Executive Summary

Ⅰ. The Status of the Economy and the Growth Path

❑ Recently, major organizations have revised their economic growth forecasts for South Korea in the downward direction.

- ○ The Korean economy is highly likely to take a downturn, and the risk of a global economic slowdown is materializing.
- ○ On January 10, the World Bank significantly lowered its forecast for world economic growth by 1.3%p to 1.7%.
- ○ However, inflationary pressure is preventing governments from actively responding by adopting macroeconomic policies to boost the economy.
  - Increasing fiscal expenditures to stimulate the economy entails the risk of pushing up prices, while additional rate hikes aimed at keeping prices in check will probably plunge the economy into a steeper downward spiral.
- ○ In order to cope with these challenges, it is crucial to analyze the conditions of the overall economy including the real economy, financial and foreign exchange markets, and employment in a comprehensive manner.

❑ The Korean economy is forecast to grow more slowly than initially expected in 2023.

- ○ The recent economic slowdown is largely attributable to the global economic slowdown and the resultant weaker exports.
- ○ Monetary tightening in response to inflation has caused interest rates to rise sharply in major economies.
- ○ The Korean economy has probably been caught in a phase of contraction since reaching a peak in the third quarter of 2022.
- ○ The Korean economy is expected to expand by 2.5% to 2.6% in 2022.
- ○ It is projected to grow less than initially forecast in 2023.
  - In October, 2022, the Nation Assembly Budget Office (NABO) expected the Korean economy to grow by 2.1% in 2023. However, most of the downside risks involved in the forecast have materialized, and the global economic growth forecast has also been revised in the downward direction.

❑ It is essential to work out new policy alternatives in order to overcome the expected challenges lying ahead.

- ○ In order to deal with the limits of macroeconomic policy tools, it is critical to conduct a comprehensive analysis of the overall economic conditions including the real economy, financial and foreign exchange markets, and employment.
- ○ It is highly advisable that the government use microeconomic policy options to tackle issues that are hard to work out with macroeconomic policies.
- ○ In the short term, the government needs to put a constant monitoring system in place and concentrate on managing risks, including emergencies in the short term, while focusing its resources on attracting more FDI in the long term.
  - For example, it is necessary to develop incentives to lure to Korea foreign capital that is showing signs of fleeing China.

❑ **The following analysis and the alternatives proposed below are based on the "Economic Policy Direction 2023" released by the government.**

○ First, the major risk factors facing the Korean economy in 2023 have been analyzed in depth.

- The timing for bringing down inflation has been determined, based on the judgement that eliminating inflationary pressure is the first step in improving the effectiveness of macroeconomic policies.
- The global interest rate has been forecast and potential risks have been identified, based on an analysis of the periods of monetary tightening by the Fed.
- The direction of fiscal policy in different countries since the outbreak of the Covid-19 pandemic has been reviewed in an international comparative analysis

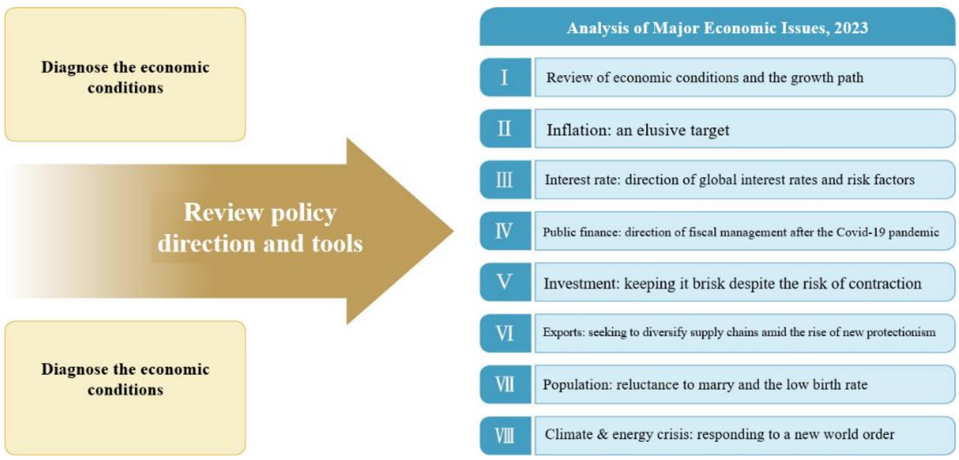
○ Attempts have been made to find ways to stimulate the economy with a focus on investments and exports.

