Explore Korea through Statistics 2020

Statistics Korea

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CHINA
KOREA
JAPAN
East Sea
Yellow Sea
Korea Strait
Baekdusan
Dumangang River
Amnokgang River
Supung Dam
Myohyangsan
Daedonggang River
Pyongyang
Geumgangsan
Imjingang River
Seoraksan
Baengnyeongdo
Gaeseong
Soyanggang Dam
Gimpo Plain
Ganghwado
Seoul
Incheon
Hangang River
Ulleungdo
Dokdo
Taebaeksan
Chungju Dam
Geumgang River
Daecheong Dam
Daejeon
Nakdonggang River
Daegu
Ulsan
Jirisan
Gimhae Plain
Gwangju
Busan
Yeongsangang River
Seomjingang River
Naju Plain
Geojedo
Jindo
Hallasan
Jejudo
0
50
100Km
SCALE 1:5,200,000
LEGEND
Demarcation line
Capital
City
Mountain
Dam

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Foreword

Statistics Korea publishes Explore Korea through Statistics 2020 to help foreign readers to understand social and economic phenomena of Korea. Brief explanations are given with statistical tables, graphs and figures for better understanding of readers. The book presents various information on land, population, economy, society and culture to help readers grasp the Korean society easily. If you need further details about the data in this book, please visit our website (http://kostat.go.kr) or refer to the other publications issued by Statistics Korea. I hope that this book will serve as a good reference to your interest in Korea. Thank you.

Commissioner
Statistics Korea
Kang Shin-Wook

Overview of Statistics Korea

History

Nov. 1948 Bureau of Statistics, Government Information Agency

The Bureau was composed of 1,000 officials in one office and 4 divisions such as General Affairs, Planning, Population Census and Vital Statistics Division.

Feb. 1955 Bureau of Statistics, Ministry of Home Affairs

The organization of the Bureau was reshuffled into 3 Divisions of Planning, Population Census and Vital Statistics (400 officials).

Jul. 1961 Bureau of Statistics under the Ministry of Economic Planning Board

The Bureau of Statistics was relocated to the EPB from the Ministry of Home Affairs. On the 29th of June 1962, the Division of Survey and Analysis was newly established.

Dec. 1990 National Statistical Office

The National Bureau of Statistics was enlarged and renamed as the National Statistical Office (NSO). The NSO included 3 bureaus, 14 divisions, 11 local statistics offices and 5 sub-local branch offices.

Jul. 1998 The Division of Agricultural & Fishery Statistics was newly made inside the Bureau of Social Statistics and 26 branch offices were newly launched.

Feb. 2008 According to the revision of "Government Organization Act", agriculture and fishery statistics production work was transferred from the Ministry of Agriculture and Forestry and the Ministry of Maritime Affairs and Fisheries. Therefore, the Agriculture and Fisheries Production Statistics Division was newly founded. The Statistics Korea consists of 1office, 5 bureaus, 4 officers, 23 divisions and 7 teams in the headquarters. And the Statistics Korea has the Statistical Training Institute (2 divisions), Statistics Research Institute (3 divisions), 12 Local Statistics Offices and 65 Local Branch Offices.

Dec. 2017 Statistics Korea established a dedicated team (Strategy Performance Team) to strengthen customer-oriented sustainable performance and performance-oriented management.

Feb. 26. 2019 In order to streamline the jurisdiction, the Gangwon Regional Office of Statistics dedicated to the Gangwon region was newly established, and the Sejong District Office was newly set up to respond to the demand for regional statistics suitable for the characteristics of the Sejong region.

Jul. 16. 2019 Deputy Director General for Short-term Economic Statistics was newly established to shore up analysis of statistics related to economic trends, and Short-term Household Income and Expenditure Statistics Division was newly set up to expand the provision of data on household statistics.

Feb. 25. 2020 Reorganized to unify the functions of national statistics review and coordination (abolished the Statistics Review Division and the Statistics Coordination Division, and newly established the Economic Statistics Coordination Division and the Social Statistics Coordination Division), and reorganized function to reinforce the function of data hub (abolished the Strategic Performance Team and newly set up the Intelligent Information Management Team)

Mission & Vision

MISSION :

Leading the development of national statistics, producing reliable statistics and providing statistical information to economic entities

- Statistics Korea coordinates, produces and disseminates national statistics in a decentralized statistical system.
- Through statistical coordination activities, Statistics Korea manages the quality of national statistics to lead the development of official statistics.
- Statistics Korea will be a central statistical agency that Koreans trust by improving the quality of statistics produced by Statistics Korea.
- Statistics Korea carries out a mission to provide useful statistics to economic entities.

VISION :

Leading national policies and designing the future of the people through building open statistical hubs

- Not only Statistics Korea but also governmental and public agencies produce official statistics.
- Statistical users are all economic entities such as enterprises and individuals as well as governmental agencies, which establish, enforce and evaluate national policies.
- Statistics Korea provides users with open services by integrating not only statistics produced by Statistics Korea but also various administrative data and statistics produced by governmental agencies, public agencies or private organizations, and by building statistical hubs.
- Statistics Korea contributes to making rational national policies by providing scientific basis, and helps Koreans design their future by providing essential data for decision making.

Core strategies :

First, Lead the development of national statistics by improving institutional infrastructure for statistical production.

Second, Strengthen statistical production and statistical utilization through data hubs and open platforms.

Third, Support national policies by producing statistics to meet ever-changing statistical demand.

Fourth, Strengthen cooperation and collaboration networks within and outside Statistics Korea, and enhance statistical expertise.

Organization Chart

As of January 2019, Statistics Korea, a central organization for statistics under the Ministry of Strategy and Finance, has 1 director general, 5 bureaus, 1 deputy director general, 1 assistant director general, 4 officers, 35 divisions and 1 team laboring in the headquarters.

Statistics Korea also operates affiliated agencies including the Statistical Training Institute, the Statistical Research Institute, Regional Offices of Statistics and District offices of Statistics.

Korea Statistical Information on the Internet

1) Explore Korea through Statistics – Downloadable online publications

http://kosis.kr/publication/publicationThema.do?pubcode=IC

2) News Release on the Homepage

http://kostat.go.kr

3) Statistical Data Produced by KOSTAT

KOSIS (on-line database): http://www.kosis.kr, http://www.kosis.kr/eng/

4) Statistical Geographical Information Service

SGIS: http://sgis.kostat.go.kr

5) Microdata Service System

MDIS: http://mdis.kostat.go.kr

Contents

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Explore Korea through Statistics

Territory and Climate

Chapter 1

Location

The territory of the Republic of Korea is located on a peninsula, which is about 1,000km-long vertically and about 300km horizontally. It extends south-westwards from the north-eastern part of the Eurasian Continent, and includes about 3,358 nearby islands (as of 2015).

The territory is located between 33° 06’43” to 43°00’42”N and 124° 11’04” to 131°52’21”E, extending about 10 degrees latitudinally and about 8 degrees longitudinally. The Republic of Korea is bordered by the Amnok and Duman Rivers to the north with China and Russia, and faces Japan to the east across the East Sea.

The name ‘East Sea’, which refers to the sea lying to the east of the Korean Peninsula, has been used by the Korean people for about 2,000 years, and is replete with Korean history. Samguk Sagi (a historical record of the Three Kingdoms of Korea), the country’s oldest historical text, records that the name ‘East Sea’ was used from BC 37 onwards. This historical fact is clearly inscribed on the King Gwanggaeto Stele, which was built in 414.

Land Area

The total land area of the Republic of Korea comes to about 218,000km^2 while that of South Korea bordered by the military demarcation line comes to about 97,500km^2, accounting for about 44.7% of the total land area. The land area of the Republic of Korea is similar to that of the UK and Romania, and accounts for about 0.17% of the global land mass. The land area of South Korea is similar to that of Hungary, Portugal and Iceland, accounting for about 0.08% of the global land mass. Compared to the neighboring countries, the land area of Japan, China and Russia amounts to 1.7 times, 43.1 times and 75.2 times respectively of the entire Republic of Korea, and 3.7 times, 96.3 times and 168 times of South Korea, respectively.

(Table 1.1) Land Area: Comparison with Neighboring Countries (2018)

	Global	Korea	South Korea	North Korea	Japan	China	Russia
Land area (1,000km^2)	127,343.2	217.9	97.5	120.4	364.6	9,388.2	16,376.9
Ratio (%)	100.0	0.17	0.08	0.09	0.29	7.37	12.86

Source: World Bank

Administrative District

The Republic of Korea consists of 17 administrative districts: Seoul, Busan, Daegu, Incheon, Gwangju, Daejeon, Ulsan, Sejong, Gyeonggi-do, Gangwon-do, Chungcheongbuk-do, Chungcheongnam-do, Jeollabuk-do, Jeollanam-do, Gyeongsangbuk-do, Gyeongsang-nam-do and Jeju Special Self-Governing Province. The borderlines between administrative districts are chiefly drawn along a chain of mountains and rivers.

Seoul is the capital of the Republic of Korea, located in the middle of the Korean peninsula, and spreading across the Han River to the north and south. Seoul has been the center of politics, economy, society and culture since 1394, the early days of the Chosun Dynasty's founding. It is also an international metropolis which held the Seoul Olympic Games in 1988, the Korea-Japan FIFA World Cup in 2002, the 2010 G20 Seoul Summit and the 2012 Seoul Nuclear Security Summit.

Topography

Mountainous area accounts for about three-quarters of the country's total land area. Most of the high mountains are located near the East Coast. Thus, the entire topography shows that the eastern area is higher than the western area, with the Taebaek Mountains in the South and the Nangrim Mountains in the North forming the backbone of the peninsula.

The Korean peninsula is surrounded by the sea on three sides, whose coastline is about 15,000km long (including islands). Each of the East, West and South coasts has its own unique features.

The steep slopes of the Hamgyeong Mountains and Taebaek Mountains extend into the sea. Thus, the sea along the East Coast is comprised of deep and monotonous shorelines. There are well-developed lines of sand dunes, lagoons and half-moon-shaped sandy beaches along the East Coast. Ulleungdo and Dokdo, both volcanic islands, lie in the East Sea far away from the coast.

The West Coast is comprised of relatively flat terrain. Wide reclaimed land has been formed along the coast with a large difference in the ebb and flow of the tide. About more than 2,000 islands are distributed in the southwest sea, forming an archipelago. Jeju island, the largest island of Korea, is located in the southern sea.

Climate

The Republic of Korea is geographically located in the mid-latitudinal temperate climate zone, and therefore, the climate enjoys clear-cut temperature changes between the four seasons, with the summer and winter lasting longer than the spring and fall. The winter is cold and dry under the influence of continental high pressure, while the summer is hot and humid, experiencing high pressure from the North Pacific region. In spring and fall, the weather is mostly sunny and clear thanks to the influence of migratory high pressure.

With the exception of the mountainous areas in the midland of the country, the annual average temperature (from 1981 to 2010) comes to 7.7~18.1℃, while it goes up to 22.4~29.6℃ in August, the hottest month in the year. The monthly average temperature is 11.5~23.3℃ in May, 10.3~19.8℃ in October, and –5.6~4.3℃ in January, the coldest month in the year.

Annual precipitation stands at 800~1,600mm in the southern areas, and 700~1,800mm in the central area. 50~60% of annual precipitation usually occurs in summer. Humidity is the highest in July at 80%.

Explore Korea through Statistics

Population

Chapter 2

The 28th Largest Population in the World

In 2019, the population of South Korea came to 51,709,000, a 1.9% increase from 50,747,000 in 2014, and ranks 28th in the world, accounting for 0.7% of the global population of 7,713,468,000. The population of North Korea comes to 25,666,000, 49.6% of that of South Korea. In 2019, the population of South and North Korea came to 77,375,000, ranking 20th in the world, followed by Iran whose population comes to about 82,914,000.

(Table 2.1) Each Country's Population (2019)

(Unit: 1,000 persons)

Rank	Country	Population	%	Rank	Country	Population	%
	The World	7,713,468	100.0	15	Vietnam	96,462	1.3
1	China	1,433,784	18.6	16	DR Congo	86,791	1.1
2	India	1,366,418	17.7	17	Germany	83,517	1.1
3	USA	329,065	4.3	18	Turkey	83,430	1.1
4	Indonesia	270,626	3.5	19	Iran	82,914	1.1
5	Pakistan	216,565	2.8	20	Thailand	69,626	0.9
6	Brazil	211,050	2.7	21	UK	67,530	0.9
7	Nigeria	200,964	2.6	22	France	65,130	0.8
8	Bangladesh	163,046	2.1	23	Italy	60,550	0.8
9	Russia	145,872	1.9	24	South Africa	58,558	0.8
10	Mexico	127,576	1.7	25	Tanzania	58,005	0.8
11	Japan	126,860	1.6	26	Myanmar	54,045	0.7
12	Ethiopia	112,079	1.5	27	Kenya	52,574	0.7
13	Philippines	108,117	1.4	28	South Korea	51,709	0.7
14	Egypt	100,388	1.3	53	North Korea	25,666	0.3

Source: Statistics Korea ｢Population Projections｣, UN ｢World Population Prospects｣

High Population Density Compared to Other Countries

As for population density, which measures how many people live in the same land area, South Korea ranked high in the world with 514 persons/km^2 in 2018. In Fact, with the exception of city states (Monaco, Singapore) and small island countries (Malta, Maldives), South Korea has the highest population density in the world. The population density of North Korea stands at 204persons/km^2 , 2.5 times lower than that of South Korea.

(Table 2.2) Population Density (2018)

(Unit: Person/km²)

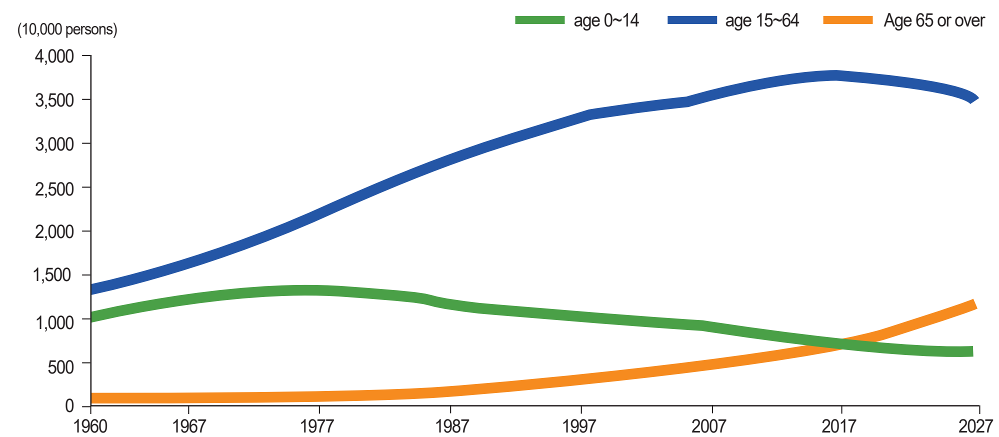
Rank[1]	Country	Population Density[2]	Rank[1]	Country	Population Density[2]
1	Macao	22,247	7	Malta	1,510
2	Monaco	19,150	8	Bermuda	1,185
3	Singapore	7,804	9	Bangladesh	1,115
4	Hong Kong	6,731	10	Taiwan	652
5	Bahrain	1,931	14	**South Korea**	514
6	Maldives	1,707	-	North Korea[3]	204

Note: 1) Rank of population density, 2) Estimated figure, 3)Value calculated by population estimates data
Source: UN ｢Demographic Yearbook 2018｣

Population Aging in Korea

In connection with population composition for each age group, the population of youth under age 15 accounts for 12.4%, and the working age population aged 15~64, 72.7%, and the elderly population aged over 65, 14.9% of the total population in 2019. The demographic change shows a remarkable decrease in the proportion of youth, and a sharp increase in the elderly population. The working age population had been increasing gradually, but has decreased since 2017.

<Figure 2.1> Demographic



This trend may lead to a decrease in the working age population that will be responsible for production, as well as an increase in the dependent population.

In 2019, about 1.5 persons out of every ten South Korean is aged 65 or over. The aging index, which indicates the population aged 65 or over per 100 young people, stood at 62.9 in 2009, but 105.1 in 2017, which shows that the elderly population exceeds the youth population, and has constantly increased to 119.4 in 2019.

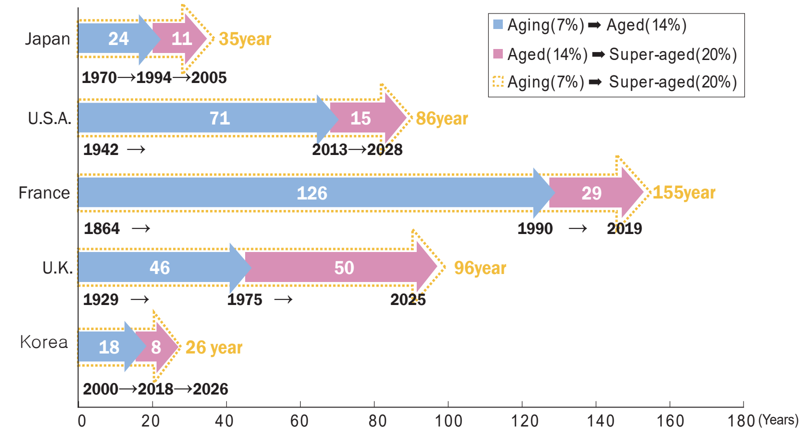
The proportion of the elderly population in Korea came to 14.3% in 2018, which will reach an aging society in 18 years, which is 6 years faster than that of Japan, a representative aged country.

(Table 2.3) Size and Composition of Population

	Total Population 1,000 Persons	Population Composition (%)			Median Age	Average Age	Aging Index
		Age 0-14	Age 15~64	Age 65 or over			
1974	34,692	39.7	57.0	3.2	19.2	24.1	8.1
1979	37,534	34.6	61.6	3.7	21.4	25.7	10.8
1984	40,406	31.2	64.7	4.1	23.8	27.1	13.3
1989	42,449	26.5	68.6	4.8	26.4	29.0	18.2
1994	44,642	23.9	70.4	5.7	28.8	30.8	23.9
1999	46,617	21.4	71.7	6.9	31.2	32.7	32.3
2004	48,083	19.6	71.8	8.6	34.1	34.9	43.8
2009	49,308	16.7	72.8	10.5	37.3	37.4	62.9
2014	50,747	14.2	73.4	12.4	40.3	39.7	87.0
2017	51,362	13.1	73.2	13.8	42.0	41.2	105.1
2018	51,607	12.8	72.9	14.3	42.6	41.7	111.9
2019	51,709	12.4	72.7	14.9	43.1	42.2	119.4

Source: Statistics Korea ｢Population Projections｣

<Figure 2.2> Aging Rate: Comparison with the Major Countries



Source: OECD

Shrinking Trend on the Natural Population Increase Rate

In 2019, the crude birth rate and the crude death rate stood at 5.9 and 5.7, respectively, and the natural population increase rate recorded 0.1.

The Lowest Total Fertility Rate (TFR) among OECD Countries

The TRF of Korean women fell to 1.56 in 1989, 1.43 in 1999 and 1.15 in 2009. The childbirth encouragement policy raised the TFR to 1.21 in 2014, but the TFR continuously fell to less than one, 0.92 in 2019.

(Table 2.4) Vital Statistics

	TFR	Crude Birth Rate (per 1,000 population)	Crude Death Rate (per 1,000 population)	Natural Increase Rate (per 1,000 population)	Crude Marriage Rate (per 1,000 population)	Crude Divorce Rate (per 1,000 population)	Life Expectancy		Average Age at First Marriage	
							Male	Female	Males	Females
1989	1.56	15.1	5.6	9.5	9.7	1.0	67.0	75.3	-	-
1994	1.66	16.0	5.4	10.6	8.7	1.4	69.3	77.7	28.2	25.1
1999	1.43	13.2	5.3	7.9	7.6	2.5	71.8	79.2	29.1	26.3
2004	1.16	9.8	5.1	4.8	6.4	2.9	74.3	81.2	30.5	27.5
2009	1.15	9.0	5.0	4.0	6.2	2.5	76.7	83.4	31.6	28.7
2014	1.21	8.6	5.3	3.3	6.0	2.3	78.6	85.0	32.4	29.8
2017	1.05	7.0	5.6	1.4	5.2	2.1	79.7	85.7	32.9	30.2
2018	0.98	6.4	5.8	0.5	5.0	2.1	79.7	85.7	33.2	30.4
2019	0.92	5.9	5.7	0.1	4.7	2.2	-	-	33.4	30.6

Source: Statistics Korea ｢Vital Statistics｣

Marriage and Divorce

The crude manage rate (the number of marriages per 1,000 population) marked the highest figure of 9.7 in 1989, and continued to decline, showing 4.7 in 2019.

The crude divorce rate (the number of divorces per 1,000 population)) had increased to 2.9 in 2004, but continued to decrease, reaching 2.1 in 2015 under the influence of the decreased number of married couples aged 15~49, and the adoption of a mandatory cooling-off period on divorce, but increased to 2.2 in 2019.

Stronger Trend toward a Small Family

The number of ordinary households in Korea has continued to increase from 5,576,000 in 1970 to 14,312,000 in 2000, and 20,343,000 in 2019. The increase in the number of households was caused by the combination of demographical and socioeconomic factors, including industrialization, urbanization and the expansion of the nuclear family. The average number of household members has decreased from 5.2 in 1970 to 3.1 in 2000 and 2.4 in 2019, showing a clear trend toward a small family.

One-generation and one-person households are continuously increasing, while the most common type, two-generation households, and three-generation or more households are continuously decreasing.

(Table 2.5) **Generational Composition of Ordinary Households**

	Number of Households (1,000 households)	Percentage (%)					Average Number of Household Members (Person)
		One Generation	Two Generation	Three Generation	One-Person Households	Households of Unrelated Persons	
1970	5,576	6.8	70.0	22.1	-	-	5.2
1980	7,969	8.3	68.5	16.5	4.8	1.5	4.5
1990	11,355	10.7	66.3	12.2	9.0	1.5	3.7
2000	14,312	14.2	60.8	8.2	15.5	1.1	3.1
2010	17,339	17.5	51.3	6.1	23.9	1.2	2.7
2015	19,111	17.4	48.8	5.4	27.2	1.1	2.5
2016	19,368	17.2	48.3	5.2	27.9	1.4	2.5
2017	19,674	17.6	47.4	4.8	28.6	1.6	2.5
2018	19,979	18.0	46.5	4.5	29.3	1.7	2.4
2019	20,343	18.4	45.3	4.1	30.2	1.9	2.4

Source: Statistics Korea 「Population Census」

Explore Korea through Statistics

Labor

Chapter 3

- Economically Active Population
- Employment Structure
- Unemployment Structure by Age Group
- Wage Level
- Average Annual Working Hours

Economically Active Population

Statistics Korea carries out surveys on the economic activity status on a weekly basis, including the 15th day of each month, for 35,000 sample households all over the country. These households are selected on the basis of the findings of the Population and Housing Census conducted in accordance with criteria set by the ILO in order to produce statistical data on the economi-

cally active population, as well as the employed and the unemployed.

In 2019, the country's economically active population came to 28,186,000 in total, and 63.3% of the population aged 15 or over engages in economic activities. Out of these, 27,123,000 persons are employed, marking a 1.1% (301,000) increase compared to 2018. 1,063,000 persons are unemployed, showing a 0.9% (10,000) year-on-year decrease, and the unemployment rate comes to 3.8%, which is equal to that of the previous year.

(Table 3.1) Employment Trend

(Unit: 1,000 persons)

	Population Aged 15 or over	Economically ActivePopulation			Labor Force Participation Rate (%)	Unemployment Rate (%)
			The Employed	The Unemployed		
2004	37,772	23,544	22,682	862	62.3	3.7
2009	40,301	24,582	23,688	894	61.0	3.6
2014	42,795	26,836	25,897	939	62.7	3.5
2017	43,931	27,748	26,725	1,023	63.2	3.7
2018	44,182	27,895	26,822	1,073	63.1	3.8
2019	44,504	28,186	27,123	1,063	63.3	3.8

Note: The Enlisted soldiers, policemen and public service workers, and convicted persons are excluded from the population aged 15 or over.
Source: Statistics Korea, 「Economically Active Population Survey」

Employment Structure

Compared to the industry-specific employment structure in 2019 to that in 2013 (6 years ago), the composition ratio of those employed in agriculture, forestry and fisheries decreased by 0.9%p, those employed in the mining and manufacturing industries by 0.7%p, but those employed in social overhead capital and other service industries increased by 1.6%p. It is expected that the employed in the ICT industry will continue to increase.

The country's employment structure has changed in just 30~40 years to become very similar to that of the advanced countries, as shown in the following table.

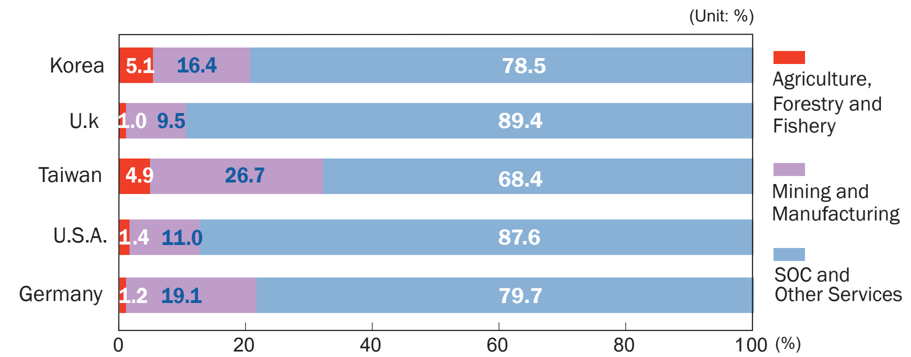
(Table 3.2) Composition Ratio of the Employed in Each Industry

(Unit: 1,000 persons, %)

	Total	Agriculture, Forestry and Fishery		Mining and Manufacturing		SOC and Other Services	
			Percentage		Percentage		Percentage
2013	25,299	1,513	6.0	4,322	17.1	19,464	76.9
2014	25,897	1,446	5.6	4,471	17.3	19,980	77.2
2015	26,178	1,337	5.1	4,618	17.6	20,222	77.2
2016	26,409	1,273	4.8	4,603	17.4	20,534	77.8
2017	26,725	1,279	4.8	4,589	17.2	20,857	78.0
2018	26,822	1,340	5.0	4,529	16.9	20,953	78.1
2019	27,123	1,395	5.1	4,444	16.4	21,284	78.5

Note: Bsed on Korean Standard Industrial Classification Rev. 10 (2017)
Source: Statistics Korea, 「Economically Active Population Survey」

<Figure 3.1> Composition Ratio of the Employed in Each Industry in Major Countries (2019)



Note: ILO modelled estimates
Source: ILO

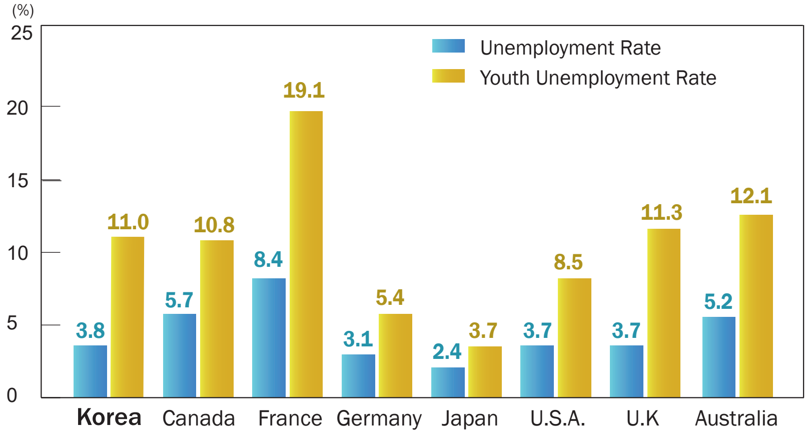
Unemployment Structure by Age Group

The biggest concern over economic activity is youth unemployment. It is a common phenomenon in OECD countries that the youth unemployment rate (for those aged 15~24) is higher than the overall unemployment rate (for those aged 15~64)

As of 2019, the youth unemployment rate (for those aged 15~24) in Korea stood at 11.0%, which is lower than that of France, the UK and Australia, but the portion of the youth unemployment rate (for those aged 15~29) is higher than the total employment rate.

