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Preface

This handbook is designed to provide a clear and coherent overview of present-day Japan through statistics.

It provides statistical tables, figures, maps and photographs to portray conditions in modern-day Japan from a variety of perspectives, including demographics, economic and social trends, and culture. Most of the comments and statistical data for this purpose have been drawn from principal statistical publications available from government and other leading sources.

For more in-depth statistical information on Japan, readers are invited to peruse the Japan Statistical Yearbook.

We hope that this handbook will serve as a guide in your search for knowledge about Japan. We are always happy to receive opinions or requests from readers.

You can also view the contents of this handbook on the website of the Statistics Bureau.

September 2019

SAIKI Shuji
Director-General
Statistics Bureau
Ministry of Internal Affairs
and Communications
Japan

Notes for Users

1. The present issue basically contains statistics that became available by May 31, 2019.

2. Unless otherwise indicated, "year" refers to the calendar year and "fiscal year" refers to the 12 months beginning April 1 of the year stated.

3. Metric units are used in all tables and figures in which the data are measured in weight, volume, length or area. Refer to Appendix 2 for conversion factors.

4. Unless otherwise indicated, amounts shown are in Japanese yen. Refer to Appendix 3 for exchange rates of JPY per U.S. dollar.

5. Statistical figures may not add up to the totals due to rounding.

6. The following symbols are used in the tables:

・・・	Data not available
―	Magnitude zero or figures not applicable
0 or 0.0	Less than half of unit employed
#	Marked break in series
*	Provisional or estimate

7. Data relating to "China" generally exclude those for Hong Kong SAR, Macao SAR and Taiwan.

8. All contents of the present issue, including tables, figures, and maps, are also available on the website:

   https://www.stat.go.jp/english/data/handbook/index.html

9. When any contents of the present issue are to be quoted or copied in other media (print or electronic), the title is to be referred to as follows:

   Source: Statistical Handbook of Japan 2019, Statistics Bureau, Ministry of Internal Affairs and Communications, Japan.

10. "Statistics Bureau, MIC" in the tables and figures is an abbreviation of "Statistics Bureau, Ministry of Internal Affairs and Communications, Japan".

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Chapter 1

Land and Climate

1. Land

Japan is an island nation situated off the eastern seaboard of the Eurasian continent in the northern hemisphere. The islands form a crescent-shaped archipelago stretching from northeast to southwest parallel to the continental coastline with the Sea of Japan in between. The land is located between approximately 20 to 45 degrees north latitude and between approximately 123 to 154 degrees east longitude. It consists of the main islands of Hokkaido, Honshu, Shikoku, Kyushu and Okinawa, and more than 6,800 smaller islands of various sizes. Its surface area totals approximately 378,000 square kilometers.

Since the Japanese archipelago is located in a zone of the newest tectonic plate movement, it is particularly prone to various physiographical phenomena. Therefore, the number of earthquakes in the country is quite high, and so is the proportion of active volcanoes. The land is full of undulations, with mountainous regions including hilly terrain accounting for about three-quarters of its total area. The mountains are generally steep and are intricately carved out by ravines. Hilly terrain extends between the mountainous regions and the plains.

Table 1.1
Surface Area of Japan (2018)
(Square kilometers)

District	Area
Japan	377,974
Honshu	231,235
Hokkaido	83,424
Kyushu	42,231
Shikoku	18,803
Okinawa	2,281

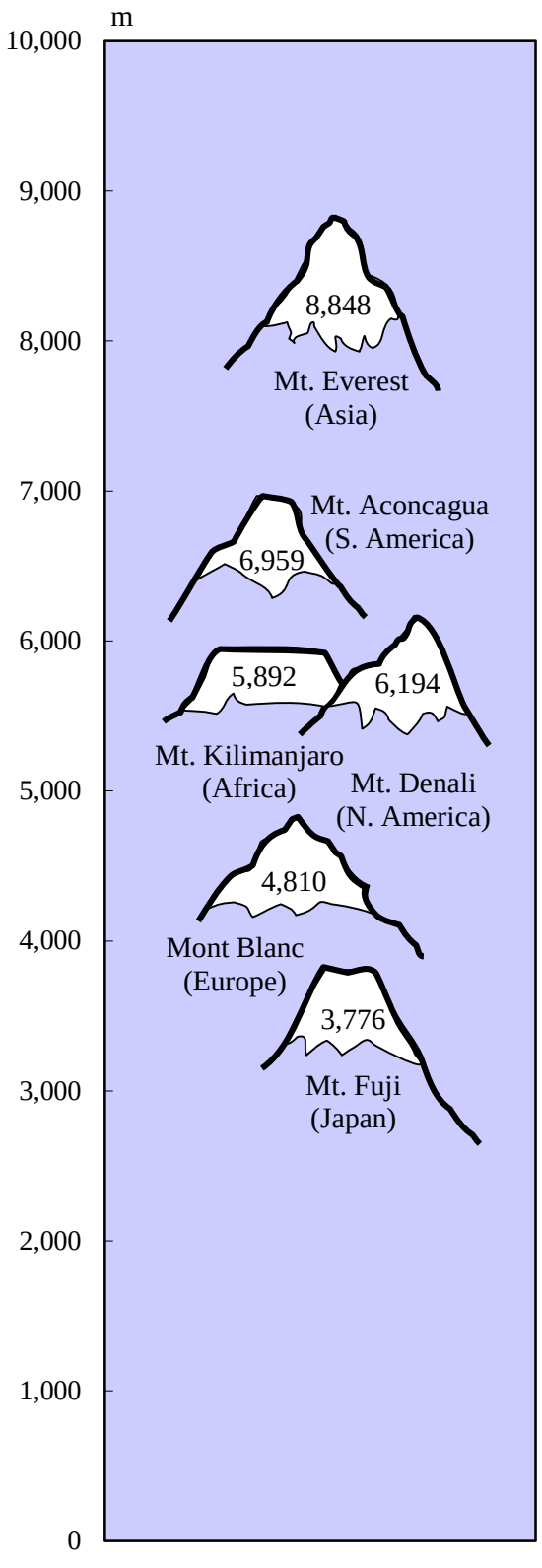
Source: Geospatial Information Authority of Japan.

Table 1.2
Top 10 Countries According to Surface Area (2017) [1)]
(1,000 square kilometers)

Country	Area
World [2)]	130,094
Russia	17,098
Canada	9,985
U.S.A.	9,834
China	9,600
Brazil	8,516
Australia	7,692
India	3,287
Argentina [3)]	2,796
Kazakhstan	2,725
Algeria	2,382

1) Comprising land area and inland waters. Excluding polar regions and uninhabited islands. 2) Land area only. 3) Including islands.
Source: United Nations.

Figure 1.1
Famous Mountains of the World



Source: National Astronomical Observatory of Japan.

Table 1.3
Mountains (As of March, 2019)

(Meters)

Name	Height
Mt. Fuji	3,776
Mt. Kitadake	3,193
Mt. Ainodake	3,190
Mt. Oku-Hotaka	3,190
Mt. Yarigatake	3,180
Mt. Higashidake	3,141
Mt. Akaishi	3,121
Mt. Karasawa	3,110
Mt. Kita-Hotaka	3,106
Mt. Obami	3,101

Source: Geospatial Information Authority of Japan.

Table 1.4
Rivers (As of April, 2018)

(Kilometers)

Name	Length
Shinano River	367
Tone River	322
Ishikari River	268
Teshio River	256
Kitakami River	249
Abukuma River	239
Kiso River	229
Mogami River	229
Tenryu River	213
Agano River	210

Source: Ministry of Land, Infrastructure, Transport and Tourism.

Table 1.5
Lakes (As of October, 2018)

(Square kilometers)

Name	Area
Lake Biwa	669.3
Lake Kasumigaura	168.1
Lake Saroma	151.6
Lake Inawashiro	103.2
Lake Nakaumi	85.8
Lake Kussharo	79.5
Lake Shinji	79.2
Lake Shikotsu	78.5
Lake Toya	70.7
Lake Hamana	64.9

Source: Geospatial Information Authority of Japan.

As of 2015, forestland and fields account for the largest portion of the nation's surface area. There are approximately 254,000 square kilometers of forestland and fields (which equates to 67 percent of the nation's surface area), followed by approximately 45,000 square kilometers of agricultural land (12 percent) combined. Together, forestland, fields and agricultural land thus cover approximately 80 percent of the nation. There are approximately 19,000 square kilometers of developed land (5 percent).

Table 1.6
Surface Area by Use

(1,000 square kilometers)

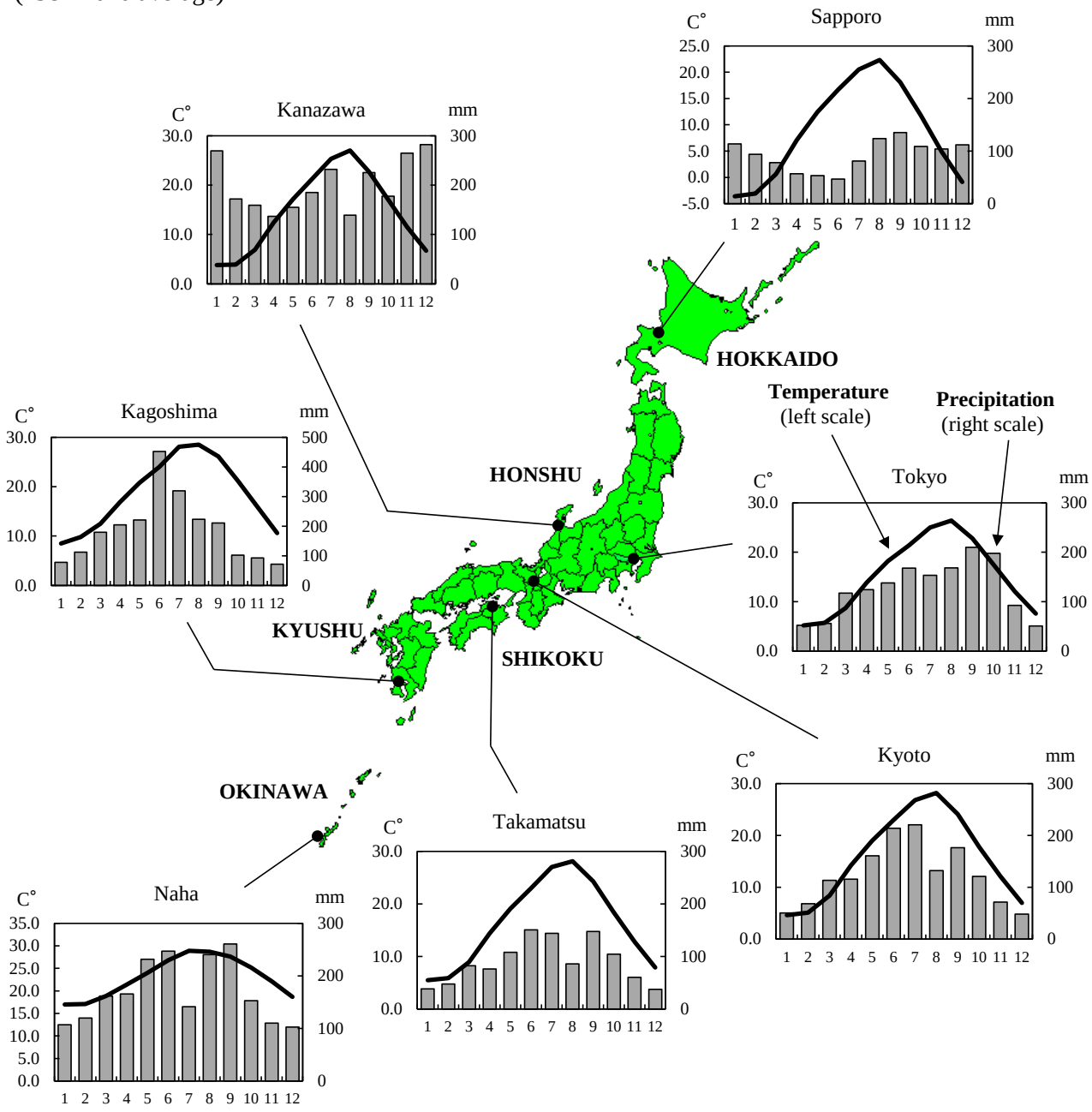
Year	Total	Forestland and fields	Agricultural land	Inland water	Roads [1)]	Developed land [2)]	Others
1980	377.7	256.8	55.9	13.1	9.9	13.9	28.1
1990	377.7	255.2	53.3	13.1	11.4	16.0	28.7
2000	377.9	253.8	49.1	13.5	12.7	17.9	30.9
2010	377.9	253.5	46.7	13.3	13.6	19.0	31.9
2015	378.0	254.0	45.0	13.4	13.9	19.3	32.4
Percentage distribution (%)							
2015	100.0	67.2	11.9	3.6	3.7	5.1	8.6

1) Including farm roads and forest roads, etc. 2) Such as residential and industrial land.
Source: Ministry of Land, Infrastructure, Transport and Tourism.

2. Climate

Although the Japanese archipelago has a temperate marine climate, it differs by region depending on the effects of seasonal winds and ocean currents. Due to the topography of Honshu featuring a series of mountain ranges running from north to south, the northwest monsoon in the winter brings humid conditions with heavy precipitation (snow) to the Sea of Japan side of Honshu but comparatively dry weather with low precipitation to the Pacific Ocean side. In the summer, the southeast monsoon brings high temperatures and low rainfall on the Sea of Japan side, and high temperatures and high humidity on the Pacific Ocean side. Another unique characteristic of Japan's climate is that it has two long spells of rainy seasons, one in early summer when the southeast monsoon begins to blow, and the other in autumn when the winds cease.

Figure 1.2
Temperature and Precipitation (Normal value)
(1981-2010 average)



Source: Japan Meteorological Agency.

Table 1.7
Temperature and Precipitation (Normal value) (1981-2010 average)

Temperature (℃) Precipitation (mm)

Observing station			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual [1)]
Sapporo	Temp.	High	-0.6	0.1	4.0	11.5	17.3	21.5	24.9	26.4	22.4	16.2	8.5	2.1	12.9
		Low	-7.0	-6.6	-2.9	3.2	8.3	12.9	17.3	19.1	14.2	7.5	1.3	-4.1	5.3
	Prec.		114	94	78	57	53	47	81	124	135	109	104	112	1,107
Tokyo	Temp.	High	9.6	10.4	13.6	19.0	22.9	25.5	29.2	30.8	26.9	21.5	16.3	11.9	19.8
		Low	0.9	1.7	4.4	9.4	14.0	18.0	21.8	23.0	19.7	14.2	8.3	3.5	11.6
	Prec.		52	56	118	125	138	168	154	168	210	198	93	51	1,529
Kanazawa	Temp.	High	6.8	7.3	11.0	16.9	21.6	25.0	28.8	30.9	26.6	21.3	15.5	10.2	18.5
		Low	0.9	0.7	3.0	8.2	13.1	18.0	22.3	23.7	19.5	13.3	7.7	3.4	11.2
	Prec.		270	172	159	137	155	185	232	139	226	177	265	282	2,399
Kyoto	Temp.	High	8.9	9.7	13.4	19.9	24.6	27.8	31.5	33.3	28.8	22.9	17.0	11.6	20.8
		Low	1.2	1.4	4.0	9.0	14.0	18.8	23.2	24.3	20.3	13.6	7.8	3.2	11.7
	Prec.		50	68	113	116	161	214	220	132	176	121	71	48	1,491
Takamatsu	Temp.	High	9.4	10.1	13.4	19.5	24.1	27.3	31.2	32.4	28.4	22.8	17.2	12.1	20.7
		Low	1.6	1.8	4.4	9.4	14.4	19.3	23.6	24.4	20.7	14.2	8.5	3.7	12.2
	Prec.		38	48	83	76	108	151	144	86	148	104	60	37	1,082
Kagoshima	Temp.	High	12.8	14.3	17.0	21.6	25.2	27.6	31.9	32.5	30.1	25.4	20.3	15.3	22.8
		Low	4.6	5.7	8.4	12.7	17.1	21.0	25.3	25.6	22.8	17.5	11.9	6.7	14.9
	Prec.		78	112	180	205	221	452	319	223	211	102	92	71	2,266
Naha	Temp.	High	19.5	19.8	21.7	24.1	26.7	29.4	31.8	31.5	30.4	27.9	24.6	21.2	25.7
		Low	14.6	14.8	16.5	19.0	21.8	24.8	26.8	26.6	25.5	23.1	19.9	16.3	20.8
	Prec.		107	120	161	166	232	247	141	241	261	153	110	103	2,041

1) Annual average for temperature and annual total for precipitation.
Source: Japan Meteorological Agency.

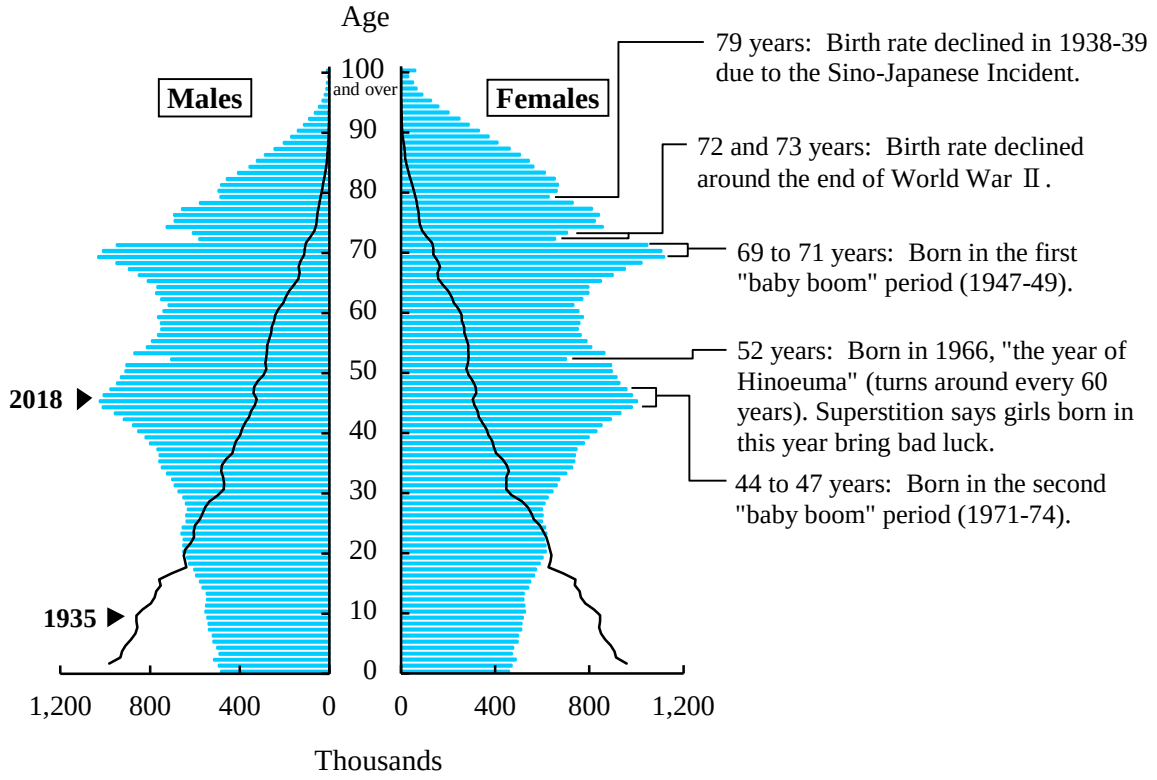
Chapter 2

Population

1. Total Population

Japan's total population in 2018 was 126.44 million. This ranked 11th in the world and made up 1.7 percent of the world's total. Japan's population density measured 340.8 persons per square kilometer in 2015, ranking 11th among countries or areas with a population of 10 million or more.

Figure 2.1
Population Pyramid



Source: Statistics Bureau, MIC.

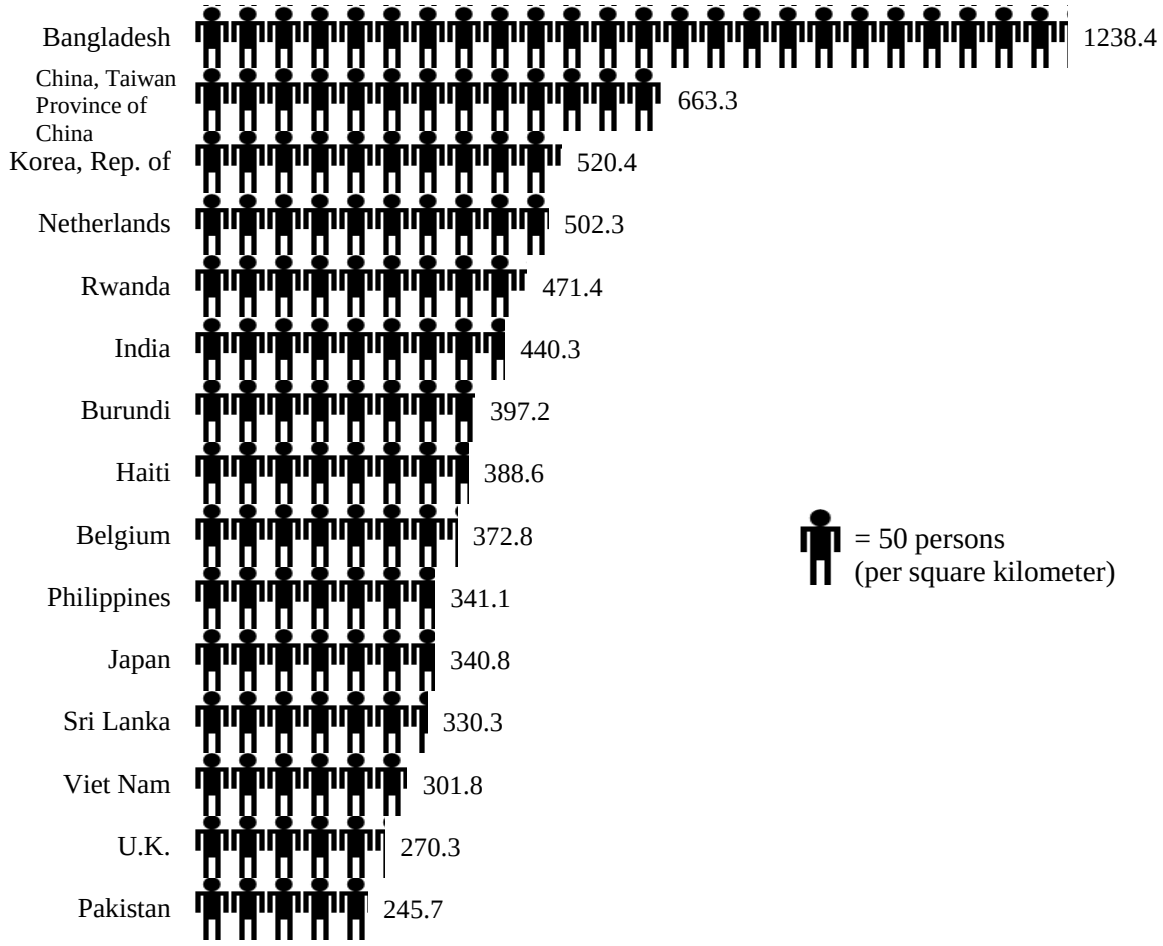
Table 2.1
Countries with a Large Population (2018)

(Millions)

Country	Population	Country	Population
World	7,633	Pakistan	201
China	1,415	Nigeria	196
India	1,354	Bangladesh	166
U.S.A.	327	Russia	144
Indonesia	267	Mexico	131
Brazil	211	Japan	126

Source: Statistics Bureau, MIC; United Nations.

Figure 2.2
Population Density by Country or Area [1)] (2015)



1) Top fifteen countries or areas with a population of 10 million or more.
Source: Statistics Bureau, MIC; United Nations.

From the 18th century through the first half of the 19th century, Japan's population remained steady at about 30 million. Following the Meiji Restoration in 1868, it began expanding in tandem with the drive to build a modern nation-state. In 1926, it reached 60 million, and in 1967, it surpassed the 100 million mark. However, Japan's population growth slowed afterward, with the rate of population change about 1 percent from the 1960s through the 1970s. Since the 1980s, it has declined sharply. Japan's total population was 127.09 million according to the Population Census in 2015. This was a decrease by 962,607 people as compared to the previous Census (2010), indicating the first population decline since the initiation of the Census in 1920. In 2018, it was 126.44 million, down by 0.26 million from the year before.

Table 2.2
Trends in Population (as of October 1)

Year	Population (1,000)	Age composition (%)			Rate of population change (%)	Population density (per km^2)
		0-14 years old	15-64	65 years old and over		
1872 [1)]	34,806	...	...	...	...	91
1900 [1)]	43,847	33.9	60.7	5.4	0.83	115
1910 [1)]	49,184	36.0	58.8	5.2	1.16	129
1920	55,963	36.5	58.3	5.3	1.30	147
1930	64,450	36.6	58.7	4.8	1.42	169
1940	71,933	36.7	58.5	4.8	1.10	188
1950	84,115	35.4	59.6	4.9	1.58	226
1955	90,077	33.4	61.2	5.3	1.38	242
1960	94,302	30.2	64.1	5.7	0.92	253
1965	99,209	25.7	68.0	6.3	1.02	267
1970	104,665	24.0	68.9	7.1	1.08	281
1975	111,940	24.3	67.7	7.9	1.35	300
1980	117,060	23.5	67.4	9.1	0.90	314
1985	121,049	21.5	68.2	10.3	0.67	325
1990	123,611	18.2	69.7	12.1	0.42	332
1995	125,570	16.0	69.5	14.6	0.31	337
2000	126,926	14.6	68.1	17.4	0.21	340
2005	127,768	13.8	66.1	20.2	0.13	343
2010	128,057	13.2	63.8	23.0	0.05	343
2015	127,095	12.6	60.7	26.6	-0.15	341
2016	126,933	12.4	60.3	27.3	-0.13	340
2017	126,706	12.3	60.0	27.7	-0.18	340
2018	126,443	12.2	59.7	28.1	-0.21	339
(Projection, 2017)						
2030	119,125	11.1	57.7	31.2	-0.51	319
2040	110,919	10.8	53.9	35.4	-0.71	297
2050	101,923	10.6	51.8	37.7	-0.84	273
2060	92,840	10.2	51.6	38.1	-0.93	249

1) As of January 1.
Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare; Geospatial Information Authority of Japan.

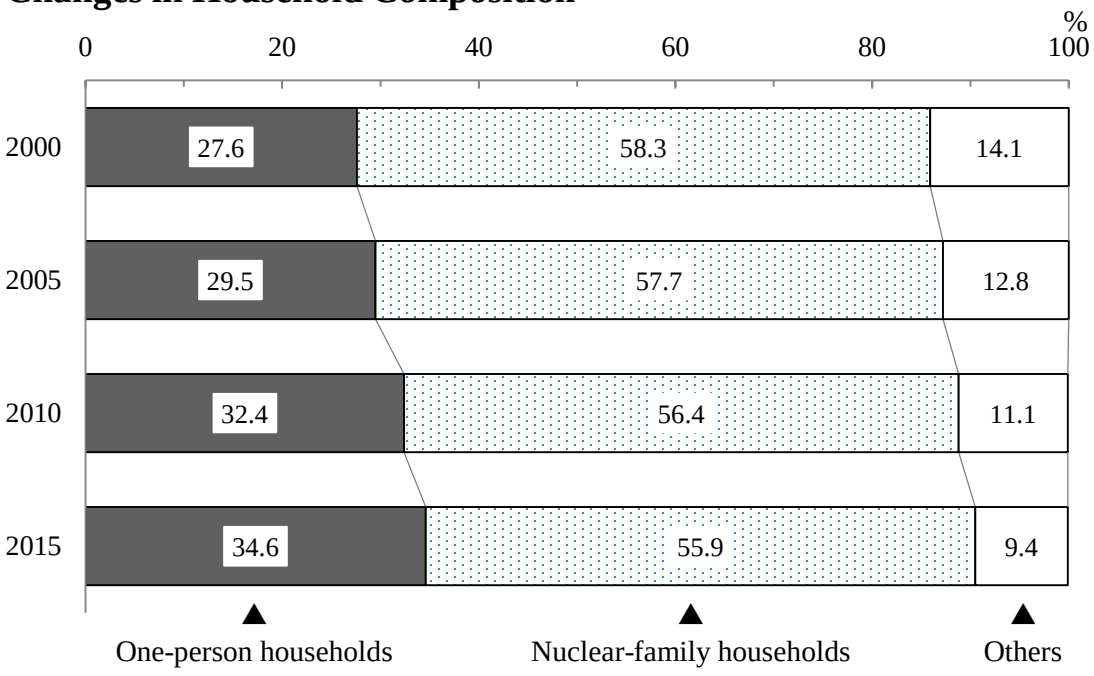
2. Households

(1) Household Size and Household Composition

The Population Census shows that Japan had 53.33 million private households (excluding "institutional households" such as students in school dormitories) in 2015, showing a consistent increase since the

initiation of the Census. Of that total, 55.9 percent were nuclear-family households, and 34.6 percent were one-person households.

Figure 2.3
Changes in Household Composition



Source: Statistics Bureau, MIC.

From the 1920s to the mid-1950s, the average number of household members remained about 5. However, due to the increase in one-person households and nuclear-family households since the 1960s, the average size of households was down significantly in 1970, to 3.41 members. The number of household members has continued to decline, dropping to 2.33 in 2015. Although the Japanese population shifted into the declining phase, the number of households is expected to continue to increase for some years to come, as the size of the average household will shrink at a slow pace. The number of households is projected to peak in 2023 and then decrease thereafter.

Table 2.3
Households and Household Members [1)]

Year	Private house-holds (1,000)	Rate of private households change(%) [2)]	Private household members (1,000)	Members per household	Population (1,000)	Rate of population change(%) [2)]
1960	22,539	…	93,419	4.14	94,302	4.7
1970	30,297	a) 15.9	103,351	3.41	104,665	5.5
1975	33,596	10.9	110,338	3.28	111,940	7.0
1980	35,824	6.6	115,451	3.22	117,060	4.6
1985	37,980	6.0	119,334	3.14	121,049	3.4
1990	40,670	7.1	121,545	2.99	123,611	2.1
1995	43,900	7.9	123,646	2.82	125,570	1.6
2000	46,782	6.6	124,725	2.67	126,926	1.1
2005	49,063	4.9	124,973	2.55	127,768	0.7
2010	51,842	5.7	125,546	2.42	128,057	0.2
2015	53,332	2.9	124,296	2.33	127,095	-0.8

1) In the 1965 Census, the definition of household differs, and it is not possible to recombine the survey subjects into general households.
2) Change over preceding Population Census.
a) The rate of change over 10 years is converted to a rate of change over 5 years.
Source: Statistics Bureau, MIC.

(2) Elderly Households

The number of elderly households (private households with household members aged 65 years old and over) in 2015 was 21.71 million. They accounted for 40.7 percent of the total private households. There were 5.93 million one-person elderly households. Among these, there were approximately two times as many females as males.

Table 2.4
Trends in Elderly Households

(Thousands)

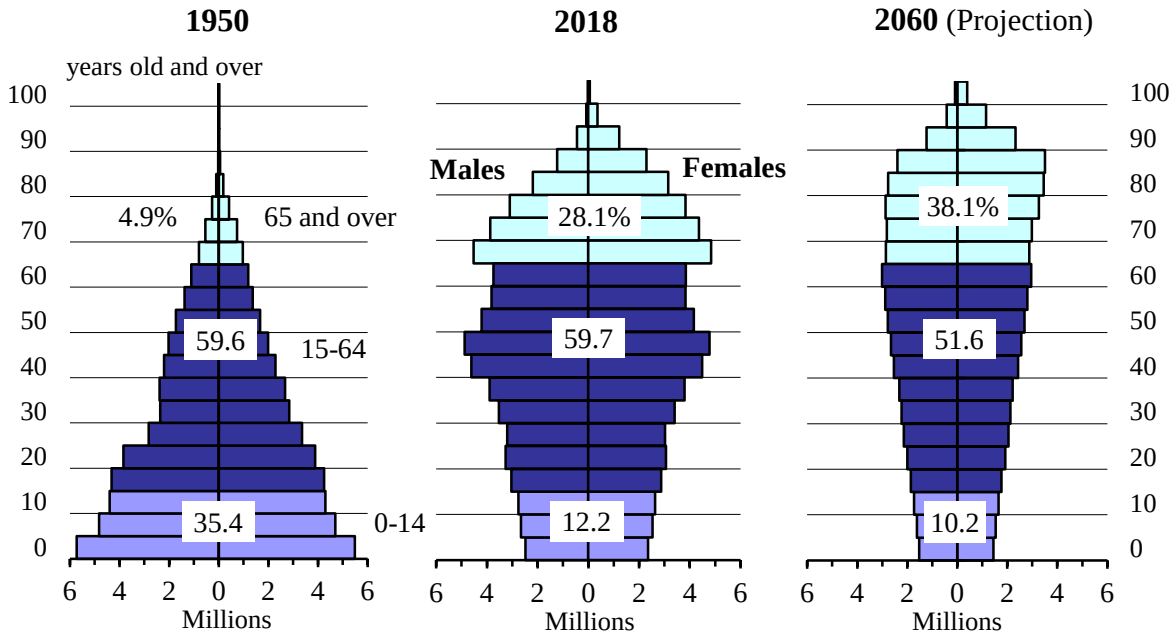
Type of households	1995	2000	2005	2010	2015
Private households	43,900	46,782	49,063	51,842	53,332
Elderly households	12,790	15,057	17,220	19,338	21,713
(percentage)	29.1	32.2	35.1	37.3	40.7
One-person households	2,202	3,032	3,865	4,791	5,928
Males	460	742	1,051	1,386	1,924
Females	1,742	2,290	2,814	3,405	4,003
Nuclear-family households	5,149	6,783	8,398	10,011	11,740
Others	5,439	5,241	4,956	4,536	4,045

Source: Statistics Bureau, MIC.

3. Declining Birth Rate and Aging Population

The population pyramid of 1950 shows that Japan had a standard-shaped pyramid with a broad base. The shape, however, has changed dramatically as both the birth rate and death rate have declined. In 2018, the aged population (65 years old and over) was 35.58 million, constituting 28.1 percent of the total population (i.e., 1 in every 4 persons) and marking a record high.

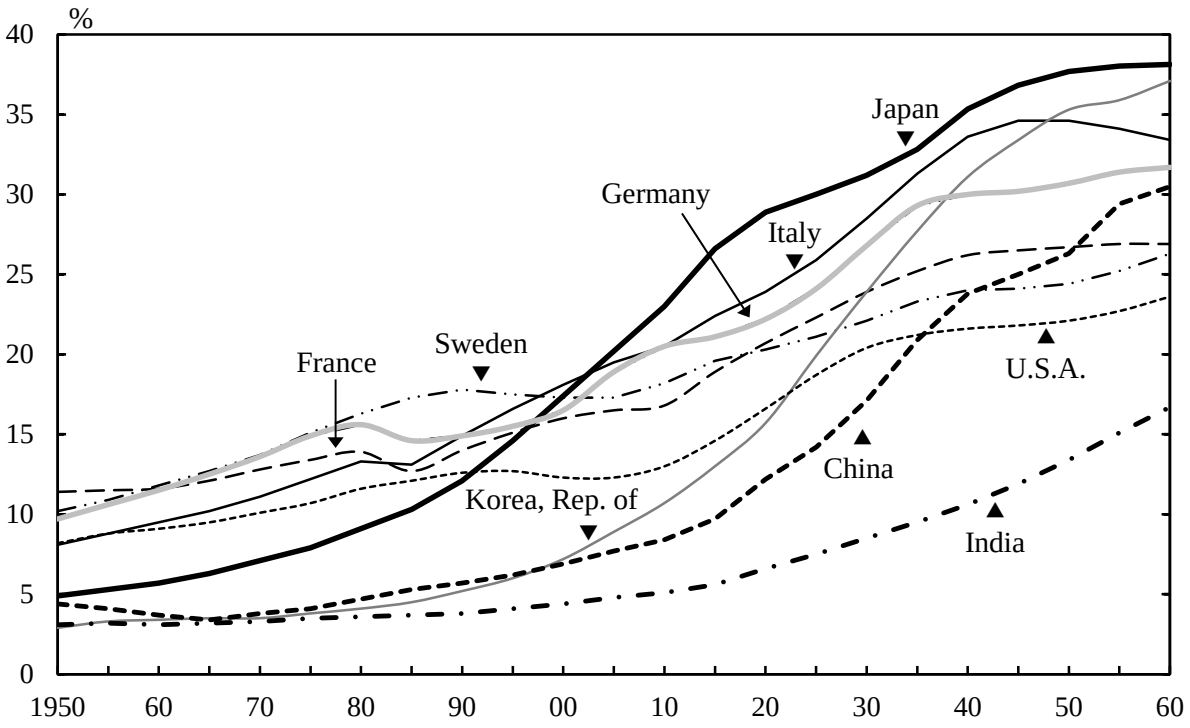
Figure 2.4
Changes in the Population Pyramid



Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare.

In Japan, the percentage of persons aged 65 years old and over exceeded 10 percent in 1985, but as of 1950, this percentage was already 11.4 percent in France and 10.2 percent in Sweden. The percentage exceeded 10 percent in 1955 in Germany, 1965 in Italy, and 1970 in the U.S.A., all earlier than in Japan. However, in 2015, the percentage of the population aged 65 years old and over in Japan was 26.6 percent, exceeding the U.S.A. (14.6 percent), France (18.9 percent), Sweden (19.6 percent), Germany (21.1 percent), and Italy (22.4 percent), indicating that the aging society in Japan is progressing quite rapidly as compared to the U.S.A. and European countries.

Figure 2.5
Proportion of Elderly Population by Country (Aged 65 years old and over)



Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare; United Nations.

Table 2.5
Age Structure of Population by Country

(%)

Country	2015			2060 (projection)		
	0-14 years old	15-64	65 years old and over	0-14 years old	15-64	65 years old and over
Japan	12.6	60.7	26.6	10.2	51.6	38.1
Korea, Rep. of	13.9	73.1	13.0	12.2	50.7	37.1
Italy	13.7	63.9	22.4	13.2	53.3	33.4
Germany	13.1	65.8	21.1	13.6	54.8	31.7
China	17.7	72.6	9.7	13.8	55.7	30.5
Brazil	22.5	69.5	8.0	14.0	58.8	27.3
Canada	16.0	67.9	16.1	15.1	57.7	27.2
France	18.3	62.8	18.9	16.2	56.9	26.9
U.K.	17.6	64.3	18.1	16.1	57.3	26.7
Sweden	17.3	63.1	19.6	16.8	56.9	26.3
Russia	16.8	69.7	13.5	17.6	58.5	23.9
U.S.A.	19.2	66.1	14.6	17.1	59.3	23.6
India	28.7	65.7	5.6	17.5	65.8	16.7

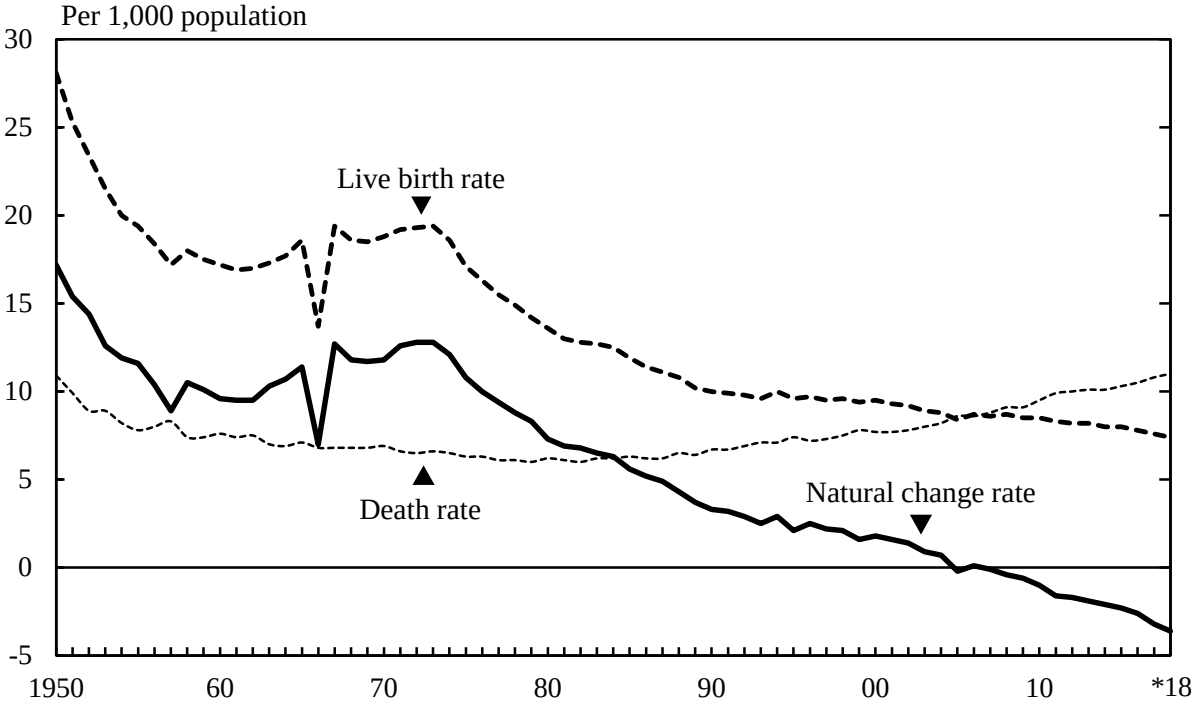
Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare; United Nations.

On the other hand, in 2018, the child population (0-14 years old) in Japan amounted to 15.42 million, accounting for 12.2 percent of the total population, which was the lowest level on record. In terms of their proportion of the total population, the aged (65 years old and over) have surpassed the child population since 1997. The productive-age population (15-64 years old) totaled 75.45 million, accounting for 59.7 percent of the entire population. This population is continuing to decline since 1993. As a result, the ratio of the dependent population (the sum of aged and child population divided by the productive-age population) was 67.6 percent.

4. Births and Deaths

Population growth in Japan had primarily been driven by natural increase, while social increase played only a minor part. However, in 2005, the natural change rate (per 1,000 population) became minus for the first time since 1899, and has been on a declining trend since then. In 2018, the natural change rate was -3.6 and decreased for the 12th consecutive year.

Figure 2.6
Natural Population Change



Source: Ministry of Health, Labour and Welfare.

During the second baby boom between 1971 and 1973, the live birth rate (per 1,000 population) was at a level of 19. Since the late 1970s, it has continued to fall. The rate for 2018 was 7.4. The decline in the live birth rate may partly be attributable to the rising maternal age at childbirth. The average mothers' age at first childbirth rose from 25.6 in 1970 to 30.7 in 2018.

The total fertility rate was on a downward trend after dipping below 2.00 in 1975, and reached a record low of 1.26 in 2005. The rate was on a path of recovery with an increase after that. However, the total fertility rate decreased for 3 consecutive years and dropped to 1.42 in 2018.

The death rate (per 1,000 population) was steady at 6.0 - 6.3 between 1975 and 1987, and has maintained an uptrend since 1988, reflecting the aging of the population. It reached 11.0 in 2018.

Table 2.6
Vital Statistics

Year	Rates per 1,000 population [1]				Total fertility rate [2]	Life expectancy at birth (years)	
	Live births	Deaths	Infant mortality	Natural change		Males	Females
1950	28.1	10.9	60.1	17.2	3.65	a) 59.57	a) 62.97
1955	19.4	7.8	39.8	11.6	2.37	63.60	67.75
1960	17.2	7.6	30.7	9.6	2.00	65.32	70.19
1965	18.6	7.1	18.5	11.4	2.14	67.74	72.92
1970	18.8	6.9	13.1	11.8	2.13	69.31	74.66
1975	17.1	6.3	10.0	10.8	1.91	71.73	76.89
1980	13.6	6.2	7.5	7.3	1.75	73.35	78.76
1985	11.9	6.3	5.5	5.6	1.76	74.78	80.48
1990	10.0	6.7	4.6	3.3	1.54	75.92	81.90
1995	9.6	7.4	4.3	2.1	1.42	76.38	82.85
2000	9.5	7.7	3.2	1.8	1.36	77.72	84.60
2005	8.4	8.6	2.8	-0.2	1.26	78.56	85.52
2010	8.5	9.5	2.3	-1.0	1.39	79.55	86.30
2015	8.0	10.3	1.9	-2.3	1.45	80.75	86.99
2016	7.8	10.5	2.0	-2.6	1.44	80.98	87.14
2017	7.6	10.8	1.9	-3.2	1.43	81.09	87.26
2018*	7.4	11.0	1.9	-3.6	1.42	...	...

1) The infant mortality rate is per 1,000 live births.

2) The sum of the age-specific fertility rates from age 15 to 49 years old.

a) 1950-1952 period.

Source: Ministry of Health, Labour and Welfare.

Table 2.7
Changes of Mothers' Age at Childbirth

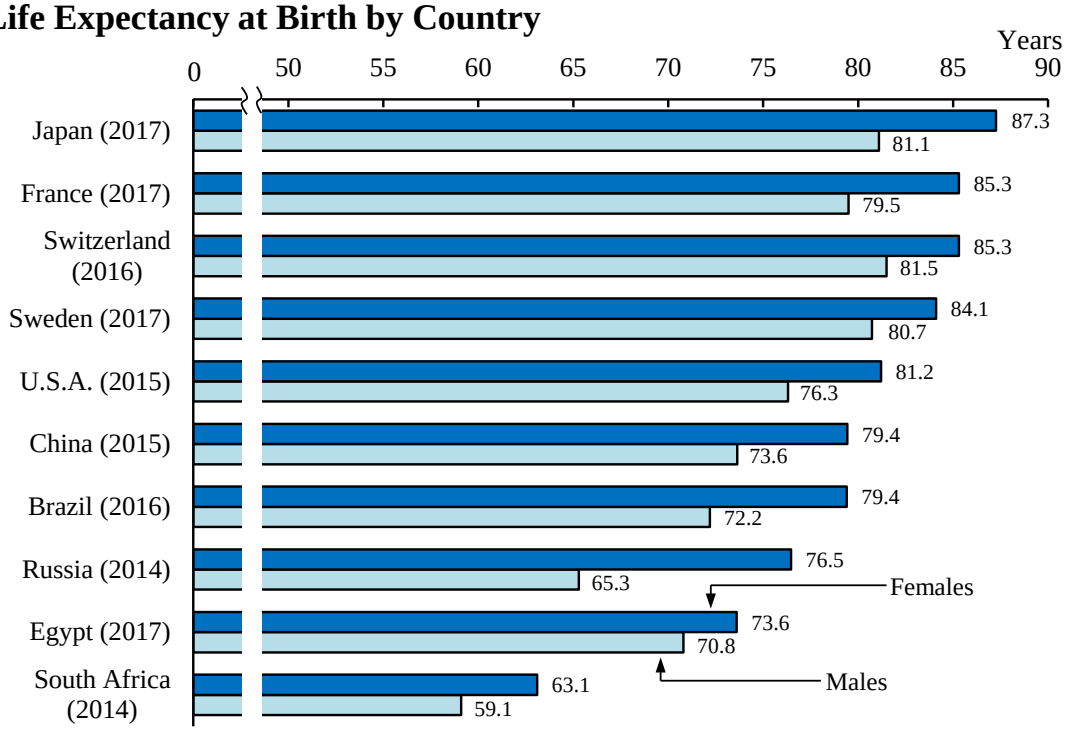
Year	Number of births (1,000) [1]	Distribution of mothers' age (%) [2]						Mean age bearing first child
		Under 19	20-24	25-29	30-34	35-39	40 and over	
1970	1,934	1.0	26.5	49.2	18.5	4.2	0.5	25.6
1980	1,577	0.9	18.8	51.4	24.7	3.7	0.5	26.4
1990	1,222	1.4	15.7	45.1	29.1	7.6	1.0	27.0
2000	1,191	1.7	13.6	39.5	33.3	10.6	1.3	28.0
2010	1,071	1.3	10.4	28.6	35.9	20.5	3.3	29.9
2015	1,006	1.2	8.4	26.1	36.3	22.7	5.4	30.7
2016	977	1.1	8.4	25.7	36.3	22.9	5.6	30.7
2017	946	1.0	8.4	25.5	36.5	22.9	5.7	30.7
2018*	918	1.0	8.4	25.5	36.5	23.0	5.8	30.7

1) Including mothers' ages that were not reported. 2) Percentage in relation to number of births, excluding those for which mothers' ages were not reported.

Source: Ministry of Health, Labour and Welfare.

Average life expectancy in Japan climbed sharply after World War II, and is today at quite high level in the world. In 2017, it was 87.3 years for females and 81.1 years for males, setting a new all-time record for both genders.

Figure 2.7
Life Expectancy at Birth by Country



Source: Ministry of Health, Labour and Welfare.

5. Marriages and Divorces

It showed an apparent marriage boom in the early 1970s that the annual number of marriages in Japan exceeded 1 million couples coupled with the marriage rate (per 1,000 population) hovering over 10.0. However, both the number of couples and the marriage rate have been on a declining trend thereafter. In 2018, 586,438 couples married, and the marriage rate was 4.7.

The mean age of first marriage was 31.1 for grooms and 29.4 for brides in 2018. These were the same ages for both grooms and brides as the previous year. The mean age of first marriage for grooms rose by 2.5 years, while that of brides rose by 2.7 years over the past 20 years (in 1998: grooms, 28.6; brides, 26.7). In addition, there has been an increasing trend in the proportion of those who have never married until he or she turns the exact age 50, reaching 23.4 percent for males and 14.1 percent for females in 2015, the highest percentages ever. The declining marriage rate, rising marrying age and increased choice of unmarried life in recent years as described above could explain the dropping birth rate.

Table 2.8
Mean Age of First Marriage

Year	Grooms	Brides
1950	25.9	23.0
1955	26.6	23.8
1960	27.2	24.4
1965	27.2	24.5
1970	26.9	24.2
1975	27.0	24.7
1980	27.8	25.2
1985	28.2	25.5
1990	28.4	25.9
1995	28.5	26.3
2000	28.8	27.0
2005	29.8	28.0
2010	30.5	28.8
2015	31.1	29.4
2016	31.1	29.4
2017	31.1	29.4
2018*	31.1	29.4

Source: Ministry of Health, Labour and Welfare.

Table 2.9
Proportion of Never Married at Exact Age 50 by Sex [1)]

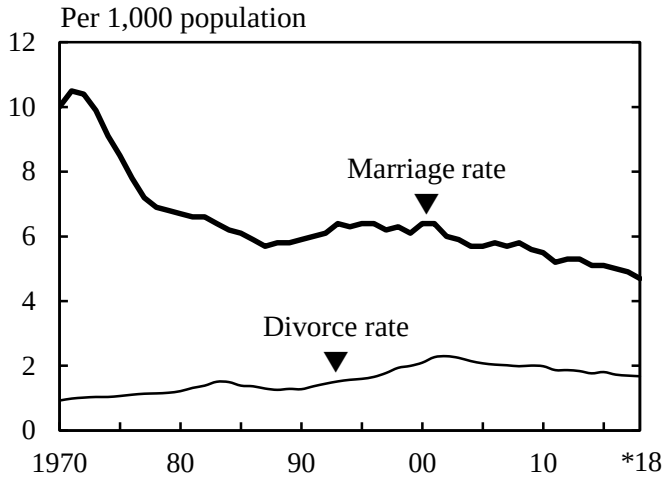
(%)

Year	Males	Females
1950	1.5	1.4
1960	1.3	1.9
1970	1.7	3.3
1980	2.6	4.5
1990	5.6	4.3
2000	12.6	5.8
2005	16.0	7.3
2010	20.1	10.6
2015	23.4	14.1

1) The Proportion is computed as the mean value of the proportion remaining single at ages 45-49 and 50-54.
Source: National Institute of Population and Social Security Research.

In contrast, there was an upward trend about the divorces since the late 1960s, hitting a peak of 289,836 couples in 2002. Subsequently, both the number of divorces and the divorce rate have been declining since 2003. In 2018, the number of divorces totaled 208,333 couples, and the divorce rate (per 1,000 population) was 1.68.

Figure 2.8
Changes in Marriage Rate and Divorce Rate



Source: Ministry of Health, Labour and Welfare.

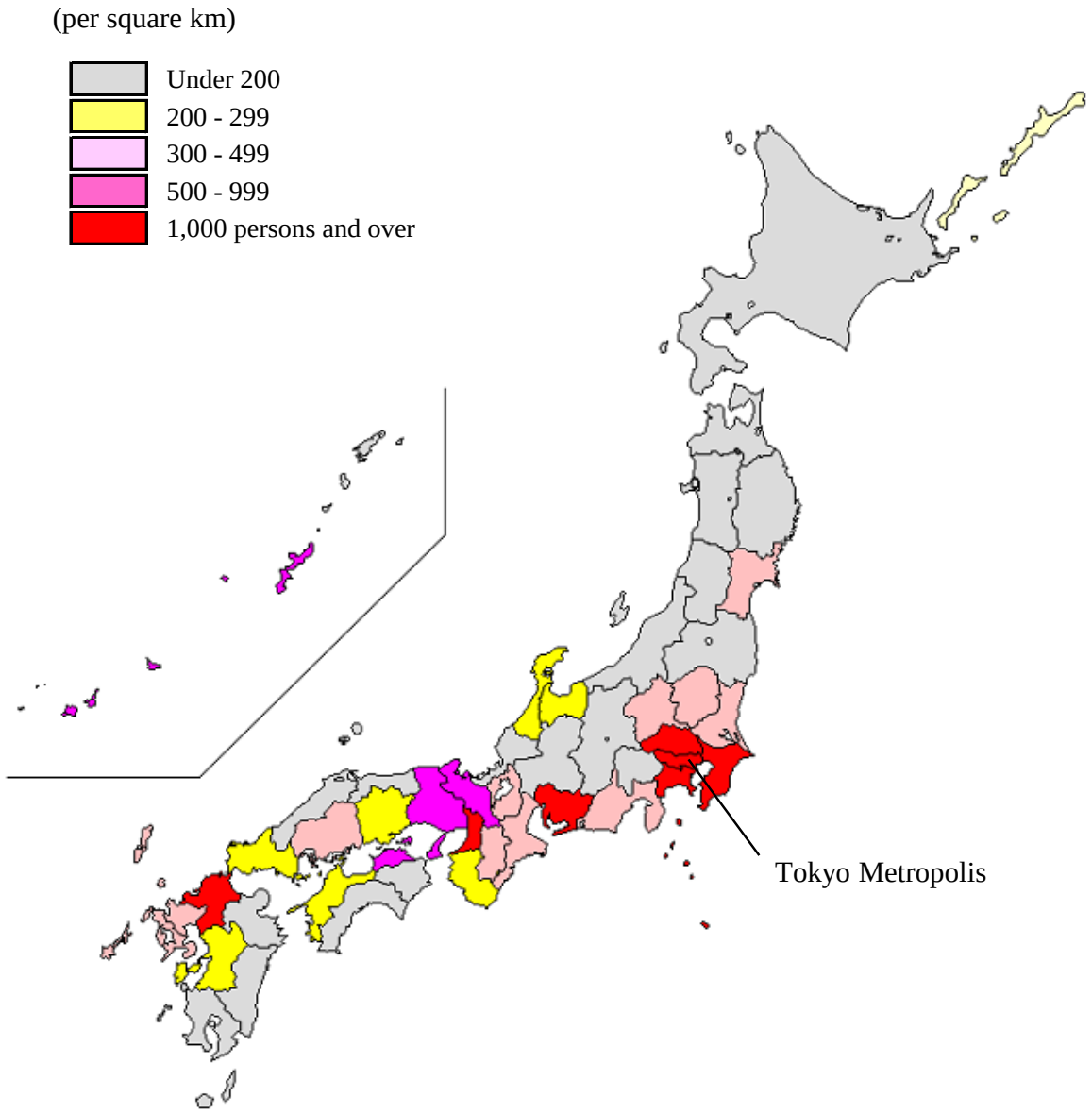
6. Population Density and Regional Distribution

(1) Population Density

In 2015, Tokyo Metropolis had the largest population of 13.52 million among Japan's 47 prefectures, followed in decreasing order by the prefectures of Kanagawa, Osaka, Aichi, and Saitama. These 5 prefectures each had a population of 7 million or more, and together accounted for 36.4 percent of the total population.

In addition, the population density in Tokyo Metropolis was the highest among Japan's prefectures, at 6,168.7 persons per square kilometer. This was almost 18.1 times larger than the national average (340.8 persons per square kilometer).