- The possibility of shrinking corporate investment during an economic contraction has been analyzed in light of financial soundness.
- Ways of diversifying supply chains in order to boost exports have been also explored.

○ Finally, efforts have been made to find new growth strategies in light of the declining number of marriages, climate change, and the energy crisis.

- A close look into the reasons why Koreans are not getting married has helped work out ways of dealing with the population crisis.
- Climate and energy crisis: responding to a new world order.

[Goals of the Analysis of Major Economic Issues 2023]



II. Inflation: An Elusive Target

❑ **Whether or not the Korean economy makes a soft landing in 2023 will likely depend on how fast the rate of inflation is brought down.**

○ Global inflationary pressure rose significantly in 2022 due to a combination of factors including disrupted supply chains and rebounding demand.

○ Inflationary pressure has been decreasing since the second half of 2022 as a result of the policy interest rate increases and stabilizing prices of raw materials, although the speed of decreasing inflationary pressure varies from country to country.

- Consumer prices still remain high and rising due to steep increases in oil prices and higher utility prices.

○ It is necessary to forecast when inflation should be brought down by conducting an empirical analysis that includes factors that determine inflation, and to assess the impact on prices and fiscal health.

❑ **Domestic prices are expected to begin to stabilize in the 2% range in the fourth quarter this year.**

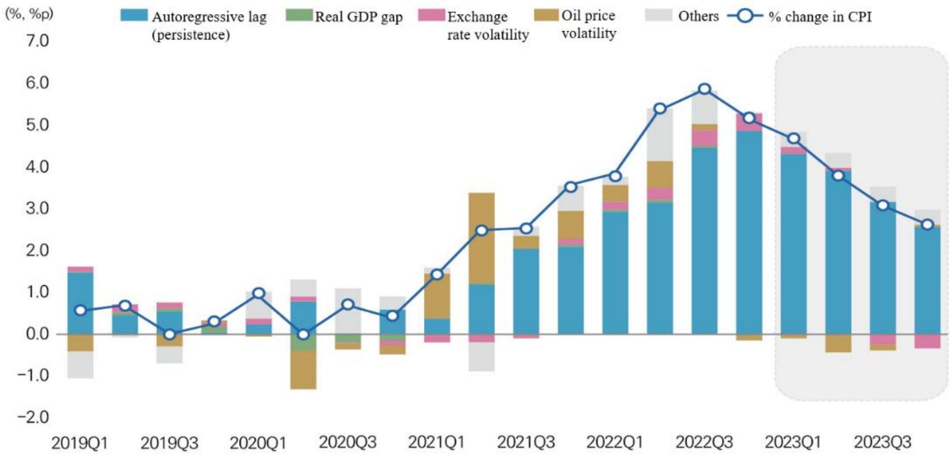
○ When inflation will go down in Korea depends on the prices of raw materials, easing of the disruption of global supply chains, the economic cycle and pressure on aggregate demand, the interest rate gap between Korea and the U.S., and volatility in exchange rates.

○ Consumer prices are forecast to stabilize in the fourth quarter of 2023 at the earliest according to the results of an analysis that used a model in which the aggregate demand gap, oil prices and exchange rates, and inflation persistence were taken into consideration.

- Inflation is projected to fall to around 2% in the fourth at the earliest - provided, however, that the price of a barrel of oil is USD 80 and the won-dollar exchange rate is 1:1,250.

- Expected inflation path(YOY, %): 4.7(Q1 2023)→3.8(Q2)→3.1(Q3)→ 2.7(Q4)

[Factors Contributing to Inflation and Expected Path]



Source: Estimate by NABO

❑ Inflation is expected to have a considerable impact on tax and key aggregate fiscal variables

○ Since taxes are imposed based on nominal taxable income, inflation can have a considerable impact on tax items

- Since taxable income or deductibles are not linked to inflation, such issues as an increased real tax burden and tax equity may arise - particularly if the rate of inflation rises at a rapid pace.
- The government revised the tax law in 2022 by adjusting some of the income tax brackets.

○ Inflation can lower the national debt to the GDP ratio in the short term by increasing nominal GDP.

- In the long term, however, it curbs growth by raising interest rates and deterring investment.

❑ Taking microeconomic policy measures is crucial to reach the inflation target in time.

○ Given that prices of services will likely keep inflation high for a while even if oil prices and the exchange rate stabilize, it is necessary to put in place microeconomic policy measures that will keep inflation in check and secure a stable supply of major items.

- Tax incentives for energy and for agricultural and dairy products need to be extended, while actions need to be taken to manage the demand and supply of these products in the first half of the year.
- In addition, it is necessary to monitor and manage public utility fees more tightly in the first half.

