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JAPAN

2018



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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 booklet 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 booklet on the website of the Statistics Bureau.

September 2018

Masato CHINO
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, 2018.
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 2018, 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 varying 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 (2017)
(Square kilometers)

District	Area
Japan	377,974
Honshu	231,235
Hokkaido	83,424
Kyushu	42,231
Shikoku	18,804
Okinawa	2,281

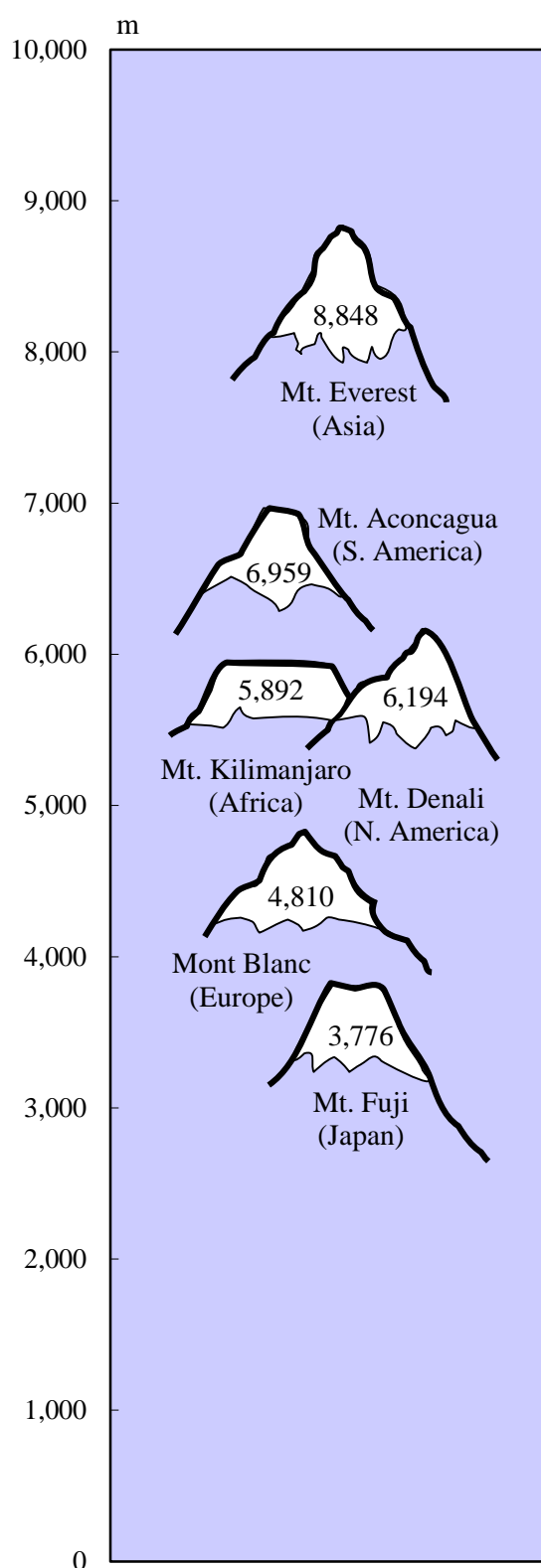
Source: Geospatial Information
Authority of Japan.

Table 1.2
Top 10 Countries According
to Surface Area (2016) ¹⁾
(1,000 square kilometers)

Country	Area
World ²⁾	130,094
Russia	17,098
U.S.A.	9,834
China	9,600
Canada ²⁾	9,094
Brazil	8,516
Australia	7,692
India	3,287
Argentina	2,780
Kazakhstan	2,725
Algeria	2,382

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

Figure 1.1
Famous Mountains of the World



Source: National Astronomical Observatory of Japan.

Table 1.3
Mountains (2018)

(Meters)	
Name	Height
Mt. Fuji	3,776
Mt. Kitadake	3,193
Mt. Ainodake	3,190
Mt. Okuhotaka	3,190
Mt. Yarigatake	3,180
Mt. Higashidake	3,141
Mt. Akaishi	3,121
Mt. Karasawa	3,110
Mt. Kitahotaka	3,106
Mt. Obami	3,101

Source: Geospatial Information Authority of Japan.

Table 1.4
Rivers (2017)

(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 (2017)

(Square kilometers)	
Name	Area
Lake Biwa	669.3
Lake Kasumigaura	168.1
Lake Saroma	151.6
Lake Inawashiro	103.2
Lake Nakaumi	85.7
Lake Kussharo	79.5
Lake Shinji	79.3
Lake Shikotsu	78.5
Lake Toya	70.7
Lake Hamana	64.9

Source: Geospatial Information Authority of Japan.

As of 2014, 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). Together, forestland, fields and agricultural land thus cover approximately 80 percent of the nation. There are approximately 20,000 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
2014	378.0	254.0	45.4	13.4	13.7	19.2	32.3
Percentage distribution (%)							
2014	100.0	67.2	12.0	3.5	3.6	5.1	8.6

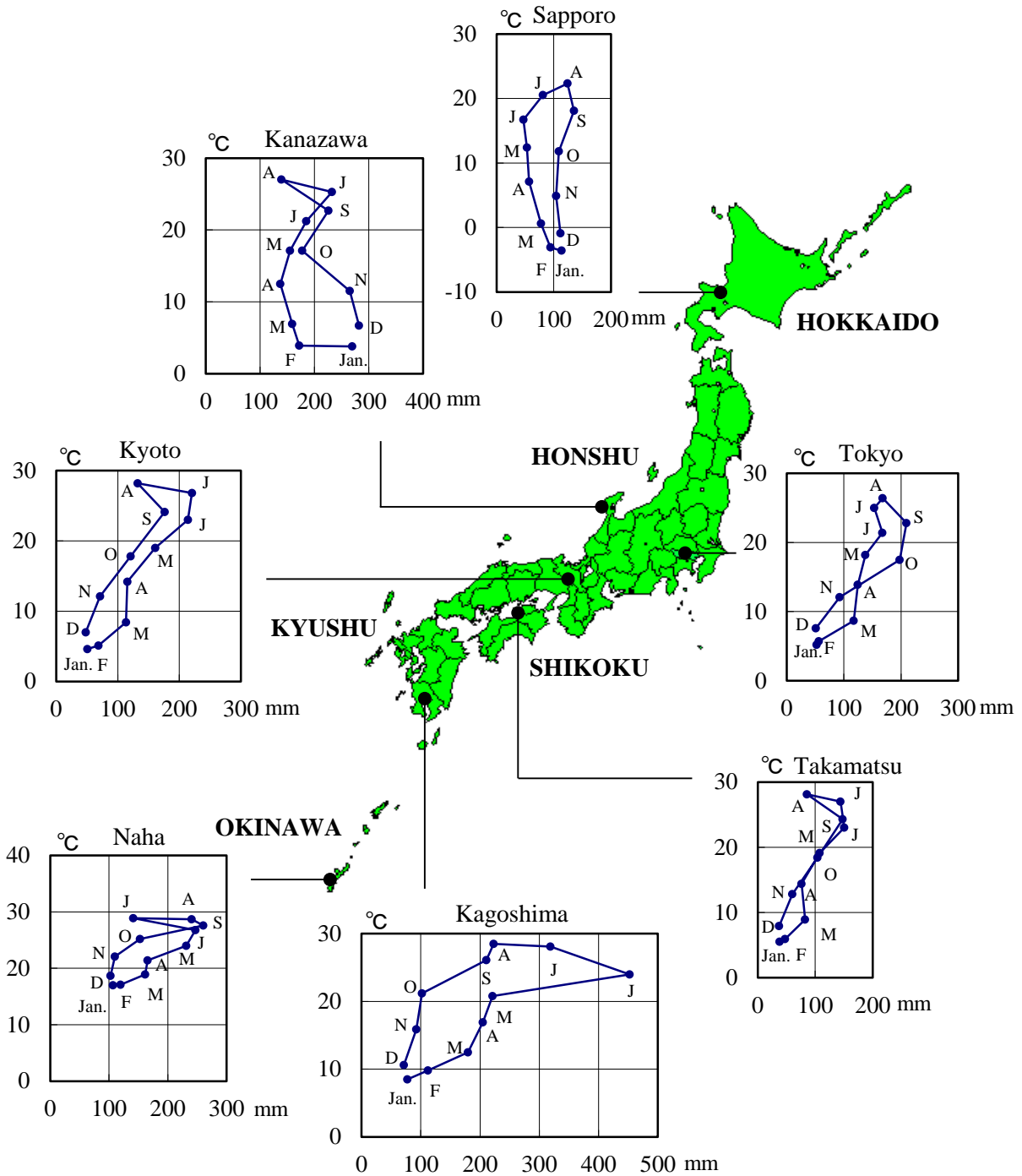
1) Including farm roads and forest roads, etc. 2) Such as residential and industrial land.

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

2. Climate

The Japanese archipelago has a temperate marine climate. Though they may differ depending on the effects of seasonal winds and ocean currents, the changes in the four seasons are distinct. The topography of Honshu, however, features a series of major mountain ranges running from north to south. Because of this feature, 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 summer, the winds blow mainly from the southeast, giving rise to hot and humid weather. 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. From summer to autumn, tropical cyclones generated in the Pacific Ocean to the south develop into typhoons and hit Japan, sometimes causing storm and flood damage.

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)

Observing station		Temperature (°C)												Precipitation (mm)
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual ¹⁾
Sapporo	Temp. <u>High</u>	-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
	Temp. <u>Low</u>	-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. <u>High</u>	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
	Temp. <u>Low</u>	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. <u>High</u>	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
	Temp. <u>Low</u>	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. <u>High</u>	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
	Temp. <u>Low</u>	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. <u>High</u>	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
	Temp. <u>Low</u>	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. <u>High</u>	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
	Temp. <u>Low</u>	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. <u>High</u>	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
	Temp. <u>Low</u>	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.

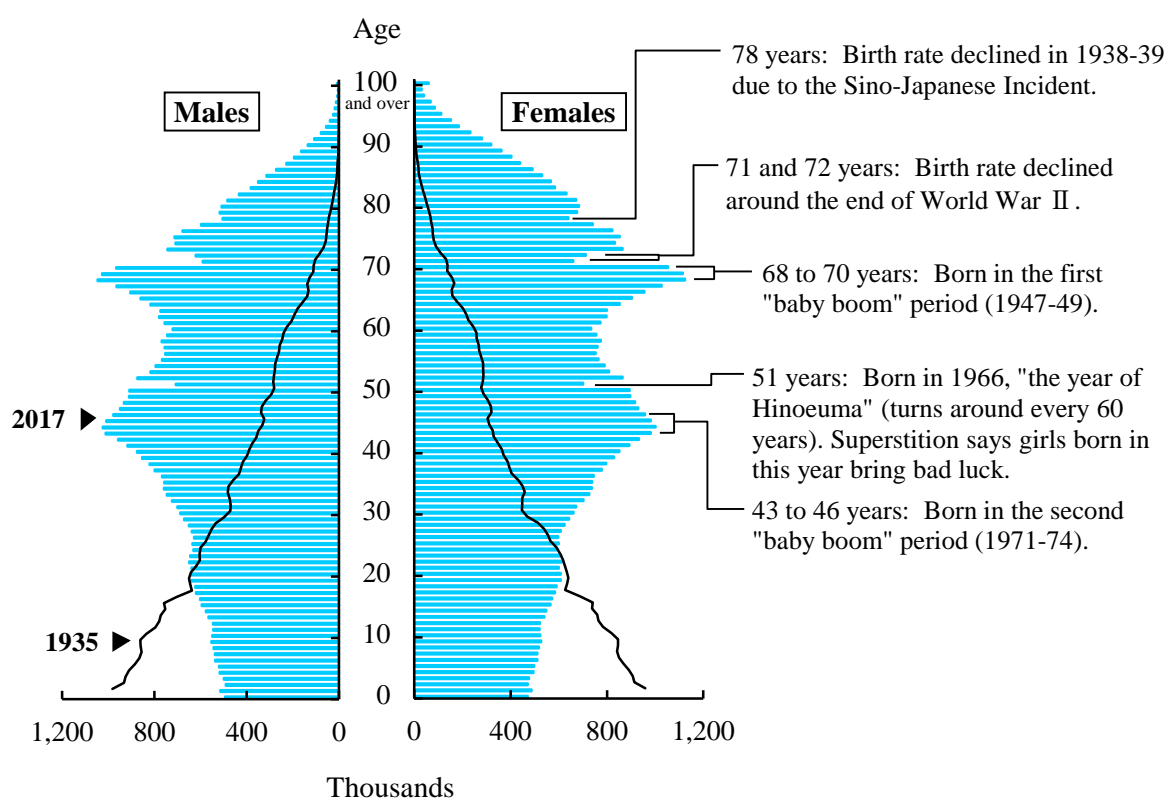
Chapter 2

Population

1. Total Population

Japan's total population in 2017 was 126.71 million. This ranked eleventh 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 eleventh 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 (2017)

		(Millions)	
Country	Population	Country	Population
World	7,550	Pakistan	197
China	1,410	Nigeria	191
India	1,339	Bangladesh	165
U.S.A.	324	Russia	144
Indonesia	264	Mexico	129
Brazil	209	Japan	127

Source: Statistics Bureau, MIC; United Nations.

Figure 2.2**Population Density by Country or Area (2015)**

1) Top fifteen countries or areas with a population of 10 million or more.

Source: Statistics Bureau, MIC; United Nations.

From the eighteenth century through the first half of the nineteenth 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 has slowed in more recent years, with the rate of population change about one 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 Population Census in 1920. In 2017, it was 126.71 million, down by 227,000 from the year before.

POPULATION

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)
		Males	0-14 years	15-64	65 and over		
1872 ¹⁾	34,806	17,666	...	...	...	...	91
1900 ¹⁾	43,847	22,051	33.9	60.7	5.4	0.83	115
1910 ¹⁾	49,184	24,650	36.0	58.8	5.2	1.16	129
1920	55,963	28,044	36.5	58.3	5.3	1.30	147
1930	64,450	32,390	36.6	58.7	4.8	1.42	169
1940	71,933	35,387	36.7	58.5	4.8	1.10	188
1950	84,115	41,241	35.4	59.6	4.9	1.58	226
1955	90,077	44,243	33.4	61.2	5.3	1.38	242
1960	94,302	46,300	30.2	64.1	5.7	0.92	253
1965	99,209	48,692	25.7	68.0	6.3	1.02	267
1970	104,665	51,369	24.0	68.9	7.1	1.08	281
1975	111,940	55,091	24.3	67.7	7.9	1.35	300
1980	117,060	57,594	23.5	67.4	9.1	0.90	314
1985	121,049	59,497	21.5	68.2	10.3	0.67	325
1990	123,611	60,697	18.2	69.7	12.1	0.42	332
1995	125,570	61,574	16.0	69.5	14.6	0.31	337
2000	126,926	62,111	14.6	68.1	17.4	0.21	340
2005	127,768	62,349	13.8	66.1	20.2	0.13	343
2010	128,057	62,328	13.2	63.8	23.0	0.05	343
2015	127,095	61,842	12.6	60.7	26.6	-0.15	341
2016	126,933	61,766	12.4	60.3	27.3	-0.13	340
2017	126,706	61,655	12.3	60.0	27.7	-0.18	340
(Projection, 2017)							
2030	119,125	57,697	11.1	57.7	31.2	-0.47	319
2040	110,919	53,595	10.8	53.9	35.4	-0.71	297
2050	101,923	49,257	10.6	51.8	37.7	-0.84	273
2060	92,840	44,744	10.2	51.6	38.1	-0.93	249

1) As of January 1.