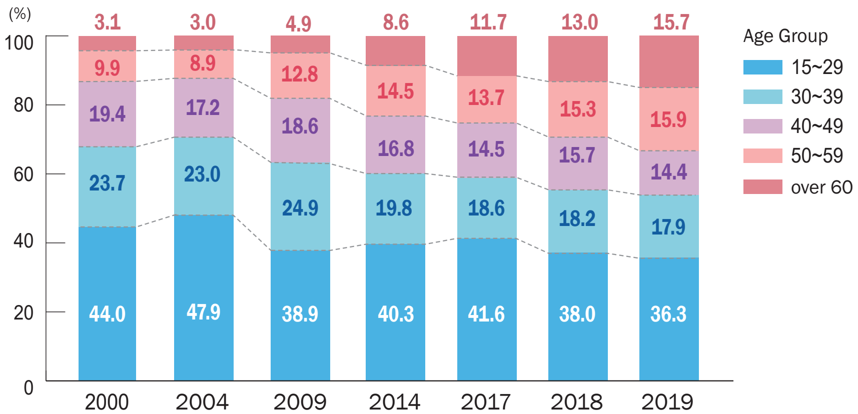
As of 2019, the unemployed persons aged 15~29 accounts for 36.3% of the total unemployed persons aged 15 or over.

<Figure 3.2> International Comparison of Unemployment Rate (for those aged 15~64) and Youth Unemployment Rate (for those aged 15~24) (2019)



Source: OECD

<Figure 3.3> Percentage of Age Groups in the Total Unemployed Persons



Source: Statistics Korea, 「Economically Active Population Survey」

Wage Level

Table 3.3 shows that the domestic wage index stands at 116.2 in 2019, rising nearly 4.2 times from 27.6 in 1994. Over the same period of time, it showed a very high rise, compared to other countries's increase rate of 2.0 times or less, including USA (1.84 times), Canada (1.59 times) and Japan (1.18 times). On the other hand, it also shows the country's wage level in the 1990s was considerably lower than that of other countries.

(Table 3.3) Hourly Wage Index (in Manufacturing Industry)

	Korea	Japan	USA	Canada
1994	27.6	88.0	60.5	67.0
1999	39.8	93.8	69.6	72.8
2004	61.5	98.7	81.1	81.8
2009	75.4	92.8	91.6	85.2
2014	97.1	99.8	98.3	95.7
2017	106.4	102.0	105.0	104.3
2018	113.6	103.5	108.2	103.4
2019	116.2	103.7	111.3	106.6
Increase Rate (2019/1994)	4.2	1.2	1.8	1.6

Note: 2015=100.0
Source : OECD

Average Annual Working Hours

As of 2019, Korea's average annual working hours per worker stood at 1,967 hours, which is 241 hours longer that the OECD countries' average annual working hours of 1,726. The 5-day workweek system has been introduced in phases, and was fully implemented in 2011. The implementation of the 5-day workweek system, and the introduction of the 52-hour workweek system in 2018 has resulted in expanding leisure and hobbies activities, improving the quality of life, enhancing productivity through the development of human resources, increasing women's social participation, developing service industries and reducing unemployment.

(Table 3.4) Actual Average Annual Working Hours per Worker in Major OECD Countries (2019)

(Unit: Hour)

Rank	Country	Working Hours	Rank	Country	Working Hours
1	Mexico	2,137	8	USA	1,779
2	Korea	1,967	9	New Zealand	1,779
3	Greece	1,949	10	Ireland	1,772
4	Chile	1,914	32	Germany	1,386
5	Israel	1,898	33	Norway	1,384
6	Poland	1,806	34	Denmark	1,380
7	Czech	1,788	-	OECD Average[1]	1,726

Note 1) The OECD average is a weighted average and does not include Israel or Slovenia.
Source: OECD

Price and Household Economy

Chapter 4

Price

The price index calculated in Korea includes the Consumer Price Index (CPI), the Producer Price Index (PPI), the Export and Import Price Index and the Price Index Of Commodities Received and Paid by Farmers.

Consumer Price Index

The average annual consumer price index was 104.85 in 2019 (2015=100), a 0.4% year-on-year rise, slowing significantly from 1.5% in 2018.

In terms of commodities, the prices for

electricity, water and gas increased by 1.5% from –2.9% in 2018, while those for agricultural, livestock and marine products decreased by 1.7% and industrial products by 0.2%.

In terms of services, the rate of increase in rent (-0.1%) and public services (-0.5%) marked minus, and the rate of increase in personal service slowed by 1.9%.

(Table 4.1) Consumer Price Index(CPI)

(Unit: %)

	Index (2015=100)				Year-on-Year			
	2016	2017	2018	2019	2016	2017	2018	2019
Overall Index	100.97	102.93	104.45	104.85	1.0	1.9	1.5	0.4
Commodities	99.40	101.31	102.65	102.35	-0.6	1.9	1.3	-0.3
Agricultural and Marine products	103.84	109.54	113.56	111.66	3.8	5.5	3.7	-1.7
Industrial Products	99.51	100.94	102.22	102.06	-0.5	1.4	1.3	-0.2
Electricity, Water and Gas	90.80	89.52	86.91	88.22	-9.2	-1.4	-2.9	1.5
Service	102.25	104.25	105.92	106.91	2.3	2.0	1.6	0.9
Rent	101.86	103.51	104.15	104.04	1.9	1.6	0.6	-0.1
Public Service	101.46	102.45	102.66	102.16	1.5	1.0	0.2	-0.5
Personal Service	102.72	105.31	107.97	109.97	2.7	2.5	2.5	1.9

Source: Statistics Korea, 「Consumer Price Survey」

Producer Price Index

The Producer Price Index measures fluctuations in the price of goods and services supplied by domestic producers. Producer prices are linked to corporate profitability and reflected in consumer prices after a time lag.

The Producer Price Index in 2019 stood at 103.50 (2015=100), a 0.02% year-on-year increase. The prices of agricultural, forestry and marine products, and industrial products fell by 2.3% and 1.0%, respectively.

Service prices rose by 1.2%. Among them, the prices of the specialized service for science and technology, business support, and food and accommodation rose by 3.6%, 3.0% and 2.5%, respectively, but finance and insurance fell by 3.9%.

(Table 4.2) Producer Price Index(PPI)

(Unit: %)

	1999	2004	2009	2014	2017	2018	2019	Year-on-Year
Overall Index	76.76	84.27	95.42	104.18	101.57	103.48	103.50	0.0
Commodities	77.73	85.02	97.33	106.74	101.14	103.31	102.54	-0.7
Agricultural, Forestry and Marine Products	67.18	82.47	87.47	97.74	112.63	116.65	114.01	-2.3
Mining Products	49.87	60.97	81.39	99.65	109.13	114.47	115.29	0.7
Industrial Products	80.72	86.99	99.72	107.22	101.10	103.31	102.28	-1.0
Electricity, Water, Gas and Waste	57.79	67.96	82.19	107.03	95.69	96.17	98.42	2.3
Service	75.39	83.39	91.71	98.79	102.45	103.93	105.20	1.2
Transportation	67.75	81.55	93.85	100.61	101.43	102.93	104.86	1.9
Food and Accommodation	72.62	82.52	84.79	97.93	104.60	107.91	110.64	2.5
ICT and Broadcasting	95.03	96.01	98.67	98.79	100.53	99.57	99.24	-0.3
Finance and Insurance	91.44	95.28	101.31	99.38	98.38	97.01	93.26	-3.9
Real estate	74.61	81.75	89.90	98.57	103.09	104.07	104.91	0.8
Specialized Services for Science and Technology	54.53	69.76	87.22	97.64	106.12	108.13	112.07	3.6
Business Support Services	92.63	82.33	88.49	97.70	103.58	108.04	111.26	3.0
Educational Services	-	-	-	97.92	103.52	106.05	108.27	2.1
Art, Sports and Leisure	-	-	-	98.55	103.50	106.38	107.57	1.1
Other Services	-	-	-	98.29	104.09	107.46	109.39	1.8

Note: 2015=100
Source: The Bank of Korea, 「Producer Price Survey」

Household Economy

Household income in Korea

As of the 2nd quarter in 2020, the monthly average income per household with 2 or more persons stood at KRW 5,272,000, a 4.8% (KRW 240,000) year-on year increase from KRW 5,032,000 in 2019. Current income increased by 4.3% (KRW 211,000) to KRW 5,181,000, showing that earned income, business income and property in-

come decreased by 5.3%, 4.6% and 11.7%, respectively, while transfer income increased by 80.8%. non-current income is KRW 90,000, a 44.4% (KRW 27,000) year-on-year increase.

(Table 4.3) Monthly average income per household[1)]

(Unit: KRW 1,000, %)

	2nd Quarter, 2019		1st Quarter, 2020		2nd Quarer, 2020		
	Amount	Percentage	Amount	Percentage	Amount	Percentage	Year-on-Year
Number of Household Members	3.03		3.02		3.02		-
Age of Householder	52.2		52.5		52.5		-
Income	5,032	100.0	5,358	100.0	5,272	100.0	4.8
Current Income	4,970	98.8	5,208	97.2	5,181	98.3	4.3
Earned Income	3,400	67.6	3,529	65.9	3,220	61.1	-5.3
Business Income	987	19.6	938	17.5	942	17.9	-4.6
Property Income	38	0.8	45	0.8	34	0.6	-11.7
Transfer Income	545	10.8	696	13.0	985	18.7	80.8
Non-Current Income	63	1.2	151	2.8	90	1.7	44.4

Note: 1) The whole country, based on households with 2 or more members
Source: Statistics Korea 「Household Income and Expenditure Survey」

Income Distribution of the Whole Households

In 2018, the Gini coefficient based on the disposable income was 0.345, a 0.009 year-on-year decrease from 0.354 in 2017.

(Table 4.4) Gini Coefficient of the Whole Households

	2013	2014	2015	2016	2017	2018
Based on the Market Income (A)	0.401	0.397	0.396	0.402	0.406	0.402
Based on the Disposable Income (B)	0.372	0.363	0.352	0.355	0.354	0.345
Improvement Effect (A-B)	0.029	0.034	0.044	0.047	0.052	0.057

Source: Statistics Korea, 「Survey of Household Finances and Living Conditions」

Household Consumption Expenditure

In 2019, the monthly average consumption expenditure per household with one or more members stood at KRW 2,457,000, a 0.96% (KRW 81,000) year-on-year decrease. A great portion of household expenditure was in orders of food and non-alcoholic beverages (13.5%), restaurants and accommodation (14.1%), transportation (12.0%), housing, water, light and heat (11.3%).

(Table 4.5) Monthly Average Consumption Expenditure per Household

(Unit: KRW 1,000, %)

	2017		2018		2019	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
Number of Household Members	2.46		2.43		2.41	
Age of Householder	51.6		51.8		52.3	
Consumption Expenditure	2,557	100.0	2,538	100.0	2,457	100.0
Food and Non-Alcoholic Beverages	360	14.1	367	14.4	333	13.5
Alcoholic Beverages and Tobacco	35	1.4	35	1.4	36	1.5
Clothing and Footwear	159	6.2	152	6.0	138	5.6
Housing, Water, Light and Heat	283	11.1	285	11.2	277	11.3
Housewares and Housekeeping Services	112	4.4	117	4.6	115	4.7
Health	182	7.1	191	7.5	202	8.2
Transportation	369	14.4	349	13.7	296	12.0
Communication	138	5.4	134	5.3	123	5.0
Entertainment and Culture	175	6.8	192	7.6	180	7.3
Education	188	7.4	173	6.8	205	8.3
Restaurant and Accommodation	354	13.9	350	13.8	346	14.1
Other Goods and Services	202	7.9	192	7.6	206	8.4

Note: Based on households with one or more members
Source: Statistics Korea, 「Household Income and Expenditure Survey」

Consumption Expenditure Pattern by Householder Age

All age groups mainly spend their income on food, transportation, communication, restaurant and accommodation, but householders in their forties spend more for education, and those in their sixties or over for housing and health, than other age groups.

(Table 4.6) Component Ratio of Consumption Expenditure Items by Householder's Age (2019)

(Unit: %)

	The whole	Aged under 39	Aged 40-49	Aged 50-59	Aged 60 or over
Consumption Expenditure	100.0	100.0	100.0	100.0	100.0
Food and Non-Alcoholic Beverages	13.5	10.6	12.0	12.9	19.5
Clothing and Footwear	5.6	6.4	5.8	5.7	4.5
Housing, Water, Light and Heat	11.3	12.2	9.5	10.5	13.7
Health	8.2	5.9	6.2	7.9	13.9
Transportation and Communication	17.1	18.8	16.4	17.9	14.9
Education	8.3	5.7	15.5	8.8	1.0
Restaurant and Accommodation	14.1	16.8	14.1	14.3	10.9
Other	8.4	8.9	7.5	8.8	8.4

Note: Based on households with one or more members
Source: Statistics Korea, 「Household Income and Expenditure Survey」

Explore Korea through Statistics

National Account

Chapter 5

- The World's 12th Largest Economy
- Gross National Income per Capita: About USD 32,000
- Savings Ratio
- Investment Ratio
- Industrial Structure

The World's 12th Largest Economy

In 2019, the gross domestic product (nominal GDP) stood at KRW 1,919 trillion, the gross national income KRW 1,935.7 trillion and the per capita gross national income KRW 37.435 million. Compared to 30 years ago, the gross domestic product increased by 11.6 times, and per capita gross national income by 9.6 times.

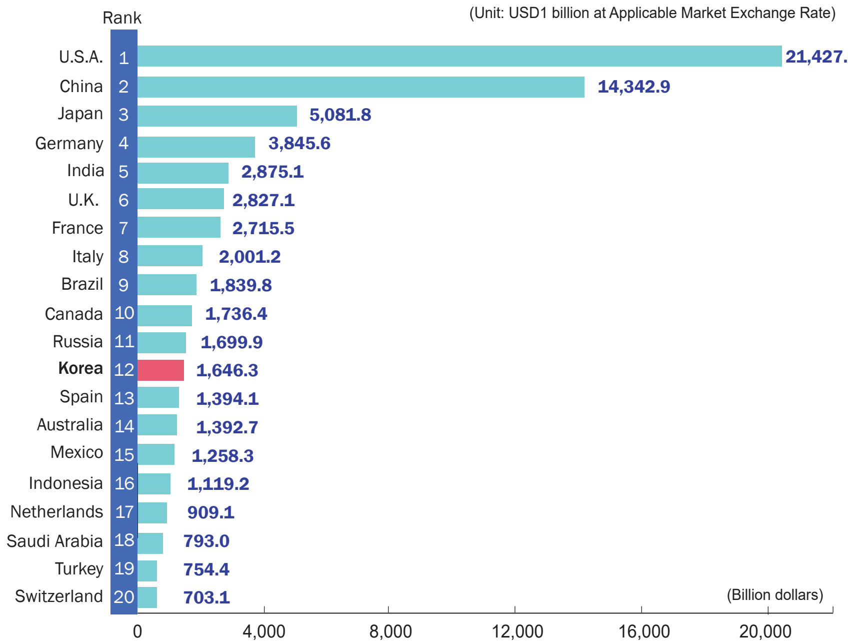
(Table 5.1) National Income

	GDP		GNI		Per Capita GNI	
	KRW 1 trillion	USD 100 million	KRW 1 trillion	USD 100 million	KRW 10,000	USD
1989	165.8	2,469.6	165.3	2,462.3	389.4	5,800.6
1999	591.5	4,972.4	584.9	4,917.5	1,254.8	10,548.8
2004	908.4	7,936.3	906.9	7,922.5	1,886.1	16,476.9
2009	1,205.3	9,443.3	1,203.5	9,428.7	2,440.7	19,122.1
2014	1,562.9	14,839.5	1,570.5	14,911.4	3,094.8	29,383.9
2017	1,835.7	16,233.1	1,843.2	16,299.2	3,588.6	31,734.1
2018	1,898.2	17,251.6	1,905.8	17,321.1	3,693.0	33,563.7
2019	1,919.0	16,463.3	1,935.7	16,606.3	3,743.5	32,114.9

Source: The Bank of Korea

In 2019, the gross domestic product of major countries appeared in the order of: USA (USD 21.4277 trillion), China (USD 14.3429 trillion), Japan (USD 5.0818 trillion), Germany (USD 3.8456 trillion) and India (USD 2.8751 trillion), and Korea ranked 12th with USD 1.6463 trillion.

<Figure 5.1> Gross Domestic Product (GDP) of Major Countries (2019)



Source: The Bank of Korea, The World Bank

Gross National Income per Capita: About USD 32,000

According to the World Bank's announcement, the GNI per capita of major countries in 2019 was in the order of: Switzerland (USD 83,451), Norway (USD 78,105), Luxemburg (USD 73,849), Iceland (USD 72,659) and USA (USD 65,717). Korea's GDP ranked 12th, while its GNI per capita was USD 32,115, ranked 26th.

(Table 5.2) GNI per Capita of Major Countries (2019)

(Unit: USD)

Rank	Country	GNI per capita	Rank	Country	GNI per capita
1	Switzerland	83,451	11	Australia	53,431
2	Norway	78,105	12	Netherland	53,354
3	Luxemburg	73,849	13	Hong Kong	51,766
4	Iceland	72,659	14	Austria	49,794
5	USA	65,717	15	Pinland	48,472
6	Qatar	63,225	16	Germany	47,389
7	Denmark	61,899	17	Israel	46,318
8	Iceland	61,392	18	Belgium	46,052
9	Singapore	58,185	19	Canada	45,937
10	Sweden	54,296	23	**Korea**	32,115

Source: The Bank of Korea, The World Bank

Savings Ratio

In 2019, the gross savings ratio stood at 34.7%, a 1.0%p decrease from 35.7% in 1999 (20 years ago). The gross savings ratio of the private sector recorded 27.8% in 2019, a 0.5%p increase from 27.3% in 1999, but the government's gross savings ratio declined by 1.5%p during the same period.

Compared to the previous year, the gross savings ratio of the private sector was the same at 27.8%, while the government's gross savings ratio declined by 1.3%p from 8.2% in 2018.

Investment Ratio

In 2019, the gross domestic investment ratio stood at 31.2%, a 0.1%p decrease from 31.3% in 1999 (20 years ago), and the self-reliance ratio of investment resources recorded 111.2%, a 2.9%p decrease from 114.1% in 1999.

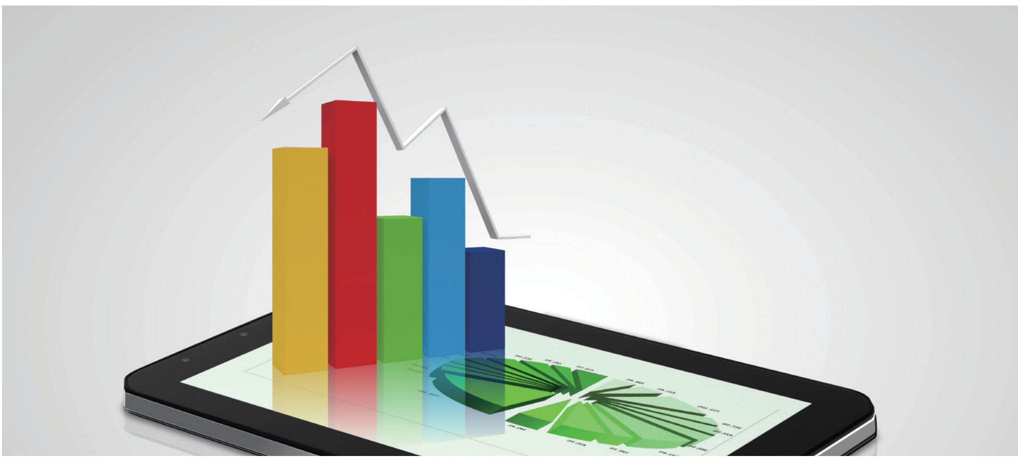
The gross domestic investment ratio stood at 31.2%, a 0.3%p decrease from 31.5% in 2018, and the self-reliance ratio of investment resources recorded 111.2%, a 2.8%p decrease from 114.0% in 2018.

(Table 5.3) Gross Savings Ratio and Investment Ratio

(Unit: %)

	1994	1999	2004	2009	2014	2017	2018	2019
Gross Savings Ratio	37.9	35.7	35.7	33.5	35.0	37.1	35.9	34.7
(Private Sector)	29.6	27.3	27.2	26.0	28.4	29.2	27.8	27.8
(Government)	8.3	8.4	8.5	7.5	6.6	7.8	8.2	6.9
Gross Domestic Investment Ratio	38.5	31.3	32.7	29.5	29.7	32.3	31.5	31.2
(Gross Domestic Fixed Investment Ratio)	36.4	30.3	31.2	30.9	28.9	31.5	30.4	29.8
Self-reliance Ratio of Investment Resources	98.4	114.1	109.2	113.6	117.8	114.9	114.0	111.2

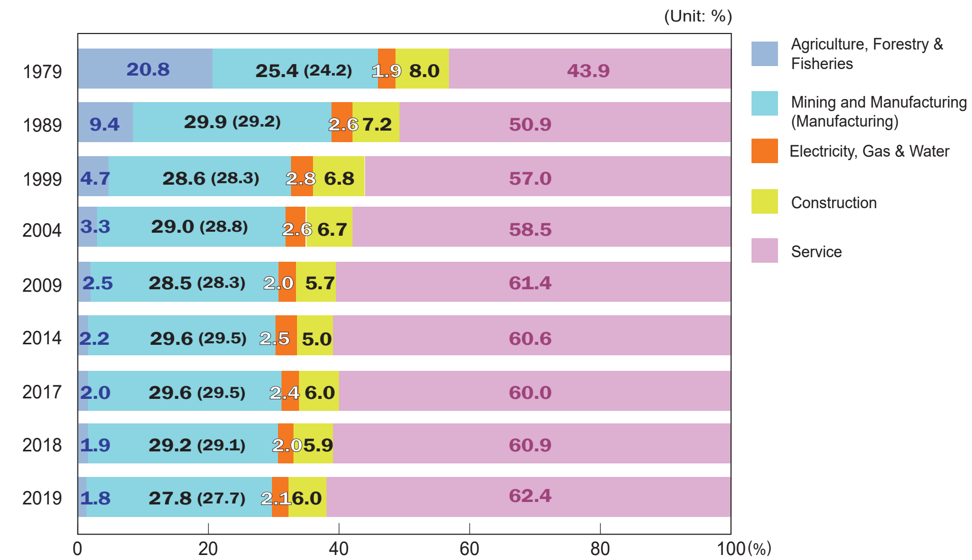
Source: The Bank of Korea



Industrial structure

In connection with the share of each industry from GDP in 2019, the service industry recorded 62.4% and the manufacturing industry 27.7%, accounting for the largest share. Whereas, compared to other industries, agriculture, forestry and fisheries recorded a sharp decrease from 20.8% in 1979, and 9.4% in 1989 to 1.8% in 2019.

<Figure 5.2> Industrial Structure



Note: Data before 2000 are based on 2005.

Source: The Bank of Korea

Explore Korea through Statistics

Agriculture, Forestry and Fisheries

Chapter 6

- Agriculture
- Forestry
- Fisheries

Agriculture

The farm household population stood at 2,245,000 (4.3%) in 2019, which was a large drop from 6,786,000 (16.0%) in 1989, due to a great influx of the rural population into cities resulting from industrialization.

Whereas, the income per farm household in 2019 recorded about KRW 41.18 million, a 4.4 times increase from KRW 9.44 million in 1989.

(Table 6.1) Major Agricultural Indices

	Number of Farm Households (1,000 households)	Farm Household Population (1,000 Persons)	Total population (1,000 Persons)	Farm Household Population Ratio (%)	Income per Farm Household (KRW 1,000)
1979	2,162	10,883	37,534	29.0	2,227
1989	1,772	6,786	42,449	16.0	9,437
1994	1,558	5,167	44,642	11.6	20,316
1999	1,382	4,210	46,617	9.0	22,323
2004	1,240	3,415	48,083	7.1	29,001
2009	1,195	3,117	49,308	6.3	30,814
2014	1,121	2,752	50,747	5.4	34,950
2017	1,042	2,422	51,362	4.7	38,239
2018	1,021	2,315	51,607	4.5	42,066
2019	1,007	2,245	51,709	4.3	41,182

Source: Statistics Korea, 「Agriculture, Forestry and Fishery Survey」, 「Farm Household Economy Survey」

The area of arable land was 1,581,000ha in 2019, which has decreased by 546ha (-25.7%) from 2,127,000ha in 1989 due to the expansion of housing and factory sites, and roads, but the area of arable land per farm household increased by 0.37ha.

