businesses[74], and the support measure for new loans related to trade financing[75] were terminated[76] on October 1 as scheduled.

Meanwhile, the ceiling for the Support Program for Regional SMEs[77], scheduled to expire on August 31, was extended by two years to August 31, 2023. The extension was made to sustain the support for regional SMEs that may face deterioration in their funding conditions due to the heightened social distancing measures.

On September 9, 2021, given that small businesses and SMEs, especially in the face-to-face service industries, continued to face funding difficulties due to the resurgence of COVID-19, the Bank extended the period of the financial support to those affected by the pandemic by six months[78] and decided to increase the ceiling of the Support Program for Small Businesses by 3 trillion won[79] (3 trillion → 6 trillion won), starting from October 1, 2021.

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74) A maximum of 5 trillion won was provided as part of the Support Program for New Growth Engine Development and Job Creation, and the operation period expired on September 30, 2021.

75) A maximum of 1 trillion won was provided as part of the Support Program for Trade Financing, and the operation period expired on September 30, 2021.

76) After the support measure was terminated, it was decided that a maximum of 5 trillion won for facilities investment would continue to be managed under the Support Program for New Growth Engine Development and Job Creation in order to support loans previously extended, and a maximum of 1 trillion won for support for new loans related to trade financing would be included in the Program for Stabilization of SME Lending from December 1, 2021.

77) The major targets of support include regional SMEs in sluggish industries and in industries sensitive to business cycles.

78) The deadline for the application for the Support Program for SMEs Affected by COVID-19 and the Support Program for Small Businesses (bank lending basis) has been extended from end-September 2021 to end-March 2022. The target of support of both programs is limited to SMEs and small businesses in the services industry, and the Support Program for SMEs Affected by COVID-19 can further include non-services industries after the Bank's regional branches examine damages in their respective regions.

79) The excess funds from the Program for Stabilization of SME Lending have been used as funds needed to increase the ceiling.

The ceilings of each program under the Bank Intermediated Lending Support Facility as of December 2021 are as follows: 1.5 trillion won for the Support Program for Trade Financing; 13 trillion won for the Support Program for New Growth Engine Development and Job Creation; 3.5 trillion won for the Program for Stabilization of SME Lending; 5.9 trillion won for the Support Program for Regional SMEs; 13 trillion won for the Support Program for SMEs Affected by COVID-19; and 6 trillion won for the Support Program for Small Businesses. The total ceiling stands at 43 trillion won, which includes reserves of 0.1 trillion won. The interest rates on support programs under the Bank Intermediated Lending Support Facility are 0.25% per annum.

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

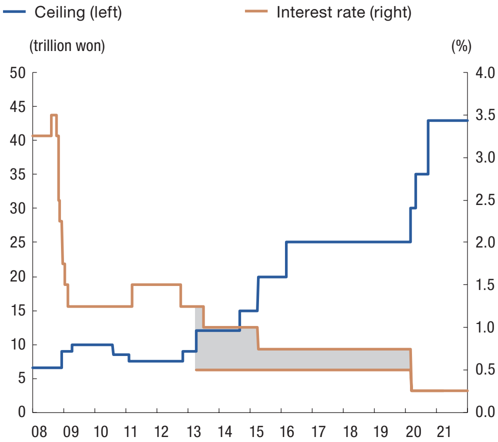
(trillion won, %)

Program		Ceiling		Interest rate
		Before	After	
Support Program for Trade Financing		2.5	1.5[3]	0.25
Support Program for New Growth Engine Development and Job Creation[1]		13.0	13.0	0.25
Program for Stabilization of SME Lending[2]		5.5	3.5[4]	0.25
Support Program for Regional SMEs		5.9	5.9	0.25
Ceiling Reserves	Support for SMEs Affected by COVID-19	13.0	13.0	0.25
	Support Program for Small Businesses	3.0	6.0[5]	0.25
	Others	0.1	0.1	0.25
Total		43.0	43.0	-

Notes: 1) The Support Program for High-tech and Other Start-up SMEs was expanded and reorganized as the Support Program for New Growth Engine Development and Job Creation (September 2017).
2) Includes the support that had been formerly provided under the Support Program for Facilities Investment.
3) Effective as of December 1, 2021.
4) The ceiling was reduced by 3 trillion won(5.5 trillion won→2.5 trillion won) effective as of October 1, 2021, and then increased by 1 trillion won(2.5 trillion won→3.5 trillion won) effective as of December 1, 2021.
5) Effective as of October 1, 2021.

Source: Bank of Korea.

Figure II-4. Ceiling and interest rates of Bank Intermediated Lending Support Facility



Source: Bank of Korea.

3. Market Stabilization Measures

Reduced MSB issuance and increased buyback

In October, Korean Treasury bond yields surged following foreign investors' massive sell-off of futures amid a spike in interest rates in major economies on widespread concerns over global inflation, resulting in a significant contraction in investor sentiment. In response to this, the Bank of Korea announced a plan on October 28, 2021 that it would reduce the issuance of Monetary Stabilization Bonds (MSBs) in November and increase the amount of its buyback to improve investor sentiment surrounding Treasury bonds as well as to reduce the volatility of bond yields. More specifically, the Bank decided to scale down its November issuance by 2.4 trillion won (9.0 trillion won → 6.6 trillion won[80]) from the issuance planned in October, and to increase the volume of buyback by 1.0 trillion won (4.0 trillion won → 5.0 trillion won).

Continued support for the credit market via an SPV purchasing corporate bonds and CP

The Bank of Korea has supported seamless financing of low-rated companies facing difficulties from the prolonged COVID-19 pandemic. On July 23, 2021, the Bank re-extended[81] the first round of loans provided in July last year to a Special Purpose Vehicle (SPV) that purchases corporate bonds and commercial paper worth 4.4 trillion won[82] as of end-October 2021.

Table II-2. SPV's purchases of corporate bonds and CP[1)2)] by credit rating

(hundred million won, %)

Credit rating	Value	Share
AA(A1)	12,200	27.8
A(A2)	25,691	58.6
BBB(A3)	5,920	13.5
Total	43,811	100.0

Notes: 1) As of end-October 2021.
2) Face value basis.
Source: Bank of Korea.

80) This figure did not reflect the planned issuance of 91-day Monetary Stabilization Bonds in the fifth week of November (0.7 trillion won) so that it could be compared to the figure during October fifth week.

81) As the loan expiration date of the first round of lending worth 1.78 trillion won carried out on July 23, 2020 approached, the Bank extended the expiration date through relending.

82) The SPV purchased corporate bonds worth 3.1 trillion won and CP amounting to 1.3 trillion won.

Table II-3. Bank of Korea's market stabilization measures in response to COVID-19

(as of November 30, 2021)

Policy response		Major details[1]
Liquidity provision	Carried out full-allotment RP purchases	• Amount supplied: A total of 19.43 trillion won (expired at end-July 2020)
	Carried out RP purchases from non-bank financial institutions	• Amount supplied: A total of 3.5 trillion won (1.0 trillion won on March 19, 2020, and 2.5 trillion won on March 24, 2020)
	Broadened the range of institutions eligible for open market operations	• The list of institutions eligible for RP transactions was broadened (expired at end-July 2020)
	Broadened the range of securities eligible for open market operations	• The list of securities eligible for outright transactions and RP transactions was broadened (expired at end-March 2021)
	Expanded the range of eligible collateral for lending facilities	• The range of eligible collateral required for borrowing from the Bank of Korea's lending facilities was expanded (expired at end-March 2021)
	Improved collateral availability of financial institutions	• The collateral ratio for guaranteeing net settlements was lowered (70% → 50%) • The range of eligible collateral for guaranteeing net settlements was broadened (expired at end-March 2021)
Stabilization of Treasury, corporate bond and CP markets	Performed outright purchases of Treasury bonds	• Amount purchased: a total of 17.0 trillion won (1.5 trillion won each in March, April, July and August 2020, 2.0 trillion won in September 2020, 1.5 trillion won each in October and November 2020, 2.0 trillion won in March 2021, 1.0 trillion won in April 2021, and 3.0 trillion won in June 2021)
	Corporate bond-backed lending facility	• Total ceiling: 10 trillion won • Operation period: terminated on February 3, 2021 • Eligible collateral: Prime corporate bonds (rated AA- and above) with remaining maturity of five years or less
	Supported credit market through an SPV that purchases corporate bonds and commercial paper	• Size: 10 trillion won (increased up to 20 trillion won depending on market conditions) • Expiration: December 31, 2021 (extended additionally by the end of this year, after being extended by six months) • Size of the Bank's loans to the SPV : 3.56 trillion won (accumulative basis)
FX market stabilization	Signed a bilateral currency swap agreement with the US Federal Reserve	• A 60.0 billion US dollar bilateral currency swap agreement was signed • Expiration: December 31, 2021 (extended twice by six months each, extended by three months once)
	Implemented competitive US dollar loan facility auctions	• A total of 19.872 billion dollars was supplied
	Raised the ceilings on FX derivatives positions of banks	• Domestic banks (40% → 50%) and foreign bank branches (200% → 250%)
	Temporarily lifted the levy on financial institutions'non-deposit FX liabilities	• Banks, securities companies, credit card companies, and insurance companies were temporarily exempted from the foreign exchange macro-prudential stability levy for three months (during the period between April and June 2020)
	Supplied foreign currency liquidity through purchase of foreign currency bond repurchase agreements	• The Bank of Korea provided US dollar funding to domestic financial institutions through foreign currency bond repurchase agreements • Eligible bonds : US Treasury bonds (US government agency bonds if necessary)

Note: 1) Shaded cells indicate measures that have expired.