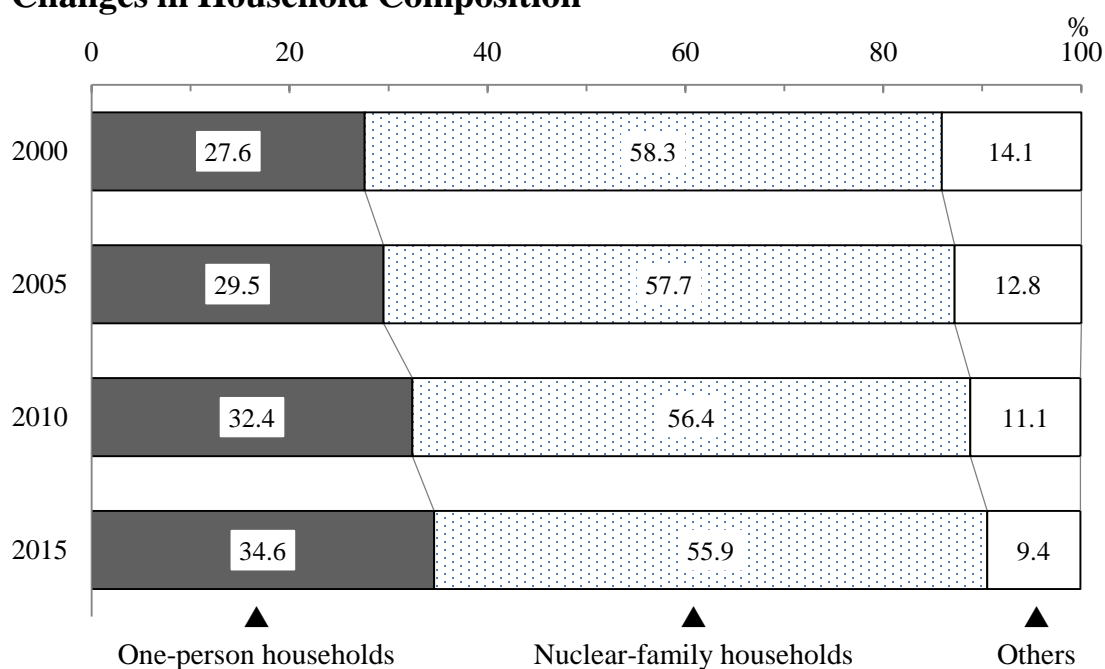
Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare; Geospatial Information Authority of Japan.

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.

Table 2.3
Households and Household Members

Year	Private households (1,000)	Rate of private households change(%) ¹⁾	Private household members (1,000)	Members per household	Population (1,000)	Rate of population change(%) ¹⁾
1970	30,297	...	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) Change over preceding Population Census.

Source: Statistics Bureau, MIC.

From the 1920s to the mid-1950s, the average number of household members remained at about five. However, due to the increase in one-person households and nuclear families 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 has shifted into decline, 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.

(2) Elderly Households

The number of elderly households (private households with household members 65 years of age or over) in 2015 was 21.71 million. They accounted for 40.7 percent of private households. There were 5.93 million one-person elderly households. Among these, there were approximately two times as many women as men.

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
Aged-couple households ¹⁾	2,763	3,661	4,487	5,251	6,079

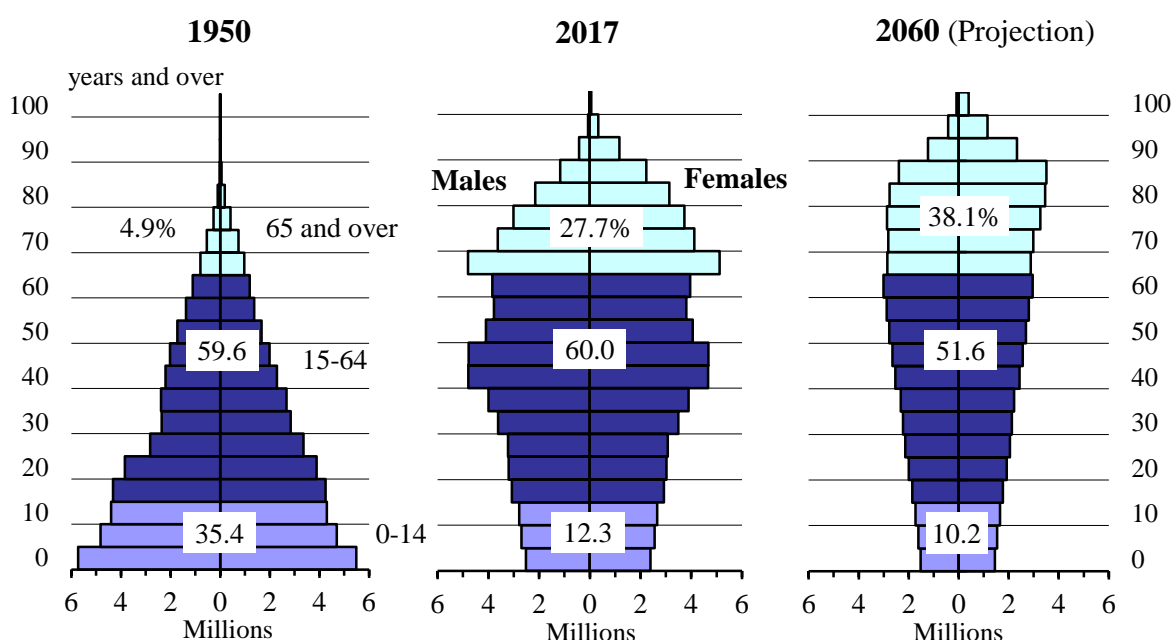
1) Consisting of a husband 65 years of age and over and his wife 60 years of age and over.

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 of the pyramid, however, has changed dramatically as both the birth rate and death rate have declined. In 2017, the aged population (65 years and over) was 35.15 million, constituting 27.7 percent of the total population (i.e., one in every four persons) and marking a record high.

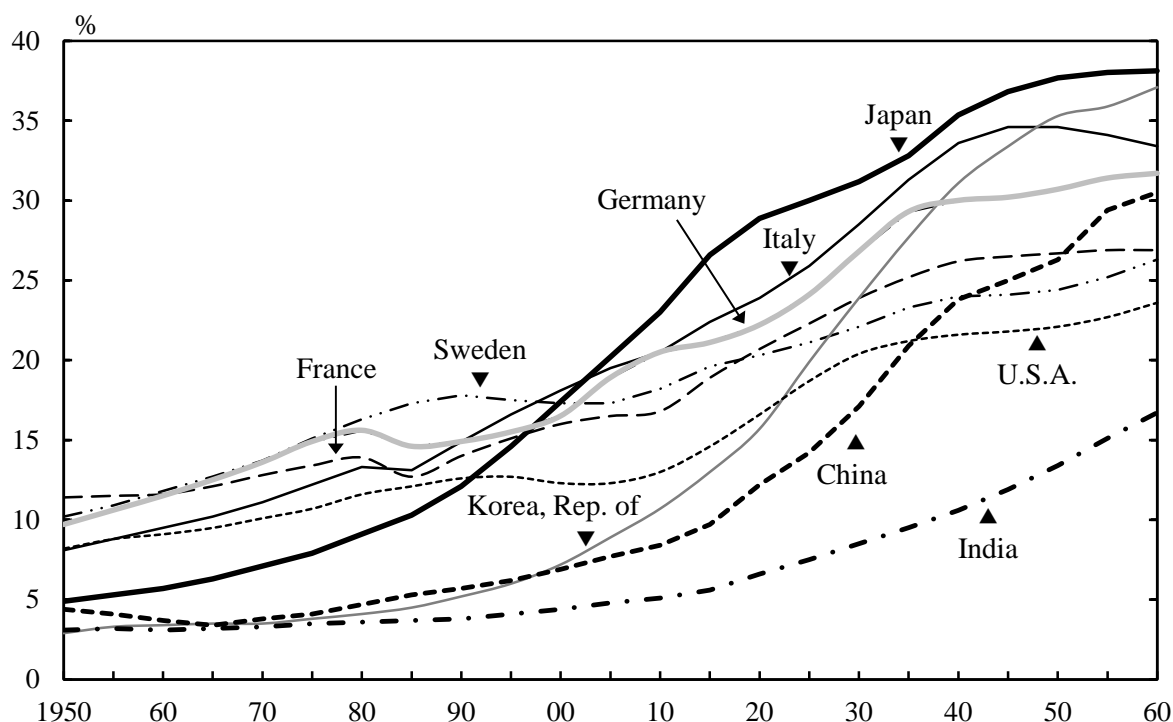
Figure 2.4
Changes in the Population Pyramid



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

In Japan, the period when the percentage of persons aged 65 and older exceeded 10 percent was 1985, but when looking at the U.S.A. and European countries, this occurred in 1940 in France, 1950 in Sweden, 1965 in Italy, and 1975 in the U.S.A., which are all earlier than in Japan. However, in 2015, the percentage of the population 65 and older 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 rapidly as compared to the U.S.A. and European countries.

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



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

Table 2.5
Age Structure of Population by Country

Country	2060 (projection)					
	2015			2060 (projection)		
	0-14 years	15-64	65 and over	0-14 years	15-64	65 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.

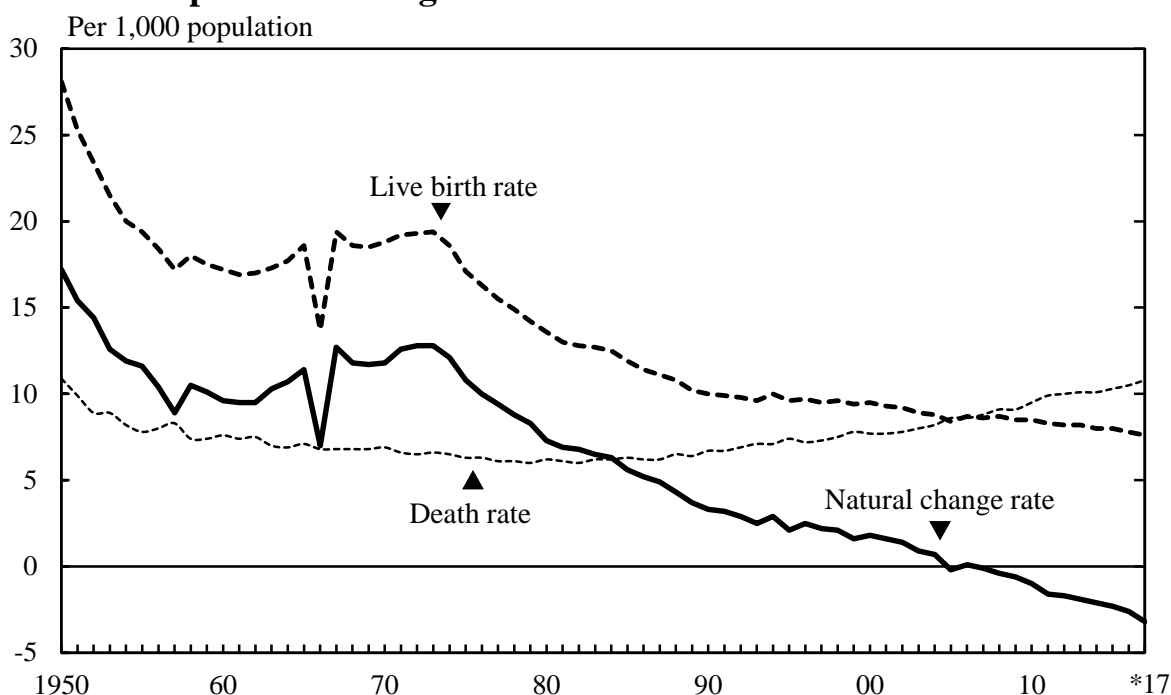
On the other hand, in 2017, the child population (0-14 years) in Japan amounted to 15.59 million, accounting for 12.3 percent of the total population, which was the lowest level on record. In terms of their proportion of the total population, the aged (65 years and over) have surpassed the child population since 1997. The productive-age population (15-64 years) totaled 75.96 million. In share terms, it accounted for 60.0 percent of the entire population, continuing its 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 66.8 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) fell for the first time since 1899, and has since been on a declining trend. In 2017, the natural change rate was -3.2 and decreased for the eleventh consecutive years since 2007.

During the second baby boom, the live birth rate was at a level of 19 (per 1,000 population) between 1971 and 1973. Since the late 1970s, it has continued to fall. The rate for 2017 was 7.6.

Figure 2.6
Natural Population Change



Source: Ministry of Health, Labour and Welfare.

POPULATION

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	...	...

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.

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 2017. 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 dropped a little to 1.43 in 2017.

The death rate (per 1,000 population) was steady at 6.0 - 6.3 between 1975 and 1987, and maintained an uptrend since 1988, reflecting the aging of the population. It reached 10.8 in 2017.

