Cover Story

Korean Economic and Industrial Outlook for 2021[1]

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1. Summary

The real economy of South Korea recorded negative growth rate in the aftermath of COVID-19 outbreak until the second quarter of last year, but rebounded faster than expected as the pandemic was brought under control and economic activities resumed. Under the assumption that the viral threat is significantly suppressed compared to 2020 as vaccine development and distribution is underway, the global economy in 2021 is projected to record a positive growth rate owing to the recovery of major countries and the base effect. In 2021, despite the continued uncertainty of COVID-19, the domestic economy is expected to grow by 3.2 percent, owing to gradual improvement in domestic

1 This article summarizes two papers of the Korea Institute for Industrial Economics & Trade: *Outlook for major industries in 2021* (Center for Growth Engine Industries, 2020) and *Economic Outlook for 2021* (Center for Economic Outlook and Statistical Analysis, 2020).

and foreign demand and the base effect exerted by the drop-off in 2020.

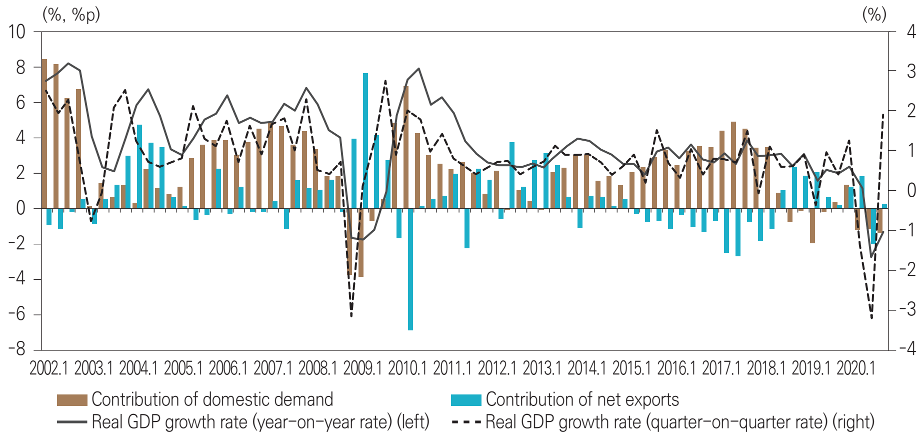
In 2021, the exports of 12 major Korean industries are expected to increase by 10.6 percent compared to 2020 due to economic recovery and the base effect. However, it will be difficult to recover to 2019 levels given intensifying competition with competitors in major export markets. The exports of the automotive, refined oil, and petrochemical industries will rise by more than 10 percent year-on-year owing largely to the base effect. In addition, the transition to a contactless society and strengthened environmental regulations will buttress exports of ICT devices, semiconductors, and rechargeable batteries, with projected growth rates of 9.9, 13.1 and 5.7 percent, respectively. Exports of displays, which fell sharply in 2020, are expected to increase by 2.4 percent, and exports of general machinery and steel are expected to increase by 6.3 and 7.7 percent, respectively, with the growth of demand industries. Production is also projected to exhibit an upward trend, but its growth rate will be lower than that of exports. Domestic demand will also increase, but domestic products are expected to face somewhat difficult conditions in the market as imports of mid to low-end products and overseas products soar. Production of appliances and displays will decline by rates of 1.1 and 3.5 percent, respectively, but production of automobiles, ships, semiconductors and ICT devices is expected to jump, by rates of 6 percent, 10.8 percent, 10.2 percent, and 7.5 percent, respectively. In addition, the general machinery, steel, refined oil, petrochemical, textile, and secondary battery industries are also expected to grow.

2. Macroeconomic Outlook

(1) Overview of Domestic Economic Conditions

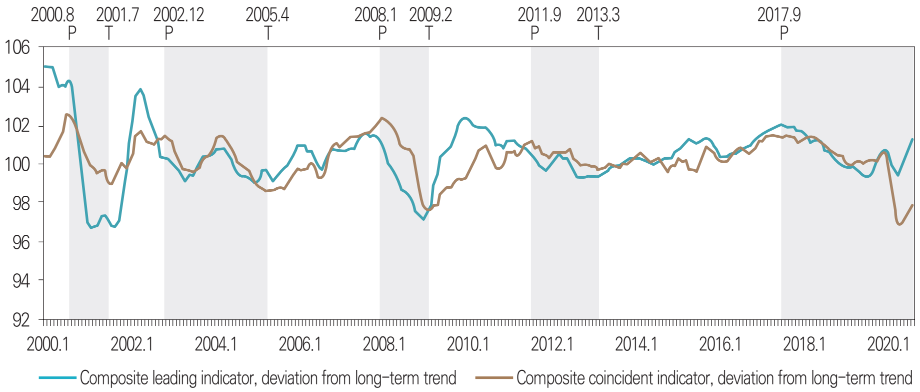
The domestic economy contracted in the first quarter of last year due to the spread of COVID-19, but since then, it has rebounded faster than expected due to effective virus control and the resumption of economic activities. Private consumption declined for the third consecutive quarter; construction investment has also declined, but facility investment exhibits an upward trend. Exports declined sharply in the second quarter due to the pandemic,

Figure 1. Real GDP Growth Rate and Growth by Sector



Source: Bank of Korea.
Note: Domestic demand is the sum of private consumption and gross fixed capital formation.