Source: Bank of Korea.

4. Other Monetary Policy Measures

The Bank of Korea has strengthened its monitoring of financial and foreign exchange market movements and of financial stability conditions, while striving to strengthen global financial cooperation and improve the safety and efficiency of the payment and settlement systems. The Bank has also continued research on and technical preparations for central bank digital currency (CBDC) in response to changes in the payment and settlement environment while seeking measures as a central bank in response to climate change.

Continued monitoring of financial and foreign exchange market conditions

The Bank of Korea continuously monitored movements in the financial and foreign exchange markets at home and abroad. While operating an emergency financial market monitoring and response system activated in the event of major contingencies, it has also closely looked into the evolution of domestic and global risk factors as well as their impacts on financial markets at home and abroad. In particular, the Bank held Financial and Economic Conditions Review Meetings (on September 23 and November 4) with regard to FOMC meetings to discuss international financial market trends and the possible impacts on domestic financial and foreign exchange markets.

Strengthened monitoring of potential financial risk factors in line with the deterioration of financial imbalances

The Bank of Korea has performed preemptive identification of risk factors within the financial system that could be caused by increased uncertainties at home and abroad in line with the deterioration of financial imbalances and the resurgence of COVID-19, and has continued its early warning activities.

At the September Financial Stability Meeting[83)], the Bank paid attention to the deterioration of financial imbalances as household debt and housing prices continued to rise. Under these circumstances, the Bank comprehensively examined what impacts monetary policy normalization would have on the financial soundness of household and corporate sectors, changes in asset prices, and the capital adequacy of financial institutions. In particular, considering that excessive debt levels can have negative impacts on the real economy, the Bank assessed the current debt levels of households and businesses, by estimating the debt threshold that could limit consumption and investment, and by comparing with major economies. Moreover, the Bank performed multifaceted reviews and assessments of the effectiveness of macroprudential regulations such as LTV and DTI, which had been introduced to respond to the household debt issue, while looking into the factors that could weaken the effects of macroprudential policy. Moreover, the Bank assessed the impacts on the financial system of changes in operational behaviors, such as increased lending by internet-only banks and non-bank financial

83) Please refer to the press release on *Financial Stability Conditions* (September 2021) for further details.

institutions, and looked closely into the background behind the surge in lending by savings banks and potential insolvency risks in terms of loss absorption capacities and funding.

Meanwhile, the Bank of Korea shared views and made efforts to come up with countermeasures regarding the key current issues and potential risk factors pertinent to Korea's financial and economic stability through various consultative bodies including the Macroeconomic and Financial Meeting.

Assessed current issues and potential risks to the Korean financial system through joint examinations

In order to assess potential risk factors accumulated in the financial system, the Bank of Korea conducted joint examinations of financial institutions and maintained continuous monitoring of vulnerable sectors.

By conducting sectoral examinations of household lending and examinations of risks of individual banks, the Bank of Korea reviewed potential risk factors stemming from household debt accumulation, and banks' compliance status with the Bank of Korea's rules and regulations.

Table II-4. BOK-FSS joint examination of financial institutions[1)]

(number)

2017 Year	2018 Year	2019 Year	2020 Year	2021 Jan.~Nov.
6	5	6	2	6

Note: 1) Number of examinations conducted.
Source: Bank of Korea.

In addition, the Bank of Korea looked into the management conditions of banks and bank holding companies, including their asset soundness, profitability, and special features with regard to their business operations. The Bank strengthened monitoring of changes in their corporate lending behaviors, and of their household debt management trends. Moreover, the Bank laid the foundation for examining potential risks in the corporate sector by establishing a corporate loan analysis system using micro information on corporate lending.

In addition, the Bank improved the feedback system for its examinations by holding briefing sessions to explain the examination results of target banks. At the same time, it continued exchanges of information on global financial supervisory issues and policy coordination by attending the Supervisory College hosted by the major supervisory authorities.

Strengthened global exchange and financial cooperation

The Bank of Korea participated in online meetings and some recently resumed meetings in presence, hosted by international organizations and consultative bodies such as the BIS, G20, and ASEAN+3. In particular, at the BIS and G20 meetings, the Bank discussed monetary policy normalization in major countries after COVID-19, the main reasons behind supply bottlenecks and measures in response, and the entry of Big Tech and stablecoins to the payment systems and interoperability among national payment systems. While actively participating in these discussions, the Bank examined the spillovers on the Korean economy and made efforts to enhance the effectiveness of policy responses by looking closely into the global financial and economic conditions and policies of major countries.

Meanwhile, as a co-chair central bank of the ASEAN+3 Finance Ministers and Central Bank Governors Meeting[84] this year, the Bank of Korea focused on consulting and reconciling members' opinions to enhance the effectiveness of the regional financial safety net by revising the operational guidelines of the Chiang Mai Initiative Multilateralization (CMIM), which is a regional multilateral currency swap agreement. As a result, at the October Deputies meeting, it decided on a new CMIM reference rate replacing LIBOR and agreed on revised operational guidelines for institutionalizing fund support using local currency.

Enhanced safety and efficiency of payment and settlement systems, and continued research on CBDC

The Bank of Korea has continued efforts to enhance the safety and efficiency of the payment and settlement systems. The Bank has worked to ensure that the Principles for Financial Market Infrastructures (PFMI)[85] and other international standards in the field of payment and settlement are implemented smoothly at home. In September 2021, it assessed BOK Wire+ in terms of its business continuity management system, reviewing whether it complied with the PFMI and whether it had the capacity to respond to operational risk. It was found that BOK Wire+ satisfied the international standards and has been operated stably. The Bank will supplement areas where improvement is needed. Meanwhile, through a joint examination conducted on a financial investment company in September 2021, the Bank of Korea reviewed the compliance status of the investment company with relevant regulations as well as its practices in managing settlement risks, and made recommendations in some areas for improvement.

The Bank of Korea drew up measures with regard to the enhancement of cross-border payments by the BIS CPMI, and participated actively in the CPMI-IOSCO meetings to discuss the supervision and regulation of financial market infrastructures (FMIs) and of stablecoins[86] that are highly likely to be used as a means of payment. The Bank also actively took part in discussions on linking[87] the global payment and settlement infrastructure to improve overseas remittance services, seeking measures suitable for Korea's financial environment. Along with this, in order to ease the

84) The meeting is co-chaired by one of the ASEAN+10 countries and one among Korea, China, and Japan in rotation every year. Korea and Brunei are the co-chair countries of the meeting for this year.

85) Following the global financial crisis, a need was identified to expand over-the-counter (OTC) derivatives market infrastructure and strengthen the international standards for the operation of financial market infrastructures. Accordingly, the BIS Committee on Payments and Market Infrastructures (CPMI), jointly with the International Organization of Securities Commission (IOSCO), integrated the existing international standards and established new international standards for payment and settlement systems in April 2012. CPMI-IOSCO has enacted additional international standards as supplementary guidelines for PFMI compliance, including its *Guidelines on cyber resilience for financial market infrastructures* (June 2016), *Recovery of financial market infrastructures* (July 2017) and *Resilience of central counterparties (CCPs) : future guidance on the PFMI* (July 2017).

86) The CPMI judged that there is a need to apply international standards (Principles for Financial Market Infrastructures, PFMI) to stablecoin arrangements, and released *Application of the PFMI to stablecoin arrangements* in October 2021.

87) If the payment and settlement systems of individual countries are directly linked, the speed of handling overseas remittances will pick up, while fees charged to customers will decline. Relevant discussions are underway at international organizations, such as the G20 and BIS.

inconvenience of the public stemming from the decline in the number of ATMs, the Bank of Korea, along with the banking community, improved the ways of using ATMs.[88)]

The Bank of Korea has continued to do research on and to make technical preparations for central bank digital currency (CBDC)[89)] in order to effectively cope with the rapid progress toward a digital economy. In particular, in the phase 1 pilot test on CBDC set out in August this year, the Bank created a cloud-based virtual experimentation environment, examining basic functions of CBDC including its issuance, circulation and redemption, and conducted tests on related IT systems. In the phase 2 pilot test, scheduled to be carried out until June next year, the Bank will examine more sophisticated functions such as offline payments[90)] and enhanced protection of private information. The Bank made efforts to enhance communication with financial institutions, IT companies, academia, and research institutions, by holding a briefing session on CBDC development (November 12), and the Payment and Settlement System Conference (November 18) under the theme of major issues related to central bank digital currency and the central bank's tasks. Apart from this, the Bank of Korea is closely monitoring changes in the global environment surrounding CBDC, while enhancing information exchange and cooperation with other central banks for sharing research results among major economies.