Ⅲ. Finance: Direction of Global Interest Rates and Risk Factors

❑ **South Korea and other major countries have raised their interest rates sharply in tandem with the Fed's hikes.**

○ In 2022, the Fed hiked the benchmark rate by 4.25%p, causing steep rate increases in South Korea and other major countries.

- The three-year Treasury bond rate rose by 1.9%p from 1.8% at the end of 2021 to 3.7%p at the end of 2022.

- The 10-year US Treasury bond rate jumped from 1.5% to 3.9%, the 10-year Eurozone government bond rate from -0.2% to 2.6%, and the 10-year Japanese government bond rate from 0.1% to 0.5% during the same period.

○ The persistence of rising global interest rates, and financial and asset market risks associated with rising interest rates have been reviewed.

❑ **Considering the Fed's monetary tightening policy, the trend of high and rising interest rates will likely continue for a while**

○ The quantitative tightening initiated by the Fed in June 2022 may limit the downside pressure on interest rates down the road.

- The possibility remains high that quantitative tightening will continue for a certain period of time, as the Fed will try to recover the USD 4.8 trillion in liquidity that it has provided for quantitative easing since the outbreak of the Covid-19 pandemic.

- Furthermore, there is a slim possibility that the Fed will approve steep rate cuts in 2023, because the recent rate hikes occurred at relatively shorter intervals than in the early 2000s, and because the inflationary pressure in the U.S. and elsewhere remains relatively high.

○ Nevertheless, rate increases by the Fed and the central banks of other major countries have been the major driver behind the steep rises in interest rates, but they may lose momentum in terms of gains and speed.

❑ **Rate hikes can have a negative impact on the economy via various routes.**

○ Steep rate hikes by the Fed can cause instability of foreign exchange markets in emerging economies and capital flight, as well as adding to the instability of our financial market.

- One analysis found that Turkey, Malaysia and Romania have a ratio of reserves to short-term external debt that is higher than the IMF-recommended 100%, indicating that the financial markets of these countries are vulnerable to external shocks.

○ An analysis of the correlation between interest rates and home prices against the backdrop of rising interest rates showed that there is a negative (-) correlation between the two.

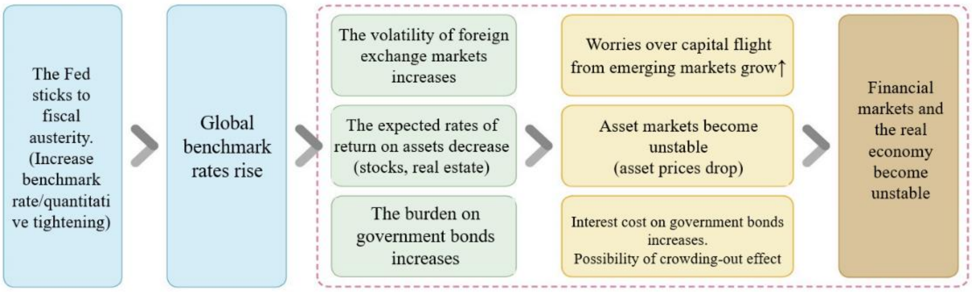
- This implies that if interest rates go up, downward pressure on home prices could increase.

- Given that government bond rates were on the rise in 2022, additional annual interest payments caused by the rate increase from 2021 are estimated to be KRW 2.3 trillion, based on the government bonds issued in 2022.

❑ It is necessary to enhance South Korea's capacity to respond to financial crises and manage financial risks.

- It is necessary to tighten the monitoring of foreign exchange markets and have a contingency plan in place in order to prevent a crisis in an emerging economy from spilling over to the domestic market by taking timely actions.
- Measures need to be sought to minimize the negative impact that a shrinking real estate market triggered by rising interest rates could have on the real economy.
- Actions also need to be taken to improve the environment for investing in government bonds and to foster the government bond market so as to reduce the burden of interest on government bond issuances.

[The Flow of Rate Hike Spillover to the Financial Market and the Real Economy]



Source: NABO.