Korea's degree of food self-sufficiency decreased from 54.2% in 1999 to 48.9% in 2017 in the aftermath of agricultural import, but the high increase in the self-sufficiency of rice, which is the staple diet of Koreans, seems to be influenced by sluggish rice consumption, despite the opening of markets to rice imports.

(Table 6.2) Area of Arable Land and Food Self-Sufficiency

	Arable Land Area (1,000 ha)	Arable Land Area per Farm Household (ha)	Food Self-Sufficiency (%)1)	Rice
1979	2,207	1.02	75.5	85.7
1989	2,127	1.20	70.8	108.1
1999	1,899	1.37	54.2	96.6
2004	1,836	1.48	50.2	96.5
2009	1,737	1.45	56.2	101.1
2014	1,691	1.51	49.7	95.4
2017	1,621	1.56	48.9	103.4
2018	1,596	1.56	-	-
2019	1,581	1.57	-	-

Note 1) Feed grain was excluded, and data for 2017 are provisional.
Source: Statistics Korea, 「Agricultural Area Survey」, Ministry of Agriculture, Food and Rural Affairs.

In 2019, the cultivated area of food crops stood at 921,846ha, which has decreased by 804,139ha (-46.6%) from 1,725,985ha in 1989. The cultivated area of rice, which is the staple food, stood at 729,814ha in 2019, which has decreased by 526,847ha (-41.9%) from 1,256,661ha in 1989.

The cultivated area of vegetables stood at 204,026ha in 2019, which has decreased by 78,740ha (-27.8%) from 282,766ha in 1989.

The cultivated area of fruit trees, and special and medical crops, has continued to fluctuate, but has been on a decreasing trend since 2017.

(Table 6.3) The Cultivated Area of Major Crops

(Unit: ha)

Year	Food Crops		Vegetables	Fruit trees	Special/Medical Crops
		Rice			
1979	2,143,296	1,233,234	338,699	95,727	118,941
1989	1,725,985	1,256,661	282,766	126,780	144,821
1994	1,402,684	1,102,608	303,033	161,517	107,052
1999	1,325,484	1,066,203	289,410	171,327	103,707
2004	1,230,941	1,001,159	255,353	152,648	75,539
2009	1,124,952	924,471	216,036	150,917	85,921
2014	1,011,067	815,506	213,351	153,415	88,686
2017	918,263	754,713	208,308	159,041	96,394
2018	922,830	737,673	218,603	156,435	80,747
2019	921,846	729,814	204,026	151,826	80,304

Note) applicable to crops cultivated outdoors
Source: Statistics Korea, 「Agricultural Area Survey」

Forestry

In 2015, the country's forest area stood at 6,335,000, accounting for 64% of the nations' total land area, and consisting of 25.5% of national forests and 74.5% of civil owned forests.

The country's average growing stock per ha has been on an increasing trend, such as 9.55m³ in 1960, 22.18m³ in 1980, 63.46m³ in 2000, and 145.99m³ in 2015.

(Table 6.4) Forest Area and Growing Stock

	Size of Forests (1,000 ha)			Growing Stock	
	Total	National Forest	Civil Owned Forest	Total (1,000m³)	Growing Stock/ha (m³)
1960	6,701	-	-	63,995	9.55
1970	6,611	1,277	5,335	68,773	10.40
1980	6,571	1,307	5,256	145,694	22.18
1990	6,476	1,346	5,114	248,426	38.36
2000	6,422	1,433	4,989	407,576	63.46
2010	6,369	1,543	4,825	800,025	125.62
2015	6,335	1,618	4,717	924,810	145.99

Note: Forest area in 1980 is based on the end of 1979.
Source: Korea Forest Service 「Statistical Yearbook of Forestry」

Fisheries

The number of fishery households stood at 50,909 in 2019, a 57.1% decrease (67,674 households) from 118,583 in 30 years ago 1989. The fishery household population stood at 113,898 in 2019, a 77.0% (382,138) decrease, and the number of people engaged in fisheries stood at 83,209, a 62.0% (135,509) decrease.

Whereas, the income per fishery household stood at KRW 48 million in 2019, indicating a sharp increase of KRW 40 million (499.3%) from KRW 8 million in 30 years ago 1989.

In 2019, fishery production amounted to 3,830,000 tons, a 15.4% increase (510,000 tons) from 3,319,000 tons in 1989, and a 1.6% (60,000 tons) year-on-year increase from 3,770,000 tons. In spite of the depletion of fishery resources, fishery production has stayed at a constant level for 30 years because of the shift from fishing to aquaculture. Consequently, the proportion of coastal aquaculture in fishery production has steadily increased, and the coastal aquaculture has contributed to the increase in income of fishery households.

(Table 6.5) Fishery-related Indices

	Fishery Households[1]	Fishery Household Population	Household Members Engaged in Fishery	Income per Fishery Household (KRW 1,000)	Fishery Production[2] (1,000 tons)	Coastal Aquaculture[2] (1,000 ton)	Ratio (%)
1989	118,583	496,036	218,718	8,079	3,319	848	25.6
1994	110,415	381,864	197,782	17,110	3,477	1,072	30.8
1999	97,754	315,198	170,590	18,428	2,911	765	26.3
2004	72,513	209,855	122,384	26,159	2,519	918	36.4
2009	69,379	183,710	115,532	33,945	3,182	1,313	41.3
2014	58,791	141,344	95,809	41,015	3,304	1,547	46.8
2017	52,808	121,734	87,885	49,016	3,725	2,316	62.2
2018	51,494	116,883	84,982	51,836	3,770	2,250	59.7
2019	50,909	113,898	83,209	48,415	3,830	2,372	61.9

Note 1) Only applicable to sea-level fishery households
2) Data for 2019 are provisional.
Source: Statistics Korea, 「Agriculture, Forestry and Fishery Survey」, 「Fishery Household Economy Survey」, 「Fishery Production Trend Survey」

Manufacturing

Chapter 7

Overview

In 2018, the number of manufacturing businesses with 10 employees or more stood at 69,513, a 18.9% (11,054) increase from 58,459 in 10 years ago 2008, and the number of employees increased by 20.5% (500,000).

The total shipment value and the value added stood at KRW 1,564 trillion and KRW 565 trillion, a 40.5% (KRW 450 trillion) and 53.8% (KRW 198 trillion) increase, respectively.

(Table 7.1) Major Manufacturing Indices

	2008(A)	2013	2017	2018(B)	Change (B/A)
Number of businesses	58,459	65,389	69,458	69,513	18.9
Number of employees	2,454,263	2,813,575	2,954,811	2,956,442	20.5
Shipment value (KRW 1 billion)	1,113,309	1,491,736	1,511,760	1,563,890	40.5
Value added (KRW 1 billion)	367,630	479,281	543,341	565,245	53.8

Note: Based on businesses with 10 employees or more
Source: Statistics Korea, 「Mining and Manufacturing Survey」

In relation to the structure of manufacturing industry in 2018 based on businesses with 10 employees or more, the heavy industry accounted for 67.4% (69,513 businesses), their shipment value accounted 85.2% (KRW 1,332 trillion), and the light industry accounted for 32.6% (22,649 businesses), but their shipment value accounted for only 14.8% (KRW 231 trillion).

Compared to 5 years ago in 2013, the number of businesses engaged in heavy industry has increased by 5.2% (2,337 businesses), and their shipment value by 3.4% (KRW 45 trillion), but the proportion of heavy industry in the overall industrial structure has decreased.

(Table 7.2) Major Indices by Industrial Structure (Based on businesses with 10 employees or more)

	Number of businesses	Light industries	Heavy industries	Percentage	Shipment value (KRW 1 billion)	Light industries	Heavy industries	Percentage
2013	65,389	20,862	44,527	68.1	1,491,736	204,305	1,287,431	86.3
2016	68,790	22,484	46,306	67.3	1,413,485	225,887	1,187,598	84.0
2017	69,458	22,687	46,771	67.3	1,511,760	229,362	1,282,398	84.8
2018	69,513	22,649	46,864	67.4	1,563,890	231,645	1,332,245	85.2

Note: Based on businesses with 10 employees or more. Reference data for 2015 are aggregated due to the Economic Census.
Source: Statistics Korea, 「Mining and Manufacturing Survey」

Korea's Crude Steel Production Capacity Ranks Fifth in the World

Since POSCO began operation in 1973 and its production reached to one million tons, Korea has been maintaining the world's fifth-largest steel producer (as of 2018, based on crude steel production) due to the continuous expansion of steel production facilities and the increased high demand.

The crude steel production in 2018 stood at 72.464 million tons, a 81.6% (32.568 million tons) increase from 39.896 million tons in 20 years ago 1998, and increased by 2.0% (1.434 million tons) from 71.030 million tons in 2017.

In the world market share in 2018, China ranked the highest with 51.3%, followed by India with 5.9%, Japan with 5.8%, USA with 4.8%. South Korea ranked fifth with 4.0%.

In the past, the domestic steel industry sought to maximize profitability by mass production of general-purpose steel. However, China's sudden rise and rapid increase in supply led Korea to slow its production increase rate in the 2000s. Korea is pushing for qualitative growth through product upgrade rather than quantitative growth.

(Table 7.3) Crude Steel Production Capacity and World Market Share by Country

(Unit: 1,000 tons, %)

	1998	2003	2008	2013	2017	2018	Percentage
World total	777,321	969,915	1,343,429	1,650,388	1,730,002	1,808,035	100.0
China	114,588	222,336	512,339	822,000	870,855	928,264	51.3
India	23,480	31,779	57,791	81,299	101,455	106,463	5.9
Japan	93,548	110,511	118,739	110,595	104,661	104,319	5.8
USA	98,658	93,677	91,895	86,878	81,612	86,607	4.8
Korea	39,896	46,310	53,625	66,061	71,030	72,464	4.0
Russia	43,822	61,450	68,510	69,008	71,491	72,042	4.0
Germany	44,046	44,809	45,833	42,645	43,297	42,435	2.3
Turkey	14,144	18,298	26,806	34,654	37,524	37,312	2.1
Brazil	25,760	31,147	33,716	34,163	34,494	34,927	1.9
Italy	25,714	27,058	30,590	24,093	24,068	24,532	1.4

Source: Korea Iron & Steel Association, 「Statistical Yearbook for Iron and Steel」

Information and Communication Industry is Leading the Domestic Economy

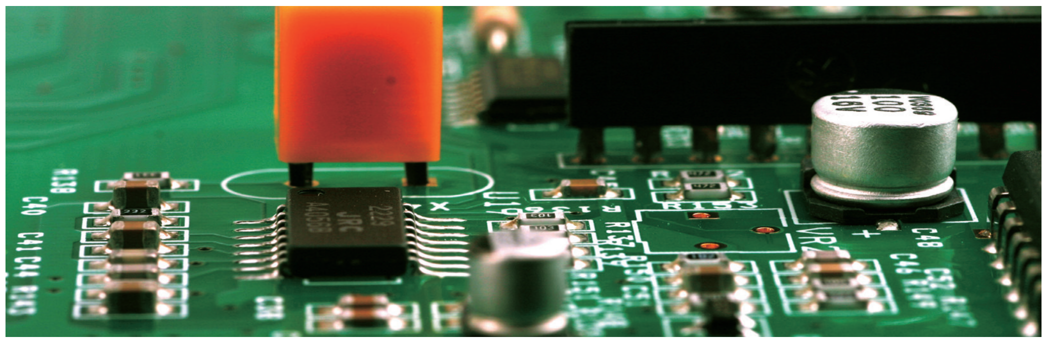
In 2019, the GDP (real) of the ICT industry stood at KRW 199 trillion, a 82.1% (KRW 90 trillion) increase from KRW 109 trillion in 10 years ago 2009. Also, the ICT industry accounted for 10.8% of GDP and increased by 2.6%p, compared to 2009. The export amount of the ICT industry stood at KRW 277 trillion, a 93.4% (KRW 109 trillion) increase, compared to 10 years ago, which accounted for 33.2% of total exports, showing that the ICT industry is leading the domestic economy.

(Table 7.4) Supply-Demand Trend in ICT Industry

(Unit: KRW 1 billion, %)

		2009	2014	2017	2018	2019
GDP (Real)	Total	1,335,724	1,612,718	1,760,812	1,812,005	1,848,959
	ICT	109,355	150,889	171,388	187,704	199,188
	Percentage	8.2	9.4	9.7	10.4	10.8
Investment in Facility (Including investment in intellectual property)	Total	175,012	232,331	279,774	280,646	271,919
	ICT	36,855	49,040	54,604	57,253	57,927
	Percentage	21.1	21.1	19.5	20.4	21.3
Private Consumption	Total	694,615	787,410	848,589	875,578	890,168
	ICT	31,395	39,734	44,377	45,505	46,798
	Percentage	4.5	5.0	5.2	5.2	5.3
Export	Total	422,573	622,145	660,435	682,013	685,736
	ICT	117,563	175,066	200,188	218,210	227,456
	Percentage	27.8	28.1	30.3	32.0	33.2
Import	Total	326,488	475,272	541,187	552,117	547,974
	ICT	31,389	64,466	78,574	75,226	84,165
	Percentage	9.6	13.6	14.5	13.6	15.4

Source: The Bank of Korea



Semiconductor

Semiconductor production amounted to KRW 143 trillion in 2018, a 588.9% (KRW 123 trillion) increase from KRW 20.8 trillion in 1998. The global market share stood at 23.6% in 2018, a 17.6%p increase from 6.0% in 1998, export amount stood at KRW 126.7 billion, a 645.4% (KRW 109.7 billion) increase compared to 1998, and import amount stood at KRW 44.7 billion, a 265.4% (KRW 32.5 billion) increase compared to 1998.

(Table 7.5) Semiconductor Production Trends

	1998	2003	2008	2013	2016	2017	2018
Production amount (KRW 1 trillion)	20.8	23.6	36.4	68.1	66.3	102.7	143.3
Market share (%)	6.0	7.4	9.8	15.6	16.6	21.5	23.6
Export amount (USD 1 billion)	17.0	19.5	32.8	57.1	62.2	97.9	126.7
Import amount (USD 1 billion)	12.2	21.3	32.0	34.6	36.6	41.2	44.7
DRAM price(USD)	5.47	1.73	1.80	2.50	2.00	3.77	4.00

Source: Korea Semiconductor Industry Association

Automobile Production

In 2019, automobile production stood at 3.951 million, a 39.0% (1.108 million) increase from 2.843 million in 20 years ago 1999. During the same period, passenger car production increased sharply to 1.251 million (53.0%), while commercial vehicles decreased by 143,000 (-29.8%).

In 2019, the number of vehicles solid in Korea stood at 1.539 million, a 20.9% (266,000) increase compared to 20 years ago in 1999, and the export of vehicles stood at 2.401 million, a 59.1% (892,000) increase from 1.51 million in 1999.

Compared to 2018, the number of vehicles produced in Korea decreased by 1.9% (78,000), while domestic sales decreased by 0.8% (13,000) and exports by 2.0% (49,000).

(Table 7.6) Production and Supply-Demand of Automobiles

(Unit: 1,000 vehicles)

	Production	Passenger cars	Commercial vehicles	Domestic demand	Passenger cars	Commercial vehicles	Export	Passenger cars	Commercial vehicles
1999	2,843	2,362	481	1,273	911	362	1,510	1,390	120
2004	3,469	3,123	347	1,094	858	236	2,380	2,277	103
2009	3,513	3,158	355	1,394	1,175	219	2,149	2,007	142
2014	4,525	4,124	401	1,464	1,214	250	3,063	2,920	143
2017	4,115	3,735	380	1,560	1,297	263	2,530	2,416	114
2018	4,029	3,662	367	1,552	1,298	254	2,450	2,342	107
2019	3,951	3,613	338	1,539	1,294	245	2,401	2,313	88

Source: Korea Automobile Manufacturers Association

In 2019, Automobile exports to North America accounted for 45.3%, followed by the EU (21.5%), the Middle East (10.2%), Oceania (7.2%) and Non-EU Countries (5.7%). Exports to North America have remained stable, while exports to China, India and Mexico have been on the decline due to an increase in automobile production in these regions.

(Table 7.7) Korea's Automobile Exports

(Unit: 1,000 vehicles,%)

	1994	1999	2004	2009	2014	2017	2018	2019	Percentage
Total	692	1,510	2,380	2,149	3,063	2,530	2,450	2,401	100.0
EU	144	653	723	302	349	508	528	517	21.5
Non-EU Countries	16	20	88	98	170	96	141	136	5.7
Africa	17	71	71	174	149	65	94	59	2.5
Asia	29	32	96	115	180	87	68	54	2.3
Middle East	82	92	206	420	619	330	254	245	10.2
Oceania	46	97	81	148	154	204	188	172	7.2
North America	235	453	1,006	609	1,102	1,043	1,000	1,087	45.3
Latin America	124	92	110	284	338	198	176	131	5.4

Source: Korea Automobile Manufacturers Association

The number of vehicles in the world has been increasing up steadily until 2017, but decreased by 946,000 and came to 97,410,000 in 2018. China, India and Mexico have been on the rise in the number of vehicles, while automobile production in USA, Japan, Germany and Korea has been fluctuating. China is the largest producer of automobiles with 28.5%, followed by USA (11.6%), Japan (10.0%), Germany (5.7%), India (5.3%) and Mexico (4.2%). Korea was the world's fifth-largest automobile producer in 2015 with a 4.1% share, but ranked seventh in 2018 due to the increased automobile production in India and Mexico.

(Table 7.8) Number of Vehicles Produced by Each Country

(Unit: 1,000 vehicles,%)

	2011	2012	2013	2014	2015	2016	2017	2018	Percentage
World Total	81,027	85,191	88,596	90,065	91,324	96,024	98,356	97,410	100.0
China	18,419	19,272	22,117	23,169	24,091	28,119	29,015	27,809	28.5
USA	8,662	10,336	11,066	11,661	12,105	12,180	11,190	11,306	11.6
Japan	8,399	9,941	9,630	9,775	9,278	9,204	9,690	9,729	10.0
Germany	6,302	5,797	5,877	6,051	6,186	6,211	6,070	5,554	5.7
India	3,933	4,201	3,933	3,842	4,126	4,489	4,780	5,174	5.3
Mexico	2,681	3,002	3,055	3,368	3,565	3,600	4,069	4,110	4.2
Korea	4,657	4,562	4,521	4,525	4,556	4,229	4,115	4,029	4.1
Brazil	3,443	3,431	3,738	3,173	2,454	2,175	2,700	2,880	3.0
Spain	2,361	1,979	2,163	2,403	2,733	2,886	2,848	2,820	2.9
France	2,278	2,010	1,783	1,854	2,017	2,133	2,279	2,329	2.4
Thailand	1,458	2,454	2,457	1,880	1,913	1,944	1,989	2,162	2.2
Canada	2,135	2,463	2,380	2,394	2,286	2,371	2,194	2,021	2.1
Russia	1,991	2,232	2,175	1,887	1,379	1,304	1,551	1,764	1.8
UK	1,464	1,577	1,597	1,599	1,682	1,817	1,749	1,604	1.6
Turkey	1,189	1,073	1,126	1,170	1,359	1,486	1,674	1,550	1.6

Source: Korea Automobile Manufacturers Association

Explore Korea through Statistics

Construction and Service Industry

Chapter 8

- Construction Industry - Overview
- Housing Penetration Rate
- Overseas Construction
- Wholesale & Retail Trade, and Service Industry

Construction Industry - Overview

In 2018, the number of construction companies stood at 75,421, a 1.2 times increase from 62,805 in 10 years ago 2008, and sales stood at KRW 394 trillion, a 1.5 times increase. During the same period, the value added stood at KRW 125 trillion, a 1.7 times increase, and the value added per employee stood at KRW 74 million, a 1.7 times increase, while the number of employees stood at 1,698,000, showing no significant difference from 2008.

Compared to 2017, the number of companies increased by 3,045 (4.2%), the monthly average number of employees by 28,000 (1.7%), sales by KRW 2.196 trillion (0.6%), the value added by KRW 5.636 (4.7%) trillion and the value added per employee by KRW 2.15 million (3.0%).

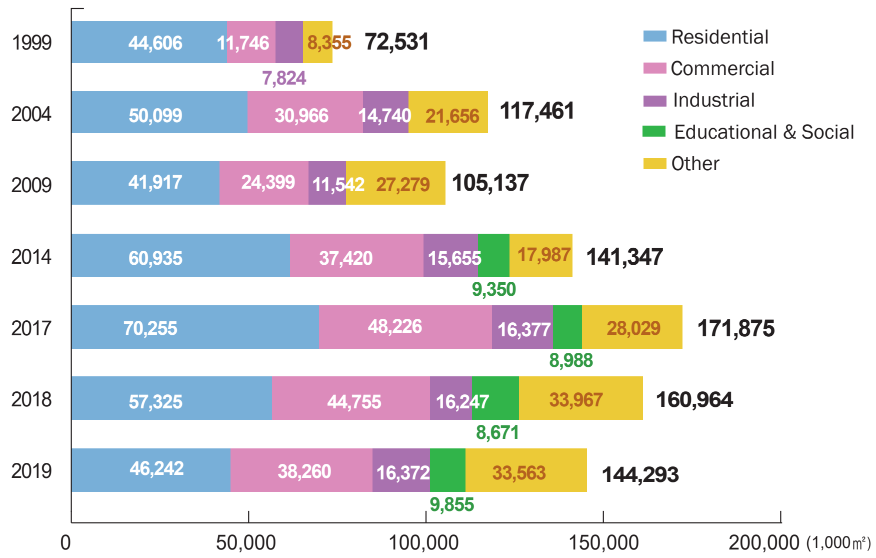
(Table 8.1) Major Construction Industry Indices

	Number of Companies	Number of Employees (1,000 persons)	Sales (KRW 1 billion)	Value Added (KRW 1 billion)	Value Added per Employee (KRW 1,000)
2008	62,805	1,657	267,986	72,695	43,868
2009	64,854	1,661	278,846	75,908	45,700
2010	65,330	1,625	281,762	75,298	46,329
2011	65,469	1,575	293,172	77,225	49,045
2012	65,249	1,508	298,369	79,606	52,773
2013	65,675	1,547	315,918	82,635	53,400
2014	65,950	1,532	322,050	88,051	57,466
2015	67,897	1,534	328,499	94,675	61,719
2016	69,508	1,573	356,568	106,314	67,567
2017(A)	72,376	1,670	391,963	119,694	71,672
2018(B)	75,421	1,698	394,159	125,331	73,820
Change (B-A)	3,045	28	2,196	5,636	2,148
Rate of Change	4.2	1.7	0.6	4.7	3.0

Source: Statistics Korea, 「Construction Survey」

The construction permission area, a leading indicator of construction investment, stood at 144,293,000m^2 in 2019, a 10.4% (16,671,000m^2) year-on-year decrease from 160,964,000m^2 in 2018. In terms of construction use, the residential use decreased by 11,083,000m^2(-19.3%), commercial use by 6,495,000m^2 (-14.5%) and other use by 404,000m^2 (-1.2%), but the industrial use, and the educational and social use increased by 0.8% and 13.7%, respectively.

<Figure 8.1> Area of Construction Permission



Source: Ministry of Land, Infrastructure and Transport, 「Statistics of Construction Permission and Work Commencement」

Housing Penetration Rate

The housing penetration rate in 2018 stood at 104.2%, a 3.7%p increase from 100.5% in 2010 and a 0.9%p increase from 103.3% in 2017, which largely alleviated the basic housing shortage problem due to the expansion of housing construction.

According to the register-based census in 2018, the housing penetration rate in Seoul stood at 95.9%, which was less than 100% due to high demand in the region.

(Table 8.2) Housing Penetration Rate

	Number of Households(1,000)	Number of Houses (1,000)	Penetration Rate (%)
2010	17,655.7	17,738.8	100.5
2012	18,209.2	18,414.4	101.1
2014	18,800.0	19,161.2	101.9
2016	19,367.7	19,877.1	102.6
2017	19,673.9	20,313.4	103.3
2018	19,979.2	20,818.0	104.2
Nationwide	19,979.2	20,818.0	104.2
Capital Area	9,686.0	9,588.1	99.0
Seoul	3,839.8	3,682.4	95.9
Gyeonggi-do	4,751.5	4,798.0	101.0
Local area	10,293.2	11,229.9	109.1

Note: Based on the register-based census
Source: Ministry of Land, Infrastructure and Transport, 「Housing Penetration Rate」

The proportion of residents living in their own house stood at 58.0% in 2019. Compared to 2010, it increased by 3.7%p, but more than 40% of the population lives in the form of leasing and monthly renting. Leasing stood at 15.1% in 2019, a 6.6%p decrease from 21.7% in 2010, but the monthly renting stood at 23.0% in 2019, a 2.8%p increase from 20.2% in 2010.

(Table 8.3) Housing Occupancy Type

(Unit: %)

	Owner-occupier	Leasing	Monthly Renting with Security Deposit	Monthly Renting without Security Deposit	Month Renting paid in advance	Rent-free
2010	54.3	21.7	18.2	2.0	1.3	2.7
2012	53.8	21.8	18.6	2.7	0.3	2.8
2014	53.6	19.6	21.8	1.4	0.7	2.8
2016	56.8	15.5	20.3	2.7	0.7	4.0
2017	57.7	15.2	19.9	2.6	0.8	3.9
2018	57.7	15.2	19.8	3.3	0.0	4.0
2019	58.0	15.1	19.7	3.3	-	3.9

Source: Ministry of Land, Infrastructure and Transport, 「Korea Housing Survey」

Overseas Construction

Korea has entered the overseas construction market since 1965, and its orders received for construction had peaked during the Middle East boom in the 1980s, but had shown a low track record under the impact of the foreign currency crisis in 1997.

The country's construction orders received from oversea stood at only USD 7.5 billion in 2004, but the country enjoyed a second overseas construction boom, as it recorded a steep rise in orders and received more that USD 10 billion for the first time in 2005. Korea's orders received for overseas construction recorded USD 66 billion in 2014, and then plunged to USD 29 billion in 2017. It increased again to USD 32.1 billion in 2018, but decreased to USD 22.3 billion in 2019.

In terms of orders received from each region in 2019, Asia accounted for 56.2%, followed by the Middle East (21.3%), Europe (11.1%) and Africa (7.7%).