Reviewed measures to respond to climate change

The Bank of Korea set up a climate change response task force in order to comprehensively review and analyze the role of the central bank in responding to climate change, and published[91)] a report on the Bank's measures to deal with climate change.

The report illustrated discussions on the role of the central bank when faced with climate change-induced shifts in the economic environment and financial system at home and abroad, and reviewed the seriousness of climate change and the responses by the international community. While analyzing the effects of climate change on Korea's real economy and financial system, the Bank also explored response measures including a review of its available policy tools.[92)]

Based on this report, the Bank of Korea will strengthen relevant research to increase the awareness of economic agents about climate change risks and enhance the role of finance in facilitating the transition to a low-carbon economy, while closely reviewing ways to introduce climate change components to its available policy tools and functions.

88) The Bank of Korea established an ATM database system and information provision infrastructure (mobile web), and put them into operation (in November 2021).

89) CBDC refers to a type of digital currency issued by a central bank, separate from reserve requirements and transferable deposits.

90) Offline payments refer to payments made during internet outages or other communication disruptions.

91) Please refer to the Bank of Korea's *Response to Climate Change* (released on October 29, 2021) for further details (Bank of Korea website > communication > press release).

92) While exploring the possibility of using lending, payment and settlement systems and open market operations to induce smooth fund flows to environmentally friendly sectors, the Bank decided to pursue ways to expand investment in sectors by increasing the weight of climate change in its foreign reserve management.

Box Ⅱ-1.

Overview of the Bank of Korea's Intermediated Lending Support Targeted to Vulnerable Sectors Affected by COVID-19

Amid the ongoing COVID-19 pandemic, SMEs and small businesses in vulnerable sectors affected by the pandemic continue to suffer from financial difficulties. Of the affected sectors, businesses of SMEs and small businesses, providing face-to-face services, have been contracting even more severely as a consequence of the spread of the Delta variant since July and the heightened social distancing scheme. In response, the Bank of Korea strengthened its financial support for the vulnerable sectors through its Bank Intermediated Lending Support Facility[1] in October 2021. This section examines the background behind and key aspects of the increased support for SMEs and small businesses affected by COVID-19.

(Overview of Support Program for SMEs Affected by COVID-19 and Support Program for Small Businesses)

The Bank of Korea launched the Support Program for SMEs Affected by COVID-19 in its Bank Intermediated Lending Support Facility in March 2020 to financially support SMEs and small businesses hit hard by the pandemic outbreak. The total ceiling, which was initially 5 trillion won, was raised twice to reach a total of 13 trillion won, as difficulties arising from the pandemic were aggravated. The operation period of the support programs was extended twice,[2] from the original expiration of end-September 2020 to current expiration of end-September 2021.

The Support Program for Small Businesses was implemented in October 2020, to provide further financial support for small businesses affected by COVID-19. While the Support Program for SMEs Affected by COVID-19 provides[3] 50% of the bank loan amount, the Support Program for Small Businesses provides full financial support for bank loans. The ceiling was initially set at 3 trillion won, and the period was extended by six months, from end-March 2021 to end-September 2021.

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1) The Bank Intermediated Lending Support Facility is a program that provides low-rate loans to banks meeting certain requirements based on their SME loans. It is aimed at promoting recovery in economic growth and enhancing growth potential by supporting banks' efficient financial intermediation.

2) The ceiling was raised by 5 trillion won in May 2020 and by another 3 trillion won in October 2020.

3) For loans extended to sole proprietors and companies with low credit ratings (grades 6-10), the program applies higher support ratios (75-100%).

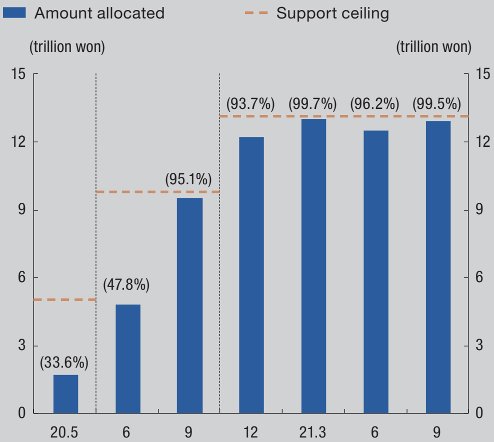
Key aspects of Support Program for SMEs Affected by COVID-19 and Support Program for Small Businesses

	Support Program for SMEs Affected by COVID-19[1]		Support Program for Small Businesses	
Target	SMEs and small businesses affected by COVID-19		Small businesses affected by COVID-19	
Total ceiling[2]	Launch (Mar. 2020)	5 trillion won	Launch (Sep. 2020)	3 trillion won
	1st increase (May. 2020)	10 trillion won		
	2nd increase (Sep. 2020)	13 trillion won		
Operation period[2,3]	Launch (Mar. 2020)	~Sep. 30, 2020	Launch (Sep. 2020)	~Mar. 31, 2021
	1st extension (Sep. 2020)	~Mar. 31, 2021		
	2nd extension (Mar. 2021)	~Sep. 30, 2021	Extension (Mar. 2021)	~Sep. 30, 2021
Support ratio	50-100% of loans		100% of loans	
Ceiling per business	Launch (Mar. 2020)	1 billion won	Launch (Sep. 2020)	300 million won
	After 1st increase (May. 2020)	500 million won		

Notes: 1) Some details of the programs, such as the sector of support and the amount of support, could differ across regional branches.
2) Dates in parentheses are the dates of the Monetary Policy Board decision by the Bank of Korea.
3) Based on loan extensions by financial institutions.
Source: Bank of Korea.

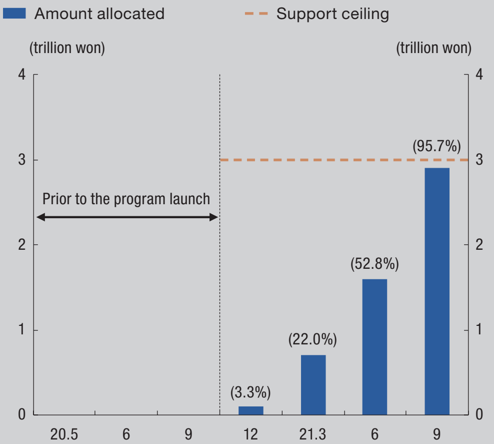
As of end-September 2021, 12.9 trillion won, 99.5% of the total ceiling (13 trillion won), has been exhausted under the Support Program for SMEs Affected by COVID-19. Under the Support Program for Small Businesses, 2.9 trillion won, 95.7% of the total ceiling (3 trillion won), has been exhausted.

Loans extended and percentage of ceiling exhausted[1] under Support Program for SMEs[2] Affected by COVID-19



Notes: 1) Figures in parentheses indicate the percentage of loans extended out of the total ceiling.
2) Based on the SMEs eligible for the Bank of Korea's Support Program for SMEs Affected by COVID-19.
Source: Bank of Korea.

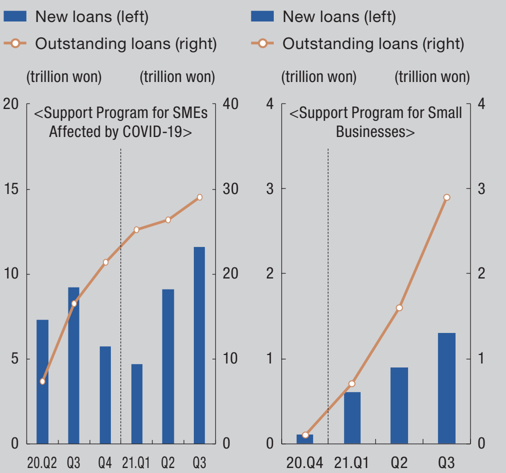
Loans extended and percentage of ceiling exhausted[1,2] under Support Program for Small Businesses[3]



Notes: 1) Launched in October 2020 (provided from December 2020).
2) Figures in parentheses indicate the percentage of loans extended out of the total ceiling.
3) Based on small businesses eligible for the BOK's Support
Source: Bank of Korea.

The volume of bank loans (outstanding) extended under the Support Program for SMEs Affected by COVID-19 as of end-September 2021 stood at 29.0 trillion won, while 129,395 establishments have received funding through the program, with the average loan per establishment amounting to 220 million won. By credit rating, loans extended to medium-rated companies (grades 4-6) account for 58.8%[4] of the total loans extended.The volume of loans (outstanding) extended under the Support Program for Small Businesses recorded 2.9 trillion won. 24,571 establishments are funded by the program, with the average loans per establishment amounting to 120 million won. Loans extended to medium-rated companies (grades 4-6) accounted for 41.5%.

Loans extended under Support Program for SMEs Affected by COVID-19 and Support Program for Small Businesses



Source: Bank of Korea.

(Background to strengthening Support for Vulnerable Sectors Affected by COVID-19)

In 2021, SMEs in the manufacturing sector have shown a solid trend of recovery driven by increased exports and facilities investment, while those in the service sector showed a limited recovery due to the resurgence of COVID-19. Face-to-face services such as food and accommodation services and personal services have been especially slow to recover.