Figure 2. Trends in the Composite Index



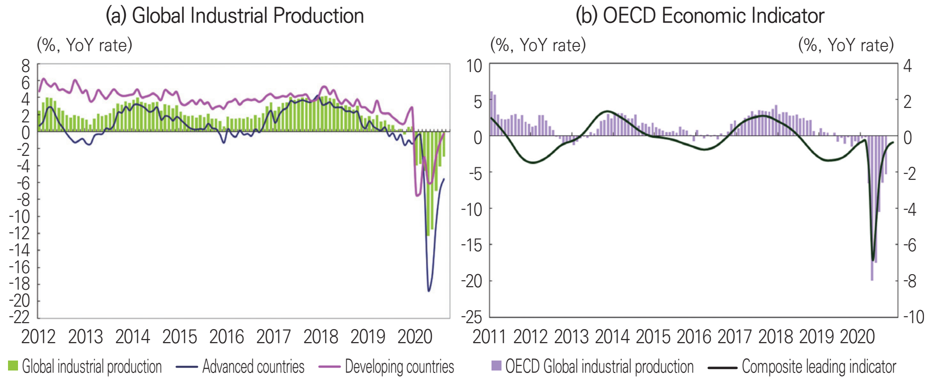
Source: Statistics Korea.

the global economic slowdown, and a decline in oil prices, but the drop in exports slowed as major countries resumed economic activities in the second half of last year.

(2) Outlook for External Conditions

The real world economy plummeted in the first half of last year due to the COVID-19 outbreak, but quickly rebounded in the second half owing to better containment of the virus, various stimulus measures and the normalization of economic activities. Eurozone countries and Japan recorded negative growth

Figure 3. Global Economic Indicators



Source: CPB, Netherlands Bureau for Economic Policy Analysis.

rates in the aftermath of COVID-19 at the beginning of last year; the United States also posted negative growth in the second quarter before rebounding in the second half. China recorded negative growth in the first quarter but rapidly recovered, recording positive growth in the second quarter. Brazil and Russia also exhibited relatively brisk recoveries as well.

In 2021, assuming global inoculation efforts are successful in suppressing the COVID-19 threat, the global economy is expected to grow. Developed countries will recover gradually while developing economies bounce back quickly. The economy of the United States will show a positive growth rate as employment conditions gradually improve owing to the government's fiscal stimulus policies and the Fed's low interest rates. Alleviated COVID-19 impacts in the Eurozone and Japan will lead to positive growth rates as investment and consumption sentiment gradually stabilizes. In China, a relatively quick recovery is expected as both domestic and foreign demand improve with the suppression of COVID-19. Key factors poised to determine the state of the global economy in 2021 are controlling the spread of COVID-19 and the timing of vaccine development and distribution. Other major concerns include geopolitical risk factors of major countries and the effects of various economic stimulus measures.

As for the international oil price, it plunged due to the spread of COVID-19 at the beginning of last year, but gently rebounded to USD 40 by May 2020, and are steadily rising. Prices should continue rise due to an increase in demand for crude oil with the global economic recovery, but only slightly com-