(Table 8.4) Orders Received for Overseas Construction

(Unit: USD 1 million)

	Total	Civeil Engineering	Architecture	Plant	Electricity & Communication	Services
2004	7,498	806	874	5,182	547	89
2009	49,148	6,017	6,273	35,421	776	660
2014	66,010	5,664	4,927	51,721	1,591	2,107
2017	29,006	5,139	2,409	19,913	710	836
2018	32,116	7,159	5,382	18,377	379	819
2019	22,327	4,539	4,913	10,870	797	1,209

Source: International Contractors Association of Korea, 「Overseas Construction Statistics」

(Table 8.5) Orders Received for Overseas Construction by Region (2019)

(Unit: USD 1 million, %)

Part	Total	Middle East	Asia	Pacific, North America	Europe	Africa	Latin America
Amount of orders received	22,327	4,757	12,540	566	2,470	1,714	280
Percentage	100.0	21.3	56.2	2.5	11.1	7.7	1.3

Source: International Contractors Association of Korea, 「Overseas Construction Statistics」

Wholesale & Retail Trade, and Service Industry

The number of companies and employees engaged in the service industry stood at 2,922,000 and 12,189,000 in 2018, a 2.1% and 4.1% year-on-year increase, respectively. Sales stood at KRW 2,140 trillion, a 4.8% increase from KRW 2,041 trillion in 2017.

The number of companies engaged in wholesale & retail trade stood at 1,027,000 in 2018, a 0.4% (4,000) year-on-year increase, and the number of employees and sales increased by 2.4% (78,000) and 3.9% (KRW 48 trillion), respectively.

Increase in the number of foreigners visiting Korea, restaurant and hotel businesses, and single-person and dual-income households, as well as the influence of social media, convenience foods and small packaging, caused a rise in sales of lodging and restaurant businesses, which stood at KRW 152 trillion, a 7.4% year-on-year increase from KRW 141 trillion.

(Table 8.6) Wholesale & Retail Trade and Service Industry

	Number of Businesses (1,000)			Number of Employees (1,000 persons)			Sales (KRW 1 billion)		
	2016	2017	2018	2016	2017	2018	2016	2017	2018
Total	2,801	2,863	2,922	11,430	11,714	12,189	1,900,310	2,041,511	2,140,169
Wholesale and Retail Trade	1,017	1,023	1,027	3,142	3,173	3,251	1,150,024	1,233,442	1,281,923
Hotels and Restaurants	729	748	766	2,163	2,215	2,327	131,803	141,223	151,639
Service Industry	1,055	1,092	1,128	6,125	6,326	6,611	618,483	666,846	706,606

Source: Statistics Korea, 「Service Industry Survey」

Energy

Chapter 9

- Energy Consumption
- Consumption Structure by Primary Energy Source
- New and Renewable Energy

Energy Consumption

Energy consumption has increased dramatically in the 1990s, but has been stabilized due to the increase in the proportion of high value-added low-energy consumption industries such as information and communications since 2000s, and its increase rate was lowered in 2010s.

The primary energy consumption stood at 307.501,000 TOE in 2018, a 4.1 times increase from 75,351,000 TOE in 1988, and the final energy consumption stood at 232,740,000 TOE in 2018, a 3.8 times increase from 61,033,000 TOE in 1988.

Energy consumption per capita stood at 5.96 TOE in 2018, a 3.3 times increase from 1.79 TOE in 1988. Therefore, the dependence on energy import increased sharply from 74.6% in 1983 to 97.1% in 1998 due to a steady increase in energy consumption. Afterwards, the dependence on energy imports was still high, maintaining a rate of around 95%.

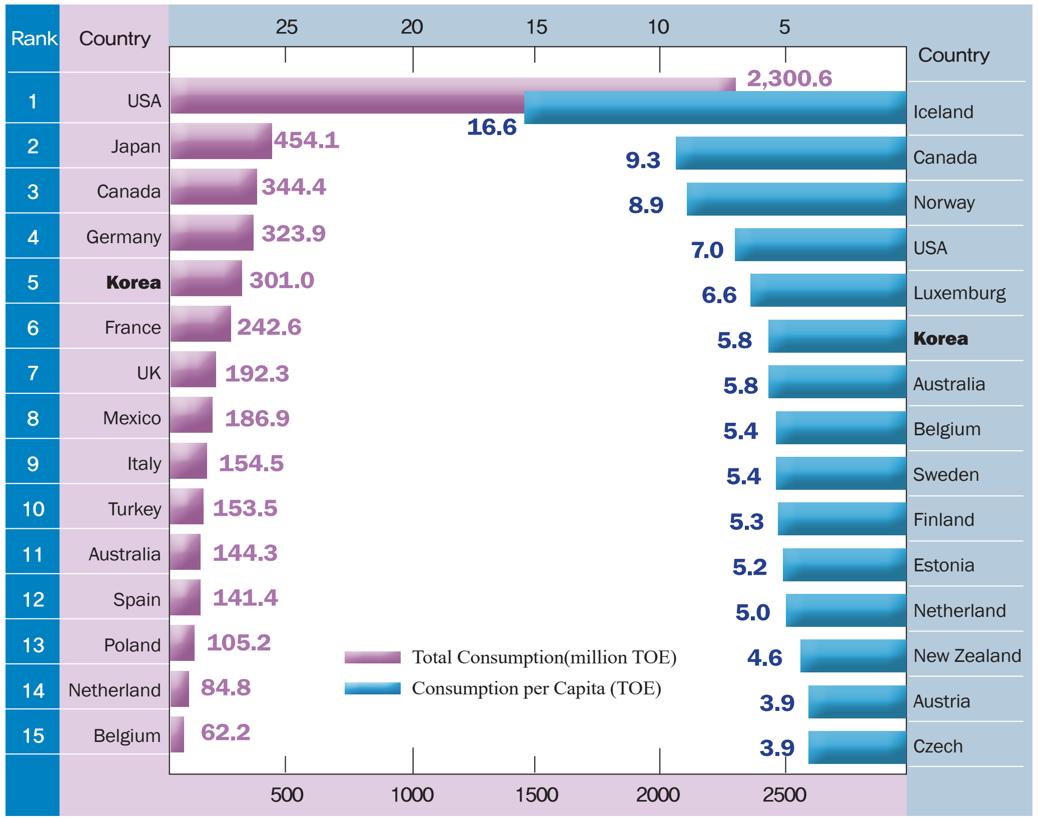
(Table 9.1) Energy Consumption and Dependence on Imports

	Energy Consumption (1,000Toe)				Total Energy Consumption per Capita (Toe)	Dependence On Imports[1] (%)
	Primary Energy	Year-on-Year Rate	Final Energy	Year-on-Year Rate		
1983	49,420	-	41,337	-	1.24	74.6
1988	75,351	52.5	61,033	47.6	1.79	83.2
1993	126,836	68.3	103,850	70.2	2.87	94.7
1998	166,265	31.1	132,177	27.3	3.59	97.1
2003	215,772	29.8	164,550	24.5	4.51	96.9
2008	240,994	11.7	182,490	10.9	4.91	96.5
2013	279,623	16.0	208,016	14.0	5.55	95.7
2016	293,778	5.1	221,396	6.4	5.74	94.6
2017	302,066	2.8	230,019	3.9	5.88	94.0
2018	307,501	1.8	232,740	1.2	5.96	93.7

Note: 1) Dependence on imports: excluding nuclear power generation
2) TOE: Tonnage of Oil Equivalent
Source: Korea Energy Economics Institute, 「Energy Supply and Demand Statistics」

In 2018, the US ranked first in energy consumption among major OECD countries with 2,300 million TOE, followed by Japan (454 million TOE), Canada (344 million TOE) and Germany (324 million TOE). Korea ranked fifth in terms of energy consumption among the major OECD countries with 301 million TOE. Korea's energy consumption per capita also ranked sixth, following Iceland (16.6 TOE), Canada (9.3 TOE) and Norway(8.9 TOE).

<Figure 9.1> Energy Consumption Per Capita of Major OECD Countries (2018)

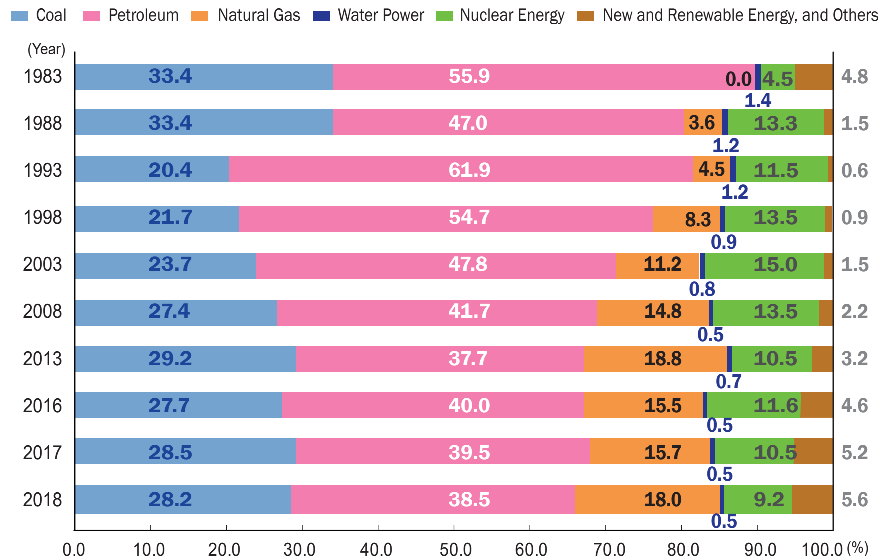


Source: BP 「BP Statistical Review of World Energy 2019」

Consumption Structure by Primary Energy Source

In relation to the component ratio of the primary energy source in 2018, petroleum is the highest at 38.5%, followed by coal at 28.2%, natural gas at 18.0%, nuclear power at 9.2% and new and renewable energy and other at 5.6%. Since the 1980s, the portion of petroleum and coal has remained high, but the portion of LNG has also been increasing since 2000.

<Figure 9.2> Component Ratio of Primary Energy Source



Source: Korea Energy Economics Institute, 「Energy Supply and Demand Statistics」

New and Renewable Energy

In 2018, the supply of new and renewable energy was composed of waste (50.9%), biomass energy (24.9%), solar photovoltaic power (11.1%) and water power (4.0%). While the increase rate of waste, biomass and water power are gradually declining, the supply of solar photovoltaic power, wind power and geothermal power are increasing, and the share of supply structure is diversifying.

(Table 9.2) Production of New and Renewable Energy

(Unit: 1,000 TOE, %)

	1993	1998	2003	2008	2013	2017	2018	Percentage
Total Primary Energy	126,879	165,932	215,067	240,752	279,623	302,066	307,501	-
Supply Percentage of New and Renewable Energy (%)	0.51	1.03	2.06	2.43	3.52	5.45	5.80	-
Total New and Renewable Energy	648.1	1,712.9	4,437.4	5,858.5	9,879.2	16,448.4	17,837.5	100.0
Solar Heat	14.1	44.0	32.9	28.0	27.8	28.1	27.4	0.2
Solar Photovoltaic	0.5	0.9	1.9	61.1	344.5	1,516.3	1,977.1	11.1
Wind Power	0.3	0.4	6.2	93.7	242.4	462.2	525.2	2.9
Water Power	28.8	27.2	1,225.6	660.1	892.2	600.7	718.8	4.0
Tidal Power	-	-	-	-	102.1	104.3	103.4	0.6
Geothermal Power	-	-	0.4	15.7	87.0	183.9	205.5	1.2
Hydrothermal Power	-	-	-	-	-	7.9	14.7	0.1
Biomass	58.8	63.2	131.1	426.8	1,558.5	3,598.8	4,442.4	24.9
Waste	545.6	1,577.2	3,039.3	4,568.6	6,502.4	9,359.0	9,084.2	50.9
Fuel Cell	-	-	-	4.4	122.4	313.3	376.3	2.1
Igcc	-	-	-	-	-	273.9	362.5	2.0

Source: Korea Energy Agency, 「Survey of Track Record on Supply of New and Renewable Energy」

Major countries in the world have declared Net-zero(removing as many emissions as it produces), and are pursuing a strong low-carbon economic strategy, while Korea is also pursuing a Net-zero society and a Green New Deal Policy that invests a total of KRW 73.4 trillion by 2025.

Transportation

Chapter 10

About 2.1 People Per Vehicle

As the national economy grew and the national income level rose, the use of transportation means has undergone a great change. The most noticeable change was the increase in the use of passenger cars instead of the use of public transportation.

The number of the registered automobiles increased by one million per year from 1993 to 1996, but declined sharply in 1998, when the foreign exchange crisis hit, and gradually recovered after the foreign exchange crisis, but has slowed down again since 2003.

The growth rate in the number of the registered vehicles amounted to 8% until 2002, but has been stagnant at 3% since 2005, indicating that the domestic automobile market has entered a maturity stage of slow growth.

The generalization of two or three vehicles per household and an increase in single-person households will result in a moderate but sustained increase in the number of the registered vehicles for the time being.

As of the end of 2019, the number of the registered automobiles stood at 23.68 million, a 2.1% year-on-year increase, and the population per automobile was 2.1.

(Table 10.1) Automobile Registration by Type

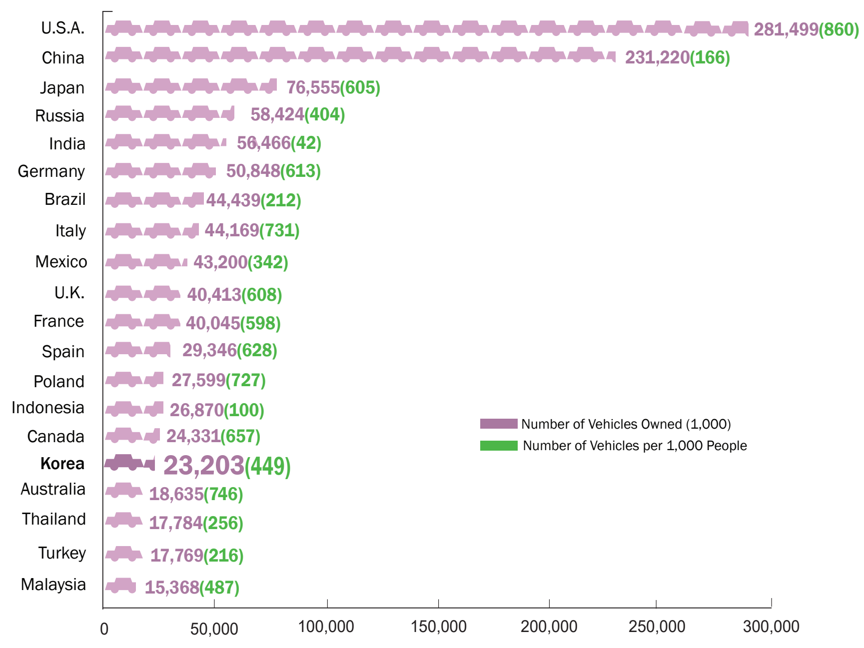
(Unit: 10,000 vehicles)

	1989	1994	1999	2004	2009	2014	2017	2018	2019
Number of Automobiles Registered	266	740	1,116	1,493	1,733	2,012	2,253	2,320	2,368
Passenger Cars	156	515	784	1,062	1,302	1,575	1,804	1,868	1,918
Passenger Vans	32	58	99	120	108	95	87	84	81
Cargo Trucks	77	164	230	306	317	335	354	359	359
Special Purpose Vehicles	0.9	2.9	3.5	4.7	5.4	7.0	8.6	9.1	9.5

Source: Ministry of Land, Infrastructure and Transport

As of 2018, Korea had 23 million vehicles, ranking 16th in the world. The number of vehicles per 1,000 people was 449 in Korea. The number of vehicles per 1,000 people in the world's top car-owning countries stood at 860 in USA, 166 in China, 605 in Japan, 404 in Russia, 42 in India and 613 in Germany.

<Figure 10.1> Number of Vehicles Owned (2018)



Source: Korea Automobile Manufacturers Association, 「World Automotive Statistics」

The Ratio of Eco-Friendly Vehicles is Getting Higher

In 2019, the sales of eco-friendly vehicles in Korea exceeded 100,000 units, accounting for 7.2% of the market share. Domestic sales of eco-friendly vehicles stood at 110,219 units, a 18.5% year-on-year increase, and the best selling eco-friendly vehicle was hybrid vehicle (75,966 units, 68.9%), followed by pure electric vehicle (29,683 units) and hydrogen electric vehicle (4,194 units).

The ratio of eco-friendly vehicles purchased by Korea's public sector in 2019 accounted for 12.7% (14,981 units) of the total vehicle purchase volume (118,314 units). Given that eco-friendly vehicles account for only 2.5% of all vehicles, the ratio of eco-friendly vehicles purchased by the public sector is more than five times higher.

(Table 10.2) Domestic Demand of Eco-friendly Vehicles (Passenger Cars)

(Unit: vehicle, %)

	2018		2019		Rate of Change
	Total	Percentage	Total	Percentage	
Total	93,051	100.0	110,219	100.0	18.5
HEV(Hybrid)	62,136	66.8	75,966	68.9	22.3
EV(Electric)	29,441	31.6	29,683	26.9	0.8
PHEV(Plug-in)	730	0.8	376	0.3	-48.5
FCEV(Hydrogen Electric)	744	0.8	4,194	3.8	463.7
Total Domestic Sales	1,552,346	6.0	1,538,826	7.2	-0.9

Source: Korea Automobile Manufacturers Association

(Table 10.3) Eco-friendly Vehicles Owned by the Public Sector

(Unit: vehicle, %)

Item	Total	Eco-friendly Vehicles						Internal Combustion Engine	
		Subtotal		Electric/Hydrogen		Hybrid			
			Percentage		Percentage		Percentage		Percentage
All Vehicles	23,677,366	601,048	2.5	95,001	0.4	506,047	2.1	23,076,318	97.5
Subtotal	118,314	14,981	12.7	8,352	7.1	6,629	5.6	103,333	87.3
Government	30,130	2,750	9.1	1,191	4.0	1,559	5.1	27,380	90.9
Local Government	54,831	6,410	11.7	5,077	9.3	1,333	2.4	48,421	88.3
Public Agencies	33,353	5,821	17.5	2,084	6.3	3,737	11.2	27,532	82.5

Note: As of the end of December, 2019
Source: Ministry of Environment

Passenger Transportation Share by Means of Transportation

In 2017, the number of domestic transport passengers in Korea stood at 14.6 billion, a 17.9% (2.2 billion) increase from 12.4 billion in 10 years ago 2007. During the same period, the passenger transportation share by means of transportation increased in order of subway (7.79%p), railway (2.21%p), air (0.09%p) and sea (0.01%p), but the common roads decreased by 10.11%p.

As for the passenger transportation share by means of transportation, the common roads were the highest at 64.84%, followed by subways (24.63%) and railways (10.18%).

While the transportation share by railway and air has gradually increased due to the opening and route expansion of the KTX train in 2004, the increase in the use of passenger cars and the activation of domestic travel, the transportation by the common roads is expected to decrease in the future.

Compared to the previous year, the transportation share by means of transportation increased in order of railway (0.35%p), subway (0.39%p), air (0.01%p) and passenger car (1.51%), but the use of common roads decreased by 0.76%p.

(Table 10.4) Domestic Passenger Transportation

	Passenger (Million persons)	Passenger Transportaion Share Ratio(%)						Passenger Cars (Million persons)
		Railway	Subway	Road (Bus, Taxi)	Ship	Airplane		
2004	12,154	7.58	16.73	75.45	0.09	0.16		-
2007	12,411	7.97	16.84	74.95	0.10	0.14		-
2010	12,867	8.25	17.67	73.82	0.11	0.16		-
2013	13,593	9.01	18.22	72.49	0.12	0.16		16,474
2014	13,683	9.23	18.46	72.02	0.10	0.18		16,824
2015	13,768	9.22	18.32	72.14	0.11	0.20		17,262
2016	14,733	9.84	24.25	65.60	0.10	0.21		18,426
2017	14,633	10.18	24.63	64.84	0.12	0.22		18,704

Source: Ministry of Land, Infrastructure and Transport, 「Performance of Transport Sector」

The Opening of the High-Speed Railway Enabled Travel to all Destinations in the Country within Half a Day

The opening of the high-speed railway in April 2004 made the country a half-day living zone from Seoul to Busan. Since the construction of the Gyeongbu High-Speed Railway began in 1992, the two-phase section has been fully opened since November 2010 from Daegu to Busan, and subsequently to the first phase from Seoul to Daegu in April 2004. It is 412km long and takes 2 hours and 18 minutes from Seoul to Busan at 300km per hour.

In addition, the Honam High-Speed Railway began construction in May 2009 for the balanced development of national land and was opened in April 2015 to shorten the time from Yongsan Seoul to Songjeong Gwangju to 1 hour and 33 minutes.

As a result of opening the SRT train in December 2016, the transportation share ratio of the high-speed railway increases dramatically to 17.9% in 2004, 33.6% in 2008 and 57.0% in 2018. The advent of the high-speed railway system connected the entire country to a 2-hour living zone. The high-speed railway is fast, comfortable and eco-friendly, and has become a representative means of transportation for the next generation as an integrated result of high-tech.

(Table 10.5) Transportation Share Rate of High-Speed Railway

	Passenger (1,000 persons)	Transportation share ratio (%)			
		High-Speed Railway	Saemaeul	Mugunghwa	Other
1992	161,912	-	6.4	31.7	61.9
1996	133,401	-	11.3	39.3	49.4
2000	115,914	-	13.4	63.7	22.9
2004	111,214	17.9	11.2	57.2	13.7
2008	113,098	33.6	9.6	50.7	6.1
2012	125,817	41.6	7.5	50.3	0.6
2016	135,532	47.7	7.2	44.7	0.4
2017	147,309	53.8	7.3	38.5	0.3
2018	157,472	57.0	6.8	35.9	0.2

Source: KORAIL, 「Railway Statistics of Korea」

Airline Flight Demand, Which had been on a Sharp Rise, Plunged due to the Covid-19 Outbreak

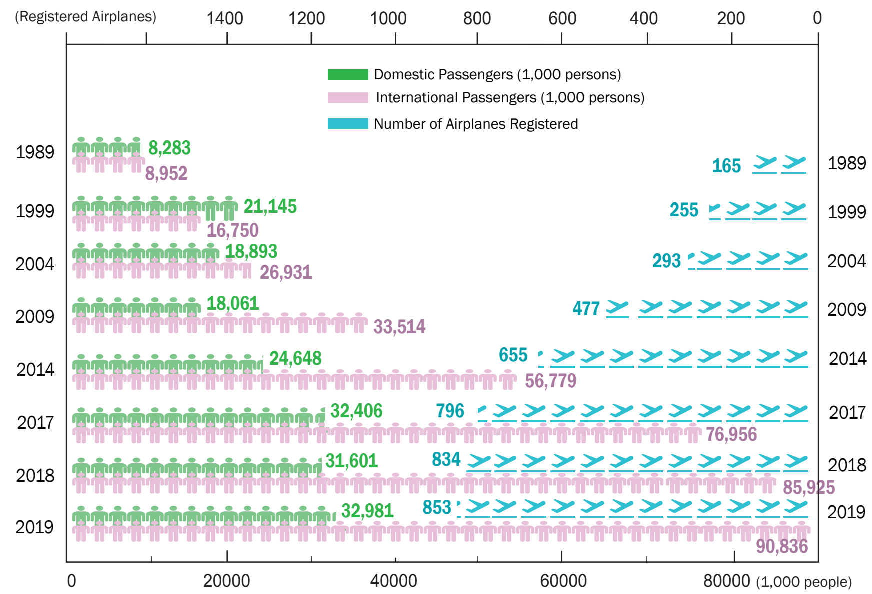
As of 2019, the number of passenger planes owned by domestic airlines stood at 853, a 234.5% (598) increase from 255 in 20 years ago 1999.

The number of passengers using domestic flights stood at 32.981 million in 2019, a 56.0% (11.836 million) increase from 21.145 million in 1999, and the number of passengers using international flights stood at 90.386 million in 2019, a 439.6% (73.636 million) increase from 16.75 million in 1999.

Air transport demand is expected to increase steadily as demand for travel increases due to the launch and expansion of low-cost air routes in 2008, and the increase in national income and leisure time.

Compared to the previous year, the number of airplanes increased by 19 (2.3%), the number of domestic passengers increased by 1,380,000 (4.4%) and the number of international passengers increased by 4,460,000 (5.2%).

<Figure 10.2> The Number of the Registered Airplanes and Passengers



Source: Ministry of Land, Infrastructure and Transport, 「Air Transport Statistics」

As travel between countries was restricted due to the COVID-19 pandemic in 2020, airline flight demand has plummeted, and its related industries are in a very big recession. The amount funded by the Korean government to the aviation industry is 11.6 of passenger sales in 2019, a larger scale after the U.S.(more than 30%), France (more than 30%), Japan (22.1%) and Germany (19.5%).

The number of passenger flights dropped to 1,500 in May 2020, compared to 4,500 before COVID-19 outbreak, while the number of cargo flights increased to 2,500 after converting passenger planes to cargo planes.

Increase in Port Cargo Handling Capacity

Port cargo handling capacity in 2019 stood at 1.2 billion tons, a 1.5 times increase from 814 million tons in 2009. Compared to 1,188 million tons in the previous year, it increased by 1.0% (11.608 million tons).

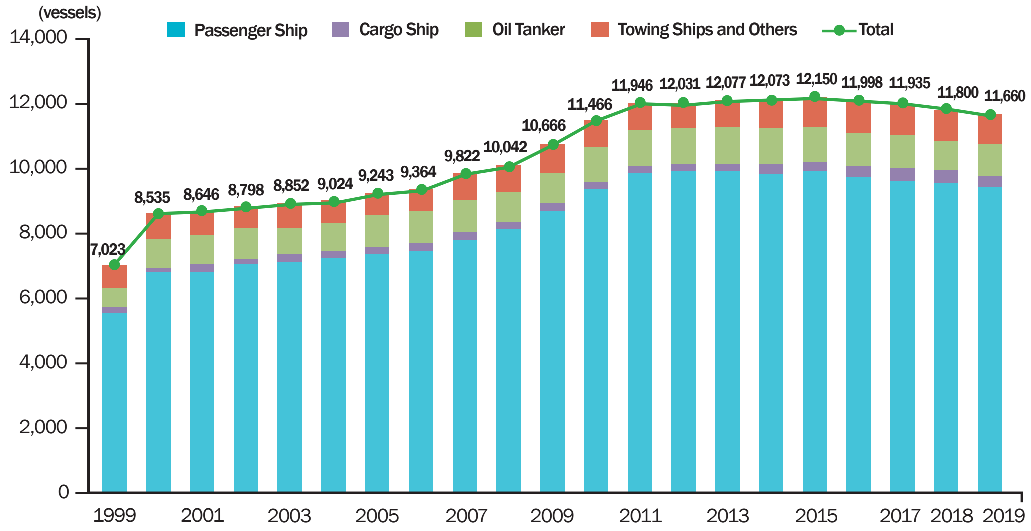
In 2019, the national flag vessels stood at 47.184 million tons in tonnage, 55.522 million tons in DWT and 190,756TEU in containers. Compared to the previous year, it increased by 7.5% (3.311 million tons) in tonnage, by 19.1% (5.077 million tons) in DWT, but decreased by 26.2% (67,566 TEU) in containers.