Changes[1] in Index of Services[2] by sector

(%)

	2020				2021		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Services	-2.0	-4.5	-3.4	-4.7	0.3	5.0	3.4
Food and accommodation	-16.5	-16.9	-15.6	-24.6	-13.1	1.5	-1.3
Leisure services	-22.2	-40.2	-33.1	-33.3	-18.0	20.6	7.3
Personal services	-9.9	-7.4	-5.0	-10.4	-1.8	0.3	-0.4

Notes: 1) Year on year.
2) Services are based on SMEs, while the subcategories also include large companies.
Source: Statistics Korea.

Particular after social distancing rules were tightened in July due to the spread of the Delta variant, sales declined significantly[5] centering on face-to-face services, while economic sentiment of small businesses deteriorated. Amid an economic slowdown with fixed costs (i.e. labor costs, rents[6]) continuing to pose a burden, it was expected that difficulties would increase

4) The share of loans extended under the Support Program for SMEs Affected by COVID-19 and under the Support Program for Small Businesses by credit rating at end-September 2021 are as follows:

(%)

	High-rated (grades 1-3)	Medium-rated (grades 4-6)	Low-rated[1] (grades 7-10)
Support Program for SMEs Affected by COVID-19	10.4	58.8	30.8
Support Program for Small Businesses	19.6	41.5	38.9

Note: 1) Unrated companies included.

further for small businesses and the self-employed, who usually run businesses in face-to-face service sectors and are in poor financial shape.

Business survey index for small businesses[1)]

	2021				
	May.	Jun.	Jul.	Aug.	Sep.
Total	55.8	53.6	32.8	34.8	57.6
Restaurants	54.7	55.5	25.4	29.4	51.6
Personal services	55.5	46.9	22.5	26.8	54.8
Services & entertainment	47.6	46.2	25.1	22.7	44.3

Note: 1) Small business owners are surveyed about their business sentiment on a scale of 0 to 5, which is given a weighting of 0 to 200. The answers are then weight-averaged. If the index is higher (lower) than 100, it implies the perceived business conditions have improved (worsened) compared to the previous month.
Source: Ministry of SMEs and Startups.

Meanwhile, the Bank of Korea has been pursuing a smooth normalization[7)] of its monetary policy stance, which was made more accommodative last year in response to COVID-19 crisis. In August 2020, the Bank raised[8)] its Base Rate from 0.50% to 0.75%. This was expected to negatively affect financing by small businesses and the self-employed and increase their interest burden.

Such changing conditions led to an increased need to deal with difficulties suffered by vulnerable sectors, including small businesses and the self-employed, in a preemptive and targeted fashion. Against this backdrop, the Bank came up with plans to strengthen financial support for these groups through the Bank Intermediated Lending Support Facility.

(Key aspects of enhanced Support for Vulnerable Sectors Affected by COVID-19)

As of October 2021, both the Support Program for SMEs Affected by COVID-19 and the Support Program for Small Businesses were strengthened in terms of extended operation period, changes in the operation method, and increased ceilings.

First, the operation of each program, scheduled to be terminated at end-September 2021, was extended by another six months, to the end of March 2022. The scope of beneficiaries of the programs has been changed[9)] from any SME or small business to those operating in the services sector. Moreover, unlike on previous occasions, receiving benefits from both programs is now possible[10)] under the revised plan. The ceiling on the Support Program for Small Businesses for small businesses affected by the COVID-19 was raised by 3 trillion won.

5) Nationwide records for credit card use show that sales at restaurants, one of the most face-to-face service sectors, declined by 20.6% in July and by 21.2% in August 2021, year-on-year. (source: Credit Finance Association)
6) In 2019, 79.3% of small businesses were renting their establishments, with the average monthly rent at 1.27 million won. (source: Ministry of SMEs and Startups)
7) The Bank of Korea ended the corporate bond-backed lending facility in February 2021 and stopped extending new loans to the SPV established to purchase corporate bonds and commercial paper in July 2021. Starting with the Base Rate hike in August, the Bank has been gradually adjusting its monetary policy accommodation.
8) On November 25, 2021, the Bank conducted its second Base Rate hike of 0.25 percentage points (0.75%→1.00%), following the first round in August.
9) For the Support Program for SMEs Affected by COVID-19, General Managers of the Bank of Korea's regional branches can add establishments other than those operating in the services sector as beneficiaries of the program when such support is deemed inevitable based on the assessment on economic/business conditions.
10) In the past, receiving dual benefits from both programs was not allowed.

Key aspects[1)] of enhanced support measures for vulnerable sectors affected by COVID-19

	Support Program for SMEs Affected by COVID-19[2)]	Support Program for Small Businesses
Target	SMEs and small businesses affected by COVID-19	Small businesses affected by COVID-19
Total ceiling	13 trillion won (unchanged)	6 trillion won (increased by 3 trillion won)
Sectors	Services[4)]	Services
Operation period[3)]	~Mar. 31, 2022	
Support ratio	50-100% of loans	100% of loans
Ceiling per business	500 million won (unchanged)	300 million won (unchanged)
Others	Ban on dual benefits abolished	

Notes: 1) Key aspects of the program revised on September 9, 2021.
2) Some details including target sectors and amounts differ across regional branches.
3) Based on loan extension by financial institutions.
4) Other sectors can be added depending on regional conditions.
Source: Bank of Korea.

The extension of operation period was a measure taking into account the possible financing difficulty arising from the termination of both programs and increased lending rates that SMEs and small businesses could face. As provision of loans under the two programs had begun since March and October 2020, respectively, these loans have become available for banks to use when the existing loans come due thanks to the extended operation period of the programs.

Changing the operation scheme was aimed at enhancing targeted support for the service sector hit increasingly hard by the pandemic. The increase in the ceiling was intended to expand the availability of funds and alleviating the interest burden for small businesses whose economic hardship was expected to aggravate from the prolonged strict social distancing measures.

Meanwhile, the Bank of Korea kept the interest rate on loans extended under the Bank Intermediated Lending Support Facility unchanged, despite its Base Rate hike. This was aimed at preventing the Base Rate hike from leading to an increase in the interest burden for vulnerable sectors. With the interest rate under the facility unchanged, banks are able to finance at relatively low interest rates, and thus the increase in interest rates on related bank loans is likely to be limited.

(Expected effects and assessment)

As examined above, the strengthened financial support measures by the Bank of Korea are expected to contribute to preventing a contraction in financial access by small businesses and SMEs, and to maintaining the benefits[11)] of lower interest rates for them. In particular, limiting the beneficiaries to the services sector is likely to help greatly to ease financial difficulties faced by small businesses and SMEs that have been hit hard by the prolonged social distancing measures. Furthermore, the Bank of Korea's enhanced support can be assessed to be of significance in that it also plays a role of providing targeted support to sectors, particularly the vulnerable ones, through micro-level credit supply instruments at a time when the Base Rate is being increased, which has far-reaching effects throughout the overall economy.

The Bank of Korea will continue to thoroughly monitor the developments of COVID-19 and subsequent changes in financial and economic conditions for vulnerable sectors as well as their funding conditions, while improving the operating methods with a view to ensuring smooth credit supply to those sectors.

11) Monitoring of commercial banks shows that lending rates for SMEs and small businesses affected by COVID-19 ranged between 1.56 and 3.02% in September 2021 (new loans basis). It was found that the Bank of Korea's financial support aided in lowering average lending rates on bank loans to these establishments by 37~185bp.

III

Future Monetary Policy Directions

1. Growth and Price Forecasts[93]

Domestic economy projected to continue solid trend of growth

GDP growth is forecast to record around 4.0% in 2021 and around 3.0% in 2022.[94][95] The economy is expected to sustain a solid growth trend, as exports are expected to continue increasing, backed by the resumption of economic activities at home and abroad, and the trend of recovery in consumption is expected to accelerate.

By sector, the recovery of private consumption is projected to accelerate thanks to the government's transition of COVID-19 policy toward a gradual return to normalcy. Household income is expected to increase gradually as self-employed businesses improve and employment conditions continue their recovery trend. Consumer sentiment is also projected to maintain a favorable trend, on the back of expectations for returning to normalcy. Consumption in face-to-face services has been leading a recovery in consumption as it has rebounded rapidly on easing restrictions on business operations and declines in remote working. Consumption of goods is expected to sustain its recovery trend as expenditures related to outdoor activity items, such as clothing, increase and the sales of passenger cars improve. Private consumption abroad is projected to improve gradually as overseas travel resumes with less stringent preventive measures in effect at home and abroad. The support measures by the government are also expected to back up the recovery in consumption in the future.

Facilities investment is expected to show moderate growth, supported by economic recovery at home and abroad and by the easing of disruptions in car production. Large-scale investment is projected to continue in the IT sector, led by semiconductors and displays, while investment in the non-IT sector is forecast to increase on the back of the global economic recovery and the buildup of new growth industries. Investment in intellectual property products is expected to continue growing moderately as well. R&D investment is projected to expand, thanks to increasing corporate earnings based on the economic recovery. Investment in other intellectual property products is also expected to continue its upward trend, led by software-related investment as the demand for IT services continues to grow and digital transformation accelerates. Construction investment is projected to show gradual recovery as civil engineering is likely to increase while building construction con-

93) This section is based on the Bank of Korea's *Economic Outlook Report* released on November 25, 2021.