Table 2.7
Changes of Mothers' Age at Childbirth

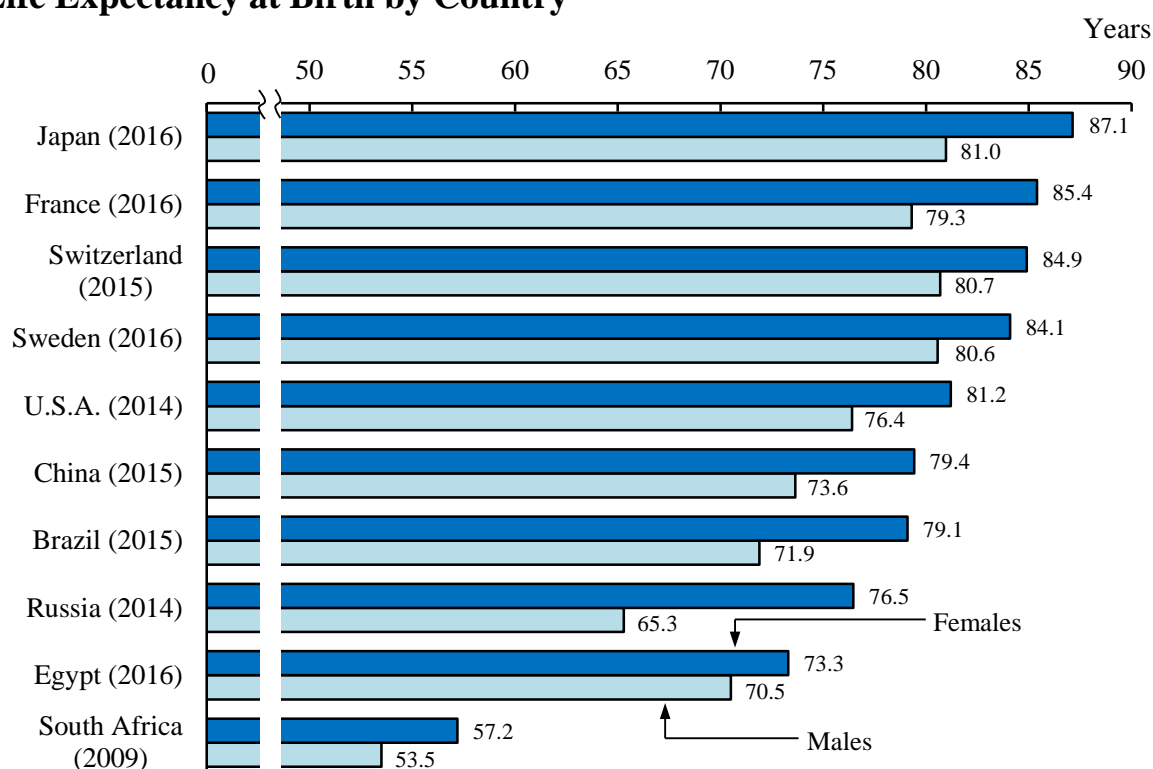
Year	Number of births (1,000) ¹⁾	Distribution of mothers' age (%) ²⁾						Mean age bearing first child
		Under 19	20-24	25-29	30-34	35-39	40 and over	
1970	1,934	1.0	26.5	49.2	18.5	4.2	0.5	25.6
1980	1,577	0.9	18.8	51.4	24.7	3.7	0.5	26.4
1990	1,222	1.4	15.7	45.1	29.1	7.6	1.0	27.0
2000	1,191	1.7	13.6	39.5	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

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 the highest level in the world. In 2016, the life expectancy at birth was 87.1 years for women and 81.0 years for men. 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

The annual number of marriages in Japan exceeded 1 million couples in the early 1970s, which, coupled with the marriage rate (per 1,000 population) hovering over 10.0, showed an apparent marriage boom. However, both the number of couples and the marriage rate started declining thereafter. They rose again in the late 1980s, but in recent years, they have been on a declining trend in general. In 2017, 606,863 couples married, and the marriage rate was 4.9.

The mean age of first marriage was 31.1 for men and 29.4 for women in 2017. These were the same ages for both men and women as the previous year. The mean age of first marriage for men rose by 2.6 years, while that of women rose by 2.8 years over the past 20 years. (in 1997: grooms, 28.5; brides, 26.6). In addition, there has been an increasing trend in the percentage of lifetime non-marriages, 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 is one explanation for the dropping birth rate.

Table 2.8
Mean Age of First Marriage

Year	Groom	Bride
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

Source: Ministry of Health, Labour and Welfare.

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

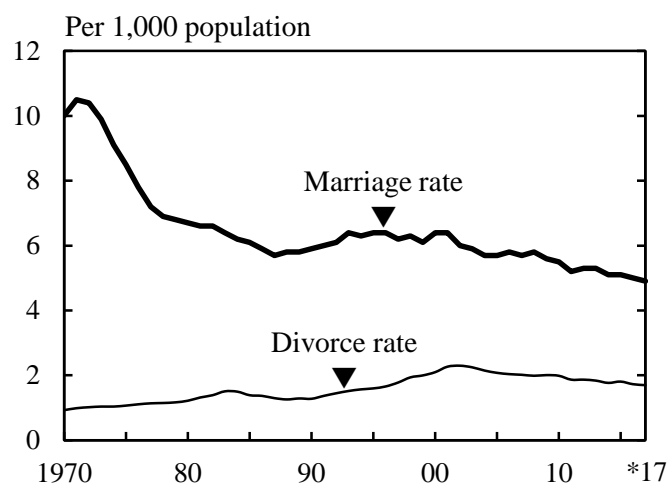
Year	Proportion (%)	
	Males	Females
1950	1.5	1.4
1960	1.3	1.9
1970	1.7	3.3
1980	2.6	4.5
1990	5.6	4.3
2000	12.6	5.8
2005	16.0	7.3
2010	20.1	10.6
2015	23.4	14.1

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, divorces have shown an upward trend 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 2017, the number of divorces totaled 212,262 couples, and the divorce rate (per 1,000 population) was 1.70.

Figure 2.8
Changes in Marriage Rate and Divorce Rate



Source: Ministry of Health, Labour and Welfare.

6. Population Density and Regional Distribution

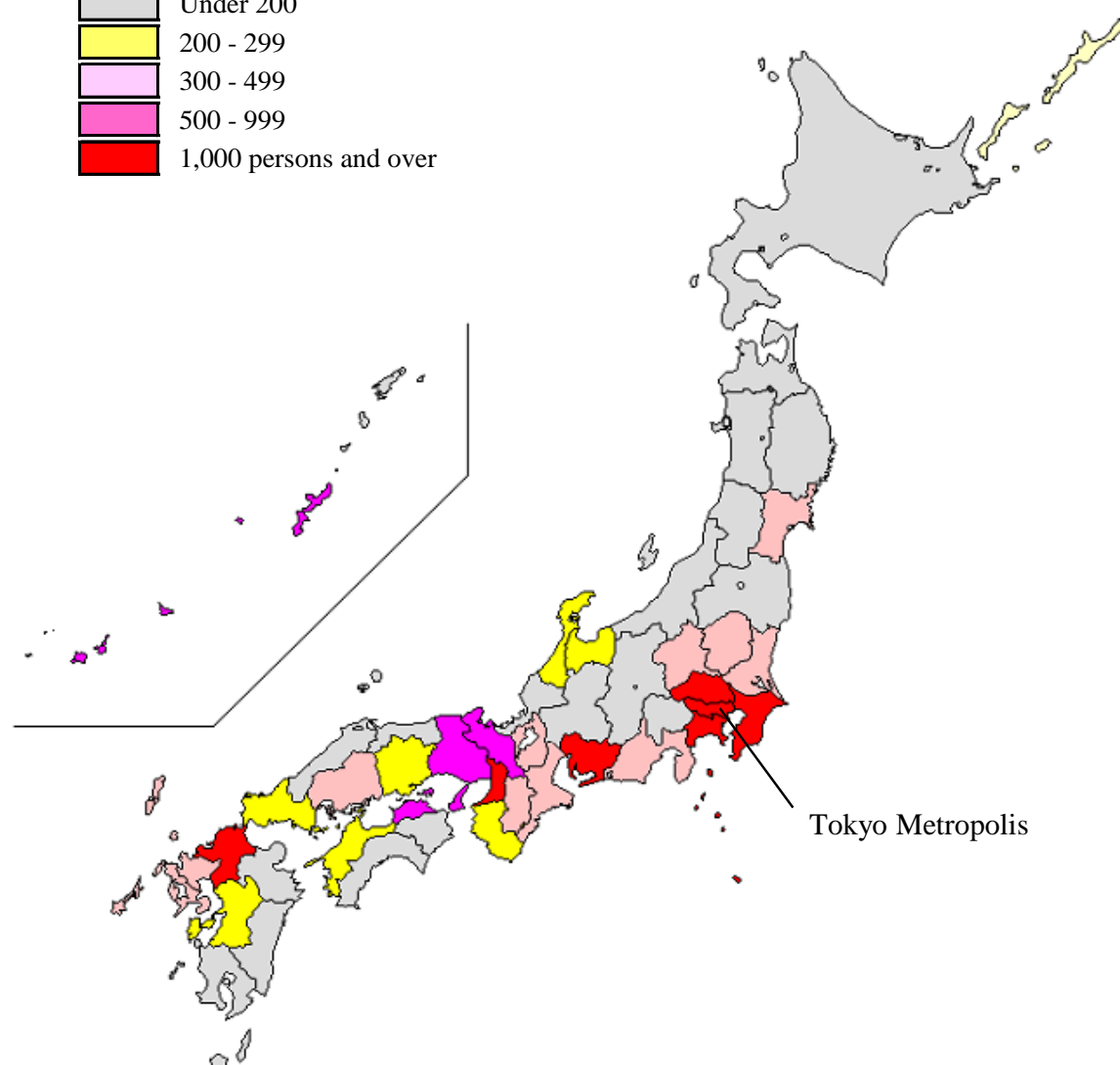
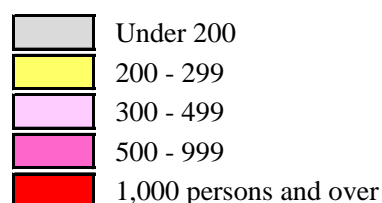
(1) Population Density

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 five 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 the national average (340.8 persons per square kilometer).

Figure 2.9
Population Density by Prefecture (2015)

(per square km)



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 three 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 Three Major Metropolitan Areas¹⁾ (2015)

Areas	Population (1,000)		Surface Area (km ²)	Population density (per km ²)
		Percentage of the total (%)		
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, Sagami-hara 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.

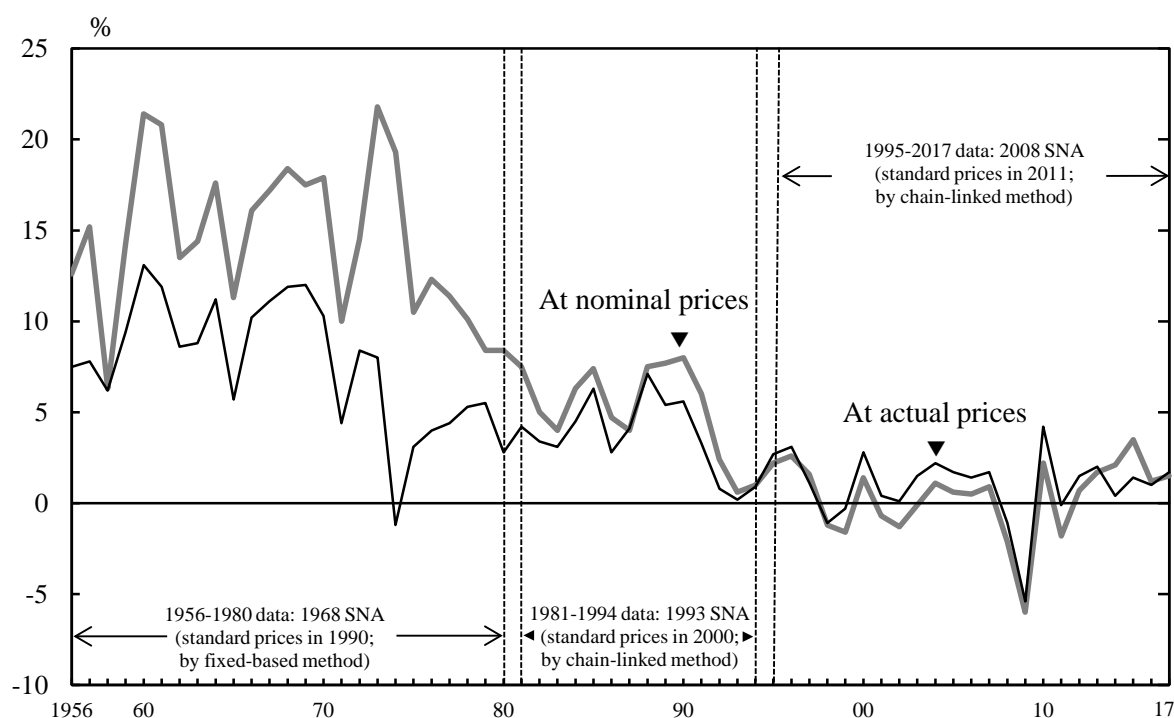
Chapter 3

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: 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.

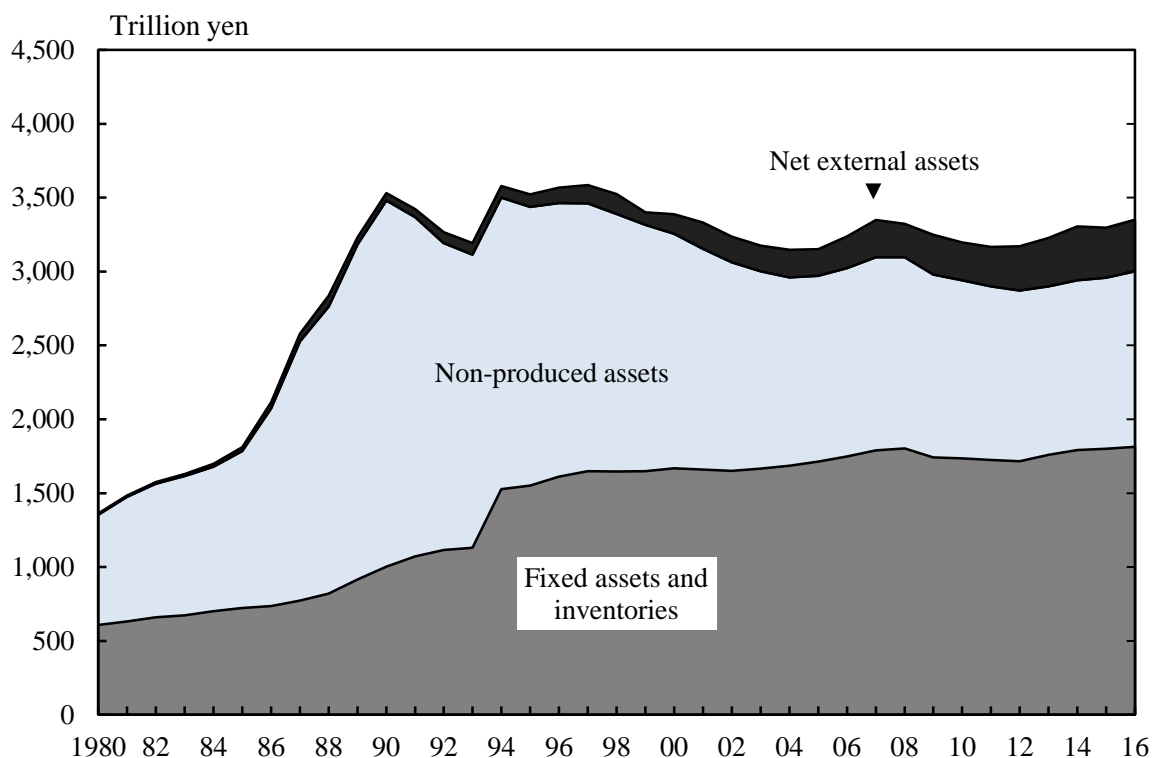
2. Bubble Economy and Its Collapse

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. After that, due to the collapse of the bubble economy, the national wealth decreased, and though there were fluctuations, continued on a downward trend. At the end of 2016, it was 3,351 trillion yen.