Ⅳ. Public Finance: The Direction of Fiscal Policy after the Global Covid-19 Pandemic

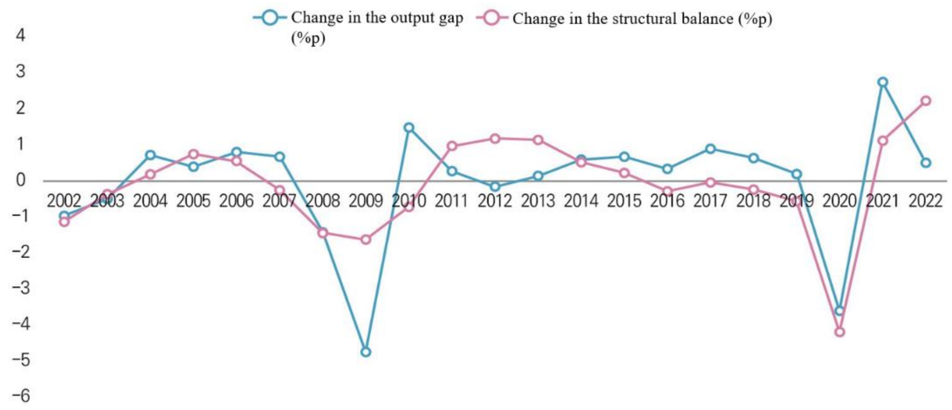
❑ The South Korean economy is expected to experience both a slowdown and high inflation in 2023.

- South Korea and other major countries are expected to enter an economic slowdown in 2023 amid global inflation and persistently high interest rates since the pandemic.
- Given worries over possible stagflation, the government has announced that its 2023 fiscal policy will focus on responding to the economic slowdown by maintaining financial health and closely monitoring the execution of fiscal policy.
  - The government implied that the direction of its fiscal policy would be to respond to the economic slowdown by implementing policy measures as early as possible while closely managing the execution of fiscal policies without increasing the aggregate.
  - This approach, however, could conflict with the conventional method of fiscal management which warrants fiscal expansion in times of economic slowdown.
- In this context, it is necessary for the government to review the direction of its fiscal policy by conducting case studies on the fiscal policies adopted by leading countries following economic crises, including the recent pandemic.

❑ Data show that leading countries have gradually shifted the direction of their fiscal policy in the wake of economic crises.

- Generally, advanced countries have shifted to fiscal expansion during an economic slowdown and to fiscal austerity during an economic expansion.
  - During the period 2001-2021, the majority of advanced countries actively responded to the changing phases of the economic cycle through fiscal policy, with changes in the output gap moving in the same direction as changes in the structural balance.
- Following the end of economic crises, however, they have tended to gradually shift their fiscal policy from expansion toward austerity.
  - During The Global Financial Crisis of 2008 and 2009, leading economies quickly switched their fiscal policy to expansion, followed by an extended period of fiscal austerity from 2011 to 2015.
  - Even though the economy recovered from the crisis and entered a phase of slowdown, they maintained fiscal austerity for a while in a bid to reduce the volatility of the economic cycle and keep inflation under control.

[Changes in the Output Gap and the Structural Balance in Leading Countries]



Note: Changes in the output gap and the structural balance refer to changes in the % of GDP.

Source: Compiled by NABO based on IMF data.

❑ **A cautious approach to fiscal management is necessary to ensure an effective response to the economic cycle and inflation control**

○ The economy is expected to grow at a slower pace in 2023, in a similar way to the way it did the early 2010s in the wake of The 2008-2009 Global Financial Crisis.

- Currently, the global economy and the Korean economy have entered a phase of slowdown after having gone through a recovery phase in the wake of the COVID-19 pandemic.

○ In 2023, it is necessary to focus fiscal management on responding to the economic slowdown and to gradually shift the direction of fiscal policy, bearing in mind the lesson that fiscal expansion can worsen inflation, as shown in the past experiences of leading countries.

○ A combination of proper macroeconomic fiscal policy and microeconomic measures will be required to respond to the economic slowdown and manage inflation.

- It will be necessary to maintain the direction of fiscal policy in such a way that it does not trigger inflation, and to provide appropriate financial support to the financially vulnerable during the period of economic slowdown.
- The government needs to increase fiscal effectiveness through timely, valid and fiscal spending and execution management that are appropriate, timely, and valid.

V. Investment: Keeping It Brisk amid the Risk of Contraction

❑ **Funding conditions have worsened amid rising interest rates and increasing uncertainty**

- With interest rates rising sharply due to accelerating rate hikes in major economies, uncertainty in the financial market has increased significantly due to the short-term money market crunch.