94) The GDP growth forecasts for 2021 and 2022 (4.0% and 3.0%, respectively) remain unchanged from the August forecasts.

95) The current economic outlook is based on the following assumptions associated with the scenarios of COVID-19 developments. Restrictions on economic activities will be gradually lifted as vaccinations expand across the globe, and the pace of easing will vary by country. Advanced countries are expected to see easing of restrictions on economic activities continue from the second half of 2021 into 2022. In emerging economies, restrictions on economic activities are expected to be lifted gradually after next year with widespread vaccinations. The current outlook presumes that the easing of restrictions on economic activities in Korea will continue from the current year-end into next year as well.

tinues its trend of improvement. With regard to residential building investment, housing construction volume is projected to increase thanks to favorable orders and increases in new construction starts. Non-residential building investment is expected to grow, led by commercial building construction. Civil engineering investment is forecast to shift to an increase, backed by the increase in the SOC budget execution.

Although exports are expected to grow at a slower pace year-on-year due to a base effect, they are likely to maintain a favorable trend on the back of the global economic recovery. The current account surplus is forecast to widen this year, but shrink next year. The goods account surplus for this year is expected to contract compared to the previous year due to rising oil prices, and the services account deficit is likely to narrow owing to rising ocean freight rates and decreased overseas travel. The primary income account surplus is forecast to increase significantly, led by overseas dividend and interest income. The services account deficit is projected to widen further next year with the partial resumption of cross-border travel for Korean nationals.

There are high uncertainties on the future growth path. The upside risks include a quicker resumption of economic activities in line with the easing of preventive measures across the globe, rapid expansion of vaccinations in EMEs, and early resolution of global supply disruptions. Among the downside risks are intensified spread of COVID-19 in winter at home and abroad, prolonged global supply disruptions and slower growth of the Chinese economy.

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

(YoY, %)

	2020	2021			2022e			2023e
	Year	H1	H2e	Yeare	H1	H2	Year	Year
GDP	-0.9	4.0	4.0	4.0	3.0	3.1	3.0	2.5
Private consumption	-5.0	2.4	4.7	3.5	4.1	3.2	3.6	2.5
Facilities investment	7.1	12.6	3.9	8.2	-0.5	5.5	2.4	1.5
Intellectual property products investment	4.0	4.0	4.1	4.1	4.1	3.7	3.9	3.8
Construction investment	-0.4	-1.5	0.1	-0.7	2.1	3.1	2.6	2.1
Goods exports	-0.5	14.4	3.5	8.5	1.9	3.3	2.6	2.5
Goods imports	-0.1	12.5	7.8	10.1	2.4	3.7	3.1	2.6

Notes: 1) Figures are the forecast as of November 2021.
Source: Bank of Korea.

Consumer price inflation projected to exceed the August forecast

Consumer price inflation is projected to exceed the August forecast (2.1%) and to record 2.3% in 2021, as inflationary pressure on the demand side has increased gradually and international oil prices have increased at faster rates than initially anticipated. It is forecast to be around 2.0% in 2022, running above the August forecast (1.5%), as inflationary pressure on the demand side is likely to increase due to economic recovery and the effects of global supply bottlenecks are likely to be partly reflected in durable goods prices. Core inflation excluding food and energy prices is forecast to be generally coincide with 1.2%, the previous forecast value, and to rise to 1.8% in 2022, which is far higher than this year's, owing to the rise in inflationary pressure on the demand side.

In terms of overseas factors affecting prices, international oil prices have risen to around 80 dollars since October, and grain prices have fluctuated at high levels, led by corn and wheat, affected by rising fertilizer prices. The Korean won/US dollar exchange rate has risen on concerns over early normalization of monetary policy by the US Federal Reserve. As for domestic factors affecting prices, the extent of the negative output gap is forecast to narrow. Inflation expectations of the general public (one-year ahead) have risen to the mid- to upper-2% level and nominal wages have exhibited larger growth due to improved corporate profitability and increases in special wages. Looking at other factors, the upward trend in agricultural and livestock product prices has decelerated more slowly than initially expected. While downward inflationary pressure from the expansion of free high school education will decrease in terms of the government policy side, the base effect from the telecom subsidy will dissipate amid the downward pressure exerted from the cut in the gas tax. The continued rise in leasehold (*jeonse*) deposits and monthly rents (new contract basis) is forecast to increase the extent of rise in housing rental fees.

There is a mix of both upside and downside risks to the future inflation outlook path. The upside risks include a sustained upward trend in energy prices such as prices of oil and natural gas, a stronger recovery in consumption in line with accelerated vaccinations and the transition of COVID-19 policy, and greater impacts of supply bottlenecks on inflation. Among the downside risks are a slow recovery in consumption caused by the pandemic resurgence in winter and a decline in energy prices including oil prices.

Table III-2. Inflation outlook[1)]

(YoY, %)

		2020	2021			2022^e			2023^e
		Year	H1	H2^e	Year^e	H1	H2	Year	Year
CPI inflation		0.5	1.8	2.8	2.3	2.3	1.8	2.0	1.7
Core inflation	CPI excluding food & energy	0.4	0.8	1.6	1.2	2.0	1.7	1.8	1.6
	CPI excluding agricultural products & oil	0.7	1.2	2.1	1.6	2.3	1.9	2.1	1.7

Note: 1) Figures are the forecast as of November 2021.
Source: Bank of Korea.

2. Major Considerations

Looking ahead, the Bank of Korea will operate its monetary policy while closely watching the impacts of domestic and external uncertainties on the economic growth and inflation forecast paths and paying attention to financial stability as well. In this process, the Bank will also carefully monitor the developments of COVID-19 at home and abroad, changes in growth and inflation from global supply disruptions, financial market trends as well as the possibility of an accumulation of financial imbalance risks.

Risks associated with growth trends at home and abroad

Major risk factors associated with the future growth path of the domestic and global economy are developments of COVID-19 and the subsequent responses, as well as uncertainties surrounding global supply disruptions.

Regarding the developments of COVID-19, its impact on the global economy appears to be weakening thanks to increased vaccination rates, easing of preventive measures, and learning effects. However, with the recent emergence of Omicron[96], a new virus variant, some nations have reinstated restrictions[97], resulting in an increase in related uncertainties.

In Korea, in addition to the greatly increased vaccination rate[98] and the Korea Disease Control and Prevention Agency's decision to ease some restrictions[99], the government shifted[100] its policy goal entering November to gradually return to everyday life. Due to these changes, private consumption quickly rebounded[101] after

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96) Omicron is a variant of COVID-19, first identified in the Republic of South Africa on November 9, 2021. It was designated as the fifth variant of concern, following alpha, beta, gamma, and delta (WHO, November 26, 2021). In response to this, major countries including the United States, the United Kingdom, Singapore, and Israel have reinstated their restrictions on entry into the country from South Africa and other nearby countries. As of December 3, 2021, Korea designated South Africa and eight other countries (Botswana, Zimbabwe, Namibia, Lesotho, Eswatini, Mozambique, Malawi, and Nigeria) as nations for heightened entry restrictions. In addition, all travelers entering Korea, including those fully vaccinated, are subject to mandatory two-week quarantine for a temporary period (December 3-16, 2021).

97) Instead of implementing comprehensive lockdowns against the recently spreading Omicron, nations such as the United States, the United Kingdom, and France have responded by expanding booster shots and COVID-19 testing. On the other hand, the Netherlands reimposed lockdown measures on all citizens regardless of their vaccination status, effective as of November 13, 2021. Entry of all foreigners was banned in Israel for two weeks effective from November 28, and in Japan effective from November 30, 2021.

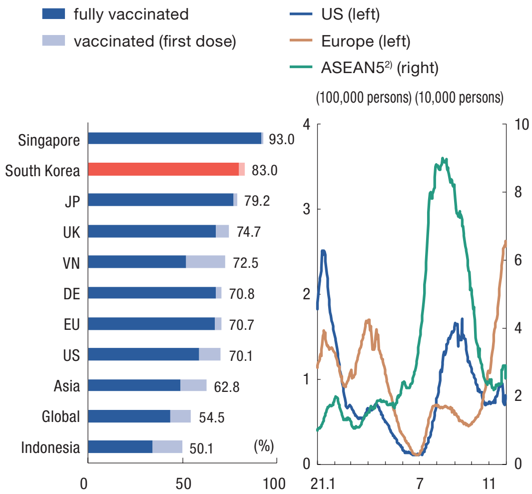
98) The government aimed at administering a second dose vaccine to 70% of the population by the end of October. On October 23, this desired target rate was achieved early, and as of December 3, 80.2% of the population is fully vaccinated against COVID-19.

99) The government eased the restriction on social gatherings for two weeks starting from October 18, 2021 (6→8 persons for Seoul Metropolitan area, 8→10 persons for other areas).