Figure 2.9
Population Density by Prefecture (2015)



Source: Statistics Bureau, MIC.

In 2015, there were 12 cities in Japan with a population of 1 million or more. Their total population topped 29 million, a figure equivalent to 23.2 percent of the national total. The largest single city was the 23 Cities of Tokyo Metropolis, with 9.27 million citizens. It was followed in decreasing order by Yokohama City (3.72 million), Osaka City (2.69 million), and Nagoya City (2.30 million).

Table 2.10
Population of Major Cities

(Thousands)

Cities	Population		Cities	Population	
	2010	2015		2010	2015
Tokyo, 23 Cities	8,946	9,273	Kobe City	1,544	1,537
Yokohama City	3,689	3,725	Kawasaki City	1,426	1,475
Osaka City	2,665	2,691	Kyoto City	1,474	1,475
Nagoya City	2,264	2,296	Saitama City	1,222	1,264
Sapporo City	1,914	1,952	Hiroshima City	1,174	1,194
Fukuoka City	1,464	1,539	Sendai City	1,046	1,082

Source: Statistics Bureau, MIC.

(2) Population Distribution

The percentage of the urban population started increasing in the late 1950s. In 2015, 51.9 percent of the total population was concentrated in the 3 major metropolitan areas: the Kanto, Chukyo, and Kinki major metropolitan areas. Population density in the Kanto major metropolitan area was 2,771 persons per square kilometer. In the Chukyo major metropolitan area, it was 1,288 persons per square kilometer, and in the Kinki major metropolitan area, it was 1,459 persons per square kilometer.

Table 2.11
Population of 3 Major Metropolitan Areas [1)] (2015)

Areas	Population (1,000)	Percentage of the total (%)	Surface Area (km^2)	Population density (per km^2)
Kanto major metropolitan area	37,274	29.3	13,452	2,771
Chukyo major metropolitan area	9,363	7.4	7,271	1,288
Kinki major metropolitan area	19,303	15.2	13,228	1,459
Total of three major metropolitan areas	65,940	51.9	33,951	1,942

1) Major metropolitan areas consist of central cities (Kanto: 23 Cities of Tokyo Metropolis, Yokohama City, Kawasaki City, Sagamihara City, Saitama City, and Chiba City; Chukyo: Nagoya City; Kinki: Osaka City, Sakai City, Kyoto City, and Kobe City) and surrounding areas (cities, towns and villages).
Source: Statistics Bureau, MIC.

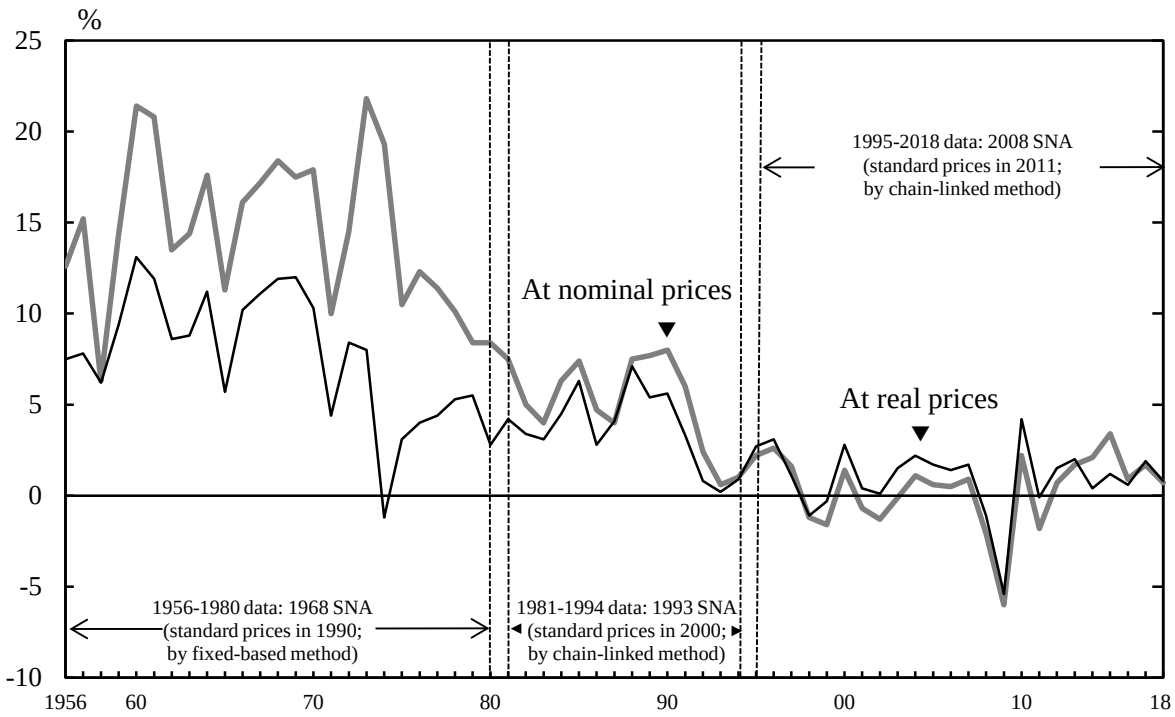
Chapter 3

Economy

1. Economic Development

During the 1960s, Japan's economy grew at a rapid pace of over 10 percent per annum. This rapid economic growth was supported by: (i) the expansion of private investments in plant and equipment, backed by a high rate of personal savings; (ii) a large shift in the working population from primary to secondary industries and "an abundant labour force supplied by a high rate of population growth"; and (iii) an increase in productivity brought about by adopting and improving foreign technologies.

Figure 3.1
Economic Growth Rates



Source: Economic and Social Research Institute, Cabinet Office.

In the 1970s, the sharp increase of Japan's exports of industrial products to the U.S.A. and Europe began to cause international friction. In 1971, the U.S.A. announced it would end the convertibility of the dollar into gold. In December 1971, Japan revalued the yen from 360 yen against the U.S. dollar, which had been maintained for 22 years, to 308 yen. In February 1973, Japan adopted a floating exchange-rate system.

In October 1973, the fourth Middle East War led to the first oil crisis, triggering high inflation. Accordingly, Japan recorded negative economic growth in 1974 for the first time in the post-war period. Following the second oil crisis in 1978, efforts were made to change Japan's industrial structure from "energy-dependent" to "energy-saving", enabling Japan to successfully overcome inflation.

In the 1980s, the trade imbalance with advanced industrial countries expanded because of the yen's appreciation. As part of administrative and financial reforms, Japan National Railways and Nippon Telegraph and Telephone Public Corporation were privatized. As a result, domestic demand-led economic growth was achieved.

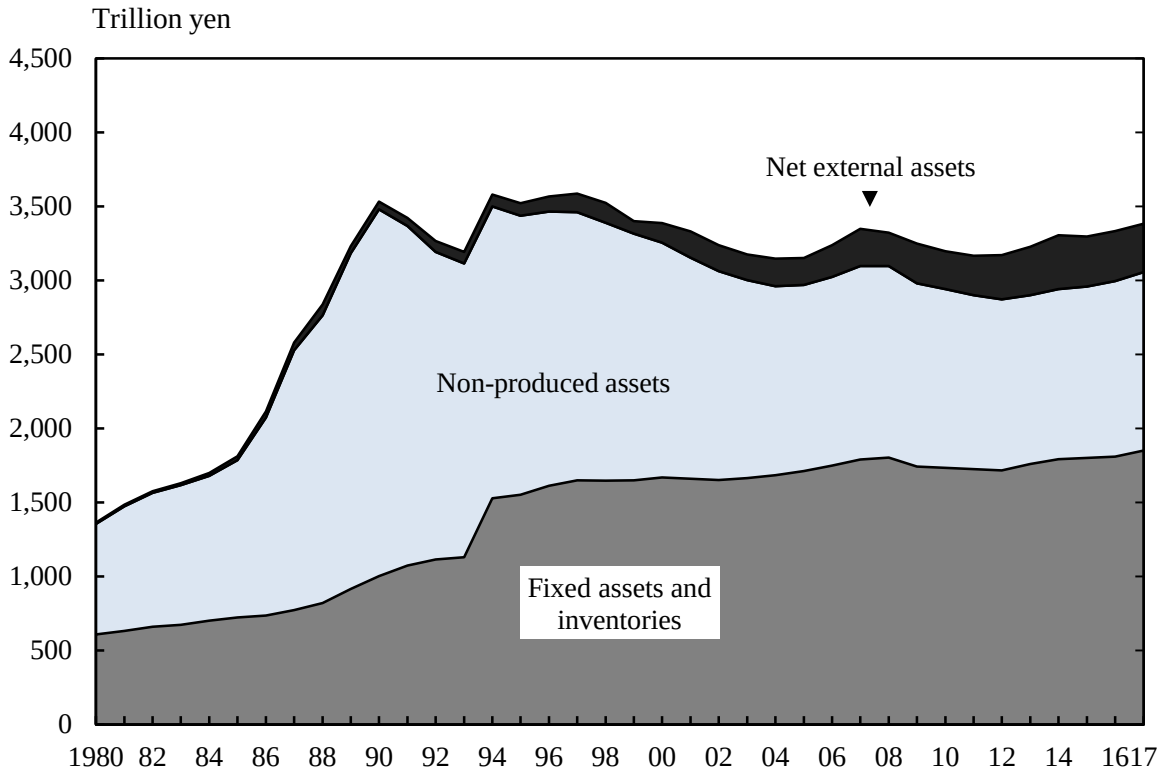
2. Bubble Economy and Its Collapse

At the end of the 1980s, Japan's economy enjoyed favorable conditions, with stable wholesale prices and a low unemployment rate. Corporate profits were at their highest level in history, and corporate failures were at their lowest level, while investments in plant and equipment for manufacturing products, such as semiconductors, were very active. Stock and land prices continued to rise rapidly, and large-scale urban developments and resort facility developments in rural areas progressed at a very fast pace. However, excessive funds flowed into the stock and real estate markets, causing abnormal increases in capital asset values (forming an economic bubble).

At the end of 1980, Japan's net worth (national wealth) stood at 1,363 trillion yen, 5.6 times the GDP. It then increased, reaching 3,531 trillion yen, 8.0 times the GDP, at the end of 1990, owing to increasing land and stock prices. At the beginning of 1990, stock prices plummeted, followed by sharp declines in land prices. This marked the start of major economic recession (collapse of the bubble economy). Japan's financial and economic systems, which were excessively dependent on land, consequently approached collapse.

Due to the collapse of the bubble economy, the national wealth decreased, and while there were fluctuations, continued on a downward trend. Since 2012, it has been on an upward trend. At the end of 2017, it was 3,384 trillion yen.

Figure 3.2
National Wealth [1)]

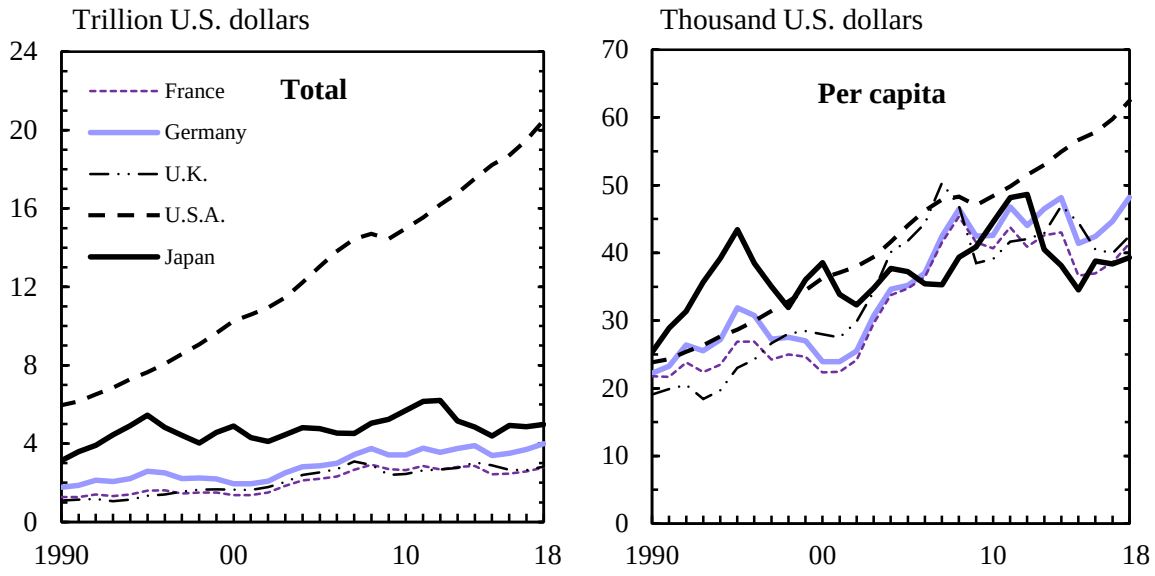


1) Data was estimated using a different method beginning in 1994.
Source: Economic and Social Research Institute, Cabinet Office.

Massive bad debts were created in financial institutions' loan portfolios, as corporate borrowers suffered serious losses due to declining land prices. As a result, shareholders' equity in financial institutions shrank. In 1997, large banks began to fail. In 1998 and 1999, the government injected public money into the banking sector to stabilize the financial system.

The Japanese economy began to make a moderate recovery in February 1999. This, however, was only a temporary phenomenon, as investments in plant and equipment were weak and the recovery was too dependent on foreign demand and information and communication technologies. With the global decline in IT demand from mid-2000, Japan's exports to Asia dropped, necessitating adjustments of excess inventory and production facilities. In line with this, the Japanese economy again entered into an economic downturn in 2001.

Figure 3.3
Gross Domestic Product (Nominal prices, converted into U.S. dollars)



Source: OECD.

On the economic recovery phase starting at the beginning of 2002, the corporate sector, with export-related industries, as the central part, became favorable based on the steady recovery of the global economy, and shifted generally with a bullish tone up until mid-2007.

3. Recent Economic Trends

At the start of 2008, the Japanese economy was faced with a standstill in its path to recovery as private consumption and investments in plant and equipment fell flat and so did production. This occurred against the backdrop of soaring crude petroleum and raw material prices and repercussions from the American subprime mortgage loan problem that, since mid-2007, rapidly clouded future prospects for the world economy further. In addition, the bankruptcy of the major American securities firm Lehman Brothers in September 2008 led to a serious financial crisis in Europe and the U.S.A. Japan was also affected by the yen's rise and the sudden economic contraction in the U.S.A. and other countries. Declining exports contributed to a large drop in production and a sharp rise in unemployment.

Table 3.1

Gross Domestic Product [1] (Expenditure approach)

(Billion yen)

Item	2015	2016	2017	2018
Gross domestic product (GDP)	516,932.4	520,081.1	530,084.3	534,236.7
Domestic demand	524,070.4	524,150.6	531,261.2	535,360.8
Private demand	393,609.0	392,332.0	398,923.3	403,136.5
Private final consumption expenditure	295,719.9	295,360.4	298,712.4	299,818.0
Private Residential Investment	15,041.1	15,931.7	16,264.6	15,323.3
Private plant and equipment	81,604.9	80,383.8	83,483.2	86,735.2
Changes in inventories of private sectors	1,200.6	568.9	359.6	1,218.0
Public demand	130,461.5	131,823.6	132,342.2	132,231.7
Government final consumption expenditure	104,524.1	106,018.7	106,296.1	107,117.6
Gross capital formation by public sectors	25,914.7	25,826.9	26,003.8	25,153.9
Changes in inventories of public sectors	30.9	-5.8	77.8	27.1
Net exports of goods and services	-7,191.7	-4,306.7	-1,616.8	-1,737.7
Exports of goods and services	83,068.7	84,491.5	90,251.3	93,266.5
(less) Imports of goods and services	90,260.4	88,798.2	91,868.2	95,004.2
(Reference)				
Trading gains/losses	5,158.1	9,755.3	6,519.1	3,059.1
Gross domestic income (GDI)	522,090.5	529,836.4	536,603.4	537,295.8
Net income from the rest of the world	20,089.0	17,860.5	19,214.4	19,280.0
Incomes from the rest of the world	29,765.7	28,682.9	30,929.1	32,258.7
(less) Incomes to the rest of the world	9,676.7	10,822.4	11,714.7	12,978.7
Gross national income (GNI)	542,179.5	547,696.9	555,817.8	556,575.8

1) Quarterly estimates of GDP, 2008 SNA (standard prices in 2011; by chain-linked method).
Source: Economic and Social Research Institute, Cabinet Office.

Subsequently, the Japanese economy recovered with foreign demand and economic measures after April 2009, and came to a standstill starting around October 2010. In early 2011, however, it began to rally. The Great East Japan Earthquake taking place on March 11, 2011, and the nuclear power plant accident caused by it weakened the economic recovery.

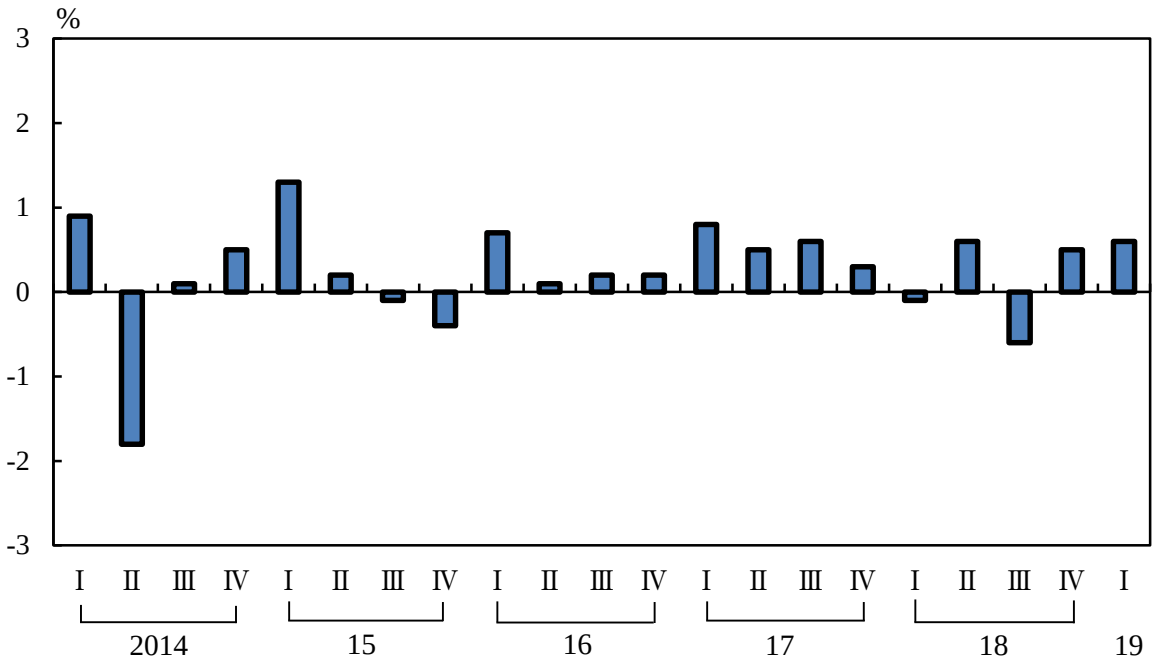
In order to achieve an early end to deflation and break free of economic stagnation, in January 2013, the government set forth its "three-arrows" strategy (also known as "Abenomics").

The first "arrow" is "aggressive monetary policy". The Bank of Japan (BOJ) made it clear that it would set two percent annual growth rate of consumer price index as a "price stabilization target". The BOJ also introduced "quantitative and qualitative monetary easing" to double the monetary base over two years.

The second "arrow" is "flexible fiscal policy". An emergency economic stimulus package with a scale of approximately 10 trillion yen was developed.

The third "arrow" is "growth strategy that promotes private investment". Efforts are being made in growth strategies such as encouraging investments by private corporations based on the easing of regulations.

Figure 3.4
Economic Growth Rates [1)] (Quarterly changes)



1) Quarterly estimates of GDP, 2008 SNA (standard prices in 2011; by chain-linked method; seasonally adjusted).
Source: Economic and Social Research Institute, Cabinet Office.

Under such approaches, the profits of companies recorded the highest ever, and the employment and income environment improved and continued a moderate recovery. The latest economic recovery is thought to be in the process of continuation after bottoming out in November 2012. As the Japanese economy moves out of a deflation through approaches based on financial, monetary and growth policies, fiscal consolidation has been progressing and primary deficit has been shrinking, such as by increased tax revenue, etc.

4. Industrial Structure

Japan's industrial structure has undergone a major transformation since the end of World War II. The chronological changes in the industrial structure during this period by industry share of employed persons and GDP show that shares in the primary industry in particular have fallen dramatically since 1970, when Japan experienced rapid economic growth. During the 1980s, the secondary industry's share of employed persons and GDP also began to decline gradually. On the other hand, the tertiary industry's share of them have risen consistently.

Table 3.2
Changes in Industrial Structure

(%)

Year	Employed persons [1]			Gross domestic product (GDP) [2]		
	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry
1950	48.6	21.8	29.7	-	-	-
1955	41.2	23.4	35.5	19.2	33.7	47.0
1960	32.7	29.1	38.2	12.8	40.8	46.4
1965	24.7	31.5	43.7	9.5	40.1	50.3
1970	19.3	34.1	46.6	5.9	43.1	50.9
1975	13.9	34.2	52.0	5.3	38.8	55.9
1980	10.9	33.6	55.4	# 3.5	# 36.2	# 60.3
1985	9.3	33.2	57.5	3.0	34.9	62.0
1990	7.2	33.5	59.4	2.4	35.4	62.2
1995	# 6.0	# 31.3	# 62.7	# 1.7	# 31.6	# 66.7
2000	5.2	29.5	65.3	1.5	29.5	69.0
2005	4.9	26.4	68.6	1.1	27.2	71.7
2010	4.2	25.2	70.6	1.1	25.7	73.1
2015	4.0	25.0	71.0	1.1	26.6	72.3

1) Due to the revision of the Japan Standard Industrial Classification, the figures from 1995 onward are not strictly consistent with those for 1990 or earlier. 2) Data from 1955 to 1979 are based on the 1968 SNA. Data from 1980 onward are based on the 1993 SNA. Data in 1994 and afterwards differs in the estimation method.
Source: Statistics Bureau, MIC; Economic and Social Research Institute, Cabinet Office.

In 1970, the primary industry accounted for 19.3 percent of employed persons, the secondary industry for 34.1 percent, and the tertiary industry for 46.6 percent. In 2015, the corresponding shares of these three sectors were 4.0 percent, 25.0 percent and 71.0 percent, respectively.

As for GDP by type of economic activity, in 1970, the primary, secondary and tertiary industries accounted for 5.9 percent, 43.1 percent and 50.9 percent, respectively. In 2015, these figures were 1.1 percent, 26.6 percent and 72.3 percent, respectively.

Table 3.3
Gross Domestic Product by Type of Economic Activity

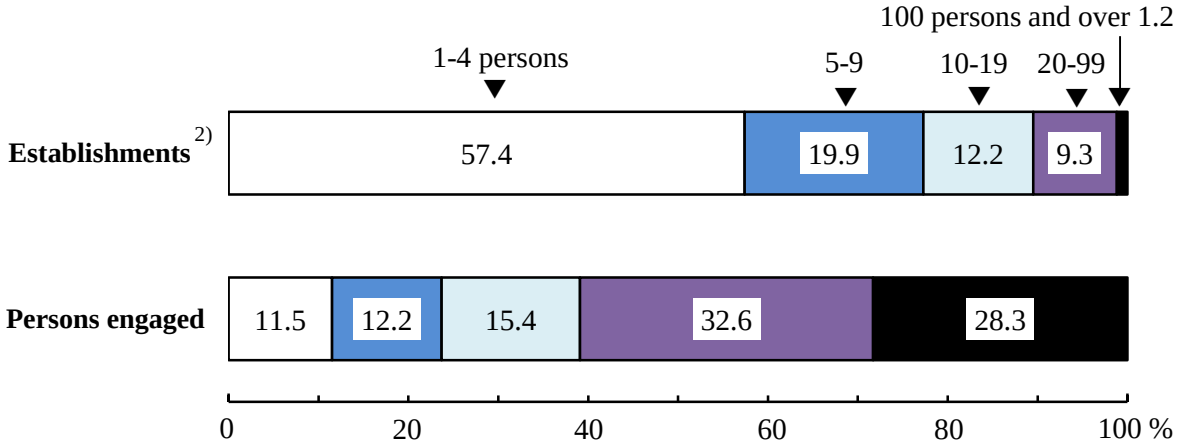
(%)

	1995	2000	2005	2010	2015	2017
Primary industry						
Agriculture, forestry and fishing	1.7	1.5	1.1	1.1	1.1	1.2
Secondary industry						
Mining	0.2	0.1	0.1	0.1	0.1	0.1
Manufacturing	23.5	22.6	21.6	20.8	20.8	20.7
Construction	7.8	6.9	5.6	4.8	5.5	5.7
Tertiary industry						
Electricity, gas and water supply and waste management service	3.0	3.2	2.9	2.8	2.6	2.6
Wholesale and retail trade	13.8	13.1	14.4	13.8	14.0	13.9
Transport and postal services	5.5	4.9	5.1	5.0	5.1	5.1
Accommodation and food service activities	3.1	3.1	2.7	2.6	2.3	2.5
Information and communications	3.2	4.6	4.9	5.1	5.0	4.9
Finance and insurance	5.0	4.9	6.0	4.8	4.4	4.1
Real estate	9.9	10.3	10.4	11.9	11.4	11.3
Professional, scientific and technical activities	4.8	5.8	6.4	7.0	7.2	7.4
Public administration	4.8	5.2	5.1	5.3	5.0	4.9
Education	3.6	3.6	3.6	3.6	3.6	3.6
Human health and social work activities	4.4	5.3	5.5	6.4	6.8	7.0
Other service activities	5.2	5.2	4.9	4.7	4.4	4.3

Source: Economic and Social Research Institute, Cabinet Office.

According to the "2016 Economic Census for Business Activity", there were 5.3 million establishments (excluding businesses whose operational details are unknown, national government services, and local government services) in Japan, at which a total of 56.9 million persons were employed. The average number of persons engaged per establishment was 10.6 and establishments with less than 10 persons accounted for 77.3 percent of the total.

Figure 3.5
Shares of Establishments and Persons Engaged by Scale of Operation [1)]
(2016)



1) Excluding businesses whose operational details are unknown, national government services, and local government services. 2) Excluding establishments consisting of only loaned or dispatched employees.
Source: Statistics Bureau, MIC; Ministry of Economy, Trade and Industry.

With regard to the number of establishments by the major groupings of the Japan Standard Industrial Classification, the most numerous category was the "wholesale and retail trade", numbering 1.4 million, followed by "accommodations, eating and drinking services" and "construction". In terms of the number of persons engaged, establishments in the "wholesale and retail trade" ranked first as they employed 12.0 million persons, followed by "manufacturing" and "medical, health care and welfare".

Table 3.4
Number of Establishments and Persons Engaged [1] (2016)

Item	Establishments	Persons engaged
Total	5,340,783	56,872,826
By industry		
Primary industry		
Agriculture, forestry and fisheries	32,676	363,024
Secondary industry		
Mining and quarrying of stone and gravel	1,851	19,467
Construction	492,734	3,690,740
Manufacturing	454,800	8,864,253
Tertiary industry		
Electricity, gas, heat supply and water	4,654	187,818
Information and communications	63,574	1,642,042
Transport and postal activities	130,459	3,197,231
Wholesale and retail trade	1,355,060	11,843,869
Finance and insurance	84,041	1,530,002
Real estate and goods rental and leasing	353,155	1,462,395
Scientific research, professional and technical services	223,439	1,842,795
Accommodations, eating and drinking services	696,396	5,362,088
Living-related and personal services and amusement services	470,713	2,420,557
Education, learning support	167,662	1,827,596
Medical, health care and welfare	429,173	7,374,844
Compound services	33,780	484,260
Services, n.e.c.	346,616	4,759,845
By type of legal organizations		
Individual proprietorships	2,006,773	5,719,403
Corporations	3,305,188	51,032,017
Companies	2,882,491	42,716,541
Organizations other than corporations	28,822	121,406

1) Excluding businesses whose operational details are unknown, national government services, and local government services.
Source: Statistics Bureau, MIC; Ministry of Economy, Trade and Industry.

The domestic manufacturing industry has progressed in the relocation of production bases overseas, for the cutback on production costs, the production in consumption areas, and the evasion of fluctuations in exchange rates.

The number of overseas affiliates in the manufacturing industry was 10,838 companies at the end of fiscal 2017, and the overseas production ratio was 25.4 percent in actual performance in fiscal 2017, the highest ever recorded and indicating a 1.6 percentage point increase as compared to the previous fiscal year.

Table 3.5
Trends of Overseas Affiliated Company (Manufacturing industries)

Fiscal year	Number of overseas affiliates	Value of Sales (Million yen)	Overseas production ratio [1] (%)	Value of capital investment (Million yen)	Ratio of overseas capital investment [2] (%)
2008	8,147	91,180,733	17.0	3,608,939	18.4
2009	8,399	78,305,761	17.0	2,058,685	15.9
2010	8,412	89,327,934	18.1	2,325,418	17.1
2011	8,684	88,289,996	18.0	3,082,273	21.5
2012	10,425	98,384,657	20.3	3,815,707	25.8
2013	10,545	116,997,649	22.9	4,646,055	29.4
2014	10,592	129,712,997	24.3	4,649,364	28.1
2015	11,080	134,996,164	25.3	4,571,639	25.5
2016	10,919	123,636,074	23.8	3,766,446	20.7
2017	10,838	138,024,661	25.4	3,961,088	20.8

1) Overseas production ratio = Sales of overseas affiliates/(Sales of overseas affiliates + Sales of domestic companies) × 100. 2) Ratio of overseas capital investment = Amount of capital investment in overseas affiliates/(Amount of capital investment in overseas affiliates + Amount of capital investment in domestic companies) × 100.
Source: Ministry of Economy, Trade and Industry.

In the future, it is anticipated that companies in the manufacturing industry in Japan will expand their overseas business. There are many companies that are planning on expanding their business to China, India, Thailand and Vietnam.

Chapter 4

Finance

1. National and Local Government Finance

(1) National Government Finance

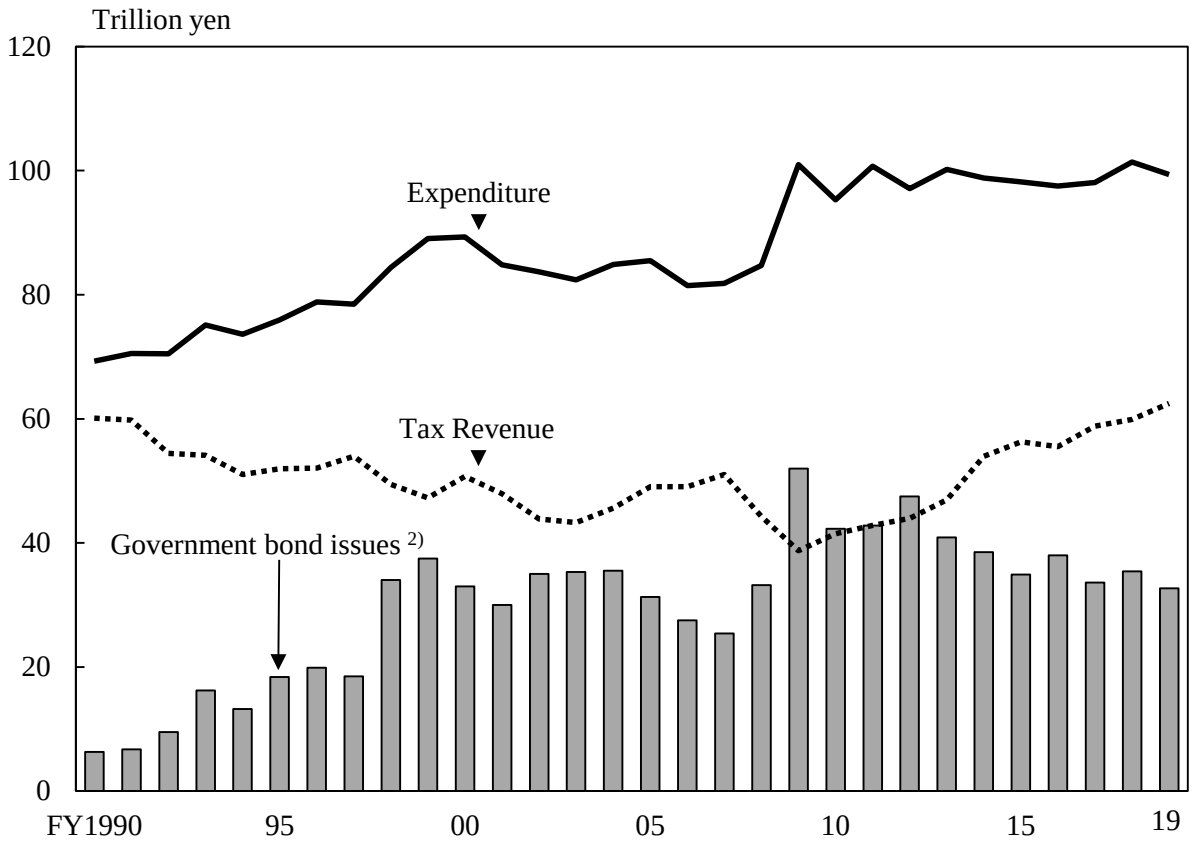
Japan's fiscal year starts in April, and ends in March of the following year. In setting the national budget, the government submits a proposed budget for the upcoming fiscal year to the Ordinary Session of the Diet, which begins in January. The proposal is then discussed, and approved usually before the fiscal year begins in April (initial budget). In the event that the Diet does not approve the budget by the end of March, an interim budget comes into effect. The interim budget is effective from the beginning of April until such time when the proposed budget is approved. If it becomes necessary to amend the budget in the course of a fiscal year, the government submits a supplementary budget for Diet approval.

Japan's national budget consists of the general account budget, special account budgets, and the budgets of government-affiliated agencies. Using revenues from general sources such as taxes, the general account covers core national expenditures such as social security, public works, education and science, and national defense.

Special accounts are accounts established for the national government to carry out projects with specific objectives, and their management and administration are independent of the general account. The number and particulars of special accounts change from year to year; for fiscal 2019, there are a total of 13 special accounts, including the National debt consolidation fund, the Local allocation tax and local transfer tax, and the Reconstruction from the Great East Japan Earthquake.

Government-affiliated agencies are entities established by special laws and are entirely funded by the government. Currently, the Japan Finance Corporation, the Okinawa Development Finance Corporation, Japan Bank for International Cooperation, and the Japan International Cooperation Agency (Finance and Investment Account) are operated.

Figure 4.1
Revenue and Expenditure in the General Account [1)]



1) Based on settled figures until FY2017, supplementary budget for FY2018, and draft budget for FY2019. 2) Excludes some special accounts. A figure in FY2019 includes the bond issued for the Temporal and Special Measures.

Source: Ministry of Finance.

In the national government finance, expenditure has continued to surpass revenue. Since fiscal 2008 in particular, the worsening economy has decreased tax revenue, contributing to an increasing gap between revenue and expenditure. From fiscal 2009 to fiscal 2012, bond issues exceeded tax revenue in most years, but starting in fiscal 2013, tax revenue has exceeded borrowing on an initial budget basis.

The size of the general account budget for fiscal 2019 was 99 trillion yen, an increase of 1.7 trillion yen (1.8 percent) from the initial budget of fiscal 2018. This is equivalent to 17.6 percent of the fiscal 2019 GDP, forecasted by the government at 566 trillion yen.

Table 4.1
Expenditures of General Account

(Billion yen)

Fiscal year	Total (A)+(B)+(C)	General expenditures (A)	Social security	Education and science	Pensions	National defense	Public works
2000	89,321	52,046	17,636	6,872	1,418	4,907	11,910
2005	85,520	49,343	20,603	5,701	1,065	4,878	8,391
2010	95,312	56,978	28,249	6,051	709	4,670	5,803
2015	98,230	58,966	31,398	5,574	387	5,130	6,378
2016	97,542	60,117	32,208	5,598	335	5,150	6,710
2017 1)	99,109	60,835	32,536	5,658	294	5,352	6,972
2018 1)	101,358	62,330	33,051	5,815	250	5,639	7,554
2019 2)	99,429	59,936	33,991	5,382	210	5,207	6,060

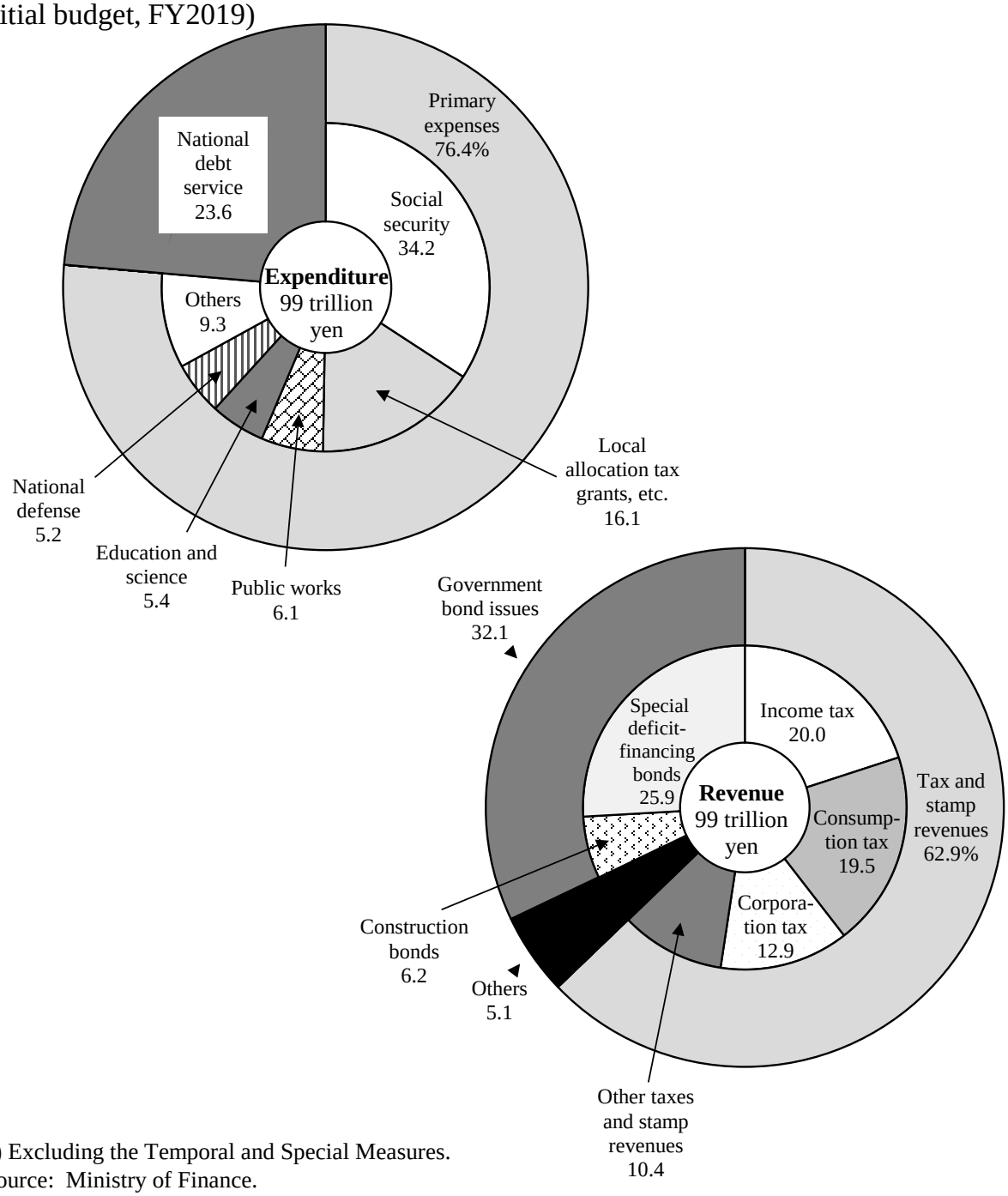
Fiscal year	Economic cooperation	Small and medium-sized business promotion	Energy measures	Food stable supply	Others	National debt service (B)	Local allocation tax grants, etc. (C)
2000	1,012	933	677	247	6,434	21,446	15,829
2005	784	237	493	657	6,536	18,736	17,441
2010	746	830	845	1,122	7,953	19,544	18,790
2015	661	340	968	1,276	6,854	22,464	16,801
2016	743	430	973	1,140	6,830	22,086	15,339
2017 1)	638	385	973	1,214	6,811	22,708	15,567
2018 1)	637	511	972	1,197	6,963	22,741	16,026
2019 2)	502	174	910	982	6,518	23,508	15,985

1) Revised budget. 2) Initial budget. Excluding the Temporal and Special Measures.
Source: Ministry of Finance.

In fiscal 2019, major expenditures from the initial general account budget include social security (34.2 percent), national debt service (23.6 percent), local allocation tax grants, etc. (16.1 percent), public works (6.1 percent), education and science (5.4 percent), and national defense (5.2 percent).

With regard to revenue sources for the fiscal 2019 initial general account budget, income tax, consumption tax and corporation tax account for 52.4 percent. Even with the addition of other taxes and stamp revenues, these revenue sources only amount to 62.9 percent of the total revenue.

Figure 4.2
Composition of Revenue and Expenditure of General Account Budget [1)]
(Initial budget, FY2019)



1) Excluding the Temporal and Special Measures.
Source: Ministry of Finance.

(2) Local Government Finance

There are two budget categories in local government finance: the ordinary accounts and the public business accounts. The former covers all kinds of expenses related to ordinary activities of the prefectural and municipal governments. The latter covers the budgets of independently accounted enterprises such as public enterprises (water supply and sewerage systems,

hospitals, etc.), the national health insurance accounts, and the latter-stage elderly medical care accounts.

While expenditures such as defense expenses are administered solely by the national government, a large portion of expenditures that directly relate to the people's daily lives are disbursed chiefly through local governments. In particular, a high proportion of the following expenditures are disbursed through local governments: sanitation expenses, which include areas such as medical service and garbage disposal; school education expenses; judicial, police, and fire service expenses; and public welfare expenses, which cover the development and management of welfare facilities for children, the elderly, and the mentally and/or physically challenged.

The revenue composition of local governments usually remains almost the same each fiscal year, while their budget scale and structure vary from year to year. The largest portion of fiscal 2017 (net) revenues came from local taxes, accounting for 39.4 percent of the total. The second-largest source, 16.5 percent, was local allocation tax.

Table 4.2

Local Government Finance [1] (Ordinary accounts)

(Million yen)

Item	FY2013	FY2014	FY2015	FY2016	FY2017
Revenues	101,099,835	102,083,467	101,917,496	101,459,848	101,323,315
Local taxes	35,374,285	36,785,451	39,098,563	39,392,391	39,904,402
Local transfer tax	2,558,842	2,936,867	2,679,246	2,340,232	2,405,224
Special local grants	125,522	119,188	118,868	123,300	132,800
Local allocation tax	17,595,454	17,431,428	17,390,640	17,239,008	16,768,005
National treasury disbursements	16,511,785	15,518,925	15,282,155	15,687,149	15,520,357
Local bonds	12,284,850	11,518,456	10,688,010	10,387,277	10,644,892
Expenditures	97,412,028	98,522,799	98,405,225	98,141,464	97,998,369
General administration	10,000,563	9,869,954	9,608,827	8,901,591	9,121,944
Public welfare	23,463,324	24,450,891	25,254,815	26,340,756	25,983,397
Sanitation	5,988,543	6,143,397	6,301,793	6,258,413	6,262,562
Agriculture, forestry and fishery	3,500,949	3,348,633	3,218,216	3,171,208	3,299,187
Commerce and industry	5,915,650	5,509,540	5,516,105	5,195,146	4,901,049
Civil engineering work	12,125,221	12,050,506	11,707,165	12,018,244	11,919,457
Education	16,087,778	16,658,138	16,795,536	16,745,847	16,888,597

1) Settled figures of the net total of prefectural and municipal government accounts after deducting duplications. The breakdown consists of major items only.

Source: Ministry of Internal Affairs and Communications.

(3) National and Local Government Finance

Finance refers to revenue and expenditure of administrative services from national and local governments. In the initial budget for fiscal 2018, the gross total of national government expenditure was 488 trillion yen, the net total was 240 trillion yen after eliminating duplications between both accounts. Furthermore, the local public finance plan, which consists of the estimated sum of ordinary accounts for the following fiscal year for all local governments, amounted to 88 trillion yen. Therefore, after eliminating duplications between national and local accounts (34 trillion yen), the net total of both national and local government expenditures combined was 294 trillion yen.

Table 4.3
Expenditures of National and Local Governments (Initial budget)

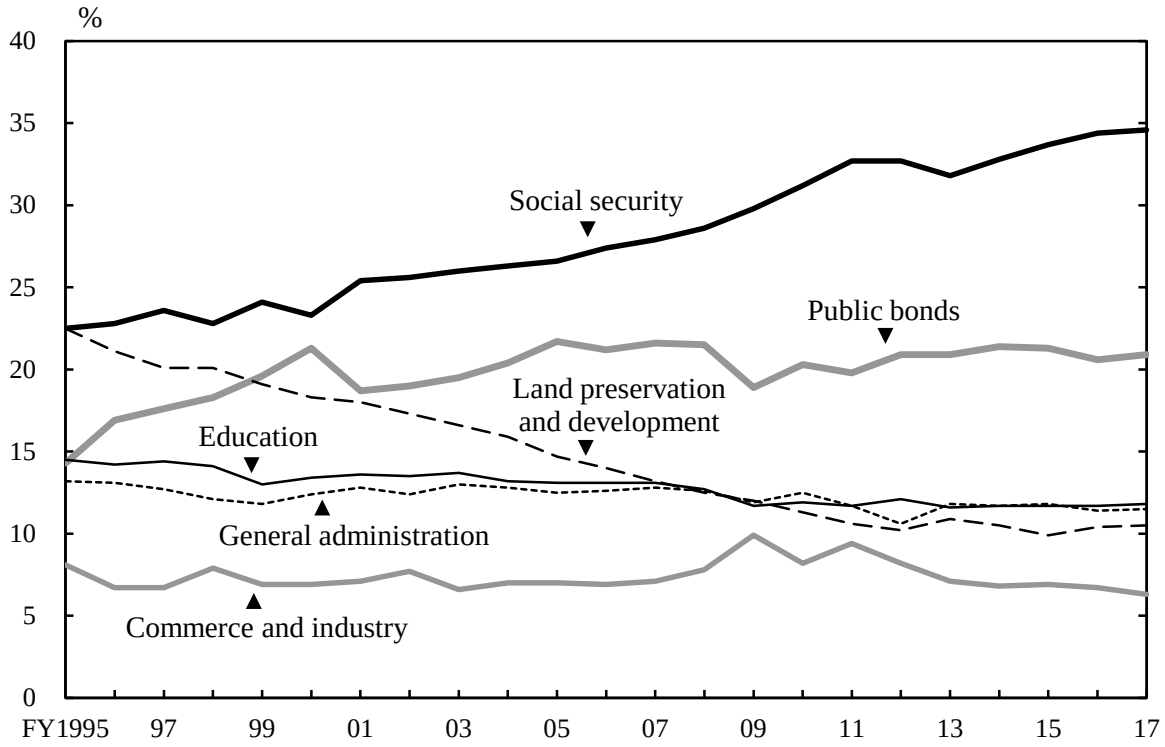
(Billion yen)

Item	FY2000	FY2005	FY2010	FY2015	FY2017	FY2018
General account	84,987	82,183	92,299	96,342	97,455	97,713
Special accounts	318,689	411,944	367,074	403,553	393,429	388,496
Government-affiliated agencies	7,661	4,678	3,135	2,216	1,845	1,727
Gross total (national)	411,337	498,805	462,508	502,111	492,729	487,936
Duplications	200,435	257,490	244,744	262,184	250,602	247,460
Net total (national)	210,902	241,316	217,764	239,927	242,127	240,476
Local public finance plan	88,930	83,769	82,127	87,768	87,999	88,109
Gross total (national + local)	299,832	325,084	299,891	327,694	330,125	328,585
Duplications	37,216	32,689	31,563	35,484	34,410	34,100
Net total (national + local)	262,616	292,395	268,328	292,211	295,715	294,486

Source: Policy Research Institute, Ministry of Finance.

The settlement amount for fiscal 2017, the net total of national and local government expenditures was 168 trillion yen. The national government disbursed 42.2 percent of this amount, while the local governments disbursed 57.8 percent.

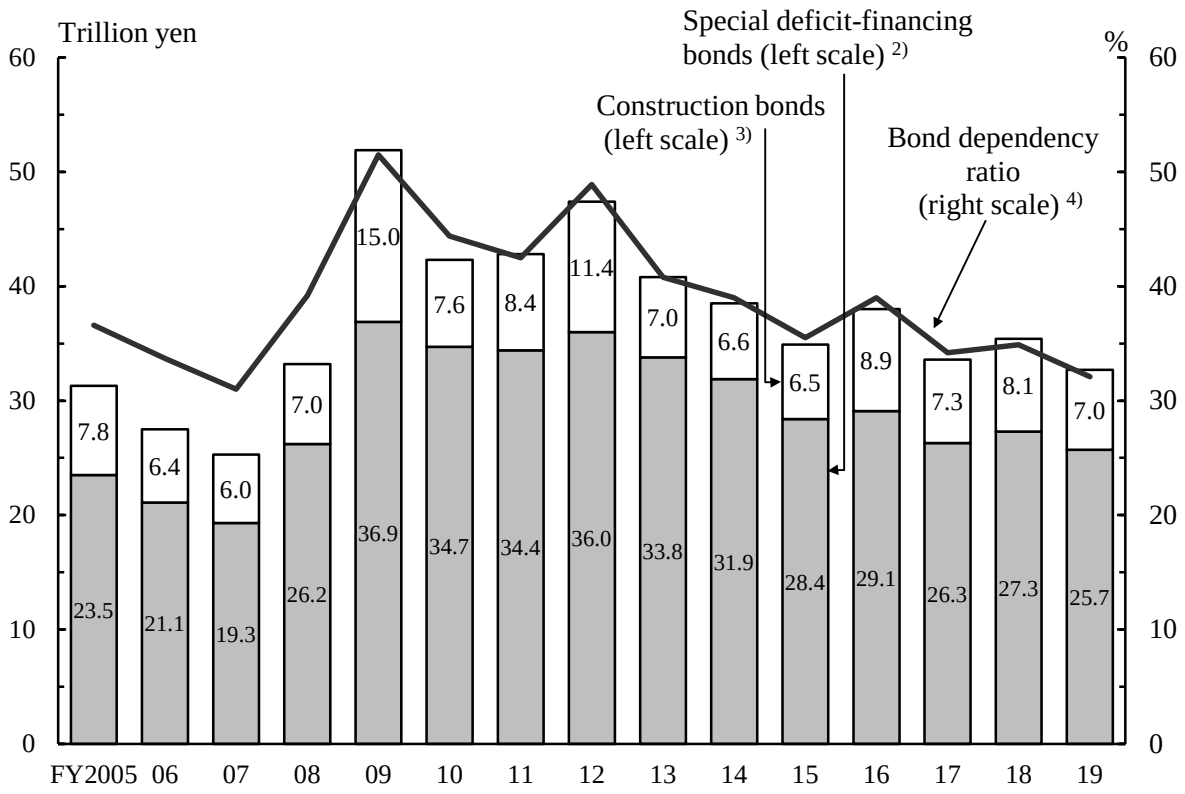
Figure 4.3
Ratio of Net Total National and Local Expenditures by Function



Source: Ministry of Internal Affairs and Communications.

A function-by-function breakdown of these expenditures showed that social security expenditure accounted for the largest portion (34.6 percent), followed by public bonds (20.9 percent), education (11.8 percent), general administration (11.5 percent), and then land preservation and development (10.5 percent). Public bonds are issued to compensate for shortages of national and local revenues. Their issue volumes have increased mainly due to, for example, economic stimulus measures and decreasing tax revenues after the bubble economy ended at the beginning of 1990. A rising amount of public bond redemptions and an increase in social security expenditures associated with the progression of an aging society in recent years have resulted in public bonds and social security expenditures making up a high percentage of net total government expenditures. Issuance of government bonds increased after fiscal 2009 due to the effects of the bankruptcy of Lehman Brothers, but has decreased in recent years.

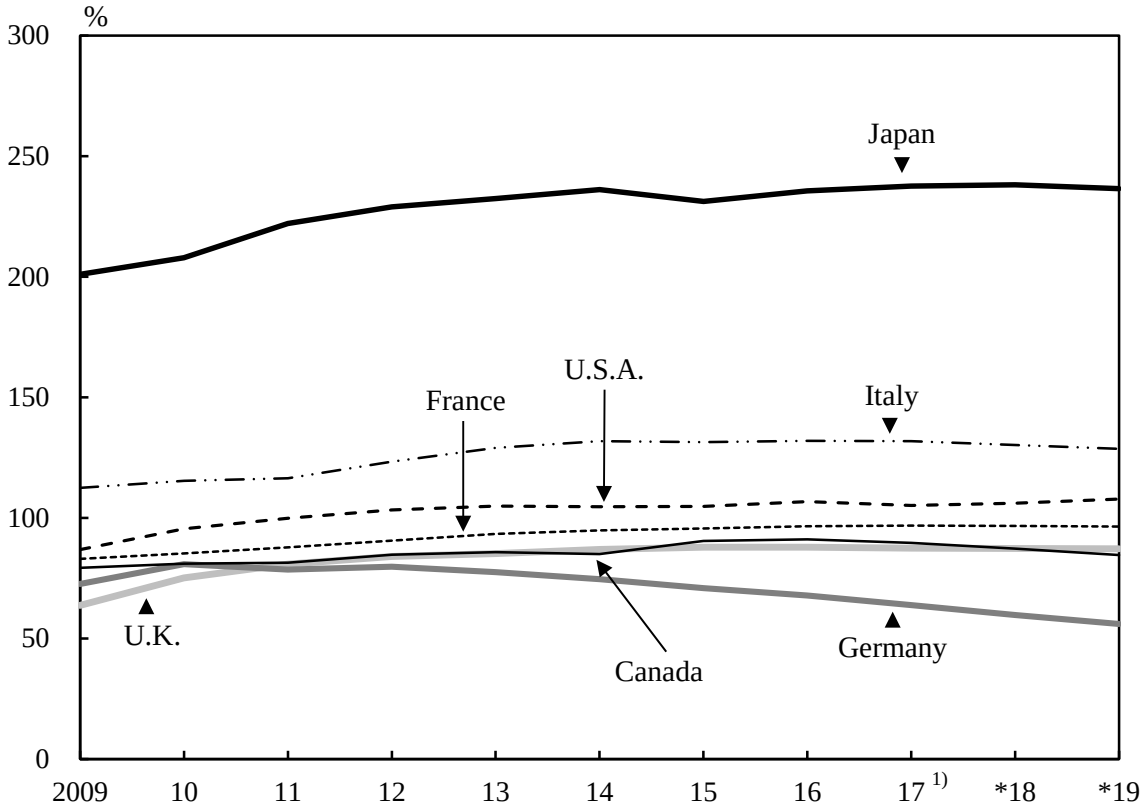
Figure 4.4
National Government Bond Issue and Bond Dependency Ratio [1)]



1) Based on settled figures until FY2017, supplementary budget for FY2018, and draft budget for FY2019. 2) Excludes some special accounts. 3) A figure in FY2019 includes the bond issued for the Temporal and Special Measures. 4) A figure in FY2019 excludes the impact of the Temporal and Special Measures.
Source: Ministry of Finance.

Japan's ratio of outstanding general government debt to GDP, a stock measure in a fiscal context, has been quite high as compared to major industrial countries achieved a steady advance of fiscal consolidation in the second half of 1990s, and is now the worst among them.