(Table 10.6) Port Cargo Handling Capacity and National Flag Vessels

	Port Cargo Handling Capacity (1,000 tons)	Number of National Flag Vessels		
		Tonnage (1,000 tons)	DWT (1,000 tons)	Containers (TEU)
2009	813,581	26,801	-	-
2014	1,109,669	46,197	50,378	471,976
2017	1,164,452	45,729	51,447	340,514
2018	1,188,206	43,873	50,445	258,323
2019	1,199,814	47,184	55,522	190,757
Change (B-A)	11,608	3,311	5,077	-67,566
Rage of Change (%)	1.0	7.5	10.1	-26.2

Source: Ministry of Maritime Affairs and Fisheries, 「Port Cargo Handling Capacity」

<Figure 10.3> Number of National Flag Vessels



Source: Ministry of Maritime Affairs and Fisheries, 「Port Cargo Handling Capacity」

Explore Korea through Statistics

Information and Communication

Chapter 11

- The World's 5th in Internet Usage Rate
- Smartphone Penetration Rate Exceeds 90
- As of 2017, Korea's ICT Ranked Second in the World

Software Industry

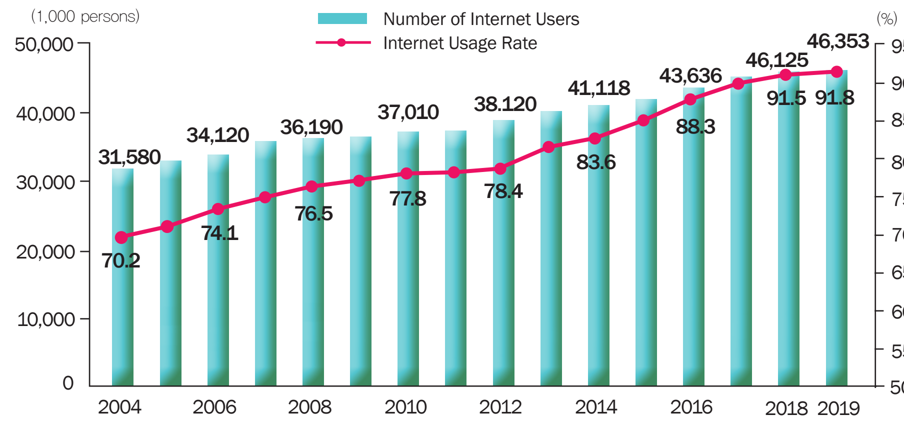
- Software and Digital Contents Developers and Producers
- Workers for Software and Digital Contents Developers and Producers
- Sales of Software and Digital Contents Developers and Producers

The World's 5th in Internet Usage Rate

The number of internet users reached 30 million people in 2004, which occurred 10 years after 1994, when the commercial service was first launched. The number of internet users in 2019 stood at 46.35 million, which accounted for 91.8% of the population over age 3.

Internet usage has become common due to the building of a nationwide high-speed internet network, the introduction of a competition system for internet access services and the reduction of a service fee resulting therefrom. This was due to the use of web-based internet banking and shopping in everyday life.

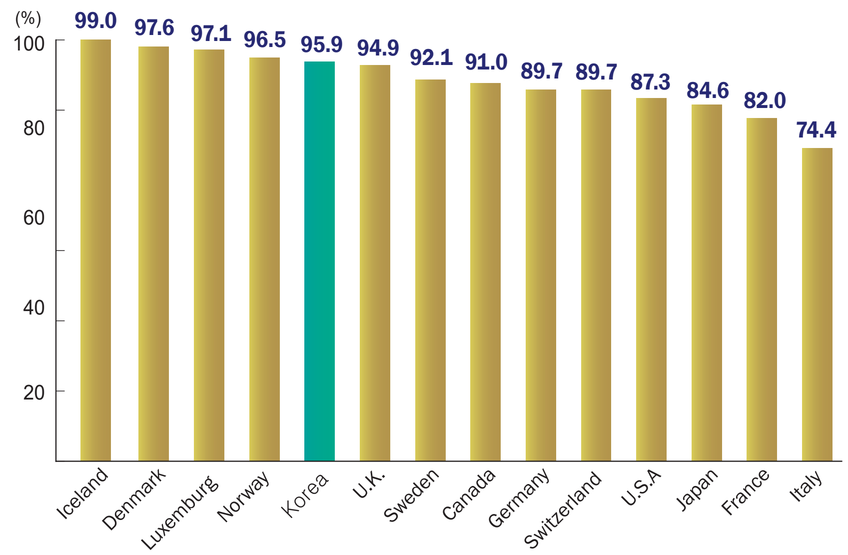
<Figure 11.1> The Number of Internet Users and Internet Usage Rate



Source: Ministry of Science and ICT, 「Survey on the Internet Usage」

According to ITU data, Korea's internet usage rate was 95.9% in 2018, ranked fifth in OECD countries, following Iceland (99.0%), Denmark (97.6%), Luxemburg (97.1%) and Norway (96.5%).

<Figure 11.2> Internet Usage Rate of Major OECD Countries (2018)



Source: ITU (International Telecommunication Union)

Smartphone Penetration Rate Exceeds 90

Mobile phones have increased rapidly since the late 1990s, surpassing the number of fixed-line phone users in the 2000s. As smart phones with wireless internet access became available in the late 2000s, various information could be easily provided regardless of location.

The smartphone penetration rate out of the entire population has increased from 89.4 in 2018 to 91.1 in 2019. Especially, the smartphone penetration rate for those in their 60s increased from 80.3 in 2018 to 85.4 in 2019, for those in their 70s or above from 37.8 in 2018 to 39.7 in 2019, spreading the influence of smartphone to the elderly.

(Table 11.1) Smartphone Penetration Rate

(Unit: %)

	2014	2015	2016	2017	2018	2019
Ordinary mobile phone	19.3	17.5	13.6	11.3	9.4	7.7
Smartphone	76.9	78.8	83.3	87.1	89.4	91.1
Teenager	94.4	91.7	93.3	96.2	97.9	98.3
Twenties	97.2	96.6	98.5	99.8	99.8	100
Thirties	96.4	95.2	97.6	99.6	98.7	99.4
Forties	89.7	91.8	96.3	97.9	98.4	98.0
Fifties	72.3	81.9	89.2	91.3	95.5	98.3
Sixties	32.4	50.2	60.3	73.6	80.3	85.4
Seventies or above	9.7	-	-	25.9	37.8	39.7

Source: Korea Communications Commission, 「Broadcasting Media User Behaviors Survey」

As of 2017, Korea's ICT Ranked Second in the World

Currently, the smartphone is expanding its reach to shopping, banking and health, as well as various applications and contents. Furthermore, the explosive penetration of smartphones is rapidly transforming ICT industry at a completely different pace and scale from before.

In 2017, Korea ranked second in the world in the field of information and telecommunication technology. Aside from Korea, Hong Kong ranked 6th, followed by European countries: Iceland ranked first, Switzerland third, Denmark fourth and the UK fifth. Japan ranked 10th and USA 16th.

(Table 11. 2) ITU's Top 30 Countries in ICT Development Index (2017)

Rank	Country	Points	Rank	Country	Points	Rank	Country	Points
1	Iceland	8.98	11	Sweden	8.41	21	Austria	8.02
2	**Korea**	8.85	12	Germany	8.39	22	Finland	7.88
3	Switzerland	8.74	13	New Zealand	8.33	23	Israel	7.88
4	Denmark	8.71	14	Australia	8.24	24	Malta	7.86
5	UK	8.65	15	France	8.24	25	Belgium	7.81
6	Hong Kong	8.61	16	USA	8.18	26	Macau	7.80
7	Netherland	8.49	17	Estonia	8.14	27	Spain	7.79
8	Norway	8.47	18	Singapore	8.05	28	Cyprus	7.77
9	Luxemburg	8.47	19	Monaco	8.05	29	Canada	7.77
10	Japan	8.43	20	Ireland	8.02	30	Andorra	7.71

Source: ITU, 「Measuring the Information Society Report 2017」

Software Industry

Software and Digital Contents Developers and Producers

The number of software and digital contents developers and producers stood at 27,190 in 2018, a 6.4 times increase from 4,259 in 1999. Looking at the detailed business categories, the number of package software developers and providers increased by 4.2 times, game software by 12.5 times and IT service businesses by 15.7 times.

For the percentage of the detailed business category, the package software developers and providers accounted for 83.2% in 1999, but dropped to 55.3% in 2018. On the other hand, the percentage of the game software developers and suppliers increased to 7.4% in 2018 from 3.8% in 1999, and IT service suppliers increased to 32.1% in 2018 from 13.0% in 1999.

The number of businesses increased by 23.8% (5,229) compared to 21,961 in 2017. The number of package software developers and suppliers increased by 34.0% (3,814), and the number of game software developers and producers increased 6.9% (130), IT service providers by 18.0% (1,322), while the number of digital contents developers and producers decreased by 3.2% (47).

(Table 11.3) The Number of Software and Digital Contents Developers and Producers

(Unit: each, %)

	Total	Package Software Developers and Providers		Game Software Developers and Providers		IT Service Providers		Digital Contents Developers and Providers	
			Percentage		Percentage		Percentage		Percentage
1999	4,259	3,544	83.2	160	3.8	555	13.0	-	-
2003	5,593	4,832	86.4	375	6.7	386	6.9	-	-
2007	8,417	5,703	67.8	554	6.6	2,160	25.7	-	-
2011	13,785	6,926	50.2	1,156	8.4	4,368	31.7	1,335	9.7
2015	21,224	10,308	48.6	2,099	9.9	7,414	34.9	1,403	6.6
2016	21,611	10,897	50.4	1,856	8.6	7,403	34.3	1,455	6.7
2017(A)	21,961	11,214	51.1	1,871	8.5	7,409	33.7	1,467	6.7
2018(B)	27,190	15,028	55.3	2,001	7.4	8,741	32.1	1,420	5.2
Change (B-A)	5,229	3,814	-	130	-	1,332	-	-47	-
Rate of Change	23.8	34.0	-	6.9	-	18.0	-	-3.2	-

Source: Ministry of Science and ICT, 「ICT Survey」

Workers for Software and Digital Contents Developers and Producers

In 2018, the number of workers for software and digital contents developers and producers stood at 321,435, a 5.4 times increase from 59,599 in 1999. Looking at the detailed business categories, the number of workers for package software developers and providers increased by 3.3 times, those for game software developers and providers increased by 18.8 times and those for IT service providers increased by 10.1 times.

For the percentage of the detailed business category, the number of workers for package software developers and providers accounted for 77.4% in 1999, but dropped to 47.0% in 2018. On the other hand, the number of workers for game software developers and providers accounted for 12.1% in 2018 from 3.5% in 1999, and those for IT service providers accounted for 36.0% in 2018 from 19.2% in 1999.

Compared to 2017 (300,338), the number of workers increased by 7.0% (21,097). Looking at the detailed business category, the number of workers for package software developers and providers increased 6.6%, and those for IT service providers by 9.7%, showing an overall increase.

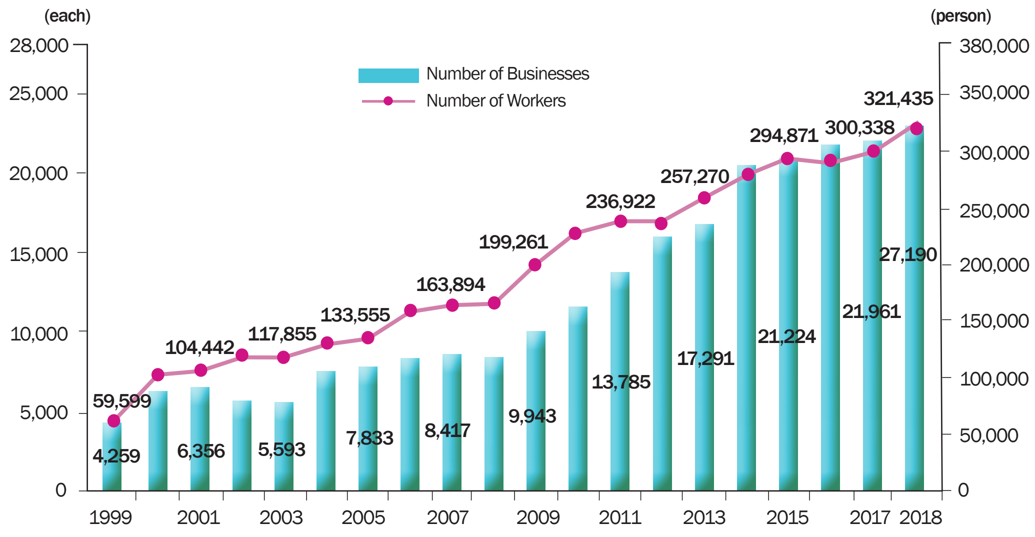
(Table 11.4) Number of Workers for Software and Digital Contents Developers and Producers

(Unit: person, %)

	Total	Package Software Developers and Providers		Game Software Developers and Providers		IT Service Providers		Digital Contents Developers and Providers	
			Percentage		Percentage		Percentage		Percentage
1999	59,599	46,119	77.4	2,065	3.5	11,415	19.2	-	-
2003	117,855	92,424	78.4	7,845	6.7	17,586	14.9	-	-
2007	163,894	104,860	64.0	15,808	9.6	43,226	26.4	-	-
2011	236,922	109,997	46.4	28,299	11.9	74,092	31.3	14,705	6.2
2015	294,871	134,631	45.7	35,964	12.2	109,487	37.1	14,789	5.0
2016	291,210	136,834	47.0	35,068	12.0	103,845	35.7	15,463	5.3
2017(A)	300,338	141,683	47.2	37,605	12.5	105,430	35.1	15,620	5.2
2018(B)	321,435	151,052	47.0	38,794	12.1	115,667	36.0	15,922	5.0
Change(B-A)	21,097	9,369	-	1,189	-	10,237	-	302	-
Rate of Change	7.0	6.6	-	3.2	-	9.7	-	1.9	-

Source: Ministry of Science and ICT, 「ICT Survey」

<Figure 11.3> Trend on Workers for Software and Digital Contents Developers and Producers



Source: Ministry of Science and ICT, 「ICT Survey」

Sales of Software and Digital Contents Developers and Producers

Sales of software and digital contents developers and producers stood at KRW 59.9373 trillion in 2018, an 9.5 times increase from KRW 6.2939 trillion in 1999. Looking at the detailed business category, package software developers and producers increased by 8.3 times and IT service providers increased by 6.9 times.

Compared to 2017 (KRW 56.6851 trillion), sales increased by KRW 3.2522 trillion (5.7%). Looking at the detailed business category, sales of package services increased by 16.5% (KRW 1.4604 trillion), game software by 3.7% (KRW 420.8 billion), IT service providers by 3.6% (KRW 1.2076 trillion), digital content developers and producers by 6.1% (KRW 163.5 billion).

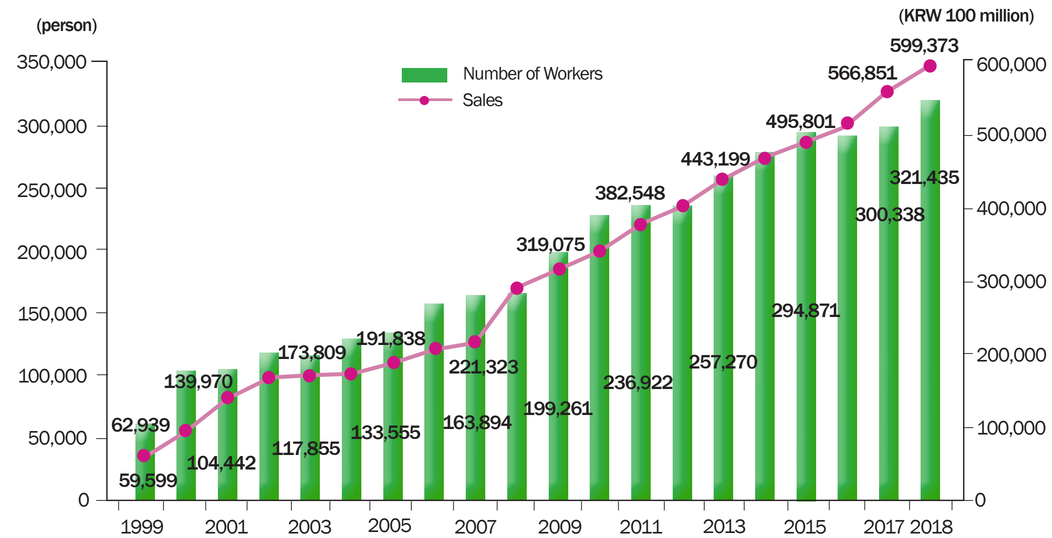
(Table 11.5) Sales of Software and Digital Contents Developers and Producers

(Unit: KRW 100 million, %)

	Total	Package Software Developers and Providers		Game Software Developers and Providers		IT Service Providers		Digital Contents Developers and Providers	
			Percentage		Percentage		Percentage		Percentage
1999	62,939	12,396	19.7	-	-	50,543	80.3	-	-
2003	173,809	45,932	26.4	-	-	127,877	73.6	-	-
2007	221,323	33,284	15.0	-	-	188,039	85.0	-	-
2011	382,548	39,965	10.4	70,121	18.3	255,264	66.7	17,198	4.5
2015	495,801	86,843	17.5	90,162	18.2	295,833	59.7	22,963	4.6
2016	518,289	75,610	14.6	100,247	19.3	317,546	61.3	24,886	4.8
2017(A)	566,851	88,520	15.6	114,365	20.2	337,366	59.5	26,600	4.7
2018(B)	599,373	103,124	17.2	118,572	19.8	349,442	58.3	28,235	4.7
Change(B-A)	32,522	14,604	-	4,207	-	12,076	-	1,635	-
Rate of change	5.7	16.5	-	3.7	-	3.6	-	6.1	-

Source: Ministry of Science and ICT, 「ICT Survey」

<Figure 11.4> Trend on Workers and Sales of Software and Digital Contents Developers and Producers



Source: Ministry of Science and ICT, 「ICT Survey」

Foreign Trade and Balance of Payments

Chapter

12

- Exports and Imports
- Foreign Exchange Reserves
- Balance of Payments

Exports and Imports

In 2019, Korea's exports amounted to USD 542.2 billion, a 3.8 times increase compared to 20 years ago in 1999, and imports amounted to USD 503.3 billion, an 4.2 times increase compared to 1999. Korea has maintained its balance of trade surplus due to the upswing in exports of flagship products after overcoming the IMF economic crisis.

In 2019, Korea's exports decreased by 10.4%(USD 62.7 billion) compared to USD 604.9 billion in the previous year, and imports decreased by 6.0%(USD 31.9 billion), but Korea achieved USD 1 trillion in foreign trade for three consecutive years, building its unshakable position as a trade powerhouse.

(Table 12.1) Tendency of Imports and Exports (Based on Customs Clearance)

(Unit: USD 100 million)

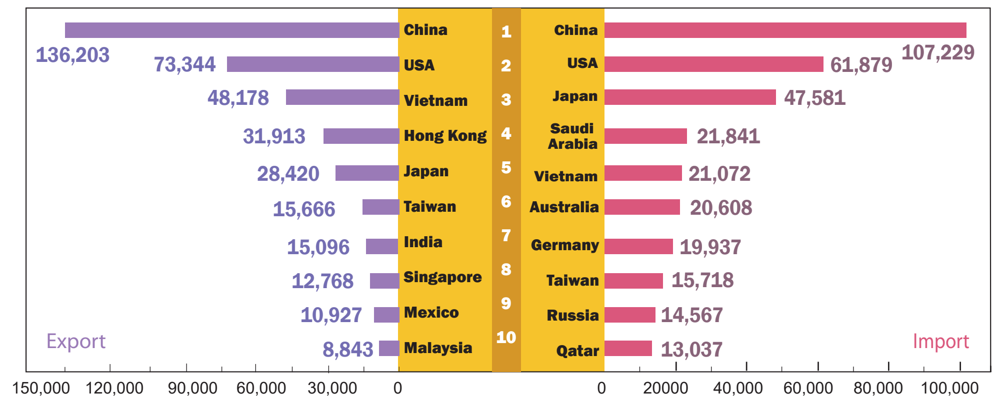
	Exports	Imports	Trade Balance
1999	1,437	1,198	239
2004	2,539	2,245	294
2009	3,635	3,231	405
2014	5,727	5,255	472
2017	5,737	4,785	952
2018(A)	6,049	5,352	697
2019(B)	5,422	5,033	389
Change (B-A)	-627	-319	-308
Rate of Change (%)	-10.4	-6.0	-44.2

Source: Ministry of Trade, Industry and Energy, 「Foreign Trade Statistics」

Among Korea's top 10 trading partners, China accounted for 25.1% of Korea's exports in 2019, followed by USA (13.5%), Vietnam (8.9%) and Hong Kong (5.9%). China also accounted for 21.3% of Korea's imports, followed by USA (12.3%), Japan (9.5%) and Saudi Arabia (4.3%).

<Figure 12.1> International Trade with Top 10 Major Countries (2019, Based on Customs Clearance)

(Unit: USD 1 million)



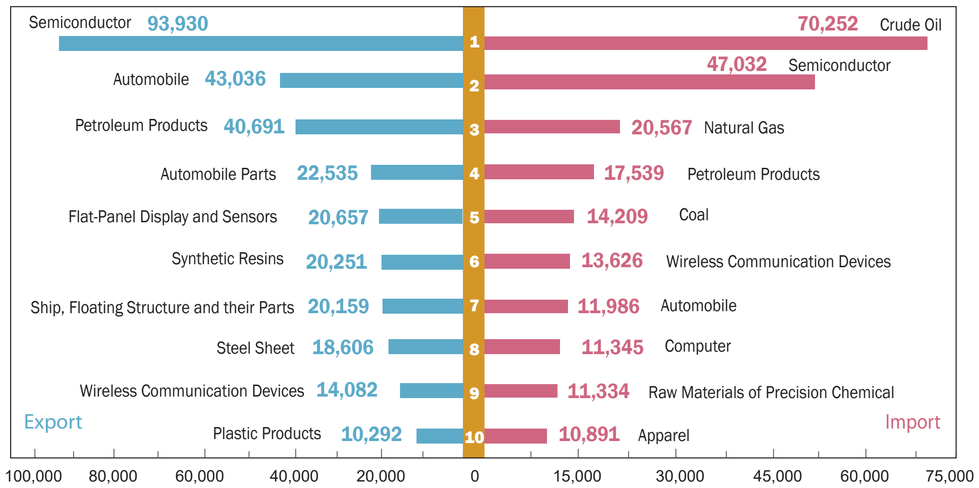
Source: Korea Customs Service, 「Exports and Imports Statistics」

Among Korea's top 10 export and import items, export of semiconductors amounted to USD 93.9 billion in 2019, followed by automobiles (USD 43 billion), petroleum products (USD 40.7

billion) and automobile parts (USD 22.5 billion). Import of crude oil amounted to USD 70.3 billion, followed by semiconductors (USD 47 billion), natural gas (USD 20.6 billion) and petroleum products (USD 17.5 billion).

<Figure 12.2> Korea's Top 10 Exports and Imports Items (2019)

(Unit: USD 1 million)



Source: Korea Customs Service, 「Exports and Imports Statistics」

Foreign Exchange Reserves

Korea's foreign exchange reserves amounted to USD 408.8 billion in 2019, a 5.5 times increase from USD 74.1 billion in 20 years ago 1999. The portion of foreign exchange reserves to GDP increased by 9.9%p during the same period, while the portion of short-term external debts to foreign exchange reserves decreased by 16.8%p.

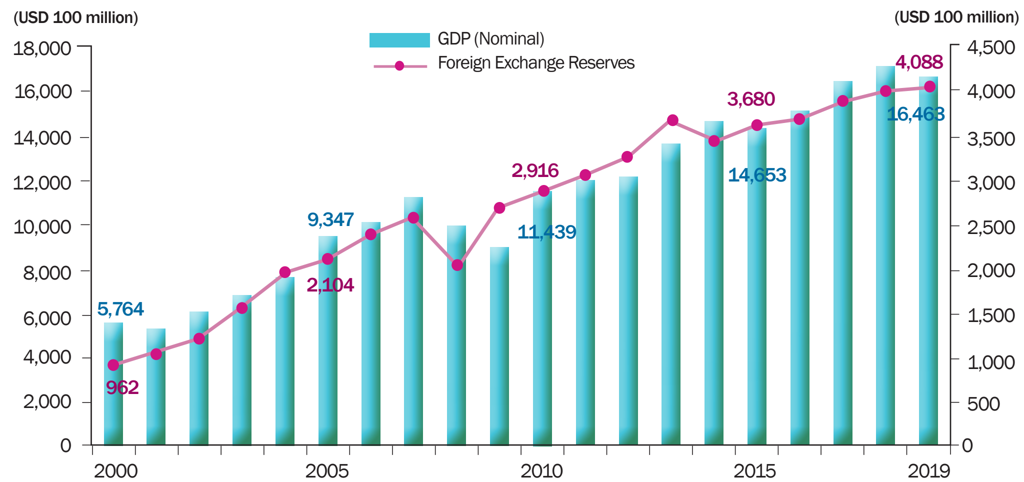
Foreign exchange reserves increased by USD 100 million (1.3%) in 2019 compared to the previous year. The portion of foreign exchange reserves to GDP increased by 1.4%p and the portion of short-term external debts to foreign exchange reserves increased by 1.8%p compared to the previous year.

(Table 12.2) Foreign Exchange Reserves

	1999	2004	2009	2014	2017	2018	2019
Foreign Exchange Reserves (USD 100 million)	741	1,991	2,700	3,636	3,893	4,037	4,088
GDP (Nominal, USD 100 million)	4,972	7,936	9,443	14,840	16,233	17,252	16,463
Foreign Exchange Reserves/GDP	14.9	25.1	28.6	24.5	24.0	23.4	24.8
Short-term External Debts (USD 100 million)	368	529	1,459	1,146	1,160	1,256	1,345
Short-term External Eebts/Foreign Exchange Reserves(%)	49.7	26.5	54.0	31.5	29.8	31.1	32.9

Source: The Bank of Korea

<Figure 12.3> Fluctuation in GDP and Foreign Exchange Reserves



Source: The Bank of Korea

Balance of Payments

Of the international balance of payments, the country's current account balance stood at USD 59.97 billion in 2019, a 22.6% (USD 17.45 billion) decrease from USD 77.47 billion in the previous year. The service account balance increased by USD 6.35 billion (21.6%), the primary income account by USD 7.3 billion (148.9%) and the transfer income account by USD 2.09 billion (25.6%), while the goods account balance decreased by USD 33.23 billion (-30.2%).