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.

Figure 3.2
National Wealth ¹⁾

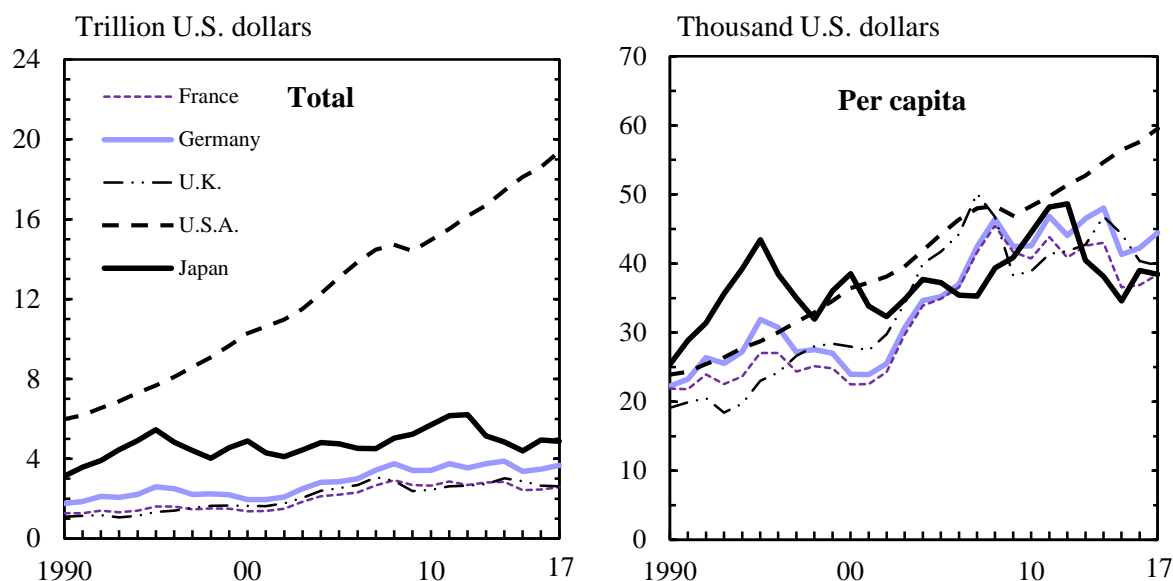


1) Data was estimated using a different method beginning in 1994.
 Source: Cabinet Office.

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 economy 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.

Through the economic recovery starting at the beginning of 2002, the corporate sector, centering on export-related industries, became favorable based on a reflection of the steady recovery of the global economy, and shifted mainly 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	2014	2015	2016	2017
Gross domestic product (GDP)	510,687.1	517,600.9	522,546.1	531,562.0
Domestic demand	519,721.8	524,734.4	526,629.4	532,806.6
Private demand	390,323.9	394,271.3	394,870.5	400,300.0
Private final consumption expenditure	296,418.0	296,322.1	296,506.0	299,470.8
Private Residential Investment	15,200.9	15,041.7	15,892.9	16,315.5
Private plant and equipment	78,966.2	81,672.4	82,179.1	84,531.8
Changes in inventories of private sectors	-305.7	1,193.4	198.6	-138.4
Public demand	129,398.0	130,462.9	131,761.7	132,508.8
Government final consumption expenditure ...	102,937.5	104,524.1	105,895.0	106,313.5
Gross capital formation by public sectors	26,374.4	25,916.1	25,893.3	26,194.4
Changes in inventories of public sectors	72.3	30.9	-15.0	15.3
Net exports of goods and services	-8,892.0	-7,191.7	-4,307.9	-1,687.1
Exports of goods and services	80,695.2	83,068.7	84,491.1	90,167.5
(less) Imports of goods and services	89,587.3	90,260.4	88,799.1	91,854.5
(Reference)				
Trading gains/losses	-2,304.6	5,158.1	9,757.3	6,570.0
Gross domestic income	508,382.5	522,759.0	532,303.5	538,132.0
Net income from the rest of the world	18,288.2	20,089.4	17,815.6	19,227.1
Incomes from the rest of the world	26,974.7	29,766.2	28,639.2	31,257.9
(less) Incomes to the rest of the world	8,686.5	9,676.9	10,823.6	12,030.8
Gross national income (GNI)	526,670.7	542,848.4	550,119.1	557,359.1

1) Quarterly estimates of GDP, 2008 SNA (standard prices in 2011; by chain-linked method).

Source: 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 that took place on March 11, 2011, and the nuclear power plant accident it caused weakened the economic recovery.

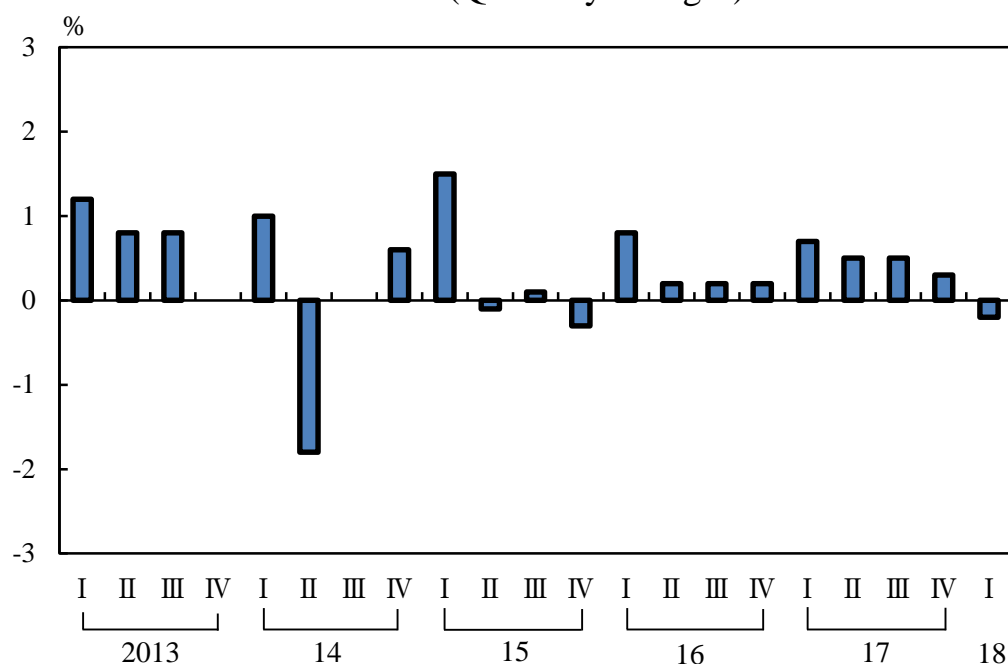
In order to achieve an early end to deflation and break free of economic stagnation, in January 2013, the government set forth its "three-arrows" strategy (also known as "Abenomics").

The first "arrow" is "aggressive monetary policy". The Bank of Japan (BOJ) made it clear that it would set a consumer price index annual growth rate of two percent 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: Cabinet Office.

Under such approaches, the profits of companies shifted at high levels, 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 centering on increased tax revenue, etc.

4. Industrial Structure

Japan's industrial structure has undergone a major transformation over the half century 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 shares of both employed persons and GDP 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	26.5	72.4

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; 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 for the primary, secondary and tertiary industries were 1.1 percent, 26.5 percent and 72.4 percent, respectively.

Table 3.3
Gross Domestic Product by Type of Economic Activity

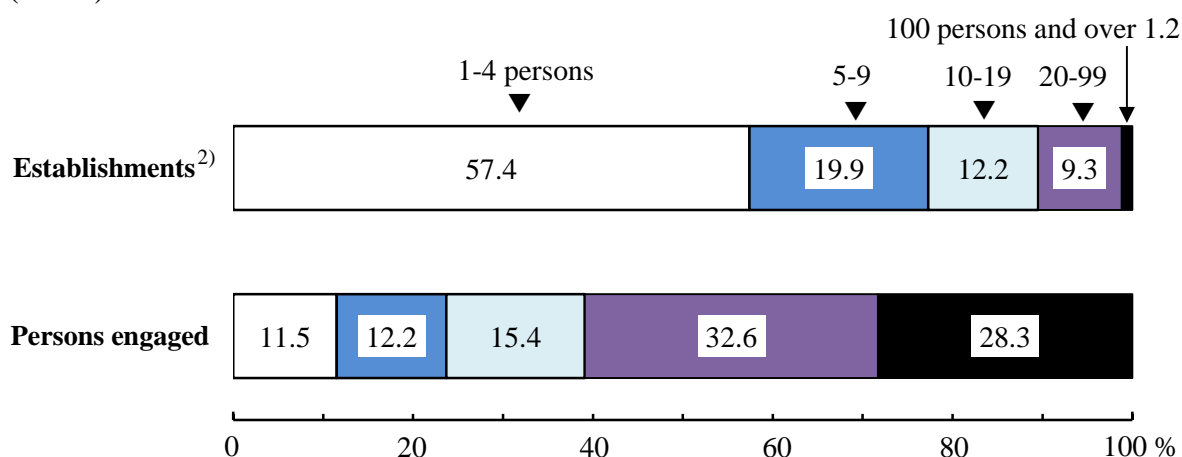
	1995	2000	2005	2010	2015	2016
						(%)
Primary industry						
Agriculture, forestry and fishing	1.7	1.5	1.1	1.1	1.1	1.2
Secondary industry						
Mining	0.2	0.1	0.1	0.1	0.1	0.1
Manufacturing	23.5	22.6	21.6	20.8	20.7	21.0
Construction	7.8	6.9	5.6	4.8	5.5	5.5
Tertiary industry						
Electricity, gas and water supply, waste management service	3.0	3.2	2.9	2.8	2.6	2.7
Wholesale and retail trade	13.8	13.1	14.4	13.8	13.9	13.7
Transport and postal activities	5.5	4.9	5.1	5.0	5.1	5.0
Accommodation and food service activities	3.1	3.1	2.7	2.6	2.3	2.4
Information and communications	3.2	4.6	4.9	5.1	5.0	5.0
Finance and insurance	5.0	4.9	6.0	4.8	4.4	4.2
Real estate	9.9	10.3	10.4	11.9	11.4	11.4
Professional, scientific and technical activities	4.8	5.8	6.4	7.0	7.2	7.3
Public administration	4.8	5.2	5.1	5.3	5.0	5.0
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: 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

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.

The number of establishments by the major groupings of the Japan Standard Industrial Classification was the most numerous in the "wholesale and retail trade" category, 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 relocating production bases overseas, stemming from approaches to cutting back on production costs, production in consumption areas, and fluctuations in exchange rates.

According to the Ministry of Economy, Trade and Industry's "Survey of Overseas Business Activities", which surveys Japanese companies that have local affiliates overseas, the number of overseas affiliates in the manufacturing industry was 10,919 companies at the end of fiscal 2016, and the overseas production ratio was 23.8 percent in actual performance in fiscal 2016, indicating a 1.5 percentage point decrease as compared to the previous fiscal year, a decrease for the first time in five years.

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⁾ (%)
2007	8,318	111,040,510	19.1	4,231,847	19.5
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

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, Vietnam and Thailand.

Chapter 4

Finance

1. National and Local Government Finance

(1) National Government Finance

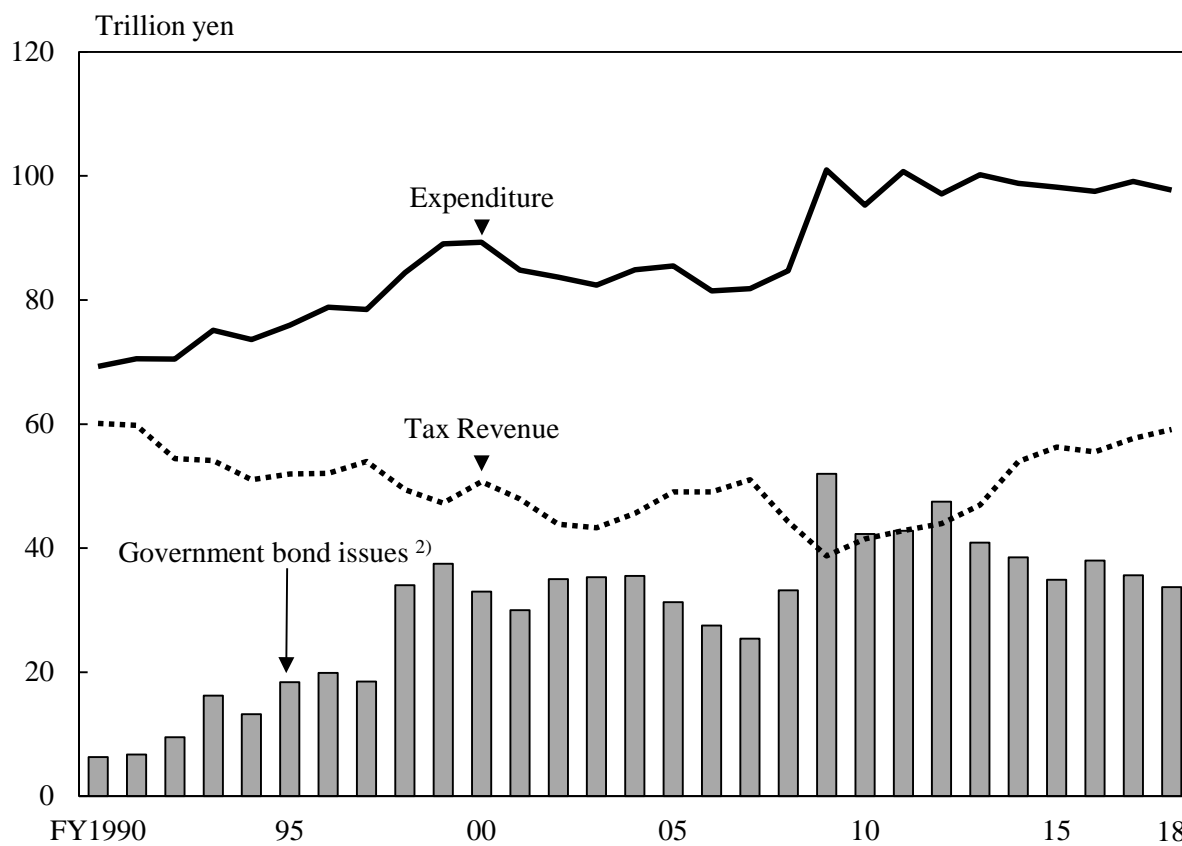
Japan's fiscal year starts in April, and ends in March of the following year. In setting the national budget, the government submits a proposed budget for the upcoming fiscal year to the Ordinary Session of the Diet, which begins in January. The proposal is then discussed, and an initial budget is approved usually before the fiscal year begins in April. 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, culture/education/science, and national defense.