Figure 4.5
Ratio of General Government Gross Debt to GDP



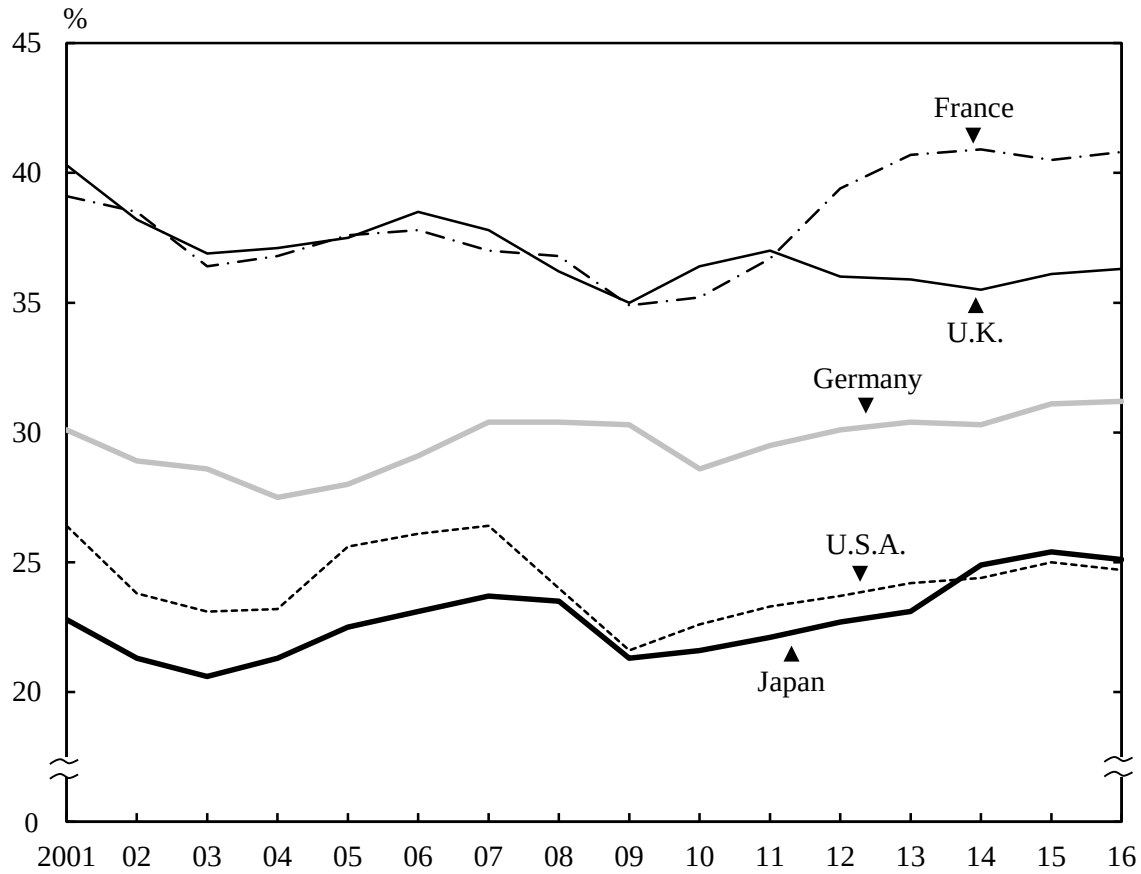
1) The data for Japan indicates estimated figure.
Source: Ministry of Finance.

(4) Tax

Taxes consist of national tax (income tax, corporation tax, etc.), which is paid to the national government, and local tax, which is paid to the local government of the place of payer’s residence. The ratio of taxation burden, which is the ratio of national and local taxes to national income, was 18.3 percent in fiscal 1975. This ratio gradually increased thereafter, reaching 27.7 percent in fiscal 1989. The ratio subsequently decreased due to the decline in tax revenue arising from the recession that ensued after the

bubble economy ended, reaching 20.6 percent in fiscal 2003. In fiscal 2016, it was 25.1 percent in terms of national and local taxes combined (15.1 percent for national tax and 10.1 percent for local tax). Japan's ratio is lower in comparison with other major industrial countries. However, the consumption tax rate was raised from 5 to 8 percent on April 1, 2014. This was the first increase in 17 years. Hereafter, there is a possibility that the taxation burden will become heavier due to an increase in welfare and pension-related spending in response to the aging society.

Figure 4.6
Ratio of Taxation Burden to National Income by Country (Actual basis)



Source: Ministry of Finance.

2. Bank of Japan and Money Stock

As the central bank, the Bank of Japan (i) issues banknotes; (ii) manages and stores treasury funds and provides loans to the government; (iii) provides deposit and loan services to general financial institutions; and (iv)

implements monetary policies by adjusting the level of money stock to promote the sound development of the economy.

At the end of 2018, currency in circulation totaled 115.2 trillion yen (110.4 trillion yen in banknotes and 4.8 trillion yen in coins), up 3.3 percent from the year before.

Table 4.4

Currency in Circulation (Outstanding at year-end)

(Billion yen)

Item	2014	2015	2016	2017	2018
Total	97,738	103,120	107,203	111,508	115,208
Banknotes	93,082	98,430	102,461	106,717	110,363
Coins	4,656	4,690	4,742	4,792	4,845

Source: Bank of Japan.

The Bank of Japan compiles and publishes statistics on the following indices of money stock: (i) M1, or currency in circulation plus deposit money deposited at depository institutions; (ii) M2, or currency in circulation plus deposits deposited at domestically licensed banks, etc.; (iii) M3, or M1 plus quasi-money plus CDs (certificates of deposit); and (iv) L, which covers a broad range of liquidity, including government securities. The average amounts outstanding of money stock in 2018 was 756 trillion yen in M1 and 1,002 trillion yen in M2.

Table 4.5

Money Stock [1] (Average amounts outstanding)

(Billion yen)

Year	M2	M3	M1	Quasi-money	CDs	L (Broadly-defined liquidity)
2014	874,596	1,187,191	586,557	564,764	35,870	1,595,585
2015	906,406	1,222,534	616,484	568,831	37,220	1,651,476
2016	936,870	1,257,340	659,804	564,753	32,782	1,685,529
2017	973,993	1,299,628	711,885	556,268	31,475	1,736,552
2018	1,002,452	1,332,510	755,602	546,679	30,229	1,776,646

1) "Money stock" indicates the aggregate amount of money, including currency in circulation and deposit money, held by money holders such as non-financial corporations, individuals, and local governments.

Source: Bank of Japan.

In January 2013, the government and the Bank of Japan decided to strengthen policy coordination in order to overcome deflation and achieve sustainable economic growth with stable prices. In April 2013, the Bank of Japan changed the operating target for money market operations from the uncollateralized overnight call rate to a monetary base to facilitate quantitative easing. The Bank of Japan first introduced Quantitative and Qualitative Monetary Easing (QQE) in April 2013; in January 2016, it decided to introduce "QQE with a Negative Interest Rate". In September 2016 further, the Bank decided to introduce "QQE with Yield Curve Control" by strengthening these two policy frameworks, in order to achieve the price stability target at the earliest possible time.

Japan's monetary base is the amount of currency supplied by the Bank of Japan. It is the combined total of banknotes in circulation, coins in circulation, and current account deposit in the Bank of Japan. It was 514.6 trillion yen as of the end of April 2019, up 3.3 percent from the same month of the previous year, and setting a new record high.

Table 4.6
Financial Markets (Interest rates, etc.)

(% per annum)

End of year	Basic discount rate and basic loan rate	Call rates [1)]	Prime lending rates [2)]	Average contract interest rates on loans and discounts [3)]	10 years' newly issued Govt. bonds yields
2009	0.30	0.094	1.475	1.256	1.285
2010	0.30	0.079	1.475	1.187	1.120
2011	0.30	0.075	1.475	1.102	0.980
2012	0.30	0.076	1.475	1.034	0.795
2013	0.30	0.068	1.475	0.880	0.740
2014	0.30	0.066	1.475	0.850	0.320
2015	0.30	0.038	1.475	0.778	0.265
2016	0.30	-0.058	1.475	0.623	0.040
2017	0.30	-0.062	1.475	0.584	0.045
2018	0.30	-0.055	1.475	0.597	-0.005

1) Uncollateralized overnight. 2) Principal banks. Short-term loans.
3) Outstanding loans and bills discounted. Short-term loans and discounts. Figures are those of banking accounts of domestically licensed banks (excluding several banks) that conduct transactions with the Bank of Japan.
Source: Bank of Japan.

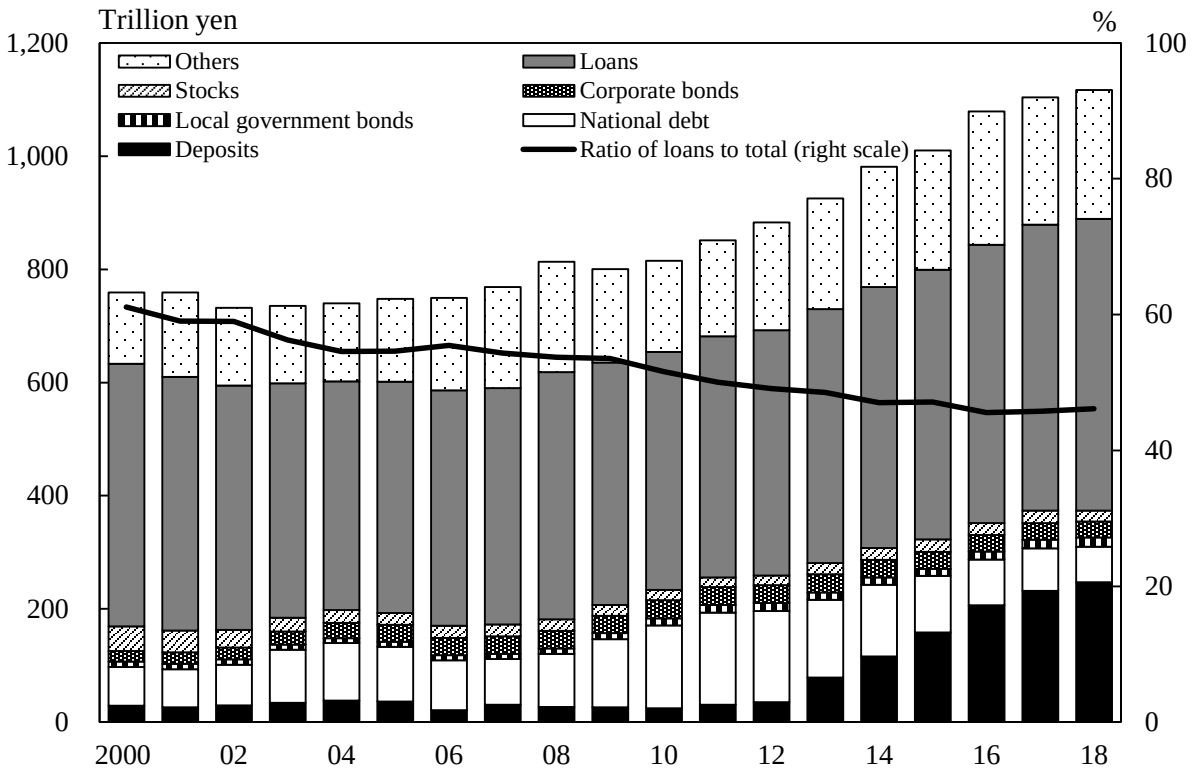
3. Financial Institutions

In addition to the Bank of Japan, Japan's financial system is comprised of private and public financial institutions. Private financial institutions include those that accept deposits (banks, credit depositories, agricultural cooperatives, etc.) and those that do not (securities companies, insurance companies, etc.).

In the course of the financial system reform, mergers and restructuring progressed among major banks, resulting in their being reorganized into three major financial groups. Regional banks and credit depositories operating in their respective regions have been making efforts to expand their operations bases through corporate mergers. As of September 2018, in the number of offices operated domestically, including the branches of financial institutions, post offices had the largest network with 24,009 offices. Domestically licensed banks, including city banks and regional banks, had a combined total of 13,524 offices and branches.

The fundamental role of the bank sector was to adjust the surplus and deficiency of funds, but as the corporate sector has been in a fund surplus in recent years in Japan, the percentage of loans to bank assets has been on a downward trend almost consistently. The decline in percentage of national debt and the increase in deposits in recent years are thought to be a result of the Bank of Japan buying national debt owned by banks due to the abovementioned monetary easing policy.

Figure 4.7
Assets of Domestically Licensed Banks (Banking accounts, end of year)



Source: Bank of Japan.

4. Financial Assets

The Flow of Funds Accounts Statistics, which is a comprehensive set of records of financial transactions, assets and liabilities, indicates that financial assets in the domestic sectors totaled 7,699 trillion yen at the end of March 2018. Of these assets, those of the domestic nonfinancial sector were 3,686 trillion yen. Of this sector, the household sector (including the business funds of individual proprietorships) had assets of 1,831 trillion yen, in the forms of deposits, stocks and other financial assets. In Japan, the household sector holds more than 50 percent of its financial assets in cash and deposits.

Table 4.7
Financial Assets and Liabilities of Japan

(Billion yen)

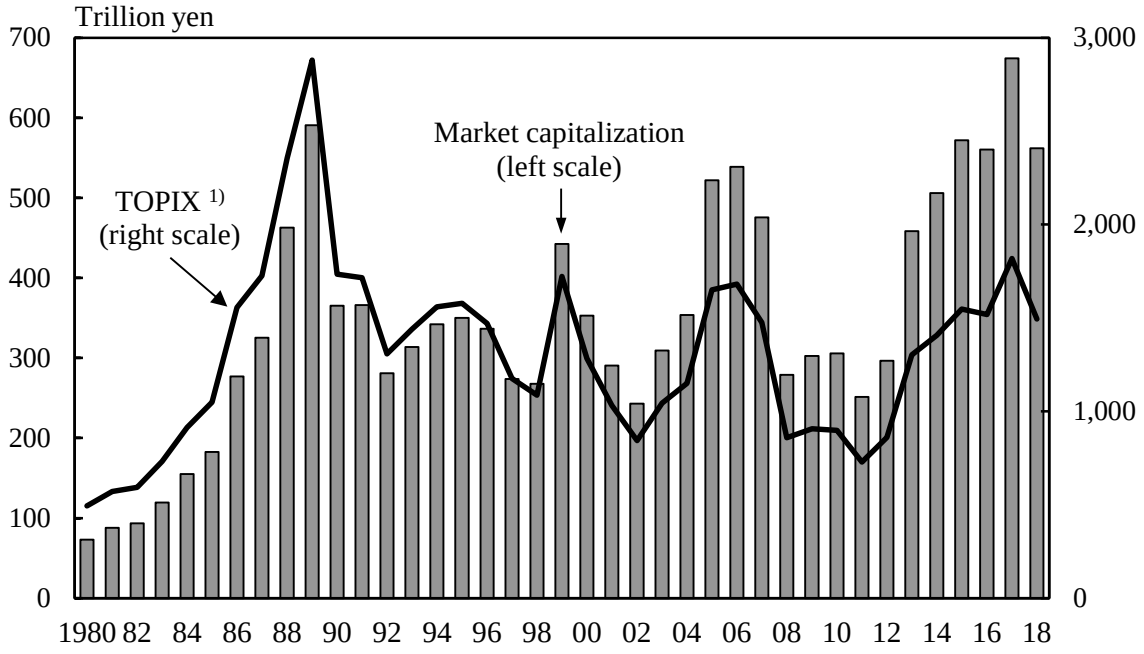
Sectors	March 2017	March 2018	Annual change (%)
Financial assets			
Domestic sectors	7,432,610	7,698,579	3.6
Financial institutions	3,891,723	4,012,976	3.1
Domestic nonfinancial sector	3,540,887	3,685,603	4.1
Nonfinancial corporations	1,139,362	1,227,141	7.7
General government	564,033	570,505	1.1
Households (incl. individual proprietorships)	1,784,525	1,830,871	2.6
Private nonprofit institutions serving households	52,967	57,086	7.8
Overseas	625,633	659,600	5.4
Financial liabilities			
Domestic sectors	7,104,985	7,384,854	3.9
Financial institutions	3,757,951	3,873,235	3.1
Domestic nonfinancial sector	3,347,034	3,511,619	4.9
Nonfinancial corporations	1,733,239	1,876,650	8.3
General government	1,274,845	1,287,425	1.0
Households (incl. individual proprietorships)	309,793	317,468	2.5
Private nonprofit institutions serving households	29,157	30,075	3.1
Overseas	949,833	969,866	2.1

Source: Bank of Japan.

5. Stock Market

Stock prices in Japan rose sharply in the second half of the 1980s, spearheading the bubble economy. However, it started to fall in 1990 ahead of land prices. At the end of 1989, the total market capitalization in the Tokyo Stock Exchange First Section was 591 trillion yen, but only 3 years later, it had dropped by more than 50 percent to 281 trillion yen. Even after recovering to 442 trillion yen at the end of 1999, the stock market repeatedly fell and rose afterwards. The September 2008 Lehman Brothers Bankruptcy led to a fall in total market capitalization, which amounted to 251 trillion yen at the end of 2011. Since 2012, it has turned upward due to the effects of various measures including a comprehensive economic policy package called "Abenomics".

Figure 4.8
Stock Price Index and Market Capitalization
(Tokyo Stock Exchange First Section, end of year)



1) A free-float adjusted market capitalization-weighted index that is calculated based on all the domestic common stocks listed on the Tokyo Stock Exchange First Section. It shows the measure of current market capitalization assuming that market capitalization as of the base date (January 4 ,1968) is 100 points.
Source: Tokyo Stock Exchange, Inc.

In 2012, the high yen in Japanese economy was corrected due to

expectations toward anti-deflationary economic and fiscal policies by the new government, and share prices soared. In April 2013, changes in policies of the Bank of Japan were regarded as affecting stocks and markets, and the Nikkei Stock Average at the end of 2013 was 16,291.31 yen, representing an increase of 56.7 percent as compared to that of the end of 2012 (10,395.18 yen) and the first significant gain in 8 years. Afterwards, the Nikkei Stock Average in April 2015 recovered to the 20,000 yen level for the first time in 15 years. The final value at the end of 2018 closed at 20,014.77 yen, down 2,750 yen, or 12.1 percent for the year, the first decline in 7 years.

Table 4.8
Stock Prices (Tokyo Stock Exchange First Section)

Year		Number of listed companies [1)]	Market capitalization [1)] (million yen)	Total trading value (million yen)	TOPIX [1) 2)] Tokyo stock price index, average	Nikkei Stock Average (225 issues) [1)] (yen)
2000		1,447	352,784,685	242,632,346	1,283.67	13,785.69
2001		1,491	290,668,537	199,844,292	1,032.14	10,542.62
2002		1,495	242,939,136	190,869,955	843.29	8,578.95
2003		1,533	309,290,031	237,905,753	1,043.69	10,676.64
2004		1,595	353,558,256	323,918,214	1,149.63	11,488.76
2005		1,667	522,068,129	459,136,406	1,649.76	16,111.43
2006		1,715	538,629,548	644,308,788	1,681.07	17,225.83
2007		1,727	475,629,039	735,333,528	1,475.68	15,307.78
2008		1,715	278,988,813	568,538,950	859.24	8,859.56
2009		1,684	302,712,168	368,679,737	907.59	10,546.44
2010		1,670	305,693,030	354,598,763	898.80	10,228.92
2011		1,672	251,395,748	341,587,524	728.61	8,455.35
2012		1,695	296,442,945	306,702,280	859.80	10,395.18
2013		1,774	458,484,253	640,193,836	1,302.29	16,291.31
2014		1,858	505,897,342	576,525,070	1,407.51	17,450.77
2015		1,934	571,832,889	696,509,496	1,547.30	19,033.71
2016		2,002	560,246,997	643,205,780	1,518.61	19,114.37
2017		2,062	674,199,186	683,218,254	1,817.56	22,764.94
2018		2,128	562,121,332	740,746,041	1,494.09	20,014.77
2019	Jan.	2,127	590,362,141	49,380,140	1,567.49	20,773.49
	Feb.	2,129	606,781,070	50,076,799	1,607.66	21,385.16
	Mar.	2,138	598,616,010	53,678,015	1,591.64	21,205.81
	Apr.	2,139	608,944,208	49,804,461	1,617.93	22,258.73

1) End of year or month. 2) A free-float adjusted market capitalization-weighted index that is calculated based on all the domestic common stocks listed on the Tokyo Stock Exchange First Section. It shows the measure of current market capitalization assuming that market capitalization as of the base date (January 4 ,1968) is 100 points.
Source: Tokyo Stock Exchange, Inc.; Nikkei Inc.

At the end of March 2018, the total number of individual stockholders (individuals of Japanese nationality and domestic groups without corporate status) in possession of stocks listed on the Tokyo/Nagoya/Fukuoka/ Sapporo Stock Exchanges totaled 51.3 million, which exceeded 50 million for the first time. In terms of value, the ratio of stocks they possessed was 17.0 percent, recording on the other hand, the lowest. The ratio of Japanese stocks held by foreign investors (total of corporations and individuals) was 30.3 percent in terms of value, up 0.2 percentage points from the previous fiscal year.

A survey conducted by the Japan Securities Dealers Association (JSDA) showed that 28.5 percent of 263 securities firms offered Internet trading at the end of September 2018. Internet trading thus accounted for 19.3 percent of the total value of stock brokerage transactions from April to September 2018.

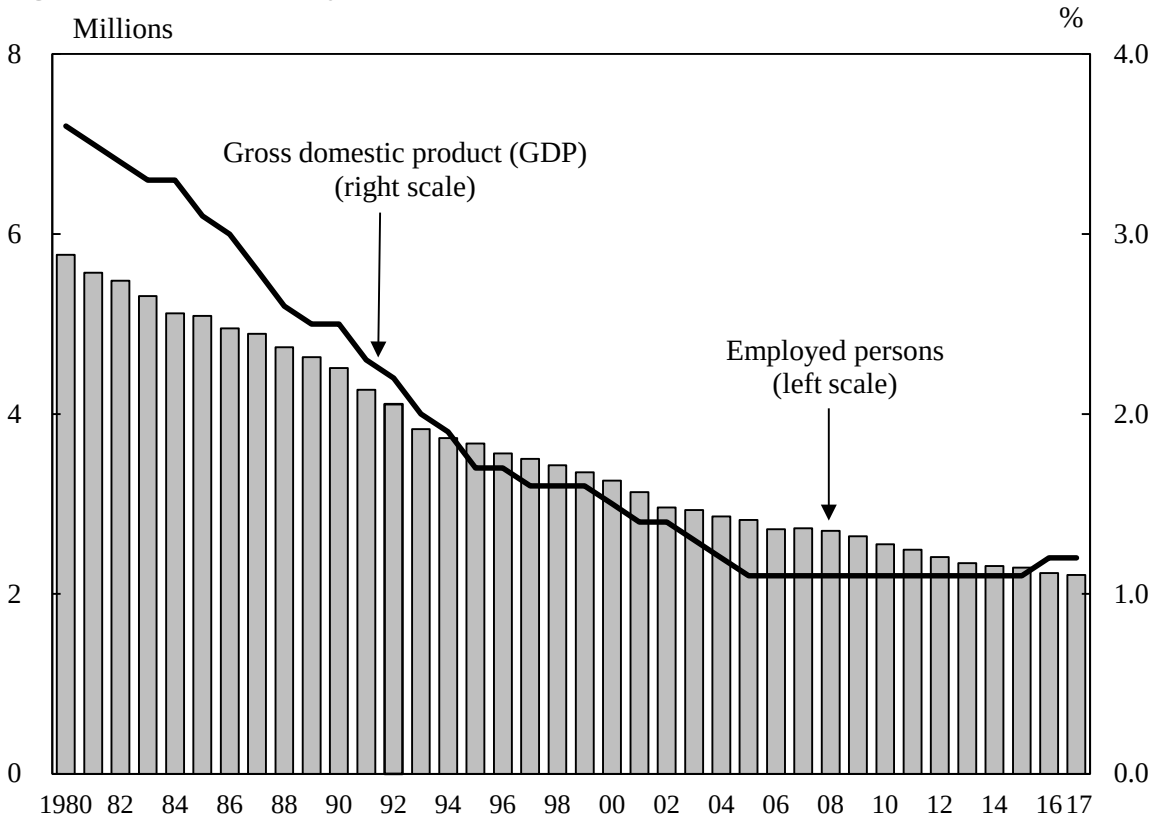
Chapter 5

Agriculture, Forestry, and Fisheries

1. Overview of Agriculture, Forestry, and Fisheries

Over the course of Japan's economic growth, its agricultural, forestry and fishing industries employ fewer and fewer workers every year, and their nominal GDP share has also dropped. The number of employed persons decreased from 5.77 million in 1980 (10.4 percent of the total employed persons) to 2.21 million in 2017 (3.4 percent), and the GDP share of the industries fell from 3.6 percent in 1980 to 1.2 percent in 2017.

Figure 5.1
Number of Employed Persons [1] **and Percentage of Gross Domestic Product** (Nominal prices) [2] **for Agriculture, Forestry, and Fisheries**



1) 1980-2001 data: The 10th revision of the Japan Standard Industrial Classification (JSIC). 2002-2017 data: The 12th and 13th revisions of JSIC. 2) 1980-1993 data: 1993 SNA, Benchmark year = 2000. 1994-2017 data: 2008 SNA, Benchmark year = 2011.
Source: Statistics Bureau, MIC; Economic and Social Research Institute, Cabinet Office.

2. Agriculture

(1) Agricultural Production

Japan's total agricultural output in 2017 was 9.27 trillion yen, up 0.8 percent from the previous year. Among this, crops yielded 5.96 trillion yen, down 0.3 percent from the previous year. Livestock yielded 3.25 trillion yen, up 2.8 percent from the previous year.

Table 5.1
Total Agricultural Output

(Billion yen)

Item	2013	2014	2015	2016	2017
Total	8,467	8,364	8,798	9,203	9,274
Crops	5,703	5,363	5,625	5,980	5,961
Rice	1,781	1,434	1,499	1,655	1,736
Vegetables	2,253	2,242	2,392	2,557	2,451
Fruits and nuts	759	763	784	833	845
Livestock and its products	2,709	2,945	3,118	3,163	3,252
Beef cattle	519	594	689	739	731
Dairy cattle	778	805	840	870	896
Pigs	575	633	621	612	649
Chickens	784	853	905	875	903

Source: Ministry of Agriculture, Forestry and Fisheries.

Table 5.2
Agricultural Harvest

(Thousand tons)

Products	2013	2014	2015	2016	2017
Cereal grains					
Rice	8,607	8,439	7,989	8,044	7,824
Wheat	812	852	1,004	791	907
Vegetables, sweet potatoes, and pulses					
Potatoes	2,408	2,456	2,406	2,199	2,395
Sweet potatoes	942	887	814	861	807
Soybeans	200	232	243	238	253
Cucumbers	574	549	550	550	560
Tomatoes	748	740	727	743	737
Cabbages	1,440	1,480	1,469	1,446	1,428
Chinese cabbages	906	914	895	889	881
Onions	1,068	1,169	1,265	1,243	1,228
Lettuces	579	578	568	586	583
Japanese radishes	1,457	1,452	1,434	1,362	1,325
Carrots	604	633	633	567	597
Fruits					
Mandarins	896	875	778	805	741
Apples	742	816	812	765	735
Grapes	190	189	181	179	176
Japanese pears	267	271	247	247	245
Industrial crops					
Crude tea [1)]	85	84	80	80	82
Sugar beets [2)]	3,435	3,567	3,925	3,189	3,901

1) Production. 2) Area of Hokkaido prefecture.
Source: Ministry of Agriculture, Forestry and Fisheries.

(2) Farmers and Farmland

In 2015, the number of farm households engaged in commercial farming (which refers to households with of cultivated land under management 0.3 hectares and over, or with annual sales of agricultural products amounting to 500,000 yen or more) was 1.33 million. Of these commercial farm households, 33.3 percent were full-time farm households, 12.4 percent were part-time farm households with farming income exceeding non-farming income, and 54.3 percent were part-time farm households with non-farming income exceeding farming income.

Of the commercial farm household members, 2.10 million people were engaged in farming as their principal occupation (commercial farmers) in 2015, 63.5 percent of whom were aged 65 years and over.

Table 5.3
Commercial Farm Households and Commercial Farmers

Year	Commercial farm households (1,000)				Commercial farmers	
	Total	Full-time	Part-time		(1,000)	Aged 65 years and over (%)
			Mainly farming	Mainly other job		
1995	2,651	428	498	1,725	4,140	43.5
2000	2,337	426	350	1,561	3,891	52.9
2005	1,963	443	308	1,212	3,353	58.2
2010	1,631	451	225	955	2,606	61.6
2015	1,330	443	165	722	2,097	63.5

Source: Ministry of Agriculture, Forestry and Fisheries.

In 2017, the total income per commercial farm household was 5.26 million yen, up 0.9 percent from the previous year. Of that amount, 1.91 million yen was agricultural income, 1.42 million yen was non-agricultural income, and 1.92 million yen was pension benefits, etc.

Japan's cultivated acreage shrank year after year from 6.09 million hectares in 1961 to 4.42 million hectares in 2018. After 1989, the cultivated acreage has continued to decrease due to diversion into residential land, ruined land continuously resulting from devastated land, etc.

3. Forestry

As of 2017, Japan's forest land area is 25.05 million hectares (approximately 70 percent of the entire surface area of the country). Among Japan's forests, natural forests account for 13.48 million hectares, while planted forests, most of which are conifer plantations, make up 10.20 million hectares.

Japan's forest growing stock is 5,242 million cubic meters as of 2017, 3,308 million cubic meters of which are from planted forests. The stock rose mainly with the increase of that from planted forests on deforested sites right after World War II and during the period of rapid economic growth. Such forests are in a period of full-scale use as resources. From the perspectives of effective use of forest resources, proper development of preservation and multi-faced functions of forests, and promotion of the forestry industry and of mountainous areas, the use of domestic timber in housing, public buildings, etc., and their energy use and further promotion as biomass are being sought after.

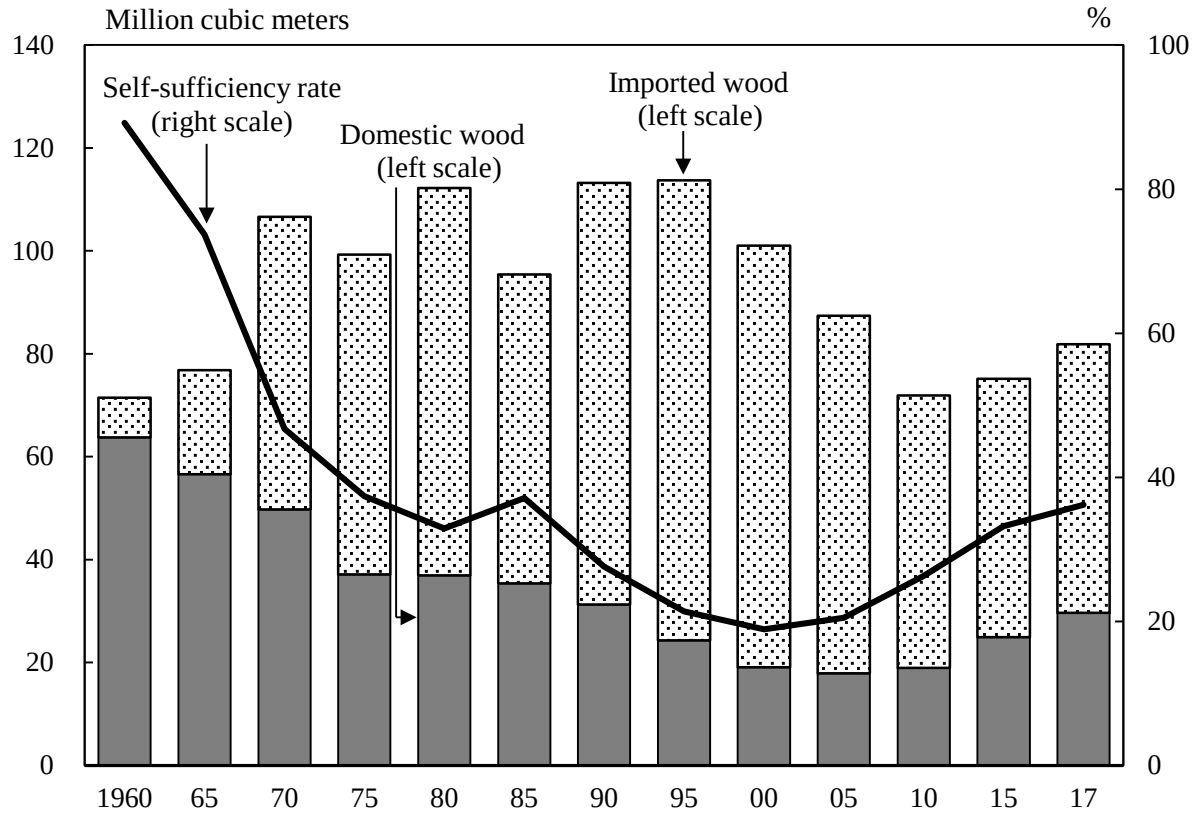
Table 5.4
Forest Land Area and Forest Resources (2017)

Item	Total	National forest	Non-national forest		
			Public	Private	Others
Forest land area (1,000 ha)	25,048	7,659	2,995	14,347	48
Forest growing stock (million m^3) ..	5,242	1,226	616	3,394	6
Planted forest					
Land area (1,000 ha)	10,204	2,288	1,334	6,569	13
Growing stock (million m^3)	3,308	513	397	2,396	3
Natural forest					
Land area (1,000 ha)	13,481	4,733	1,531	7,188	28
Growing stock (million m^3)	1,932	712	218	999	3

Source: Ministry of Agriculture, Forestry and Fisheries.

After reaching a low of 16.9 million cubic meters in 2002, domestic wood supply is on a rising trend, against the background of an enrichment of forest resources, increase in the use of domestic timber such as Japanese cedar for plywood material, increase in use of domestic timber in wood biomass power generation facilities, etc.

Figure 5.2
Wood Supply and Self-Sufficiency Rate [1)]



1) Wood supply refers to the sum of wood for industrial use, fuel wood and wood for mushroom production converted into a log equivalent.
Source: Ministry of Agriculture, Forestry and Fisheries.

Although the number of workers engaged in forestry is declining due to a slowdown in domestic lumber production activities, the pace of decline has slackened in recent years. In 2015, there were 63,663 workers engaged in forestry, approximately one out of five workers was aged 65 and over, highlighting the aging of the labour force.

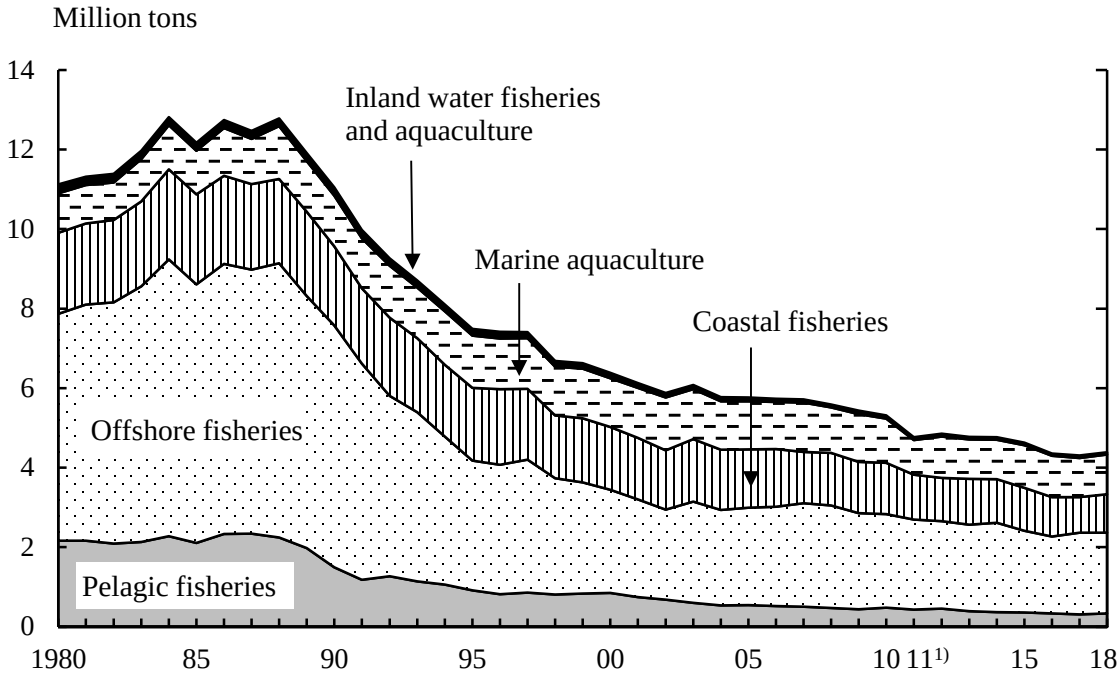
4. Fisheries

(1) Fishery Production

Japan is an island country that is located among the world's largest fishing grounds, and is blessed with clear streams and lakes. Under such conditions, the fishing industry in Japan has been developing since ancient times, resulting in a food culture that is based on marine products. However, in recent years, the consumption of seafood has decreased due to changes in the environment surrounding food in Japan.

After peaking in 1984, Japan's fishery output decreased rapidly until around 1995, and has continued to decrease gradually afterwards. Its 2018 fishery production totaled 4.39 million tons.

Figure 5.3
Production by Type of Fishery



1) Excluding figures lost in Iwate, Miyagi and Fukushima prefectures because of the Great East Japan Earthquake.
Source: Ministry of Agriculture, Forestry and Fisheries.

Table 5.5
Production by Fishery Type and Major Kinds of Fish

(Thousand tons)

Fishery type and species	2014	2015	2016	2017	2018*
Total	4,765	4,631	4,359	4,306	4,389
Marine fishery	3,713	3,492	3,264	3,258	3,330
Tunas	190	190	168	169	159
Skipjack, Frigate mackerel	266	264	240	227	252
Sardine	196	311	378	500	522
Mackerels	482	530	503	518	537
Shellfishes	420	292	266	284	350
Crabs	30	29	28	26	24
Squids	210	167	110	103	81
Marine aquaculture	988	1,069	1,033	986	1,003
Yellowtails	135	140	141	139	139
Oysters	184	164	159	174	176
Laver ("nori")	276	297	301	304	284
Seaweed ("wakame")	45	49	48	51	50
Pearl (tons)	20	20	20	20	21
Inland water fishery	31	33	28	25	27
Salmons, trouts	11	13	8	6	8
Sweet fish	2	2	2	2	2
Shellfishes	12	13	12	13	13
Inland water aquaculture	34	36	35	37	30
Eel	18	20	19	21	15
Trouts	8	8	8	8	7
Sweet fish	5	5	5	5	4

Source: Ministry of Agriculture, Forestry and Fisheries.

(2) Fishery Workers

The number of workers in the marine fishery/aquaculture industry (those who engage in work at sea for 30 days or more yearly) has been decreasing constantly. In 2017, the number of such workers was 153,490 workers, down 4.1 percent, and decreased in every age group from the previous year.

Table 5.6
Enterprises and Workers Engaged in the Marine Fishery/ Aquaculture Industry

Year	Enterprises			Workers		
	Total	Individual households	Corporate entities	Total	Self-employed	Hired
2005	126,020	118,930	7,090	222,170	…	…
2010	103,740	98,300	5,440	202,880	128,270	74,610
2015	85,210	80,570	4,640	166,610	100,520	66,100
2016	81,880	77,370	4,500	160,020	95,740	64,280
2017	78,890	74,470	4,420	153,490	91,950	61,530

Source: Ministry of Agriculture, Forestry and Fisheries.

While the aging of workers and fishing vessels progresses fisheries have been gaining attention as a place for employment, based on the diversification of values regarding work and life, and support is being provided for new fishery workers.

5. Self-Sufficiency in Food

With regard to Japan's food self-sufficiency ratio on a calorie supply basis, although there is a downward trend over the long term, it has been fluctuating at a level of around 40 percent since fiscal 1996. Whereas the ratio was 53 percent in fiscal 1980, it was 38 percent in fiscal 2017. The major reason behind the decrease in the food self-sufficiency ratio is that despite a decline in consumption of rice, of which self-sufficiency within Japan is possible as a result of diversification of the Japanese dietary life, there was an increase in consumption of livestock products and oils and fats, for which overseas dependence for feed and raw materials is inevitable.

In fiscal 2017, the self-sufficiency ratio per item (on weight basis) was 100 percent for rice, 14 percent for wheat, 8 percent for beans, 79 percent for vegetables, 39 percent for fruits, 52 percent for meat, and 55 percent for seafood. While completely self-sufficient in rice, the staple food of its people, Japan relied almost entirely on imports for the supply of wheat and beans.

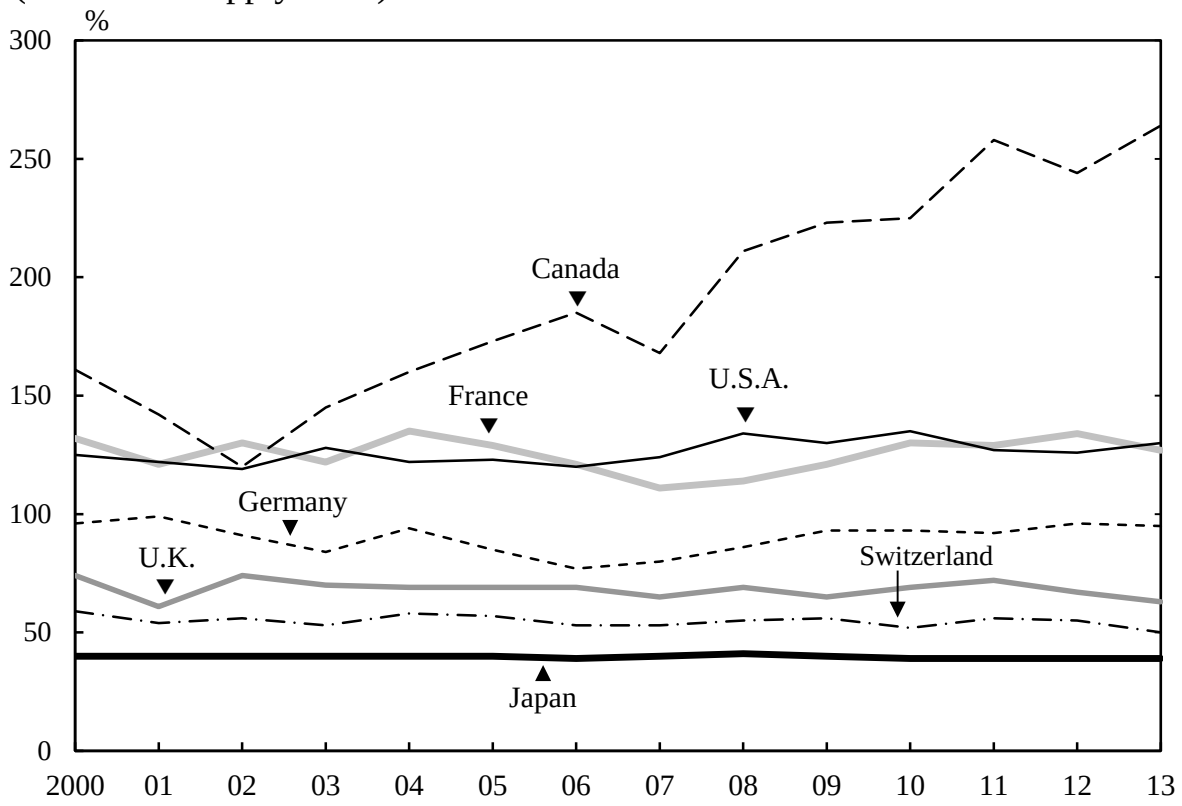
Table 5.7
Domestic Production, Supplies for Domestic Consumption, Food Self-Sufficiency Ratio, and Imports

Fiscal year	Domestic production (1,000 t)	Supplies for domestic consumption (1,000 t)	Food self-sufficiency Ratio (%)	Imports (1,000 t)
Rice				
2000	9,490	9,790	100	879
2005	8,998	9,222	100	978
2010	8,554	9,018	100	831
2015	8,429	8,600	100	834
2017*	8,324	8,614	100	888
Wheat				
2000	688	6,311	11	5,688
2005	875	6,213	14	5,292
2010	571	6,384	9	5,473
2015	1,004	6,583	15	5,660
2017*	907	6,577	14	5,939
Beans				
2000	366	5,425	7	5,165
2005	352	4,790	7	4,482
2010	317	4,035	8	3,748
2015	346	3,789	9	3,511
2017*	339	3,999	8	3,508
Vegetables				
2000	13,704	16,826	81	3,124
2005	12,492	15,849	79	3,367
2010	11,730	14,508	81	2,783
2015	11,856	14,776	80	2,941
2017*	11,707	14,813	79	3,127
Fruits				
2000	3,847	8,691	44	4,843
2005	3,703	9,036	41	5,437
2010	2,960	7,719	38	4,756
2015	2,969	7,263	41	4,351
2017*	2,792	7,075	39	4,339
Meat				
2000	2,982	5,683	52	2,755
2005	3,045	5,649	54	2,703
2010	3,215	5,769	56	2,588
2015	3,268	6,035	54	2,769
2017*	3,325	6,412	52	3,127
Seafood				
2000	5,736	10,812	53	5,883
2005	5,152	10,201	57	5,782
2010	4,782	8,701	62	4,841
2015	4,194	7,663	59	4,263
2017*	3,828	7,374	55	4,086

Source: Ministry of Agriculture, Forestry and Fisheries.

Japan's present food self-sufficiency ratio is the lowest among major industrialized countries, and Japan is thus the world's leading net importer of agricultural products.

Figure 5.4
Trends in Food Self-Sufficiency Ratio of Major Countries [1)]
(On calorie supply basis)



1) Estimates except for Japan.
Source: Ministry of Agriculture, Forestry and Fisheries.

Chapter 6

Manufacturing and Construction

1. Overview of the Manufacturing Sector

The proportion of added value produced in Japan's manufacturing sector to its nominal GDP has been around 20 percent recently, and the sector has a large ripple effect on other sectors.

In Japan, the September 2008 Lehman Brothers Bankruptcy led to a sharp drop in worldwide demand for the mainstays of Japan's manufacturing industries, namely, consumer durables such as automobiles and capital goods such as machine tools. Additionally, in 2011, the Great East Japan Earthquake, the historically high yen, and the slowing global economy contributed to sluggish domestic production. Against such background, the Japanese government announced an economic policy ("Abenomics") in January 2013, resulting in the Japanese economy shifting to a recovery. Afterwards, in April 2014, there were impacts caused by a response to last-minute demand associated with the increase in consumption tax. However, the economy has continued a gradual upward momentum, and improvements in earnings can also be seen in enterprises in the manufacturing industry, which are also linked to an expansion in employment and rise in wages, leading to the start of a "virtuous economic cycle". At the same time, however, issues such as the worsening of a labour shortage have also become apparent.

In 2017, there were 191,339 establishments (with 4 or more persons engaged) in the manufacturing sector. By industry, "fabricated metal products" had the most, with 25,579 establishments (component ratio of 13.4 percent), followed by "food" with 25,466 establishments (13.3 percent) and "production machinery" with 18,535 establishments (9.7 percent).

In 2017, there were 7.57 million persons engaged, and by industry, "food" had the most, with 1.13 million persons engaged (component ratio of 14.9 percent), followed by "transportation equipment" with 1.06 million persons engaged (14.0 percent) and "fabricated metal products" with 0.59 million persons engaged (7.8 percent).

The value of manufactured goods shipments in 2016 was 302.2 trillion yen, and by industry, "transportation equipment" had the most at 65.1 trillion yen (component ratio of 21.6 percent), followed by "food" at 28.4 trillion yen (9.4 percent) and "chemical and related products" at 27.2 trillion yen (9.0 percent).

Table 6.1
Establishments, Persons Engaged, and Value of Manufactured Goods Shipments of the Manufacturing Industry [1)]

Industries	Number of establish-ments (2017)	Number of persons engaged (2017)	Value of manu-factured goods shipments (2016) (billion yen)
Manufacturing	191,339	7,571,369	302,185
Food	25,466	1,130,444	28,426
Beverages, tobacco and feed	3,996	101,827	9,774
Textile products	12,171	258,823	3,815
Lumber and wood products [2)]	5,129	90,947	2,656
Furniture and fixtures	5,092	95,934	1,965
Pulp, paper and paper products	5,609	186,139	7,273
Printing and allied industries	10,589	260,164	5,107
Chemical and allied products	4,599	358,027	27,250
Petroleum and coal products	912	25,515	11,580
Plastic products [3)]	12,349	425,035	11,764
Rubber products	2,384	111,825	3,113
Leather tanning, leather products and fur skins	1,271	21,242	346
Ceramic, stone and clay products	9,514	236,031	7,137
Iron and steel	4,066	215,684	15,669
Non-ferrous metals and products	2,514	137,363	8,889
Fabricated metal products	25,579	591,865	14,399
General-purpose machinery	6,767	319,153	11,125
Production machinery	18,535	587,805	18,107
Business oriented machinery	3,950	207,537	7,130
Electronic parts, devices and electronic circuits	4,003	395,551	14,532
Electrical machinery, equipment and supplies	8,507	477,529	16,388
Information and communication electronics equipment	1,300	128,715	6,755
Transportation equipment	9,991	1,057,212	65,141
Miscellaneous manufacturing industries	7,046	151,002	3,844

1) Establishments with 4 or more persons engaged. 2) Excluding furniture.
3) Excluding plastic furniture, plastic plate making for printing, etc., which are included in other industrial classification.
Source: Ministry of Economy, Trade and Industry.

With regard to the Indices on Mining and Manufacturing (2015 average=100), the production index for 2018 was 104.2, up 1.1 percent from the previous year, while shipments stood at 103.0, an increase of 0.8 percent from the year before.

Table 6.2

Indices on Mining and Manufacturing (2018)

(2015 average =100)

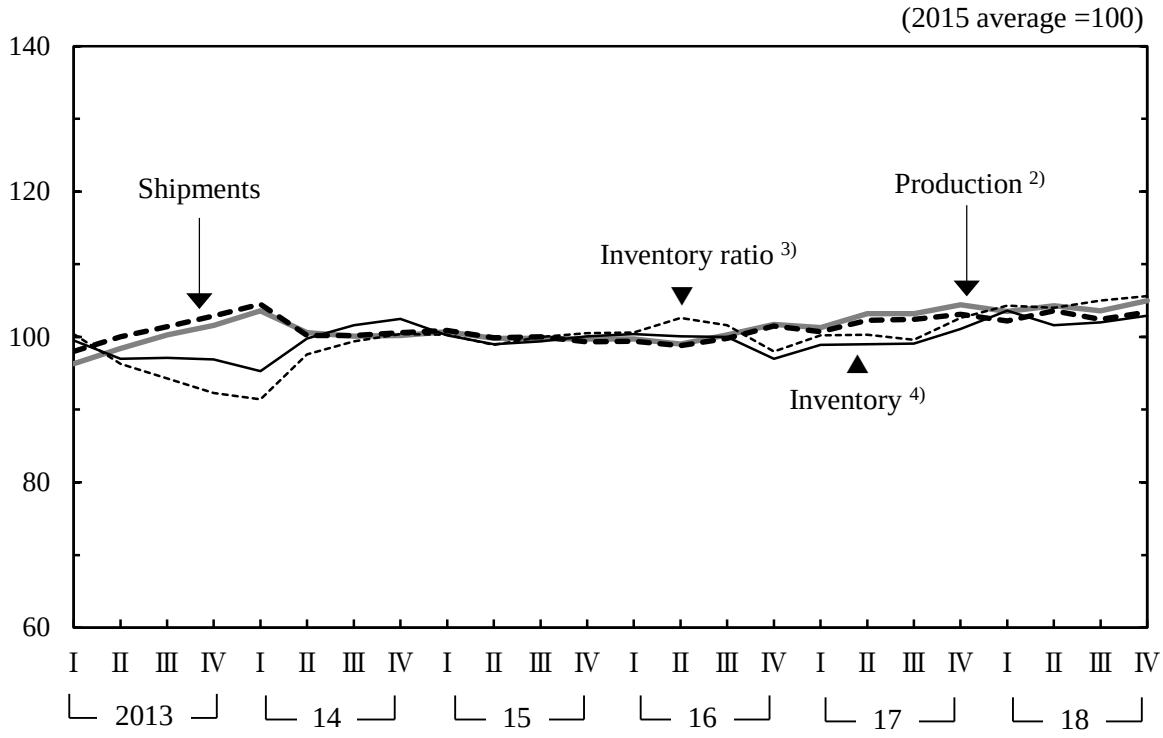
Industries	Production [1]		Shipments		Inventory [2]		Inventory Ratio [3]	
		Annual growth (%)		Annual growth (%)		Annual growth (%)		Annual growth (%)
Mining and manufacturing	104.2	1.1	103.0	0.8	100.5	1.7	104.6	4.0
Manufacturing	104.2	1.1	103.0	0.8	100.5	1.8	104.6	4.1
Iron, steel and non-ferrous metals	103.0	0.7	103.3	0.9	101.3	2.3	101.8	2.5
Iron and steel	102.0	0.2	102.4	0.6	101.4	1.0	103.7	2.8
Fabricated metals	99.6	0.5	99.8	0.1	96.0	3.9	101.5	0.7
Production machinery	116.3	5.1	117.2	4.7	83.8	-4.8	86.4	-12.5
General-purpose and business oriented machinery	108.1	6.4	107.2	5.7	107.2	14.7	96.4	1.2
General-purpose machinery	109.2	6.7	109.7	6.9	110.4	15.1	92.7	2.3
Electronic parts and devices	106.8	2.6	99.7	0.4	75.0	24.0	85.2	35.2
Electrical machinery, and information and communication electronics equipment	102.3	0.8	102.1	1.2	106.9	-3.6	121.5	3.4
Electrical machinery	107.6	1.3	106.3	1.4	104.2	-9.4	123.7	1.5
Transport equipment	105.6	0.4	107.0	1.9	84.3	-10.8	87.9	-2.9
Ceramics, stone and clay products	102.2	0.3	102.4	0.4	99.1	2.4	100.0	4.3
Chemicals	107.2	0.9	104.3	-0.3	114.3	11.9	103.4	7.7
Petroleum and coal products	93.5	-4.9	93.1	-3.8	98.4	10.9	101.8	3.1
Plastic products	105.7	1.3	106.1	1.7	104.6	2.4	101.7	3.0
Pulp, paper and paper products	100.3	-1.9	99.6	-1.3	91.8	-10.3	103.9	-1.3
Foods and tobacco	99.4	-0.8	98.5	-0.7	107.6	-15.1	150.3	8.2
Other manufacturing	96.3	-1.1	96.1	-1.5	102.7	4.8	102.5	4.5
Mining	97.7	-6.0	101.7	-0.8	101.1	-7.8	105.5	-3.0
(Reference) Electricity, gas, heat supply and water	101.3	0.7	101.5	0.7	-	-	-	-

1) Value added weights. 2) End of the year.

3) Inventory ratio = Inventory quantity / Shipments quantity.

Source: Ministry of Economy, Trade and Industry.

Figure 6.1
Trends in Indices on Mining and Manufacturing [1)]



1) Seasonal adjustment indices. 2) Value added weights. 3) Inventory ratio = Inventory quantity / Shipments quantity. 4) End of the quarter.
Source: Ministry of Economy, Trade and Industry.

2. Principal Industries in the Manufacturing Sector

This section describes the major industries in the manufacturing sector. For each industry, (a) is described by the "Census of Manufacture 2017 (with 4 or more persons engaged)", and (b) is described by the "Indices on Mining and Manufacturing" (2015 average = 100).

(1) Machinery Industry

(A) Transport Equipment Industry

(a) In 2017, a total of 9,991 establishments employed 1,057,212 persons, and shipped 65.1 trillion yen worth of products in 2016.

(b) In 2018, production and shipments increased by 0.4 percent and 1.9 percent, respectively, from the previous year, representing their third consecutive year of increase. These increases (in both production and

shipments) were due to an increase in "passenger cars", "car body and automobile parts", etc.

(B) Production Machinery Industry

(a) In 2017, a total of 18,535 establishments employed 587,805 persons, and shipped 18.1 trillion yen worth of products in 2016.

(b) In 2018, production and shipments increased by 5.1 percent and 4.7 percent, respectively, from the previous year, representing their second consecutive year of increase. The increase in production was due to an increase in "semiconductor and flat-panel display manufacturing equipment", "metal forming machinery", etc. The increase in shipments was due to an increase in "semiconductor and flat-panel display manufacturing equipment", "construction and mining machinery", etc.

(C) Electrical Machinery, Equipment and Supplies Industry

(a) In 2017, a total of 8,507 establishments employed 477,529 persons, and shipped 16.4 trillion yen worth of products in 2016.

(b) In 2018, production and shipments increased by 1.3 percent and 1.4 percent, respectively, from the previous year, representing their third consecutive year of increase. The increase in production was due to an increase in "electrical rotating machinery", "air conditioning and housing related equipment", etc. The increase in shipments was due to an increase in "electrical rotating machinery", "batteries", etc.