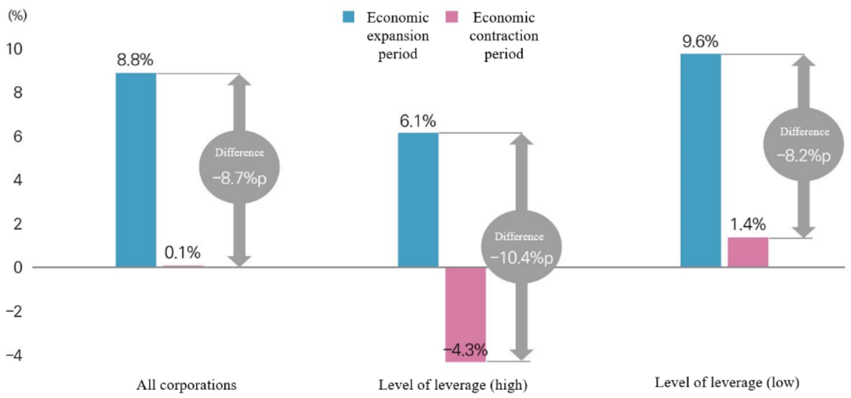
❑ **An analysis has been conducted on the possibility of investment shrinkage led by falling corporate investment, which is sensitive to the changing business cycle.**

- Amid growing worries over the slowing real economy, corporations may see their financial health deteriorate.
- Given that weak financial health will likely increase corporations' sensitivity to the changing business cycle, their financial conditions have been reviewed and the possibility of shrinking investment has been analyzed.
- The government has announced an investment promotion package comprising greater tax credit rates and financial support.
- In the analysis, the microdata of individual corporations was used to produce specific outcomes.

❑ **Deteriorating corporate finance coupled with economic slowdown may slow investment further still.**

- The growth of corporations is relatively solid, while their financial soundness has slightly weakened. By industry, real estate, airlines, shipbuilding, and food-related services were found to be in a relatively weaker financial position.
- Normally, corporate investment grows at a slower rate during a period of economic contraction, but corporations with weak financial health can not only see a curtailment of their investment but also experience negative investment growth.

[Annual Average Investment Growth Rates in Different Stages of the Business Cycle by Financial Condition]



Note: The difference is the difference between the growth rate during a period of economic contraction and the growth rate during a period of economic expansion.

○ The results of an empirical analysis show that corporate investments shrank by 3.5%p during economic contraction, and that investments of highly-leveraged corporations, i.e. corporations with poor financial health, decreased by an additional 3.6%p.

○ An international comparative analysis also found that corporate investments hinge heavily on the condition of the economy (-15%) and corporate financial health (-5%).

[A Summary of the Impact of Economic Condition and Corporate Financial Health on the Investment Growth Rate]

Category	(1)	(2)	(3)
Economic contraction	-7.2%	-6.4%	-3.5%
Economic contraction× leverage(high)		-3.8%	-3.6%

Note: 1. These estimates are all statistically significant at the 1% level.
2. Column (1) is based on the basic model; Column (2) on a model to which corporate financial condition has been added; and Column (3) on a model that includes multiple variables which can affect investment.

❑ Micro responses are required to boost the economic recovery and growth potential.

○ It is necessary to tighten the monitoring of industries and corporations with a poor financial condition, including real estate, construction and food-related services, as high interest rates are forecast to continue and the economy is expected to grow at a slower pace.

○ Efforts need to be focused on improving the micro investment environment in order to ensure that facility investments in strategic technologies and new industries, including semiconductors, batteries, and biotechnology, do not contract.

○ In particular, the government should provide customized support to companies that are more likely to face limited access to financial markets due to their small business size and short history, despite their high growth potential.

- In addition, the government needs to implement measures aimed at monitoring and managing potentially insolvent companies by making corporate credit assessment systems more sophisticated, thereby minimizing the negative impact of financially distressed companies on the real economy.

VI. Exports: Seeking to diversify supply chains amid the rise of "new protectionism"

❑ **Countries are seeking to diversify their global supply chains to strengthen their economic security amid the rise of new protectionism.**

○ Countries are increasingly using their economic power as a tool for attaining political or diplomatic goals, resulting in economic retaliation, while protectionism has been accelerating since the COVID-19 pandemic.

- Ever since the global financial crisis of 2008, deglobalization has been growing as developed countries adopt policies for protecting their domestic industries.

○ Since the inauguration of the Trump administration, protectionism and trade security have emerged as a new paradigm in international trade.

- Asymmetry resulting from economic disparities among countries and inequality in global supply chains are used as a tool for exerting pressure on trading partner countries.