The current account balance was largely in debt before 1997, but has remained profitable overcoming the IMF economic crisis, recording the biggest surplus in 2015.

In 2018, the capital account balance reached a surplus of USD 317 million, but in 2019, decreased by USD 381 million (-120.3%) compared to the previous year, recording a deficit of USD 64 million.

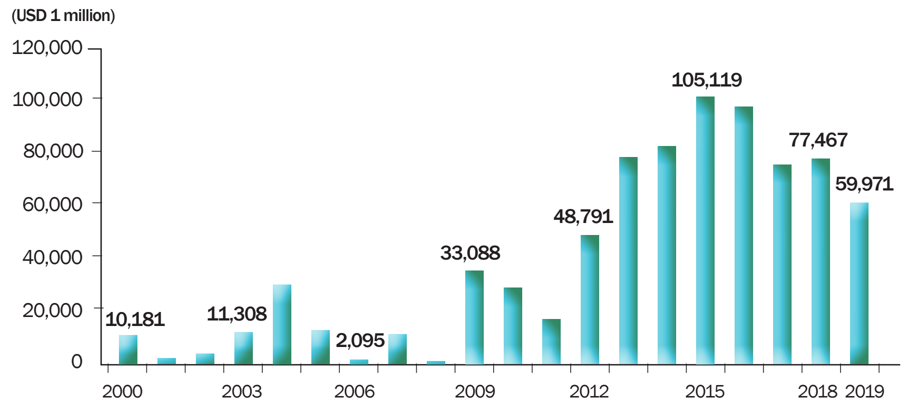
(Table 12.3) Balance of Payments

(Unit: USD 1 million)

	Current Balance					Capital Account Balance
		Goods Balance	Service Balance	Primary Income Balance	Transfer income Balance	
1994	-4,794	-3,861	-572	-1,175	814	0
1999	21,785	25,446	1,042	-5,537	833	56
2004	29,290	39,173	-5,050	-1,794	-3,038	10
2009	33,088	48,056	-9,338	-3,436	-2,195	-70
2014	83,030	86,145	-3,290	5,159	-4,985	-9
2017	75,231	113,593	-36,734	5,337	-6,965	-27
2018(A)	77,467	110,087	-29,369	4,902	-8,153	317
2019(B)	59,971	76,856	-23,021	12,199	-6,063	-64
Change(B-A)	-17,495	-33,231	6,349	7,297	2,090	-381
Rate of change	-22.6	-30.2	21.6	148.9	25.6	-120.3

Source: The Bank of Korea

<Figure 12.4> Fluctuation of Current Account Balance



Source: The Bank of Korea

Public Finance

Chapter 13

- Ratio of Public Finance to GDP: 23.4%
- The Country's Tax Burden Ratio is Lower Than That of Advanced Countries
- Money Supply
- Securities

Ratio of Public Finance to GDP: 23.4%

The central government's consolidated fiscal scale stood at KRW 439.9 trillion in 2019, a 1.6 times increase compared to 10 years ago in 2009, and the total expenditure stood at KRW 469.6 trillion, a 1.7 times increase during the same period.

The ratio of public finance to GDP stood at 23.4% in 2019, a

0.2%p decrease from 23.6% in the previous year.

Compared to the previous year, the central government's consolidated fiscal scale increased by KRW 42.2 trillion (10.6%) and the central government's total expenditure increased by KRW 40.8 trillion (9.5%).

(Table 13.1) The Central Government's Public Finance

(Unit: KRW 1 trillion, %)

	1979	1989	1994	1999	2004	2009	2014	2017	2018	2019
The Central Government's Consolidated Fiscal Scale	6.2	26.2	60.4	121.0	173.1	268.4	312.4	379.8	397.7	439.9
% of GDP	19.3	16.1	16.5	21.0	19.8	23.3	21.0	21.9	23.6	23.4
The Central Government's Total Expenditure	-	-	-	-	-	284.5	355.8	400.5	428.8	469.6

Note: The central government's consolidated fiscal scale is based on settlement until 2007, and budget after 2008. The total expenditure is based on budget.
Source: Ministry of Economy and Finance, 「Korea's Consolidated Fiscal Balance」, 「Summary of Budget」

The Country's Tax Burden Ratio is Lower Than That of Advanced Countries

The country's tax burden ratio to GDP stood at 19.9% in 2018, a 1.1%p increase from 18.8% in the previous year. As the national income has increased, the tax burden ratio has also continued to rise.

Considering that the average tax burden ratio of 36 OECD countries was 24.9% in 2017, Korea's is lower than that of advanced countries. The tax-to-GDP ratio, which is the sum of the national/local taxes and social security contributions (the share of taxes and social security contributions in the nominal GDP), stood at 25.4% in 2017 and is also on a rising trend like the tax burden ratio, but is still lower than the average of 34.2% in major OECD countries as of 2017.

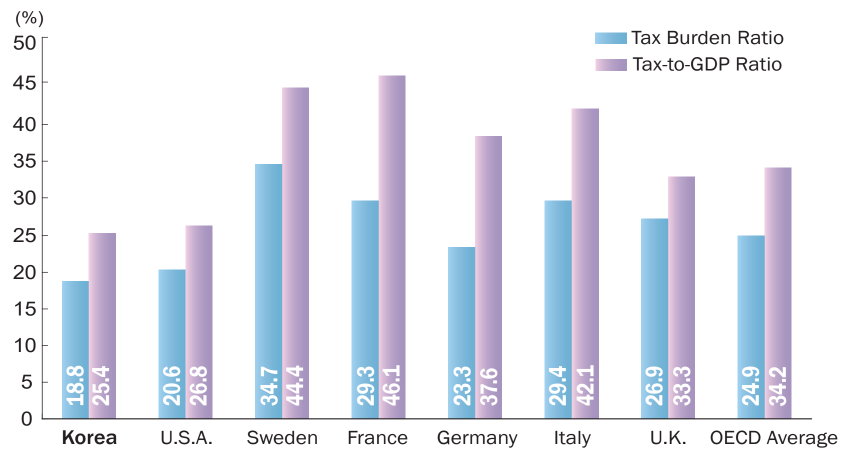
(Table 13.2) Tax Burden Ratio

(Unit: KRW 1 trillion)

	Tax Burden Ratio (%)	Nominal GDP	Taxes	
			National Taxes	Local Taxes
1993	16.0	315.2	50.3	
			39.3	11.0
1998	15.8	537.2	84.9	
			67.8	17.1
2003	17.7	837.4	147.8	
			114.7	33.1
2008	18.4	1,154.2	212.8	
			167.3	45.5
2013	17.0	1,500.8	255.7	
			201.9	53.8
2016	18.3	1,740.8	318.1	
			242.6	75.5
2017	18.8	1,835.7	345.8	
			265.4	80.4
2018	19.9	1,898.2	377.9	
			293.6	84.3

Note: Based on new the GDP series of the Bank of Korea (The reference year changed from 2010 to 2015)
Source: National Tax Service and Korea Customs Service, 「Collection Report」, Ministry of Public Administration and Security, 「Statistical Yearbook of Local Tax」

<Figure 13.1> International Comparison: Tax Burden Ratio and Tax-to-GDP Ratio (2017)



Note: Tax burden ratio: total tax revenue (excluding social security) as % of GDP
Tax-to-GDP ratio: total tax revenue as % of GDP
Source: OECD Revenue Statistics (2019)

Money Supply

As of the end of 2019, the amount of currency in circulation stood at KRW 125.7 trillion, a 8.9% (KRW 10.3 trillion) increase from KRW 115.4 trillion in the previous year. The supply of monetary base stood at KRW 191.8 trillion, an 11.3% year-on year increase. M1 (narrow money) including demand deposits stood at KRW 952.9 trillion, and M2 (broader money) supply, the total liquidity including private savings deposit, stood at KRW 2,913.6 trillion, and liquidity aggregate of financial institutions (Lf), including deposits in non-banking financial institutions, stood at KRW 4,134.3 trillion.

(Table 13.3) Major Currency Indicators

(Unit: KRW 1 trillion)

	Amount of Currency in Circulation	Monetary Base	M1 (Narrow Money)	M2 (Broader Money)	Lf (Closing Balance)
1984	3.4	4.2	11.8	35.7	45.7
1989	6.8	12.8	35.7	116.2	153.9
1994	15.1	25.2	87.5	300.7	442.7
1999	22.6	28.5	170.7	672.5	850.8
2004	24.9	38.8	321.7	954.7	1,295.8
2009	37.3	67.8	389.4	1,566.9	2,018.8
2014	74.9	116.8	585.8	2,077.2	2,841.8
2017	107.9	155.9	849.9	2,530.4	3,565.9
2018	115.4	172.4	865.9	2,700.4	3,824.3
2019	125.7	191.8	952.9	2,913.6	4,134.3

Note: Based on closing balance
Source: The Bank of Korea, 「Monetary and Financial Statistics」

Securities

The number of the companies listed on the securities market stood at 2,335 in 2019, a 4.0% (91) year-on-year increase, and the aggregate value of listed stocks stood at KRW 1,722.6 trillion, a 9.1% (KRW 144.1 trillion) increase from KRW 1,578.5 trillion in the previous year. The number of companies listed on the securities market increased by 1.4% (11), and the aggregate value of listed stocks by 9.8% (KRW 131.9 trillion), and the number of listed companies and the aggregate value of listed stocks on KOSDAQ increased by 6.2% (82) and 5.7% (KRW 13.1 trillion) compared to the previous year, respectively.

(Table 13.4) The Number of Listed Companies and the Aggregate Value of Listed Stocks

	Number of Listed Companies				Aggregate Value of Listed Stocks (KRW 1 trillion)			
	Total	Securities Market	Percentage	KOSDAQ	Total	Securities Market	Percentage	KOSDAQ
1999	1,178	725	61.5	-	448.2	349.5	78.0	-
2004	1,573	683	43.4	890	443.7	412.6	93.0	31.1
2009	1,798	770	42.8	1,028	974.0	887.9	91.2	86.1
2014	1,905	773	40.6	1,061	1,336.8	1,192.3	89.2	143.1
2017	2,195	774	35.3	1,267	1,893.5	1,605.8	84.8	282.7
2018	2,264	788	34.8	1,323	1,578.5	1,344.0	85.1	228.2
2019	2,355	799	33.9	1,405	1,722.6	1,475.9	85.7	241.4
Change(B-A)	91	11	-	82	144.1	131.9	-	13.1
Rate of Change (%)	4.0	1.4	-	6.2	9.1	9.8	-	5.7

Source: Korea Exchange, 「Statistics of Securities and Derivatives Market」

Explore Korea through Statistics

Health and Welfare

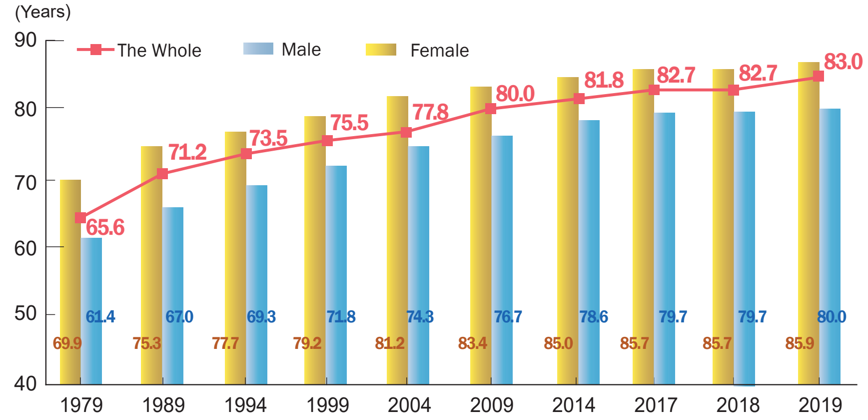
Chapter 14

Life Expectancy

Life expectancy is the average number of life years that a child born at 0 year is expected to survive in the future, which is a representative indicator assessing the level of health and the development of a society.

In 2019, the life expectancy of Koreans stood at 83 years. The life expectancy of males was 80 years, while that of females was 85.9 years. These figures indicate that females live longer by 5.9 years than males. With the development of medical skills and the expansion of health-related consciousness, the life expectancy of Koreans increased by 17.4 years from 65.6 years in 1979.

<Figure 13.1> Life Expectancy



Source: Statistics Korea, 「Population Projections」

Although data production standard on life expectancy differs from country to country, compared to the recently available OECD countries' data, the life expectancy of Korean males was 79.7 in 2017, which was 1.7 years longer than the average of OECD member countries (78.0), and that of Korean females was 85.7, which was 2.4 years longer than the average of OECD member countries (83.3). Compared to Japan, which is known as a country with a long life expectancy, the life expectancy of Korean males is 1.4 years shorter, and Korean females is 1.6 years shorter.

(Table 14.1) Life Expectancy of Major OECD Countries (2017)

(Unit: Year)

Country	Male	Female	Difference (Female-Male)
Korea	79.7	85.7	6.0
Germany	78.6	83.3	4.7
USA	76.2	81.2	5.0
UK	79.5	83.1	3.6
Italy	81.2	85.6	4.4
Japan	81.1	87.3	6.2
Switzerland	81.9	85.7	3.8
Spain	80.7	86.3	5.6
OECD average	78.0	83.3	5.3

Source: OECD

Leading Causes of Death

Various cancers and vascular diseases have ranked high among the causes of death for Koreans. The top 10 causes of death for Koreans in 2019 were malignant neoplasm (cancer) (158.2%), heart disease (60.4%), pneumonia (45.1%) and cerebrovascular disease (42.0%). Intentional self-destructive behavior (suicide) (26.9%) ranked fifth, which calls for social measures. The death rate from Alzheimer's disease was also rising to 13.1%.

(Table 14.2) Leading Causes of Death (1990~2019)

(Unit: per 100,000 persons, %)

Rank	1990		2000		2010		2019	
	Causes of Death	Mortality	Causes of Death	Mortality	Causes of Death	Mortality	Causes of death	Mortalitye
1	Malignant neoplasm (cancer)	91.5	Malignant neoplasm (cancer)	122.4	Malignant neoplasm (cancer)	144.4	Malignant neoplasm (cancer)	158.2
2	Cerebrovascular disease	63.1	Cerebrovascular disease	73.6	Cerebrovascular disease	53.2	Heart disease	60.4
3	Heart disease	39.6	Heart disease	38.7	Heart disease	46.9	Pneumonia	45.1
4	Transport accidents	33.2	Transport accidents	25.5	Self-destructive behavior (suicide)	31.2	Cerebrovascular disease	42.0
5	Hypertensive disease	29.7	Liver disease	23.0	Diabetes	20.7	Self-destructive behavior (suicide)	26.9
6	Liver disease	28.1	Diabetes	22.7	Pneumonia	14.9	Diabetes	15.8
7	Diabetes	9.9	Chronic lower Respiratory disease	16.8	Chronic lower Respiratory disease	14.2	Alzheimer's disease	13.1
8	Chronic lower Respiratory disease	8.9	Self-destructive behavior (suicide)	13.7	Liver disease	13.8	Liver disease Chronic lower	12.7
9	Self-destructive behavior (suicide)	7.6	Hypertensive disease	8.9	Transport accidents	13.7	Respiratory disease	12.0
10	Pneumonia	5.2	Pneumonia	8.2	Hypertensive disease	9.6	Hypertensive disease	11.0

Source: Statistics Korea, 「Causes of Death Statistics」

Public Pension Recipients

The number of public pension recipients in 2018 stood at 5,472,000, a 2.1% (114,000) increase from 5,358,000 in 2017. This is because the number of recipients in all public pensions has increased, including 78,000 (1.7%) of the national pension and 27,000 (5.5%) of the government employees pension.

The number of people covered by health insurance in 2018 was 51,072,000, a 0.3% (131,000) increase from 50,941,000 from the previous year.

(Table 14.3) Public Pension Recipients and People Covered by Health Insurance

(Unit: 1,000 persons)

	Public Pension	National Pension	Government Employees Pension	Private School Teachers Pension	Soldiers Pension	Post Officers Pension	People Covered by Health Insurance
1993	672	584.2	40.8	2.7	44.0	0.0	-
1998	1,417	1,269.0	89.3	6.4	51.7	0.1	-
2003	1,438	1,177.4	181.7	17.9	60.9	0.4	47,103
2008	2,916	2,534.1	279.8	31.3	70.3	0.9	48,160
2013	4,152	3,653.1	366.5	48.4	82.3	1.3	49,990
2016	4,992	4,384.7	452.9	63.8	89.1	1.7	50,763
2017(A)	5,358	4,716.2	480.1	69.2	91.1	1.7	50,941
2018(B)	5,472	4,794.4	506.6	75.9	93.1	1.9	51,072
Change (B-A)	114	78.2	26.5	6.7	2.1	0.1	131
Rate of Change	2.1	1.7	5.5	9.7	2.3	7.0	0.3

Note: '0.0' is not zero, but indicates 'less than 100 persons'.
Source: Ministry of Health and Welfare 「Annual Report on Health and Welfare Statistics」, National Health Insurance Corporation, 「National Health Insurance Statistics」

Medical Institutions

In 2018, the number of medical institutions stood at 67,847, a 48.2% (22,075) increase compared to 2003. This is because the interest in health has increased as income has risen and the standards of living have improved.

In 2018, the number of sickbeds per 1,000 persons was 13.7, and increased by 6.6 from 7.1 in 2003, which significantly improved the medical environment.

(Table 14.4) Number of Medical Institutions and Sickbeds

	Total	General Hospital & Hospital	Clinic & Maternity Clinic	Dental Hospital and Clinic	Korean Traditional Medical and Clinics	Number of Sickbeds	Sickbeds per 1,000 Persons
2003	45,772	1,013	23,573	11,989	8,885	340,988	7.1
2008	54,165	1,377	26,612	13,802	11,387	478,645	9.8
2013	60,899	1,655	28,863	15,779	13,019	633087	12.6
2016	64,999	1,851	30,185	17,219	14,142	692,345	13.5
2017	66,631	1,808	30,984	17,614	14,467	703,408	13.7
2018	67,847	1,814	31,693	17,901	14,636	708,372	13.7

Data: Ministry of Health and Welfare 「Annual Report on Health and Welfare Statistics」, Statistics Korea 「Population Projections」

Medical Personnel

In 2018, the number of doctors stood at 123,173, a 1.5 times increase, the number of dentists 30,918, a 1.3 times, and the number of pharmacists 1.3 times and the number of nurses 2.1 times compared to 2003, respectively.

The number of people per doctor decreased by 23.0% from 666 in 2008 to 513 in 2018, indicating that the medical environments has improved significantly.

(Table 14.5) Medical Personnel[1)]

(Unit: Person)

	Number of Doctors[2)]	Number of Dentists[2)]	Number of Pharmacists	Number of Nurses
2003	81,328	20,446	54,381	192,480
2008	95,088	23,924	58,363	246,840
2013	109,563	27,409	63,292	307,797
2016	118,765	29,643	66,992	355,772
2017	121,638	30,344	68,616	374,990
2018	123,173	30,918	69,347	394,627

Note: 1) Licensed doctors including those who reside overseas. 2) Including 'Conditionally qualified limited physicians
Conditionally qualified limited physicians : physicians who are permitted to practice only in certain regions.
Source: Ministry of Health and Welfare, 「Annual Report on Health and Welfare Statistics」

Compared the country's medical resources with advanced countries, the number of doctors (including oriental doctors) per 1,000 persons in 2018 was 2.4 in Korea, similar to 2.6 in USA, 2.8 in the UK and 2.5 in Japan, but lower than 4.3 in Germany and 3.8 in Australia.

The number of CT scanners and MRI devices stood at 38.6 and 30.1, respectively, which was higher than the OECD average of 26.6 and 16.7, respectively.

(Table 14.6) Medical Resources in Major Countries[1)] (2018)

	Korea[2)]	Japan[3)]	USA	UK[4)]	Germany	Australia	OECD
Total Number of Sickbeds (per 1,000 persons)	12.4	13.0	2.9	2.5	8.0	3.8	4.5
Number of Doctors (per 1,000 persons)	2.4	2.5	2.6	2.8	4.3	3.8	3.5
Number of Nurses (per 1,000 persons)	7.2	11.8	11.9	7.8	13.2	11.9	8.8
CT Scanners (per 1 million persons)	38.6	111.5	44.6	9.5	35.1	67.3	26.6
MRI Equipment (per 1 million persons)	30.1	55.2	39.2	7.2	34.7	14.1	16.7
Number of Medical School Graduates (per 100,000 persons)	7.5	6.9	8.0	12.9	11.5	15.8	13.5

Note: 1) Doctors are based on those practicing currently, and nurses are based on those currently practicing as well as license holders.
2) Doctors (including oriental doctors) are based on those practicing currently, and pharmacists and nurses are based on license holders.
3) CT scanners and MRI equipment are based on 2017.
4) CT scanners and MRI equipment are based on 2014.
Source: OECD 「OECD Health Statistics」

Medical Care Expenditure (% of GDP)

Due to an increase in national income and a rising interest in health, the medical care expenditure stood at KRW 153,966 trillion in 2019, a 25.2 times increase from KRW 6,103 trillion from 30 years ago in 1989. The medical care expenditure as a percentage of GDP also increased by 4.3%p from 3.7% in 1989 to 8.0% in 2019.

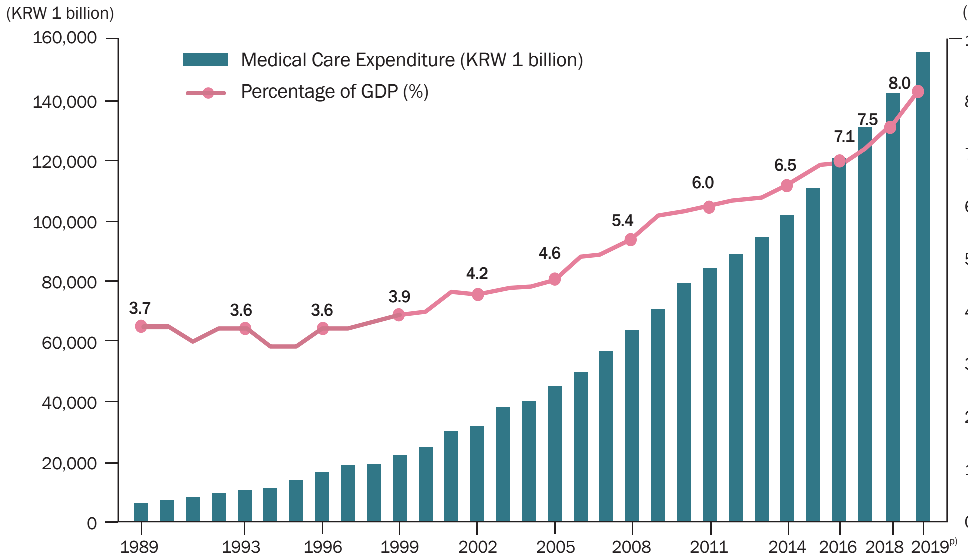
In 2019, the medical care expenditures increased by 7.5% (KRW 10,769 trillion), compared to KRW 143,197 trillion in the previous year.

(Table 14.7) **Medical Care Expenditure as a Percentage of GDP**

	1989	1999	2004	2009	2014	2017	2018	2019p)
Medical care expenditure (KRW 1 billion)	6,103	22,748	39,871	69,697	101,190	130,462	143,197	153,966
Percentage of GDP(%)	3.7	3.9	4.4	5.8	6.5	7.1	7.5	8.0

Source: Ministry of Health and Welfare, 「National Health Accounts」

<Figure 14.2> **Trends in Medical Care Expenditure as a Percentage of GDP**



Source: Ministry of Health and Welfare, 「National Health Accounts」

Social Welfare Expenditure

According to the OECD guidelines, the estimate of social welfare expenditures in Korea stood at about KRW 189 trillion in 2016, accounting for about 11.5% of nominal GDP. With the establishment and expansion of a social security system, including the national basic living security and social security system, the social welfare expenditures rose by nearly 2 times for 11 years from 6.7% in 2005 to 11.5% in 2016.

(Table 14.8) **Social Welfare Expenditure as a Percentage of GDP**

(Unit: %)

	1990	1995	2000	2005	2010	2014	2015	2016 p)
Social Welfare Expenditure(A+B)	2.9	3.4	5.3	6.7	8.8	10.4	11.2	11.5
Public Sector (A)	2.7	3.1	4.5	6.1	8.2	9.7	10.2	10.5
Private Sector (B)	0.2	0.3	0.8	0.5	0.6	0.8	1.0	1.0

Source: OECD Social Expenditure Database, January 2019.

Explore Korea through Statistics

Environment

Chapter

15

Environmental Improvement Record by Sector

In 2018, the amount of the treated daily waste recorded 56,035 tons/day. Amid people's positive participation in recycling, the recycling ratio rose from 59.8% in 2008 to 62.0% in 2018, while the landfill ratio dropped from 20.3% in 2008 to 13.4% in 2018.

Meanwhile, as a result of steadily improving sewage facilities for managing clean and healthy water, the sewage supply rate and the water supply rate in 2018 stood at 93.9% and 97.0%, respectively, a 5.3%p and 4.3%p increase from 88.6% and 92.7% in 2008.