Special accounts are accounts established for the national government to carry out projects with specific objectives, and are managed and administered independently of the general account. The number and particulars of special accounts change from year to year; for fiscal 2018, a total of 13 special accounts have been established, 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 as government-affiliated agencies.

Figure 4.1
Revenue and Expenditure in the General Account ¹⁾



1) Based on settled figures until FY2016, supplementary budget for FY2017, and draft budget for FY2018. 2) Excludes some special accounts.

Source: Ministry of Finance.

In 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. Since fiscal 2009, bond issues have exceeded tax revenue in most years, but since fiscal 2013, tax revenue exceeded borrowing (on an initial budget basis).

The size of the general account budget for fiscal 2018 was 98 trillion yen, an increase of 0.3 trillion yen (0.3 percent) from the initial budget of fiscal 2017. This is equivalent to 17.3 percent of the fiscal 2018 GDP, forecasted by the government at 564 trillion yen.

Table 4.1
Expenditures of General Account

(Billion yen)

Fiscal year	Total	General expenditures	Social security	Education and science	Pensions	National defense	Public works
	(A)+(B)+(C)	(A)					
1995	75,939	50,816	14,543	6,667	1,707	4,720	12,795
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 ¹⁾	100,222	62,548	32,466	5,842	342	5,236	7,548
2017 ¹⁾	99,109	60,835	32,536	5,658	294	5,352	6,972
2018 ²⁾	97,713	58,896	32,973	5,365	250	5,191	5,979

Fiscal year	Economic cooperation	Small- and medium-sized business promotion	Energy measures	Food stable supply	Others	National debt service	Local allocation tax grants, etc.
						(B)	(C)
1995	1,034	623	708	269	7,751	12,820	12,302
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 ¹⁾	750	466	971	1,283	7,645	22,335	15,339
2017 ¹⁾	638	385	973	1,214	6,811	22,708	15,567
2018 ²⁾	509	177	919	992	6,540	23,302	15,515

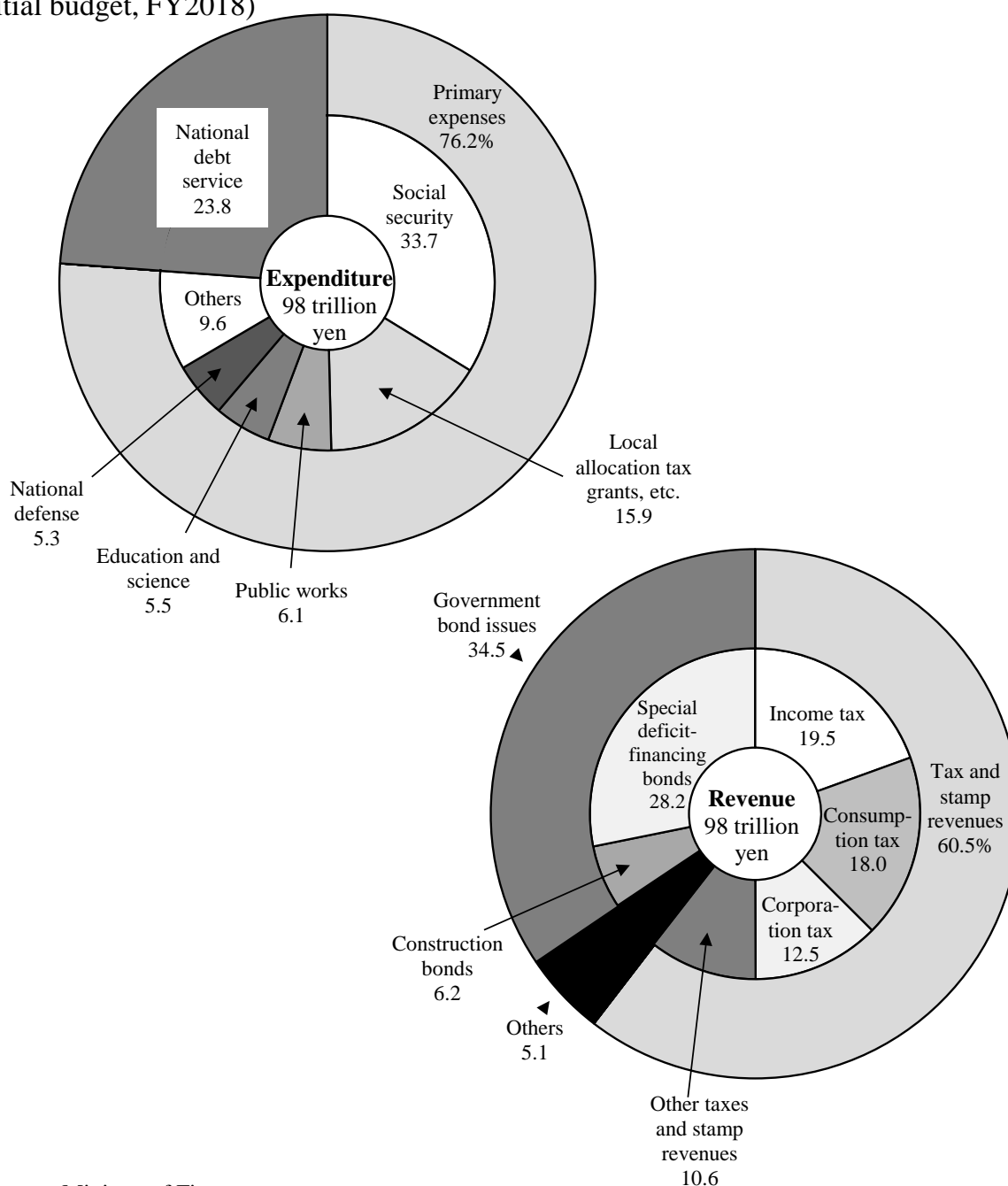
1) Revised budget. 2) Initial budget.

Source: Ministry of Finance.

In fiscal 2018, major expenditures from the initial general account budget include social security (33.7 percent), national debt service (23.8 percent), local allocation tax grants, etc. (15.9 percent), public works (6.1 percent), education and science (5.5 percent), and national defense (5.3 percent).

With regard to revenue sources for the fiscal 2018 initial general account budget, income tax, consumption tax and corporation tax account for 50.0 percent. Even with the addition of other taxes and stamp revenues, these revenue sources only amount to 60.6 percent of the total revenue.

Figure 4.2
Composition of Revenue and Expenditure of General Account Budget
 (Initial budget, FY2018)



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 everyday lives are disbursed chiefly through local governments. In particular, a high proportion of the following expenditures are disbursed through local governments: public hygiene and sanitation expenses, which include areas such as medical service and garbage disposal; school education expenses; judicial, police and fire services 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 2016 (net) revenues came from local taxes, accounting for 38.8 percent of the total. The second-largest source, 17 percent, was local allocation tax grants.

Table 4.2

Local Government Finance¹⁾ (Ordinary accounts)

(Million yen)

Item	FY2012	FY2013	FY2014	FY2015	FY2016
Revenues	99,842,882	101,099,835	102,083,467	101,917,496	101,459,848
Local taxes	34,460,760	35,374,285	36,785,451	39,098,563	39,392,391
Local transfer taxes	2,271,480	2,558,842	2,936,867	2,679,246	2,340,232
Special local grants, etc.	127,467	125,522	119,188	118,868	123,300
Local allocation tax	18,289,826	17,595,454	17,431,428	17,390,640	17,239,008
Treasury disbursements	15,527,112	16,511,785	15,518,925	15,282,155	15,687,149
Local government bonds	12,337,932	12,284,850	11,518,456	10,688,010	10,387,277
Expenditures	96,418,554	97,412,028	98,522,799	98,405,225	98,141,464
General administration	9,961,845	10,000,563	9,869,954	9,608,827	8,901,591
Public welfare	23,152,326	23,463,324	24,450,891	25,254,815	26,340,756
Sanitation	5,993,241	5,988,543	6,143,397	6,301,793	6,258,413
Agriculture, forestry and fishery	3,181,270	3,500,949	3,348,633	3,218,216	3,171,208
Commerce and industry	6,206,903	5,915,650	5,509,540	5,516,105	5,195,146
Civil engineering work	11,242,282	12,125,221	12,050,506	11,707,165	12,018,244
Education	16,147,943	16,087,778	16,658,138	16,795,536	16,745,847

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 2017, the gross total of national government expenditure was 493 trillion yen, the net total was 242 trillion yen after eliminating duplications. 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 296 trillion yen.

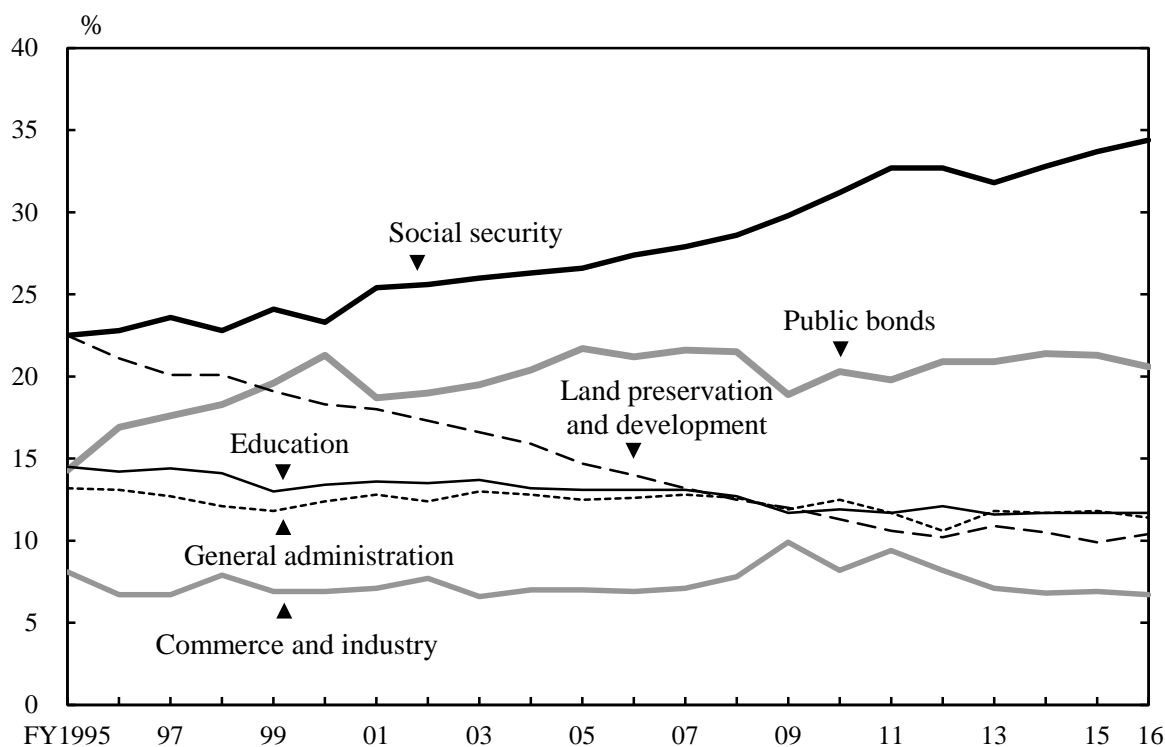
Table 4.3
Expenditures of National and Local Governments (Initial budget)

Item	(Billion yen)					
	FY2000	FY2005	FY2010	FY2015	FY2016	FY2017
General account	84,987	82,183	92,299	96,342	96,722	97,455
Special accounts	318,689	411,944	367,074	403,553	403,852	393,429
Government-affiliated agencies	7,661	4,678	3,135	2,216	2,077	1,845
Gross total (national)	411,337	498,805	462,508	502,111	502,650	492,729
Duplications	200,435	257,490	244,744	262,184	256,212	250,602
Net total (national)	210,902	241,316	217,764	239,927	246,438	242,127
Local public finance plan	88,930	83,769	82,127	87,768	87,670	87,999
Gross total (national + local)	299,832	325,084	299,891	327,694	334,108	330,125
Duplications	37,216	32,689	31,563	35,484	34,807	34,410
Net total (national + local)	262,616	292,395	268,328	292,211	299,301	295,715

Source: Ministry of Finance.

The settlement amount for fiscal 2016, 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.

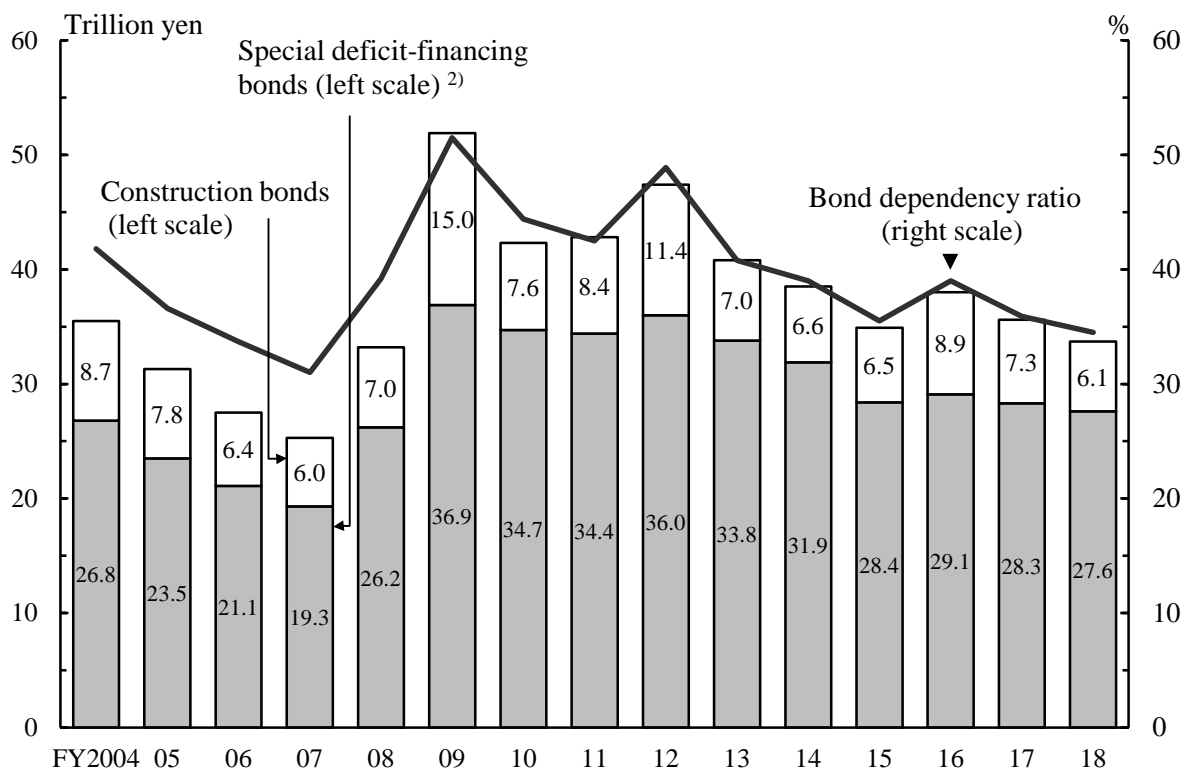
Figure 4.3
Ratio of Net Total National and Local Expenditures by Function



Source: Ministry of Internal Affairs and Communications.