100) The government's plan of gradual return to normalcy, effective from November 1, 2021, targets a gradual return to everyday life for those who are fully vaccinated, while seeking to control the spread among those who have not been vaccinated. Based on this plan, the preventive measures implemented by the government will be phased out in three stages (stage I: ease restrictions on multi-use facilities, stage II: permit large public events, stage III: lift social gathering limit), and the decision to move to the next stage will be made after four weeks of operation and two weeks of assessment (Central Disaster and Safety Countermeasures Headquarters, October 29, 2021).

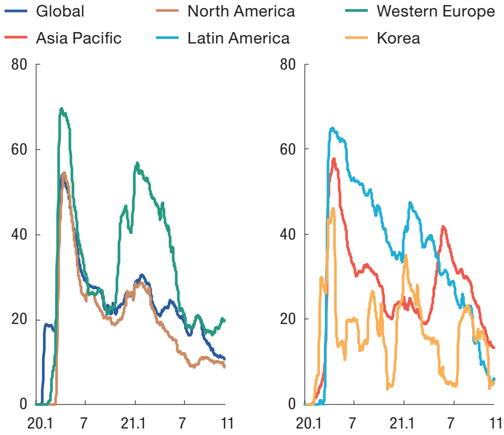
remaining sluggish for quite some time since the fourth wave of the pandemic. However, as the number of new and severe cases rose[102] since mid-November due to increased activities, the restrictions have been tightened [103] again, causing the uncertainties surrounding consumption recovery to escalate slightly.

Figure III-1. COVID-19 vaccination rate and new confirmed cases of major economies[1)]



Notes : 1) 7-day moving averages; as of November 30, 2021.
2) Indonesia, Thailand, Vietnam, Malaysia, Philippines
Source: Our World In Data.

Figure III-2. Effective Lockdown Index[1)2)]



Notes: 1) Effective Lockdown Index(ELI); 7-day moving average.
2) As of November 25, 2021.
Source: Goldman Sachs.

Although the global demand continued to improve, the recovery of supply chains has been slower than previously expected, working as a downward pressure to the domestic and global economies. Amid the persisting effects of production disruptions such as a delay[104] in semiconductor supply from resurgence of COVID-19 in EMEs, shipping delays also continued, owing to port congestion and limited ship supplies. As for employment, labor market participation recovery has been sluggish

101) Since the recent relaxation of preventive measures, there have been more distinct trends of improvement detected in the high-frequency indicators including people's mobility and credit card payments.

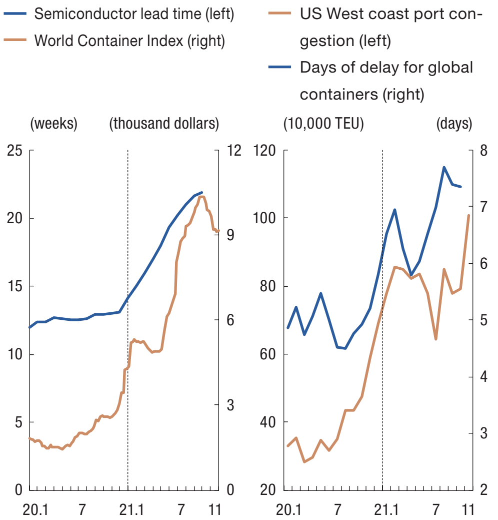
102) Number of new cases (persons, daily average of the period) : 1,712 in August → 1,995 in September → 1,723 in October → 2,751 in November → 5,111 on December 1-3, 2021.
Number of severe cases (persons, daily average of the period) : 336 in September → 333 in October → 493 in November → 731 on December 1-3, 2021.

103) On November 29, the government announced its decision to postpone a shift to the second stage of the return to normalcy and to impose heightened restrictions for four weeks as the number of new and severe cases as well as deaths all rose while the bed occupancy rate neared a critical level, particularly in the Seoul Metropolitan area. On December 3, a set of follow-up measures was announced to further tighten the restrictions including those related to incoming travelers due to confirmed cases of the Omicron variant in travelers. Based on these measures, the private gathering limit was tightened regardless of vaccination status from 10 to 6 persons for the Seoul Metropolitan area and from 12 to 8 persons for other areas, while expanding implementation of vaccine passports to restaurants, cafes, and public indoor venues.

104) The semiconductor lead time, i.e. the time taken from order to delivery, remained long.

in major economies, along with mounting concerns over unstable supply and demand of energy. In particular, the supply shortage of car chips is holding back production normalization of the domestic automobile industry, causing automobile exports to decline.

Figure III-3. Semiconductor lead time, shipping freight and container backlogs at major ports



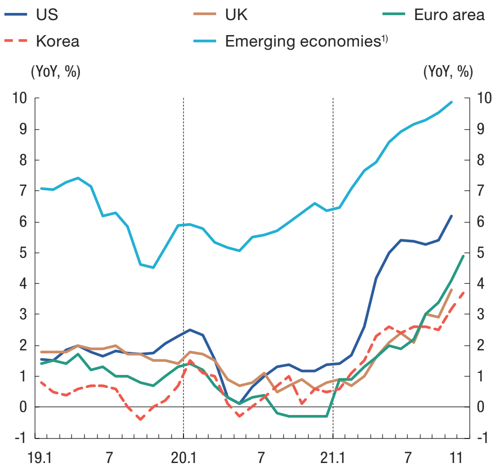
Sources: Susquehanna Financial Group, Bloomberg, Clarksons, and Sea-intelligence.

Consumption is expected to continue recovering going forward, as the vaccination rate increases and restrictions on economic activity are lifted globally, while preventive measures related to COVID-19 also change in Korea. Global supply bottlenecks are forecast to steadily ease after next year, as production disruptions are addressed in EMEs, production and distribution are adjusted, and investment grows. However, there still are high uncertainties related to COVID-19, including a substantial increase in the number of new cases in Korea and the emergence of highly contagious new variants such as Omicron. Given that the global supply disruption could possibly persist for some time, close attention will be paid to developments of COVID-19 at home and abroad, and the pace of easing in global supply bottlenecks.

Inflationary pressures expanded

As the global economy recovered rapidly from the COVID-19 shocks, most economies saw a surge in inflation, causing the global inflation to remain high.[105] Inflation rate in each country has been running well above its central bank's target[106], with the US CPI inflation continually exceeding 5% since May 2021.

Figure III-4. Developments of CPI inflation rate in major economies



Note: 1) Simple average of India, Brazil, Russia, Mexico, and Turkey.
Sources: Statistics Korea, U.S. Bureau of Labor Statistics, FRED, Bloomberg.

105) The CPI inflation calculated based on a GDP-weighted average of major 34 countries showed that the recent global inflation rate stood at the highest level since 2008.

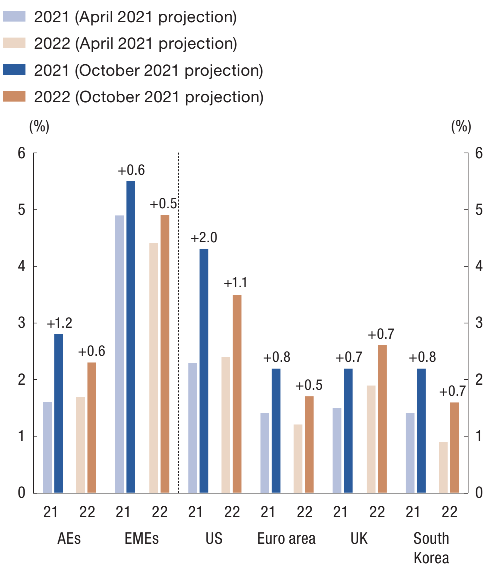
106) The CPI of the euro area and the United Kingdom in October recorded 4.1% and 3.8% respectively, both greatly exceeding the 2% targets set by their central banks.

Such rise in inflation is mainly attributable to cost-push shocks including a step up in international commodity prices compounded by supply and demand imbalances caused by supply disruptions. Regarding the imbalances between supply and demand, the demand for goods and services expanded, spurred by growing energy demand following global economic recovery, reopening of economies and government support programs. On the other hand, supply was unable to meet the increased demand due to labor supply shortages in advanced economies, production disruptions in manufacturing sectors (e.g. semiconductors) and shipping delays, thereby creating inflationary pressures.

Moreover, global commodity prices are causing inflation to accelerate, driven by a spike in energy and steel prices due to oil supply shortages and increased investment in new, green sectors. Oil and coal is in short supply owing to a transition to carbon neutrality and reduced investment, with a worsening imbalance between supply and demand for natural gas, an intermediate fuel. In addition, the steep rise in agricultural prices is expected to continue, affected by extreme weather and harvest labor shortage.

Amid concerns over weakening structural factors that cause low inflation, such as globalization, another possible development that cannot be ruled out[107] is the transition to a low carbon, green economy working as a long-term inflationary pressure. As global commodity demand persists and normalization of global supply chains is delayed due to for example a slow recovery of labor supply from the resurgence of COVID-19, some experts say that inflationary pressures could possibly be prolonged. Inflation risk is gradually rising[108] in the assessments of major central banks, while international financial organizations are repeatedly adjusting their inflation outlooks upward.