(D) Electronic Parts and Devices Industry

(a) In 2017, a total of 4,003 establishments employed 395,551 persons, and shipped 14.5 trillion yen worth of products in 2016.

(b) In 2018, production and shipments increased by 2.6 percent and 0.4 percent, respectively, from the previous year, representing their second consecutive year of increase. These increases (in both production and shipments) were due to an increase in "integrated circuits", "electronic parts", etc.

(E) General-purpose machinery Industry

(a) In 2017, a total of 6,767 establishments employed 319,153 persons, and shipped 11.1 trillion yen worth of products in 2016.

(b) In 2018, production and shipments increased by 6.7 percent and 6.9 percent, respectively, from the previous year, representing their second consecutive year of increase. These increases (in both production and shipments) were due to an increase in "parts of general-purpose machinery", "pumps and compressors", etc.

(2) Chemical Industry

(a) In 2017, a total of 4,599 establishments employed 358,027 persons, and shipped 27.2 trillion yen worth of products in 2016.

(b) In 2018, production increased by 0.9 percent and shipments decreased by 0.3 percent from the previous year. This marked the third consecutive year of increase in production, and the first decrease in three years in shipments. The increase in production was due to an increase in "cosmetics" and "detergents and surfactants". The decrease in shipments was due to a decrease in "plastic", "petrochemical base products", etc.

(3) Iron and Steel Industry

(a) In 2017, a total of 4,066 establishments employed 215,684 persons, and shipped 15.7 trillion yen worth of products in 2016.

(b) In 2018, production and shipments increased by 0.2 percent and 0.6 percent, respectively, from the previous year, representing their second consecutive year of increase. The increase in production was due to an increase in "hot rolled steel", "steel castings and forgings", etc. The increase in shipments was due to an increase in "hot rolled steel", "cold finished steel", etc.

Table 6.3
Steel Production

(Thousand tons)

Products	2014	2015	2016	2017	2018
Pig iron	83,872	81,011	80,186	78,330	77,328
Ferro-alloys	923	937	885	849	869
Crude steel	110,666	105,134	104,775	104,661	104,319
Semi-finished steel	107,856	102,858	102,574	102,362	102,054
Ordinary hot-rolled steel	76,968	74,133	73,187	72,097	71,645
Special hot-rolled steel	20,914	18,887	19,449	20,344	20,794

Source: Ministry of Economy, Trade and Industry.

(4) Fabricated Metal Products Industry

(a) In 2017, a total of 25,579 establishments employed 591,865 persons, and shipped 14.4 trillion yen worth of products in 2016.

(b) In 2018, production and shipments increased by 0.5 percent and 0.1 percent, respectively, from the previous year, representing their second consecutive year of increase. The increase in production was due to an increase in "sintered products", "fabricated structural metal products", etc. The increase in shipments was due to an increase in "metal products of building", "fabricated structural metal products", etc.

3. Construction

The construction industry is indispensable in supporting the development of social capital, and fulfills a large role in building a vibrant future for Japan, such as through urban regeneration and regional revitalization. It also plays an extremely important role as a local guardian in disaster recovery, disaster prevention/reduction, deterioration countermeasures, maintenance, etc.

Construction investments at nominal prices was on a declining trend after reaching a peak of 84 trillion yen in fiscal 1992, and fell to half of this peak (42 trillion yen) in fiscal 2010. Since then, they have been on a recovery trend due to such factors as the recovery from the Great East Japan Earthquake.

Construction investments in fiscal 2017 amounted to 56.0 trillion yen at nominal prices, up 4.6 percent compared to the previous fiscal year; they totaled 52.0 trillion yen at constant fiscal 2011 prices, up 2.5 percent from the previous fiscal year.

A breakdown of construction investment shows that building construction totaled 30.4 trillion yen (up 4.8 percent from the previous fiscal year), while civil engineering works amounted to 25.6 trillion yen (up 4.3 percent).

In terms of public and private construction investment in fiscal 2017, public investment amounted to 23.0 trillion yen (up 2.9 percent from the previous fiscal year), while private investment totaled 33.0 trillion yen (up 5.7 percent). Public investment accounted for 41.1 percent of total construction investment, while private investment accounted for 58.9 percent.

Table 6.4
Construction Investment (Nominal prices)

(Billion yen)

Item	FY2014	FY2015	FY2016*	FY2017*
Total	51,141	50,983	53,570	56,020
Building construction	26,475	27,335	28,980	30,380
Dwellings	14,833	15,486	16,400	16,570
Public sector	712	742	720	580
Private sector	14,121	14,744	15,680	15,990
Non-dwellings	11,643	11,849	12,580	13,810
Public sector	2,332	1,844	2,100	2,190
Private sector	9,311	10,005	10,480	11,620
Mining and manufacturing	1,578	1,915	…	…
Others	7,733	8,090	…	…
Civil engineering works	24,666	23,648	24,590	25,640
Public sector	19,819	18,689	19,560	20,270
Public works	17,186	16,168	16,940	17,460
Others	2,632	2,522	2,620	2,810
Private sector	4,847	4,959	5,030	5,370
Total				
Public investment	22,862	21,275	22,380	23,040
Private investment	28,279	29,708	31,190	32,980
Building construction				
Public investment	3,043	2,586	2,820	2,770
Private investment	23,432	24,749	26,160	27,610
Civil engineering works				
Public investment	19,819	18,689	19,560	20,270
Private investment	4,847	4,959	5,030	5,370

Source: Ministry of Land, Infrastructure, Transport and Tourism.

The number of new construction starts of dwellings (in the case of apartment buildings, the number of apartment units was counted) in 2018 was 0.94 million housing units (down 2.3 percent from the previous year), representing a decrease for the second consecutive year. When compared according to owner-occupant relations, the number of housing units built for sale increased; however, this was because the number of owned housing units and the number of housing units for rent decreased.

The floor space (public and private) of the entire building whose construction started in 2018 was 131.15 million square meters, down 2.6 percent compared to the previous year.

Table 6.5
Building Construction Started by Types of Investor, Dwellings and Industries, and Structure

Types	Floor space (1,000 m^2)		Construction cost (billion yen)	
	2017	2018	2017	2018
Total	134,679	131,149	27,698	26,718
Investor				
Public	7,038	6,253	2,237	1,916
Private	127,641	124,896	25,462	24,801
Dwellings and Industries				
Dwelling	81,711	78,718	16,005	15,265
Non-dwelling	52,968	52,432	11,693	11,453
Structure				
Wooden	56,157	55,456	9,366	9,349
Non-wooden	78,522	75,693	18,332	17,369

Source: Ministry of Land, Infrastructure, Transport and Tourism.

Chapter 7

Energy

1. Supply and Demand

Japan is dependent on imports for 90.4 percent of its energy supply. Since experiencing the two oil crises of the 1970s, Japan has taken measures to promote energy conservation, introduce alternatives to petroleum such as nuclear power, natural gas, coal, etc., and secure a stable supply of petroleum through stockpiling and other measures. As a result, its dependence on petroleum declined from 75.5 percent in fiscal 1973 to 40.3 percent in fiscal 2010. However, since the Great East Japan Earthquake, the percentage of fossil fuels has been increasing, as a substitute for nuclear power as fuel for power generation. The level of dependence on petroleum, which had been on a declining trend, increased to 44.5 percent in fiscal 2012. However, it is once again on a declining trend as the switch to LNG power and renewable energy progresses.

In fiscal 2017, the domestic supply of primary energy in Japan was 20,095 petajoules, up 1.2 percent from the previous fiscal year. Its breakdown was: 39.0 percent in petroleum, 25.1 percent in coal, 23.4 percent in natural gas and city gas, 3.5 percent in hydro power, and 1.4 percent in nuclear power. Other sources were also used, including energy from waste, geothermal, and natural energy (photovoltaic, wind power, biomass energy, etc.).

Energy units

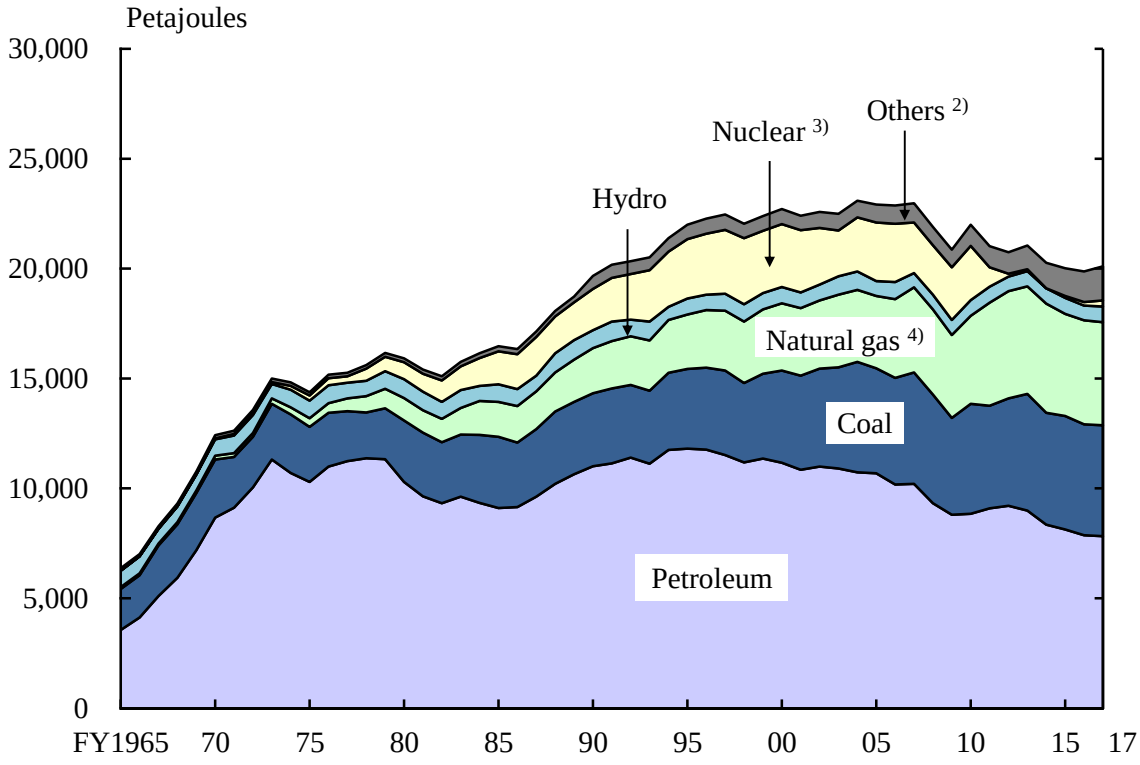
Joule (J) is employed as a common unit (International System of Units: SI) for energy across all energy sources in presenting international statistical information. The unit Petajoule (PJ: 10^{15} or quadrillion joules), etc. is used here to reduce the number of digits. The energy of one kiloliter of petroleum is calculated using the following formulae:

1 kiloliter of petroleum = 3.87×10^{10} joules
1 gigajoule = 10^{9} joules
1 petajoule = 10^{15} joules
1 exajoule = 10^{18} joules

Petroleum is traded internationally using the volume unit of barrels. One barrel equals approximately 158.987 liters.

The government has been working to construct a new energy supply-demand structure oriented toward stable supply of energy and lowering energy costs. In this process, energy-saving and renewable energy that takes global warming into consideration has been introduced, and aims are being made toward reducing dependency on nuclear power.

Figure 7.1
Domestic Supply of Primary Energy 1)



1) A different statistical method was used for the figures since FY1990. 2) Photovoltaic, wind power, geothermal energy, etc. 3) In fiscal 2014, the domestic supply of nuclear energy was zero due to the suspended operation of all nuclear power plants in Japan. 4) Natural gas and city gas.
Source: Ministry of Economy, Trade and Industry.

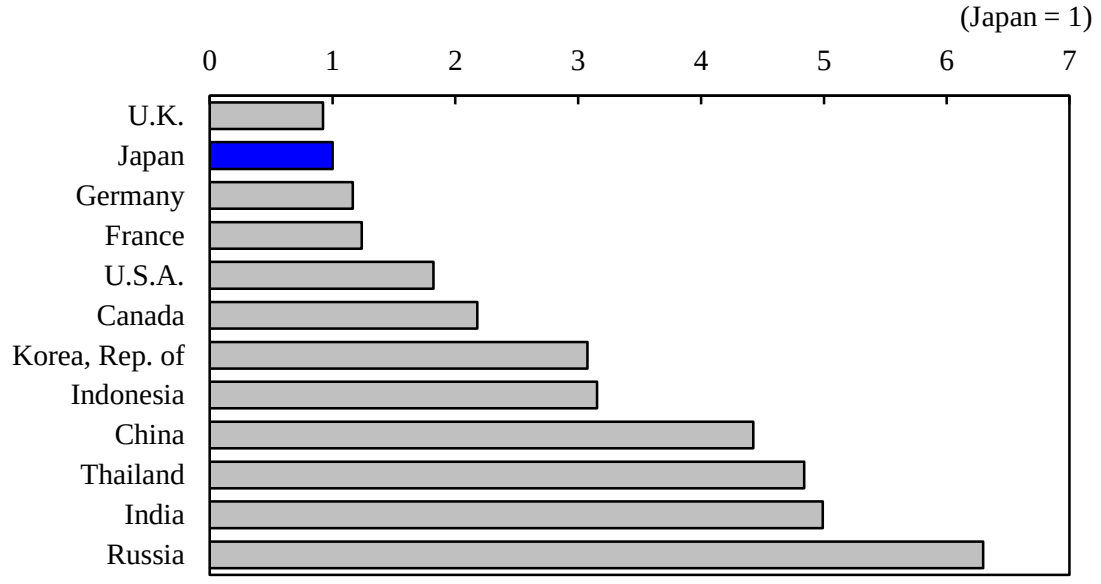
Table 7.1
Trends in Domestic Supply of Primary Energy and Percentage by Energy Source

(Petajoules)

Item	FY2005	FY2010	FY2015	FY2016	FY2017
Domestic supply of primary energy ..	22,906	21,995	20,019	19,864	20,095
Energy self-sufficiency (%) [1]	19.6	20.3	7.4	8.2	9.6
Petroleum	10,691	8,858	8,138	7,878	7,831
Coal	4,782	4,997	5,154	5,041	5,044
Natural gas and city gas	3,291	3,995	4,657	4,729	4,696
Hydro	671	716	726	676	710
Nuclear	2,660	2,462	79	154	279
Others [2]	809	967	1,266	1,386	1,534
Percentage					
Petroleum	46.7	40.3	40.6	39.7	39.0
Coal	20.9	22.7	25.7	25.4	25.1
Natural gas and city gas	14.4	18.2	23.3	23.8	23.4
Hydro	2.9	3.3	3.6	3.4	3.5
Nuclear	11.6	11.2	0.4	0.8	1.4
Others [2]	3.5	4.4	6.3	7.0	7.6

1) Domestic production of primary energy (including nuclear) / Domestic supply of primary energy × 100. 2) Photovoltaic, wind power, geothermal energy, etc.
Source: Ministry of Economy, Trade and Industry.

Figure 7.2
International Comparison of Energy/GDP Ratio [1] (2016)

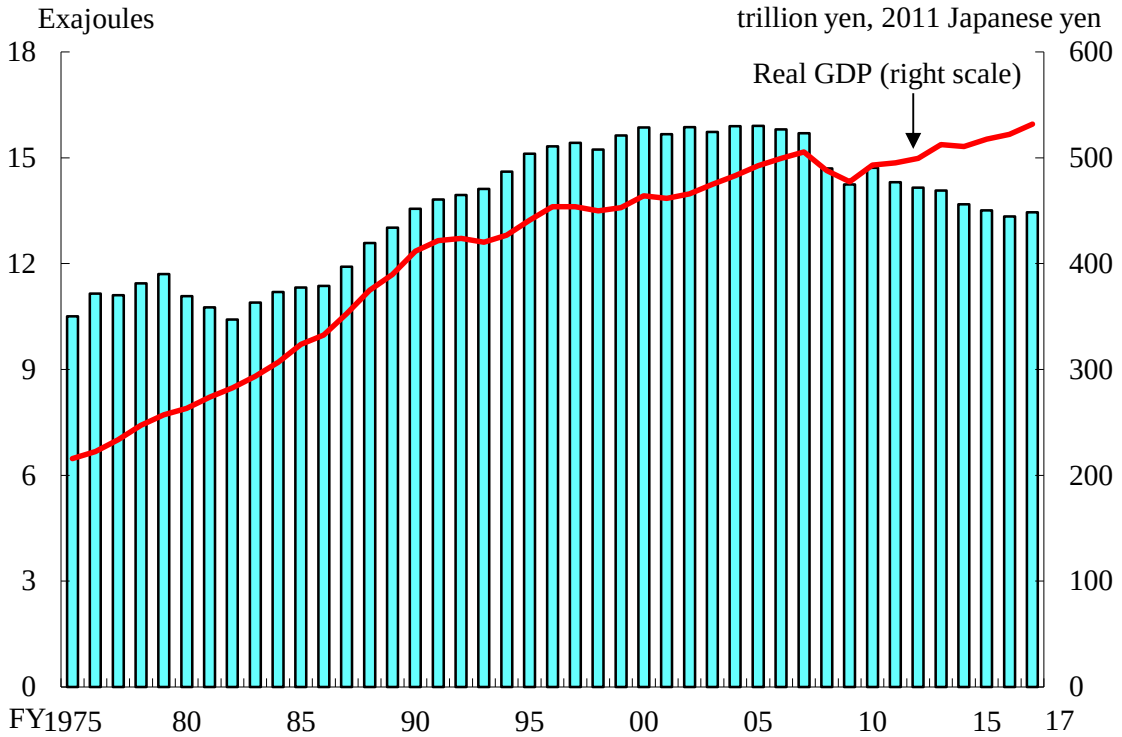


1) Primary energy consumption (tons of oil equivalent) / Real GDP (2010 U.S. dollars).
Source: Ministry of Economy, Trade and Industry.

Energy consumption per GDP is lower in Japan than in other industrialized countries. This indicates that Japan is one of the most energy-efficient countries in the world.

Energy consumption in Japan increased from the 1970s to 1990s, during which there were two oil shocks and a decrease in crude oil prices. However, in the 2000s, as crude oil prices rose again, final energy consumption peaked in fiscal 2005, and then started decreasing. In fiscal 2017, real GDP was higher than in fiscal 2016, and final energy consumption increased for the first time in 7 years.

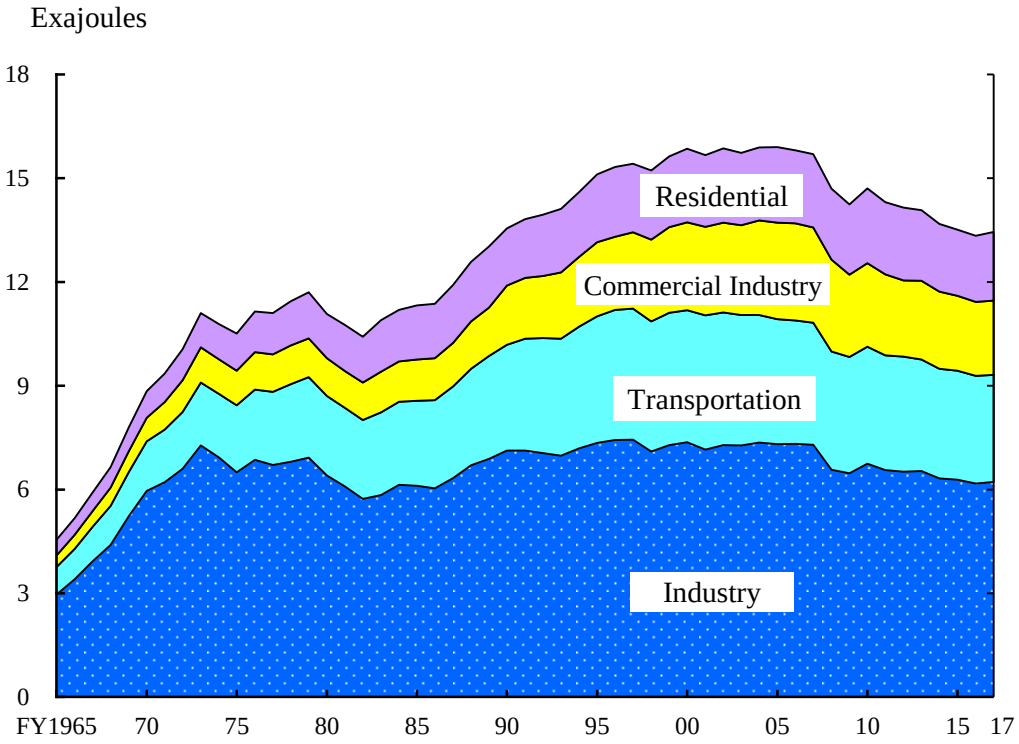
Figure 7.3
Trends in Final Energy Consumption and Real GDP 1)



1) A different statistical method was used for the figures since FY1990.
Source: Cabinet Office; Ministry of Economy, Trade and Industry.

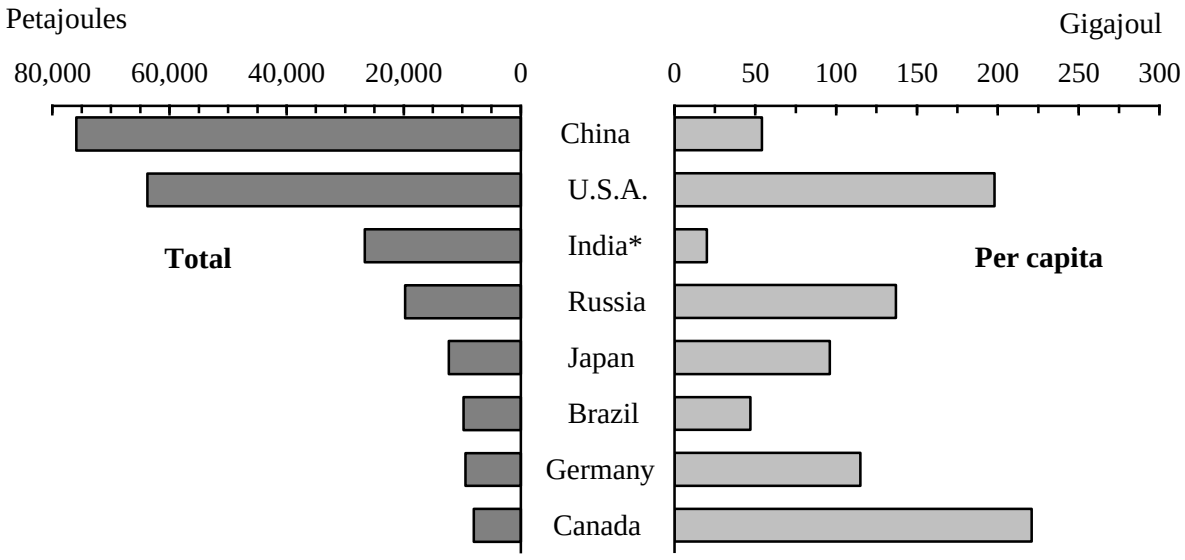
Final energy consumption in fiscal 2017 increased 0.9 percent from the previous fiscal year, and even by sector, it has increased in the industry sector, commercial industry sector, and residential sector.

Figure 7.4
Trends in Final Energy Consumption by Sector [1)]



1) A different statistical method was used for the figures since FY1990.
Source: Ministry of Economy, Trade and Industry.

Figure 7.5
Final Energy Consumption by Country (2016)



Source: United Nations.

2. Electric Power

Approximately half of Japan's primary energy supply of petroleum, coal and other energy sources is converted into electric power.

Electricity output (including in-house power generation) in Japan totaled 1,007 billion kWh in fiscal 2017, up 1.0 percent from the previous fiscal year. Of this total, thermal power accounted for 85.5 percent; hydro power, 8.9 percent; nuclear power, 3.1 percent.

Table 7.2

Trends in Electricity Output and Demand [1)]

(Million kWh)

Item	FY2005	FY2010	FY2015	FY2016	FY2017
Electricity Output					
Total	1,157,926	1,156,888	1,024,179	997,911	1,007,423
Thermal	761,841	771,306	908,779	877,016	861,518
Hydro	86,350	90,681	91,383	84,570	90,128
Nuclear	304,755	288,230	9,437	17,300	31,278
Others [2)]	4,980	6,671	14,580	19,025	24,499
Percentage					
Total	100.0	100.0	100.0	100.0	100.0
Thermal	65.8	66.7	88.7	87.9	85.5
Hydro	7.5	7.8	8.9	8.5	8.9
Nuclear	26.3	24.9	0.9	1.7	3.1
Others [2)]	0.4	0.6	1.4	1.9	2.4
Electricity Demand [3)]					
Total	1,043,800	1,056,441	955,345	971,078	977,423
Generated by electric power suppliers	918,265	931,059	841,542	899,791	914,376
Consumption of in-house generation	125,535	125,382	113,803	71,287	63,046

1) Including in-house generation. 2) Photovoltaic, wind power, geothermal energy, etc.
3) Changes were made to the categorization of Electricity Suppliers since FY2016.
Source: Ministry of Economy, Trade and Industry.

3. Gas

Gas production was 1,734 petajoules in fiscal 2017. Of this total, natural gas plus vaporized liquefied natural gas accounted for 96.7 percent; and the remaining 3.3 percent was made up of petroleum gases, such as vaporized liquefied petroleum gas and other petroleum-based gas. Gas purchases for fiscal 2017 totaled 565 petajoules.

Gas sales for fiscal 2017 totaled 1,779 petajoules. Of this total, 57.7 percent was sold to industry, 23.2 percent to residential use, and 10.3 percent to the commercial sector.

Table 7.3

Trends in Production and Purchases, and Sales of Gas [1) 2)]

(Petajoules)

Item	FY2010		FY2015		FY2016		FY2017	
Production and purchases [3)]	1,547		1,610		1,668		2,296	
Production	1,288	(100.0)	1,372	(100.0)	1,423	(100.0)	1,734	(100.0)
Petroleum gases [4)]	46	(3.6)	48	(3.5)	46	(3.2)	58	(3.3)
Natural gas and vaporized liquefied natural gas [5)]	1,241	(96.4)	1,324	(96.5)	1,377	(96.8)	1,676	(96.7)
Others	…	(…)	…	(…)	…	(…)	…	(…)
Purchases	259	(100.0)	238	(100.0)	245	(100.0)	562	(100.0)
Petroleum gases [6)]	6	(2.4)	3	(1.1)	3	(1.3)	…	(…)
Natural gas and vaporized liquefied natural gas	253	(97.6)	236	(98.9)	241	(98.6)	559	(99.4)
Others	0	(0.0)	0	(0.0)	0	(0.1)	0	(0.0)
Sales	1,477	(100.0)	1,526	(100.0)	1,578	(100.0)	1,779	(100.0)
Residential	410	(27.7)	387	(25.3)	394	(24.9)	413	(23.2)
Commercial	198	(13.4)	177	(11.6)	180	(11.4)	183	(10.3)
Industrial	738	(50.0)	842	(55.2)	877	(55.6)	1,027	(57.7)
Others	131	(8.9)	120	(7.9)	127	(8.1)	155	(8.7)

1) Figures in parentheses indicate a percentage. 2) A different statistical method was used for the figures since FY2017. 3) Since there are some concealed sources, the breakdown totals may not match the overall totals. 4) Figures up until FY2016 are a total of volatile oil gas, liquefied petroleum gas, and other petroleum-based gas. Starting FY2017, figures are a total of vaporized liquefied petroleum gas and other petroleum-based gas. 5) Figures up until FY2016 are a total of natural gas and liquefied natural gas. 6) Vaporized liquefied petroleum gas, other petroleum-based gas.

Source: Ministry of Economy, Trade and Industry.

Chapter 8

Science and Technology/

Information and Communication

1. Science and Technology

(1) Researchers and R&D Expenditures

Japan's expenses for the research and development (R&D) of science and technology are at a top level among major countries, and support the technology-based nation of Japan. Researchers in the fields of science and technology (including social sciences and humanities) as of the end of March 2018 totaled 867,000. The total R&D spending in fiscal 2017 amounted to 19.1 trillion yen, an increase of 3.4 percent from the previous fiscal year. Relative to GDP, R&D spending was 3.48 percent, which increased for the first time in 3 years.

Table 8.1

Trends in Researchers and Expenditures on R&D

Year [1]	Number of Researchers [2]	Females (%)	Fiscal year	R&D expenditures (billion yen)	GDP (billion yen)	Ratio of R&D expenditures to GDP (%)
2009	839,000	13.0	2008	18,800	509,482	3.69
2010	840,300	13.6	2009	17,246	491,957	3.51
2011	842,900	13.8	2010	17,110	499,429	3.43
2012	844,400	14.0	2011	17,379	494,043	3.52
2013	835,700	14.4	2012	17,325	494,370	3.50
2014	841,600	14.6	2013	18,134	507,255	3.57
2015	866,900	14.7	2014	18,971	518,235	3.66
2016	847,100	15.3	2015	18,939	532,983	3.55
2017	853,700	15.7	2016	18,433	536,795	3.43
2018	867,000	16.2	2017	19,050	547,409	3.48

1) As of the end of March. 2) Business enterprises, non-profit institutions and public organizations: Prorated by the percentage of time that researchers are actually engaged in R&D activities. Universities and colleges: headcount.

Source: Statistics Bureau, MIC.

As of the end of March 2018, the number of researchers amounted to 498,700 persons in business enterprises, 38,900 persons in non-profit institutions and public organizations, and 329,400 persons in universities and colleges. In terms of R&D expenditures in fiscal 2017, business enterprises spent 13.8 trillion yen (72.4 percent of total R&D expenditures), non-profit institutions and public organizations spent 1.6 trillion yen (8.4 percent), and universities and colleges spent 3.6 trillion yen (19.1 percent).

Universities and colleges spend more than 90 percent of their R&D expenditure on natural sciences and engineering for basic research and applied research, while business enterprises allocate over 70 percent for development purposes.

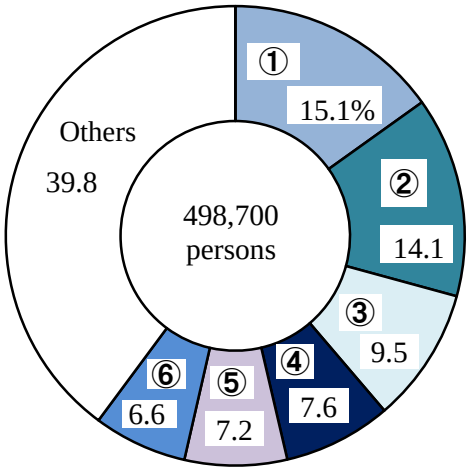
With regard to the portion in the R&D expenditures in fiscal 2017 by specific objective, 3.2 trillion yen went to the "life science" field (16.7 percent of total R&D expenditures), 2.2 trillion yen (11.8 percent) to the "information technology" field, 1.2 trillion yen (6.2 percent) to the "environmental science and technology" field and 1.1 trillion yen (5.9 percent) to the "nanotechnology and materials" field, etc.

Approximately 90 percent of the 498,700 researchers at business enterprises at the end of March 2018, or 433,200 persons, were in the manufacturing industries; the largest number was in the motor vehicles, parts and accessories industry, followed by the information and communication electronics equipment industry, then by the business oriented machinery industry.

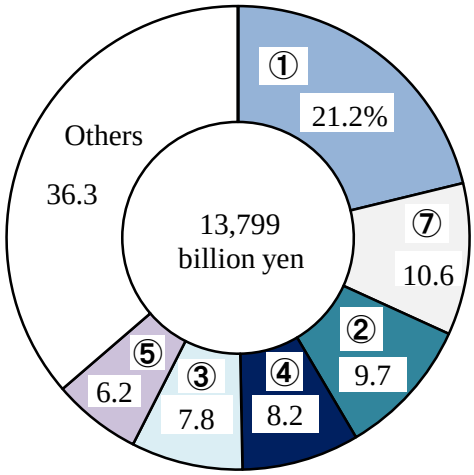
In terms of R&D expenditures in fiscal 2017, of 13.8 trillion yen spent by business enterprises, 12.0 trillion yen was spent by manufacturing industries. The motor vehicles, parts and accessories industry spent the most, followed by the medicines industry, then by the information and communication electronics equipment industry.

Figure 8.1
Researchers and Expenditures by Industry (Business enterprises)

Researchers (as of end-March 2018)



Expenditures (FY2017)



① Motor vehicles, parts and accessories ② Information and communication electronics equipment
③ Business oriented machinery ④ Electrical machinery, equipment and supplies
⑤ Chemical products ⑥ Electronic parts, devices and electronic circuits ⑦ Medicines
Source: Statistics Bureau, MIC.

(2) Technology Balance of Payments (Technology Trade)

Technology trade is defined as the export or import of technology by business enterprises with other countries, such as patents, expertise, and technical guidance. In fiscal 2017, Japan earned 3,884.4 billion yen from technology exports, which was up 8.7 percent from the previous fiscal year. This was the first increase in 2 years. Of the total receipts, 75.3 percent was from overseas parent/subsidiary companies. Meanwhile, payments to technology imports stood at 629.8 billion yen, an increase of 39.1 percent compared with the previous fiscal year. It increased for the first time in 2 years. Of this figure, 38.6 percent was for payments to overseas parent/subsidiary companies.

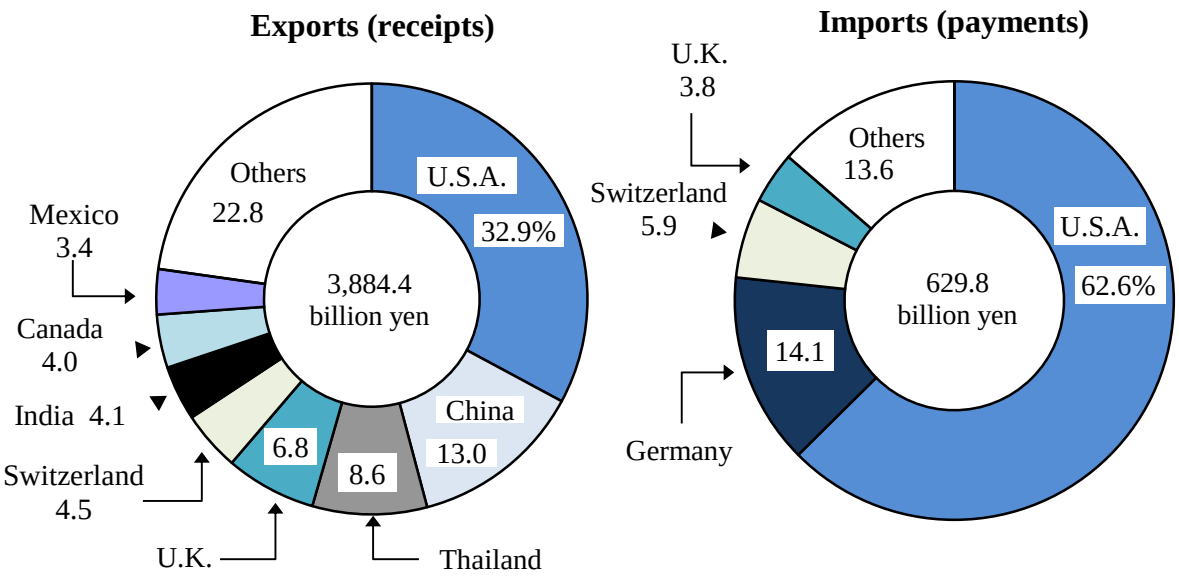
Table 8.2
Technology Trade by Business Enterprises [1)]

Fiscal year	Exports		Imports		Exports value / Imports value
	Value (billion yen)	Annual increase rate (%)	Value (billion yen)	Annual increase rate (%)	
1990	339.4	3.0	371.9	12.7	0.91
1995	562.1	21.6	391.7	5.7	1.43
2000	1,057.9	10.1	443.3	8.0	2.39
2005	2,028.3	14.6	703.7	24.0	2.88
2010	2,436.6	20.9	530.1	-0.9	4.60
2015	3,949.8	7.9	602.6	17.5	6.55
2016	3,571.9	-9.6	452.9	-24.8	7.89
2017	3,884.4	8.7	629.8	39.1	6.17

1) The survey coverage was expanded in FY1996 and FY2001.
Source: Statistics Bureau, MIC.

In fiscal 2017, Japan exported 3,884.4 billion yen of technologies; major export destinations were: the U.S.A. (1,277.9 billion yen, or 32.9 percent of total exports), followed by China (506.7 billion yen), Thailand (333.8 billion yen), and the U.K. (262.7 billion yen). On the other hand, Japan imported 629.8 billion yen of technologies, mainly from the U.S.A. (394.1 billion yen, or 62.6 percent of total imports), followed by Germany (89.0 billion yen), Switzerland (37.1 billion yen) and the U.K. (23.8 billion yen).

Figure 8.2
Composition of Technology Trade by Major Country (FY2017)



Source: Statistics Bureau, MIC.

2. Patents

The total number of patent applications remained robust in and after 1998 as more than 400,000 applications were filed every year, but a gradual drop has been seen since 2006. It fell significantly in 2009. After 2015, it has continued to be flat, with 318,479 applications (up 0.03 percent from the previous year) in 2017.

Table 8.3
Patents

(Cases)

Item	2000	2005	2010	2015	2017
Applications	436,865	427,078	344,598	318,721	318,479
Registrations	125,880	122,944	222,693	189,358	199,577
Existing vested rights	1,040,607	1,123,055	1,423,432	1,946,568	2,013,685

Source: Japan Patent Office.

Table 8.4
PCT International Applications by Country

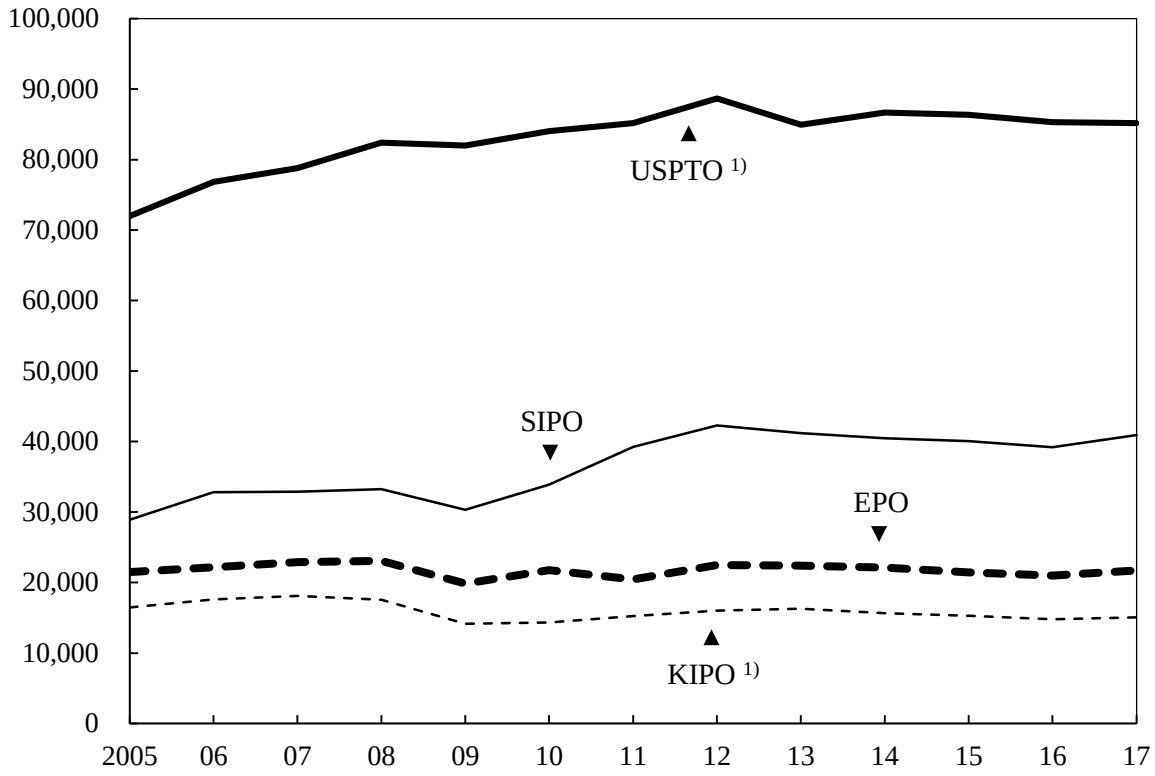
Country	2015	2016	2017*	Change from 2016 (%)
Total	217,233	232,913	243,500	4.5
U.S.A.	57,131	56,594	56,624	0.1
China	29,838	43,091	48,882	13.4
Japan	44,053	45,209	48,208	6.6
Germany	18,004	18,307	18,982	3.7
Korea, Rep. of	14,564	15,555	15,763	1.3
France	8,421	8,210	8,012	-2.4
U.K.	5,290	5,502	5,567	1.2
Switzerland	4,257	4,367	4,491	2.8
Netherlands	4,334	4,676	4,431	-5.2
Sweden	3,843	3,720	3,981	7.0

Source: World Intellectual Property Organization.

Over 150 countries, including Japan, have joined the international patent system of the World Intellectual Property Organization (WIPO) as of August 2018. In 2017, the number of international patent applications filed under the Patent Cooperation Treaty (PCT) was 243,500, of which 48,208 were from Japan, accounting for 19.8 percent.

The United States Patent and Trademark Office ranked first among major patent offices for applications filed by Japanese applicants in 2017, with 85,180 applications. The number of patent applications filed by Japanese applicants at the State Intellectual Property Office of the People's Republic of China was 40,908.

Figure 8.3
Changes in Patent Applications with Major Offices by Japanese Applicants



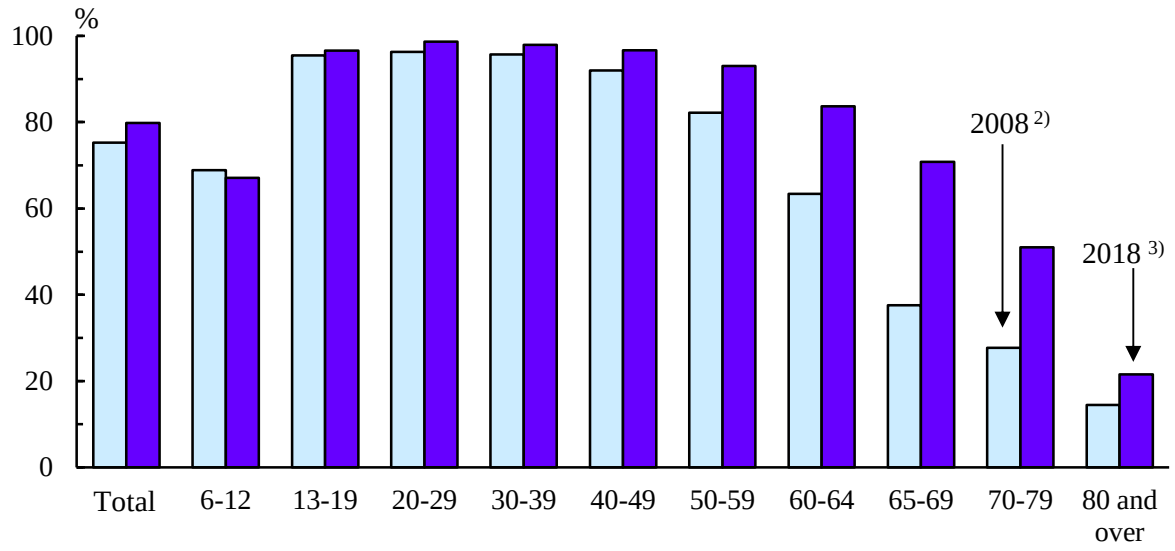
1) The USPTO and KIPO data for 2017 are provisional.
EPO: European Patent Office; KIPO: Korean Intellectual Property Office; SIPO: State Intellectual Property Office of the People's Republic of China; USPTO: United States Patent and Trademark Office.
Source: Japan Patent Office.

3. Information and Communication

(1) Diffusion of the Internet

The ratio of individuals using the Internet, of which commercial usage started in 1993, exceeded 80 percent in 2013. At the end of September 2018, the ratio of individuals who had used the Internet in the past year (individuals who are 6 years of age and older) was 79.8 percent, indicating that the usage rate has continued to be nearly flat. According to the individual Internet usage rate by age group, the usage rate exceeded 90 percent in each age group between 13 and 59 years old.

Figure 8.4
Trends in Internet Usage Rate by Age Group [1)]



1) Ages 6 years and over. 2) End of 2008. 3) End of September 2018.
Source: Ministry of Internal Affairs and Communications.

According to the status of Internet use by device by age group as of the end of September 2018, the usage rate of smartphones was the highest (59.5 percent), followed by computers (48.2 percent). Figures for the rate of Internet use by device by age group show that more than 70 percent use smartphones in each age group between 13 and 59 years old.

Table 8.5
Status of Internet Use by Device by Age Group (2018)

(%)

Item	Usage rate	6-12 years	13-19	20-29	30-39	40-49	50-59	60-69	70-79	80 and over
Smartphones	59.5	31.0	76.6	88.7	87.5	82.9	72.6	46.4	19.7	4.6
Computers	48.2	19.0	41.3	64.2	63.3	64.7	62.9	47.0	29.4	8.6
Tablets	20.8	31.6	24.4	24.6	28.7	27.7	23.5	16.8	7.1	2.7
Mobile phones [1)]	8.8	3.8	5.1	7.4	7.3	9.3	11.2	11.0	12.8	5.5

1) Cell phones and PHS (Personal Handyphone System).
Source: Ministry of Internal Affairs and Communications.

As of the end of September 2018, 19.1 percent of enterprises had introduced telework. The most frequent telework pattern was mobile work, 63.5 percent, followed by working from home, 37.6 percent and working from a satellite office, 11.1 percent.

(2) Progress of Communication Technologies

The number of broadband (connection) subscribers as of the end of March 2018 was 218 million. Among the number of broadband subscribers, those with subscriptions for 3.9-4G mobile phones (LTE) were the highest, amounting to 121 million subscriptions and accounting for 55.3 percent of the total. Those with BWA (Broadband Wireless Access) service (access service connecting to networks via broadband wireless access systems using the 2.5GHz band [WiMAX, etc.]) was the second highest, with 58 million subscribers, making up 26.7 percent of the total.

Meanwhile, IP phone services (voice phone services that use Internet Protocol technology across part or all of the communication network), which use broadband circuits as access lines, entered full-scale use between 2002 and 2003. As of the end of March 2018, the total number of IP phone subscribers was 42 million.

Table 8.6
Subscribers to Telecommunications Services [1)]

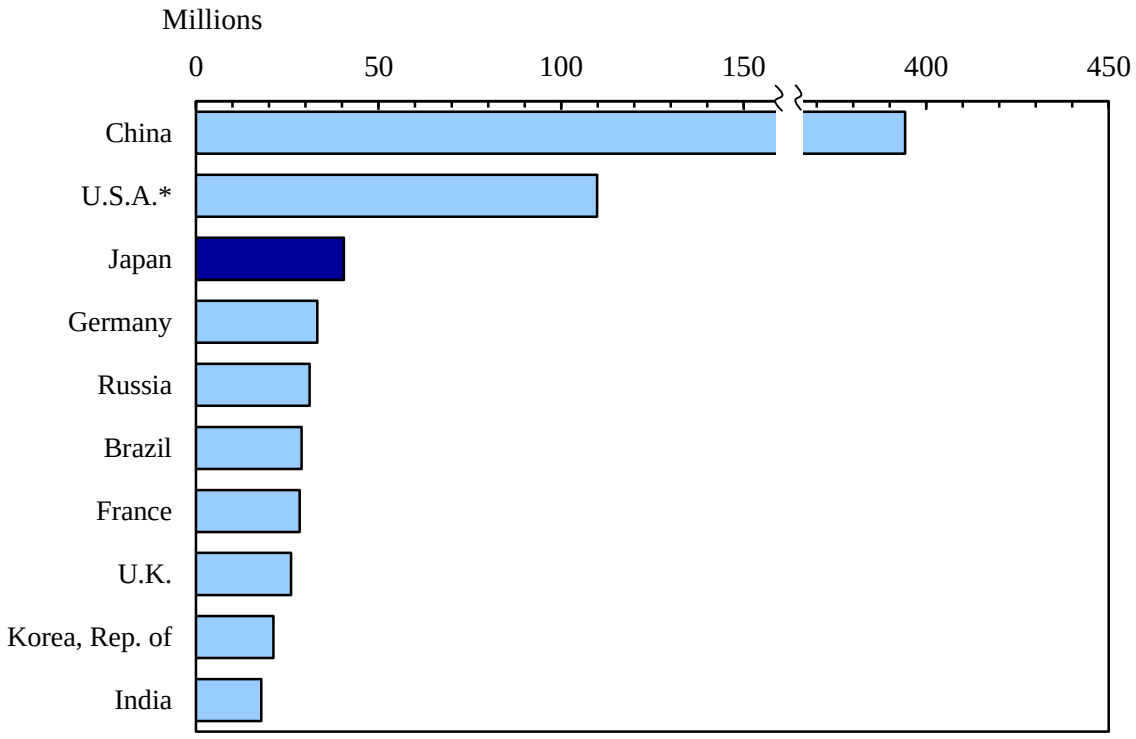
(Thousands)

Item	2014	2015	2016	2017	2018
Public phones (NTT [2)] only)	196	184	171	161	158
Fixed phone services	26,094	24,081	21,703	19,868	18,450
Mobile phones [3)]	149,561	157,857	160,560	166,853	172,790
IP phone	33,781	35,641	38,456	40,954	42,443
ISDN (Integrated Services Digital Network)	3,949	3,652	3,374	3,116	2,904
DSL (Digital Subscriber Line)	4,470	3,753	3,203	2,512	2,146
Cable Internet	6,224	6,428	6,727	6,847	6,880
FTTH (Fiber To The Home)	25,271	26,567	27,824	29,260	30,318
BWA (Broadband Wireless Access)	7,461	19,466	35,137	47,888	58,226
3.9-4G mobile phones (LTE)	46,413	67,781	87,472	102,942	120,727
International phone calls, sent and received	724,600	614,600	512,600	472,200	493,400

1) End of March. 2) Nippon Telegraph and Telephone Corporation.
3) Cell phones and PHS (Personal Handyphone System).
Source: Ministry of Internal Affairs and Communications.

In 2017, the number of fixed-broadband subscribers in Japan was 41 million, the third-largest after China, 394 million and the U.S.A., 110 million.

Figure 8.5
International Comparison of Fixed-Broadband Subscribers (2017)

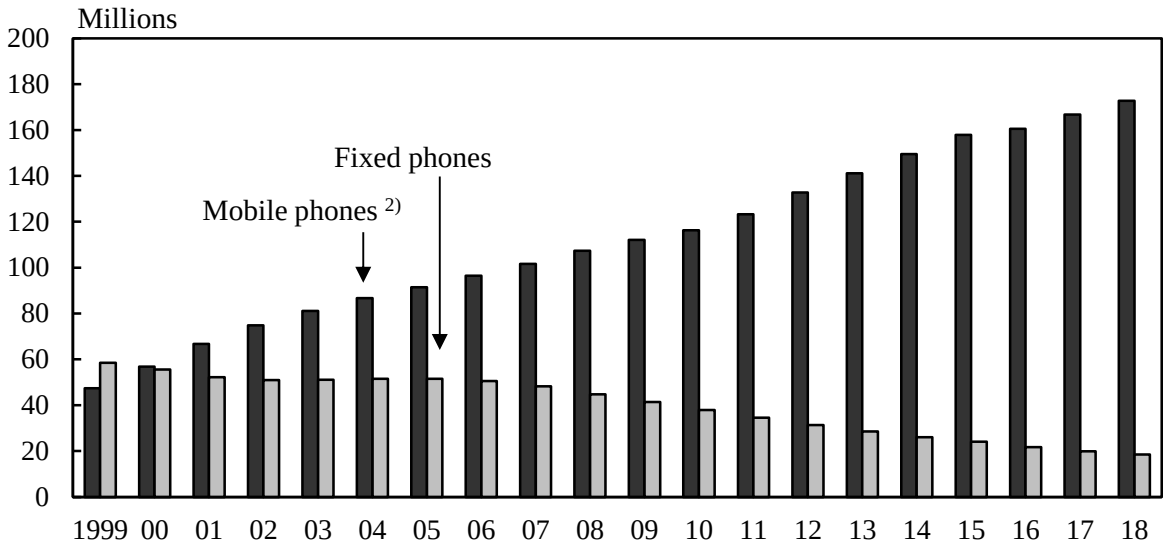


Source: International Telecommunication Union.

(3) Telephones

The number of fixed phone service subscription contracts has continued to decrease in recent years. As of the end of March 2018, the number of fixed phone subscribers was 18 million (down 7.1 percent from the previous year). Meanwhile, the number of mobile phone subscribers (cell phones and personal handyphone systems) totaled 167 million at the end of March 2017, marking a rise by 3.6 percent year-on-year to 173 million at the end of March 2018.

Figure 8.6
Telephone Service Subscribers [1)]



1) End of March. 2) Subscribers of cell phones and PHS (Personal Handyphone System).
Source: Ministry of Internal Affairs and Communications.

(4) Postal Service

As of the end of March 2019, Japan Post Co., Ltd. had 24,367 post offices nationwide. In fiscal 2018, post offices handled 21.3 billion items of domestic mail (including parcels), which was a 1.6 percent decrease from the previous fiscal year. Furthermore, the total quantity of international mail (letters, Express Mail Services [EMS], and parcels) sent in fiscal 2018 amounted to 41.5 million items, a decrease of 12.0 percent from the previous fiscal year.

Table 8.7
Postal Services

(Millions)

Item	FY2000	FY2005	FY2010	FY2015	FY2017	FY2018
Domestic						
Letters	26,114.4	22,666.1	19,757.9	17,981.0	17,174.9	16,739.0
Parcels	310.5	2,075.0	2,968.4	4,052.4	4,513.3	4,592.6
International						
Sent	106.0	77.5	54.2	48.9	47.2	41.5
Letters [1)]	104.3	76.1	52.8	44.1	43.1	38.0
Parcels	1.7	1.5	1.4	4.8	4.1	3.5

1) Including Express Mail Services (EMS).
Source: Japan Post Co., Ltd.

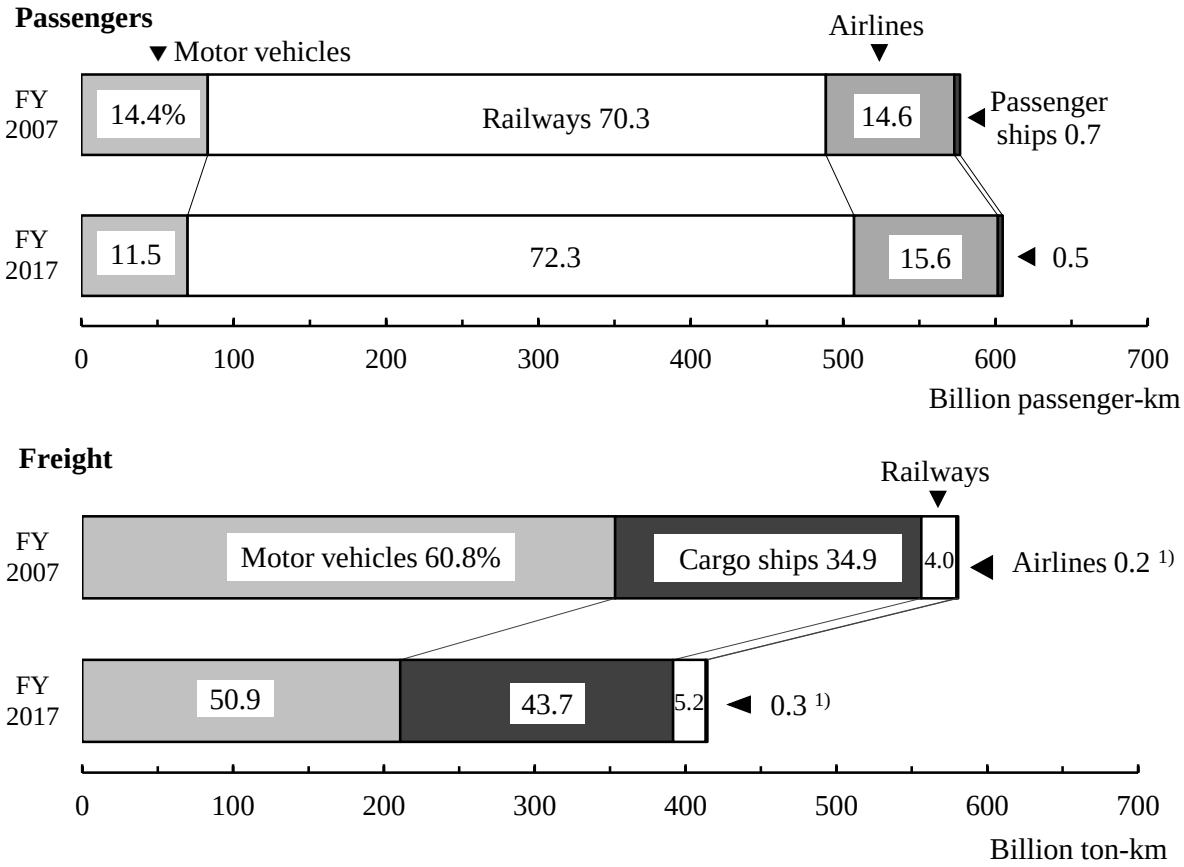
Chapter 9

Transport

1. Domestic Transport

Various modes of domestic transport are used in Japan; almost all passenger transport is by railway, while nearly all freight transport is by motor vehicle and cargo ship.