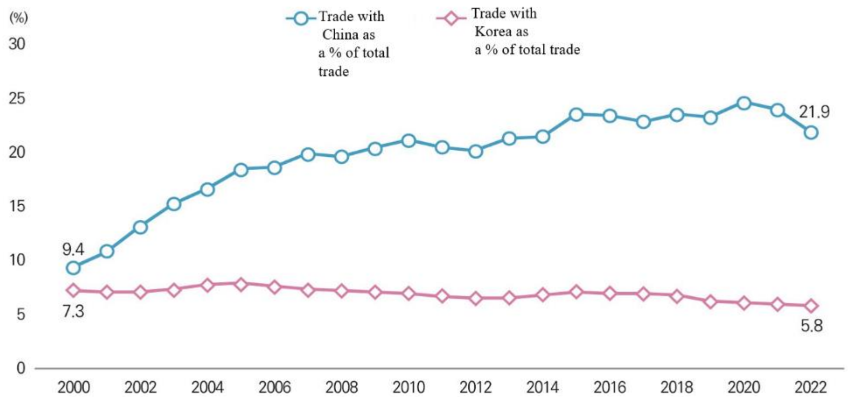
○ The trade regulations against Chinese trade dominance imposed by major economies are expected to continue this year through the IRA of the United States and the CRMA of the EU.

❑ **The heavily trade-dependent Korean economy is particularly vulnerable to supply chain risks.**

○ The Korean economy is highly dependent on trade and also depends heavily on China - particularly for major raw materials and intermediary goods.

- Korea's trade dependency was 69.6% in 2021. Exports of intermediary goods made up 66.5% of the country's total exports, while imports accounted for 47.1% of intermediary goods.
- China was South Korea's largest trading partner, accounting for 21.9% of all trade conducted with China in 2022.

[South Korea's Trade with China as a % of the Total and China's Trade with SK as a % of the Total]



Source: KITA.

- ○ China's dependency on South Korea for trade is declining as its policy is geared toward its domestic market, while Korea continues to depend on China for trade, leading to greater asymmetry and inequality.

❑ **Countries are moving to secure stable global supply chains in order to prepare for uncertainty over supply chains.**

- ○ The governments of the United States and the EU member states are actively implementing policies designed to ensure that they do not depend excessively on certain countries for imports of major items.
  - The U.S. is striving to secure stable supply chains as part of its national agenda, while the EU is implementing new industry strategies to curtail its dependency on overseas markets and build strategic autonomy.
- ○ ASEAN countries have emerged as an alternative global supply chain as uncertainty over China-centered supply chains continues to increase due to the growing U.S.-China trade conflict and the impact of the COVID-19 pandemic.
  - FDI in the ASEAN region has risen as the profile of key ASEAN members in the global supply chains has risen amid rising production costs in China and the domestic production of intermediary goods.
- ○ It is becoming increasingly important for corporations to identify geopolitical risks and keep abreast of the policies that many countries are introducing to enhance their economic security. In this context, they are also looking for ways to establish a flexible and resilient supply chain.

❑ **Both corporations and the government need to work together to diversify and secure a stable supply chain.**

- ○ If other countries move to enact laws similar to the IRA in nature, the government will need to mobilize all its resources from across the board and respond proactively to ensure that these laws are aligned with international norms and regulations.
  - If any protectionist move similar to the IRA and CRMA is detected, the private and public sectors should work together to make sure it is in line with the prevailing international norms and regulations.
- ○ From the corporate perspective, the global rise in protectionism will likely pose obstacles to Korean corporations that are conducting economic activities in overseas markets. Therefore, it will be necessary for them to come up with response strategies customized to their products.
- ○ It is necessary to work out incentives to lure global corporations in materials, parts, and equipment to South Korea in response to their move to relocate their production centers out of China.
  - The materials, parts and equipment sectors require a strong ecosystem based on accumulated technology in order to operate and maintain their supply chains. In this respect, Korea has an advantage over the other ASEAN countries.
  - The government should act promptly to come up with incentives, including tax credits and eased regulations, in order to spur the relocation of companies from China to Korea.

Ⅶ. Population: Reluctance to Marry and Low Birth Rate

❑ Recently, the number of marriages in Korea has dropped to an all-time low amid a persistently low birth rate, despite efforts to overcome the population crisis.

○ In 2021, the number of newborn babies stood at 261,000 and the number of marriages at 193,000, the lowest ever figures since the statistics first began to be compiled.

- The number of newborn babies was 1,070,000 in 1970, but it has declined to just one-quarter of that figure in fifty years, while the number of marriages fell below half of that recorded in 1996, when it peaked at 435,000.
- The number of marriages has fallen by 10.3% each year since the COVID-19 pandemic, outpacing the annual decline of 7.2% in the number of newborn babies.