Figure III-5. Changes in IMF projections on prices in major economies[1)]



Note: 1) Figures refer to the magnitude of forecast adjustment (April 2021→October 2021).
Source: IMF.

107) Global value chains have been weakening amid trade frictions among major economies, policies centering on domestic job creation, and reshoring policies being accelerated in major countries while the transition to a low carbon economy could act as a structural factor behind escalating inflationary pressures by increased investment in environmentally friendly industries and commodity demand as well as increasing costs for carbon intensive industries.

108) At the ECB Forum held on September 29, 2021, Chairman Powell forecast that inflationary pressures would remain longer than expected as supply shortages continue into next year.

Affected by such developments, domestic inflation is also running high, above the 2% target. The recovery in consumption demand strengthened thanks to the transition of COVID-19 policy, while inflationary pressures caused by global supply bottlenecks are steadily translating into price hikes of, for example, energy and livestock, albeit to a less significant degree compared to other advanced economies. Attention[109] should be paid to inflationary pressures possibly being sustained for significant period if inflation expectations become unstable[110] from prolonged supply bottlenecks. In addition, given the very high uncertainties related to COVID-19 developments as seen in the recent resurgence, their impact on prices must be closely monitored.

Impact of changes in monetary policy stances of major economies on financial markets

The domestic and global financial markets showed heightened volatility with long-term market rates fluctuating considerably, influenced by economic and inflation conditions in major economies and the resulting possibility of changes in their monetary policy stances.

Looking first into the current status of monetary policy around the world, as the global economy continues to recover and the rate of inflation accelerates in most countries, a growing number of countries have either started reducing the degree of monetary accommodation or have signaled that they will do so, in consideration of macroeconomic conditions as well as country-specific conditions, such as concerns over financial imbalances and capital outflow risks. The US Federal Reserve announced a plan[111] to re-

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109) In terms of labor supply, the supply-demand imbalance is relatively high in major advanced economies including the United States and the United Kingdom, with the number of job openings recording historical highs, whereas the imbalance in Korea is not as significant, indicating rather limited inflationary pressures from the wage side.

110) Inflation expectations of the general public (one-year ahead) increased to the mid-2% level in August 2021, and hit 2.7% in November.

111) At the November FOMC meeting (November 2-3), the US Federal Reserve decided to keep the range of the Federal Funds rate unchanged, and to slow their monthly purchases of Treasury bonds by 10 billion dollars and mortgage-backed securities by 5 billion dollars.

112) In an appearance before a Senate Banking Committee hearing (November 30), Chairman Powell said the risks associated with continued inflation had increased, and expected that policymakers would discuss accelerating the timetable for tapering by a few months at the December FOMC meeting, given the economic recovery trend and high inflationary pressures.

113) The Bank of Canada began reducing its asset purchase program last April, and decided to end its purchases in October in consideration of, for example, inflationary pressures.

114) The Reserve Bank of New Zealand raised the Official Cash Rate (OCR) by 25bp at the October Monetary Policy Committee (October 6), and further raised the rate by 25bp at the November meeting (November 24).

115) Norges Bank raised the policy rate by 25bp in September (September 23) and decided to leave the rate unchanged in the November Monetary Policy Committee meeting (November 4), clearly implying the possibility of another rate hike in December considering the strengthened economic recovery and heightened inflationary pressures.

116) In July 2021, the Reserve Bank of Australia reduced its weekly asset purchases by 1 billion AUD (5 billion AUD → 4 billion AUD).

duce its asset purchases (tapering) at the November FOMC meeting, and flagged[112] at the end of November a possible discussion at the December FOMC meeting on wrapping up tapering early. Among advanced economies, Canada[113], New Zealand[114], Norway[115], and Australia[116] began adjusting their policy by, for example, reducing asset purchases or raising the benchmark rate. The Bank of England has also implied[117] raising the policy rate in the near future. Among EMEs, Russia, Turkey, and countries in South America and Eastern Europe have raised[118] their benchmark rates considerably.

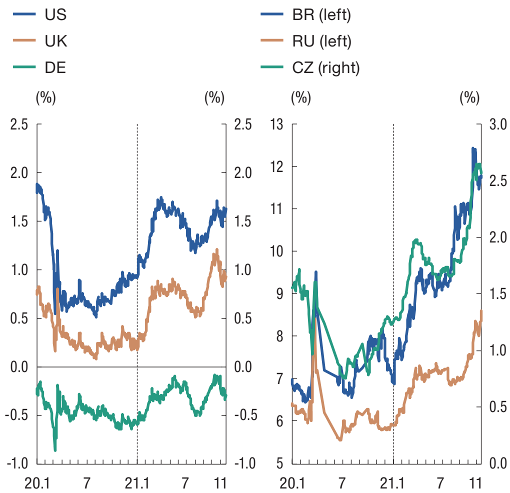
Table III-3. Starting Point of Reduction in Monetary Policy Accommodation of Major Countries[1]

	2021			
	Q1	Q2	3Q	4Q
Policy rate hike	RU (325), BR (575), TR (675)[2]	HU (150), MX (75), CZ (250)	NO (25), CO (75), CL (225), PE (175)	NZ (50), PL (115)
Reduction and/or termination in QE		CA	AU, NZ	US
'Taper coming soon' signaled				UK, IL, ZA
No further adjustment expected	Euro area, JP, SE, CH, CN, TW, PH, MY, VN, TH, IN			

Notes: 1) Numbers in parentheses are the margin of net interest increases since the beginning of policy rate hike, in bp.
2) Raised the policy rate since September 2020.
Source: Bank of Korea.

In line with these movements, volatility in the international financial market heightened slightly, particularly in long-term interest rates. In advanced economies, long-term rates fell back amid the resurgence of COVID-19, after rising sharply in September on expectations of reduced monetary policy accommodation. Long-term interest rates in emerging market economies have also shown repeated fluctuations. Stock prices in advanced economies declined in September on expectations of the US Federal Reserve's looming tapering, but rose in October driven by strong corporate performance. Stock prices in emerging market countries fell after September amid the liquidity crisis involving China Evergrande Group, but they increased during November affected mainly by developments in advanced markets.

Figure III-6. Long-term market interest rates[1] in major AEs and EMEs



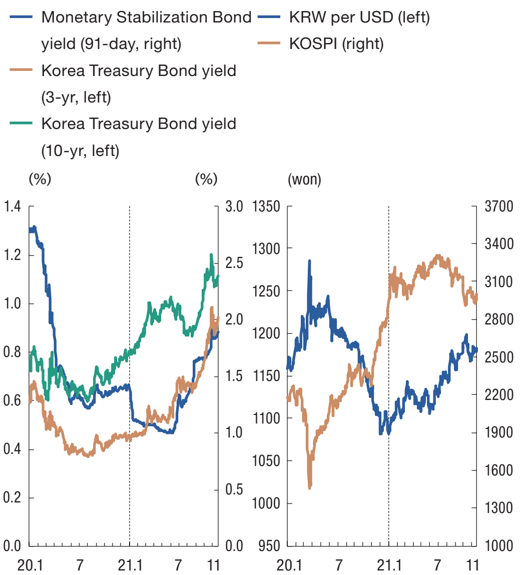
Note: 1) 10-year Treasury bond yields.
Source: Bloomberg.

117) At the November Monetary Policy Committee (November 4, 2021), the Bank of England decided to keep the Bank Rate (0.1%) and the amount of asset purchases unchanged, stating an interest rate hike could be needed within a few months in response to the high inflation.

118) After raising the interest rate by 1,075bp between September 2020 and March 2021, Turkey cut its rate by 400bp between September and November 2021 in consideration of domestic demand contractions caused by high interest rates. Brazil (575bp), Russia (325bp), and Czech Republic (250bp) raised their interest rates significantly, in view of economic recovery and escalated inflationary pressures.

The domestic financial market generally remained stable, albeit with slightly heightened volatility. Short- and long-term market interest rates rose overall, on expectations of further upward adjustment to the Base Rate and of changing monetary policy stances of major countries. Domestic stock prices declined, affected by concerns about global supply disruptions and inflation, and by shifts in domestic and foreign monetary policies. The Korean won/US dollar exchange rate climbed slightly, showing fluctuations within a narrow range.

Figure III-7. Treasury bond yields, KRW/USD exchange rate and stock prices



Sources: Bank of Korea, Korea Financial Investment Association, Korea securities compution corporation.

Going forward, monetary policy normalization in major economies is expected to proceed in line with their economic conditions, affecting the financial market. Given Korea's solid external soundness, strong demand for domestic securities by foreign investors, and still accommodative monetary policy stances in major economies, however, massive capital outflows leading to financial market unrest is not very likely.

However, if monetary normalization in major economies accelerates due to factors such as persisting global inflationary pressures, the possibility of high financial market volatility cannot be ruled out. In this regard, close attention must be paid to related risk factors.

Housing market and household debt conditions

Given the continued uptrend in housing prices and strong demand for mortgage loans amid moderate decline seen in the growth of housing prices and household debt, it is assessed that careful attention still needs to be paid to the risks of accumulating financial imbalances.