Figure 9.1
Composition of Domestic Transport



1) Including overweight baggage and postal mail.
Source: Ministry of Land, Infrastructure, Transport and Tourism.

(1) Domestic Passenger Transport

No major changes have been observed in recent years in the volume of domestic passenger transport. Under these circumstances, a shift from private automobiles to public transportation should be promoted as a measure against global warming, along with promotion of the development and distribution of environment-friendly vehicles and measures for traffic flow improvement. Therefore, in addition to the promotion of

computerization, such as adoption of IC cards (multiple-use IC [integrated circuit] cards) and increased convenience in public transportation through the improvement of transfers, workplace "eco-commuting" measures have been promoted.

In fiscal 2017, the number of domestic transport passengers was 31.25 billion (up 1.4 percent from the previous fiscal year). The total volume of passenger transport was 604.8 billion passenger-kilometers (up 1.5 percent).

Table 9.1
Domestic Passenger Transport

Item	Passengers carried (thousands)		Passenger kilometers (millions)	
	FY2016	FY2017	FY2016	FY2017
Total transport volume	30,818,875	31,247,891	595,769	604,795
Railways	24,598,362	24,972,608	431,799	437,363
JR (Japan Railways)	9,392,177	9,488,030	271,996	275,124
Other than JR	15,206,185	15,484,578	159,802	162,239
Motor vehicles	6,034,928	6,084,966	70,119	69,815
Buses (Commercial use)	4,582,953	4,639,579	63,737	63,524
Taxis and limousine hires	1,451,975	1,445,386	6,382	6,290
Airlines	98,124	102,119	90,576	94,427
Passenger ships	87,461	88,198	3,275	3,191

Source: Ministry of Land, Infrastructure, Transport and Tourism.

In fiscal 2017, the Japan Railways (JR) group reported 9.49 billion passengers (up 1.0 percent from the previous fiscal year) and 275.12 billion passenger-kilometers (up 1.1 percent). Railways other than JR reported 15.48 billion passengers (up 1.8 percent) and 162.24 billion passenger-kilometers (up 1.5 percent).

To promote the use of buses, approaches to improve punctuality and speed using bus lanes and to make buses more convenient, such as by introducing a bus location system that provides locational information of buses as well as an IC card system that enables smooth bus rides, are being carried out. Commercial buses recorded an increase in passengers to 4.64 billion (up 1.2 percent from the previous fiscal year), but a decline in passenger-kilometers to 63.52 billion (down 0.3 percent) in fiscal 2017.

In recent years, the development of aviation networks has been underway, such as through enhancing the functions of metropolitan airports and promoting the entry of LCCs, in order to strengthen Japan's international competitiveness in both business and tourism. In promoting the entry of LCCs, there are expectations for creation of new demand, such as through the expansion of foreign tourists visiting Japan as well as of domestic tourism. Fiscal 2017 air transport records show that there were 102.12 million passengers (up 4.1 percent from the previous fiscal year), and passenger-kilometers amounted to 94.43 billion (up 4.3 percent).

In fiscal 2017, passenger ships reported 88.20 million passengers (up 0.8 percent from the previous fiscal year) and 3.19 billion passenger-kilometers (down 2.6 percent).

(2) Domestic Freight Transport

In the area of domestic freight, a total of 4.79 billion metric tons (0.0 percent change from the previous fiscal year) of freight was transported for a total of 414.24 billion ton-kilometers (up 0.3 percent) in fiscal 2017. As for transport tonnage volume in fiscal 2017, motor vehicle transport accounted for more than 90 percent of the total.

Table 9.2
Domestic Freight Transport

Item	Freight tonnage (thousands)		Ton kilometers (millions)	
	FY2016	FY2017	FY2016	FY2017
Total transport volume	4,787,401	4,787,542	413,076	414,240
Railways	44,089	45,170	21,265	21,663
Motor vehicles	4,377,822	4,381,246	210,314	210,829
Commercial use	3,019,328	3,031,940	180,811	182,526
Non-commercial use	1,358,494	1,349,306	29,503	28,303
Cargo ships	364,485	360,127	180,438	180,934
Airlines [1)]	1,005	999	1,057	1,066

1) Including overweight baggage and postal mail.
Source: Ministry of Land, Infrastructure, Transport and Tourism.

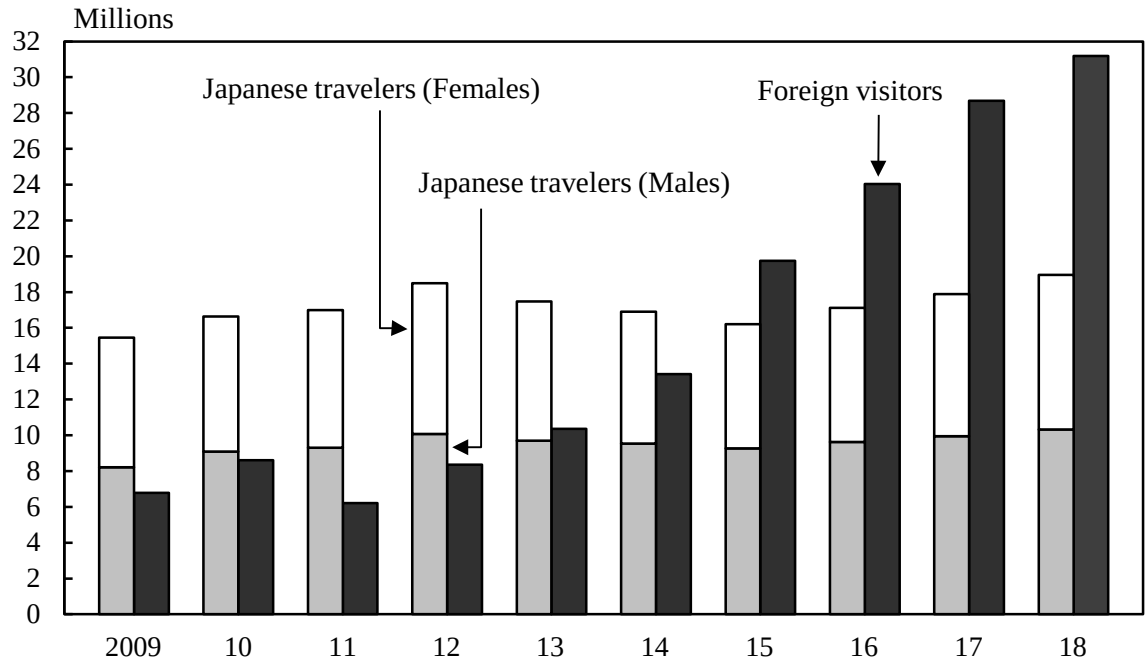
2. International Transport

(1) International Passenger Transport

The global economic downturns after September 2008, the spread of new influenza in early 2009, and the influence of the Great East Japan Earthquake decreased international air passenger transport with Japanese airlines. In 2012, this trend reversed to an increase, and in 2017, Japanese airlines transported 22.14 million passengers (up 8.0 percent from the previous year) on international flights, and registered 97.52 billion passenger-kilometers (up 7.9 percent). Both recorded their sixth consecutive year of increase.

The number of Japanese overseas travelers in 2018 was 18.95 million (up 6.0 percent from the previous year). The number of foreign visitors to Japan in 2018 was 31.19 million, representing an increase of 8.7 percent from the previous year. The number of visitors was the highest ever since statistics came to be recorded in 1964.

Figure 9.2
Japanese Overseas Travelers and Foreign Visitor Arrivals



Source: Ministry of Justice; Japan National Tourism Organization.

According to reports on arrivals by tourist offices in countries around the world, the U.S.A., China and the Republic of Korea had many Japanese visitors in 2017.

Table 9.3
Japanese Overseas Travelers by Destination

Country or area of destination	2015		2016		2017	
	Number of arrivals	Annual change (%)	Number of arrivals	Annual change (%)	Number of arrivals	Annual change (%)
U.S.A. [1) 2)]	3,792,997	4.8	3,603,786	-5.0	3,595,607	-0.2
China [3)]	2,497,657	-8.1	2,587,440	3.6	2,680,033	3.6
Korea, Rep. of [3)]	1,837,782	-19.4	2,297,893	25.0	2,311,447	0.6
Taiwan [4)]	1,627,229	-0.5	1,895,702	16.5	1,898,854	0.2
Thailand [5)]	1,381,702	9.0	1,439,510	4.2	1,544,442	7.3
Hong Kong SAR [2)] ..	632,959	-0.5	692,529	9.4	813,207	17.4
Germany [6)]	647,243	-3.5	545,013	-15.8	584,871	7.3
France [2)]	682,121	-12.2	411,199	-39.7	484,293	17.8

1) Including territories and dependencies (Northern Mariana Islands, Guam, American Samoa, Puerto Rico and United States Virgin Islands, etc.). 2) Arrivals of non-resident tourists at national borders, by country of residence. 3) Arrivals of non-resident visitors at national borders, by nationality. 4) Arrivals of non-resident visitors at national borders, by country of residence. 5) Arrivals of non-resident tourists at national borders, by nationality. 6) Arrivals of non-resident tourists in all types of accommodation establishments, by country of residence.
Source: Japan National Tourism Organization.

The number of foreign visitors to Japan in 2018 broken down by country/region, the number of visitors from Asian countries was highest, totaling 26.76 million (up 8.3 percent from the previous year). Among Asian countries, the number of visitors from China was highest, amounting to 8.38 million, and reached 8 million people for the first time. The figure accounted for 26.9 percent of the total number of foreign visitors to Japan.

This increase is attributed to expanding aviation networks, an increase in demand for visits to Japan by foreigners through continuous promotion of tourism, visa alleviation measures for various Southeast Asian countries, expansion of the consumption tax exemption program, etc.

Table 9.4
Foreign Visitors

Region, country or area of origin	2016		2017		2018*	
	Number of arrivals	Percentage distribution	Number of arrivals	Percentage distribution	Number of arrivals	Percentage distribution
Total arrivals [1]	24,039,700	100.0	28,691,073	100.0	31,191,856	100.0
Asia	20,428,866	85.0	24,716,396	86.1	26,757,917	85.8
China	6,373,564	26.5	7,355,818	25.6	8,380,034	26.9
Korea, Rep. of	5,090,302	21.2	7,140,438	24.9	7,538,952	24.2
Taiwan	4,167,512	17.3	4,564,053	15.9	4,757,258	15.3
Hong Kong SAR	1,839,193	7.7	2,231,568	7.8	2,207,804	7.1
Thailand	901,525	3.8	987,211	3.4	1,132,160	3.6
Singapore	361,807	1.5	404,132	1.4	437,280	1.4
Europe	1,421,934	5.9	1,525,662	5.3	1,720,064	5.5
U.K.	292,458	1.2	310,499	1.1	333,979	1.1
Africa	33,762	0.1	34,803	0.1	38,151	0.1
North America	1,570,420	6.5	1,756,732	6.1	1,939,719	6.2
U.S.A.	1,242,719	5.2	1,374,964	4.8	1,526,407	4.9
Canada	273,213	1.1	305,591	1.1	330,600	1.1
South America	77,958	0.3	92,106	0.3	104,804	0.3
Oceania	505,638	2.1	564,527	2.0	630,527	2.0
Australia	445,332	1.9	495,054	1.7	552,440	1.8

1) Including stateless people, etc.
Source: Japan National Tourism Organization.

In 2018, of the total number of foreign visitors to Japan, tourists numbered 27.77 million people, or 89.0 percent of total foreign visitors. The highest number of tourists came from China, with 7.43 million travelers, followed by the Republic of Korea, with 6.98 million travelers.

(2) International Freight Transport

The volume of seaborne foreign transport in 2017 was 997 million tons, down 2.1 percent over the previous year. Of this figure, total exports increased by 4.3 percent to 69 million tons, and total imports decreased by 0.5 percent to 511 million tons.

Table 9.5
Seaborne Foreign Transport

(Thousand tons)

Year	Total	Exports	Imports	Cross Transport
2000	739,377	34,960	538,875	165,542
2005	777,869	45,404	529,239	203,225
2010	819,075	44,758	465,898	308,419
2015	1,056,144	60,802	544,702	450,639
2016	1,018,441	65,911	513,114	439,416
2017*	997,068	68,756	510,768	417,544

Source: Ministry of Land, Infrastructure, Transport and Tourism.

Air-shipped international freight in 2017 totaled 1.75 million tons in terms of volume (up 14.5 percent from the previous year) and 9.70 billion tons in terms of ton-kilometers (up 15.3 percent).

Chapter 10

Commerce

1. Wholesale and Retail

The "2016 Economic Census for Business Activity" showed that 1.36 million wholesale and retail establishments were in operation in Japan. The number of persons engaged at such establishments became 11.84 million. Sales in the wholesale and retail industries amounted to 500.79 trillion yen, accounting for 30.8 percent of the total of all industries.

(1) Wholesale Trade

The number of wholesale establishments in operation was 364,814 in 2016. Observed by size of operation in terms of persons engaged, establishments with less than 20 persons accounted for 88.6 percent of the total. By type of corporate form, 88.5 percent of them were corporations, while 11.4 percent were individual proprietorships.

Table 10.1
Establishments and Persons Engaged in the Wholesale and Retail Sector (2016)

Item	Total	Wholesale	Retail
Number of Establishments	1,355,060	364,814	990,246
Size of operation (persons engaged)			
1-4 persons	760,706	177,364	583,342
5-9	292,638	92,194	200,444
10-19	177,270	53,546	123,724
20-29	55,114	17,221	37,893
30-49	32,380	11,856	20,524
50-99	19,112	6,592	12,520
100 and over	9,367	3,644	5,723
Loaned or dispatched employees only	8,473	2,397	6,076
Persons engaged	11,843,869	4,003,909	7,839,960
Regular employees	10,226,010	3,532,625	6,693,385
Full-time employees	5,375,398	2,891,265	2,484,133
Other than full-time employees [1)]	4,850,612	641,360	4,209,252
Temporary employees	247,780	62,263	185,517
Loaned or dispatched employees from the separately operated establishments	366,511	144,921	221,590
Loaned or dispatched employees to the separately operated establishments	102,266	79,829	22,437

1) Among regular employees, excludes workers generally referred to as "full-time employees" and "regular members of staff" and includes those referred to as "contract employees", "non-regular members of staff", "part-timers", and similar appellations.

Source: Statistics Bureau, MIC; Ministry of Economy, Trade and Industry.

The number of persons engaged in the wholesale sector was 4 million in 2016, 703,623 of which were persons other than full-time employees (including those who are referred to as "contract employees", "non-regular members of staff", "part-timers", and similar appellations) and temporary employees, making up 17.6 percent of the total.

(2) Retail Trade

The number of retail establishments in operation totaled 990,246 in 2016. Observed by size of operation in terms of persons engaged, establishments with less than 10 persons accounted for 79.2 percent of the total. By type of corporate form, 60.6 percent of them were corporations, while 39.2 percent were individual proprietorships. The proportion of individual proprietorships was higher than that in the wholesale sector.

The number of persons engaged in retail was 7.84 million in 2016, 4.39 million of which were persons other than full-time employees (including those referred to as "contract employees", "non-regular members of staff", "part-timers", and similar appellations) and temporary employees, comprising 56.1 percent of the total.

2. Eating and Drinking Places

There were 590,847 eating and drinking places establishments in operation and 4.12 million persons engaged at them in 2016.

Table 10.2
Eating and Drinking Places (2016)

Size of operation (persons engaged)	Establishments		Persons engaged	
	Number	Ratio (%)	Number	Ratio (%)
Total	590,847	100.0	4,120,279	100.0
1-4 persons	357,056	60.4	767,493	18.6
5-9	114,499	19.4	746,638	18.1
10-19	69,512	11.8	945,207	22.9
20-29	27,877	4.7	662,134	16.1
30 and over	21,025	3.6	998,807	24.2
Loaned or dispatched employees only	878	0.1	-	-

Source: Statistics Bureau, MIC; Ministry of Economy, Trade and Industry.

Chapter 11

Trade, International Balance of Payments, and International Cooperation

1. Trade

(1) Overview of Trade

In 2018, Japan's international trade on a customs clearance basis increased, together with exports and imports. Exports (in FOB value) amounted to 81.5 trillion yen, which was a 4.1 percent increase as compared to the previous year, and an increase for the second consecutive year. Imports (in CIF value) amounted to 82.7 trillion yen, which was a 9.7 percent increase as compared to the previous year, and an increase for the second consecutive year. Trade balance totaled -1.2 trillion yen. This was the red figure for the first time in three years.

Figure 11.1
Foreign Trade

Source: Ministry of Finance.

Table 11.1
Trends in Foreign Trade and Indices of Trade

Year	Value (billion yen) (Customs clearance basis)			Indices of trade (2015=100)					
				Exports			Imports		
	Exports (FOB)	Imports (CIF)	Balance	Value index	Quantum index [1)]	Unit value index	Value index	Quantum index [1)]	Unit value index
2009	54,171	51,499	2,671	71.6	89.7	79.9	65.7	85.3	77.0
2010	67,400	60,765	6,635	89.1	111.4	80.0	77.5	97.1	79.8
2011	65,546	68,111	-2,565	86.7	107.2	80.9	86.9	99.6	87.2
2012	63,748	70,689	-6,941	84.3	102.0	82.7	90.2	102.0	88.4
2013	69,774	81,243	-11,468	92.3	100.5	91.8	103.6	102.3	101.3
2014	73,093	85,909	-12,816	96.7	101.1	95.7	109.6	102.9	106.5
2015	75,614	78,406	-2,792	100.0	100.0	100.0	100.0	100.0	100.0
2016	70,036	66,042	3,994	92.6	100.5	92.2	84.2	98.8	85.3
2017	78,286	75,379	2,907	103.5	105.9	97.8	96.1	102.9	93.4
2018	81,479	82,703	-1,225	107.8	107.7	100.1	105.5	105.8	99.7

1) Quantum index = Value index / Unit value index × 100
Source: Ministry of Finance.

With regard to unit value index, Japan's 2018 exports increased by 2.4 percent from the previous year (an increase for the second consecutive year), and quantum index also increased by 1.7 percent from the previous year (an increase for the third consecutive year).

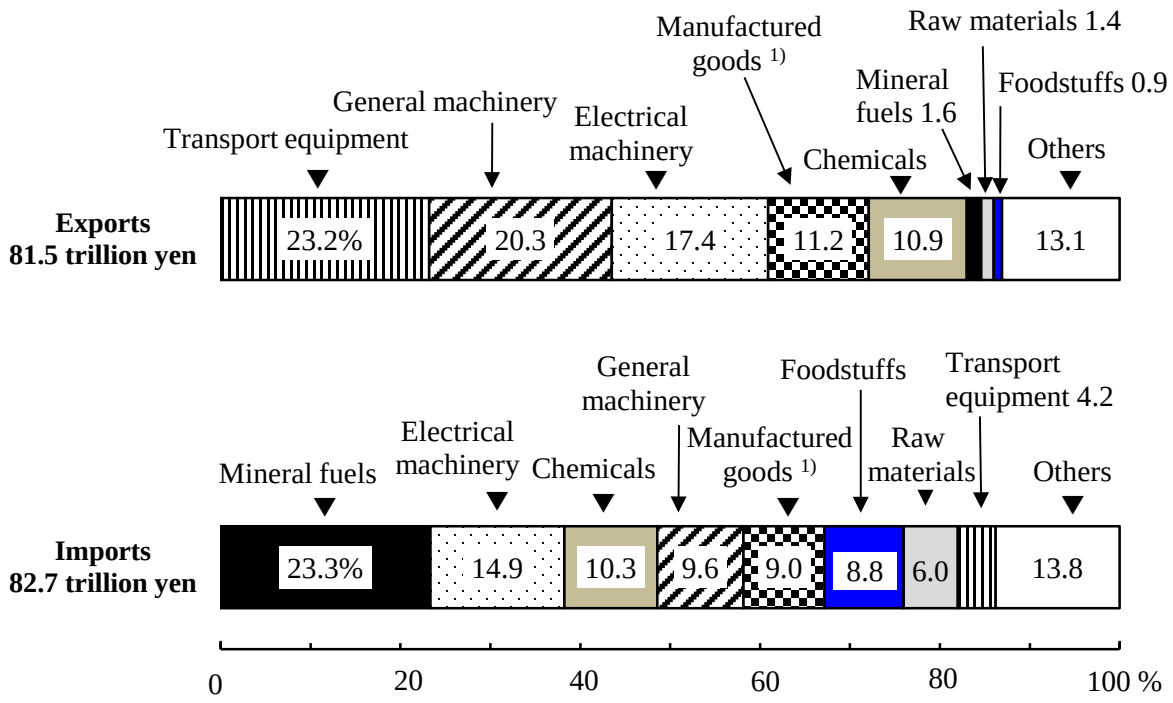
With regard to Japan's imports in 2018, unit value index and quantum index, increased by 6.7 percent and 2.8 percent compared to the previous year; both indices recorded an increase for the second consecutive year.

(2) Trade by Commodity

As for Japan's exports in 2018 by commodity, transport equipment accounted for the largest portion of the total export value, 23.2 percent, followed by general machinery and electrical machinery, making up 20.3 percent and 17.4 percent, respectively. Motor vehicles, which are in the transport equipment category, constituted 15.1 percent of the total export value, up 2.6 percent in quantity and up 4.1 percent in value from the previous year. One characteristic of Japan's exports is the large proportion of high value-added products manufactured with advanced technology, such as motor vehicles, iron and steel products, and integrated circuits.

The leading import item category was mineral fuels, which represented 23.3 percent of the total value imported, followed by electrical machinery and chemicals, with 14.9 percent and 10.3 percent, respectively. Petroleum, in the mineral fuels category, constituted 10.8 percent of the total import value, down 5.8 percent in quantity and up 24.5 percent in value from the previous year.

Figure 11.2
Component Ratios of Foreign Trade by Commodity (2018)



1) Consisting of iron and steel products, non-ferrous metals, textile yarn and fabrics, etc.
Source: Ministry of Finance.

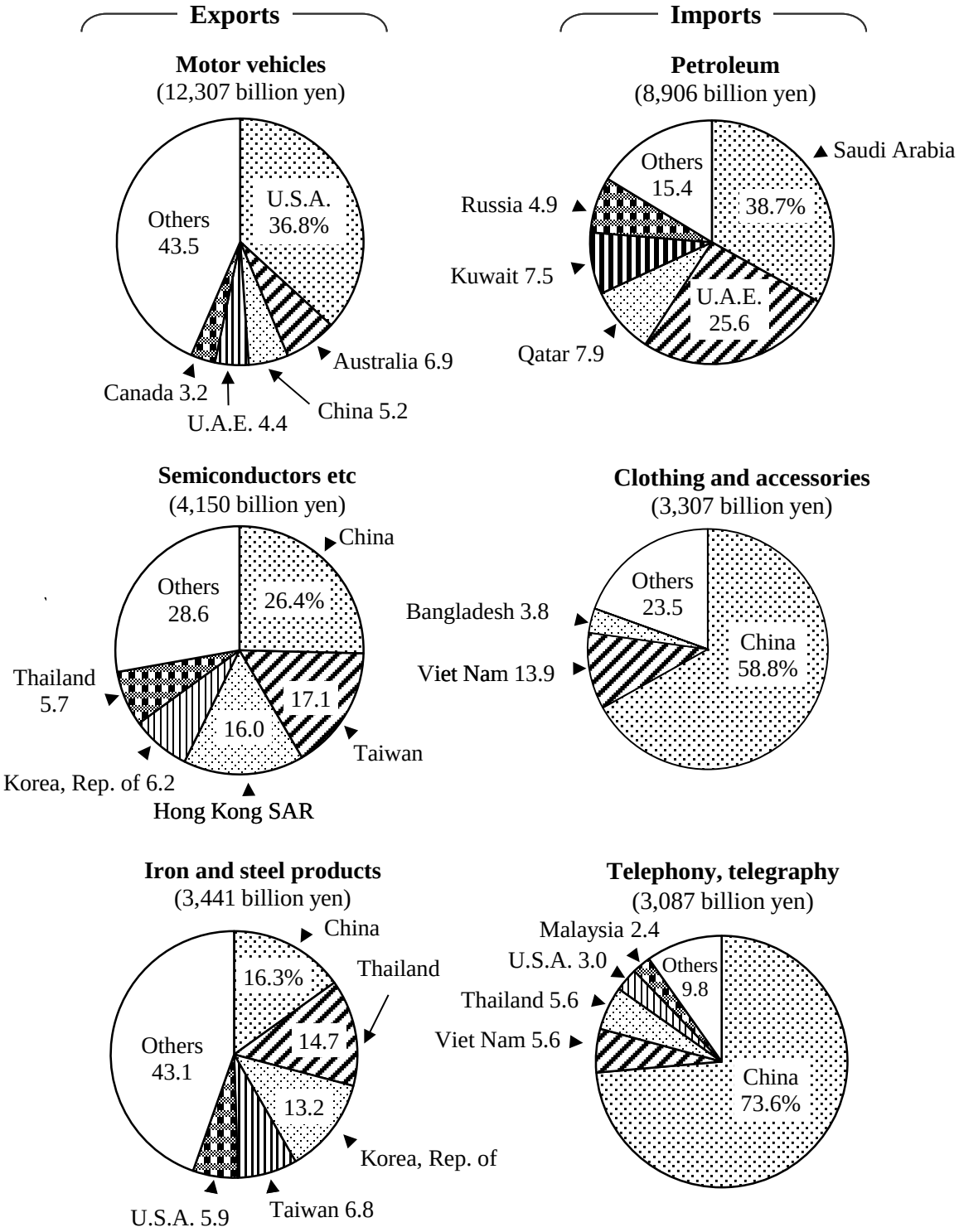
Table 11.2
Value of Exports and Imports by Principal Commodity

(Billion yen)

Item	2015	2016	2017	2018	Annual growth (%)
Exports, total	75,614	70,036	78,286	81,479	4.1
Foodstuffs	599	607	645	741	14.9
Raw materials	1,137	947	1,127	1,156	2.5
Mineral fuels	1,245	898	1,117	1,304	16.8
Chemicals	7,759	7,123	8,192	8,922	8.9
Plastic materials	2,444	2,272	2,511	2,557	1.8
Manufactured goods [1)]	9,220	7,847	8,686	9,136	5.2
Iron and steel products	3,668	2,843	3,284	3,441	4.8
General machinery	14,424	13,613	15,685	16,508	5.2
Power generating machine	2,591	2,416	2,745	2,949	7.4
Electrical machinery	13,289	12,322	13,695	14,142	3.3
Semiconductors etc	3,915	3,607	4,022	4,150	3.2
Transport equipment	18,141	17,338	18,232	18,877	3.5
Motor vehicles	12,046	11,333	11,825	12,307	4.1
Others	9,801	9,340	10,907	10,694	-2.0
Scientific, optical inst	2,376	2,046	2,416	2,314	-4.2
Imports, total	78,406	66,042	75,379	82,703	9.7
Foodstuffs	7,002	6,363	7,018	7,247	3.3
Raw materials	4,853	4,012	4,725	4,992	5.6
Mineral fuels	18,218	12,052	15,840	19,294	21.8
Petroleum	8,185	5,532	7,155	8,906	24.5
Chemicals	7,748	7,111	7,567	8,550	13.0
Medical products	2,924	2,780	2,645	2,962	12.0
Manufactured goods [1)]	7,039	6,068	6,849	7,459	8.9
Non-ferrous metals	1,683	1,344	1,736	2,000	15.2
General machinery	7,068	6,357	7,214	7,950	10.2
Computers and units	1,973	1,724	1,966	2,029	3.2
Electrical machinery	12,014	10,792	12,048	12,338	2.4
Telephony, telegraphy	2,933	2,722	3,109	3,087	-0.7
Transport equipment	3,126	3,094	3,170	3,490	10.1
Others	11,336	10,193	10,949	11,383	4.0
Clothing and accessories	3,415	2,998	3,109	3,307	6.4

1) Consisting of iron and steel products, non-ferrous metals, textile yarn and fabrics, etc.
Source: Ministry of Finance.

Figure 11.3
Component Ratios of the Value of Japan's Major Export and Import Commodities by Country/Region (2018)



Source: Ministry of Finance.

(3) Trade by Country/Region

Japan has maintained a trade surplus with Asia and the U.S.A., while having a continuous trade deficit with the Middle East and Oceania.

Table 11.3
Trends in Value of Exports and Imports by Country/Region

(Billion yen)

Year	Total	Asia	China	Korea, Rep. of	Taiwan	U.S.A.	EU 28	Middle East	Oceania
Exports from Japan									
2014	73,093	39,518	13,381	5,456	4,232	13,649	7,585	2,988	1,958
2015	75,614	40,329	13,223	5,327	4,473	15,225	7,985	3,167	2,099
2016	70,036	37,107	12,361	5,020	4,268	14,143	7,982	2,585	2,010
2017	78,286	42,920	14,890	5,975	4,558	15,113	8,657	2,350	2,301
2018	81,479	44,736	15,898	5,793	4,679	15,470	9,209	2,434	2,402
Imports to Japan									
2014	85,909	38,618	19,176	3,531	2,568	7,543	8,169	15,826	5,706
2015	78,406	38,358	19,429	3,244	2,817	8,060	8,625	9,571	4,887
2016	66,042	33,199	17,019	2,722	2,495	7,322	8,152	6,501	3,843
2017	75,379	37,026	18,459	3,153	2,848	8,090	8,757	8,243	4,969
2018	82,703	39,218	19,194	3,550	2,998	9,015	9,718	10,375	5,659

Source: Ministry of Finance.

(A) Trade with Asia

Japan's 2018 trade balance with Asia resulted in a 5.5 trillion yen in surplus, a decrease for the first time in four years (down 6.4 percent from the previous year). Exports (in FOB value) totaled 44.7 trillion yen (up 4.2 percent), an increase for the second consecutive year; this was mainly due to the contributions for the increase in general machinery and chemicals. Imports (in CIF value) amounted to 39.2 trillion yen (up 5.9 percent), an increase for the second consecutive year; this was mainly attributed to the increase in chemicals.

In 2018, Japan's trade with China amounted to 15.9 trillion yen in exports and 19.2 trillion yen in imports. China is the largest trading counterpart of Japan, both in exports and imports.

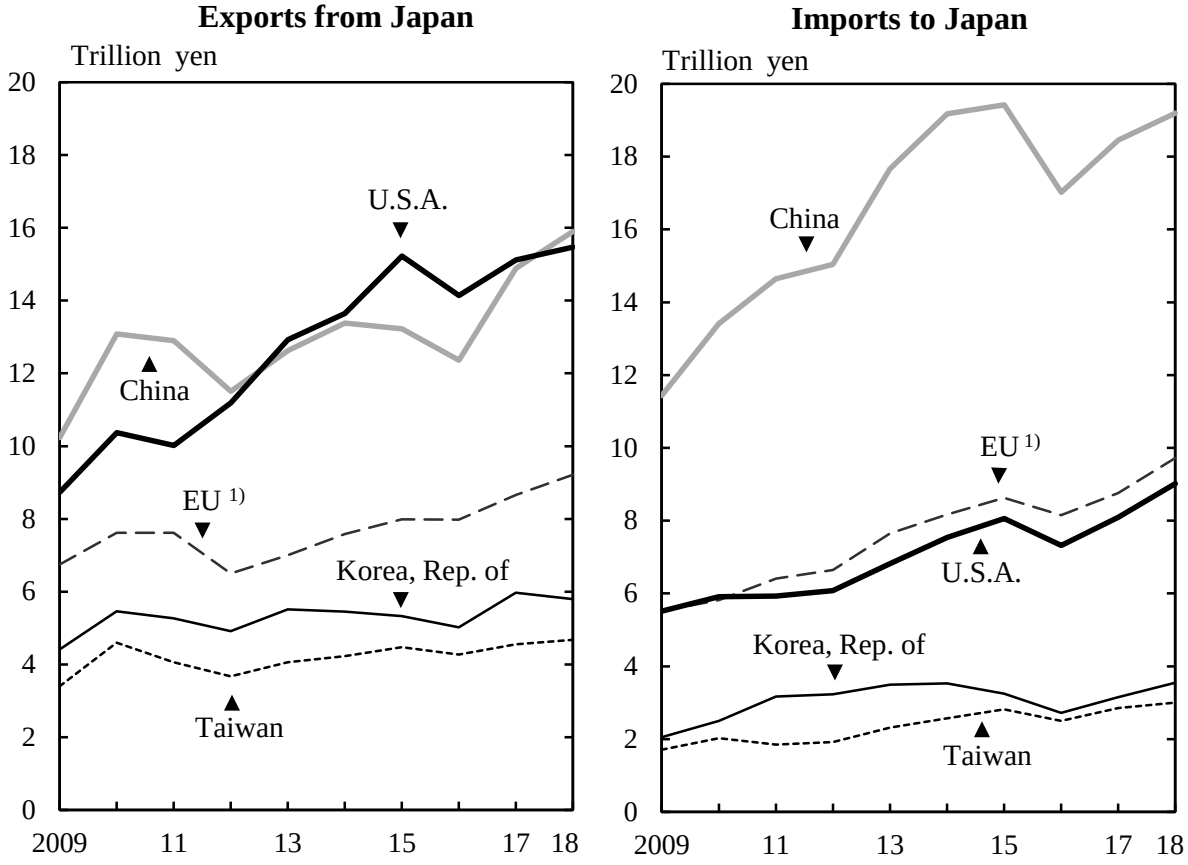
(B) Trade with U.S.A.

Japan's 2018 trade balance with the U.S.A. showed a surplus of 6.5 trillion yen (down 8.1 percent from the previous year), a decrease for the first time in two years. Exports (in FOB value) totaled 15.5 trillion yen (up 2.4 percent), an increase for the second consecutive year. The growth was due mainly to the contributions of chemicals and general machinery. Imports (in CIF value) totaled 9.0 trillion yen (up 11.4 percent), an increase for the second consecutive year. The growth was due mainly to the contributions of mineral fuels and general machinery.

(C) Trade with EU

Japan's 2018 trade balance with the EU (28 countries) registered a deficit of 0.5 trillion yen. Exports (in FOB value) to the EU (28 countries) increased by 6.4 percent year-on-year, to 9.2 trillion yen. Commodities such as general machinery and electrical machinery contributed to the growth in exports. Imports (in CIF value) from the EU (28 countries) totaled 9.7 trillion yen, up 11.0 percent from the previous year. Commodities such as chemicals and transport equipment contributed to the growth in imports.

Figure 11.4
Trends in Value of Exports and Imports by Country/Region



1) 27 countries: from Jan. 2007 to June 2013, 28 countries: from July 2013 onward.
Source: Ministry of Finance.

2. International Balance of Payments

The current account in 2018 totaled 19.2 trillion yen, and its surplus shrank for the first time in 4 years, due to the trade balance reducing the surplus, etc. Breaking down the current account, goods and services fell by 3.8 trillion yen from the previous year to 0.4 trillion yen, recording trade surplus for the third consecutive year. Primary income amounted to 20.9 trillion yen, which was a 1.7 percent increase in its surplus from the previous year.

The financial account amounted to 20.0 trillion yen in 2018, due to an increase in net assets both for direct investment and portfolio investment.

Table 11.4
International Balance of Payments

(Billion yen)

Item	2015	2016	2017	2018
Current account	16,519.4	21,391.0	22,606.7	19,222.2
Goods and services	-2,816.9	4,388.8	4,220.6	391.9
Goods	-886.2	5,517.6	4,911.3	1,198.1
Exports	75,274.2	69,092.7	77,253.5	81,238.7
Imports	76,160.4	63,575.1	72,342.2	80,040.5
Services	-1,930.7	-1,128.8	-690.7	-806.2
Primary income	21,303.2	19,147.8	20,513.1	20,853.3
Secondary income	-1,966.9	-2,145.6	-2,127.1	-2,023.1
Capital account	-271.4	-743.3	-280.0	-212.5
Financial account [1)]	21,876.4	28,605.9	18,640.1	20,004.9
Direct investment	16,131.9	14,858.7	17,240.6	14,719.8
Portfolio investment	16,029.4	29,649.6	-5,651.3	9,976.5
Financial derivatives (other than reserves)	2,143.9	-1,658.2	3,452.3	117.8
Other investment	-13,053.9	-13,666.2	946.7	-7,472.0
Reserve assets	625.1	-578.0	2,651.8	2,662.8
Net errors and omissions	5,628.3	7,958.3	-3,686.6	995.3

1) Positive figures (+) show increase in net assets, negative figures (-) show decrease in net assets.

Source: Ministry of Finance.

Japan's external assets (overseas assets held by residents in Japan) as of the end of 2018 amounted to 1,018.0 trillion yen, while its external liabilities (assets held in Japan by nonresidents) were 676.5 trillion yen. As a result, Japan's net international investment position (external assets minus external liabilities) were 341.6 trillion yen.

Table 11.5
Trends in Japan's International Investment Position [1)]

(Billion yen)

Item	2014	2015	2016	2017	2018
Assets	930,496	938,398	986,289	1,013,364	1,018,038
Liabilities	579,382	611,209	649,982	684,062	676,482
Net assets	351,114	327,189	336,306	329,302	341,556

1) End of year.
Source: Ministry of Finance.

Japan's reserve assets remained at around 220 billion U.S. dollars during the period from 1996 to 1998. Beginning in 1999, reserve assets increased continuously. A downward trend started at the end of 2012, but the end of 2017, they began to increase again, and amounted to 1,271.0 billion U.S. dollars (up 0.5 percent) at the end of 2018, marking the second consecutive annual increase.

Table 11.6
Reserve Assets

(Million U.S. dollars)

End of year	Total	Foreign currency reserves [1)]	IMF reserve position	SDRs	Gold [2)]	Other reserve assets [3)]
2014	1,260,548	1,199,651	11,993	18,895	29,504	505
2015	1,233,214	1,179,004	9,531	18,048	26,134	497
2016	1,216,903	1,157,790	12,019	18,087	28,516	491
2017	1,264,283	1,202,071	10,582	19,195	31,897	538
2018	1,270,975	1,208,958	11,464	18,484	31,531	538

1) Including securities in market value. 2) Market value. 3) Including Asian Bond Fund 2.
Source: Ministry of Finance.

The yen began appreciating sharply in late 2008. From 2011 into 2012, the exchange rate of yen to the U.S. dollar stayed between the higher 70 yen range and the lower 80 yen range. In April 2013, the Bank of Japan introduced Quantitative and Qualitative Monetary Easing (QQME) to put an end to deflation. Based on this, the exchange rate shifted towards yen depreciation. Afterwards, after the leveling-off phase, there was a trend towards somewhat of a yen appreciation. As of April 2019, the exchange rate was 111.68 yen per U.S. dollar.

Figure 11.5
Yen Exchange Rate against the U.S. Dollar

Source: Bank of Japan.

3. International Cooperation

In Japan, there are diverse international cooperation donors: Official Development Assistance (ODA) by the government, direct investments and export credits by private corporations, grants by private non-profit organizations, assistance activities by NGOs and volunteer citizen groups, etc. With regard to ODA, there are various forms, including bilateral assistance, which assists developing countries or regions directly, and multilateral assistance, which contributes to international organizations.

Table 11.7

Net Flow of Development Cooperation [1)]

(Million U.S. dollars)

Item	2013	2014	2015	2016	2017
Total value	58,459	40,718	37,908	39,834	37,699
Official flows	12,867	8,584	8,148	8,655	9,051
Official Development Assistance (ODA)	11,582	9,483	9,203	10,417	11,463
Bilateral official development assistance [2)]	8,611	6,129	6,166	7,048	8,080
Grants [2)]	9,836	5,197	5,010	5,583	5,500
Grant assistance [2)]	7,032	2,567	2,641	2,807	2,617
Technical assistance	2,804	2,630	2,369	2,776	2,883
Loans	-1,224	932	1,156	1,466	2,580
Contributions to multilateral institutions	2,970	3,355	3,037	3,368	3,382
Other Official Flows (OOF)	1,286	-899	-1,055	-1,762	-2,412
Export credits (over 1 year)	-441	-56	-66	599	503
Direct investment and others	1,946	-843	-990	-2,361	-2,915
Contributions to multilateral institutions	-219	-	-	-	-
Private Flows (PF)	45,133	31,667	29,262	30,814	28,173
Export credits (over 1 year)	3,271	-736	2,694	1,358	1,040
Direct investment	38,715	27,329	25,800	29,588	23,935
Other bilateral securities and claims	4,859	6,254	576	354	4,111
Contributions to multilateral institutions	-1,712	-1,180	193	-484	-913
Grants by private non-profit organizations	458	467	498	365	475
ODA as percentage of GNI (%)	0.22	0.20	0.20	0.20	0.23
ODA as percentage of GNI (DAC average) (%)	0.30	0.30	0.30	0.32	0.31

1) Net disbursements at current prices and exchange rate designated by DAC. Negative figures (-) indicate that loan repayments, etc., exceeded the disbursed amount. 2) Including bilateral grants through multilateral institutions.

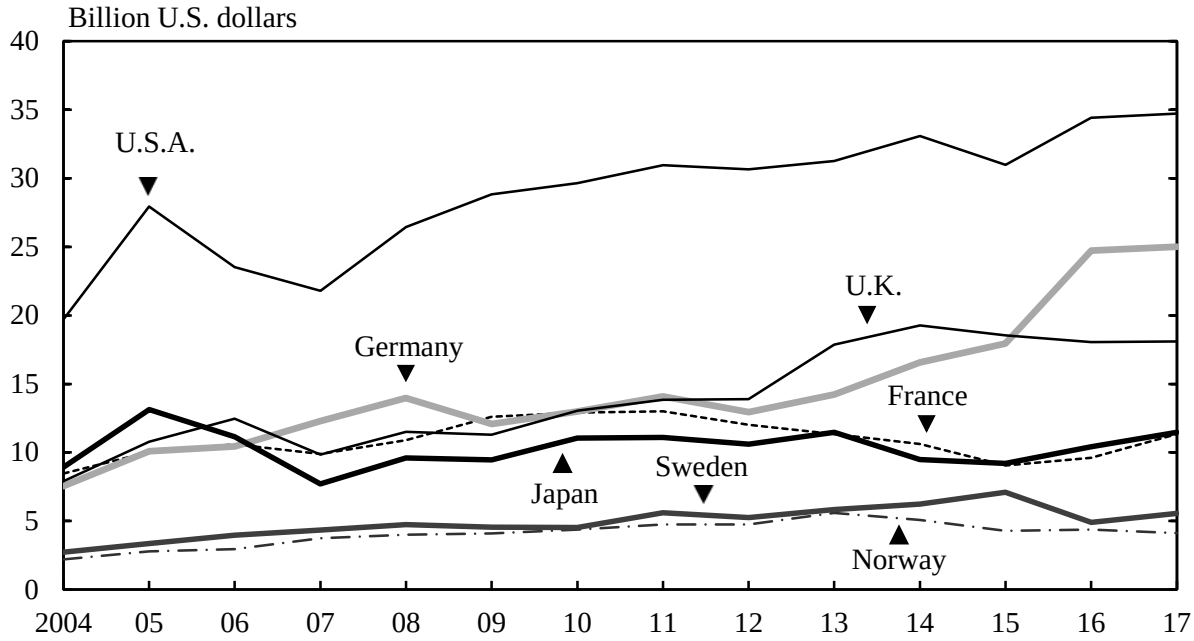
Source: Ministry of Foreign Affairs; Ministry of Finance; OECD.

In the ODA framework, Japan's spending (on the basis of net disbursement at current prices) in 2017 increased by 10.0 percent over the previous year to 11.5 billion U.S. dollars. Japan contributed to the growth of developing countries as the world's number-one ODA donor for 10 consecutive years up until 2000. Recently, Japan's ODA budget has been levelling off because of the country's severe economic and financial situation.

With regard to the comparison of the ODA in 2017 by the member countries of the Development Assistance Committee (DAC) of the OECD, Japan was the fourth-largest contributor behind the U.S.A., Germany and the U.K. The ratio of Japan's ODA to Gross National Income (GNI) was

0.23 percent, or an increase of 0.03 percentage points compared with that of the previous year.

Figure 11.6
Trends in ODA by Country 1)



1) Net disbursement at current prices and exchange rate designated by DAC.
Source: OECD.

Of the 11.5 billion U.S. dollars in ODA provided by Japan in 2017, 8.1 billion was bilateral ODA (up 14.6 percent year-on-year), and 3.4 billion was ODA contributed through multilateral institutions (up 0.4 percent).

Bilateral ODA (net disbursement at current prices, including assistance to graduated countries) provided in 2017 consisted of 2.6 billion U.S. dollars of grant assistance, 2.9 billion of technical assistance, and 2.5 billion of loans.

By region, bilateral ODA (net disbursement at current prices, including assistance to graduated countries) was distributed as follows: Asia, 3,600 million U.S. dollars; Sub-Saharan Africa, 1,595 million U.S. dollars; Middle East and North Africa, 1,079 million U.S. dollars; Oceania, 231 million U.S. dollars; Europe, 25 million U.S. dollars; and Latin America and the Caribbean, -344 million U.S. dollars (the negative figure (-) indicates that repayments of loans, etc. exceeded the disbursed amount.).

Table 11.8

Regional Distribution of Bilateral ODA [1)]

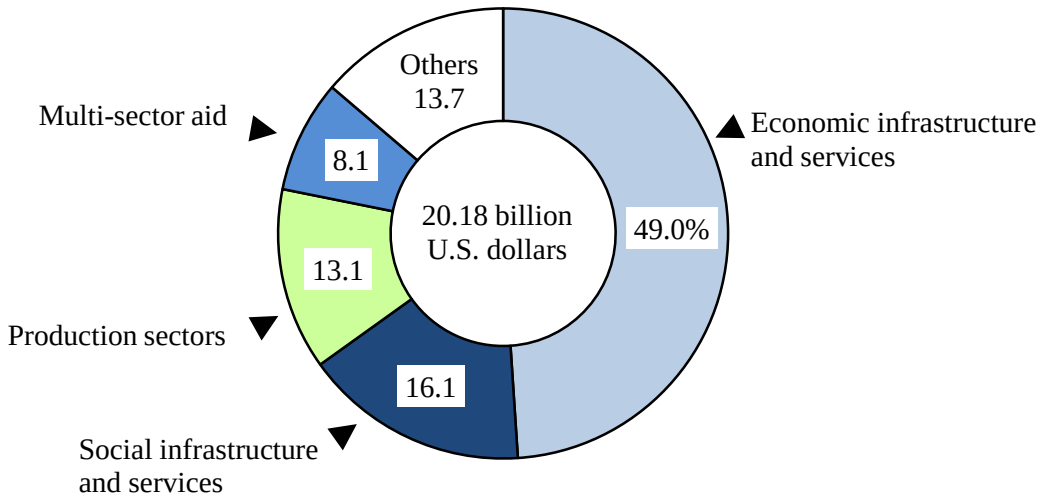
(Million U.S. dollars)

Region	1990	2000	2010	2015	2017
Total	6,940	9,640	7,428	6,134	8,036
Asia	4,117	5,284	2,529	1,626	3,600
ASEAN [2)]	2,299	# 3,126	902	570	376
Middle East and North Africa	666	727	1,592	864	1,079
Sub-Saharan Africa	831	970	1,733	1,807	1,595
Latin America and the Caribbean	561	800	-344	-17	-344
Oceania	114	151	176	112	231
Europe	158	118	181	48	25
Multiple regions, etc.	494	1,592	1,562	1,694	1,850

1) Net disbursement at current prices and exchange rate designated by DAC. Including assistance to graduated countries. The negative figure (-) indicates that repayments of loans, etc. exceeded the disbursed amount. 2) The data in 1990: 6 countries, the data from 2000: 10 countries.
Source: Ministry of Foreign Affairs.

Bilateral ODA in 2017 (including assistance to graduated countries) was broken down by purpose (on a commitment basis) as follows: 49.0 percent for improving economic infrastructure and services, followed in descending order by social infrastructure and services (including education, water and sewerage), with 16.1 percent.

Figure 11.7
Distribution of Bilateral ODA by Sector [1)] (2017)



1) Commitment basis. Including assistance to graduated countries.
Source: Ministry of Foreign Affairs.

In addition to the financial assistance described above, Japan has also been active in the areas of human resources development and technology transfer through its ODA activities, both of which are vital to the growth of developing countries.

Table 11.9
Number of Persons Involved in Technical Cooperation by Type [1)]

Type of cooperation	FY2010	FY2014	FY2015	FY2016	FY2017
Total	41,212	43,660	46,771	39,327	39,932
Trainees received	23,978	24,101	25,203	17,613	17,138
Dispatched					
Experts	8,296	9,889	11,134	10,284	11,098
Research team	7,046	8,056	8,914	9,955	10,228
Japan Overseas					
Cooperation Volunteers	1,459	1,267	1,198	1,132	1,171
Other volunteers	433	347	322	343	297

1) Numbers of persons newly received/dispatched in the aforementioned fiscal year.
Source: Japan International Cooperation Agency.

Chapter 12

Labour

Because of the effects of the Great East Japan Earthquake which occurred in March 2011, the data on labour in 2011 (1. Labour Force - 3. Unemployment) are supplementary estimated figures.

1. Labour Force

After the population in Japan aged 15 years old and over peaked at 111.17 million people in 2011, it has been broadly flat since 2012. In 2018, this population reached 111.01 million people.

The labour force (among the population aged 15 years old and over, the total of employed persons and unemployed persons) was decreasing in the 2000s in association with aging of the population, but shifted to an increase in 2013. The labour force numbered 68.3 million people in Japan in 2018, up 1.1 million (1.6 percent) for the sixth consecutive year of increase.

The labour force participation rate (the rate of the labour force to the population aged 15 years old and over) was 61.5 percent in 2018 (up 1.0 percentage points from the previous year). Observed by gender, the rate was 71.2 percent for males (up 0.7 percentage points) and 52.5 percent for females (up 1.4 percentage points).

Table 12.1
Population by Labour Force Status

(Thousands)

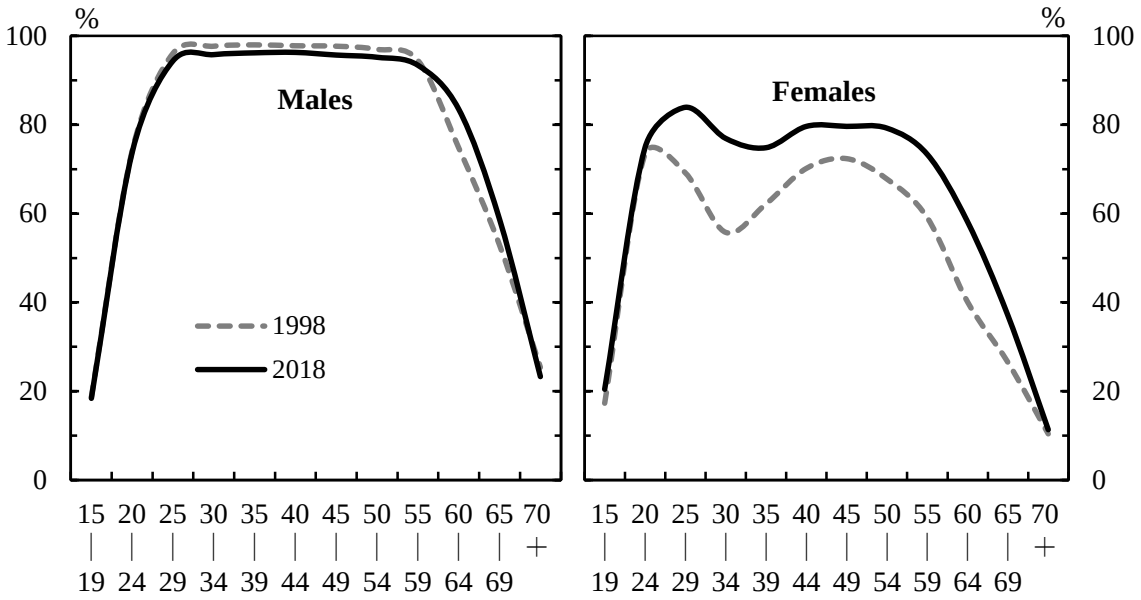
Year	Population aged 15 years old and over	Labour force			Not in labour force	Unemployment rate (%)
		Total	Employed	Unemployed		
Total						
2005	110,080	66,510	63,560	2,940	43,460	4.4
2010	111,110	66,320	62,980	3,340	44,730	5.1
2014	111,090	66,090	63,710	2,360	44,940	3.6
2015	111,100	66,250	64,010	2,220	44,790	3.4
2016	111,110	66,730	64,650	2,080	44,320	3.1
2017	111,080	67,200	65,300	1,900	43,820	2.8
2018	111,010	68,300	66,640	1,660	42,630	2.4
Males						
2005	53,230	39,010	37,230	1,780	14,160	4.6
2010	53,650	38,500	36,430	2,070	15,130	5.4
2014	53,630	37,760	36,350	1,420	15,830	3.7
2015	53,650	37,730	36,390	1,350	15,880	3.6
2016	53,660	37,810	36,550	1,260	15,820	3.3
2017	53,650	37,840	36,720	1,120	15,780	3.0
2018	53,620	38,170	37,170	990	15,420	2.6
Females						
2005	56,850	27,500	26,330	1,160	29,300	4.2
2010	57,460	27,830	26,560	1,280	29,600	4.6
2014	57,460	28,320	27,370	960	29,110	3.4
2015	57,460	28,520	27,640	890	28,910	3.1
2016	57,450	28,920	28,100	820	28,500	2.8
2017	57,430	29,370	28,590	780	28,030	2.7
2018	57,390	30,140	29,460	670	27,210	2.2

Source: Statistics Bureau, MIC.

The female labour force participation rate by age group is in an M-shaped curve, which implies that females leave the labour force when they get married or give birth and then rejoin the labour force after their child has grown. However, the shape of the M-shaped curve has been changing in recent years. A comparison with the data from 20 years ago (1998) shows that, in 2018, the 35-39 age group replaced the 30-34 age group to form

the bottom of the M-shaped curve. The participation rate rose by 21.1 percentage points in the 30-34 age group and by 12.6 percentage points in the 35-39 age group, making the bottom of the M-shaped curve flatter and more gradual. While this is thought to be greatly affected by the progression of enhancement of the legal system to balance work and childcare, and the improvement of work environment of companies, there are also effects from the trend of getting married and having children later in life.

Figure 12.1
Labour Force Participation Rate by Gender and Age Group



Source: Statistics Bureau, MIC.