Table 1. World Economic Outlook

Unit: %, YoY rate

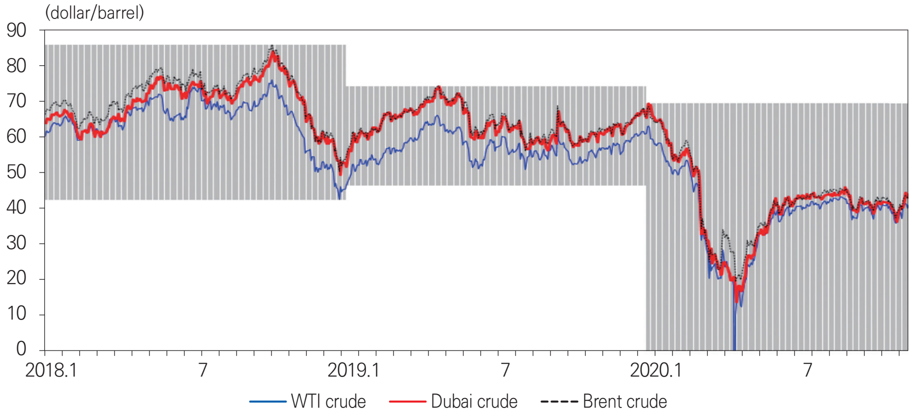
	2019			2020			IMF		OECD	
	First half	Second half	Year	Q1	Q2	Q3	2019	2020	2019	2020
Global economy			2.8				-4.4	5.2	-4.5	5.0
Advanced economies	1.6	1.7	1.7	-0.9	-11.7	-4.1	-5.8	3.9	–	–
United States	2.2	2.2	2.2	0.3 (-5.0)	-9.0 (-31.4)	-2.9 (33.1)	-4.3	3.1	-3.8	4.0
Japan	1.3	1.2	1.3	-3.2	-14.7	-4.3	-8.3	5.2	-7.9	5.1
Eurozone	0.4	0.2	0.3	-2.0	-10.3	-5.7	-5.3	2.3	-5.8	1.5
Developing economies			3.7				-3.3	6.0	–	–
China	6.3	6.0	6.1	-6.8	3.2	4.9	1.9	8.2	1.8	8.0
Trade			1.0				-10.4	8.3	–	–

Source: IMF *World Economic Outlook* (October 2020), OECD *Interim Economic Outlook* (September 2020).

pared to 2020 as the global economy will not completely escape the impacts of COVID-19 this year. It is unlikely that global demand for crude oil will recover to pre-outbreak levels, but the strong recovery of the global economy, led by China and India, is expected to drive continued growth in the international oil price.

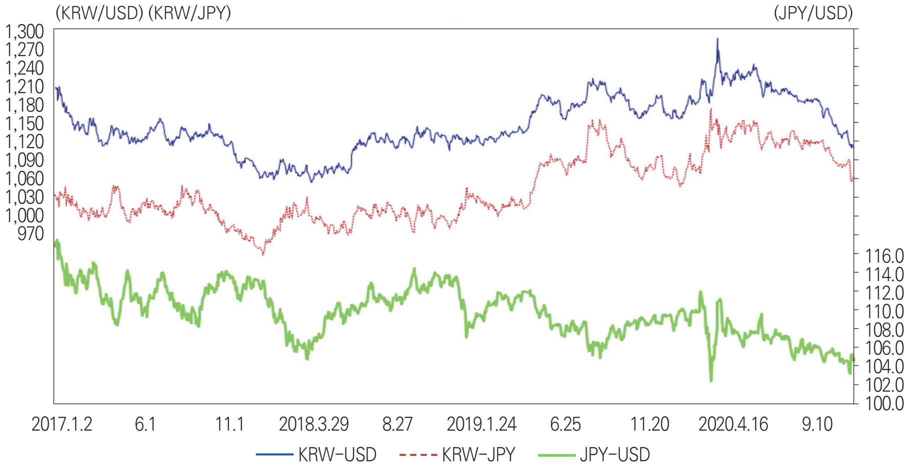
The average price for Dubai crude for 2021 is projected to be USD 47.3 per barrel (up 13.8 percent year on year). Specifically, the price will rise from USD 45.5 per barrel (up 12.1 percent year on year) in the first half of 2021 to USD

Figure 4. International Oil Price Trends



Source: Korea National Oil Corporation.
Note: The shaded area represents annual price fluctuation ranges (minimum to maximum values).

Figure 5. Foreign Exchange Rates of Major Currencies



Source: Bank of Korea.

49.0 per barrel (up 15.4 percent year on year) in the second half of the year.

In 2020, the KRW-USD exchange rate grew owing to the pandemic but declined in the second half of last year as the spread of the virus slowed amid expectations of global economic recovery. In 2021, the KRW-USD exchange rate is expected to decline due to a weakening dollar, the global economic recovery, the expansion of the dollar supply from federal stimulus measures and a strong Chinese yuan propped up by the rapid recovery of the Chinese economy. In the first half of this year, the dollar will remain weak as the global economic recovery weakens preferences for safe assets and the dollar supply grows due to additional stimulus measures. However, a recovery of the U.S. economy is expected in the second half of the year and should limit the weakening of the dollar. Some factors upholding the strong Korean won include increase foreign capital inflows into Korea and export growth to China given the country's rapid economic recovery, but there is a possibility that foreign capital will move overseas again and lead to an increase in the KRW-USD exchange rate in the second half of this year.

In 2021, the annual average KRW-USD exchange rate is expected to be KRW 1,110 to 1 USD (down 6.2 percent year on year), with the KRW-USD exchange rate averaging around KRW 1,090 in the first half of the year (down 9.8 percent year on year) and KRW 1,130 in the second half of the year (down 2.6 percent year on year).