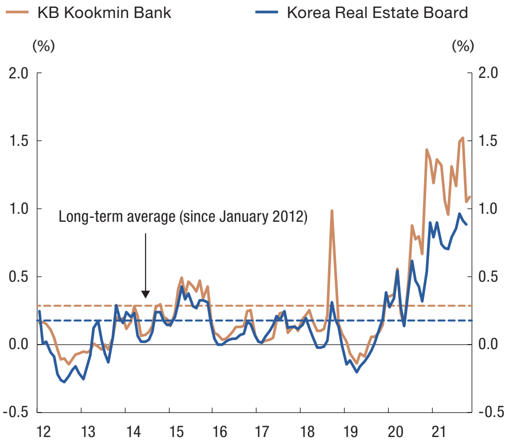
Housing sales prices, having exhibited strong growth since 2020, have risen at a modestly slower pace, affected by the government's recent tightening of lending regulations, rising interest rates, and burden about high housing cost. Expectations for price growth[119] and purchase sentiment[120] have also eased slightly. Given the sustained high growth in housing sales prices both in the Seoul Metropolitan area and other regions in Korea, however, the recent rate of increase itself still far exceeds the long-term average. Leasehold (*jeonse*) deposit prices continued to rise sharply, driven by a

119) After having recorded 129 in August, the housing price forecast CSI slightly declined to 116 in November but still remains at high levels, exceeding 100.

120) The Buyer-Seller Index for housing nationwide recorded 75.5 in November, declining for three consecutive months since August (114.8) to below 100, indicating that sellers outnumbered buyers.

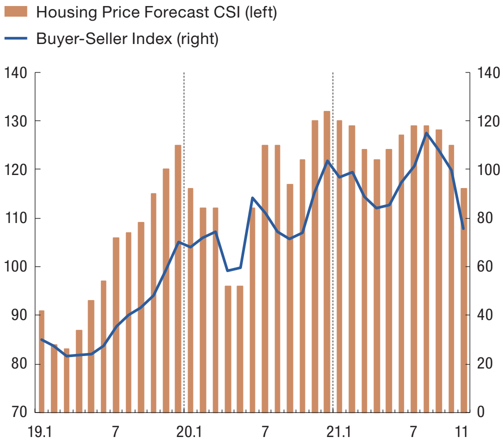
shortage of houses[121] for lease accompanied by the implementation of reporting requirements for housing leases and monthly rents and a higher property tax burden, as well as by increased demand from reconstruction-related moving and from those waiting to apply for new apartment subscription.

Figure III-8. Housing price growth[1)]



Note: 1) Month-on-month.
Source: Korea Real Estate Board and KB Kookmin Bank.

Figure III-9. Housing price forecast CSI and Buyer-Seller Index



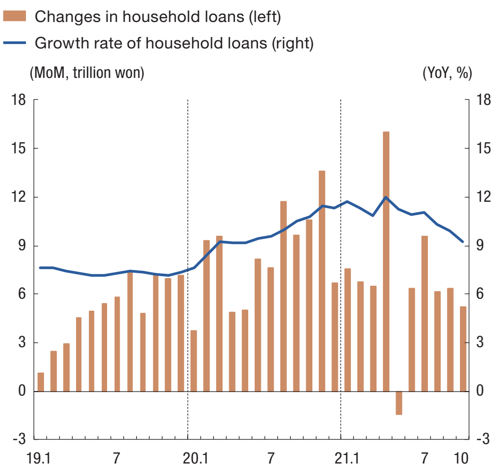
Sources: Bank of Korea, KB Kookmin Bank.

The growth in household lending has decelerated moderately, affected by the strengthened control over housing price growth by the government and financial institutions, and by rising interest rates. Growth in other loans including unsecured loans slowed significantly, as the ceilings on bank lending were reduced[122] and lending rates rose. Housing-related loans also grew at a slower pace, albeit to a lesser extent due to the continuing demand for funds for housing purchases and leasehold (*jeonse*) deposits. Growth in household loans by non-bank depository institutions decelerated modestly, led mainly by mutual credit cooperatives.

121) The Supply and Demand Trends Index for Leasehold Market for all housing types nationwide stood at 112.6 in October, slightly down from the month before (115.3), but was still higher than 100, indicating that demand still outweighed supply (source : Korea Real Estate Board).

122) The ceilings on unsecured loans were reduced to the level of borrowers' annual income (50 million won for overdraft line of credit), and interest rate spreads on unsecured loans were raised significantly.

Figure III-10. Household loans growth rate and changes



Note : 1) Including mortgage transfers; based on depository institutions.

Source : Bank of Korea.

Household loans are likely to maintain their current slower growth for the time being, in consideration of the tight debt management at financial institutions and off-season seasonality in the housing market. The stronger household debt management[123] measures such as the new DSR regulation, which will be implemented earlier than scheduled next year, will continue to help curb household debt growth. However, given that home mortgage demand is still high, and leasehold (*jeonse*) deposit and group loans which are less impacted by regulations are likely to continue to grow[124], it remains to be seen whether this slowing trend will continue beyond next year.

While household debt and housing prices have recently grown at modestly slower paces, high uncertainties linger over the continuity and intensity of such trend. In this regard, the Bank of Korea will need to keep paying attention to the risk of a buildup of financial imbalances, as well as closely monitoring related developments.

123) The Financial Services Commission announced a set of measures aimed at strengthening household debt management (October 26), which includes moving up the implementation of the second and third stages of the debt service ratio (DSR) regulation on individual borrowers (effective from January and July 2022, respectively), implementing a tougher DSR regulation for non-bank financial institutions, and tightening the annual target growth of household debt (from 6% in 2021 to the 4-5% level in 2022).

124) Leasehold (*jeonse*) deposit loans will not be subject to the DSR regulation of the household debt management scheme in consideration of those in actual need of borrowing. Group loans are also expected to show solid growth given the number of new apartment units sold and the government's new housing supply policy.

3. Future Monetary Policy Operational Directions

Base Rate operations

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

The Bank of Korea will appropriately adjust the degree of monetary policy accommodation as the Korean economy is expected to continue its sound growth and inflation to run above the target level for a considerable time, despite underlying uncertainties over the virus. In this process the Bank will judge when to further adjust the degree of accommodation while thoroughly assessing developments related to COVID-19, changes in the pace of growth and inflation, the risk of a buildup of financial imbalances, and monetary policy changes in major countries.

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 to increase the transparency and predictability of monetary policy. In the course of appropriately adjusting the monetary policy stance, the Bank will reduce the accommodation of monetary policy, which had been exceptionally accommodative in response to the COVID-19 pandemic, in tandem with economic improvements. Throughout this process, it will devote efforts to bring market expectations of economic agents in line with its policy intention, by smoothly communicating its assessment of macroeconomic and financial stability conditions and other important considerations in its monetary policy decisions. In addition, given that the consumer price inflation has recently exceeded its target level (2%) considerably, and the inflation expectations of the general public have risen, the Bank will closely examine the conditions surrounding its inflation target operations and faithfully communicate its assessments with the public and market participants. Furthermore, the Bank will continuously seek ways to effectively operate monetary policy instruments, including the Bank Intermediated Lending Support Facility and open market operations.

Meanwhile, the Bank will also continue its efforts to examine and improve the current monetary policy framework over a medium- to long-term horizon, considering the changing conditions for operating monetary policy given rapid shifts in economic conditions, and expectations for an expanded role of the central bank. The Bank of Korea will also analyze the structures of the economy, industries, and the labor market in the post-pandemic era, as well as technological and environmental changes, and strengthen its research on their implications for monetary policy.

Promotion of financial and foreign exchange market stability

The Bank of Korea will continue its efforts to maintain the stability of financial and foreign exchange markets. Domestic and international financial markets could respond sensitively to a number of factors such as developments associated with the pandemic and global supply disruptions, the consequent changes visible in economic and inflation trends, and shifts in monetary policies of major economies. With the above taken into consideration, the Bank will closely monitor major price variables and the flows of funds in the market. The Bank will also pay attention to the possibility of sudden adjustments in risk appetite and rapid shift in flows of global investment funds in response to changes in the monetary policy stances of major countries including by the US Federal Reserve. The Bank will implement market stabilization measures in a timely manner, should concerns over market turbulence heighten due to the changes in financial and economic conditions at home and abroad. Furthermore, when the current temporary measures to support the financial markets, adopted in an effort to cope with COVID-19, are set to expire, the Bank will decide whether to extend them after comprehensively evaluating their continued necessity and what effects their termination would have.

Maintenance of financial system stability

The Bank of Korea will examine the effects of changes in financial and economic conditions at home and abroad on the stability of financial system, and continue its early warning activities concerning potential financial sector risks. In particular, it will comprehensively examine changes in the financial imbalance conditions in the process of its policy response by assessing the impact that raising the Base Rate and stronger household debt management would have on credit and asset market conditions, financial cycle, and risk appetite. In addition, it will examine various channels of the financial and economic impacts of household debt growth, and evaluate their vulnerabilities. The Bank of Korea will also closely monitor the possible emergence of new forms of risks created amid rapidly changing financial and economic conditions, such as climate change and progress in digital financial innovation.

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