○ The number of marriages is closely linked to the population of young adults and the marriage rate. The population of young people in their 20s and 30s has been falling since 2000 and, consequently, their marriage rate has been decreasing rapidly since 2010.

[Population of Young Adults (20s & 30s) and Marriage Rates by Gender]

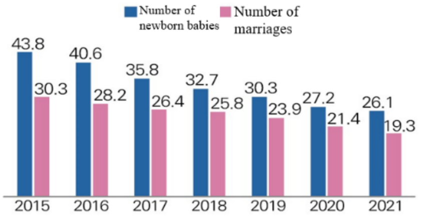
(unit: million persons, %)

Note: The numbers of marriage by gender have been estimated by NABO based on census and future population forecasts.

Source: Census by Korea National Statistical Office.

[Numbers of Newborn Babies and Marriages by Year]

(unit: million persons, 10,000 marriages)



Source: Census by Korea National Statistical Office.

❑ The decline in the number of marriages caused by economic instability has led to a steep rise in the number of single-person households and a decline in the number of newborn babies.

○ The main reason that young Koreans are reluctant to marry is financial inability. In addition, ever-rising housing costs present a major obstacle to starting a family, and a growing number of young Koreans see marriage merely as an option and hence prefer not to get married.

- The first job of many young Koreans aged 15-29 is highly likely to be a short-term contract position that lasts only one year or less, and the youth unemployment rate is (considerably?) higher than it is for people in their 30s, indicating that young Koreans are exposed to a high degree of financial instability.

○ The falling marriage rate results in a rising number of single-person households among young Koreans, and, consequently, the growing number of single-person households with a relatively high average propensity to consume decreases the capacity of unmarried young people to build assets, which will likely lead them to remain single or get married late in life.

❑ **An analysis of the recent decline in the number of newborn babies shows that it is attributable primarily to the falling marriage rate rather than the low birth rate.**

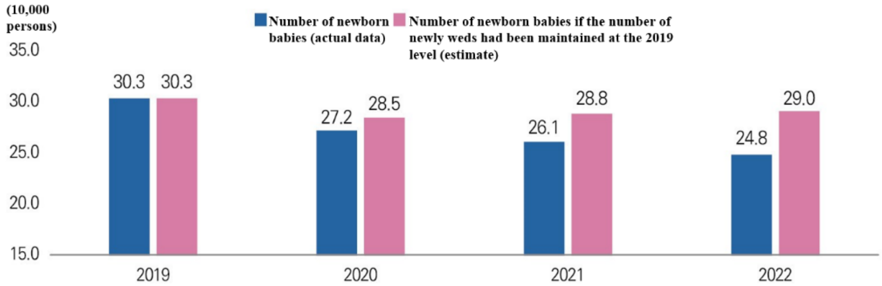
○ The number of newborn babies dropped by 55,000 between 2019 and 2022, and 77.4% (or 42,000) of the total decline is associated with the falling marriage rate.

- Amid the falling marriage rate, the number of newlyweds decreased from 1,307,000 couples in 2019 to 1,062,000 in 2022, which in turn greatly affected the falling number of newborn babies.

○ If the number of newlyweds had been maintained at the 2019 level, it is estimated that the number of newborn babies would be around 290,000, some 420,000 more than the current figure.

○ If the number of marriages continues to drop, that of newborn babies will also remain on the decline.

[Estimated Number of Newborn Babies if the Number of Newlyweds Had Been Maintained at the 2019 Level]



Note: 1) The figures for newborn babies in pink refer to the number of newborn babies were estimated based on the hypothetical assumption that the number of newlyweds had been maintained at the 2019 level.
2) The actual number of newborn babies in 2022 has been estimated, based on the accumulated number of newborn babies born from January to November.
Source: Estimates by NABO.

❑ **The childbirth and childcare support programs included in the policy to overcome the ultra-low birth rate need to be revised in a way that addresses the factors that have a negative effect on people's desire to marry.**

○ he factors hindering marriage need to be considered and reflected in the policy to help people who want to get married, but who cannot be due to financial reasons, to get married and start a family.

– The government needs to implement policy measures aimed at promoting marriage and childbirth and creating a family-friend society.

VIII. Climate & Energy Crisis: Responding to a New World Order

❑ **The climate crisis is shaping a new world order that brings together energy security, industry, technology and finance.**

○ Leading countries are making a societal and economic paradigm shift by creating a decarbonized economic system, which includes expanding the RE100, promoting ESG management, and introducing CBAM.