(Table 15.1) Environmental Improvement Record by Sector

	Treatment of Daily Waste				Sewage Supply Rate(%)	Water Supply Rate(%)
	Total amount (tons/day)	Landfill (%)	Incineration (%)	Recycling (%)		
2008	52,072	20.3	19.9	59.8	88.6	92.7
2013	48,728	15.6	25.3	59.1	92.1	95.7
2016	53,772	14.7	25.3	60.0	93.2	96.4
2017	53,490	13.5	24.9	61.6	93.6	96.8
2018	56,035	13.4	24.6	62.0	93.9	97.0

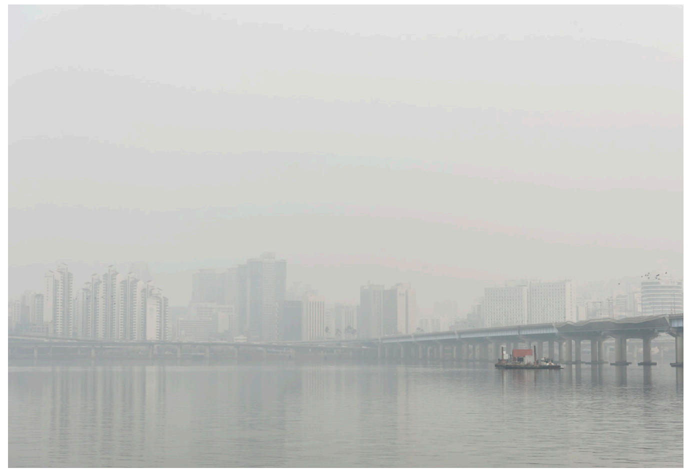
Source: Ministry of Environment, 「National Waste Generation and Treatment」, 「Sewage Statistics」, 「Water Supply Statistics」

Emissions of Pollutants

As for emissions of major pollutants in 2017, NOx was the highest with 1,189,800 tons, followed by VOCs (1,047,600 tons), CO (817,400 tons) and TSP (592,600 tons).

Compared to 2000, the emissions of SOx decreased by 175,200 tons (-35.7%), CO by 83,100 tons (-9.2%), while TSP increased by 621.8% (510,500 tons), VOCs by 48.2% (340,700 tons) and NH3 by 535.9% (259,800 tons), respectively.

Compared to the previous year, emissions of most pollutants decreased, including SOx (43,400 tons, -12.1%), PM-2.5 (8,500 tons, -8.5%), and PM-10 (14,600 tons, -6.3%), while emissions of CO (22,300 tons, 2.8%), VOCs (23,600 tons, 2.3%) and NH3 (7,000 tons, 2.3%) increased.



(Table 15.2) Emissions of Pollutants

(Unit: Ton)

	2000	2005	2010	2015	2016(A)	2017(B)	Change(B-A)	Rate of Change (%)
CO	900,569	788,917	766,269	792,776	795,044	817,420	22,376	2.8
NOx	1,122,844	1,306,724	1,061,210	1,157,728	1,248,309	1,189,800	-58,509	-4.7
SOx	490,761	408,462	401,741	352,292	358,951	315,530	-43,421	-12.1
TSP	82,101	88,909	177,601	604,243	611,539	592,582	-18,957	-3.1
PM-10	61,719	67,343	116,808	233,177	233,085	218,476	-14,609	-6.3
PM-2.5	0	0	0	98,806	100,247	91,731	-8,516	-8.5
VOCs	706,915	756,421	866,358	1,010,771	1,024,029	1,047,585	23,556	2.3
NH_3	48,484	247,149	289,766	297,167	301,301	308,298	6,997	2.3
BC	0	0	0	15,934	16,401	15,555	-846	-5.2

Note:1) Emissions of PM2.5 have been calculated since 2011.
2) Emissions of BC (Black Carbon) have been calculated since 2014.
3) Emissions of dust scattering and biomass burning has been added since 2015.
Source: Ministry of Environment, 「Emissions of Air Pollutants」

Waste Generation

In 2018, the waste generation totaled 446,100 tons, a 2.3 times increase from two decades ago 1998. Construction waste recorded the highest figure of 206,950 tons (46.4%), followed by industrial waste (167,730 tons, 37.6%) and household waste (56,040 tons, 12.6%), specified waste(15.390 tons, 3.4%).

The amount of household waste remains stable owing to the implementation of the pay-by-the-bag garbage disposal system.

(Table 15.3) Waste Generation

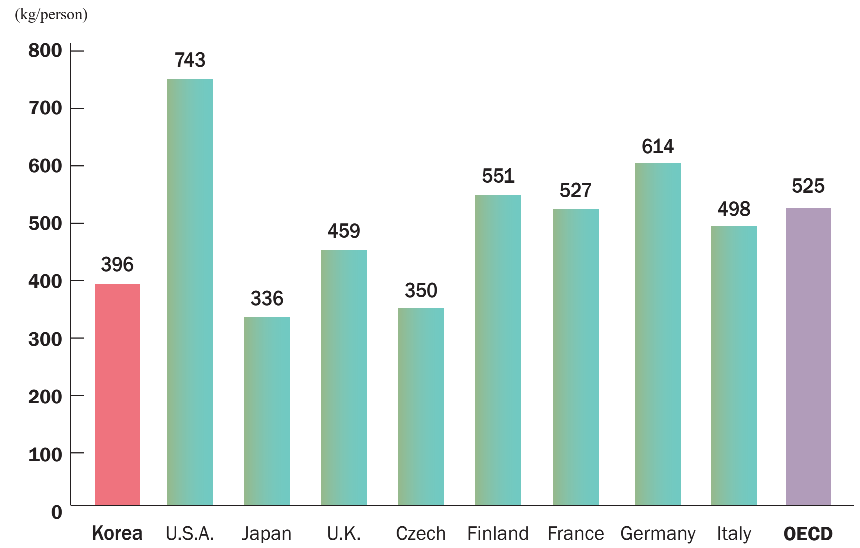
(Unit: 1,000 ton/day)

	Total	Household Waste		Industrial Waste	Construction Waste	Specified Waste
			Waste per Capita (kg/day)			
1998	190.25	44.58	0.96	92.71	47.69	5.27
2003	303.03	50.74	1.06	98.89	145.42	7.98
2008	368.89	52.07	1.06	130.78	176.45	9.59
2013	393.12	48.73	0.97	148.44	183.54	12.41
2016	429.13	53.77	1.05	162.13	199.44	13.78
2017	429.53	53.49	1.04	164.87	196.26	14.91
2018	446.10	56.04	1.08	167.73	206.95	15.39

Source: Ministry of Environment, 「National Waste Generation and Treatment」, 「Generation and Treatment of the Specified Waste」

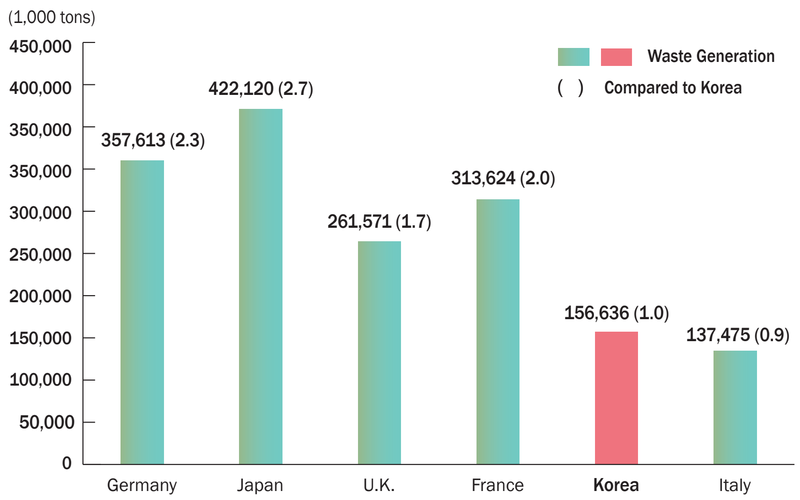
However, the generation of household waste per capital in 2018 stood at 396kg, which is lower than the OECD average of 525kg.

<Figure 15.1> Annual Household Waste Generation per Capita in Major OECD Countries (2018)



Note: 1) The vaule is calcuated to divide the annual household waste generation by the total population.
2) Date for USA and Japan are based on 2017.
Source: OECD, Ministry of Environment, 「National Waste Generation and Treatment」

<Figure 15.2> Waste Generation: Comparison with OECD Countries (2016)



Note: Date for Japan are based on 2015.
Source: OECD

CO_2 Emissions

In 2018, the country's carbon dioxide emissions recorded 606 million tons of CO_2, an 100.0% increase compared to 1993. During the same period, China (276.2%) recorded the highest increase in CO_2 emissions, followed by India (271.7%) and Korea. In the meantime, major advanced countries have generated less CO_2 compared to 1990, owing to positive policies to reduce CO_2 emissions. The government is encouraging the general public to switch to a low-carbon lifestyle to reduce CO_2.

(Table 15.4) CO_2 Emissions of Major Countries (from Fuel Combustion)

(Unit: million tons)

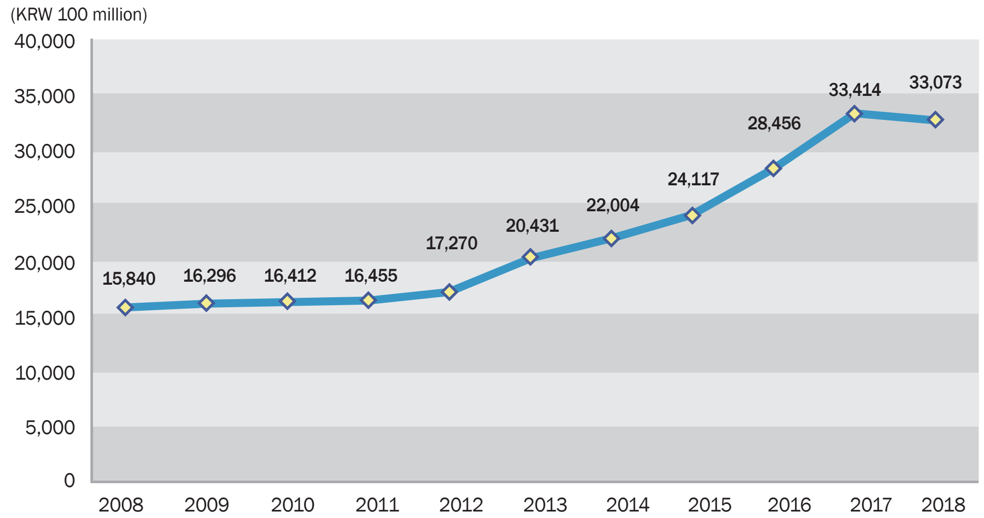
	1993(A)	1998	2003	2008	2013	2017	2018(B)	Rate of Change (B-A) (%)
World Total	20,698	22,394	24,960	29,209	32,371	32,837	33,513	61.9
Korea	303	344	438	489	575	600	606	100.0
China	2,544	3,062	4,111	6,712	9,234	9,290	9,571	276.2
USA	4,953	5,545	5,611	5,513	5,039	4,761	4,921	-0.6
Russia	1,800	1,407	1,494	1,554	1,569	1,537	1,587	-11.8
India	621	795	959	1,349	1,861	2,191	2,308	271.7
Japan	1,068	1,096	1,184	1,131	1,234	1,125	1,081	1.1
Germany	872	847	821	774	764	719	696	-20.2
Canada	414	474	534	540	547	553	565	36.7
UK	531	515	533	508	447	360	352	-33.6
Italy	383	412	445	429	338	321	317	-17.2
Mexico	286	345	387	435	450	446	448	57.0
Australia	269	324	348	384	375	384	383	42.3
France	341	372	368	349	329	310	303	-11.0
Brazil	203	271	293	349	454	428	406	100.0
OECD	11,207	12,175	12,697	12,617	11,992	11,581	11,645	3.9

Source: IEA (International Energy Agency), 「CO_2 emissions from fuel combustion 2017」

Eco-friendly Products

In 2018, eco-friendly products purchased by the public agencies amounted to KRW 3,307.3 billion, a 2.1 times increase, compared to 2018. The purchases of eco-friendly products showed a continuous upward trend, which was attributable to the obligatory purchases of eco-friendly products, purchase guidelines and training, and low carbon green growth-related government policy.

<Figure 15.3> Eco-Friendly Products Purchased by Public Agencies



Source: Ministry of Environment

Endangered Wildlife

Endangered wildlife refers to creatures designated and protected by the Ministry of Environment for effective protection pursuant to the Wildlife Protection and Management Act.

Staring with 92 species of reptiles, amphibians, insects and plants in 1989, the number of the designated species expanded to 179 species in 1993, and as of 2017, 267 species are currently designated.

According to the designation of endangered wildlife in Korea, plants and algae comprise the most, while seaweed and higher fungi have a short history of designation.

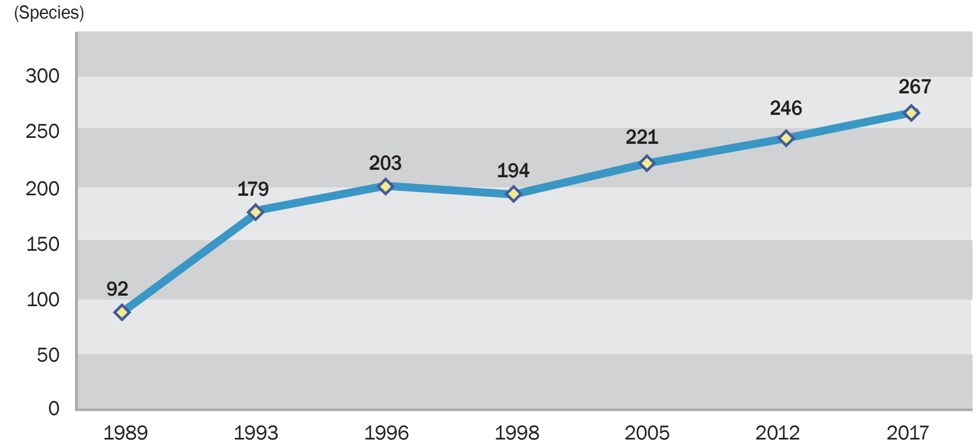
(Table 15.5) Designation of Endangered Wildlife (2017)

(Unit: Species)

Classified Group	Mammal	Birds	Amphibian Reptile	Fish	Insects	InverteBrate	Plants	Seaweeds	Higher Fungi	Total
1st Grade	12	14	2	11	6	4	11	-	-	60
2nd Grade	8	49	6	16	20	28	77	2	1	207
Total	20	63	8	27	26	32	88	2	1	267

Source: Ministry of Environment

<Figure 15.4> Number of the Designated Species by Year



Source: Ministry of Environment

Explore Korea through Statistics

Education and R&D

Chapter 16

- Enrollment Ratio
- Number of Students per Teacher
- R&D Investment Led by the Private Sector
- Researchers Engaged in R&D Activities
- International Comparison of R&D
- Industrial Property Rights

Enrollment Ratio

In 2019, the enrollment ratio in the elementary school, the middle school, the high school and the higher educational institutions stood at 98.7%, 96.7%, 91.3% and 67.8%, respectively. Whereas, the enrollment ratio in the kindergartens is relatively low at 48.7%. This is because day care centers and other similar preschool educational institutions share early childhood education.

(Table 16.1) Number of Schools and Enrollment Ratio by Level

(Unit: %)

	Kindergarten Enrollment Ratio	Elementary School		Middle School		High School		Higher Education Institution[1]	
		Schools	Enrollment Ratio	Schools	Enrollment Ratio	Schools	Enrollment Ratio	Schools	Enrollment Ratio
2000	26.2	5,267	97.2	2,731	95.0	1,957	89.4	372	52.5
2004	29.1	5,541	97.9	2,888	92.5	2,080	90.7	411	62.2
2009	39.6	5,829	98.4	3,106	95.8	2,225	91.5	407	70.2
2014	47.5	5,934	96.7	3,186	96.4	2,326	93.2	433	67.7
2017	50.8	6,040	97.6	3,213	94.3	2,360	93.8	430	67.4
2018	50.6	6,064	97.6	3,214	98.0	2,358	92.4	430	66.9
2019	48.7	6,087	98.7	3,214	96.7	2,356	91.3	430	67.8

Note 1) - Higher educational institution includes junior college, college of education, universities and other various colleges (technical college and vocational college)
- Graduate schools are not included in the total number of schools. However, the independent higher educational institutions, and graduate universities, are included in the total number of schools.

Source: Korean Educational Development Institute, 「Brief Statistics on Korean Education」

Number of Students per Teacher

In 2019, the student-teacher ratio stood at 14.6 in elementary schools, 11.7 in middle school and 10.6 in high schools. In 1999, the student-teacher ratios stood at 28.6 in elementary schools, 20.3 in middle schools and 21.4 in high schools. These figures show that the country’s educational environment has significantly improved for the past two decades.

(Table 16.2) Number of Teachers and Number of Students per Teacher

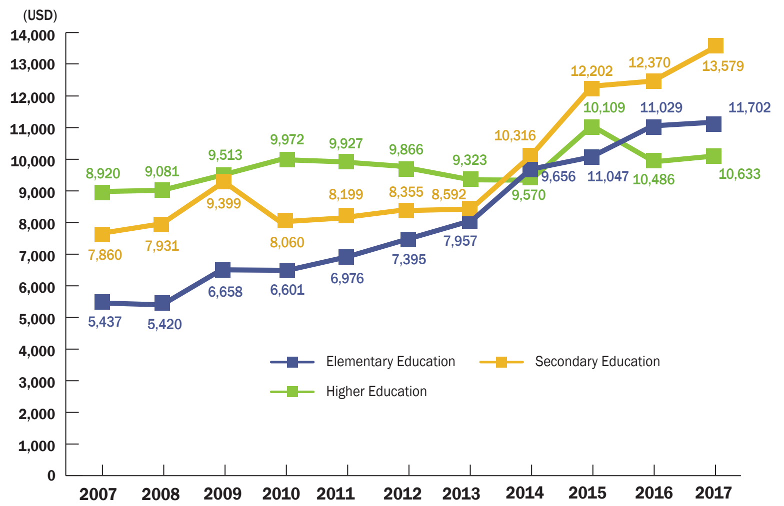
(Unit: 1,000 persons, person)

	Elementary School		Middle School		High School	
	Number of Teachers	Students per Teacher	Number of Teachers	Students per Teacher	Number of Teachers	Students per Teacher
1999	137.6	28.6	93.2	20.3	105.3	21.4
2004	157.4	26.2	101.7	19.0	116.1	15.0
2009	175.1	19.8	109.1	18.4	125.1	15.7
2014	182.7	14.9	113.3	15.2	134.5	13.7
2017	184.4	14.5	109.1	12.7	134.8	12.4
2018	186.7	14.5	109.9	12.1	134.2	11.5
2019	188.6	14.6	110.6	11.7	133.1	10.6

Source: Korean Educational Development Institute, 「Brief Statistics on Korean Education」

In 2017, the public education expenditure per student increased by 2.2 times for elementary education, 1.7 times for secondary education, and 1.2 times for higher education, compared to 2007. In the meantime, the public education expenditure per student has been steadily increasing due to the government's efforts to expand educational finance.

<Figure 16.1> Public Education Expenditure per Student by Educational Level



Source: OECD, 「OECD Education at a Glance」

In 2017, the country's public education expenditure as a percentage of GDP stood at 5.4%, slightly higher than the OECD average of 5.0%. This is lower than that of USA (6.0%), the UK (6.1%), Finland (5.6%) and Canada (5.8%), but higher than that of France (5.1%) and Japan (4.1%). In Particular, the private sector spends about 30% of the education expenditure, and the government spends only about 70%, indicating that public education is relatively more dependent on private resources than the OECD average.

(Table 16.3) Public Education Expenditure as a Percentage of GDP (2017)

(Unit: %)

	Total	Government Share	Private Sector Share
OECD average	5.0	4.0	0.9
Korea	5.4	3.8	1.6
USA	6.0	4.1	1.9
UK	6.1	4.2	1.9
Japan	4.1	2.8	1.2
France	5.1	4.5	0.6
Finland	5.6	5.3	0.1
Canada	5.8	4.4	1.4

Source: OECD, 「OECD Education at a Glance」

R&D Investment Led by the Private Sector

In 2018, the total R&D investment in science and technology stood at KRW 85.729 trillion, a 7.6 times increase from KRW 11,337 trillion in twenty years ago 1998. The country's R&D investment accounted for 2.11% of GDP in 1998, but increased to 4.52% in 2018, maintaining a high level comparable to other developed countries.

In 2018, the private sector accounted for 76.6% of R&D investment, which is far greater than the government sector's 21.4%, indicating that the private sector is leading R&D investment.

(Table 16.4) **R&D Investment**

(Unit: KRW 1 billion, %)

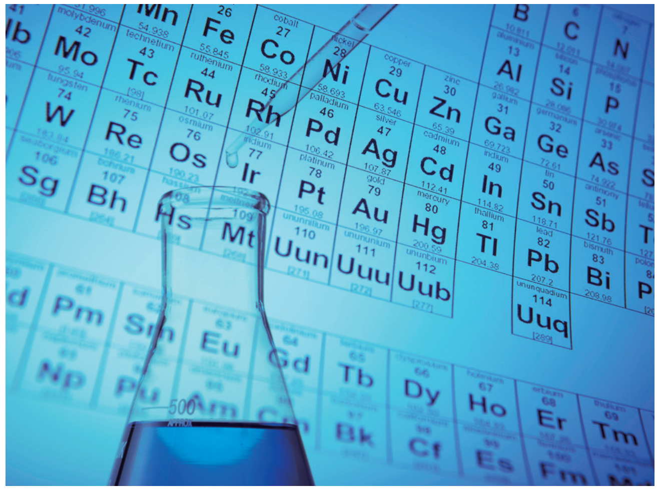
	GDP	R&D Investment	R&D Investment as a Percentage of GDP	R&D Investment Burden Ratio		
				Government	Private Sector	Foreign Countries
1993	315,181	6,153	1.95	16.7	83.1	0.2
1998	537,215	11,337	2.11	30.8	69.1	0.1
2003	837,365	19,069	2.28	25.6	74.0	0.4
2008	1,154,217	34,498	2.99	26.8	72.9	0.3
2013	1,500,819	59,301	3.95	24.0	75.7	0.3
2016	1,740,780	69,406	3.99	23.6	75.4	0.9
2017	1,835,698	78,789	4.29	22.5	76.2	1.3
2018	1,898,193	85,729	4.52	21.4	76.6	1.9

Source: Ministry of Science and ICT, 「Survey on R&D Activities」

Researchers Engaged in R&D Activities

In 2018, the number of researchers engaged in R&D activities stood at 514,170, a 5.2 times increase, compared to 1993. During the same period, the number of researchers per 10,000 persons increased by 4.4 times. The number of researchers increased by 6.5% (31,374) from 482,796 in 2017, and the number of researchers per 10,000 persons stood at 99.5.

As for the proportion of researchers by R&D institutions, private businesses accounted for 71.6%, universities 21.1% and public institutions 7.3%. By degrees, the proportion of Doctoral-level researchers accounted for 20.6% (105,930) and researchers with Master's degree 28.1% (144,399).



(Table 16.5) **Number of Researchers Engaged in R&D Activities**

(Unit: person)

	Number of Researchers		R&D Institution			Degree	
		Researchers per 10,000 Persons	Public Institution	University	Business	Doctoral	Master's
1993	98,764	22.4	16,068	28,618	54,078	26,813	29,205
1998	129,767	28.0	12,587	51,162	66,018	40,607	44,077
2003	209,979	43.7	15,722	59,957	134,300	52,595	67,695
2008	300,050	61.2	20,950	82,077	197,023	73,444	94,418
2013	410,333	81.4	31,140	97,319	281,874	88,988	123,106
2016	460,769	89.9	36,280	103,166	321,323	99,980	132,595
2017	482,796	93.8	36,552	102,877	343,367	103,582	137,996
2018	514,170	99.5	37,404	108,529	368,237	105,930	144,399

Source: Ministry of Science and ICT, 「Survey on R&D Activities」

International Comparison of R&D

In 2018, the number of researchers per 1,000 economically active persons in Korea stood at 15.3, and the number of researchers per 10,000 persons stood at 79.1, which was higher than that of other countries, including USA, Germany, France and the UK. The number of researchers per 1,000 economically active persons and per 10,000 persons are steadily increasing because of the increasing demand for researchers due to the expansion of R&D capabilities and the advancement of industrial structure.

(Table 16.6) International Comparison of R&D Capabilities (Based on MSTI) (2018)

Item	Number of Researchers (FTE)[1]	Number of Researchers per 1,000 Economically Active Persons(FTE)[1](Persons)	R&D Expenses per Person (USD)	Proportion of R&D Expenses as a Percentage of GDP (%)
Korea	408,370.5	15.3	1,907.7	4.5
USA	1,434,415.5	9.2	1,776.1	2.8
Japan	678,134.0	9.9	1,354.7	3.3
Germany	433,685.0	9.7	1,704.3	3.1
UK	305,794.5	9.4	812.1	1.7
France	306,451.0	10.9	1,017.5	2.2
Italy	152,522.6	6.0	610.2	1.4
Spain	140,120.1	7.1	504.0	1.2
Turkey	126,249.1	4.4	294.4	1.0
China	1,866,108.8	2.4	335.4	2.1
Russia	405,772.0	5.6	282.7	1.0
Taiwan	153,998.4	13.5	1,837.4	3.5
OECD Total[2]	5,075,075.5	8.6	1,072.3	2.4

* FTE(Full Time Equivalent)
Note 1) Average of USA and OECD are based on 2017.
2) Number of researchers is the whole sum, and the number of researchers per 1,000 economically active persons, R&D expenses per person and proportion of R&D expenses as a percentage of GDP are average values.

Source: OECD 「Main Science and Technology Indicators」

Industrial Property Rights

In 2019, the number of the registered industrial property rights stood at 306,522, a 6.9 times increase from 44,107 in 1988, 30 years ago, and a 6.9% (19,865) year-on-year increase from 286,657 in 2018.

In connection with the proportion of the registered industrial property rights, patent registration and trademark registration were similar at 41.0%, followed by design registration (17.2%) and utility model registration (0.8%).

(Table 16.7) Registration of Industrial Property Rights

(Unit: each, %)

	Registrations	Patents	Percentage	Utility Models	Percentage	Designs	Percentage	Trademarks	Percentage
1989	44,107	3,972	9.0	5,311	12.0	12,561	28.5	22,263	50.5
1994	58,604	11,683	19.9	7,817	13.3	13,695	23.4	25,409	43.4
1999	148,107	62,635	42.3	32,868	22.2	19,636	13.3	32,968	22.3
2004	165,375	49,068	29.7	34,182	20.7	31,021	18.8	51,104	30.9
2009	145,927	56,732	38.9	3,949	2.7	32,091	22.0	53,155	36.4
2014	288,542	129,786	45.0	4,955	1.7	54,010	18.7	99,791	34.6
2017	289,656	120,662	41.7	2,993	1.0	49,293	17.0	116,708	40.3
2018	286,657	119,012	41.5	2,715	0.9	49,905	17.4	115,025	40.1
2019	306,522	125,661	41.0	2,417	0.8	52,850	17.2	125,594	41.0

Source: Korean Intellectual Property Office, 「Intellectual Property Statistics」

Explore Korea through Statistics

Inter-Korean Exchange

Chapter 17

Inter-Korean Trade and Human Exchange

Inter-Korean human exchanges have steadily increased from the 1990s to 2015, but decreased to 52 persons in 2017 due to the strained inter-Korean relations. Since then, the number has increased to 6,689 persons in 2018 and 9,835 persons in 2019 on the momentum of the 2018 Pyeongchang Winter Olympics and the Inter-Korean Summits.