A function-by-function breakdown of expenditures "directly related to people's lives" showed that social security expenditure accounted for the largest portion (34.4 percent), followed by public bonds (20.6 percent), education (11.7 percent), general administration (11.4 percent), and then land preservation and development (10.4 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 has 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 in comparison to years leading up to then, due to the effects of the bankruptcy of Lehman Brothers, but has decreased in recent years.

Figure 4.4
National Government Bond Issue ¹⁾

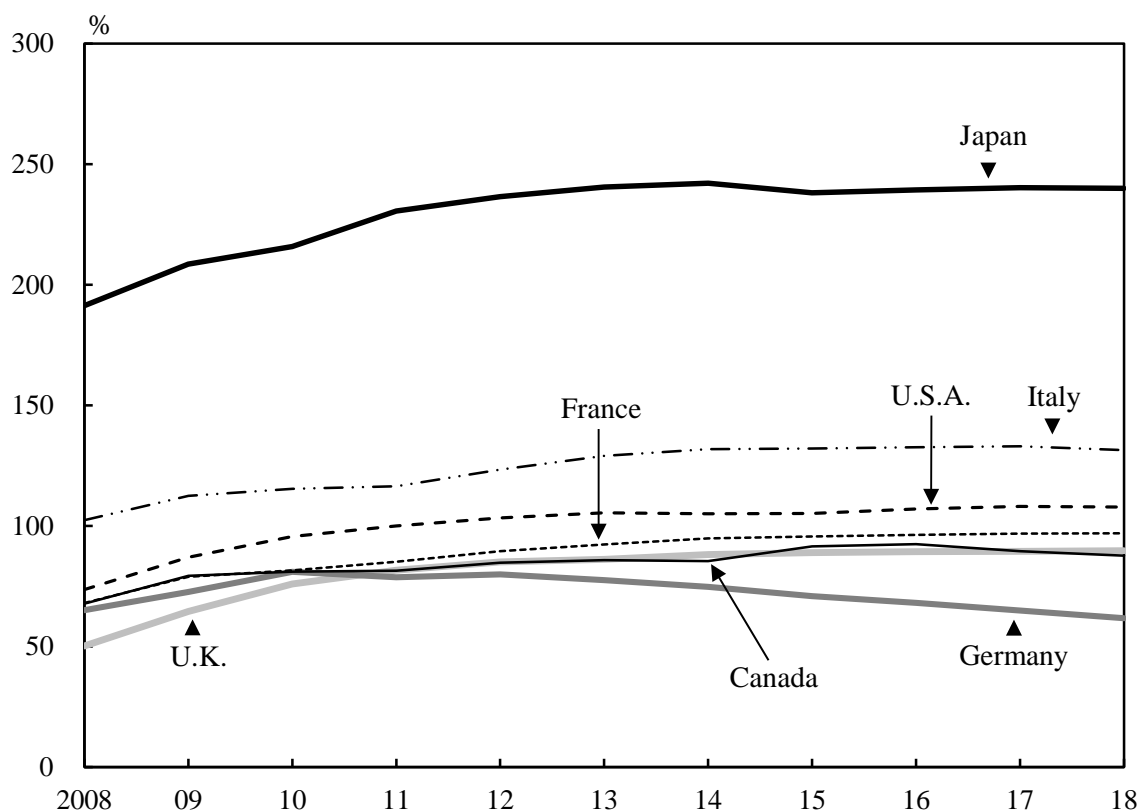


1) Based on settled figures until FY2016, supplementary budget for FY2017, and draft budget for FY2018. 2) Excludes some special accounts.

Source: Ministry of Finance.

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

Figure 4.5
Ratio of General Government Gross Debt to GDP



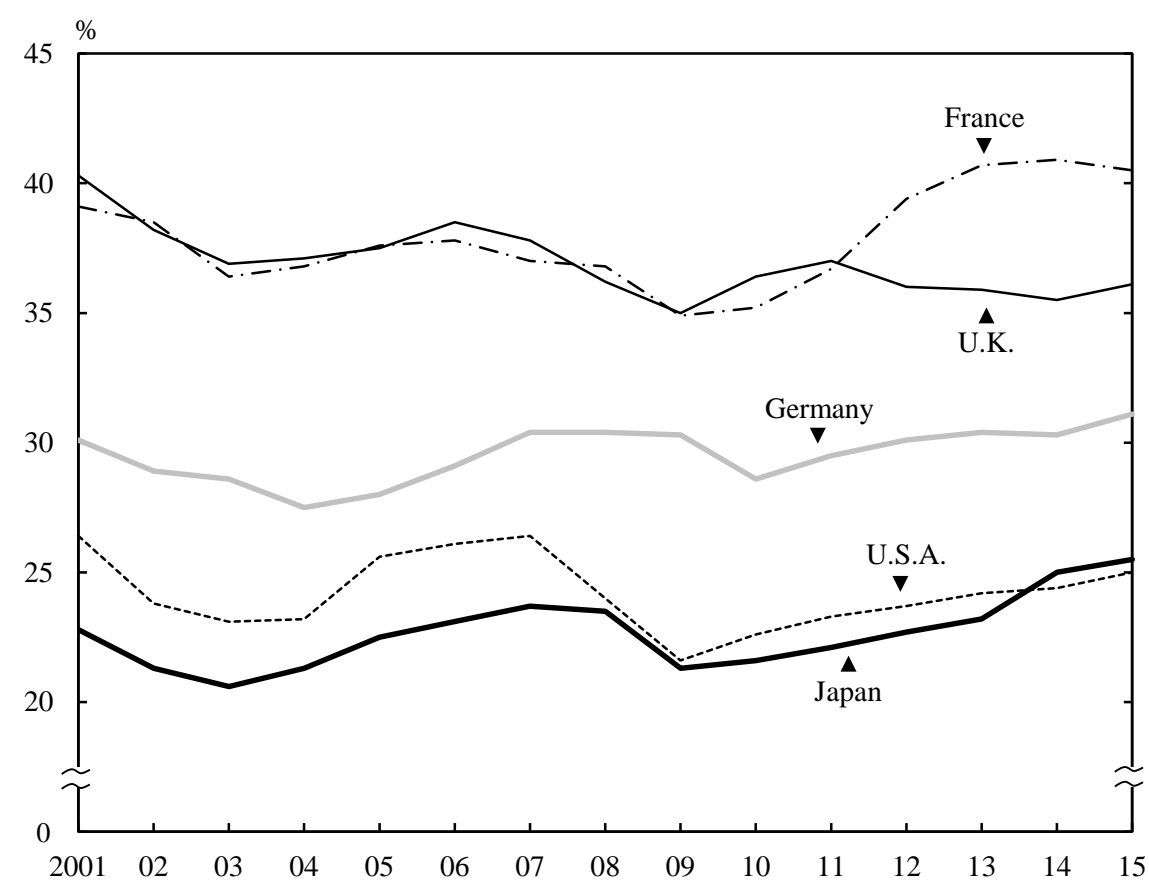
Source: Ministry of Finance.

(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 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 2015, it was 25.5 percent in terms of national and local taxes combined (15.4 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 five to eight 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 as the population ages.

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 Bank of Japan notes, or the currency of Japan; (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 2017, currency in circulation totaled 112 trillion yen (106.7 trillion yen in Bank of Japan notes and 4.8 trillion yen in coins), up 4.0 percent from the year before.

Table 4.4**Currency in Circulation** (Outstanding at year-end)

(Billion yen)					
Item	2013	2014	2015	2016	2017
Total	94,770	97,738	103,120	107,203	111,508
Bank of Japan notes	90,143	93,082	98,430	102,461	106,717
Coins	4,627	4,656	4,690	4,742	4,792

Source: Bank of Japan.

The Bank of Japan compiles and publishes statistics on the following indices: (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) broadly-defined liquidity, which covers a broad range of liquidity, including government securities. The average amounts outstanding money stock in 2017 was 712 trillion yen in M1 and 974 trillion yen in M2.

Table 4.5**Money Stock**¹⁾ (Average amounts outstanding)

(Billion yen)						
Year	M2	M3	M1	Quasi-money	CDs	Broadly-defined liquidity
2013	845,884	1,155,276	560,231	561,419	33,627	1,505,236
2014	874,630	1,187,225	586,561	564,793	35,871	1,557,469
2015	906,501	1,222,629	616,497	568,879	37,253	1,615,701
2016	936,924	1,257,394	659,840	564,757	32,797	1,648,732
2017	974,050	1,299,687	711,914	556,275	31,499	1,700,574

1) "Money stock" indicates the balance of currency held by corporations, individuals, local governments, etc.

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, 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 balances. The monetary base was 498.3 trillion yen as of the end of April 2018, up 7.8 percent from the same month of the previous year, and setting a new record high.

Table 4.6
Financial Markets (Interest rates, etc.)

End of year	(% per annum)					
	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	
2008	0.30	0.103	1.675	1.494	1.165	
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	

1) Uncollateralized overnight. 2) Short-term loans. 3) Outstanding loans and bills discounted. Short-term loans and discounts. Figures are those of banking accounts of domestically licensed banks.

Source: Bank of Japan.

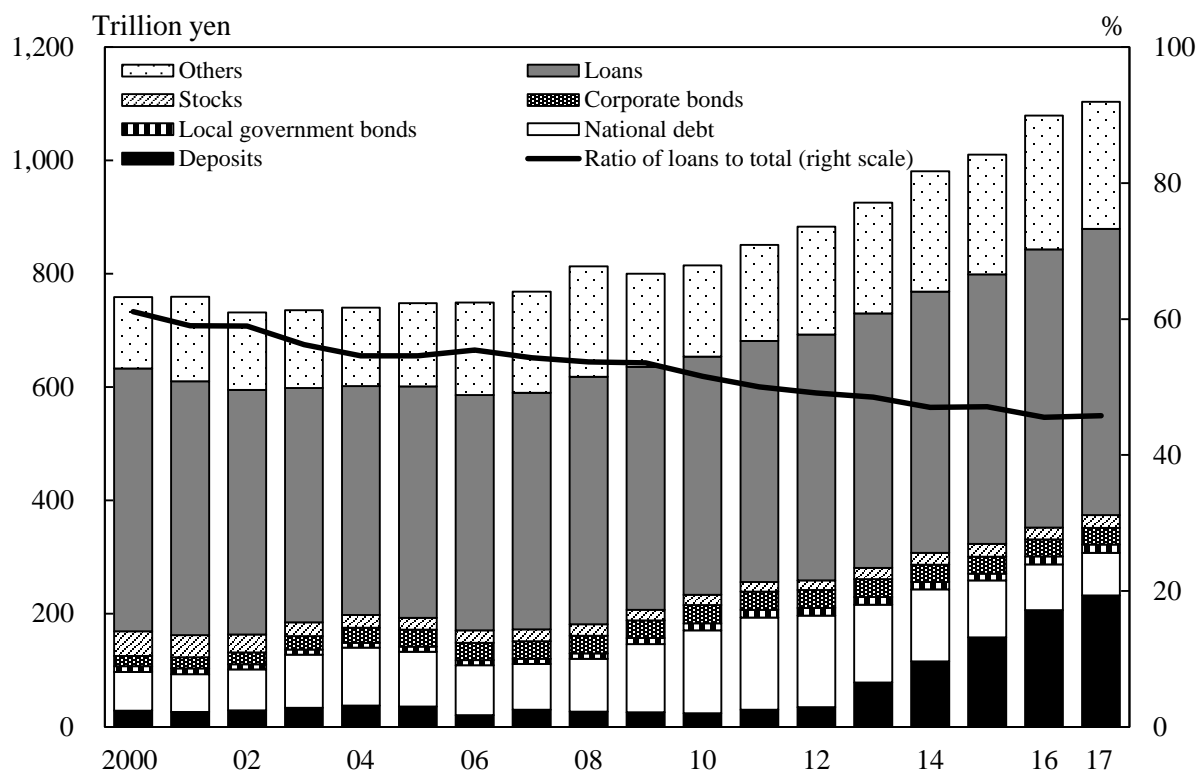
3. Financial Institutions

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 their expand operations bases through corporate mergers. In September 2017, the number of offices, including the branches of financial institutions operated domestically, post offices handling postal savings had the largest network with 24,052 offices. This was followed by domestically licensed banks, including city banks and regional banks, with a combined total of 13,567 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 surplus in recent years in Japan, the percentage of loans to bank funds has been on a downward trend almost consistently. The decline in percentage of national debt and 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 7,524 trillion yen according to figures at the end of March 2017. Of these assets, those of the domestic nonfinancial sector were 3,628 trillion yen. The household sector (including the business funds of individual proprietorships) had assets of 1,808 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 currency and deposits.