○ Korea is required to work harder on decarbonization because it is the world’s tenth largest economy (as of 2021), while it ranks eighth in terms of GHG emissions.

- In the first half of 2023, the government - while juggling multiple tasks simultaneously, such as achieving carbon neutrality, establishing energy security and attaining economic growth - has been working on formulating a yearly implementation plan to reach the 2030 national GHG emissions reduction targets in the first half of 2023.

❑ **Recent rises in GHG emissions are likely to make it difficult for Korea to meet the 2030 reduction targets.**

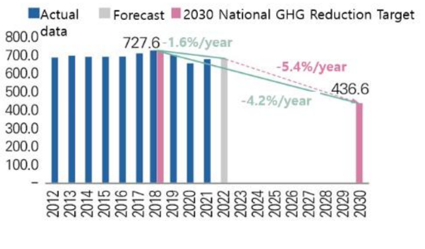
○ In order to reach the national GHG reduction targets by 2030, Korea will need to cut its emissions at a faster rate than initially planned over the next eight years.

- The government has set the target of reducing GHG emissions by 4.2% on annual average for 2018 and beyond. However, emissions by 2022 are estimated to have decreased at an annual average rate of 1.6%, making it necessary for Korea to raise its reduction rate to 5.4% for the remaining eight years.

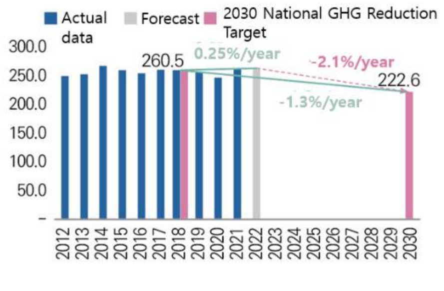
○ In particular, emissions in the industrial sector and the agricultural and dairy sector have been on the rise since the outbreak of the COVID-19 pandemic, requiring the government to manage the progress of reduction more strictly to meet the 2030 target.

[GHG Reduction Results and Outlook for Industry]

Aggregate



Sector



Note: The emissions figures for the period 2012-2021 are actual data. The 2022 figures have been compiled by uniformly applying NABO’s 2002 forecast of a 0.4% increase to all sectors.

Source: NABO.

❑ The reduction of GHG emissions in Korea's industrial sector is proceeding at a slow pace, and it is (making it?) necessary to develop future technologies.

○ South Korea is reducing GHG emissions in manufacturing and construction more slowly than major OECD countries such as France, Germany, and Japan.

- In 2020, South Korea, Japan, France, Germany, the United Kingdom and the United States reduced their industrial GHG emissions by 0.5%, 14.7%, 10.9%, 10.2%, 9.8%, and 3.2%, respectively, from their 2016 levels.

○ South Korea's technological competitiveness is not on a par with that of the top technology countries in any of the climate response technologies reviewed in *Science and Technology Foresight*, and the country is also lagging behind in terms of "technology realization", which is expected in 2030 at the earliest.

❑ Timely policy implementation and the promotion of climate finance are necessary to make the shift to a low-carbon paradigm across the entire economy.

○ 71.8% of total emissions is managed through various policies including the Emissions Trading System.

- Policies and systems are necessary to manage the remaining 28.2%.

- It is necessary to develop projects and create a performance management system in order to implement international GHG reduction projects.

○ To better utilize the GHG Reduction Cognitive Budget system, which was introduced in 2022, the GHG reduction evaluation system should be improved by, for example, advancing GHG reduction calculation methodology, and the GHG reduction effects of financial projects should be linked to the reduction goals for different NDC sectors, which need to be reflected in the guidelines on how to create a GHG Reduction Cognitive Budget.

○ The government should offer incentives for greater technological development and investment by the private sector while adhering to the policy direction of supporting the spontaneous formation of an ecosystem for ESG investment and climate finance.

- The amount of green bonds in Korea is less than 1% of the total amount of bonds outstanding.

[Management of National GHG Emissions (2021)]

(unit: 10,000 tons, %)

Type		Emissions	% change from the previous year	% of total emissions[1]
National GHG Emissions		67,960.0	3.6%	100.0
Market	Emissions Trading System	48.500.0	5.7%	71.4
Policy	Target Management System	250.0		0.4
	Not classified	19,210.0		28.2

Note: The figures for national GHG emissions and emissions managed by the Emissions Trading System and the Target Management System are based on the 2021 emissions.
Source: Compiled by NABO based on data released by the Ministry of Environment.