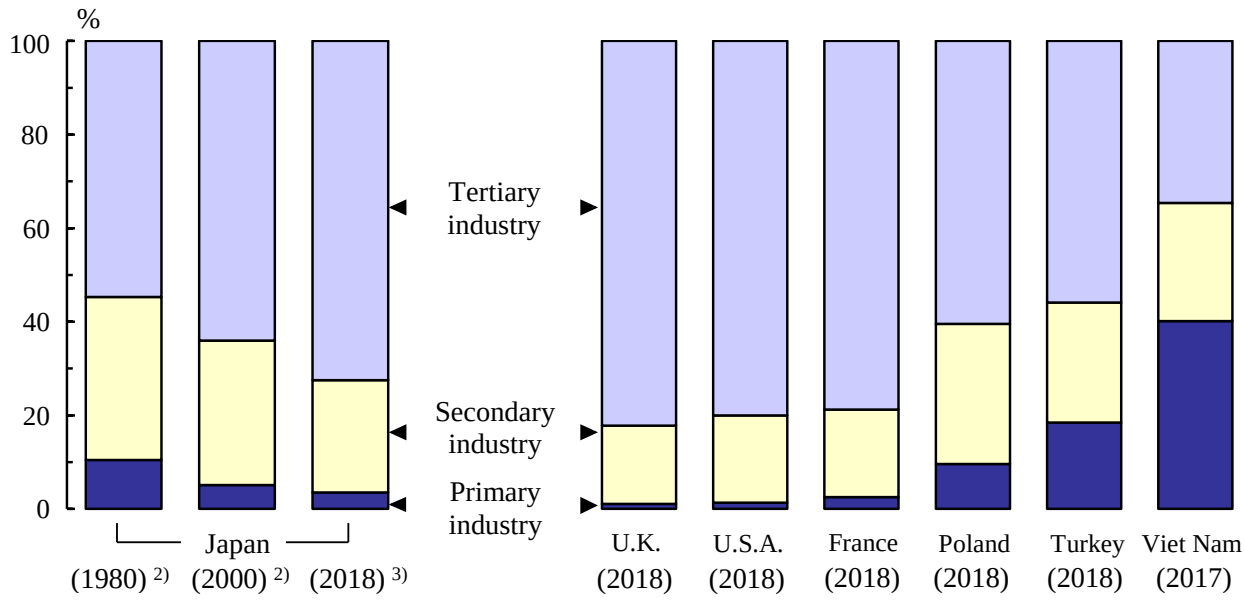
2. Employment

The number of employed persons declined between 1998 and 2003, and increased between 2004 and 2007. After a downward trend between 2008 and 2012, the number of employed persons started increasing again in 2013. The increase amounted to 1.34 million in 2018, from 65.3 million (58.8 percent of the population aged 15 years old and over) in the previous year to 66.64 million (60.0 percent).

(1) Employment by Industry

In 2018, the primary industry accounted for 3.5 percent of the total of employed persons; the secondary industry, 24.0 percent; and the tertiary industry, 72.5 percent.

Figure 12.2
Structure of Employment by Country 1)



1) As to the countries other than Japan, the industrial classification is the International Standard Industrial Classification of all economic activities, Revision 4 (ISIC Rev.4).
2) The industrial classification is the 10th revision of the Japan Standard Industrial Classification (JSIC).
3) The industrial classification is the 13th revision of the JSIC.
Source: Statistics Bureau, MIC; International Labour Organization.

Over the long term, the percentage of persons employed in the primary industry and in the secondary industry have been continually falling, while the percentage of persons employed in the tertiary industry has been continually rising. Within the tertiary industry, the number of those in "medical, health care and welfare" has been increasing.

Depending on the industrial sector, a difference was seen in the employment tendency between males and females. In 2018, the percentage of male employment was highest in "mining and quarrying of stone and gravel", followed by "electricity, gas, heat supply and water" and "construction". The percentage of female employment was highest in "medical, health care and welfare", followed by "accommodations, eating and drinking services" and "living-related and personal services and amusement services".

Table 12.2
Employment by Industry

(Thousands)

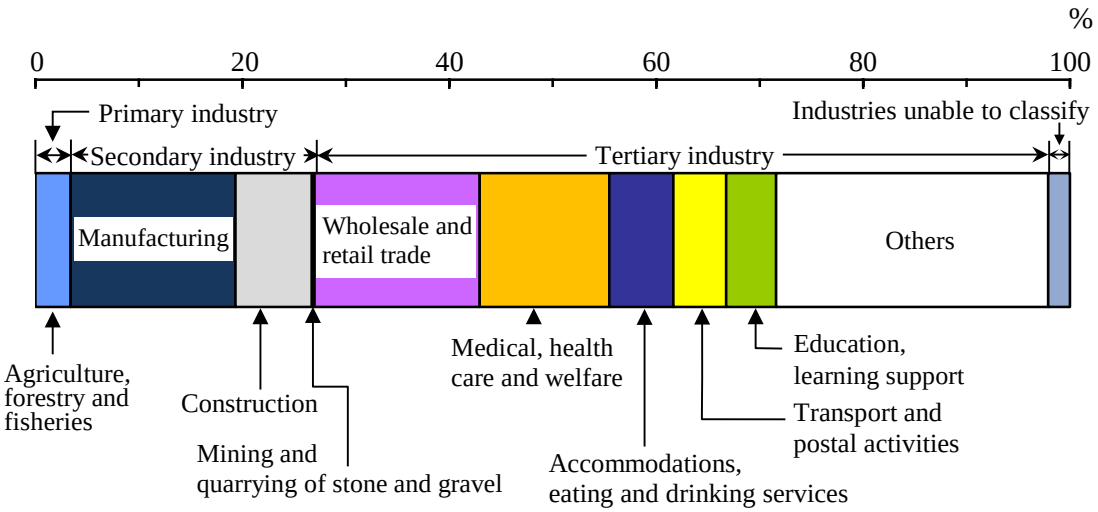
Industries	2015	2016	2017	2018	Percentage [1]	
					Males	Females
Total [2]	64,010	64,650	65,300	66,640	55.8	44.2
Primary industry	**2,290**	**2,230**	**2,210**	**2,280**	**61.8**	**38.2**
Agriculture and forestry	2,090	2,030	2,010	2,100	61.0	39.0
Fisheries	200	200	200	180	72.2	27.8
Secondary industry	**15,440**	**15,430**	**15,530**	**15,660**	**74.2**	**25.8**
Mining and quarrying of stone and gravel	30	30	30	30	100.0	-
Construction	5,020	4,950	4,980	5,030	83.7	16.3
Manufacturing	10,390	10,450	10,520	10,600	69.7	30.3
Tertiary industry	**45,270**	**46,000**	**46,490**	**47,310**	**49.5**	**50.5**
Electricity, gas, heat supply and water	290	300	290	280	85.7	14.3
Information and communications	2,090	2,080	2,130	2,200	73.8	26.2
Transport and postal activities	3,360	3,390	3,400	3,410	79.2	20.8
Wholesale and retail trade	10,580	10,630	10,750	10,720	48.3	51.7
Finance and insurance	1,540	1,630	1,680	1,630	46.3	53.7
Real estate and goods rental and leasing	1,210	1,240	1,250	1,300	60.0	40.0
Scientific research, professional and technical services	2,150	2,210	2,300	2,390	65.0	35.0
Accommodations, eating and drinking services	3,840	3,910	3,910	4,160	37.6	62.4
Living-related and personal services and amusement services	2,300	2,340	2,340	2,360	39.6	60.4
Education, learning support	3,040	3,080	3,150	3,210	42.2	57.8
Medical, health care and welfare	7,880	8,110	8,140	8,310	24.5	75.5
Compound services	590	620	570	570	57.9	42.1
Services, n.e.c.	4,090	4,150	4,290	4,450	59.9	40.1
Government [3]	2,310	2,310	2,290	2,320	72.8	27.2

1) Calculated from figures rounded to thousands. "-" indicates figures where the numerator is "0", due to it being less than half of the given unit.

2) Including "Industries unable to classify". 3) Excluding elsewhere classified.

Source: Statistics Bureau, MIC.

Figure 12.3
Distribution of Employment by Industry (2018)



Source: Statistics Bureau, MIC.

(2) Employment by Occupation

In terms of occupation, the "administrative and managerial workers" category has been declining in recent years. The number was 1.34 million in 2018, down 6.9 percent from the previous year's 1.44 million. In contrast, "service workers" such as home-care workers have been on a rising trend over the past few years due to a trend toward a service-oriented economy, the aging population, and improvements on welfare services. There is also a rising trend in the number of "professional and engineering workers". The number was 11.31 million in 2018, which accounted for approximately 17.0 percent of the total employed persons.

Table 12.3
Employment by Occupation

(Thousands)

Occupation	2015	2016	2017	2018	Percentage	
					Males	Females
Total [1]	64,010	64,650	65,300	66,640	55.8	44.2
Administrative and managerial workers	1,450	1,470	1,440	1,340	85.2	14.8
Professional and engineering workers	10,590	10,850	11,110	11,310	52.5	47.5
Clerical workers	12,620	12,820	12,950	13,110	39.4	60.6
Sales workers	8,560	8,550	8,620	8,640	56.1	43.9
Service workers	7,890	8,050	8,080	8,440	31.8	68.2
Security workers	1,260	1,270	1,240	1,310	93.1	6.9
Agricultural, forestry and fishery workers	2,230	2,170	2,170	2,220	64.0	36.0
Manufacturing process workers	8,870	8,800	8,890	9,120	70.7	29.3
Transport and machine operation workers	2,180	2,180	2,190	2,180	97.2	2.8
Construction and mining workers	2,990	2,990	3,020	2,980	98.0	2.0
Carrying, cleaning, packaging, and related workers	4,470	4,580	4,640	4,750	54.8	45.2

1) Including figures unclassifiable or not reported.

Source: Statistics Bureau, MIC.

In 2018, the percentages of male and female employed persons by occupation show that males were particularly prominent among "construction and mining workers" (98.0 percent) and "transport and machine operation workers" (97.2 percent). Females were prominent among "service workers" (68.2 percent) and "clerical workers" (60.6 percent).

(3) Employment by Employment Pattern

With regard to the trends in the number of employed persons by employment pattern, non-regular staff members, such as part-time workers and agency-dispatched workers, have been increasing continuously for the ninth consecutive year since 2010. The number of regular staff members was on a slight declining trend in the 2000s and the early 2010s, but began to rise in 2015 and has continued to rise for 4 years in a row.

In 2018, there were 55.96 million employees (excluding company executives), 21.2 million of whom, or 37.9 percent, were non-regular staff members. The ratio of non-regular staff members among all male employees was 22.2 percent, while the corresponding ratio for females was

56.1 percent, revealing a large difference between the genders.

With regard to the percentage of non-regular staff members to the total of regular and non-regular staff members by gender and age group, for males, the percentages of young people aged 15 to 24 years old, and the elderly aged 65 years old and over were high. Among females, non-regular staff members accounted for more than 50 percent across all age groups, with the exception of females aged 25 to 34 years old.

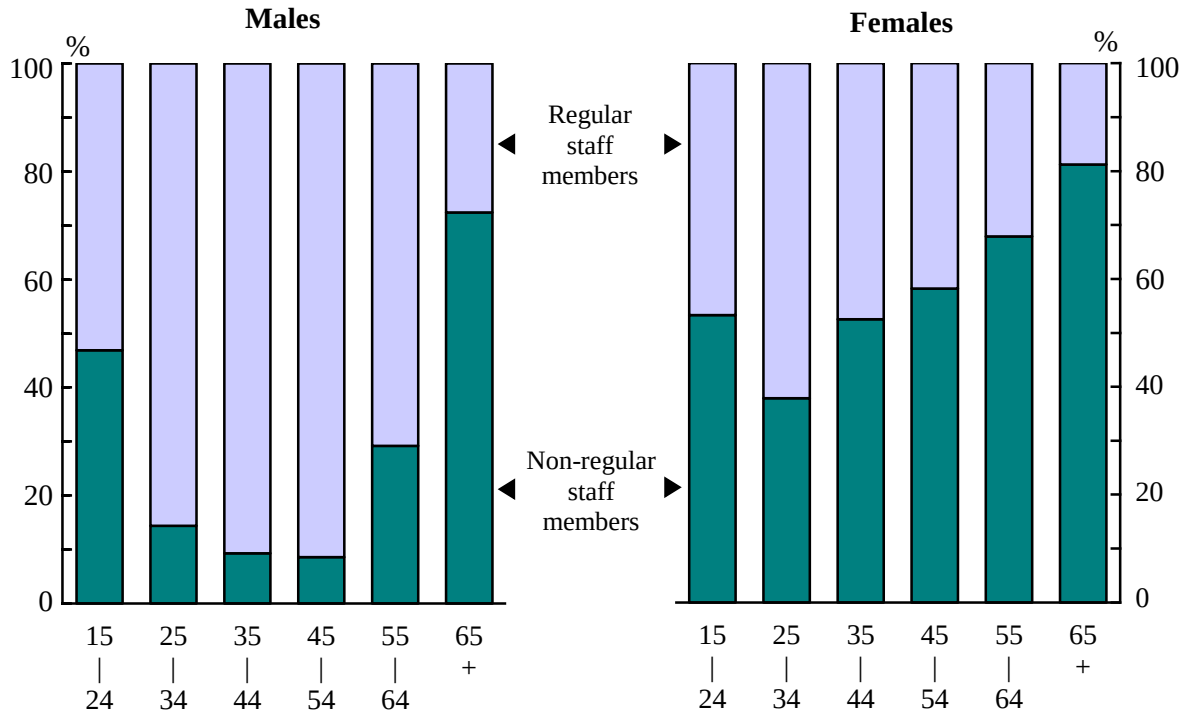
Table 12.4
Employment by Employment Pattern (2018)

(Thousands)

	Employees[1)]	Regular staff members	Percentage	Non-regular staff members	Percentage
Total	55,960	34,760	62.1	21,200	37.9
Males	30,080	23,390	77.8	6,690	22.2
Females	25,880	11,370	43.9	14,510	56.1

1) Excluding company executives.
Source: Statistics Bureau, MIC.

Figure 12.4
Employment Pattern by Gender and Age (2018)



Source: Statistics Bureau, MIC.

With regard to the main reasons for the current employment patterns of males and females who are non-regular staff members, for males, the reason "For working at convenient times" was the most popular, on average in 2018, with 1.71 million males (27.7 percent) choosing this reason, up 0.14 million people as compared to the previous year. The most popular reason among females was also "For working at convenient times", with 4.27 million females (30.9 percent) choosing this reason, up 0.44 million people.

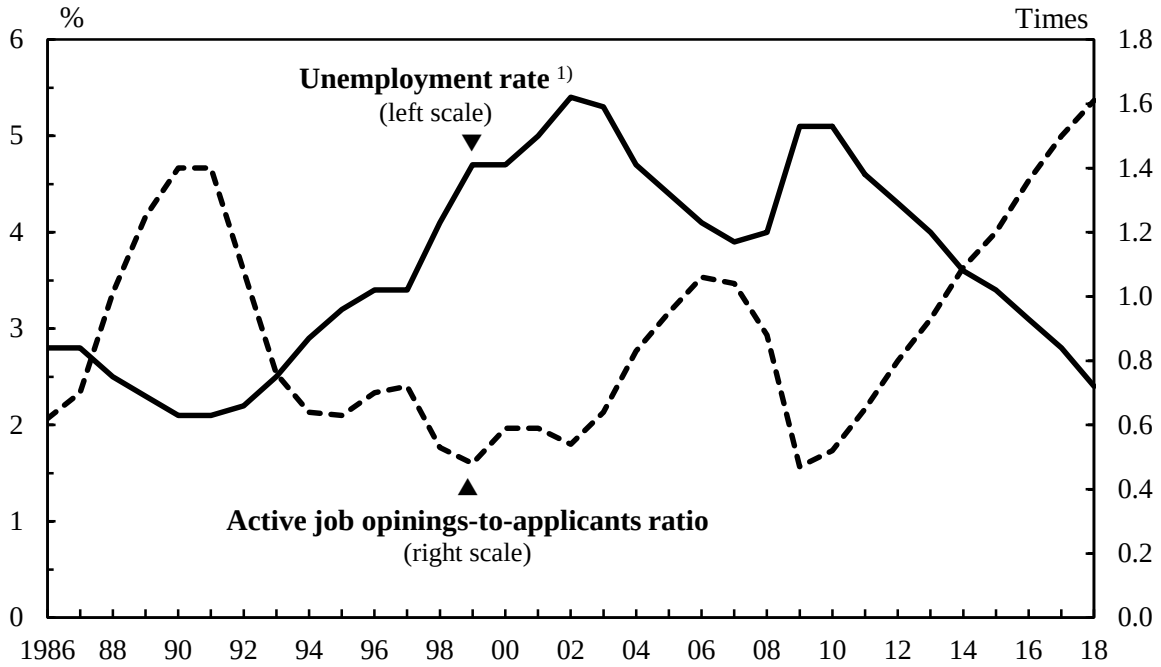
The employment rate of new graduates was not good as a result of the economic slowdown since 2008, but in recent years, their employment situation has been improving continuously and they have maintained high levels of employment.

3. Unemployment

In 2018, the unemployed persons numbered 1.66 million people, down 12.6 percent from the previous year and representing a decline for the ninth consecutive year. The unemployment rate was 2.4 percent, down 0.4 percentage points from the previous year and continued declining for 8 years in a row.

After the active job openings-to-applicants ratio peaked in 2006, it was on a falling trend. Since 2009, the ratio has been increasing. The ratio was 1.61 times in 2018, up 0.11 points from the previous year, reaching the second highest level in history, following a ratio of 1.76 in 1973, at the end of the period of rapid economic growth.

Figure 12.5
Unemployment Rate and Active Job Openings-to-Applicants Ratio

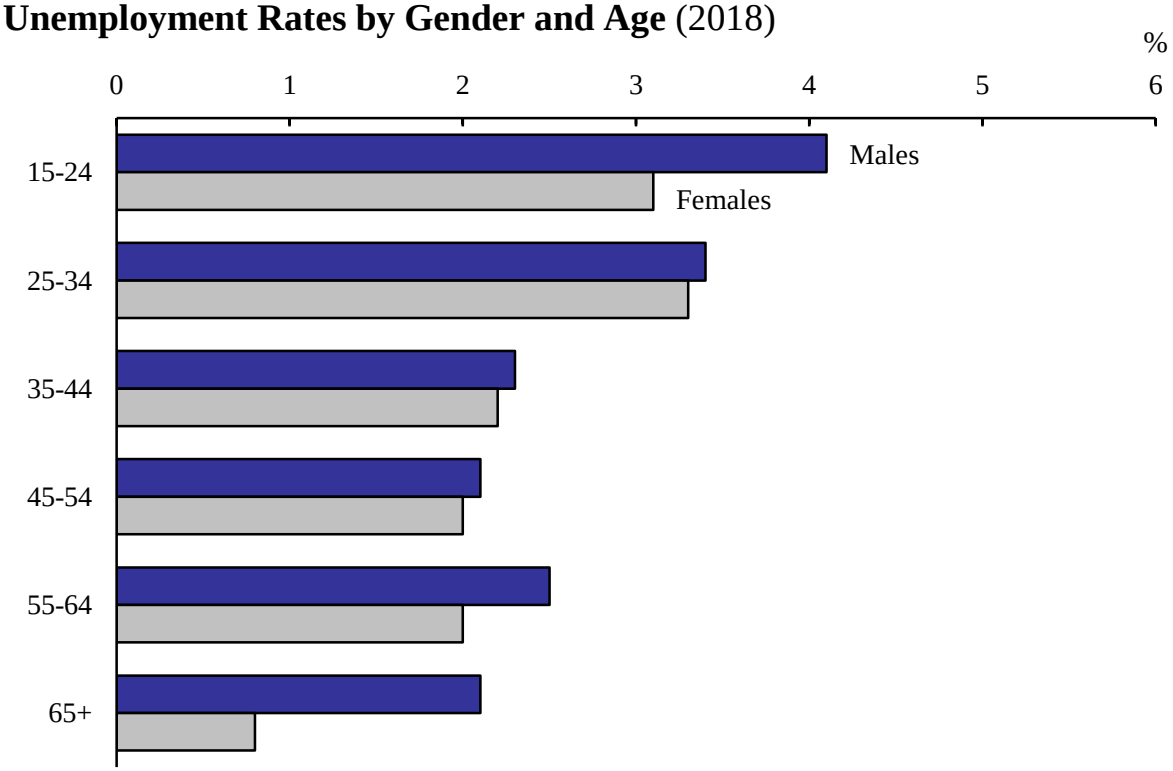


1) The data for 2011 indicates supplementary estimated figure.
Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare.

The breakdown by gender shows that the unemployment rate in 2018 was 2.6 percent among males, and 2.2 percent among females. The unemployment rate among males has been higher since 1998.

The unemployment rate was higher in younger age groups than in other age groups, in males and females alike.

Figure 12.6
Unemployment Rates by Gender and Age (2018)

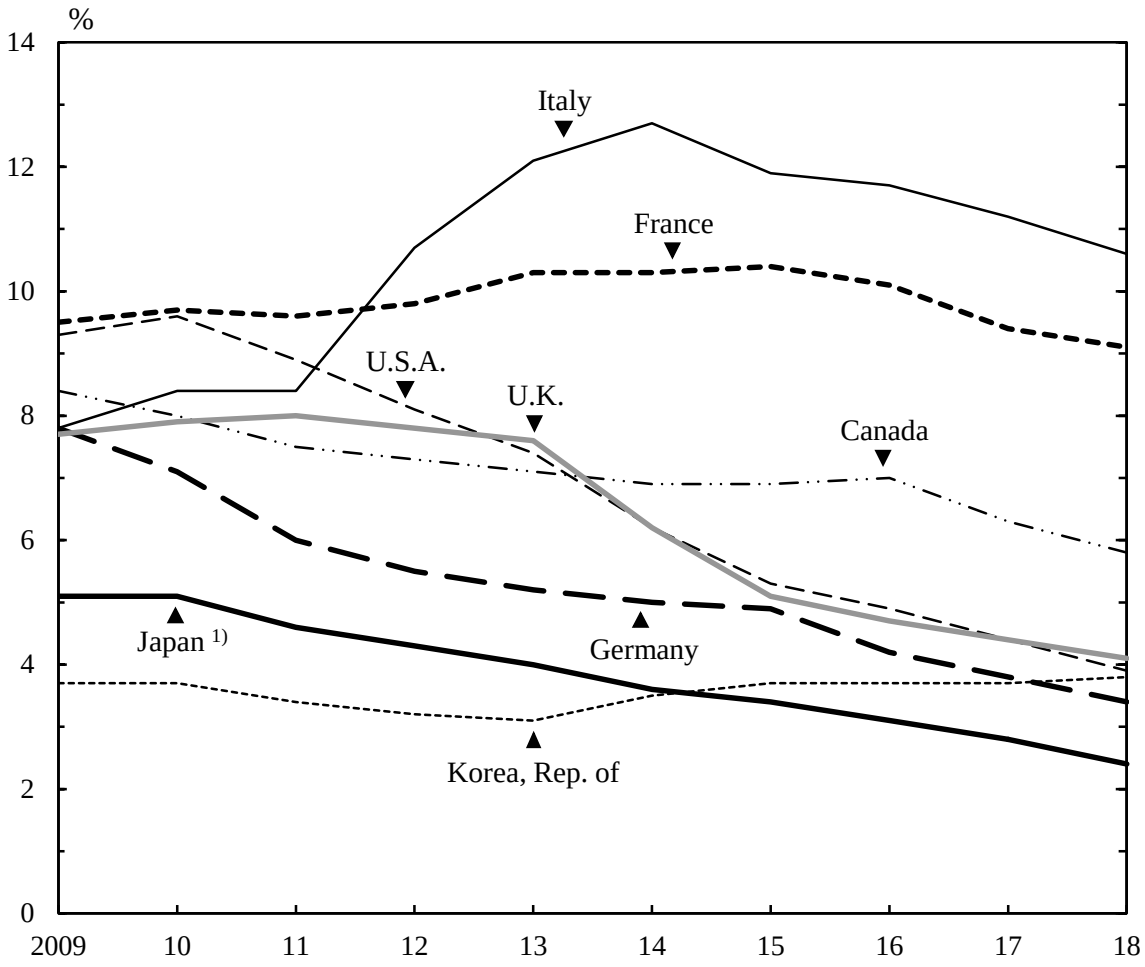


Source: Statistics Bureau, MIC.

With regard to the total number of unemployed persons in 2018, by reason for job-seeking, the major reasons were: (i) involuntary separation due to corporate or business circumstances, or reaching retirement age limit, 0.4 million persons; (ii) voluntary separation for personal or family reasons, 0.71 million persons; (iii) new job seekers due to the necessity to earn income, 0.18 million; and (iv) new job seekers just graduated from school, 0.06 million.

In terms of the duration of unemployment, the largest was unemployed for "less than 3 months" (0.63 million persons), followed by "1 year or more" (0.53 million persons).

Figure 12.7
Unemployment Rates by Country



1) The data for 2011 indicates supplementary estimated figure.
Source: Statistics Bureau, MIC; Cabinet Office.

4. Hours Worked and Cash Earnings

In 2018, the monthly average of total hours worked was 142.2 per regular employee (in establishments with 5 or more regular employees), down 0.8 percent from the previous year, and an annual average was 1,706 hours.

Of the total monthly hours worked per regular employee, 131.4 were scheduled hours worked, representing a decrease of 0.8 percent from the previous year. Non-scheduled hours worked such as overtime work were 10.8 hours, representing a decrease of 1.4 percent from the previous year. Monthly days worked per regular employee were 18.4 days in 2018.

In 2018, the monthly average of total cash earnings per regular employee (in establishments with 5 or more regular employees) was 323,553 yen. This total amount consists of 264,582 yen in "contractual cash earnings" (which include "scheduled cash earnings" plus "non-scheduled cash earnings" for working overtime, on holidays and late at night, as well as other allowances), and 58,971 yen in "special cash earnings" (which include summer and year-end bonuses, payments to celebrate employees' marriages, etc.).

Table 12.5

Hours Worked and Cash Earnings [1] (Monthly average)

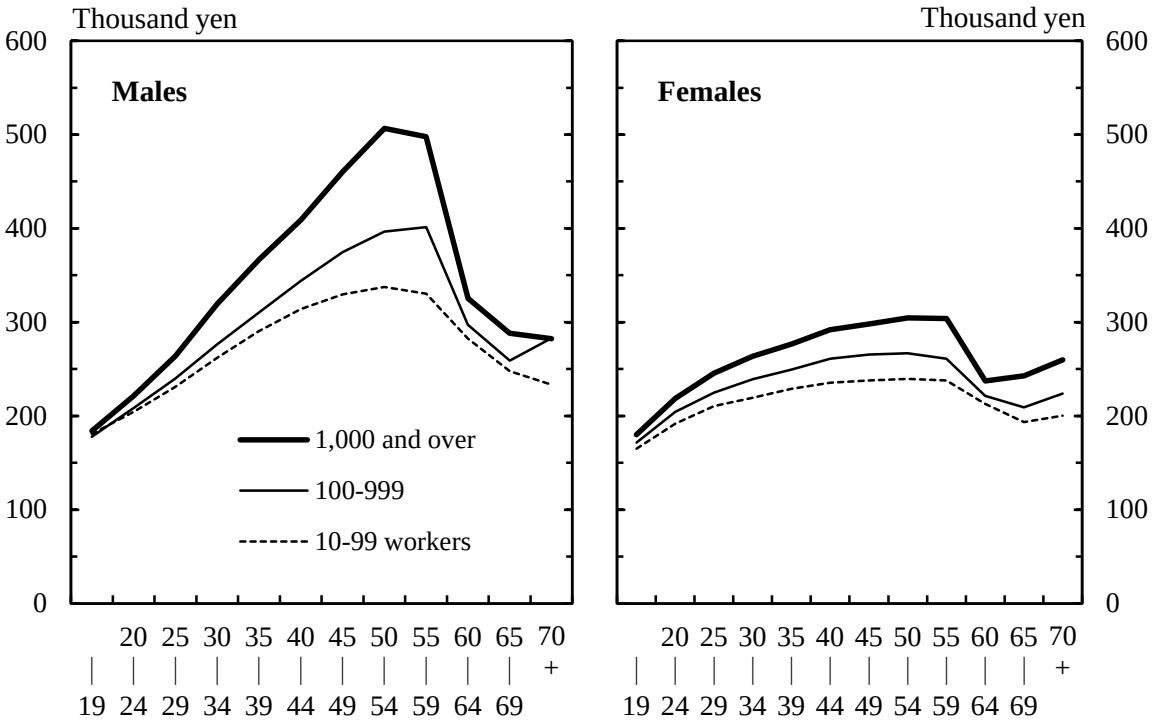
Year	Days worked	Hours Worked			Cash Earnings (1,000 yen)				
		Total	Scheduled	Non-scheduled	Total	Contractual	Scheduled	Non-scheduled	Special [2]
2014	18.8	145.1	134.1	11.0	319	263	243	20	56
2015	18.7	144.5	133.5	11.0	316	261	241	20	55
2016	18.6	143.7	132.9	10.8	318	261	242	20	57
2017	18.5	143.3	132.4	10.9	319	262	243	20	57
2018	18.4	142.2	131.4	10.8	324	265	245	20	59
Indices (2015 average = 100)									
2014	-	100.4	100.3	101.1	99.9	99.7	99.7	-	-
2015	-	100.0	100.0	100.0	100.0	100.0	100.0	-	-
2016	-	99.5	99.6	98.4	100.7	100.2	100.3	-	-
2017	-	99.3	99.2	99.5	101.1	100.7	100.8	-	-
2018	-	98.5	98.4	98.1	102.5	101.6	101.6	-	-

1) Establishments with 5 or more regular employees. 2) Bonuses and other special allowances.

Source: Ministry of Health, Labour and Welfare.

The average earnings (scheduled cash earnings) in Japan go up with age until roughly the 40s to mid-50s and then decline. In the revision of the salary system, the percentage of companies that expanded salary in relation to "content of work, such as position and job type", rather than "job performance" and "achievements and results" has beocome high.

Figure 12.8
Monthly Scheduled Cash Earnings by Size of Enterprise, Gender, and Age Group (2018)



Source: Ministry of Health, Labour and Welfare.

Chapter 13

Family Budgets and Prices

1. Family Budgets

In 2015, there were approximately 53 million private households in Japan, of which about 65 percent are two-or-more-person households and about 35 percent are one-person households. Family budgets vary significantly depending on the employment situation and ages of their members. In this section, family budgets in various types of households are described on the basis of the 2018 results of the "Family Income and Expenditure Survey".

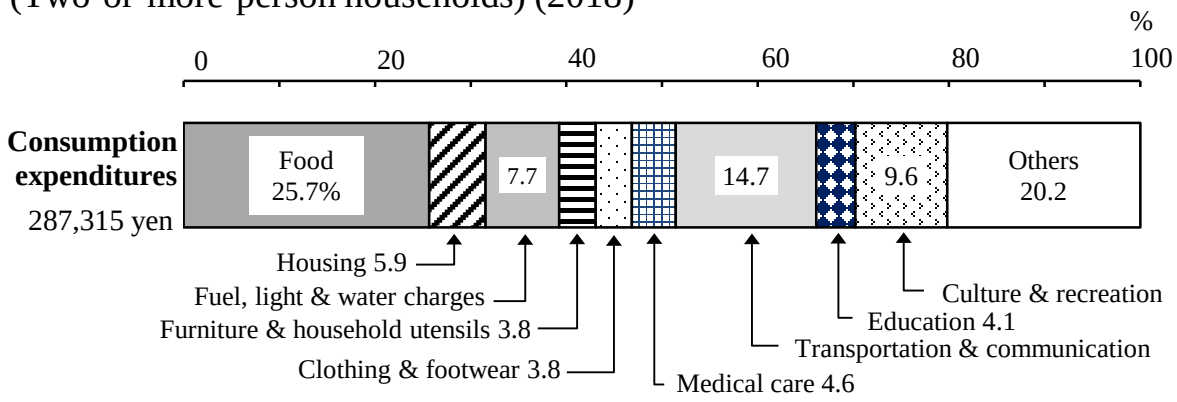
(1) Income and Expenditure

(A) Two-or-more-person Households

The 2018 average monthly consumption expenditures per two-or-more-person household (the average number of household members being 2.98 and the average age of the household head being 59.3 years) was 287,315 yen. Compared to the previous year, it increased by 0.8 percent in nominal terms and decreased by 0.4 percent in real terms. The share of food expenses to total consumption expenditures (Engel's coefficient) was 25.7 percent.

With regard to the real annual change in consumption expenditures, 2018 marks the fifth consecutive year of decrease in the real annual change that started in 2014.

Figure 13.1
Average Monthly Consumption Expenditures 1)
(Two-or-more-person households) (2018)



1) Use Classification.
Source: Statistics Bureau, MIC.

(a) Workers' Households

A workers' household means a household of which the head is employed by a company, public office, school, factory, store, etc. The average income of workers' households (the average number of household members being 3.32 and the average age of the household head being 49.6 years) was 558,718 yen in 2018. With regard to the breakdown of income, regular income by the household head makes up the majority. The ratio of income by spouses has been increasing little by little, however.

Table 13.1

Average Monthly Income and Expenditures (Workers' households [1])

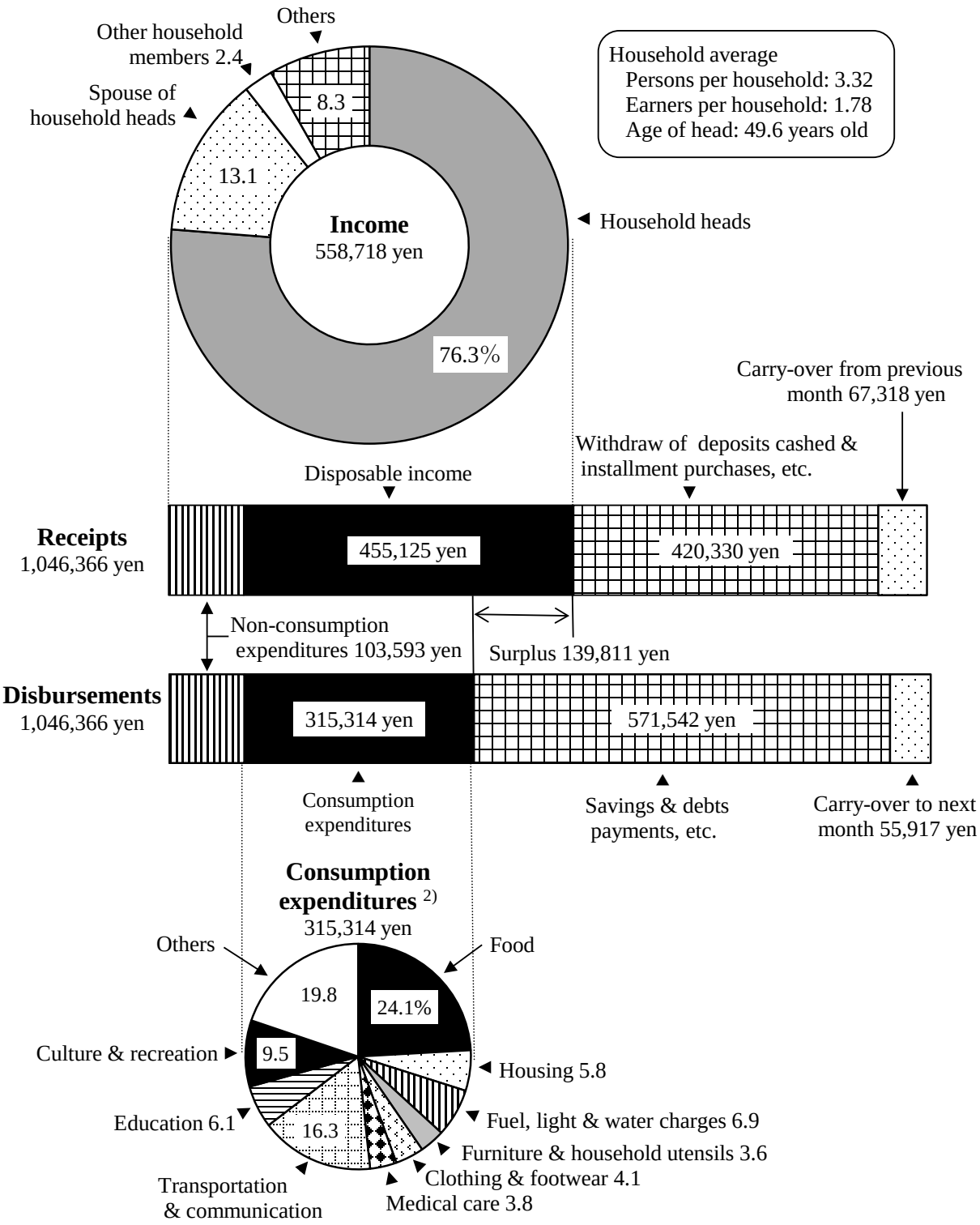
(Thousand yen)

Item	2014	2015	2016	2017	2018
Income (A)	519.8	525.7	527.0	533.8	558.7
Wages and salaries	483.3	485.6	487.9	493.8	512.6
Others	36.5	40.1	39.0	40.0	46.1
Disposable income (A-C)	423.5	427.3	428.7	434.4	455.1
Expenditures	415.0	413.8	407.9	412.5	418.9
Consumption expenditures (B)	318.8	315.4	309.6	313.1	315.3
Non-consumption expenditures (C) [2]	96.2	98.4	98.3	99.4	103.6
Surplus ((A-C)-B)	104.8	111.9	119.1	121.4	139.8
Net increase in deposits and insurance	77.1	84.4	91.3	97.0	121.1
Average propensity to consume (%) [3]	75.3	73.8	72.2	72.1	69.3
Ratio of net increase in deposits and insurance (%) [4]	18.2	19.8	21.3	22.3	26.6
Engel's coefficient (%)	22.3	23.6	24.2	23.8	24.1
Annual change (%) (real terms) [5]					
Disposable income	-3.8	-0.1	0.4	0.7	-0.4
Consumption expenditures	-3.3	-2.1	-1.7	0.5	-1.5

1) Two-or-more-person households. 2) Direct taxes, social insurance contributions, etc.
3) Ratio of consumption expenditures to disposable income. 4) Ratio of net increase in deposits and insurance to disposable income.
5) Figure of 2018 is "discontinuity-adjusted figure".
Source: Statistics Bureau, MIC.

Disposable income, calculated as income minus non-consumption expenditures such as taxes and social insurance contributions, was 455,125 yen. Of this disposable income, 315,314 yen was used for living expenses (consumption expenditures), such as food and housing expenses, while the remainder (surplus), totaling 139,811 yen, was applied to savings, life insurance premiums and repaying debt such as housing loans.

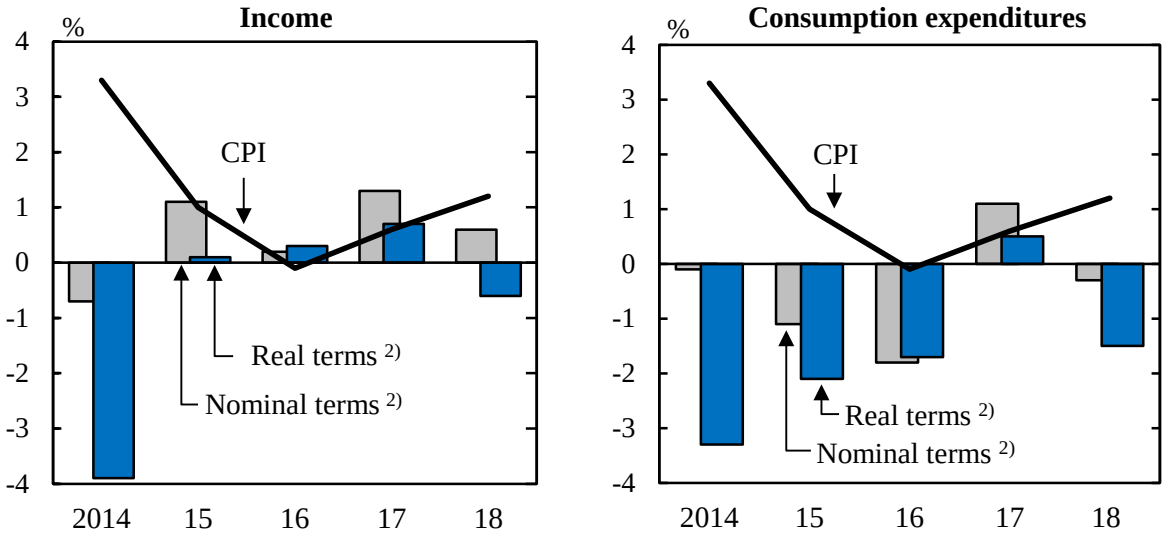
Figure 13.2
Balance of Income and Expenditures
(Monthly average, workers' households [1]) (2018)



1) Two-or-more-person households. 2) Use Classification.
Source: Statistics Bureau, MIC.

A comparison of consumption expenditures by category showed that spending on "furniture and household utensils" and "transportation and communication" increased from the previous year in real terms, while spending on "culture and recreation", "housing", etc. decreased in real terms.

Figure 13.3
Annual Change in Household Income and Consumption Expenditures
(Workers' households [1])

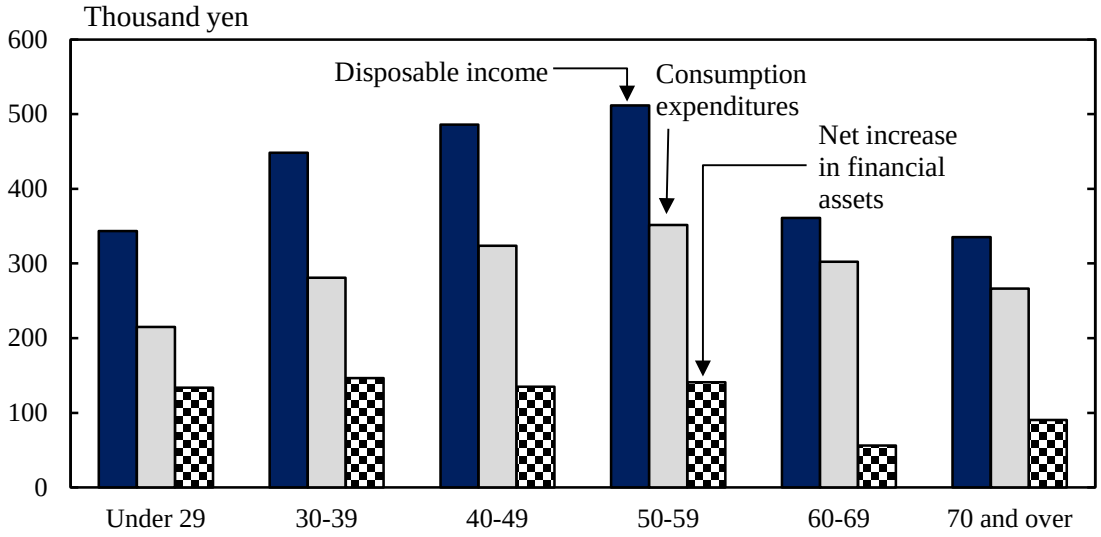


1) Two-or-more-person households. 2) Figure of 2018 is "discontinuity-adjusted figure".
Source: Statistics Bureau, MIC.

Family budgets differ among households according to their stages in life. Observed by age group of the household head, the 2018 average monthly disposable income of workers' households was the highest in households in the 50s group (511,894 yen), followed by those in the 40s group (486,087 yen) and the 30s group (448,355 yen).

The 2018 average propensity to consume (the ratio of consumption expenditures to disposable income) was the lowest in households in the under 29 group (62.6 percent). The figure was 62.7 percent for households in the 30s group, 66.6 percent in the 40s group, 68.7 percent in the 50s group, 83.7 percent in the 60s group, and 79.4 percent in the 70 and over group. The percentage tends to be higher as the age goes up, except for the 70 and over group. Meanwhile, a net increase in financial assets (an amount added to savings) was the highest in households in the 30s group, followed by those in the 50s group.

Figure 13.4
Average Monthly Family Income and Consumption Expenditures by Age Group of Household Head (Workers' households [1)]) (2018)



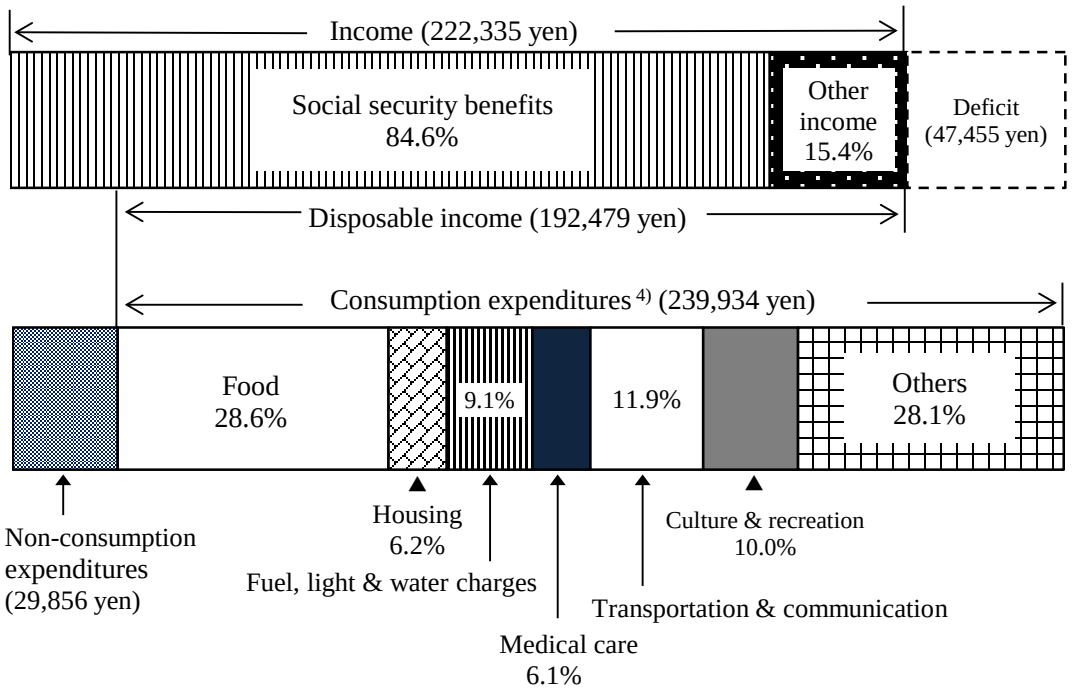
1) Two-or-more-person households.
Source: Statistics Bureau, MIC.

(b) Non-working Elderly Households

According to an analysis of the average monthly income and expenditures of non-working elderly households (two-or-more-person households where the age of the household head is 60 and over), the average income was 222,335 yen in 2018. Social security benefits amounted to 188,195 yen, thus accounting for 84.6 percent of income.

Disposable income averaged 192,479 yen, while consumption expenditures averaged 239,934 yen. The average propensity to consume in non-working elderly households was 124.7 percent, which means consumption expenditures exceeded disposable income. The deficit of disposable income to consumption expenditures (47,455 yen) decreased from that of the previous year (61,046 yen). This deficit was financed by withdrawing financial assets such as deposits, etc.

Figure 13.5
Average Monthly Income and Expenditures [1) 2)]
(Non-working elderly households [3)]) (2018)



1) The percentage of "Social security benefits" and "Other income" in the graph is in proportion to the income. 2) The percentage from "Food" to "Others" in the graph is in proportion to the consumption expenditures. 3) Two-or-more-person households.
4) Use Classification.
Source: Statistics Bureau, MIC.

(B) One-person Households

The average monthly consumption expenditures of one-person households in 2018 was 162,833 yen, down 1.2 percent in nominal terms and down 2.4 percent in real terms from the previous year. By age group, the average monthly consumption expenditure was 164,807 yen for the under 34 group, 182,207 yen for the 35-59 age group, and 152,792 yen for the 60 and over group. Spending on categories such as "fuel, light and water charges" and "medical care" tended to be larger in older age groups. Meanwhile, older age groups were found to spend increasingly less on categories such as "housing" and "culture and recreation".

Table 13.2
Average Monthly Consumption Expenditures by Age Group
(One-person households) (2018)

(Yen)

Item	Average		Under 34		35-59		60 and over	
	Actual figures	ratio (%)	Actual figures	ratio (%)	Actual figures	ratio (%)	Actual figures	ratio (%)
Consumption expenditures [1] ...	162,833	100.0	164,807	100.0	182,207	100.0	152,792	100.0
Food	40,026	24.6	41,358	25.1	45,378	24.9	36,986	24.2
Housing	22,645	13.9	35,104	21.3	23,548	12.9	18,146	11.9
Fuel, light and water charges	11,847	7.3	7,715	4.7	12,098	6.6	13,073	8.6
Furniture and household utensils	4,692	2.9	3,178	1.9	5,213	2.9	4,930	3.2
Clothing and footwear	5,312	3.3	7,568	4.6	6,399	3.5	4,043	2.6
Medical care	7,175	4.4	3,707	2.2	7,100	3.9	8,346	5.5
Transportation and communication	21,537	13.2	27,686	16.8	28,818	15.8	15,996	10.5
Culture and recreation	18,865	11.6	20,748	12.6	20,414	11.2	17,514	11.5
Others	30,734	18.9	17,743	10.8	33,238	18.2	33,759	22.1
Annual change (%) (real terms) [2]								
Consumption expenditures	-2.4		…		…		…	

1) Use Classification. 2) Discontinuity-adjusted figure.
Source: Statistics Bureau, MIC.

(2) Savings and Debts

Two-or-more-person households in 2018 showed that the average amount of savings per workers' household was 13.20 million yen, resulting in a ratio to yearly income (7.29 million yen) of 181.1 percent. The median value of household savings (the value of household savings that is in the middle when households are lined up in order from those with the lowest amount of savings to those with the highest amount of savings) was 7.98 million yen. On the other hand, the average amount of debt per household was 8.21 million yen, which was 112.6 percent relative to yearly income. The median value of households holding debts was 13.56 million yen. The portion of household debt accounted for by "housing and/or land" averaged 7.61 million yen. A total of 43.8 percent of workers' households held "debts for housing and/or land".

Table 13.3

Average Amount of Savings and Debts (Workers' households [1])

(Thousand yen)

Year	Yearly income	Savings	Ratio of savings to yearly income (%)	Debts	Housing and/or land	Ratio of debts to yearly income (%)	Ratio of households holding debts (%)
2014	7,020	12,900	183.8	7,560	7,100	107.7	52.9
2015	7,090	13,090	184.6	7,550	6,980	106.5	53.8
2016	7,150	12,990	181.7	7,810	7,160	109.2	53.9
2017	7,220	13,270	183.8	7,940	7,390	110.0	54.1
2018	7,290	13,200	181.1	8,210	7,610	112.6	54.6

1) Two-or-more-person households.

Source: Statistics Bureau, MIC.

By age group of household head, the average amount of savings was found to be the highest in the 60s group, while debts were the highest in the 30s group.

Table 13.4

Amount of Savings and Debts by Age Group of Household Head

(Workers' households [1]) (2018)

(Million yen)

Item	Average	Under 29	30-39	40-49	50-59	60-69	70 and over
Yearly income	7.29	5.33	6.30	7.54	8.76	6.16	5.75
Savings	13.20	3.90	6.28	9.83	16.76	20.74	18.39
Financial institutions	12.60	3.68	5.99	9.25	15.73	20.37	18.14
Demand deposits	3.83	1.75	2.91	3.37	4.10	5.20	4.96
Time deposits	4.44	0.79	1.51	2.88	5.37	8.60	7.07
Life insurance, etc.	3.07	0.94	1.20	2.34	4.34	4.48	3.34
Securities	1.27	0.20	0.38	0.66	1.92	2.09	2.78
Non-financial institutions	0.59	0.22	0.28	0.58	1.03	0.37	0.25
Debts	8.21	6.87	13.63	10.92	6.62	2.20	0.96
Housing and/or land	7.61	6.34	12.97	10.25	5.88	1.88	0.83
Other than housing and/or land	0.37	0.29	0.41	0.40	0.49	0.15	0.06
Monthly and yearly installments	0.23	0.25	0.25	0.26	0.25	0.17	0.07

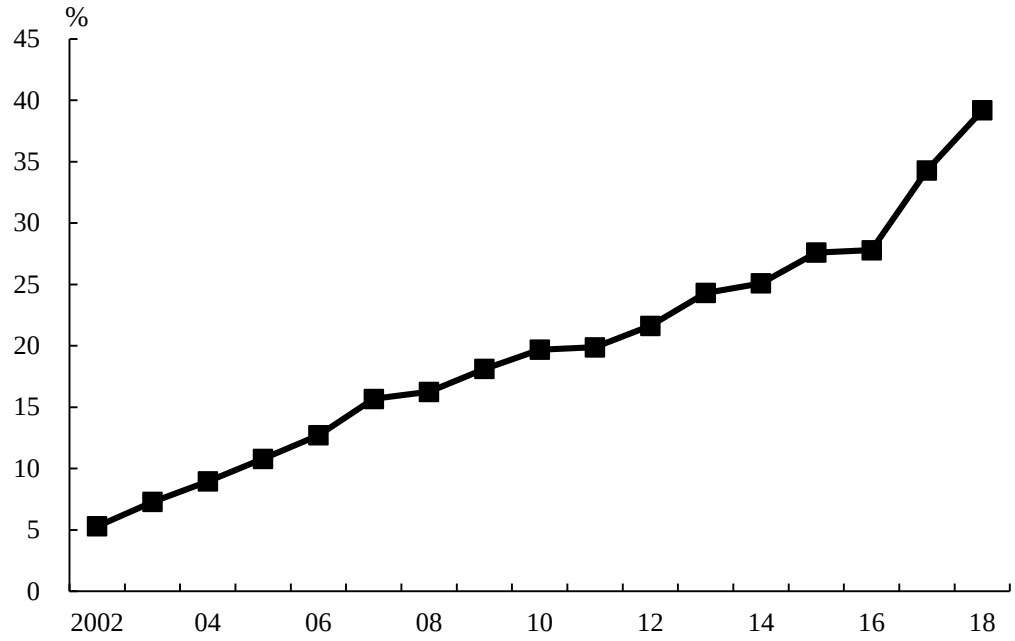
1) Two-or-more-person households.

Source: Statistics Bureau, MIC.

(3) Internet Shopping by Households

Due to popularization of computers, smartphones, etc., the use of Internet shopping has been increasing. According to the "Survey of Household Economy", the percentage of two-or-more-person households that utilize Internet shopping has continued to increase since 2002, reaching 39.2 percent in 2018. Total monthly expenditures used on Internet shopping amounted to an average of 12,610 yen per household.

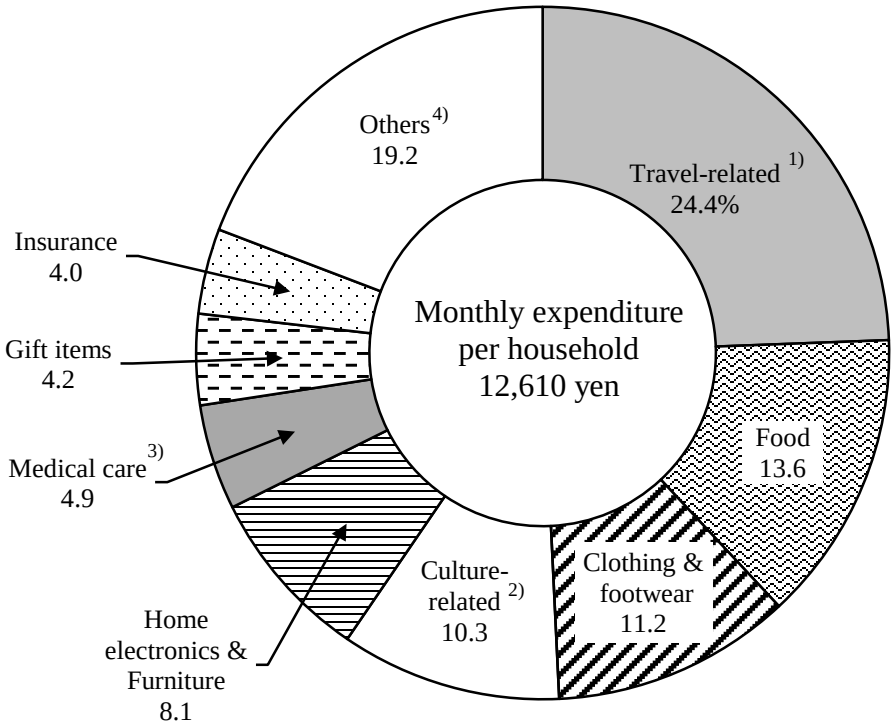
Figure 13.6
Proportion of Households Ordered over the Internet
(Two-or-more-person households)



Source: Statistics Bureau, MIC.

Looking at the breakdown of total expenditures per two-or-more-person households spent on Internet shopping, "travel-related" were the highest at 24.4 percent, followed by "food" at 13.6 percent, "clothing and footwear" at 11.2 percent, "culture-related" (such as books and music software) at 10.3 percent, and "home electronics and furniture" at 8.1 percent, etc.