Table 4.7
Financial Assets and Liabilities of Japan

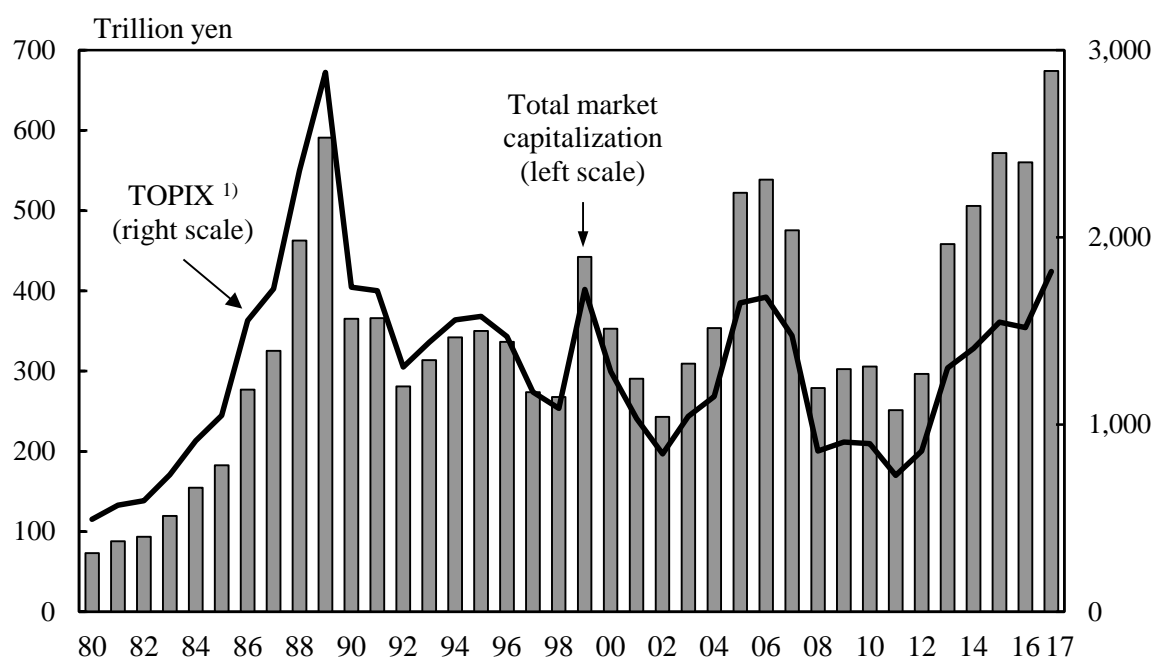
(Billion yen)			
Sectors	March 2016	March 2017	Annual change (%)
Financial assets			
Domestic sectors	7,195,382	7,523,786	4.6
Financial institutions	3,693,450	3,895,555	5.5
Domestic nonfinancial sector	3,501,933	3,628,231	3.6
Nonfinancial corporations	1,136,906	1,203,252	5.8
General government	551,762	561,543	1.8
Households (incl. individual proprietorships)	1,761,695	1,807,978	2.6
Private nonprofit institutions serving households ..	51,570	55,459	7.5
Overseas	574,985	625,133	8.7
Financial liabilities			
Domestic sectors	6,841,727	7,181,528	5.0
Financial institutions	3,535,144	3,754,694	6.2
Domestic nonfinancial sector	3,306,584	3,426,834	3.6
Nonfinancial corporations	1,697,779	1,808,041	6.5
General government	1,267,649	1,269,999	0.2
Households (incl. individual proprietorships)	310,447	316,957	2.1
Private nonprofit institutions serving households ..	30,708	31,838	3.7
Overseas	925,218	963,967	4.2

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, the stock market started to fall in 1990 ahead of land prices. At the end of 1989, the total market capitalization of the first section of the Tokyo Stock Exchange was 591 trillion yen, but only three years later, at the end of 1992, 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 the bankruptcy of Lehman Brothers led to a fall in total market capitalization, which amounted to 251 trillion yen at the end of 2011. Since 2012, the total market capitalization 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 Total Market Capitalization
 (Tokyo Stock Exchange, first section, end of year)



1) Index of the total market capitalization of all stocks listed on the first section of the Tokyo Stock Exchange against a base value of 100 as of January 4, 1968. There is no continuity between figures through June 2013 and those from July 2013 due to the integration of cash equity markets between the Tokyo Stock Exchange and the Osaka.

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 the end of 2012 (10,395.18 yen) and the first significant gain in 41 years. Afterwards, the Nikkei Stock Average in April 2015 recovered to the 20,000 yen level for the first time in 15 years and stood at 22,764.94 yen at the end of 2017.

Table 4.8
Stock Prices (Tokyo Stock Exchange, first section)

Year	Number of listed companies ¹⁾	Total 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)
1998	1,340	267,783,547	96,001,269	1,086.99	13,842.17
1999	1,364	442,443,338	178,041,139	1,722.20	18,934.34
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 Jan.	2,062	681,889,663	63,656,425	1,836.71	23,098.29
Feb.	2,065	657,078,972	68,999,133	1,768.24	22,068.24
Mar.	2,078	638,565,561	64,592,772	1,716.30	21,454.30
Apr.	2,082	660,731,176	56,874,935	1,777.23	22,467.87

1) End of year or month. 2) Index of the total market value of all stocks listed on the first section of the Tokyo Stock Exchange against a base value of 100 as of January 4, 1968.

Source: Tokyo Stock Exchange, Inc.; Nikkei Inc.

At the end of March 2017, 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 49.7 million. In terms of value, the ratio of stocks they possessed was 17.1 percent, and falling to a new low. The ratio of Japanese stocks held by foreign investors (total of corporations and individuals) was 30.1 percent in terms of value, and was back to the level over three tenths for the first time in two years.

A survey conducted of 260 securities firms by the Japan Securities Dealers Association (JSDA) showed that 27.7 percent of those companies offered Internet trading at the end of September 2017. Internet trading thus accounted for 20.6 percent of the total value of stock brokerage transactions from the period of April 2017 to September 2017.

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 GDP share has also dropped. The number of workers decreased from 13.40 million in 1960 (30.2 percent of the total workforce) to 2.23 million in 2016 (3.4 percent), and the GDP share of the industries fell from 12.8 percent in 1960 to 1.2 percent in 2016.

2. Agriculture

(1) Agricultural Production

Japan's total agricultural output in 2016 was 9.20 trillion yen, up 4.6 percent from the previous year. Crops yielded 5.98 trillion yen, up 6.3 percent from the previous year.

Table 5.1
Agricultural, Forestry, and Fisheries Output

	(Billion yen)				
Item	2012	2013	2014	2015	2016
Total	10,337	10,333	10,329	10,836	11,254
Agriculture	8,525	8,467	8,364	8,798	9,203
Crops	5,879	5,703	5,363	5,625	5,980
Rice	2,029	1,781	1,434	1,499	1,655
Vegetables	2,190	2,253	2,242	2,392	2,557
Fruits and nuts	747	759	763	784	833
Livestock and its products	2,588	2,709	2,945	3,118	3,163
Beef cattle	503	519	594	689	739
Dairy cattle	775	778	805	840	870
Pigs	537	575	633	621	612
Chickens	724	784	853	905	875
Forestry	395	430	462	452	466
Fisheries	1,416	1,436	1,503	1,586	1,586

Source: Ministry of Agriculture, Forestry and Fisheries.

Table 5.2
Agricultural Production

	(Thousand tons)				
Products	2000	2005	2010	2015	2016
Cereal grains					
Rice	9,490	9,074	8,483	7,989	8,044
Wheat	688	875	571	1,004	791
Vegetables, potatoes and legumes					
Potatoes	2,898	2,752	2,290	2,406	2,199
Sweet potatoes	1,073	1,053	864	814	861
Soybeans, dried	235	225	223	243	238
Cucumbers	767	675	588	550	550
Tomatoes	806	759	691	727	743
Cabbages	1,449	1,364	1,360	1,469	1,446
Chinese cabbages	1,036	924	889	895	889
Onions	1,247	1,087	1,042	1,265	1,243
Lettuces	537	552	538	568	586
Japanese radishes	1,876	1,627	1,496	1,434	1,362
Carrots	682	615	596	633	567
Fruits					
Mandarin oranges	1,143	1,132	786	778	805
Apples	800	819	787	812	765
Grapes	238	220	185	181	179
Japanese pears	393	362	259	247	247
Industrial crops					
Crude tea	a) 85	100	85	80	80
Sugar beets ¹⁾	3,673	4,201	3,090	3,925	3,189

1), a) Figures are total of major producing prefectures.

Source: Ministry of Agriculture, Forestry and Fisheries.

Table 5.3
Production of Meat, Milk, and Eggs

	(Tons)				
Products	2000	2005	2010	2015	2016
Pork	1,270,685	1,244,963	1,292,451	1,254,283	1,278,623
Beef	529,674	498,428	514,078	480,419	463,749
Veal	629	1,042	881	601	602
Horse meat	7,215	7,129	5,880	5,113	3,670
Broilers	1,551,101	1,702,001	1,835,091	...	...
Cow milk	8,497,278	8,285,215	7,720,456	7,379,234	7,393,717
Eggs	2,540,075	2,481,000	2,515,323	2,520,873	2,562,243

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 cultivated land under management of 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, of whom 63.5 percent were aged 65 years and over.

In 2016, the total income per commercial farm household was 5.21 million yen, up 5.1 percent from the previous year. Of that amount, 1.85 million yen was from farming income, 1.40 million yen from non-farming income, and 1.95 million yen from pension benefits and other sources.

Table 5.4
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.

Japan's cultivated acreage shrank year after year from 6.09 million hectares in 1961 to 4.44 million hectares in 2017. In the one-year period of 2017, there were 6,060 hectares of new cultivation but also a 32,500-hectare decrease. The most common cause for the decrease was degraded farmland, accounting for approximately 60 percent of all cases.

3. Forestry

Japan's forest land area is 25.08 million hectares (approximately 70 percent of the entire surface area of the country). Of this, natural forests account for 54 percent while planted forests, most of which are conifer plantations, make up 41 percent. Meanwhile, Japan's forest growing stock is 4,901 million cubic meters, of which 3,042 million cubic meters are from planted forests.

The growing stock of Japan's forest has increased, centering on planted forests on deforested sites right after World War II and during the period of rapid 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-faceted functions of forests, and promotion of forestry industry and of mountainous areas, the use of domestic wood is being promoted through the use of timber in housing, public buildings, etc., energy use as woody biomass, and through PR and popularization activities to expand timber use.

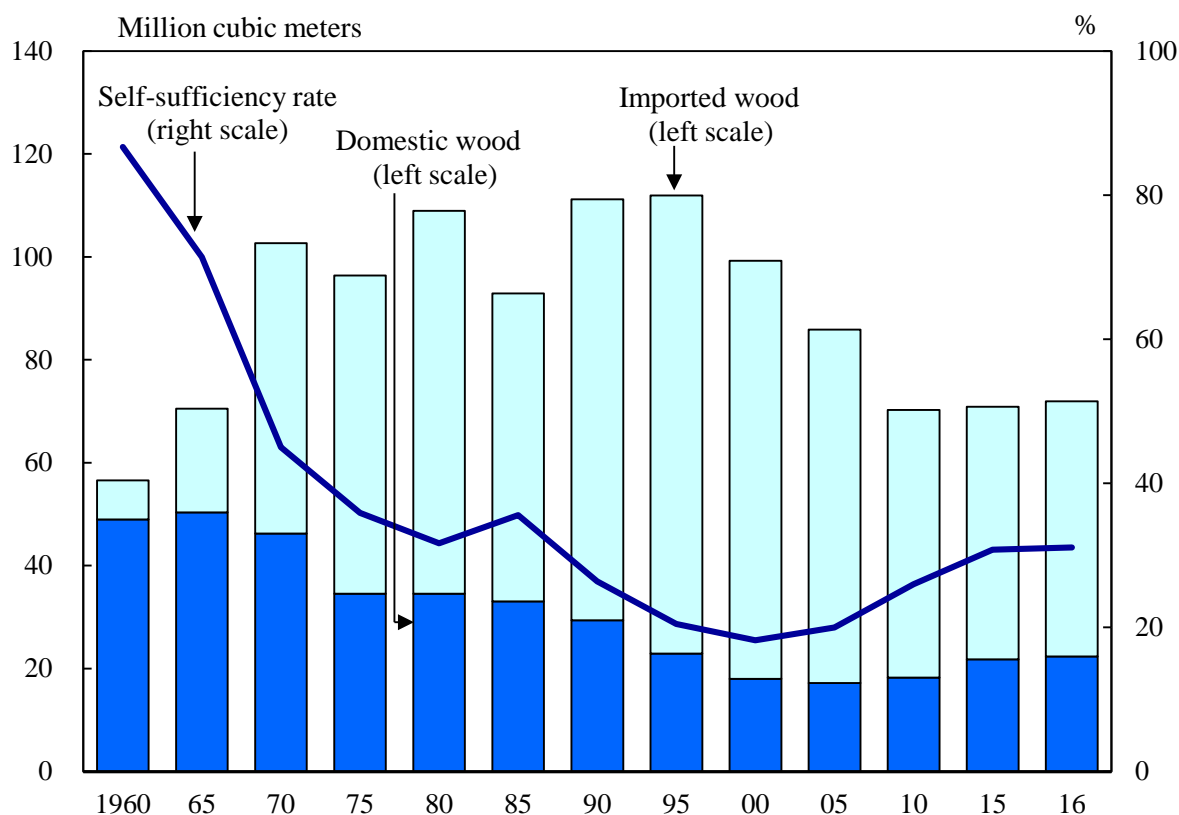
Table 5.5
Forest Land Area and Forest Resources (2012)

Item	Total	National forest	Non-national forest		
			Municipal	Private	Others
Forest land area (1,000 ha)	25,081	7,674	2,919	14,437	51
Forest growing stock (million m ³) ..	4,901	1,152	558	3,184	7
Planted forest					
Land area (1,000 ha)	10,289	2,327	1,287	6,662	14
Growing stock (million m ³)	3,042	467	350	2,221	3
Natural forest					
Land area (1,000 ha)	13,429	4,717	1,495	7,186	30
Growing stock (million m ³)	1,858	684	207	963	4

Source: Ministry of Agriculture, Forestry and Fisheries.

Domestic wood supply (log conversion) totaled 22.4 million cubic meters in 2016, which is equivalent to about 40 percent of the peak in 1967 (52.7 million cubic meters). In 2016, Japan's self-sufficiency rate for lumber was 31.1 percent. Currently, Japan depends mostly on imported lumber for pulp, woodchip, and plywood materials.

Figure 5.1
Industrial Wood Supply and Self-Sufficiency Rate ¹⁾



1) The volume in log equivalent.
 Source: Ministry of Agriculture, Forestry and Fisheries.

Although the number of workers engaged in forestry has declined 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. Meanwhile, there has been an increase in the number of new young workers, which is lifting the average age of workers engaged in forestry.