(3) Korean Economic Outlook for 2021

The South Korean economy is expected to grow by 2.3 percent in 2021 due to the gradual increase in domestic and foreign demand and the base effect exerted by negative growth in 2020. Exports will rise as the global economy recovers. Consumption too will turn upward due to the base effect of the previous year's decline. Construction investment is expected to rebound in three years; facilities investment should maintain its current upward trend for two consecutive years.

The main concern in 2021 is the uncertainty caused by COVID-19. Other major external variables that are poised to influence the Korean economy include the pace of economic recovery in major countries, the effect of the stimulus policies and the ongoing trade dispute between the United States and China. Meanwhile, major internal variables are the effect of the Korean New Deal policy and the continued upward trend of semiconductor exports.

Private consumption in 2021 is highly likely to improve due to the base effect of the reduction in 2020. However, sluggish employment, increasing household debt and housing expenses, slower wage growth due to declining corporate performance and the burden of the government's additional stimulus policies will limit further increases in private consumption. On the other hand, some factors may have positive effects on boosting consumption, such as the development and distribution of the COVID-19 vaccine expected this

Table 2. Korean Macroeconomic Outlook

Unit: %, YoY rate, USD 100 million

	2020			2021		
	First half	Second half	Year	First half	Second half	Year
Real GDP	-0.7	-1.2	-0.9	2.9	3.5	3.2
Private consumption	-4.4	-4.4	-4.4	2.7	3.2	3.0
Construction investment	5.7	6.6	6.1	4.5	9.6	7.0
Facility investment	2.1	-2.6	-0.3	1.5	4.9	3.2
Custom-cleared exports (USD 100 million, %)	2,406 (-11.3)	2,638 (-1.5)	5,044 (-7.0)	2,710 (12.6)	2,898 (9.8)	5,608 (11.2)
Custom-cleared imports (USD 100 million, %)	2,296 (-9.1)	2,346 (-6.5)	4,642 (-7.8)	2,491 (8.5)	2,596 (10.6)	5,087 (9.6)
Trade balance	110	292	402	219	302	521

Source: Korea Institute for Industrial Economics and Trade (KIET).

year, improving consumer sentiment and amelioration of global economic uncertainty.

Facility investment is projected to increase by seven percent despite COVID-19 uncertainty. This strong growth is in anticipation of the development and distribution of vaccines and treatments and increased investment demand in the ICT sector.

The semiconductor industry is expected to recover and augment its competitiveness by expanding facility investment in memory and non-memory chips and foundries. The display industry will increase OLED facility investment to widen the technology gap with competitors and facility investment in the smartphone industry will see an uptick as 5G smartphones become widely available amid continued U.S. sanctions against Huawei. In the petrochemical, refined oil and steel industries, demand for facility investment is expected to increase due to environmental regulations and the replacement of outdated and obsolete equipment. Also, the expectation of a global economic recovery will lead to increasing investment in transportation equipment, and investment in future vehicles will be continued this year.

Construction investment is expected to grow by 3.2 percent this year, with a recovery in civil engineering projects due to the government's social overhead capital (SOC) expansion policy related to public infrastructure. In particular, it is expected that the growth trend centered on government engineering construction will be continue this year since the SOC budget in 2021 is set to the largest ever (26 trillion KRW). As for housing construction, there will be no significant change in the direction of real estate policies, but housing construction investment should recover somewhat since the declining pace of investment is expected to ease due to the necessity of stabilizing the real estate market.

Exports in 2021 are expected to increase significantly due to the base effect and the economic recovery in major countries, especially China. In particular, as each country's ability to respond to COVID-19 virus improves, the negative impact of the virus should be mitigated somewhat, boosting exports. Regionally, exports to China and the ASEAN countries (where the economic recovery has been rapid) are set to increase. By industry, semiconductors, shipbuilding, petroleum products, and the biomedical and health care sectors will drive export growth. Semiconductor production has been gradually recovering and the increase in ship deliveries and rising unit prices for petroleum products led by the recovery of oil prices are expected spur export growth.

Imports will also increase due to the semiconductor equipment imports, the recovery of international oil price and the base effect, but the growth rate of imports (9.6 percent) will not exceed that of exports. This is because demand, which contracted last year, is recovering slowly and the impacts of COVID-19 will continue to be felt this year. Total trade volumes will expand this year, and given that export growth is poised to outpace import growth, the trade surplus is projected to rise to 51.2 billion USD, which is greater than last year.