Inter-Korean trade increased by 3.9 times from USD 697 million in 2004 to USD 2,714 million in 2015, but dropped sharply to USD 333 million

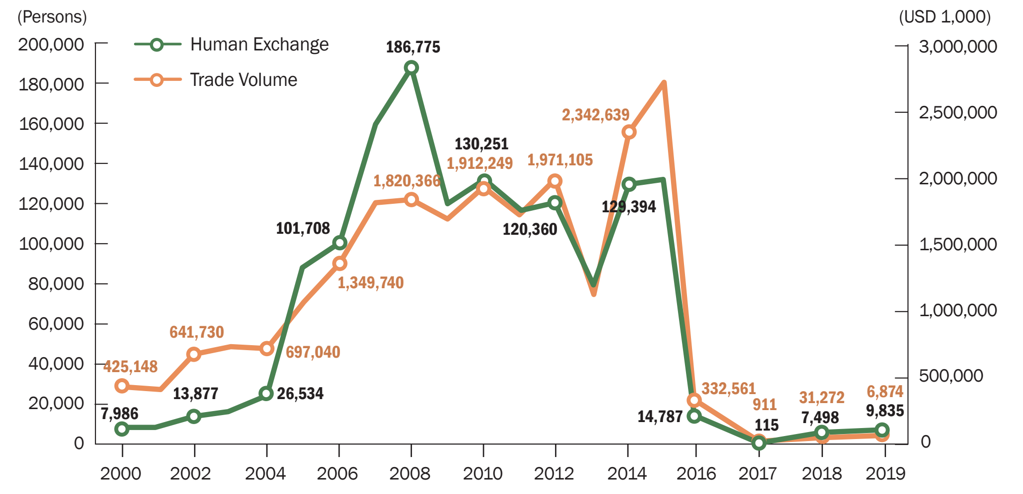
due to the closure of the Kaesong Industrial Complex in 2016. Looking at the current status of Inter-Korean trade in 2019, the total number of trades stood at 434 cases and 294 items, and the total trade volume stood at USD 6.87 million.

(Table 17.1) Inter-Korean Human Exchanges and Trade

	South Koreans Visiting to North Korea(Persons)	North Koreans Visiting to South Korea(Persons)	Trade Volume		
			Cases	Items	Amount (USD 1,000)
2004	26,213	321	12,893	634	697,040
2009	120,616	246	78,600	822	1,679,082
2014	129,028	366	86,158	718	2,342,639
2015	132,097	4	100,907	742	2,714,476
2016	14,787	0	11,424	489	332,561
2017	52	63	4	61	911
2018	6,689	809	699	412	31,272
2019	9,835	0	434	294	6,874

Source: Ministry of Unification

<Figure 17.1> Inter-Korean Human Exchange and Trade Volume



Note: Excluding South Koreans who visit North Korea for tourism (e.g.: Mt. Geumgang)
Source: Ministry of Unification

However, the two Koreas agreed to resume the operation of the Kaesong Industrial Complex and Mt. Geumgang Tourism Project according to the Pyeongyang Declaration announced at the Inter-Korean Summits in September 2018.

Inter-Korean Exchange for Peace, Prosperity and Unification

On April 27, 2018, the Inter-Korean Summit was held at the Peace House on the South Korean side of Panmunjom. In the Summit, President Moon Jae-in and Kim Jong-un, the leader of North Korea, announced the Panmunjom Declaration for Peace, Prosperity and Unification of the Korean Peninsula. The two leaders declared to the world that no more war would take place on the Korean Peninsula and a new era of peace would begin.

President Moon Jae-in visited Pyeongyang and resumed the summit with Kim Jong-un from September 18 to 20, 2018. The two Korean leaders raised their hands high at the top of Mt. Baekdu and announced a joint declaration in Pyeongyang. The two Koreas decided to link the railways of the East Sea and the West Sea as well as roads for mutual exchange.

On June 12, 2018, North Korea and the United States, (parties to the armistice agreement of the Korean War,) signed a joint statement, agreeing to 4 issues: complete denuclearization of the Korean Peninsula, security guarantees for North Korea, new peaceful relations and repatriation of the remains of U.S. soldiers killed during the Korean War. The 2018 North Korea- United States Singapore Summit gave hope that the extent of inter-Korean exchanges would expand as sanctions against North Korea would be eased. However, with the collapse of the 2019 North Korea-United States Hanoi Summit held on February 26, 2019, inter-Korean exchanges are still not progressing.

(Table 17.2) Inter-Korean Exchanges by Sector

(Unit: time)

Sector	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Politics	10	5	13	-	-	-	-	-	1	2	3	-	-	19	0
Military	3	4	11	2	-	1	1	-	-	1	-	-	-	4	0
Economy	11	8	21	3	4	3	-	-	22	3	1	-	-	4	0
Humanitarian Cooperation	4	3	4	-	2	4	-	-	1	1	1	-	-	2	0
Social and cultural exchange	6	3	6	1	-	-	-	-	-	1	-	-	-	7	0
Total	34	23	55	6	6	8	1	-	24	8	5	-	-	36	0

Source: Ministry of Unification

Culture and Tourism

Chapter 18

- Number of Employees Engaged in the Contents Industry
- Sales in the Contents Industry
- Exports in the Contents Industry
- Number of Tourism Businesses
- Number of Employees Engaged in the Tourism Industry
- Sales in the Tourism Industry
- Tourism Balance

Number of Employees Engaged in the Contents Industry

In 2018, the number of employees engaged in the contents industry stood at 667,437, a 3.5% (22,590) increase from 644,847 in the previous year. The number of employees engaged in each sub-industry mostly increased by 10.9% (4,949) in broadcasting, 8.7% (5,668) in advertising, and 4.9% (4,020) in knowledge information, but decreased by 0.1% (-240) in publication and 0.1% (-51) in music.

Publication accounted for the largest portion at 27.7% , followed by knowledge information (13.0%), games (12.8%) and music (11.5%).

(Table 18.1) Number of Employees Engaged in the Contents Industry

(Unit: person, %)

	2015	2016	2017 (A)	2018(B)	Percentage	Change (B-A)	Rate of change
Total	621,928	631,457	644,847	667,437	100.0	22,590	3.5
Publication	190,277	185,001	184,794	184,554	27.7	-240	-0.1
Cartoon	10,003	10,127	10,397	10,761	1.6	364	3.5
Music	77,490	78,393	77,005	76,954	11.5	-51	-0.1
Game	80,388	73,993	81,932	85,492	12.8	3,560	4.3
Film	30,100	28,974	29,546	30,878	4.6	1,332	4.5
Animation	4,728	5,142	5,161	5,380	0.8	219	4.2
Broadcasting	42,378	43,662	45,337	50,286	7.5	4,949	10.9
Advertising	52,971	65,072	65,159	70,827	10.6	5,668	8.7
Character	30,128	33,323	34,778	36,306	5.4	1,528	4.4
Knowledge Information	77,809	80,396	82,470	86,490	13.0	4,020	4.9
Contents solution	25,656	27,374	28,268	29,509	4.4	1,241	4.4

Source: Ministry of Culture, Sports and Tourism, 「Contents Industry Survey」

Sales in the Tourism Industry

In 2018, the sales in the contents industry stood at KRW 119.4826 trillion, a 5.7% (KRW 6.4381 trillion) increase from KRW 113.444 trillion in the previous year. The sales in the sub-industry mostly increased by 9.5% (KRW 1.7186 trillion) in broadcasting, 8.9% (KRW 96.4 billion) in cartoon and 8.7% (KRW 1.148 trillion) in games.

Publication accounted for the largest portion in sales at 17.5%, followed by broadcasting (16.5%), advertising (14.4%) and knowledge information (13.6%).

(Table 18.2) Sales in the Contents Industry

(Unit: KRW 1 billion, %)

	2015	2016	2017 (A)	2018(B)	Percentage	Change (B-A)	Rate of change
Total	100,336.8	105,324.4	113,044.4	119,482.6	100.0	6,438.1	5.7
Publication	20,509.8	20,765.9	20,755.3	20,953.8	17.5	198.4	1.0
Cartoon	919.4	976.3	1,082.2	1,178.6	1.0	96.4	8.9
Music	4,975.2	5,308.2	5,804.3	6,097.9	5.1	293.6	5.1
Game	10,722.3	10,894.5	13,142.3	14,290.2	12.0	1,148.0	8.7
Film	5,112.2	5,256.1	5,494.7	5,889.8	4.9	395.2	7.2
Animation	460.7	490.6	493.4	505.2	0.4	11.8	2.4
Broadcasting	16,463.0	17,331.1	18,043.6	19,762.2	16.5	1,718.6	9.5
Advertising	14,439.9	15,189.7	16,413.3	17,211.9	14.4	798.5	4.9
Character	10,080.7	11,066.2	11,922.3	12,207.0	10.2	284.7	2.4
Knowledge Information	12,342.1	13,462.3	15,041.4	16,291.0	13.6	1,249.6	8.3
Contents Solution	4,311.6	4,583.5	4,851.6	5,094.9	4.3	243.4	5.0

Source: Ministry of Culture, Sports and Tourism, 「Contents Industry Survey」

Exports in the Contents Industry

In 2018, the export amount in the contents industry stood at USD 9.615 billion, a 9.1% increase from USD 8.814 billion in the previous year. The export amount in the sub-industry increased by 8.2% (USD 488 million) in games, 32.0% (USD 12 million) in broadcasting and 12.2% (USD 81 million) in character, but decreased by 34.3% (USD 32 million) in advertising.

Game industry accounted for the largest portion in export amount at 66.7%, followed by character (7.7%), knowledge information (6.6%) and music (5.9%).

(Table 18.3) **Exports in the Contents Industry**

(Unit: USD 1,000, %)

	2015	2016	2017 (A)	2018(B)	Percentage	Change (B-A)	Rate of change
Total	5,661,368	6,008,063	8,814,441	9,615,036	100.0	800,595	9.1
Publication	222,736	187,388	220,951	248,991	2.6	28,040	12.7
Cartoon	29,354	32,482	35,262	40,501	0.4	5,239	14.9
Music	381,023	442,566	512,580	564,236	5.9	51,656	10.1
Game	3,214,627	3,277,346	5,922,998	6,411,491	66.7	488,493	8.2
Film	29,374	43,894	40,726	41,607	0.4	881	2.2
Animation	126,570	135,622	144,870	174,517	1.8	29,647	20.5
Broadcasting	320,434	411,212	362,403	478,447	5.0	116,044	32.0
Advertising	94,508	109,804	93,230	61,293	0.6	-31,937	-34.3
Character	551,456	612,842	663,853	745,142	7.7	81,289	12.2
Knowledge Information	515,703	566,412	616,061	633,878	6.6	17,817	2.9
Contents Solution	175,583	188,495	201,508	214,933	2.2	13,425	6.7

Source: Ministry of Culture, Sports and Tourism, 「Contents Industry Survey」

Number of Tourism Businesses

In 2018, the number of tourism businesses stood at 33,452, a 1.1% (363) increase from 33,089 in the previous year.

Travel business accounted for the largest portion in tourism business at 56.9%, followed by tourist facilities business (12.9%), tourist convenience facilities (12.2%), and amusement facilities business (9.0%).

(Table 18.4) **Number of Tourism Businesses**

(Unit: each, %)

	2015	2016	2017 (A)	2018 (B)	Percentage	Change (B-A)	Rate of Change
Total	23,874	27,696	33,089	33,452	100	363	1.1
Travel Business	14,607	16,605	19,944	19,039	56.9	-905	-4.5
Tourist Accommodation	1,503	1,716	1,843	2,110	6.3	267	14.5
Tourist Facilities	1,213	3,168	3,963	4,323	12.9	360	9.1
International Conference	619	700	890	886	2.6	-4	-0.4
Casino	17	17	17	17	0.1	0	0.0
Amusement Facilities	1,060	1,782	2,548	3,000	9.0	452	17.7
Tourist Convenience Facilities	4,855	3,708	3,884	4,077	12.2	193	5.0

Source: Ministry of Culture, Sports and Tourism, 「Tourism Business Survey」

Number of Employees Engaged in the Tourism Industry

In 2018, the number of employees engaged in the tourism industry stood at 267,561, a 4.5% (12,709) decrease from 280,270 in the previous year. The number of employees engaged in casino business and tourist convenience facilities increased by 4.2% (297) and 13.1% (3,787), respectively, but decreased by 7.6% (-8,132) in travel business, 25.2% (-3,066) in international conference business and 9.3% (-2,381) in tourist facilities business.

Travel business accounted for the largest portion at 37.0%, followed by tourist accommodation business (26.1%), tourist convenience facilities (12.3%) and amusement facilities business (9.8%).

(Table 18.5) Number of Employees Engaged in the Tourism Industry

(Unit: person, %)

	2015	2016	2017 (A)	2018 (B)	Percentage	Change (B-A)	Rate of Change
Total	235,604	261,978	280,270	267,561	100.0	-12,709	-4.5
Travel Business	84,558	98,421	107,209	99,077	37.0	-8,132	-7.6
Tourist Accommodation	70,305	73,631	71,769	69,926	26.1	-1,843	-2.6
Tourist Facilities	11,065	17,421	25,535	23,154	8.7	-2,381	-9.3
International Conference	15,131	12,596	12,166	9,100	3.4	-3,066	-25.2
Casino	9,418	9,115	7,033	7,330	2.7	297	4.2
Amusement Facilities	17,224	23,683	27,561	26,189	9.8	-1,372	-5.0
Tourist Convenience Facilities	27,902	27,110	28,998	32,785	12.3	3,787	13.1

Source: Ministry of Culture, Sports and Tourism, 「Tourism Business Survey」

Sales in the Tourism Industry

In 2018, sales in the tourism industry stood at KRW 25.4291 trillion, a 1.2% (-KRW 306.9 billion) decrease from KRW 25.7359 trillion in the previous year. Sales in travel business, casino business and tourist convenience facilities increased by 4.3% (KRW 348.8 billion), 10.8% (KRW 295.0 billion), and 4.9% (KRW 92.9 billion), respectively, but decreased by 10.4% (-KRW 151.2 billion) in international conference business, 8.9% (-KRW 746.8 billion) in tourist accommodation business and 7.5% (-KRW 83.1 billion) in tourist facilities business, respectively.

Travel business accounted for the largest portion in sales at 33.3%, followed by tourist accommodation business (30.1%), casino business (11.9%) and tourist facilities business (7.8%).

(Table 18.6) Sales in the Tourism Business

(Unit: KRW 1 billion, %)

	2015	2016	2017 (A)	2018 (B)	Percentage	Change (B-A)	Rate of change
Total	22,358.2	25,036.0	25,735.9	25,429.1	100.0	-306.9	-1.2
Travel Business	6,472.6	7,642.7	8,113.4	8,462.2	33.3	348.8	4.3
Tourist Accommodation	7,859.6	8,268.3	8,411.2	7,664.4	30.1	-746.8	-8.9
Tourist Facilities	789.1	885.2	1,103.9	1,020.7	4.0	-83.1	-7.5
International Conference	1,760.3	1,837.7	1,454.6	1,303.3	5.1	-151.2	-10.4
Casino	2,804.4	2,903.3	2,730.3	3,025.4	11.9	295.0	10.8
Amusement Facilities	1,538.7	1,929.2	2,033.3	1,970.9	7.8	-62.4	-3.1
Tourist Convenience Facilities	1,133.6	1,569.6	1,889.3	1,982.2	7.8	92.9	4.9

Source: Ministry of Culture, Sports and Tourism, 「Tourism Business Survey」

Tourism Balance

In 2019, tourism income stood at USD 21.506 billion, a 2.2 times increase from USD 9.737 billion in 2009, 10 years ago, and tourism expenditure stood at USD 28.855 billion, a 2.6 times increase from USD 11.035 billion in 2009.

Compared to the previous year 2018, tourism income increased by 16.5% (USD 3.045 billion), and tourism expenditure decreased by 8.5% (USD 2.673 billion).

In 2019, tourism balance ran into red figures of USD 7.349 billion. Compared to the previ-

ous year, the deficit decreased by 43.8% (USD 5.717 billion).

In 2019, tourism income per capita stood at USD 1,228.7, a 2.1% increase (USD 26) from USD 1203.0 in the previous year, and tourism expenditure per capita stood at USD 1,004.9, a 8.5% (USD 94) decrease from USD 1,098.7 in the previous year.

(Table 18.7) Trend in Tourism Balance

(Unit: USD 1 million)

	Incoming Tourism		Outbound Tourism		Tourism Balance
		AEPC* US$		AEPC* US$	
2009	9,737.0	1,245.5	11,035.7	1,162.4	-1,298.7
2014	17,335.9	1,220.7	19,469.9	1,210.8	-2,134.0
2017	13,263.9	994.6	27,959.8	1,055.2	-14,695.9
2018	18,461.8	1203.0	31,527.9	1098.7	-13,066.1
2019	21,506.3	1228.7	28,855.4	1004.9	-7,349.1

* A.E.P.C: Average Expenditure Per Capita
Source: Korea Tourism Organization

‘K’orea, Leading the World

Chapter 19

- K-Prevention in the COVID-19 Pandemic
- Korean Culture Stands Tall in the World
- K-POP
- K-Movie & Drama
- K-Food
- K-Beauty

K-Prevention in the COVID-19 Pandemic

In 2020, the world came to a sudden halt because of COVID-19 pandemic. Many countries have curbed travel to other countries as well as movement outside the home. The Korean government has not banned the freedom of citizens on the basis of openness, transparency and sufficient disclosure of information. Citizens trusted the KCDC (Korea Centers for Disease Control and Prevention)’s preventive measures against the pandemic, wearing masks and maintaining their daily lives according to the government's recommendations.

On February 18, 2020, a massive spread of COVID-19 began in Daegu from a religious group. Immediately thereafter, Korea had surpassed China to become the country with the second highest number of coronavirus cases. The whole world predicted Korea's lockdown just like other countries. However, Koreans demonstrated a community spirit and helped the government prevent the massive spread without a shutdown. This process resulted in increasing the world's interest in K-Prevention.

There is another concern about a huge re-spread of COVID-19 due to a large-scale religious gatherings, but K-Prevention is accomplishing its missions, successfully preventing the explosive infection.

Preparing for K-Prevention

On January 27, 2020 when COVID-19 began to spread in China, the Korean government convened a meeting with private reagent developers and the KCDC in charge of preventing epidemics, and ordered to develop diagnostic kits rapidly.

The KCDC provided private reagent developers with experimental methods developed from its experience with swine flu and MERS, while private developers quickly developed diagnostic kits using artificial intelligence and big data. The Korean government's swift response and the accuracy of diagnostic kits astonished the whole world.

Evolution and Standardization of K-Prevention

In order to prevent the massive spread of COVID-19, the Korean government and the KCDC conducted 'testing' for infectious diseases, 'treating' the infected persons, and 'tracking' the route of the spreading of COVID-19 through the infected persons at the same time, which is called '3T' and has been standardized all over the world.

Furthermore, in order to shorten the turnaround time for diagnostic tests, Korean medical staffs developed drive-through and walking-through testing methods, and epidemiological surveys identified the moving routes of the infected persons quickly and accurately by means of history using mobile phone and credit card. This process once again informed the world that Korea is an IT powerhouse.

K-Prevention, which the world is curious to know, was about a prevention policy, that allows daily life without shutdown under a pandemic situation, and citizen's community spirit cooperating with the government. Even now when COVID-19 is spreading again, Korea complies with the basic principles of K-Prevention, leading to success in prevention and reinforcing its position as a model country for prevention of epidemics.

The KCDC, which is responsible for successful K-Prevention, was promoted to the KDCA (Korea Disease Control and Prevention Agency) on September 12, 2020. President Moon Jae-in visited the site for the first time in history to give a letter of appointment to the KDCA commissioner Jung Eun-kyeong, and praised the hard work of the KDCA staffs. Jung Eun-kyeong, the first commissioner of the KDCA, was selected as one of the 100 most influential people of 2020 in the world by the Time magazine, along with the film director Bong Joon-ho.

Korean Culture Stands Tall in the World

Today, the world is enjoying Korean culture. According to a survey conducted by KOFICE (Korean Foundation for International Cultural Exchange), 'K-Pop' (18.5%) is the first associable image for Korea that foreign customers of Korean cultural contents come up with,

followed by 'K-Food' (12.2%), 'K-Drama' (7.8%), 'IT Industry' (7.3%) and 'Korean Wave Stars' (5.8%) (KOFICE, 2020 Overseas Korean Wave Survey).

62.1% of the respondents said that their awareness of Korea has changed to 'positive' after experiencing Korean cultural contents, and especially, the positive changes were relatively high in India, Vietnam, Brazil, Indonesia, Turkey, South Africa and Thailand.

K-POP

Under the situation of the COVID-19 pandemic in 2020, the song "Dynamite" recorded by BTS, a seven-member Korean boy band, peaked at number one on the Billboard Hot 100 for two consecutive weeks. It is extremely rare and amazing to be number one on the Billboard

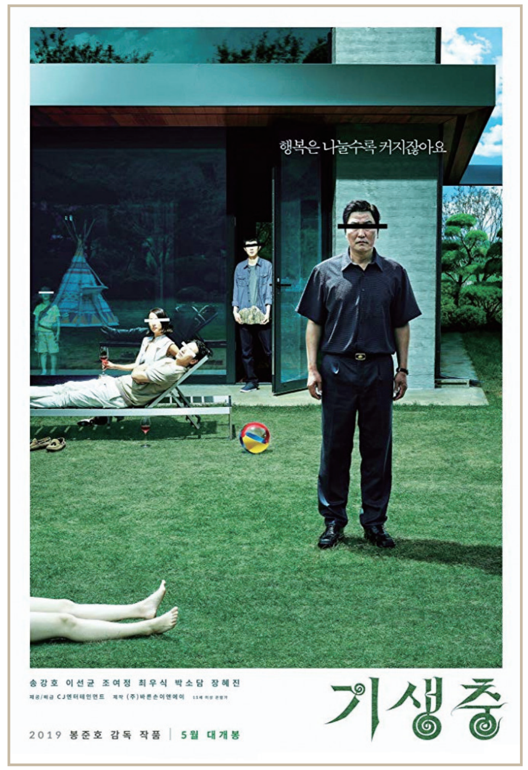
chart within the first week after releasing a single album.

According to a survey on the success factor of K-pop music, 19.6% of the respondents said that 'the highly addictive hooks and rhythms' made K-pop very popular, followed by 'the attractive appearance and style of singers and bands' (15.9%), 'outstanding performance of singers and bands' (12.3%), 'music style that does not exist in their own country' (11.0%) and 'watching Korea's latest fashion and beauty trends' (9.6%).

According to an analysis on YouTube views, which has the highest usage of Korean cultural contents, BTS is the highest in K-pop at 30.6%, followed by BLACKPINK (13.7%), TWICE (5.3%), EXO (4%) and the solo artist PSY (3.0%).

K-Movie & Drama

K-Drama, which used to lead the Korean Wave, is expanding due to global platforms like Netflix. As of 2020, about 70 works of K-Dramas and K-Movies are streamed via Netflix, and aired in 190 countries. According to an Overseas Korean Wave Survey conducted by KOFICE, dramas (76.0%) are highly welcomed by foreign consumers of Korean cultural contents, followed by entertainment (73.4%), Korean food (73.3%) and movies (73.4%). The largest consumer market for K-Drama is China.



According to the 2020 Overseas Korean Wave Survey released by KOFICE, the most popular dramas were in the following order: Hotel del Luna (8.2%), Descendants of the Sun (3.0%), Dae Jang Geum (2.3%), Kingdom (2.1%) and Dokkaebi (2.0%).

In 2020, the 100th anniversary of Korean cinema, 'Parasite' directed by Bong

Joon-ho, won four major awards at the Academy Awards: Best Picture, Best Director, Best Original Screenplay and Best International Feature Film, subsequent to winning the Palme d'Or at the 2019 Cannes Film Festival.

The Korean Wave is no longer a special form of cultural consumption in Asia, but is beginning to be a huge cultural phenomenon in the world.

K-Food

Riding on the Korean Wave, K-Food is captivating taste buds around the world with its image of healthy food. Moreover, the increased consumption of processed foods and convenience foods caused by COVID-19 drove the sales of K-Food, resulting in a 4.9% year-on-year increase in exports of agrifood as of August 2020 ("Agrifood Export Information", Kati).

Ramen, confectionery, Gim, dumplings, modified milk powder and tofu are leading exports of K-Food. Especially, dumplings recorded sales of KRW 240 billion in the U.S. market alone, raking 1st in sales. Also, Gim becomes popular as a snack in the U.S. and tofu as a healthy food.

According to the Agrifood Export Information (released on 08.03.2020), Kimchi representing K-Food recorded USD 74.7 million in exports in the first half of 2020, a 44.3% year-on-year increase. The main reason for the increase in exports of Kimchi seems to be focusing on Kimchi as an immune-boosting food.

Exports of ramen amounted to USD 302.1 million, a 37.4% year-on-year increase. Furthermore, exports of processed rice products recorded USD 61.5 million, a 20.8% year-on-year increase, while exports of Gochujang (red pepper paste) recorded USD23.7 million, a 27.3% year-on-year increase.

K-Beauty

For a long time, the leaders in the global cosmetics industry have been France and Japan Korean beauty products, which were gaining popularity due to the Korean Wave, have recently been in the spotlight as K-Beauty under the influence of K-Pop and K-Drama.

As Korea's skincare and cosmetics industry has concentrated on R&D and has been segmented thanks to the fiercely competitive domestic market environment, Korea's skincare and cosmetics industry has been able to gain an upper hand in the global market. Recently, functional cosmetics, which have stayed in sunscreen and whitening products, have become more popular as they have expanded to cosmeceutical functional products, such as scars and acne. They are also expanding in the overseas market to men's cosmetics.

According to an Overseas Korean Wave Survey conducted by KOFICE, the most popular factor of K-Beauty as of 2019 was its excellent effect and quality (22.4%), followed by a good reputation among surrounding people (12.9%), various product types (12.5%), low price compared to quality (12.4%) and its use of nature-friendly ingredients (9.2%).