Figure 13.7
Ratio of Expenditure on Goods and Services Ordered over the Internet
(Two-or-more-person households) (2018)

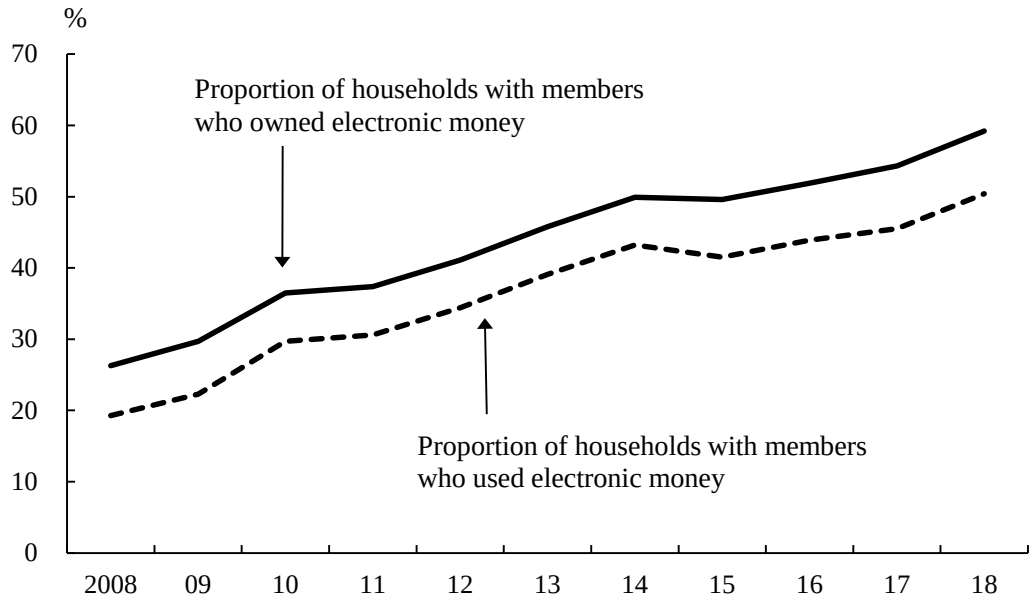


1) Total of accommodation services, fares and package tours. 2) Total of books and other reading materials, software (music, video, personal computer, TV game), digital books, download music, video, applications and tickets. 3) Total of medicines and health foods.
4) Total of cosmetics, private transportation, other goods and services.
Source: Statistics Bureau, MIC.

(4) Electronic Money

Use of electronic money has been increasing, as a means for settling accounts that can be easily used at transportation facilities, convenience stores, supermarkets, etc. Based on two-or-more-person households in the "Survey of Household Economy", the percentage of households with members who have electronic money and the percentage of households with members who have used electronic money have been on an increasing trend starting in 2008. In 2018, the percentage of households with electronic money was 59.2 percent, and the percentage of households that have used electronic money was 50.4 percent, indicating increases as compared to the previous year.

Figure 13.8
Trends in Ownership and Utilization of Electronic Money
(Two-or-more-person households)



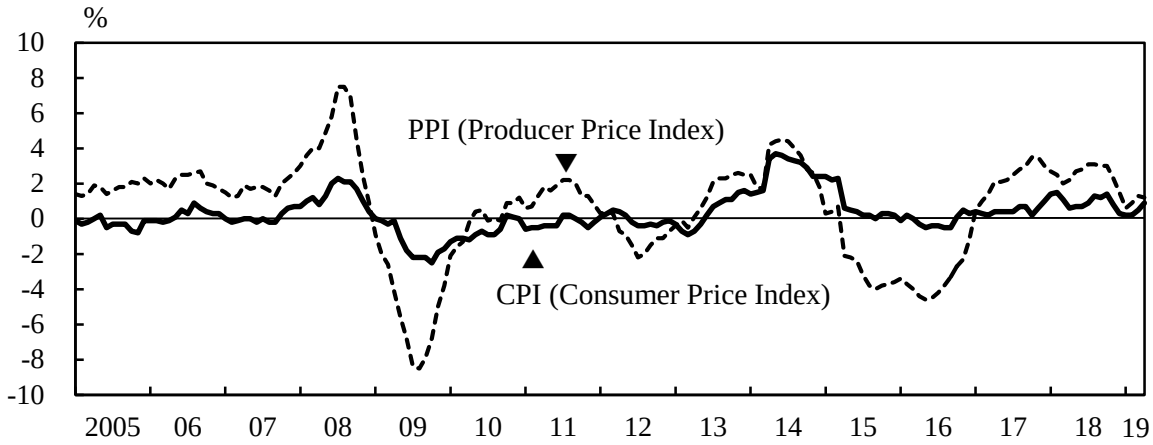
Source: Statistics Bureau, MIC.

2. Prices

Producer prices are easily affected by changes in the price of imported raw materials such as crude petroleum and iron ore, due to fluctuations in the conditions of international commodity markets as well as in the exchange rate, and its impact is significant in advances and declines from 2008 to 2009 around the time of the bankruptcy of Lehman Brothers. Starting in 2010, producer prices have been fluctuating within a range of plus or minus 2 percent (as compared to the same month of the previous year). Although they continued to increase starting in the second quarter of 2013 due to a yen depreciation, the index shifted downward in the second quarter of 2015. Starting in the first quarter of 2017, however, the index has been continuing on an upward trend.

Although the width of the increase of consumer prices expanded temporarily when the consumption tax rate was raised from 3 percent to 5 percent in 1997, it subsequently went on a downward trend. Starting in the fourth quarter of 2007, prices were once again on an upward trend due to sharp increases in the price of imported raw materials, and in the third quarter of 2008, the increase in prices exceeded 2 percent year-on-year. Thereafter, consumer prices were affected by the fall in prices of imported raw materials, and started to decrease in the first quarter of 2009. After that, they shifted mainly downwards, but turned upward starting in the third quarter of 2013 due to a weakening of the yen. Due to the increase in the consumption tax from 5 percent to 8 percent in April 2014, the width of increase expanded, but in the second quarter of 2015, the effects of the tax increase cycled. Fluctuations after that were strongly impacted by global resource prices such as crude petroleum and exchange.

Figure 13.9
Price Trends (Percent change from previous year)



Source: Statistics Bureau, MIC; Bank of Japan.

(1) Consumer Price Index (CPI)

The all items index of consumer prices (with base year 2015 = 100) was 101.3 in 2018, up 1.0 percent from the previous year.

Table 13.5
CPI for Major Categories of Goods and Services

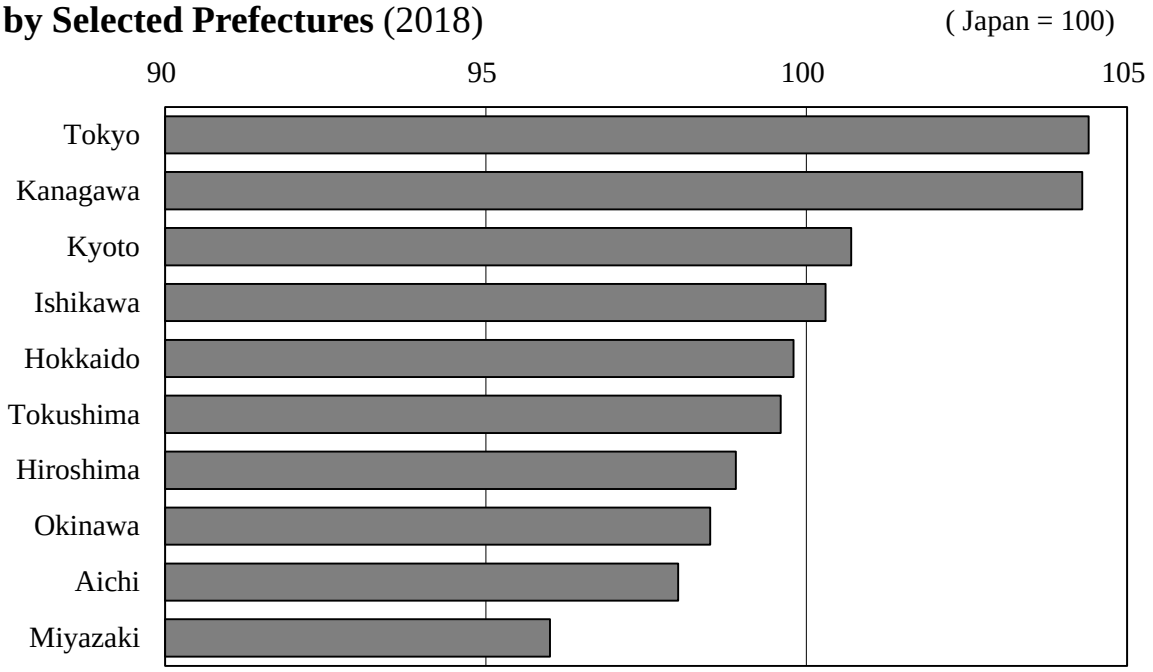
(CY2015=100)

Item	Weight	2005	2010	2016	2017	2018
All items	10000	96.9	96.5	99.9	100.4	101.3
All items, less imputed rent	8501	95.9	95.6	99.9	100.5	101.7
Food	2623	90.9	93.9	101.7	102.4	103.9
Housing	2087	101.5	100.9	99.9	99.7	99.6
Fuel, light and water charges	745	81.3	86.0	92.7	95.2	99.0
Furniture and household utensils	348	118.1	105.8	99.6	99.1	98.0
Clothing and footwear	412	95.9	95.7	101.8	102.0	102.2
Medical care	430	101.3	100.1	100.9	101.8	103.3
Transportation and communication	1476	98.1	96.5	98.0	98.3	99.6
Education	316	105.0	97.8	101.6	102.2	102.7
Culture and recreation	989	109.1	101.1	101.0	101.3	102.1
Miscellaneous	574	88.5	91.1	100.7	100.9	101.4
Goods	4969	95.5	95.4	99.4	100.4	102.1
Services	5031	98.3	97.6	100.3	100.3	100.6

Source: Statistics Bureau, MIC.

According to the general index (all items, less imputed rent) in the regional difference index of consumer prices, which compares the difference in consumer price levels by prefecture, Tokyo had the highest score in 2018, with a figure of 104.4 against the national average set at 100, followed by Kanagawa, with 104.3. On the other hand, Miyazaki registered the lowest score, with 96.0. The index for Tokyo was 8.8 percent higher than that of Miyazaki.

Figure 13.10
Regional Difference Index of Consumer Prices by Selected Prefectures (2018)



Source: Statistics Bureau, MIC.

(2) Corporate Goods and Services Producer Price Indices

The Corporate Goods Price Index measures price changes of goods traded in the corporate sector. It is comprised of the Producer Price Index (price index of domestically-produced and domestically-traded goods in the corporate sector), the Export Price Index, and the Import Price Index.

In 2018, the Producer Price Index (CY2015 as the base year = 100) was 101.3, up 2.6 percent from the previous year.

In 2018, the Export Price Index increased to 102.2 on a contract currency basis (up 2.0 percent from the previous year), and to 96.8 on a yen basis

(up 1.4 percent from the previous year). Meanwhile, the Import Price Index rose to 106.7 on a contract currency basis (up 8.7 percent from the previous year) and to 99.7 on a yen basis (up 7.6 percent from the previous year).

The Services Producer Price Index measures price movements of services traded between companies. In 2018, the Services Producer Price Index (CY2015 as the base year = 100) was 102.2, up 1.2 percent from the previous year.

Table 13.6
Corporate Goods and Services Producer Price Indices

(CY2015=100)

Item	Weight	2016	2017	2018
Corporate Goods Price Index				
Producer Price Index	1000.0	96.5	98.7	101.3
Manufacturing industry products	888.3	97.0	98.9	101.1
Export Price Index (yen basis)	1000.0	90.7	95.5	96.8
Import Price Index (yen basis)	1000.0	83.6	92.7	99.7
Services Producer Price Index				
All items	1000.0	100.3	101.0	102.2
Information and communications	228.3	100.1	100.2	101.0
Transportation and postal activities	158.0	98.8	100.2	102.7
Real estate services	94.5	101.0	102.4	103.7
Leasing and rental	79.2	99.5	99.1	99.2

Source: Bank of Japan.

Chapter 14

Environment and Life

1. Environmental Issues

The list of environmental issues is wide-ranging, from waste management to global warming. Japan is, while pursuing regional development at home, taking the initiative in efforts to prevent global warming and conserve the natural environment to help achieve sustainable growth of the entire world.

In fiscal 2017, Japan's total emission of greenhouse gases, which are a major cause of global warming, amounted to 1.3 billion tons (calculated after their conversion into carbon dioxide), representing a decrease of 1.2 percent from the previous fiscal year. Carbon dioxide accounted for 92.1 percent of these greenhouse gases, with an emission volume of 1.2 billion tons. A breakdown of carbon dioxide emissions by sector revealed that emissions from the industrial sector accounted for 34.7 percent of the total, followed in order by emissions from the transport sector, the commercial industry sector (office buildings, etc.), the residential sector, and the energy industry sector (electric power plants, etc.).

Table 14.1

Breakdown of Carbon Dioxide Emissions [1) 2)]

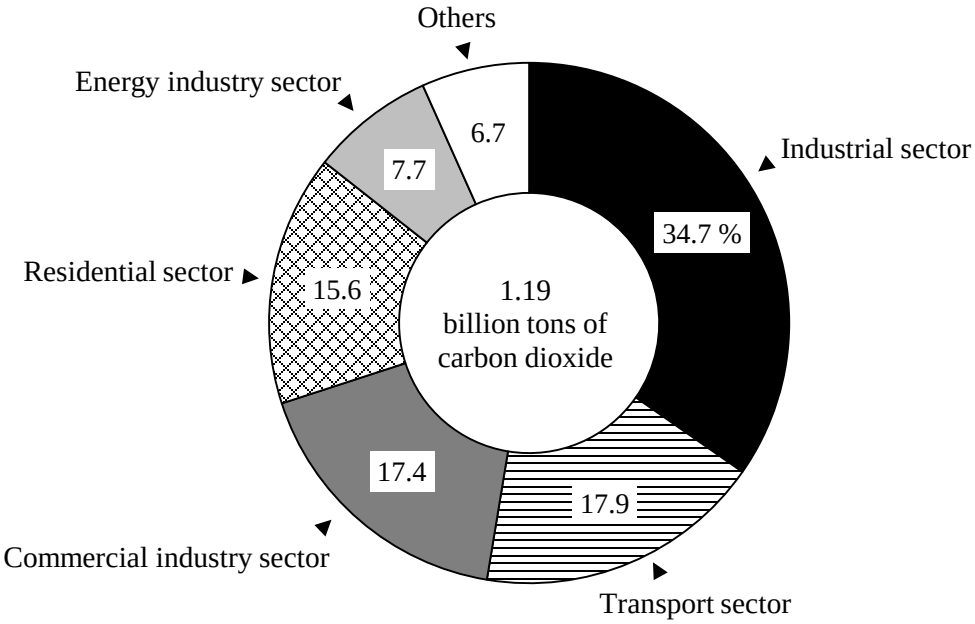
(Million tons)

Category	FY1990	FY2005	FY2010	FY2015	FY2016	FY2017
Total	1,164	1,293	1,217	1,227	1,208	1,190
Industrial sector	503	467	430	432	419	413
Transport sector	207	244	229	217	215	213
Commercial industry sector	130	220	200	218	212	207
Residential sector	131	170	179	187	185	186
Energy industry sector	96	98	99	93	98	92
Industrial processes and product use	66	57	47	47	47	47
Waste (incineration, etc.)	24	32	29	29	29	29
Others	7	5	4	3	3	3

1) Volume of carbon dioxide after reallocation to the end-use sector. 2) Due to the revision of the Electricity Business Act (liberalization of electricity retail sales), the definition of the utility power producers has changed since FY2016.

Source: Ministry of the Environment.

Figure 14.1
Sources of Carbon Dioxide Emissions [1)] (FY2017)



1) Volume of carbon dioxide after reallocation to the end-use sector.
Source: Ministry of the Environment.

The state of waste management in Japan had remained grave due to the shrinking remaining capacity of final disposal sites and increased illegal dumping. This led to the Basic Act on Establishing a Sound Material-Cycle Society (brought into force in January 2001), which defines basic principles for the creation of a sound material-cycle society. This Act has established a legal framework to address issues such as waste disposal and recycling of automobile and electrical appliance. Furthermore, in Japan, the "3R" (reduce, reuse and recycle) in waste management including R&D on waste recycling technology and appropriate management of materials of hazards were promoted, but recently, the construction of the socio-economic system efforts to especially implement the "2R" (reduce and reuse) out of the "3R" has been promoted.

Of various types of waste generated as a result of business activities, 20 of them, including sludge, waste oil, soot and dust, and imported waste, are designated as "industrial waste". The fiscal 2016 nationwide industrial waste generation totaled 387 million tons. Sludge, animal excreta, and debris, which account for approximately 80 percent of the total industrial waste, are now increasingly recycled into construction materials, fertilizers, and other materials. Thanks to this development, the volume of final disposal (to be put into landfills) fell from 90 million tons in fiscal 1990 to 10 million tons in fiscal 2016.

Meanwhile, a total of 43 million tons of "nonindustrial waste" (household waste and also shop, office, and restaurant waste) was generated in fiscal 2016. This translates to 925 grams per person per day. The total volume of processed nonindustrial waste was 41 million tons in fiscal 2016. The total volume of recycled waste was 9 million tons, with the recycling rate at 20.3 percent.

Table 14.2
Waste Generation and Disposal

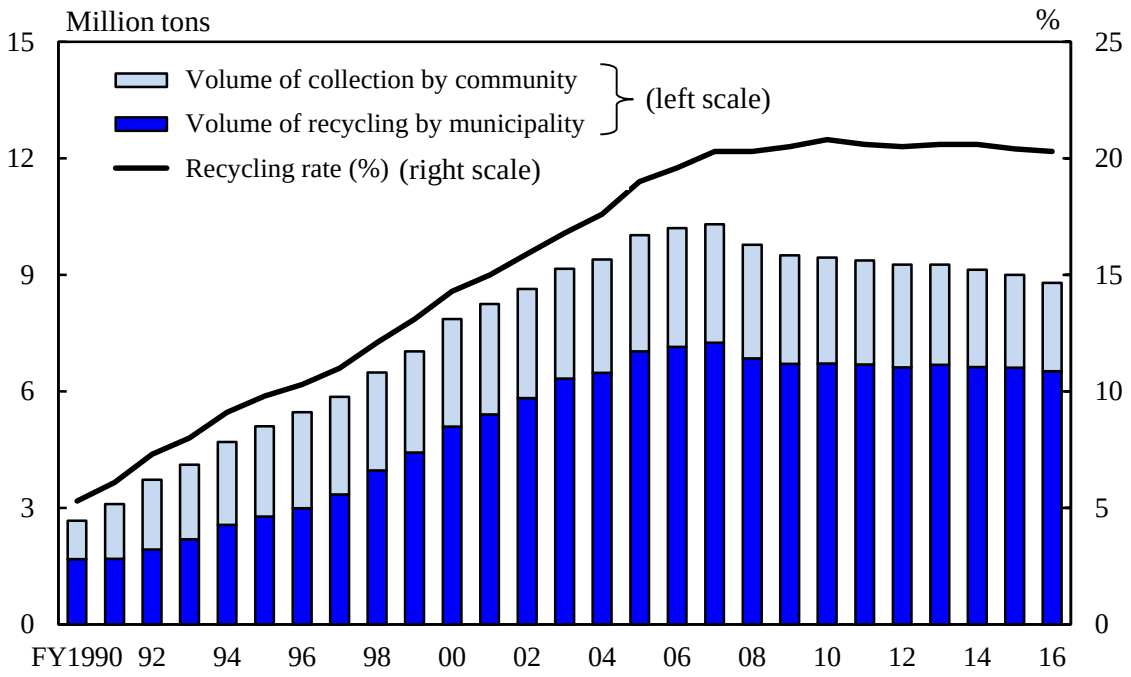
(Thousand tons)

Item	FY1990	FY2000	FY2005	FY2010	FY2016
Industrial waste					
Total volume of waste generation	394,736	406,037	421,677	385,988	387,034
Recycling	150,568	184,237	218,888	204,733	204,050
Treatment for waste reduction	154,443	176,933	178,560	167,000	173,090
Final disposal	89,725	44,868	24,229	14,255	9,894
Nonindustrial waste [1)]					
Total volume of waste generation	50,257	54,834	52,720	45,359	43,170
Municipally scheduled and collected	42,495	46,695	44,633	38,827	37,245
Directly brought to waste treatment facilities	6,776	5,373	5,090	3,803	3,654
Recyclable waste collected by community	986	2,765	2,996	2,729	2,270
Waste generated daily per person (in grams)	1,115	1,185	1,131	976	925
Total volume of processed waste	49,282	52,090	49,754	42,791	41,011
Direct incineration	36,192	40,304	38,486	33,799	32,935
Intermediate treatment for recycling, etc.	3,300	6,479	7,283	6,161	5,685
Direct recycling		2,224	2,541	2,170	1,964
Direct final disposal	9,790	3,084	1,444	662	426

1) Due to the Great East Japan Earthquake, figures for FY2010 exclude those for Minamisanriku Town, Miyagi Prefecture. Figures for FY 2016 exclude disaster waste.

Source: Ministry of the Environment.

Figure 14.2
Recycling of Nonindustrial Waste [1)]



$$\text{Recycling rate (\%)} = \frac{\text{Total volume of recycled waste}}{\text{Total volume of processed waste} + \text{Volume of collection by community}} \times 100$$

$$\text{Total volume of recycled waste} = \text{Volume of recycling by municipality} + \text{Volume of collection by community}$$

1) Due to the Great East Japan Earthquake, figures for FY2010 exclude those for Minamisanriku Town, Miyagi Prefecture. Figures after FY2011 exclude disaster waste.

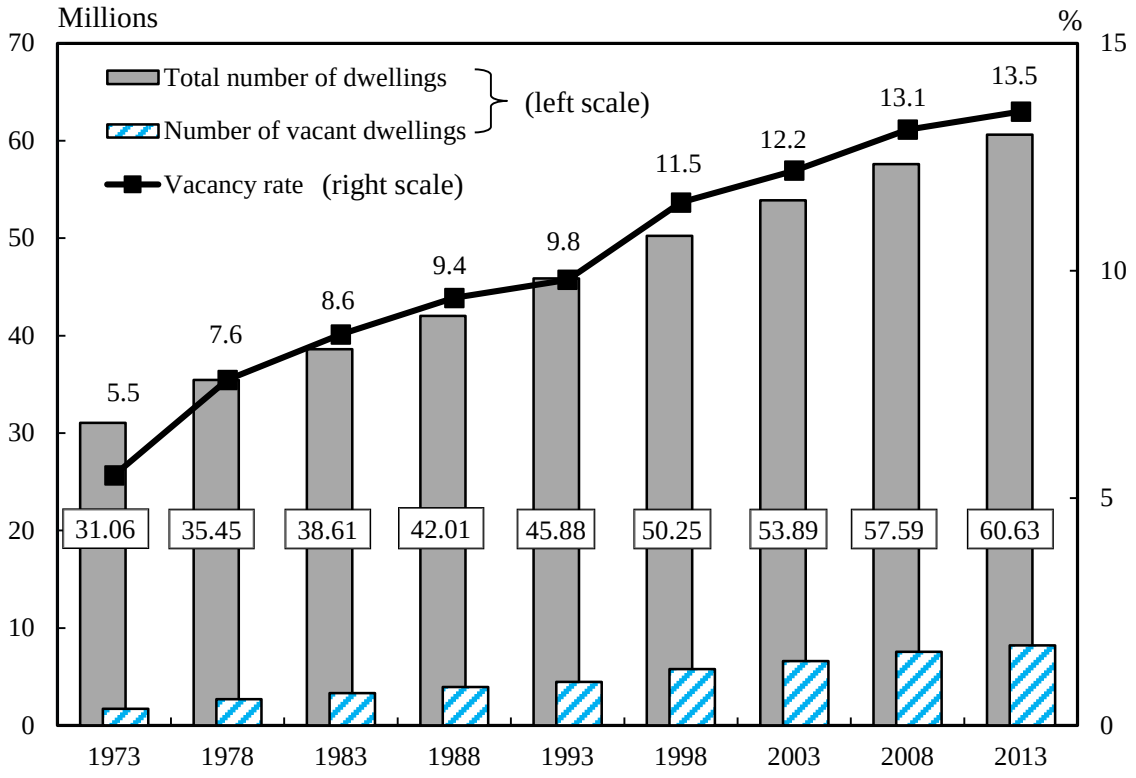
Source: Ministry of the Environment.

2. Housing

The total number of dwellings (the number of individual units in the case of apartment buildings) in Japan was 61 million in 2013, up by 3 million, 5.3 percent from 2008. The number of households was 52 million, representing the excess in number of dwellings over households by 8 million.

In 2013, the number of occupied dwellings (where people usually live) amounted to 52 million, accounting for 85.9 percent of the total number of dwellings. Of these, the number of dwellings used exclusively for living totaled 51 million, accounting for 97.8 percent of the occupied dwellings. Meanwhile, the number of vacant dwellings increased by 0.6 million, 8.3 percent from 2008, to 8 million. That vacancy rate represented 13.5 percent of the total number of dwellings, the highest-ever ratio.

Figure 14.3
Trends in Dwellings, Vacant Dwellings, and Vacancy Rate



Source: Statistics Bureau, MIC.

A breakdown of occupied dwellings by category of ownership showed that owned houses totaled 32 million, accounting for 61.7 percent of the total, which represented an increase of 0.6 percentage points from the figure of 61.1 percent in 2008. Rented houses, on the other hand, numbered 19 million, accounting for 35.5 percent of the total.

Table 14.3
Housing Conditions

(Thousands)

Year	Total households	Total number of dwellings [1]	Occupied dwellings [2]	Ownership		Dwellings exclusively for living	Floor space per dwelling (m^2) [2]
				Owned	Rented		
1983	35,197	38,607	34,705	21,650	12,951	31,935	81.6
1988	37,812	42,007	37,413	22,948	14,015	34,701	85.0
1993	41,159	45,879	40,773	24,376	15,691	38,457	88.4
1998	44,360	50,246	43,922	26,468	16,730	41,744	89.6
2003	47,255	53,891	46,863	28,666	17,166	45,258	92.5
2008	49,973	57,586	49,598	30,316	17,770	48,281	92.4
2013	52,453	60,629	52,102	32,166	18,519	50,982	93.0

1) Including dwellings without occupying households.
2) Including ownership of dwelling "Not reported".
Source: Statistics Bureau, MIC.

Table 14.4
Occupied Dwellings by Type of Building

(Thousands)

Year	Total	Detached houses	Tenement houses	Apartments	Others
1983	34,705	22,306	2,882	9,329	187
1988	37,413	23,311	2,490	11,409	203
1993	40,773	24,141	2,163	14,267	202
1998	43,922	25,269	1,828	16,601	224
2003	46,863	26,491	1,483	18,733	156
2008	49,598	27,450	1,330	20,684	134
2013	52,102	28,599	1,289	22,085	130

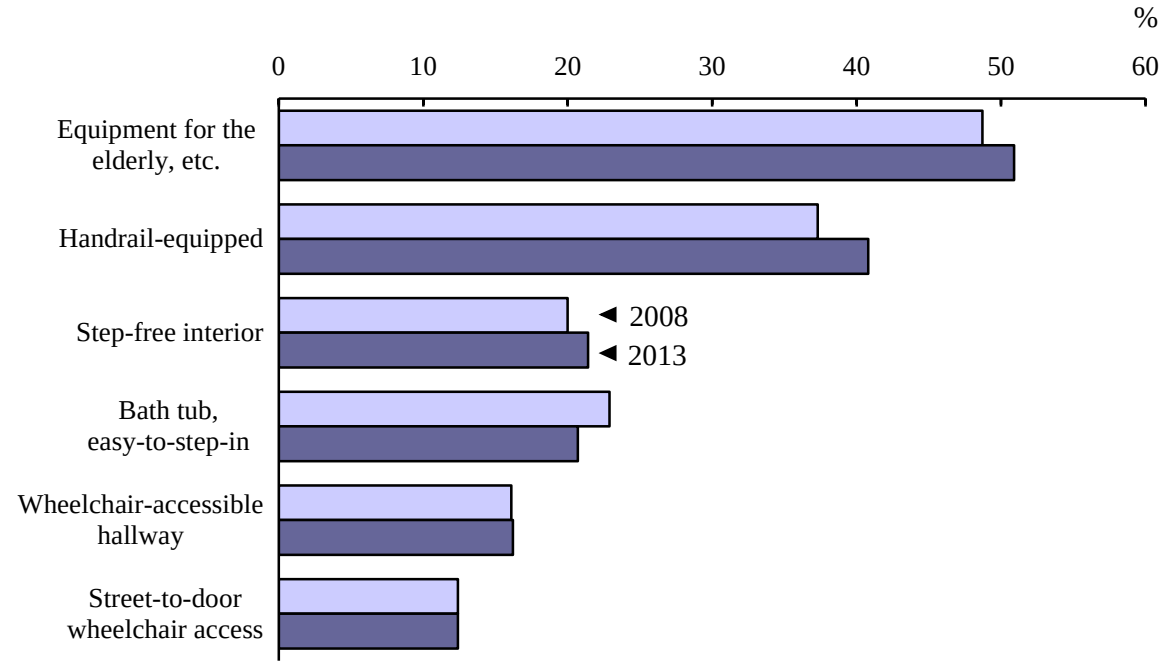
Source: Statistics Bureau, MIC.

Occupied dwellings by building type showed that 29 million or 54.9 percent were detached houses, and 22 million or 42.4 percent were apartments. The proportion of apartments has consistently increased in recent years.

In terms of construction materials, 26 million or 92.2 percent of the detached houses were wood-frame houses (including fire-resistant ones). On the other hand, 16 million or 73.8 percent of the apartments were steel-framed concrete structures.

With regard to housing with accessibility equipment for the elderly and physically challenged persons, the number of housing units "with equipment for the elderly, etc." was 27 million, or 50.9 percent of occupied dwellings, up 2.2 percentage points from 24 million, 48.7 percent in 2008. Housing "equipped with handrails" accounted for 40.8 percent of all housing, and housing with a "step-free interior" made up 21.4 percent.

Figure 14.4
Ratio of Housing with Universal Design Features



Source: Statistics Bureau, MIC.

3. Traffic Accidents

In 1970, the annual number of fatalities from traffic accidents hit a record high of 16,765, leading to the enactment of the Traffic Safety Measures Basic Acts in the same year. Based on this, the government has promoted traffic safety measures in a comprehensive and systematic manner. As a result, the number of traffic accident fatalities was 3,694 in 2017, which is the lowest number since 1948 when the current traffic accident statistics were adopted, and this represented less than one-fourth of the number in 1970.

In 2017, the number of traffic accident fatalities per 100,000 population was 2.9 persons, while that per 10,000 motor vehicles was 0.5 persons.

Table 14.5
Traffic Accidents and Casualties

Year	Traffic accidents	Injuries	Traffic accident fatalities [1)]	per 10,000 motor vehicles	per 100,000 population
1970	718,080	981,096	16,765	9.0	16.2
1980	476,677	598,719	8,760	2.2	7.5
1990	643,097	790,295	11,227	1.9	9.1
2000	931,950	1,155,707	9,073	1.2	7.1
2010	725,924	896,297	4,948	0.6	3.9
2016	499,201	618,853	3,904	0.5	3.1
2017	472,165	580,850	3,694	0.5	2.9

1) Death within 24 hours of the accident.
Source: National Police Agency.

4. Crime

The police organization consists of the National Public Safety Commission and the National Police Agency, both of which are state organizations, as well as the Prefectural Public Safety Commission and prefectural police, both of which are organizations under the authority of individual prefectures. As of April 1, 2018, the prefectural police operated police headquarters, police academies, 1,159 police stations, 6,260 police boxes and 6,329 police substations in 47 prefectures.

Community police officers at their respective police boxes/substations are engaged in standing guard over their communities, patrolling, and dealing with criminal cases and accidents to prevent crime and catch criminals.

In 2018, the reported number of penal code offenses was 817,338, a decrease of 97,704, or 10.7 percent compared to the previous year. The proportion of thefts was the highest, accounting for 71.2 percent, or 582,141 cases (down 11.2 percent from the previous year).

The number of persons arrested for penal code offenses was 206,094 in

2018, a decrease of 8,909, or 4.1 percent compared to the previous year, marking a decline for the 14th consecutive year.

The ratio of arrests to reported number of offenses marked 19.8 percent in 2001, the lowest since a post-World War II. From 2002 to 2007, this ratio increased, and levelled off afterwards. In 2018, it was 37.9 percent, an increase of 2.2 percentage points from the previous year.

Table 14.6
Trends in Crime (Penal code offenses)

Year	Reported offenses	Resultant arrests	Persons arrested	Arrest rate [1)] (%)	Crime rate per 100,000 population
1980	1,357,461	811,189	392,113	59.8	1,159.6
1985	1,607,697	1,032,879	432,250	64.2	1,328.1
1990	1,636,628	692,593	293,264	42.3	1,324.0
1995	1,782,944	753,174	293,252	42.2	1,419.5
2000	2,443,470	576,771	309,649	23.6	1,925.5
2005	2,269,293	649,503	386,955	28.6	1,775.7
2010	1,604,019	497,356	322,620	31.0	1,252.6
2015	1,098,969	357,484	239,355	32.5	864.7
2017	915,042	327,081	215,003	35.7	722.2
2018	817,338	309,409	206,094	37.9	646.4

1) The ratio of arrests to reported number of offenses.
Source: National Police Agency; Ministry of Justice.

Various kinds of computers and computer networks are currently playing an essential role as a social foundation. In line with this, crimes utilizing computer networks are becoming increasingly diversified. The number of arrests for cybercrime (violation of the Unauthorized Computer Access Act, offenses involving computers or electromagnetic records, offenses related to creation of unauthorized commands for electromagnetic records, etc.) in 2018 was 9,040, up 0.3 percent from the previous year. This represented about a ten-fold increase from the 913 cases registered in 2000.

Chapter 15

Social Security, Health Care, and Public Hygiene

1. Social Security

In Japan, the birth rate has been falling, while the number of elderly people has been growing. Meanwhile, its social security system is required to address various changes in the socioeconomic environment.

In April 2000, a long-term care insurance system was launched. When the system was first established, there were 2.18 million people certified as needing care or needing support. This number grew by approximately 2.9-fold, to 6.22 million people as of April 2016, and the long-term care insurance system has become anchored in society. Today, there are approaches aimed at enhancing services for promoting integrated community care systems (system where medical care, nursing care, preventive care, and livelihood support are provided integrally in regions where one is used to living), as well as realizing a local, inclusive society.

The number of monthly users of long-term care insurance services totaled, on average, 5.60 million per month in fiscal 2016, and increased by approximately 3.0-fold over 16 years in comparison to the approximately 1.84 million users in fiscal 2000, when the system was initiated. In addition, the amount of nursing care costs in fiscal 2016 (including allowances for high-cost long-term care service, for high-cost medical care and long-term care service, and for long-term care service to a person admitted to a specified facility), totaled 10.0 trillion yen.

Table 15.1
Trends in Social Security Benefit Expenditures by Institutional Scheme

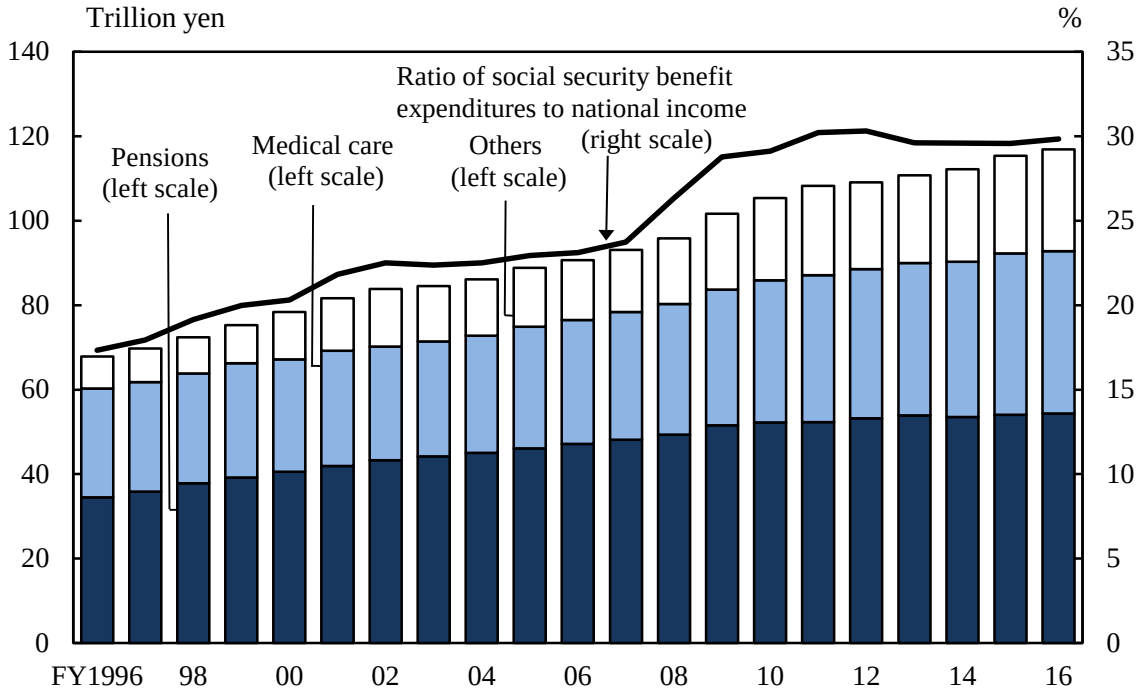
(Billion yen)

Item	FY2000	FY2005	FY2010	FY2015	FY2016
Total	78,399	88,853	105,365	115,401	116,903
Medical insurance	14,798	16,418	19,060	21,079	21,022
Health and medical services for the aged	10,447	10,754	11,718	14,047	14,261
Long-term care insurance	3,262	5,815	7,434	9,311	9,508
Pension benefits	39,172	45,124	51,674	53,939	54,130
Employment insurance [1)]	2,665	1,522	2,461	1,843	1,858
Workers' accident compensation insurance	1,053	990	952	919	911
Family allowance [2)]	712	1,158	3,042	2,844	2,803
Public assistance	1,939	2,594	3,330	3,713	3,715
Social welfare	2,186	2,726	3,487	5,889	6,950
Public health	555	548	1,388	1,358	1,356
Gratuities for retired public employees	1,420	1,059	702	381	330
Aid for war victims	188	146	116	78	60

1) Including unemployment benefits for Seamen's insurance. 2) Including income support for single parent families and families with challenged children.
Source: Ministry of Health, Labour and Welfare.

In fiscal 2016, social security benefit expenditures totaled 116.9 trillion yen (up 1.3 percent from the previous fiscal year), a figure which amounted to 921,000 yen per person. The ratio of Japan's social security benefit expenditures to national income registered 29.8 percent. Benefits for the aged accounted for 67.2 percent of total social security benefit expenditures.

Figure 15.1
Trends in Social Security Benefit Expenditures by Sector [1) 2)]



1) Because of retrospective tabulation up to FY2005 of expenditure items data that were added in FY2011, a gap has occurred with FY2004 data.
2) In addition to expenses for early childhood care services, expenses for early childhood education are included in total Social Benefits from FY2015.
Source: Ministry of Health, Labour and Welfare.

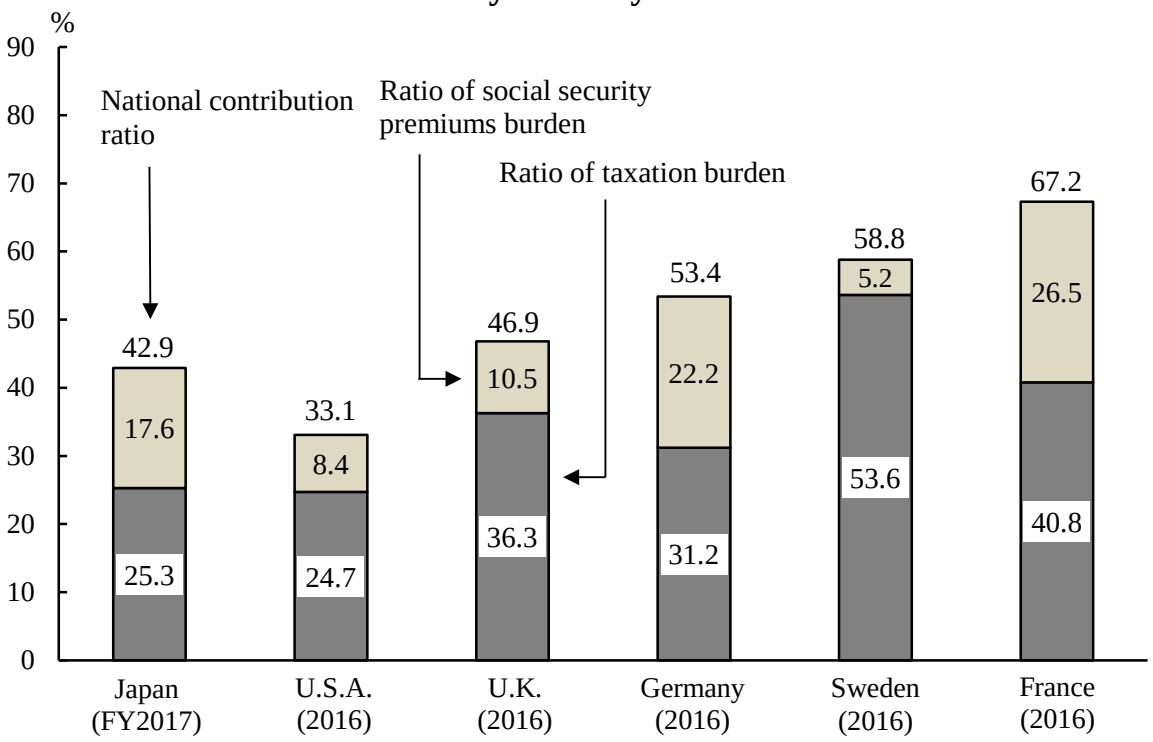
In fiscal 2016, pensions accounted for 46.5 percent of total social security benefit expenditures, while medical care accounted for 32.8 percent, and social welfare and others for 20.6 percent. Social security benefit expenditures are forecasted to continue growing.

In accordance with the rise in social security benefit expenditures, the amount of funds necessary to cover these expenditures has also increased, reaching 134.9 trillion yen in fiscal 2016. This was financed by 68.9 trillion yen from social insurance contributions, 47.7 trillion yen from taxes and 18.3 trillion yen from other sources. The government is making approaches toward drastic reform of the tax system, including raising the consumption tax, as the first step towards simultaneously ensuring stable funding for social security and achieving sound public finance.

The national contribution ratio (the combined ratios of taxes and social security costs to national income) was 42.9 percent in fiscal 2017 (taxation burden: 25.3 percent; social security premiums: 17.6 percent), up 0.1 percentage points from 42.8 percent in fiscal 2016 (taxation burden: 25.1 percent; social security premiums: 17.7 percent). The national contribution

ratio in 2016 was 33.1 percent in the U.S.A., 46.9 percent in the U.K., and 67.2 percent in France. While the ratio in Japan was higher than that of the U.S.A., it was lower than European countries.

Figure 15.2
National Contribution Ratio by Country



Source: Ministry of Finance.

2. Health Care and Public Hygiene

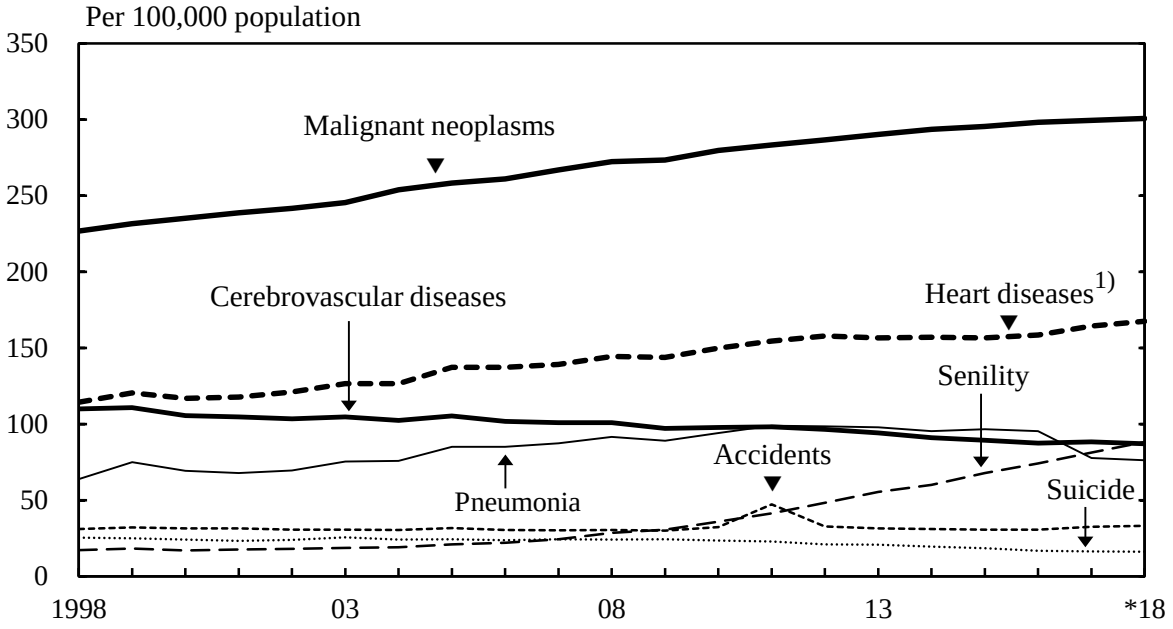
Japan has a universal health insurance regime to ensure that anyone can receive necessary medical treatment. Under this regime, every citizen enters a publicly regulated medical insurance system, such as employees' health insurance, national health insurance or the latter-stage elderly's medical insurance.

This medical care system has contributed to Japan's achieving the highest life expectancy in the world, as well as a high standard of healthcare along with improvements in the living environment and better nutrition. Currently, reform of the whole system is being undertaken in order to preserve the stability of this medical insurance system in the future.

Life expectancy at birth was 87.3 years for women and 81.3 years for men in 2018. Japan's life expectancy remains at a high level in the world. Even

with regard to healthy life expectancy, which is the "period during which one can lead a daily life without being restricted by health problems", Japan was among the world's highest as of 2016, with 74.8 years for women and 72.1 years for men. Japan's infant mortality rate was 1.9 per 1,000 births in 2018.

Figure 15.3
Death Rates by Major Cause



1) Excluding hypertensive diseases.
Source: Ministry of Health, Labour and Welfare.

The death rate was 1,096.8 per 100,000 population in 2018. The leading cause of death was malignant neoplasms (300.7 per 100,000 population), followed by lifestyle diseases such as heart diseases (167.6; excluding hypertensive diseases), in which people's daily diet and behavior are significant factors, and senility (88.2). Malignant neoplasms became the leading cause of death in 1981. The death rate by malignant neoplasms has continued to increase since, reaching 27.4 percent of all deaths in 2018.

The number of deaths caused by suicide in Japan hovered at around 30,000 annually in 1998 and onwards, but for 9 consecutive years, this number has been below 30,000, and the number of annual suicides has also been decreasing for the last 9 years. The number of suicides in 2018 was 20,032. In 2018, suicide became the leading cause of deaths for people aged between 15 and 39.

In the past, human beings have faced the threat of various epidemic diseases, including new strains of influenza. In 2014, cases of infection from Dengue fever in Japan were confirmed for the first time in approximately 70 years. In 2018, the number of patients with rubella increased. Currently, in Japan, infection control measures are being advanced, such as through the implementation of vaccinations, with the objective of preventing the occurrence and spread of infectious diseases.

In terms of healthcare provision, Japan had 317,162 physicians engaged in medical care, or 249.9 physicians per 100,000 population, in 2016. While the number of physicians providing healthcare is increasing nationwide, their uneven distribution has become a problem due to the lack of physicians specializing in certain areas of medicine and the lack of physicians operating in regional parts of the country.

Table 15.2
Medical Personnel at Work

Personnel	2008	2010	2012	2014	2016
Number					
Physicians	283,915	292,338	300,664	308,651	317,162
Dentists	98,063	100,161	101,110	102,534	103,127
Pharmacists	249,251	258,713	262,520	271,364	284,069
Nurses and Assistant nurses	1,252,224	1,320,871	1,373,521	1,426,932	1,472,508
Rates per 100,000 population					
Physicians	221.7	228.3	235.6	242.6	249.9
Dentists	76.6	78.2	79.2	80.6	81.2
Pharmacists	194.6	202.0	205.7	213.3	223.8
Nurses and Assistant nurses	977.7	1,031.5	1,076.5	1,121.5	1,160.1

Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare.

As of October 1, 2017, the number of hospitals in Japan (excluding medical clinics and dental clinics) totaled 8,412. The number of hospital beds amounted to 1,554,879 (1,227.2 per 100,000 population).

Table 15.3
Medical Care Institutions and Beds

Type of Institution	2008	2011	2014	2016	2017
Institutions					
Total	175,656	176,308	177,546	178,911	178,492
Hospitals	8,794	8,605	8,493	8,442	8,412
Medical clinics	99,083	99,547	100,461	101,529	101,471
Dental clinics	67,779	68,156	68,592	68,940	68,609
Rates per 100,000 population					
Total	137.6	138.0	139.7	140.9	140.9
Hospitals	6.9	6.7	6.7	6.7	6.6
Medical clinics	77.6	77.9	79.1	80.0	80.1
Dental clinics	53.1	53.3	54.0	54.3	54.1
Beds					
Total	1,756,115	1,712,539	1,680,712	1,664,525	1,653,303
Hospitals	1,609,403	1,583,073	1,568,261	1,561,005	1,554,879
Medical clinics	146,568	129,366	112,364	103,451	98,355
Dental clinics	144	100	87	69	69
Rates per 100,000 population					
Total	1,375.3	1,340.0	1,322.5	1,311.3	1,304.8
Hospitals	1,260.4	1,238.7	1,234.0	1,229.8	1,227.2
Medical clinics	114.8	101.2	88.4	81.5	77.6
Dental clinics	0.1	0.1	0.1	0.1	0.1

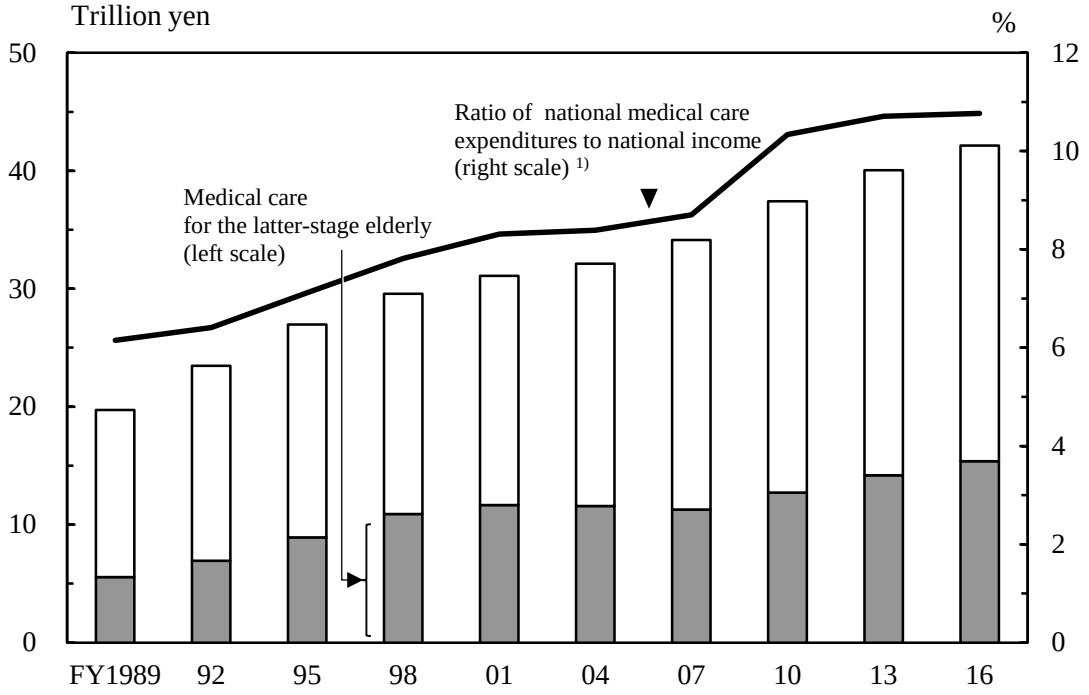
Source: Ministry of Health, Labour and Welfare.

In fiscal 2016, national medical care expenditures totaled 42.1 trillion yen or 10.76 percent of Japan's national income. The cost of medical care per person averaged 332,000 yen in fiscal 2016.

Medical costs for treating the latter-stage elderly in fiscal 2016 were 15.4 trillion yen, or about one-third of national medical care expenditure, and accounted for 3.93 percent of the national income. The per-capita cost of medical care for the latter-stage elderly averaged 934,547 yen for the year. The percentage of national medical care expenditures accounted for by medical care costs for the late-stage elderly decreased when the age of persons eligible to receive later-stage elderly medical care was raised in a

phased manner over 5 years from 70 years to 75 years old in October 2002, but in recent years, there has been a slight uptrend.

Figure 15.4
Trends in Medical Care Expenditures



1) National income data between FY1995-2013 represents data before re-estimation.
Source: Ministry of Health, Labour and Welfare.

Chapter 16

Education and Culture

1. School-Based Education

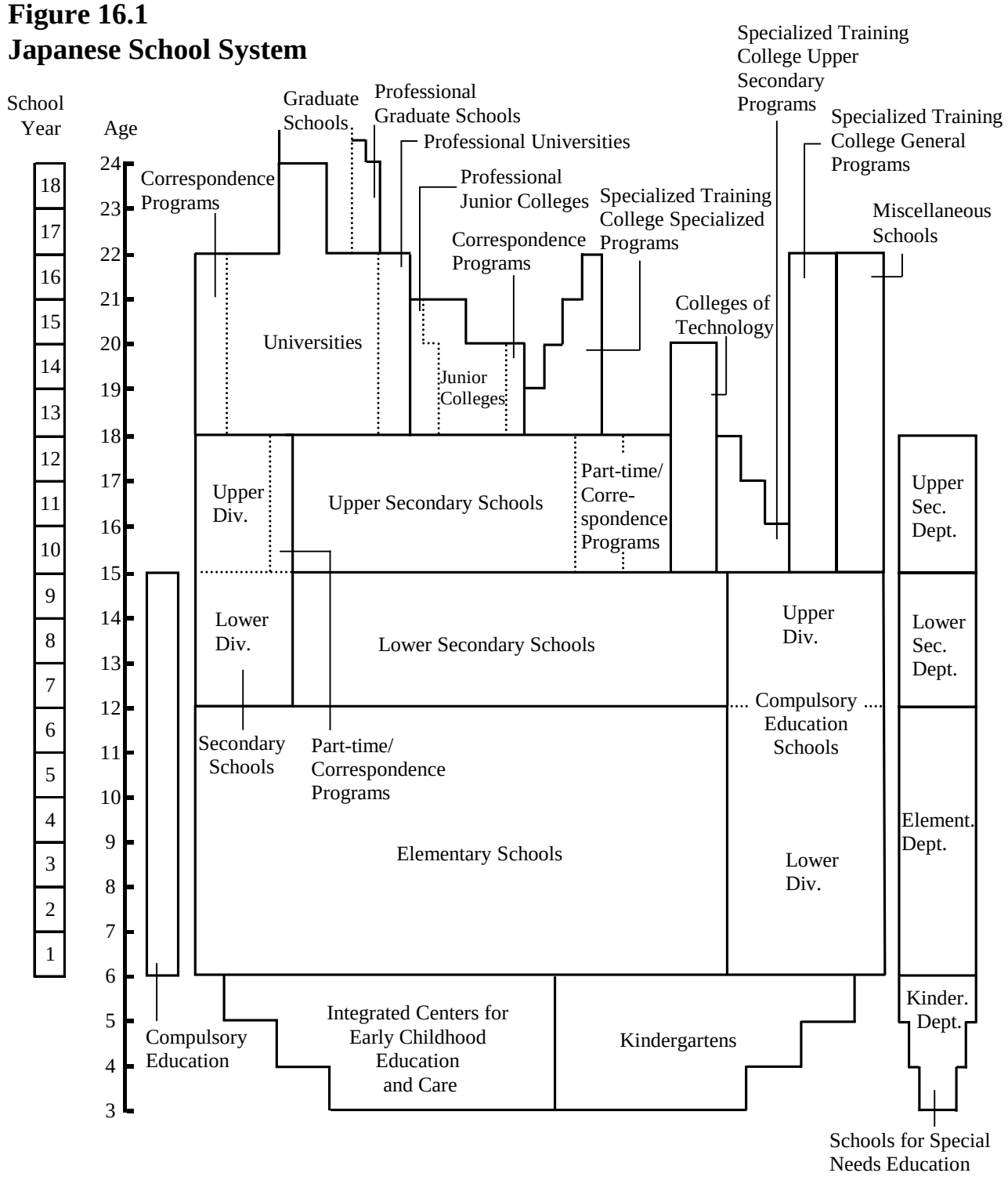
Japan's primary and secondary education is based on a 6-3-3 system: 6 years in elementary school, 3 years in lower secondary school, and 3 years in upper secondary school. The period of compulsory schooling is the 9 years at elementary and lower secondary schools. Higher education institutions are universities, junior colleges, and colleges of technology. Other education establishments include kindergartens and integrated centers for early childhood education and care, which provide pre-school education, and schools for special needs education. There are also specialized training colleges and miscellaneous schools for a wide range of vocational and other practical skills learning. In order to promote diversity of the school education system, unified lower-upper secondary schooling began at some schools in 1999. Furthermore, in 2016, compulsory education schools, where compulsory education for elementary schools to lower secondary schools is carried out consistently, were established. On an additional note, the school year in Japan starts in April and ends in March of the following year.