3. Overview of Major Industries

(1) Major Changes in 2021 and Their Impact on Industries

In 2021, global demand is expected to recover to some extent, but the competitive conditions in the global market for domestic products is expected

Table 3. Weather Chart of Industry Prospects for 2021

		Exports	Production	Domestic demand	Imports
Machinery	Automobiles	☀☀	☀	☁	☀
	Shipbuilding	⛅	☀☀	🌧	☁
	General machinery	☀	⛅	⛅	⛅
Materials	Steel	☀	⛅	⛅	☀☀
	Refined oil	☀☀	⛅	⛅	☀
	Petrochemicals	☀☀	⛅	⛅	☀☀
	Textiles	☀	⛅	⛅	☀☀
IT manufacturing	Appliances	☁	☁	⛅	⛅
	ICT devices	☀	☀	⛅	☀
	Semiconductors	☀☀	☀☀	☀	☀
	Displays	⛅	☁	☁	⛅
	Rechargeable batteries	☀	☀	☀☀	☀☀

Note: 1) Prospects: Legends are based on projected rates of increase from the previous year.
🌧🌧: less than -10%, 🌧: -10 to -5%, ☁: -5 to 0%, ⛅: 0 to 5%, ☀: 5 to 10%, ☀☀: more than 10%.
2) The production and demand of the automotive industry is based on finished cars; for shipbuilding, on ships built; for steel, on steel materials; for refined oil, on oil products; and for petrochemicals, on the three types of derivatives. The production and demand of all other industries are based on monetary values.
3) Exports and imports of all industries are in U.S. dollars (USD).

to worsen. Global demand in 2021 will not completely escape the effects of COVID-19, but will nonetheless show a recovery pattern. In addition, global demand will increase in all industries due to the base effect, the rise of new demand related to the Green New Deal and the advanced demand structure.

In terms of global demand in 2021, as environmental regulations in each country take on increasing importance, demand in the shipbuilding and re-chargeable battery industries is expected to grow with increases in orders for green ships and eco-friendly car batteries. The upward trend of demand related to the transition to a contactless society, itself largely a product of disease prevention measures, will continue in 2021. As a result, demand in the petrochemical and textile industries, which are closely related to pharmaceutical and sanitary products, as well as ICT devices and semiconductors, will increase. In addition, changes in global conditions will lead to changes in demand structure; demand for premium appliances, green cars, and OLED products is expected to rise.

Although market conditions in Korea's major export countries are mostly recovering, the level of recovery will vary by industry and country. In the case of the automotive sector, the market in the United States will bounce back. In Vietnam, an emerging production base for Korean firms, the textile and the appliance industries will also witness a rapid recovery. On the other hand, market conditions in China are somewhat different. The Chinese economic situation in 2020 was far from abysmal, and China is a major export market for Korean intermediate goods and capital goods. Thus the market outlook for general machinery, textiles, appliances, and ICT devices industries in China is pessimistic, as competition in these sectors is intense.

In 2021, as the rise of Chinese economy continues, competition with China in the global market will intensify. In addition, despite of the result of the United States presidential election, policies to protect domestic industries are expected to continue near future and overall economic conditions will continue to deteriorate. In the general machinery, steel, petrochemical, textile, ICT device and display industries, competition with China will intensify due to China's improved ability to supply itself and its firms' entry into the global market. Competition in the shipbuilding, general machinery and steel industries is also anticipated escalate due to protectionist policies in major export countries. On the other hand, competition in the automotive, semiconductor and rechargeable battery industries should diminish. In the auto industry, a restructuring at major foreign competitors is expected and the semiconductor industry is improving its competitiveness by expanding investment. The rechargeable battery industry is expected to strengthen its international competitiveness by price cuts through innovations in material composition.

Production at overseas factories — which experienced operational difficulties owing to the pandemic last year — will normalize in 2021, with the expansion of overseas production capacity of major industries. Overseas production of automobiles will greatly expand in India and North American states including the United States and Mexico. Production of rechargeable batteries in the Europe has increased significantly, and production at overseas factories in China and the United States will also grow, which will lead to declining Korean exports.

Unit production prices in 2020 fell sharply due to sluggish demand and falling oil and raw material prices, but prices in 2021 will rise despite intensifying competitive conditions due to increasing demand and rising oil and raw material prices.

In most major industries, competition with Chinese and overseas products in the domestic market will intensify, but some industries will experience improvement of competitiveness with the launch of new products and the advancement of domestic production structures. In the automotive industry, competition conditions will improve owing to the expansion of the luxury car lineup and the launch of a platform for electric vehicles. In addition, the refined oil, rechargeable battery, display and semiconductor industries are expected to remain competitive as there will be investments for sophistication of the refined oil industry and the rechargeable battery industry, an expansion of demand for low-power and high-end panels in the display industry and improved foundry technology in the semiconductor industry. However, in many industries including the general machinery, steel, petrochemical, textile, appliance, and ICT device sectors, imports of Chinese products and overseas products of Korean companies will increase, creating challenging conditions for domestic products in the home market.