Table 16.1
Educational Institutions in Japan (as of May 1, 2018)

Type of institution	Schools				Full-time teachers (1,000)	Students (1,000)	
	Total	National	Public	Private		Males	Females
Kindergartens	10,474	49	3,737	6,688	96	612	596
Integrated centers for early childhood education and care	4,521	-	650	3,871	93	310	294
Elementary schools	19,892	70	19,591	231	421	3,289	3,139
Lower secondary schools	10,270	71	9,421	778	247	1,662	1,589
Compulsory education schools	82	2	80	-	3	18	17
Upper secondary schools	4,897	15	3,559	1,323	233	1,634	1,602
Secondary schools	53	4	31	18	3	16	16
Schools for special needs education [1)]	1,141	45	1,082	14	85	94	49
Colleges of technology	57	51	3	3	4	47	11
Junior colleges	331	-	17	314	8	14	106
Universities	782	86	93	603	187	1,629	1,280
Graduate schools	636	86	83	467	106	173	81
Specialized training colleges	3,160	9	189	2,962	41	289	365
Miscellaneous schools	1,164	-	6	1,158	9	66	57

1) Schools for mentally and/or physically challenged children, inclusive of kindergarten to upper secondary school levels.
Source: Ministry of Education, Culture, Sports, Science and Technology.

Figure 16.1
Japanese School System



Source: Ministry of Education, Culture, Sports, Science and Technology.

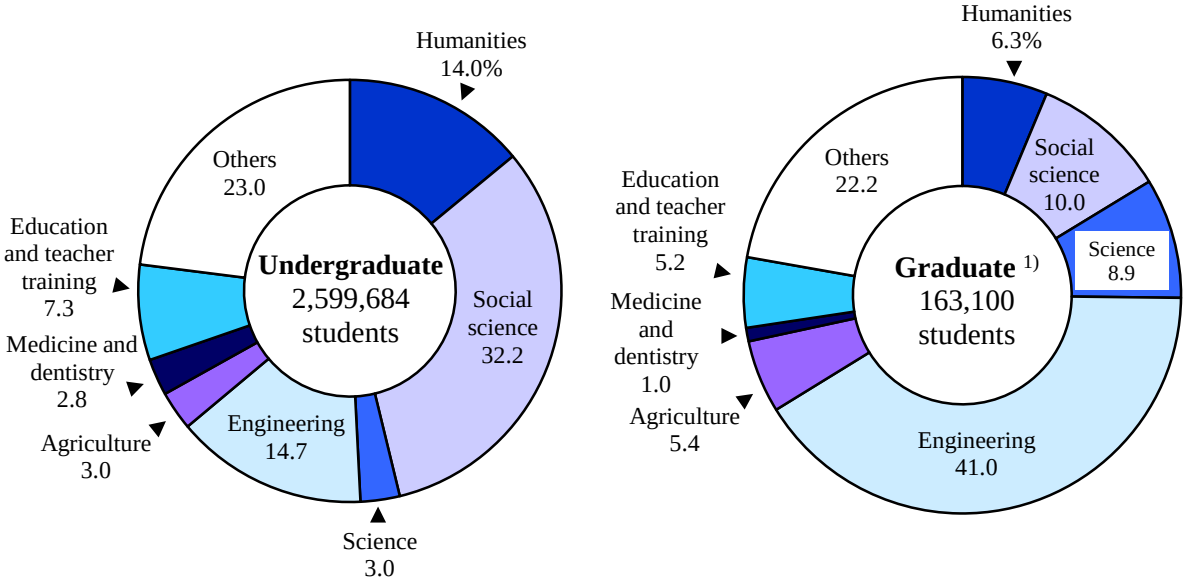
Of the March 2018 upper secondary school and upper division of secondary school graduates, 54.8 percent went straight on to enter a university, junior college, etc. The ratio of graduates of upper secondary school, etc. who entered a university or junior college in 2018 was 57.9 percent (57.3 percent of male and 58.5 percent of female graduates), including graduates from previous years.

Table 16.2
Number of University Students (as of May 1)

	2010	2015	2016	2017	2018
Total	2,887,414	2,860,210	2,873,624	2,890,880	2,909,159
Undergraduate	2,559,191	2,556,062	2,567,030	2,582,670	2,599,684
Graduate schools	271,454	249,474	249,588	250,891	254,013
Others [1)]	56,769	54,674	57,006	57,319	55,462
Females	1,185,580	1,231,868	1,247,726	1,263,893	1,280,406
Undergraduate	1,077,782	1,127,372	1,141,425	1,156,021	1,172,170
Graduate schools	82,133	77,831	78,603	79,793	81,464
Others [1)]	25,665	26,665	27,698	28,079	26,772
National	625,048	610,802	610,401	609,473	608,969
Public	142,523	148,766	150,513	152,931	155,520
Private	2,119,843	2,100,642	2,112,710	2,128,476	2,144,670

1) "Others" include advanced students, short-term students, non-degree students, auditing students and research students.
Source: Ministry of Education, Culture, Sports, Science and Technology.

Figure 16.2
University Students by Field of Study (as of May 1, 2018)

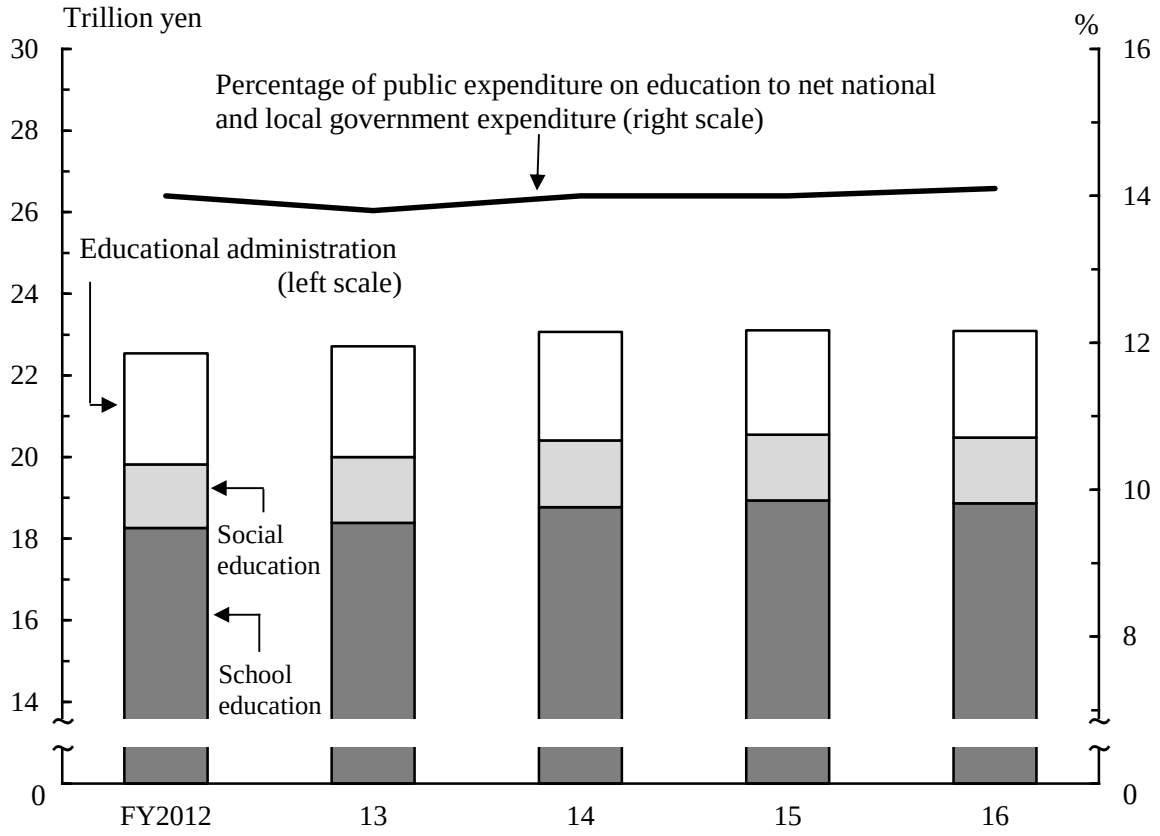


1) Master's course.
Source: Ministry of Education, Culture, Sports, Science and Technology.

As of May 1, 2018, a total of 137,480 foreign students were enrolled in Japanese junior colleges, universities, and graduate schools. Of the total foreign students, 89.4 percent were from Asia, including 68,706 from China, 15,870 from Vietnam and 11,879 from the Republic of Korea.

Fiscal 2016 public expenditure on education in Japan was 23 trillion yen, which is equivalent to 14.1 percent of the net expenditure of national and local governments.

Figure 16.3
Public Expenditures on Education



Source: Ministry of Education, Culture, Sports, Science and Technology.

Fiscal 2016 school expenditure by households with children attending public school averaged 60,043 yen per elementary school pupil, 133,640 yen per lower-secondary school student and 275,991 yen per upper-secondary school student.

2. Lifelong Learning

As society approaches a major turning point in heading towards a "100-year-life", there is increasing importance in realizing a "Lifelong Learning Society" in which people are able to select learning opportunities whenever they want during their life, and their learning outcomes are evaluated appropriately.

Today, in order to develop a society where people can take learning opportunities anytime throughout their lives, efforts are being made to develop learning opportunities such as school education, social education, cultural activities, sports activities, recreational activities, volunteer activities, and corporate in-house education. In providing places and opportunities for such lifelong learning, educational institutions and social education facilities (citizens' public halls, libraries, museums, and sports facilities, etc.) play a vital role.

Table 16.3
Social Education Facilities and Users

Facilities	Number [1]		Users (1,000) [2]	
	2011	2015	2010	2014
Citizens' public halls [3]	15,399	14,841	204,517	193,464
Libraries	3,274	3,331	187,562	181,364
Museums	1,262	1,256	122,831	129,579
General museums	143	152	7,692	8,499
Science museums	109	106	14,491	16,439
Historical museums	448	451	20,754	22,950
Art museums	452	441	33,395	30,724
Outdoor museums	18	16	3,111	2,601
Zoological gardens	32	35	17,083	20,631
Botanical gardens	10	10	885	860
Zoological and botanical gardens	8	7	4,456	4,498
Aquariums	42	38	20,964	22,377
Facilities similar to museums	4,485	4,434	153,821	150,417
Centers for children and youths	1,048	941	20,043	20,058
Women's education centers	375	367	10,172	9,716
Public sports facilities	47,571	47,536	486,283	501,557
Private sports facilities	15,532	14,987	136,424	123,630
Theaters, concert halls, etc.	1,866	1,851	…	…
Lifelong learning centers	409	449	26,483	26,218

1) As of October 1. 2) Total of fiscal year. 3) Including similar facilities.
Source: Ministry of Education, Culture, Sports, Science and Technology.

3. Leisure Activities

The results of the "2016 Survey on Time Use and Leisure Activities" conducted on people living in this country, aged 10 years old and over, show that the amount of free time each person has spent was 6 hours and 22 minutes, which was the time remaining after activities that were physiologically necessary (sleeping, eating, etc.) and societally essential (work, housework, etc.).

Table 16.4
Major Leisure Activities by Sex (Aged 10 years old and over) (2016)

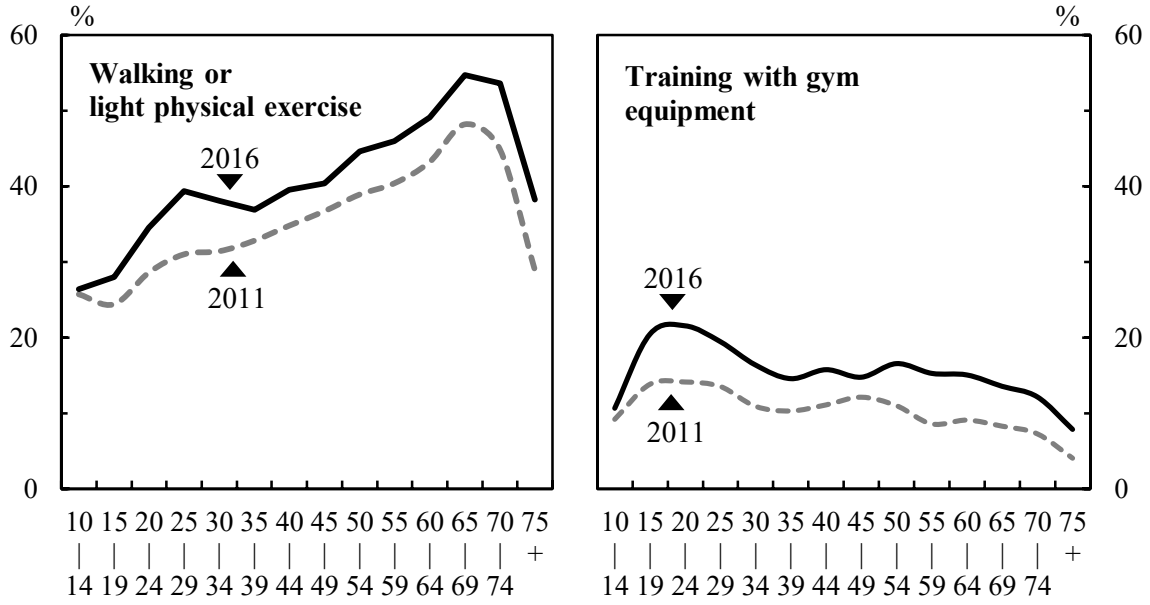
Leisure Activities	Total	Males	Females
Free time per day (hours. minutes)	6.22	6.36	6.09
Participation rate (%) [1]			
Hobbies and amusements	87.0	87.2	86.8
Travel and excursion	73.5	71.1	75.8
Sports [2] [3]	68.8	73.5	64.4
Learning, self-education, and training [2] [4]	36.9	36.5	37.4
Volunteer activities	26.0	25.0	26.9

1) Participants in the activity / Population × 100. 2) Including club activities at school. 3) Excluding sports performed by professional players as their job and by students in PE class. 4) Excluding worker training at the workplace, and study and research activities performed by children, pupils or students as schoolwork, such as study in class, preparation for class and review of lessons.
Source: Statistics Bureau, MIC.

The participation rate for "hobbies and amusements" was 87.0 percent (percentage of people (aged 10 years old and over) who engaged in the activity within the past 12 months), and by sex, the participation rate for males was 87.2 percent and that for females was 86.8 percent. In addition, for participation rates by type of activity, "watching movies other than movie theater" was the highest at 52.1 percent, followed by "listening to music by CD, smartphone, etc." at 49.0 percent, "watching movies in a movie theater" at 39.6 percent, and so on.

The participation rate for "sports" was 68.8 percent, and by sex, the participation rate for males was 73.5 percent and that for females was 64.4 percent. In addition, for participation rates by type of sport, "walking or light physical exercise" was the highest at 41.3 percent, followed by "training with gym equipment" at 14.7 percent.

Figure 16.4
Participation Rates for Major "Sports" by Age Group



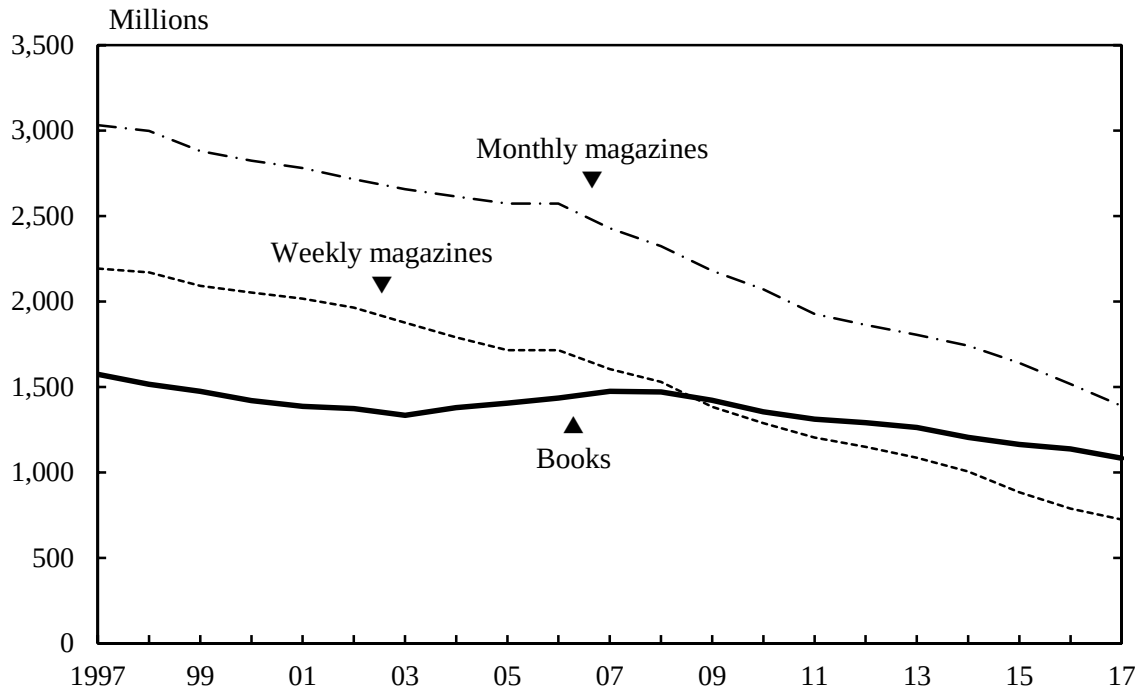
Source: Statistics Bureau, MIC.

4. Publishing and Mass Media

The total number of books and magazines published in Japan during 2017 was 1,084 million and 2,113 million, respectively. Of the latter, 1,389 million were monthlies and 724 million were weeklies.

A total of 75,412 new book titles were released in 2017. The number of magazine titles published was 3,480 (including 1,862 monthlies and 96 weeklies) as of the end of March 2018. In recent years, there has been increasing popularization of e-books, leading to a decline in paper books.

Figure 16.5
Trends in Number of Publications



Source: Shuppan News Co., Ltd.

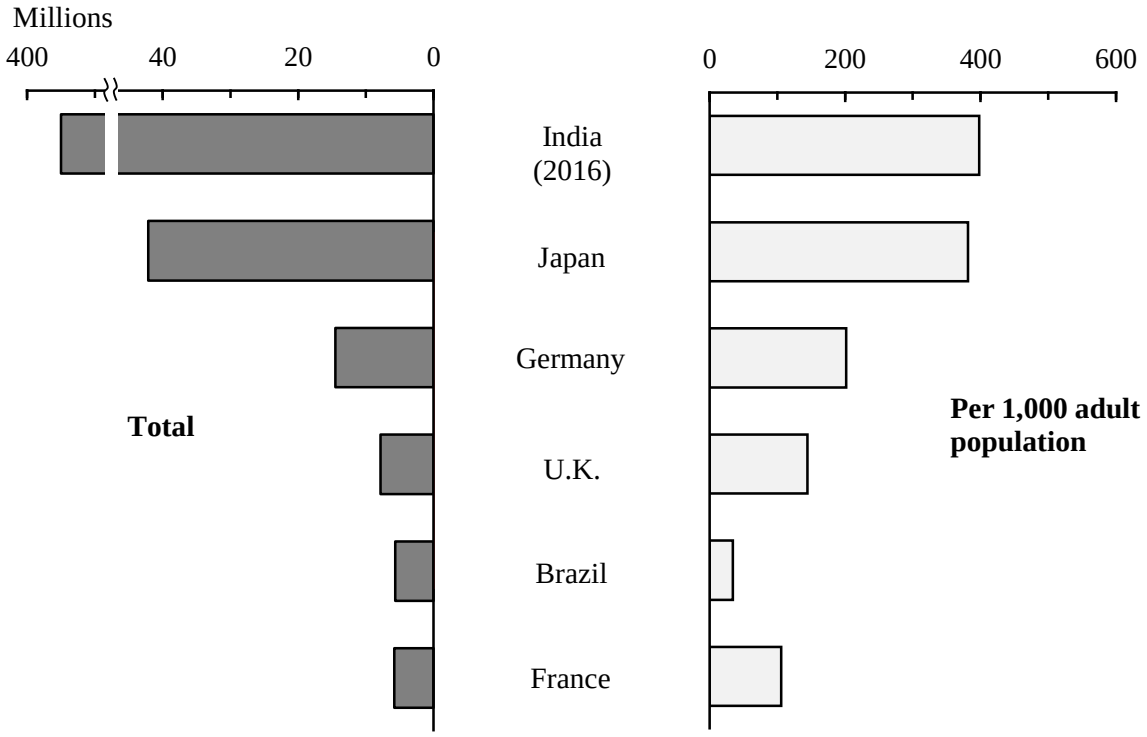
Table 16.5
Number of New Book Titles Published

Subject	2005	2010	2015	2016	2017
Total	78,304	77,773	80,048	78,113	75,412
General works	2,551	2,080	1,715	1,792	1,667
Philosophy	3,763	4,381	4,275	4,215	3,919
General history	5,102	4,969	5,233	4,749	4,522
Social sciences	16,201	15,757	15,598	14,805	14,201
Natural sciences	6,226	6,780	7,079	6,711	6,706
Technology and engineering	8,104	8,499	8,333	7,988	7,629
Industry and commerce	3,337	3,478	3,175	3,253	3,199
Art	10,884	11,535	12,972	12,911	12,352
Languages	2,063	1,884	1,796	1,776	1,715
Literature	13,595	12,879	13,390	13,381	13,179
Children's books	5,064	4,675	4,801	4,871	5,058
School textbooks	1,414	856	1,681	1,661	1,265

Source: Shuppan News Co., Ltd.

A total of 117 daily newspapers were in circulation, and the penetration rate was 0.7 newspapers per household as of October 2018.

Figure 16.6
Newspaper Circulation by Country (2017)



Source: World Association of Newspapers and News Publishers.

Japan has a public broadcasting network (NHK: Nippon Hoso Kyokai, or Japan Broadcasting Corporation), as well as commercial networks. NHK is the pioneer broadcasting station in Japan, and has been funded through fees paid by subscribers.

Major broadcasting services can be divided roughly into 3 categories: terrestrial, satellite, and cable television. Terrestrial digital broadcasting was launched in some areas of the Kanto, Kinki and Chukyo regions in December 2003 and then also in other areas, including all prefectural capitals, in December 2006. By March 31, 2012, analog broadcasting ended and was completely replaced with terrestrial digital broadcasting in all parts of Japan. Currently, 4K and 8K broadcast services with 4 and 16 times the pixel number of existing full high definition are being promoted, and new 4K and 8K satellite broadcast services began in December 2018.

In 2018, advertising expenditures in the 4 major mass media types in Japan (newspapers, magazines, radio and television) totaled 2.7 trillion yen, down compared with the previous year. This accounted for 41.4 percent of total advertising expenditures, which were 6.5 trillion yen. Spending on Internet advertising reached 1.8 trillion yen (up 16.5 percent from the previous year), maintaining a double-digit growth rate. This amounted to 26.9 percent of the total advertising expenditures.

Table 16.6
Advertising Expenditures by Medium

Year	Total	News-papers	Maga-zines	Radio	Tele-vision [1)]	Satellite media-related	Internet	Promo-tional media
Advertising expenditures (billion yen)								
2010	5,842.7	639.6	273.3	129.9	1,732.1	78.4	774.7	2,214.7
2015	6,171.0	567.9	244.3	125.4	1,932.3	-	1,159.4	2,141.7
2016	6,288.0	543.1	222.3	128.5	1,965.7	-	1,310.0	2,118.4
2017	6,390.7	514.7	202.3	129.0	1,947.8	-	1,509.4	2,087.5
2018	6,530.0	478.4	184.1	127.8	1,912.3	-	1,758.9	2,068.5
Percentage distribution (%)								
2010	100.0	11.0	4.7	2.2	29.6	1.3	13.3	37.9
2015	100.0	9.2	4.0	2.0	31.3	-	18.8	34.7
2016	100.0	8.6	3.5	2.1	31.3	-	20.8	33.7
2017	100.0	8.1	3.2	2.0	30.4	-	23.6	32.7
2018	100.0	7.3	2.8	2.0	29.3	-	26.9	31.7

1) Television including Satellite Media-Related advertising after 2015.
Source: Dentsu Inc.

5. Cultural Assets

Throughout its long history, Japan has been endowed with an abundance of valuable cultural assets, including works of art, historic landmarks, and many natural monuments. To pass on this cultural heritage to future generations, the Japanese government has accorded many of the most important assets as national treasures, designated important cultural properties, historic sites, places of scenic beauty, or natural monuments, based on the Act on Protection of Cultural Properties. In addition to preserving cultural assets, measures to utilize such assets are being established, such as expansion of viewing opportunities through exhibitions.

Table 16.7
Cultural Properties Designated by the National Government
(as of July 1, 2019)

Type of cultural properties	Number	
Important cultural properties	13,232	a) 1,116
Fine arts and crafts	10,735	a) 890
Structures	2,497	a) 226
Historic sites, places of scenic beauty and natural monuments	3,268	b) 173
Historic sites	1,823	b) 62
Places of scenic beauty	415	b) 36
Natural monuments	1,030	b) 75
Important tangible folk cultural properties	221	
Important intangible folk cultural properties	312	
Important intangible cultural properties		
Individual recognition	75	
Performing arts	36	
Craft techniques	39	
Group recognition	30	
Performing arts	14	
Craft techniques	16	
Traditional building preservation areas	118	

a) National treasures only. b) Specially designated places only.
Source: Agency for Cultural Affairs.

As of July 1, 2019, 13,232 items were designated as important cultural properties, of which 1,116 were classified as national treasures. In addition, the government has provided support for such activities as theatrical performances, music, handicrafts, and other important intangible cultural properties. It also has worked to preserve important folk-cultural properties, such as annual cultural events and folk performing arts, as well as to train people to carry on such traditions.

Japan ratified the UNESCO World Heritage Convention (the Convention Concerning the Protection of the World Cultural and Natural Heritage) in 1992.

In June 2018, sites connected to "Hidden Christian Sites in the Nagasaki Region" were inscribed on the World Heritage List as the 22nd World Heritage site in Japan. It is a series of sites that testify the traditions of the hidden Christians in Nagasaki and Amakusa district who maintained their faith while co-existing with the extant society and religions, whose faith began from the 16th century when Christianity was introduced to Japan, a country of the Far East, and continued through the ban on religion during the Tokugawa shogunate.

Subsequently, in July 2019, "Mozu-Furuichi Kofun Group: Mounded Tombs of Ancient Japan" were inscribed on the World Heritage List as Japan's 23rd World Heritage Site. The Mozu-Furuichi Kofun Group, which was built during the peak of the Kofun Period from the latter half of the 4th century to the latter half of the 5th century, represents the terminus of the unique techniques used to build earthen buildings. The Group is remarkable material evidence that recounts the history of people on the Japanese archipelago, who symbolized authority through tombs.

Table 16.8

Heritage Sites Inscribed on the World Heritage List [1)]

Year	Type of heritage	World heritage	Prefecture
1993	Cultural	Buddhist Monuments in the Horyu-ji Area	Nara
	Cultural	Himeji-jo (castle)	Hyogo
	Natural	Shirakami-Sanchi (mountains)	Aomori, Akita
	Natural	Yakushima (island)	Kagoshima
1994	Cultural	Historic Monuments of Ancient Kyoto	Kyoto, Shiga
1995	Cultural	Historic Villages of Shirakawa-go and Gokayama	Gifu, Toyama
1996	Cultural	Hiroshima Peace Memorial (Genbaku Dome)	Hiroshima
	Cultural	Itsukushima Shinto Shrine	Hiroshima
1998	Cultural	Historic Monuments of Ancient Nara	Nara
1999	Cultural	Shrines and Temples of Nikko	Tochigi
2000	Cultural	Gusuku Sites and Related Properties of the Kingdom of Ryukyu	Okinawa
2004	Cultural	Sacred Sites and Pilgrimage Routes in the Kii Mountain Range	Mie, Nara, Wakayama
2005	Natural	Shiretoko (peninsula)	Hokkaido
2007	Cultural	Iwami Ginzan Silver Mine and its Cultural Landscape	Shimane
2011	Cultural	Hiraizumi-Temples, Gardens and Archaeological Sites Representing the Buddhist Pure Land	Iwate
	Natural	Ogasawara Islands	Tokyo
2013	Cultural	Fujisan, Sacred Place and Source of Artistic Inspiration	Yamanashi, Shizuoka
2014	Cultural	Tomioka Silk Mill and Related Sites	Gunma
2015	Cultural	Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining	Fukuoka, Saga, Nagasaki, Kumamoto, Kagoshima,Yamaguchi, Iwate, Shizuoka
2016	Cultural	The National Museum of Western Art - The Architectural Work of Le Corbusier	Tokyo
2017	Cultural	Sacred Island of Okinoshima and Associated Sites in the Munakata Region	Fukuoka
2018	Cultural	Hidden Christian Sites in the Nagasaki Region	Nagasaki, Kumamoto
2019	Cultural	Mozu-Furuichi Kofun Group: Mounded Tombs of Ancient Japan	Osaka

1) As of July, 2019.
Source: Agency for Cultural Affairs.

In 2006, the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage entered into force. As of March 2019, Japan has 21 entries on its list, including: Nogaku Theater, Ningyo Johruri Bunraku Puppet Theater, Kabuki Theater (the kind of Kabuki performed using a traditional method of acting and directing), and Washoku, the traditional dietary culture of Japan.

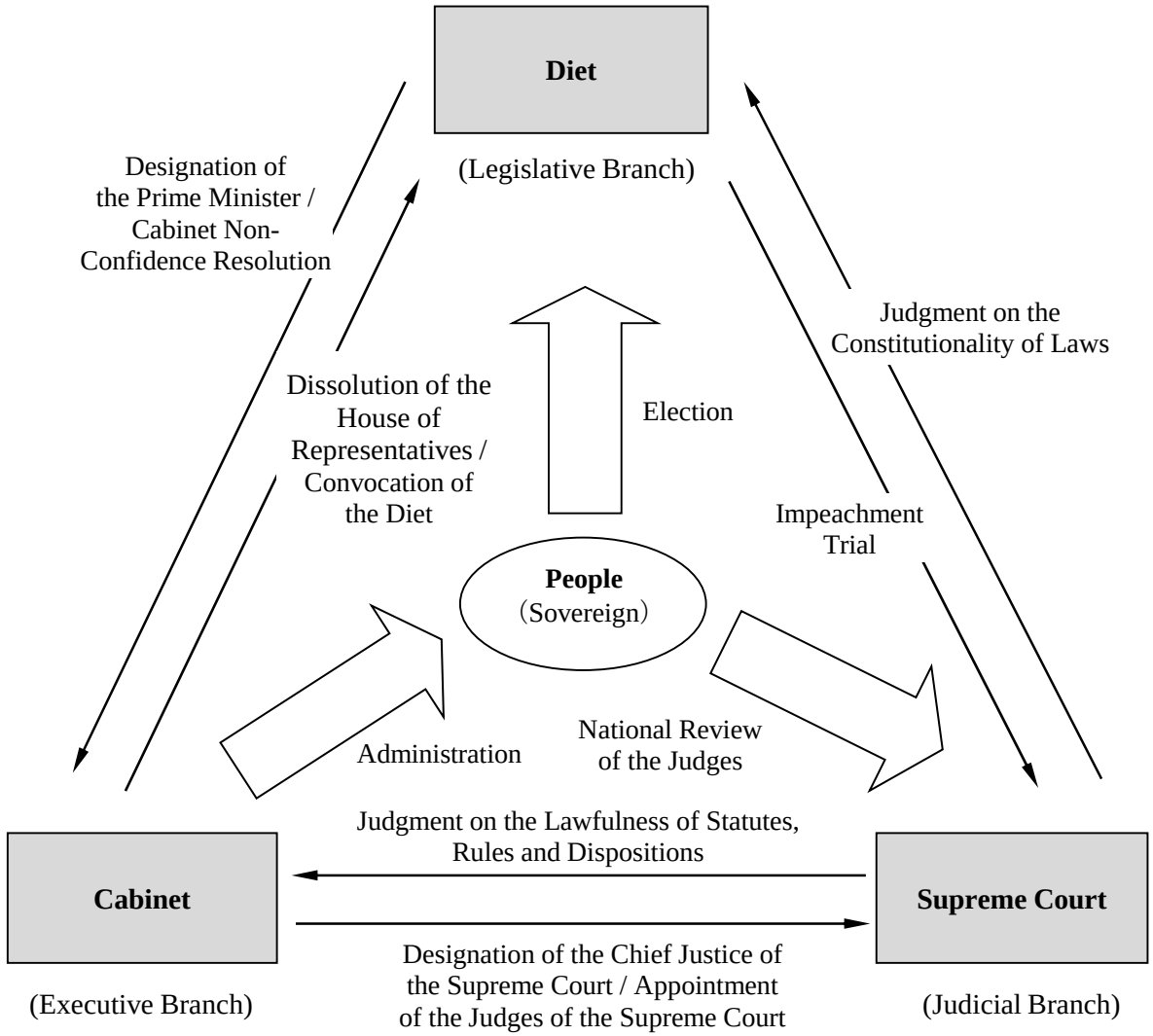
Chapter 17

Government System

1. Separation of Powers

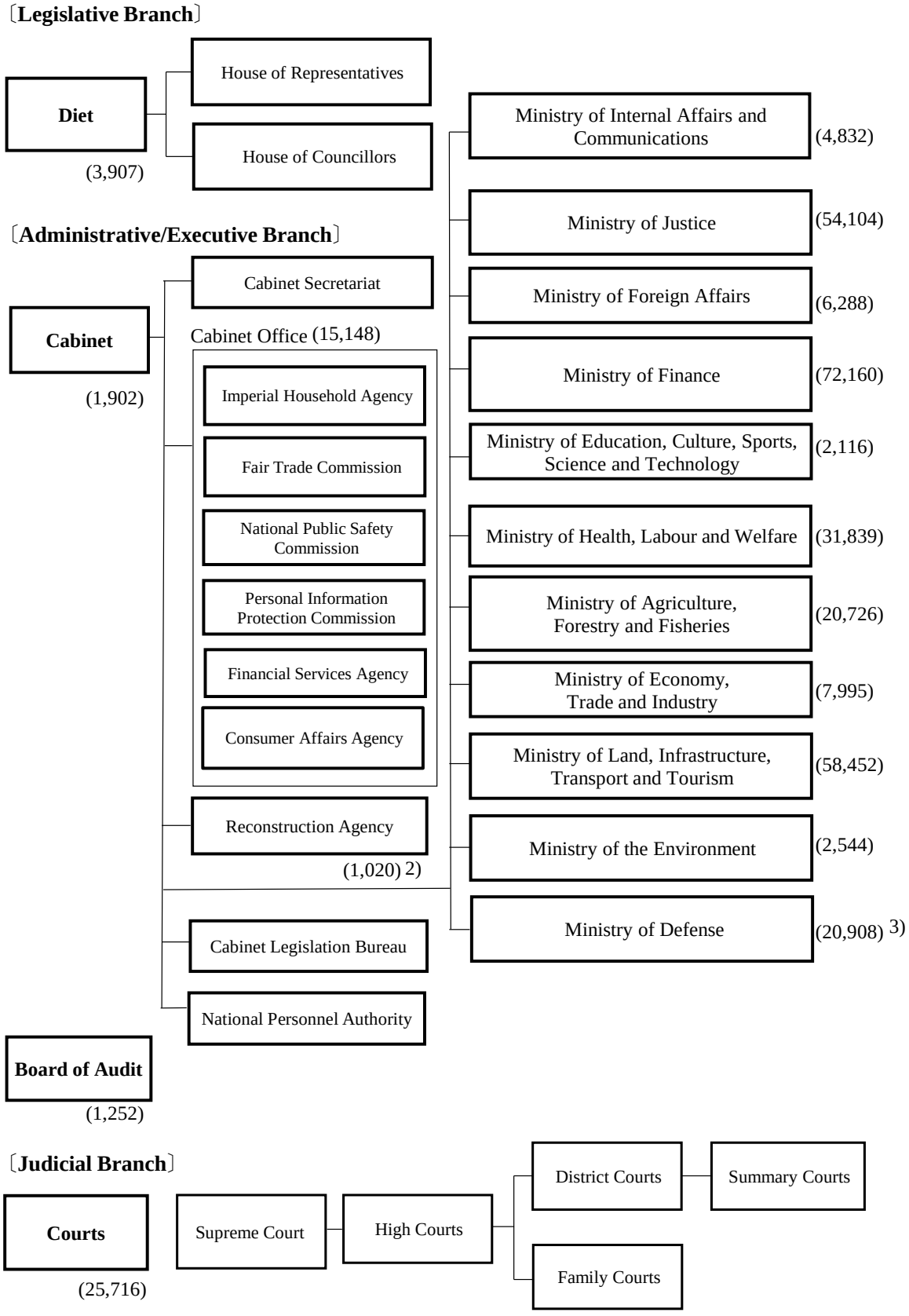
The Constitution of Japan, which went into effect on May 3, 1947, is based on three core principles: sovereignty of the people, respect for fundamental human rights and pacifism. To control governmental power effectively through checks and balances, governmental power is separated into three independent branches: legislative, executive and judicial, and each contains a separate set of agencies and personnel.

Figure 17.1
Separation of Powers under the Constitution of Japan



Source: Prime Minister of Japan and His Cabinet.

Figure 17.2
Government Organization [1] (FY2019)



1) Figures in parentheses refer to budgetary fixed number of national government employees.
2) Of the 1,020 employees, 215 are from the Reconstruction Agency and 805 are from other ministries.
3) Excluding the number of the personnel of the Self-Defense Forces.
Source: Cabinet Bureau of Personnel Affairs, Cabinet Secretariat; Ministry of Finance.

2. Legislative Branch

The Diet is the highest organ of state power, and is the sole law-making organ of the State. The Diet consists of the House of Representatives and the House of Councillors. Both Houses consist of elected members, representative of all the people.

The most important responsibility of the Diet is to enact legislation. The Diet also has the authority to fulfill a number of additional functions, including the deliberation and passage of the budget and other matters of fiscal importance, the approval of treaties, the designation of the Prime Minister and the initiation of motions to amend the Constitution. Each House may conduct investigations relating to the government, and demand the presence and testimony of witnesses, and the production of records. For the Diet to pass a resolution, the agreement of both Houses of the Diet is necessary. However, when the two Houses differ in their resolutions regarding legislative bills, draft budgets, the approval of treaties or the designation of the Prime Minister, under the terms of the Constitution, the decision of the House of Representatives overrides that of the House of Councillors.

The term of office for Diet members is set by the Constitution. Members of the House of Representatives serve a 4-year term, while members of the House of Councillors, 6 years. Elections for the latter are held every 3 years, so that one half of the seats are contested in each election.

The House of Representatives has 465 members. Of these, 289 are elected under a single-seat constituency system, while 176 are elected under a proportional representation system in which the nation is divided into 11 regions. The last general election was held in October 2017. The House of Councillors has 248 members, of whom 100 are elected through proportional representation, and 148 are elected as representatives from 45 electoral districts of the nation, based upon prefectures. The last regular election was held in July 2019.

In June 2015, revisions to the Public Offices Election Law, which consist mainly of lowering the voting age from 20 to 18 years or older, were established and promulgated. The revisions were applied starting with the House of Councillors regular election, which was officially announced in June 2016. Both men and women above the qualifying age are eligible to run in elections. The qualifying age for members of the House of

Representatives is 25 years or older, while the qualifying age for members of the House of Councillors is 30 years or older.

Table 17.1
Diet Members by Political Group

House of Representatives (as of July 26, 2019) Membership 465, Vacancies 0			House of Councillors (as of August 20, 2019) Membership [1] 245, Vacancies 1		
Name	Males	Females	Name	Males	Females
Incumbents	418	47	Incumbents	188	56
Liberal Democratic Party	263	22	Liberal Democratic Party and Voice of The People	94	19
The Constitutional Democratic Party of Japan	55	15	The Constitutional Democratic Party of Japan and Minyukai and Hope Coalition	26	9
Democratic Party For the People	37	2	Komeito	23	5
Komeito	25	4	Democratic Party For the People and The Shin-Ryokufukai	17	8
Japanese Communist Party	9	3	Nippon Ishin (Japan Innovation Party)	13	3
Nippon Ishin (Japan Innovation Party)	10	1	Japanese Communist Party	8	5
The Reviewing Group on Social Security Policy	8	0	Okinawa Whirlwind	2	0
Social Democratic Party	2	0	REIWA SHINSENGUMI	1	1
The Party of Hope	2	0	Hekisuikai	0	2
			Your Party	2	0
Independents	7	0	Independents	2	4

1) Due to the revision of the Public Offices Election Law in July 2018, the constant number of seats increased from 242 to 248. In the July 2019 regular election, half of this number, or 124 seats, were re-elected.
Source: The House of Representatives; The House of Councillors.

3. Executive Branch

The Cabinet exercises its executive power on the basis of the laws and budgets adopted by the Diet. The Cabinet, composed of the Prime Minister and other Ministers of State, is collectively responsible to the Diet, regarding the exercise of the executive power. The Prime Minister is elected in the Diet from among its members. The Ministers of State are appointed by the Prime Minister, and the majority of them must be Diet members. Thus, Japan adopts the parliamentary Cabinet system, in which the organization and existence of the Cabinet rest on the confidence in the Diet.

The Cabinet's powers include the following: (i) implementing laws; (ii) engaging in foreign diplomacy; (iii) signing treaties; (iv) overseeing the operational affairs of public officers; (v) formulating a budget and

submitting it to the Diet; (vi) enacting Cabinet orders; and (vii) deciding amnesty. In addition, the Cabinet powers also include designating the Chief Justice of the Supreme Court and appointing other judges. The Cabinet also gives advice and approval to the Emperor in matters of state, and bears the responsibility for this.

Table 17.2
Successive Prime Ministers

Date [1]	Name	Date [1]	Name
Dec. 26, 2012	Shinzo ABE	Apr. 26, 2001	Junichiro KOIZUMI
Sep. 2, 2011	Yoshihiko NODA	Apr. 5, 2000	Yoshiro MORI
Jun. 8, 2010	Naoto KAN	Jul. 30, 1998	Keizo OBUCHI
Sep. 16, 2009	Yukio HATOYAMA	Jan. 11, 1996	Ryutaro HASHIMOTO
Sep. 24, 2008	Taro ASO	Jun. 30, 1994	Tomiichi MURAYAMA
Sep. 26, 2007	Yasuo FUKUDA	Apr. 28, 1994	Tsutomu HATA
Sep. 26, 2006	Shinzo ABE	Aug. 9, 1993	Morihiro HOSOKAWA

1) Date of initial cabinet formation.
Source: Prime Minister of Japan and His Cabinet.

4. Judicial Branch

Judicial power resides in the courts and is independent from the executive branch and the legislative branch.

The Constitution provides for the establishment of the Supreme Court as the highest court with final judgment, while the Court Act provides for 4 lower-level courts (High Court, District Court, Family Court and Summary Court). At present, there are 8 High Courts, 50 District Courts, 50 Family Courts, and 438 Summary Courts throughout the nation.

To ensure fair judgments, Japan uses a three-tiered judicial system. The first courts in the court hierarchy are the District Courts, the second are the High Courts, and the highest court is the Supreme Court. The system thus allows a case to be heard and ruled on up to 3 times in principle, should a party involved in the case so desire. The Summary Courts and Family Courts handle simple cases, domestic relations and cases involving juveniles as first courts.

The Supreme Court has the authority to deliver the final judgment on the legitimacy of any law, ordinance, regulation, or disposition. It is chaired by the Chief Justice and 14 judges.

A lay judge system began in May 2009. This is a system under which citizens participate in criminal trials as judges to determine, together with professional judges, whether the defendant is guilty or not and, if found guilty, what sentence should apply. What is hoped for is that the public's participation in criminal trials will make citizens feel more involved in the justice process and make the trials easier to understand, thus leading to the public's greater trust in the justice system. A total of 11,541 people were tried in lay judge trials held between the start of the system and December 2018.

Table 17.3
Judicial Cases Newly Commenced, Terminated or Pending (All courts)

(Thousands)

Year	Civil and administrative cases			Criminal cases [1]		
	Commenced	Terminated	Pending	Commenced	Terminated	Pending
2005	2,713	2,827	576	1,568	1,572	47
2010	2,179	2,241	536	1,158	1,161	36
2015	1,432	1,425	409	1,033	1,031	34
2016	1,471	1,483	397	999	1,002	32
2017	1,529	1,526	400	960	961	30

Year	Domestic cases			Juvenile cases [1]		
	Commenced	Terminated	Pending	Commenced	Terminated	Pending
2005	718	713	99	237	238	32
2010	815	815	106	165	168	25
2015	970	959	133	95	98	13
2016	1,023	1,024	133	83	85	12
2017	1,050	1,052	131	75	76	10

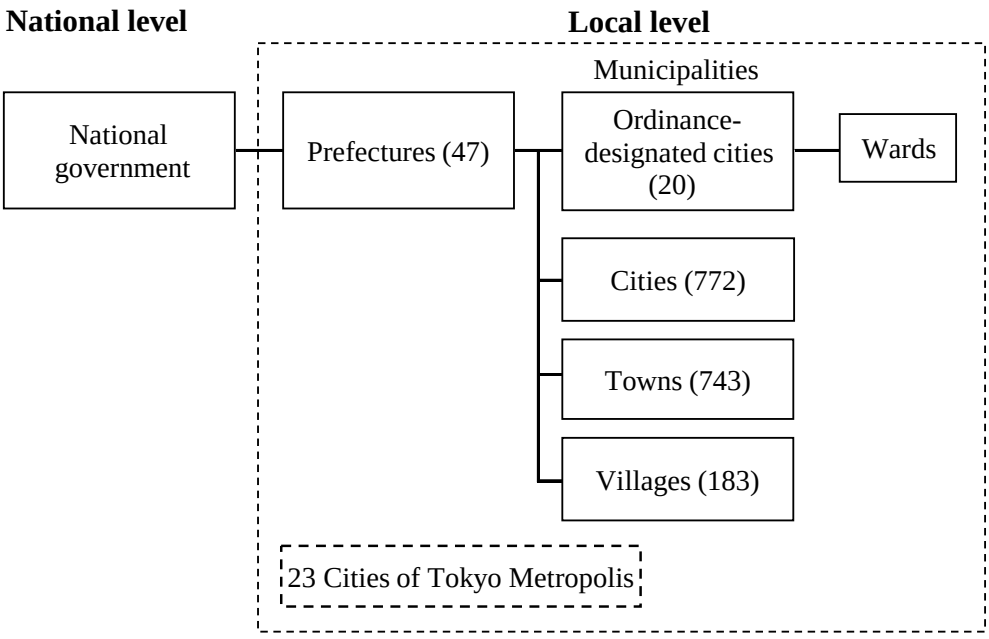
1) The number of persons.
Source: Supreme Court of Japan.

5. Local Governments

The affairs of local governments in Japan are conducted by ordinary local governments (prefectures and municipalities within each prefecture) and by special local governments, such as special wards. As of October 1, 2018, Japan has 47 prefectures, within which there are 1,718 municipalities, plus the 23 Cities in metropolitan Tokyo. In order to strengthen the administrative and fiscal foundation of the municipalities, municipal mergers were promoted by law. Consequently, the number of municipalities was reduced by nearly half from the 3,232 existing at the end of March 1999.

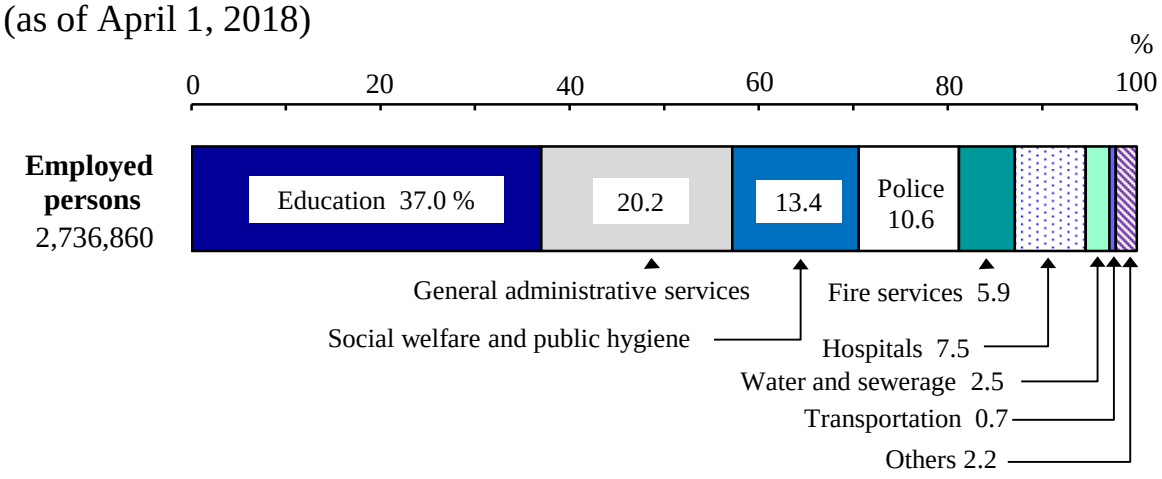
Municipalities that satisfy certain population criteria (i.e., 500,000 people or more) are eligible for designation as "Ordinance-designated cities". This designation gives them administrative and fiscal authority equivalent to those of prefectures. With the addition of Kumamoto City in April 2012, there are presently 20 cities that have earned this designation. See the map on the inside back cover.

Figure 17.3
Government System by Level [1] (as of October 1, 2018)



1) Figures in parentheses indicate number.
Source: Ministry of Internal Affairs and Communications.

Figure 17.4
Local Government Employees by Type of Administrative Services
(as of April 1, 2018)



Source: Ministry of Internal Affairs and Communications.

Appendix 1
Population, Surface Area, and Population Density by Prefecture

Prefectures	Prefectural capital cities	Population (1,000)		Surface area (km^2)		Population density (per km^2)	
				Total area	Inhabitable	Total area	Inhabitable
		2015 [1]	2018 [2]	2017	2017	2017	2017
Japan		127,095	126,443	377,974	122,634	340	1,033
Hokkaido	Sapporo City	5,382	5,286	83,424	22,372	68	238
Aomori	Aomori City	1,308	1,263	9,646	3,230	133	396
Iwate	Morioka City	1,280	1,241	15,275	3,714	82	338
Miyagi	Sendai City	2,334	2,316	7,282	3,155	319	736
Akita	Akita City	1,023	981	11,638	3,204	86	311
Yamagata	Yamagata City	1,124	1,090	9,323	2,885	118	382
Fukushima	Fukushima City	1,914	1,864	13,784	4,217	137	446
Ibaraki	Mito City	2,917	2,877	6,097	3,975	474	728
Tochigi	Utsunomiya City	1,974	1,946	6,408	2,983	305	656
Gunma	Maebashi City	1,973	1,952	6,362	2,279	308	860
Saitama	Saitama City	7,267	7,330	3,798	2,585	1,925	2,828
Chiba	Chiba City	6,223	6,255	5,158	3,554	1,211	1,757
Tokyo	23 Cities of Tokyo	13,515	13,822	2,194	1,421	6,255	9,655
Kanagawa	Yokohama City	9,126	9,177	2,416	1,471	3,791	6,227
Niigata	Niigata City	2,304	2,246	12,584	4,535	180	500
Toyama	Toyama City	1,066	1,050	4,248	1,843	249	573
Ishikawa	Kanazawa City	1,154	1,143	4,186	1,392	274	824
Fukui	Fukui City	787	774	4,191	1,077	186	723
Yamanashi	Kofu City	835	817	4,465	954	184	862
Nagano	Nagano City	2,099	2,063	13,562	3,226	153	644
Gifu	Gifu City	2,032	1,997	10,621	2,211	189	908
Shizuoka	Shizuoka City	3,700	3,659	7,777	2,749	473	1,337
Aichi	Nagoya City	7,483	7,537	5,173	2,988	1,455	2,518
Mie	Tsu City	1,816	1,791	5,774	2,059	312	874
Shiga	Otsu City	1,413	1,412	4,017	1,307	352	1,081
Kyoto	Kyoto City	2,610	2,591	4,612	1,174	564	2,214
Osaka	Osaka City	8,839	8,813	1,905	1,331	4,631	6,631
Hyogo	Kobe City	5,535	5,484	8,401	2,783	655	1,977
Nara	Nara City	1,364	1,339	3,691	856	365	1,576
Wakayama	Wakayama City	964	935	4,725	1,115	200	848
Tottori	Tottori City	573	560	3,507	901	161	627
Shimane	Matsue City	694	680	6,708	1,299	102	527
Okayama	Okayama City	1,922	1,898	7,114	2,219	268	860
Hiroshima	Hiroshima City	2,844	2,817	8,480	2,311	334	1,224
Yamaguchi	Yamaguchi City	1,405	1,370	6,113	1,707	226	810
Tokushima	Tokushima City	756	736	4,147	1,010	179	735
Kagawa	Takamatsu City	976	962	1,877	1,006	515	962
Ehime	Matsuyama City	1,385	1,352	5,676	1,673	240	815
Kochi	Kochi City	728	706	7,104	1,163	101	614
Fukuoka	Fukuoka City	5,102	5,107	4,987	2,762	1,024	1,849
Saga	Saga City	833	819	2,441	1,336	338	617
Nagasaki	Nagasaki City	1,377	1,341	4,131	1,675	328	808
Kumamoto	Kumamoto City	1,786	1,757	7,409	2,796	238	631
Oita	Oita City	1,166	1,144	6,341	1,799	182	640
Miyazaki	Miyazaki City	1,104	1,081	7,735	1,850	141	589
Kagoshima	Kagoshima City	1,648	1,614	9,187	3,313	177	491
Okinawa	Naha City	1,434	1,448	2,281	1,169	633	1,234

1) Population census. 2) Population estimates.

Source: Statistics Bureau, MIC; Geospatial Information Authority of Japan.

Appendix 2
Conversion Factors

	Metric units	British Imperial and U.S. equivalents	
Length:	1 centimeter (cm)	0.39370	inches
	1 meter (m)	3.28084	feet
		1.09361	yards
	1 kilometer (km)	0.62137	miles
Area:	1 square meter (m^2)	10.76391	square feet
		1.19599	square yards
	1 square kilometer (km^2)	0.38610	square miles
	1 hectare (ha) 10,000 square meters (m^2)	2.47105	acres
Volume:	1 cubic meter (m^3)	35.31467	cubic feet
		1.30795	cubic yards
Weight:	1 kilogram (kg)	35.27396	ounces
		2.20462	pounds
	1 ton (t)	0.98421	long tons
		1.10231	short tons
Capacity:	1 liter (L)	0.87988	imp. Quarts
		1.05669	U.S. liq. Quarts
Temperature:	centigrade (℃)	5 / 9 ×(Fahrenheit - 32)	

Appendix 3
Foreign Exchange Rates [1)]

(Yen per U.S. dollar)

Year	Average	End of year
2000	107.77	114.90
2001	121.53	131.47
2002	125.31	119.37
2003	115.93	106.97
2004	108.18	103.78
2005	110.16	117.48
2006	116.31	118.92
2007	117.76	113.12
2008	103.37	90.28
2009	93.54	92.13
2010	87.78	81.51
2011	79.81	77.57
2012	79.81	86.32
2013	97.63	105.37
2014	105.85	119.80
2015	121.03	120.42
2016	108.84	117.11
2017	112.16	112.65
2018	110.39	110.40

1) Midpoint rate in the interbank foreign exchange market in Tokyo.
Source: Bank of Japan.