In 2021, domestic facility investment will vary depending on industry, but will be generally favorable compared to 2020. Following last year, investment in semiconductors is expected to increase by a good margin in 2021, and investment in facilities upgrades are expected to increase in the petrochemical, automotive, ICT device and rechargeable battery industries.

(2) Outlook for Major Industries in 2021

Exports in 12 major industries in Korea are expected to grow, rising by 10.6 percent year on year owing to the base effect, but are unlikely to recover to 2019 levels. Global demand in 2021 will recover from last year but is also not expected to reach 2019 levels. In particular, Intensifying competition with latecomers and the growing tendency to protect domestic industries will limit the export growth of domestic products. By period, the growth rate in the first half of 2021 is expected to be higher due to the base effect of the economic slump caused by COVID-19.

The export growth of the automotive, refined oil, petrochemical, ICT device, semiconductor and rechargeable battery industries will be relatively larger than in other sectors as production prices of refined products are expected to pick up as international oil prices rise, and the petrochemical, automotive and semiconductor industries will be positively affected by environmental regulations and the transition to a contactless society.

In the machinery industry, exports in 2021 will increase by 9.8 percent year on year, mainly for automobiles and general machinery, which declined last year. Automotive exports are projected to increase by 15.2 percent year on year, with a record high growth rate of 31.4 percent in the first half of 2021 due to the base effect of poor performance last year and the actualization of latent demand this year. Shipbuilding exports are also expected to rise by 2.8 percent this year, buoyed by a 6.7 percent jump in the first half due to delayed deliveries from 2020; a dip of one percent is projected for the second half. General machinery exports are also projected to increase by 6.3 percent compared to the previous year, but competition with Chinese and other firms is set to intensify, so exports are unlikely to recover to 2019 levels.

In the materials industry, exports declined significantly in 2020 due to a collapse in demand and product prices. Export growth in 2021 will be a robust 12.3 percent higher over the previous year, but still far below 2019 levels. Steel exports this year will pick up by 7.7 percent owing to the economic recovery, but will not reach 2019 levels due to intensifying competition in the global market. The refined oil industry showed the largest drop in exports in 2020 due to a sharp decline in demand caused by price cuts and restrictions on personal movement. In 2021, refined oil exports will show a high growth rate of 17.6 percent, but are also unlikely to reach levels attained in 2019 due to low oil prices and a slow recovery of demand in the transportation sector. The petrochemical industry will show a high export growth rate of 12.2 percent as demand recovers in 2021, but it too is unlikely to return to 2019 levels due to intensifying competition in the Chinese market and low international oil prices. Textiles, exports of which had been falling, will rebound significantly by 8.6 percent in 2021 due to the base effect of a large export drop in 2020, but the increase will be limited due to intensifying global competition; textile exports too will fail to reach 2019 levels.

Demand in IT industries, which have continued to grow despite the pandemic, is expected to increase post-COVID as well. Exports are projected grow by 10.1 percent in 2021. Unlike in some other sectors, appliance exports did not crater in 2020, but competition conditions this year will worsen due to the expansion of overseas production by domestic companies and intensification of competition with China. However, exports should dip by just 0.8 percent, owing to growing demand for premium appliances. Exports in the ICT device industry will rise by 9.9 percent despite worsening competition conditions, since demand for ICT devices will steadily increase due to the ongoing transition to the 5G communication era and a contactless society. As the supply of semiconductors improves due to production investments and demand for semiconductors continues to increase, exports are projected to increase by 13.1 percent in 2021. The display industry, in which the LCD business is struggling due to the expansion of overseas production and the rise of Chinese companies, will accelerate its transition to OLED and benefit from U.S. sanctions against Huawei. Exports will climb by 2.4 percent. Lastly, overseas demand is poised to skyrocket in the rechargeable battery industry, but export growth should advance by only 5.7 percent, as production facilities expand overseas and stable capacity utilization rates are maintained.

In most of the 12 major industries in Korea, domestic demand will increase but growth rate should be capped since decline in domestic demand in 2020 was relatively moderate. In the automotive and shipbuilding industries, which were beneficiaries of domestic demand promotion policies last year, demand will sink in 2021. Demand in the display sector will decrease slightly. Excluding the semiconductor industry, domestic demand in most industries including general machinery, refined oil, petrochemicals, textiles, ICT devices, and appliances is expected to show slow growth at a rate of less than five percent.

In the machinery industries, domestic demand for general machinery, which was sluggish in 2020, is slightly increasing, but since the automotive and shipbuilding sectors recorded high growth rates last year they may experience an adverse base effect this year. Automobile demand will trend downward as latent demand from last year is actualized, the sluggishness of the domestic economy persists and measures to boost domestic demand expire. Thus, domestic demand for automobiles is expected to drop by 3.4 percent despite growing demand (including the conversion of demand for overseas to demand for private automobiles). Domestic demand in the shipbuilding industry is projected to decline by 10.5 percent in 2021 despite continued demand stimulus measures such as shipping reconstruction policies and eco-friendly ship policies, since domestic demand soared in 2020. In the general machinery industry, domestic demand will grow by 2.1 percent amid anticipated government investment in SOC and the continued expansion of semiconductor facility investment.

In the materials industries, domestic demand is expected to increase owing to the economic recovery in downstream industries but will not quite surpass 2019 levels. Despite a long-term downward trend, steel demand in 2021 will grow by 4.3 percent due to the base effect. Domestic demand for refined oil is projected to record a level similar to that of 2019, with a 3.6 percent increase as demand for raw materials in the transportation and petrochemical sectors has recovered. In the petrochemical industry, demand from downstream industries is expected to recover and the domestic production of some chemical materials that were the victims of bottlenecks in the global supply chain is expected to increase, so domestic demand will increase by 1.9 percent year on year. Domestic demand in the textile industry is projected to rise by 1.6

percent despite a long-term slowdown, as private consumption and demand industries in the textiles sector recover.

In the IT industries, domestic demand was relatively strong despite the COVID-19 shock last year, and in 2021 should continue to be robust save for the display industry. Domestic demand for appliances is expected to increase steadily due to the economic recovery and an expansionary trend in consumer spending on electronics following the viral outbreak. Demand for ICT devices is projected to grow by 4.8 percent in 2021 owing to the growth of the 5G market, new product launches and the growth of online industries. Domestic demand for semiconductors will exhibit high growth in the first half of 2021 that comes on the heels of high growth in 2020 due to an increase in demand for SSDs; the annual growth rate will be 5.8 percent. Domestic demand in the display industry, which declined sharply in 2020, is expected to fall again by 1.1 percent in 2021 as domestic LCD production contracts. Lastly, domestic demand for rechargeable batteries is projected to increase by 24.1 percent this year, showing significant growth since the second half of 2020, driven by an increase in exports of electric vehicles.

Imports in most of the 12 major industries are projected to rise significantly in 2021 as imports of mid- to low- end and products manufactured overseas by domestic companies are reimported. While in the automotive industry, demand for high-quality imported products will increase, in the steel, petrochemical, textile, appliance, ICT device and rechargeable battery industries, imports of low-cost general purpose products or overseas products made by domestic firms will increase. Although shipbuilding imports will fall due to the base effect of a large increase in 2020, imports of automobiles and general machinery are expected to rise; thus, imports in the machinery industries as a whole will increase by 4.2 percent. In the auto industry, the number of imported models is increasing and import unit prices will increase. Overall imports will jump by 8.4 percent in 2021. Imports in the shipbuilding industries were very high in 2020, so imports in 2021 will decrease by 3.4 percent but imports of general machinery will increase by 3.2 percent due to the increase imported equipment and parts that accompanies increased investment.

In the materials industries, imports are expected to increase by 11.6 percent in 2021 as product prices rise due to higher international oil prices, the expansion of the domestic market for low-cost general purpose products and the falling price competitiveness of domestic products due to exchange rates. For steel imports, the price competiveness of domestic products is expected to decline due to low exchange rates and import demand will increase as the economy recovers. In addition, as imports of low-priced products are expected to increase, growth in steel imports in 2021 will be 13.7 percent. Imports of refined oil will rise by 5.9 percent due to an increase in import unit prices and the base effect. Petrochemical imports are projected to increase by 18.4 percent due to a rise in imports of mid- to low- end products and increasing import unit prices caused by rising oil prices. Imports of textiles will also go up, set to record a growth rate of 10.1 percent due to increased demand, reimported overseas products and increased imports of mid- to low-end products.

Imports in the IT industries in 2021 are also expected to increase by 6.4 percent as the volume of overseas product imports expands. Despite growth at mid-sized domestic companies, imports of appliances will rise by just 3.8 percent as increased domestic inflows of overseas products and Chinese brands make inroads into the domestic market amid modest increases in domestic demand. With overall demand growth, ICT device imports will also increase by five percent, driven by the launch of new products by foreign competitors and an increase in imports overseas products. Semiconductor imports are set to increase by 7.6 percent as demand for special-purpose semiconductors increases. For displays, some factors will drive an increase in imports (such as the diversification of consumers). Nevertheless, imports will increase by only 1.1 percent as LCD inventories shrink. Lastly, imports of rechargeable batteries are expected to rise significantly (15.3 percent) as domestic demand for rechargeable batteries increases sharply; imports of domestic firms' products manufactured overseas are expected to increase to meet this demand.

In most of Korea's major industries, production is expected to grow as exports recover, but growth will be limited by increasing imports. Production in most industries is expected to go up, but will sink in appliances and displays. Production growth in the general machinery, steel, refined oil, textile and rechargeable battery industries will be stunted. In 2021, domestic demand will decline, but ship and automobile production will rise significantly. In the semiconductor and ICT device sectors, where domestic demand and exports have increased in the post-COVID era, record high production growth is expected.

Overall production of the machinery industries is projected to increase. The automotive and shipbuilding industries are expected to post high exports and will record relatively high production growth rates. Production of general machinery is also expected to show a solid growth trend. In the auto industry, there are factors hindering increases in domestic production, such as the start of overseas production of small SUVs by domestic automakers and production adjustments by foreign affiliates; despite this production is expected to grow by six percent in 2021 due to the increase in exports and the production of new models followed by the recovery of the global market. As for the production of the shipbuilding industry, orders received at a lower price than that in 2020 will be delivered, so the production growth rate will be 10.8 percent, which is significantly higher than the export growth rate. In addition, production of general machinery will increase by 2.9 percent due to expansion of facility investment and smart facility investment in the semiconductor industry.

Production in most materials industries is expected to increase alongside the economic recovery in demand industries. Although labor conditions are somewhat unstable, steel production will increase by 3.6 percent, following more robust domestic demand and exports owing to the base effect. Production in the refined oil industry will rise by 3.9 percent despite sluggish demand for naphtha, as demand for transportation products is expected to increase. In the petrochemicals sector, as production facilities are reactivated and utilized capacity of new production facilities rises, the production of basic oil and synthetic resins is set to drive increases in production. However, the expectation is that exports of intermediate raw materials (PX) to China will limit production growth to 1.4 percent. As for the textile industry, although the domestic production capacity has weakened and overseas imports are growing amid intensifying global competition, textile production is expected to increase by 7.1 percent with a rise in domestic and global demand for textiles.

In the IT industries, production of appliances and displays will drop slightly, but the production of ICT devices, semiconductors and rechargeable batteries will post strong gains on the back of burgeoning demand. As for appliances, despite growing domestic demand and the launch of premium new products,

Table 4. Forecast for Major Industries in 2021

Exports		Production		Domestic demand		Imports	
Industry	Change (percent)	Industry	Change (percent)	Industry	Change (percent)	Industry	Change (percent)
Refined oil	17.6	Shipbuilding	10.8	Rechargeable battery	24.1	Petrochemical	18.4
Automotive	15.2	Semiconductors	10.2	Semiconductors	5.8	Rechargeable batteries	15.3
Semiconductors	13.1	ICT devices	7.5	ICT devices	4.8	Steel	13.7
Petrochemicals	12.2	Automobile	6.0	Steel	4.3	Textiles	10.1
ICT devices	9.9	Rechargeable batteries	5.4	Refined oil	3.6	Automotive	8.4
Textiles	8.6	Refined oil	3.9	General machinery	2.1	Semiconductors	7.6
Steel	7.7	Steel	3.6	Petrochemicals	1.9	Refined oil	5.9
General machinery	6.3	General machinery	2.9	Textiles	1.6	ICT devices	5.0
Rechargeable batteries	5.7	Petrochemicals	1.4	Appliances	0.1	Appliances	3.8
Shipbuilding	2.8	Textiles	1.0	Displays	-1.1	General machinery	3.2
Displays	2.4	Appliances	-1.1	Automotive	-3.4	Displays	1.1
Appliances	-0.8	Displays	-3.5	Shipbuilding	-10.5	Shipbuilding	-3.4
Total of 12 industries	10.6					Total of 12 industries	7.4

production will fall by 1.1 percent. This is because overseas production is expected to increase this year, cutting into exports and boosting imports. Production of ICT devices will rise by 7.5 percent with new product launches and increased domestic and global demand despite more overseas production and growth in imports of foreign parts. Production of semiconductors will ascend by 10.2 percent as the industry expands investment and raises productivity to meet increased domestic and global demand. As for the display sector, despite growing demand for high value-added products and OLED, domestic LCD production is projected to decline, dragging down overall production by 3.5 percent. Finally, the production of rechargeable batteries will grow by 5.4 percent with increased domestic and global demand and efficiency improvements in low-cost equipment despite an increase in overseas production and imports.

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