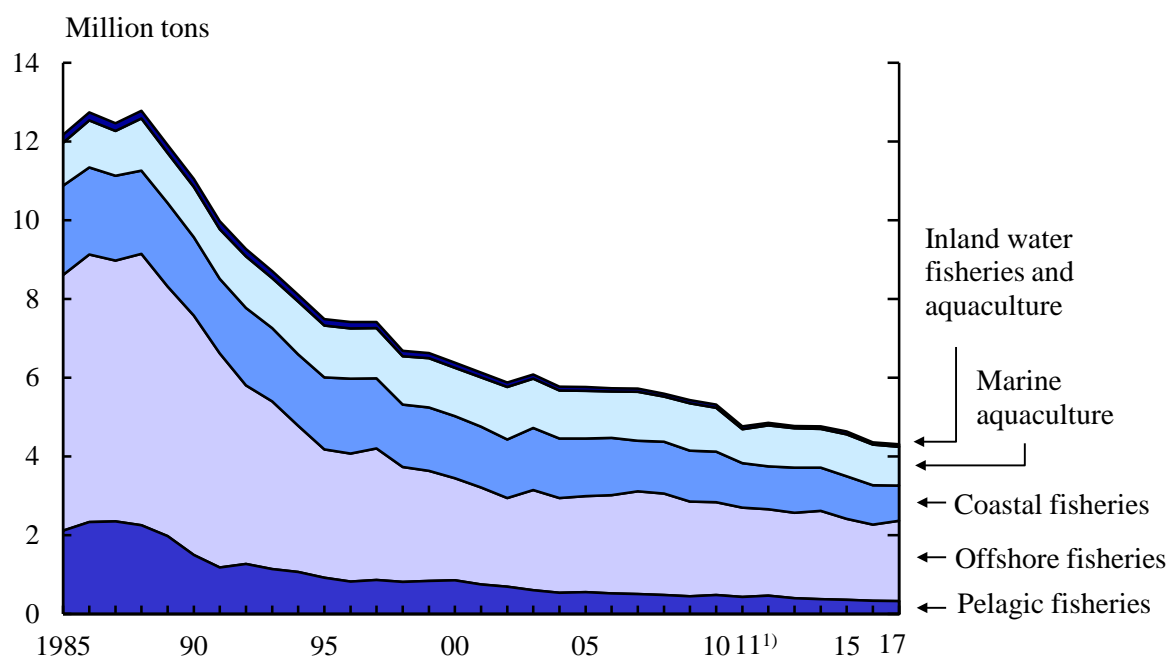
4. Fisheries

(1) Fishery Production

In Japan, a country surrounded by the ocean, the fishing industry has been developing since ancient times, and has contributed greatly to the lives of the Japanese, not only in economic terms, but also in promoting a food culture that is boasted to the world as Washoku. However, in recent years, the consumption of seafood has decreased due to changes in the environment surrounding food in Japan.

Japan's fishery output has been on the decline since 1989. Its 2017 fishery production totaled 4.30 million tons. Of this, marine fishery and aquaculture production amounted to 4.24 million tons.

Figure 5.2
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 5.6
Production by Fishery Type and Species

Fishery type and species	(Thousand tons)				
	2005	2010	2015	2016	2017*
Total	5,765	5,313	4,631	4,359	4,304
Marine fisheries	4,457	4,122	3,492	3,264	3,258
Tunas	239	208	190	168	173
Bonito	399	331	264	240	225
Sardine	28	70	311	378	506
Mackerels	620	492	530	503	515
Alaska pollack	194	251	180	134	129
Crabs	34	32	29	28	26
Squids	330	267	167	110	100
Marine aquaculture	1,212	1,111	1,069	1,033	985
Yellowtails	160	139	140	141	139
Oysters	219	200	164	159	174
Laver	387	329	297	301	303
Wakame Sea weed	63	52	49	48	51
Pearl (tons)	29	21	20	20	20
Inland water fisheries	# 54	# 40	# 33	28	25
Salmons and trouts	# 19	# 14	# 13	8	6
Sweetfish	# 7	# 3	# 2	2	2
Shellfishes	# 14	# 14	# 13	12	13
Inland water aquaculture	# 42	39	36	35	37
Eel	19	21	20	19	21
Trouts	12	9	8	8	8
Common carp	4	4	3	3	3

Source: Ministry of Agriculture, Forestry and Fisheries.

(2) Fishery Workers

The number of workers in the marine fishery industry (the workers who engage in work at sea for 30 days or more yearly) has been decreasing constantly. In 2017, there was a 4.1 percent decrease from the previous year, bringing the count to 153,490 workers. In every age group, the number of workers in the marine fishery industry decreased from the previous year.

Table 5.7
**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.

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

5. Self-Sufficiency in Food

Japan's food self-sufficiency rate in terms of calories, although there is a downward trend over the long term, the ratio has been fluctuating at a level of around 40 percent since fiscal 1997. Whereas the ratio was 53 percent in fiscal 1980, the ratio was 38 percent in fiscal 2016. The major reason behind the decrease in the food self-sufficiency rate is that despite a decrease in the domestic production force caused by a decline in agricultural workers, etc., diversification of the Japanese dietary life, and decline in consumption of rice, of which self-sufficiency within Japan is possible, consumption of livestock products and oils and fats, for which overseas dependence for feed and raw materials is inevitable, increased.

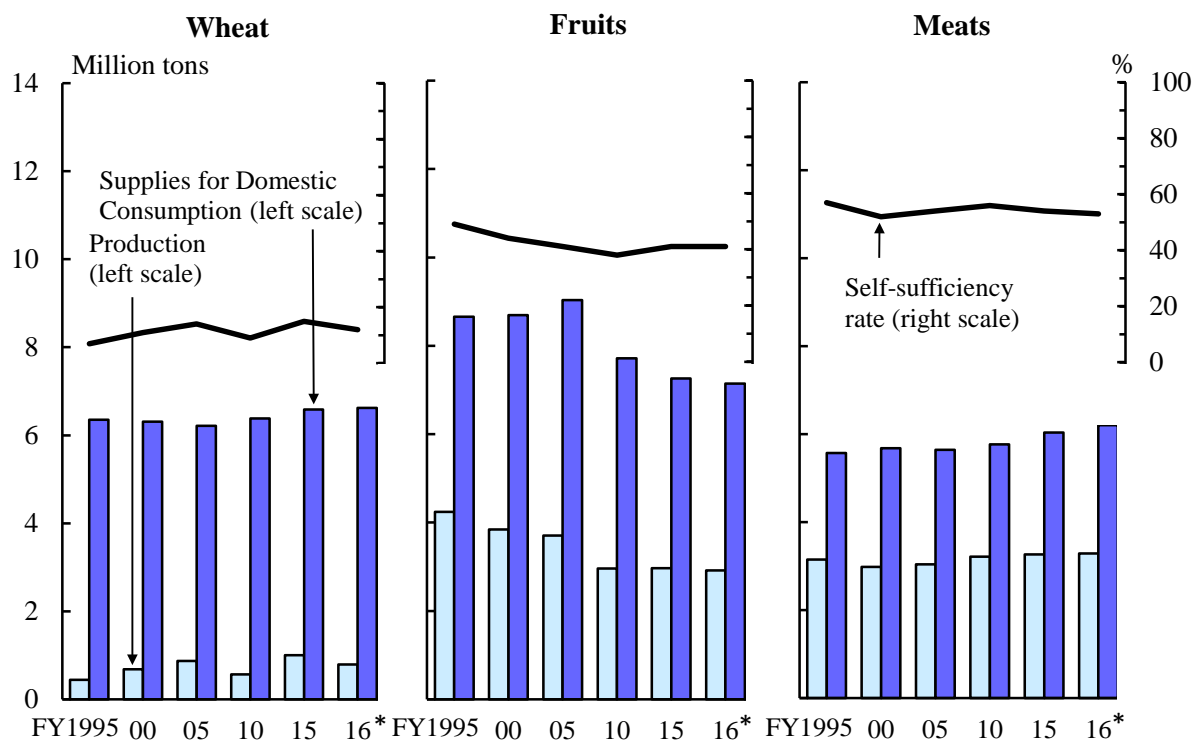
In fiscal 2016, the self-sufficiency rate (on an item-specific weight basis) was 100 percent for rice, 12 percent for wheat, eight percent for beans, 80 percent for vegetables, 41 percent for fruits, 53 percent for meats, and 56 percent for seafood. Although completely self-sufficient in rice, the staple food of its people, Japan relied almost entirely on imports for the supply of wheat and beans.

Table 5.8
Supply of Cereal Grains

Fiscal year	Area planted (1,000 ha)	Production (1,000 t)	Yield per hectare (t)	Imports (1,000 t)	Supplies for domestic consumption (1,000 t)
Rice					
2000	1,770	9,490	5.36	879	9,790
2005	1,706	8,998	5.27	978	9,222
2010	1,628	8,554	5.25	831	9,018
2015	1,506	8,429	5.60	834	8,600
2016*	1,479	8,550	5.78	911	8,644
Wheat					
2000	183	688	3.76	5,688	6,311
2005	214	875	4.10	5,292	6,213
2010	207	571	2.76	5,473	6,384
2015	213	1004	4.71	5,660	6,583
2016*	214	791	3.69	5,624	6,621

Source: Ministry of Agriculture, Forestry and Fisheries.

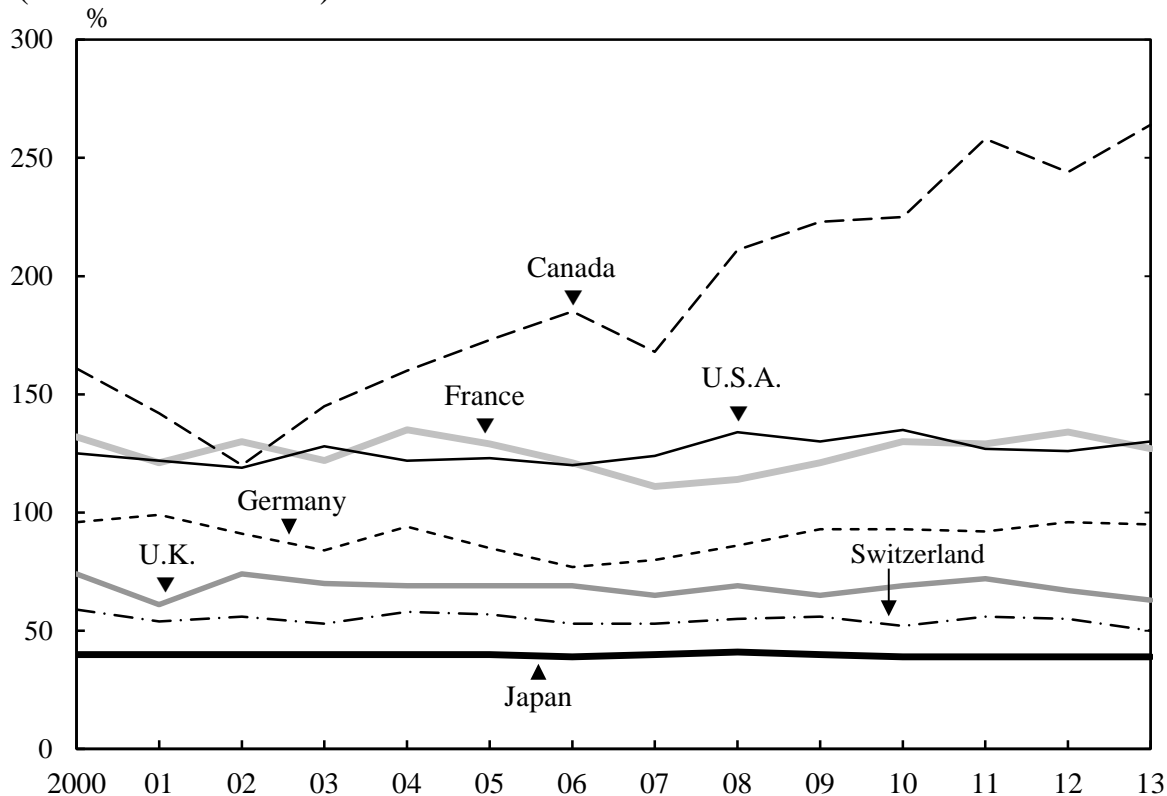
Figure 5.3
Self-Sufficiency Rates for Selected Categories of Agricultural Produce



Source: Ministry of Agriculture, Forestry and Fisheries.

Japan's present food self-sufficiency rate 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 Rates of Major Countries ¹⁾
 (In terms of calories)



1) Estimates.

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.

In 2016, there were 217,601 establishments (with four or more persons engaged) in the manufacturing sector. By industry, "fabricated metal products" had the most, with 28,776 establishments (component ratio of 13.2 percent), followed by "food" with 28,239 establishments (13.0 percent) and "production machinery" with 20,651 establishments (9.5 percent).

In 2016, there were 7.50 million persons engaged, and by industry, "food" had the most, with 1.11 million persons engaged (component ratio of 14.8 percent), followed by "transportation equipment" with 1.04 million persons engaged (13.9 percent) and "fabricated metal products" with 0.58 million persons engaged (7.8 percent).

The value of manufactured goods shipments in 2015 was 313.1 trillion yen, and by industry, "transportation equipment" had the most at 64.7 trillion yen (component ratio of 20.6 percent), followed by "chemical and related products" at 28.6 trillion yen (9.1 percent) and "food" at 28.1 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 establishments (2016)	Number of persons engaged (2016)	Value of manufactured goods shipments (2015) (billion yen)
Manufacturing	217,601	7,497,792	313,129
Food	28,239	1,109,819	28,102
Beverages, tobacco and feed	4,759	103,075	10,240
Textile products	14,745	268,299	3,970
Lumber and wood products ²⁾	6,101	95,544	2,690
Furniture and fixtures	6,389	99,978	1,913
Pulp, paper and paper products	6,231	185,907	7,279
Printing and allied industries	12,185	263,891	5,357
Chemical and allied products	4,957	348,895	28,622
Petroleum and coal products	962	24,248	14,555
Plastic products ³⁾	13,631	411,676	11,767
Rubber products	2,664	114,775	3,499
Leather tanning, leather products and fur skins	1,591	22,558	336
Ceramic, stone and clay products	10,627	242,816	7,474
Iron and steel	4,625	209,748	17,842
Non-ferrous metals and products	2,714	131,884	9,680
Fabricated metal products	28,776	583,664	14,306
General-purpose machinery	7,336	306,415	10,823
Production machinery	20,651	564,958	17,837
Business oriented machinery	4,610	210,084	7,311
Electronic parts, devices and electronic circuits.....	4,535	381,686	14,788
Electrical machinery, equipment and supplies ...	9,476	482,552	17,366
Information and communication electronics equipment	1,465	136,141	8,652
Transportation equipment	11,423	1,041,452	64,654
Miscellaneous manufacturing industries	8,909	157,727	4,066

1) Establishments with four 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: Statistics Bureau, MIC; Ministry of Economy, Trade and Industry.

Based on the Indices on Mining and Manufacturing (2010 average=100), the production index for 2017 was 102.0, up 4.4 percent from the previous year, while shipments stood at 100.1, an increase of 3.9 percent from the year before.

Table 6.2
Indices on Mining and Manufacturing (2017)

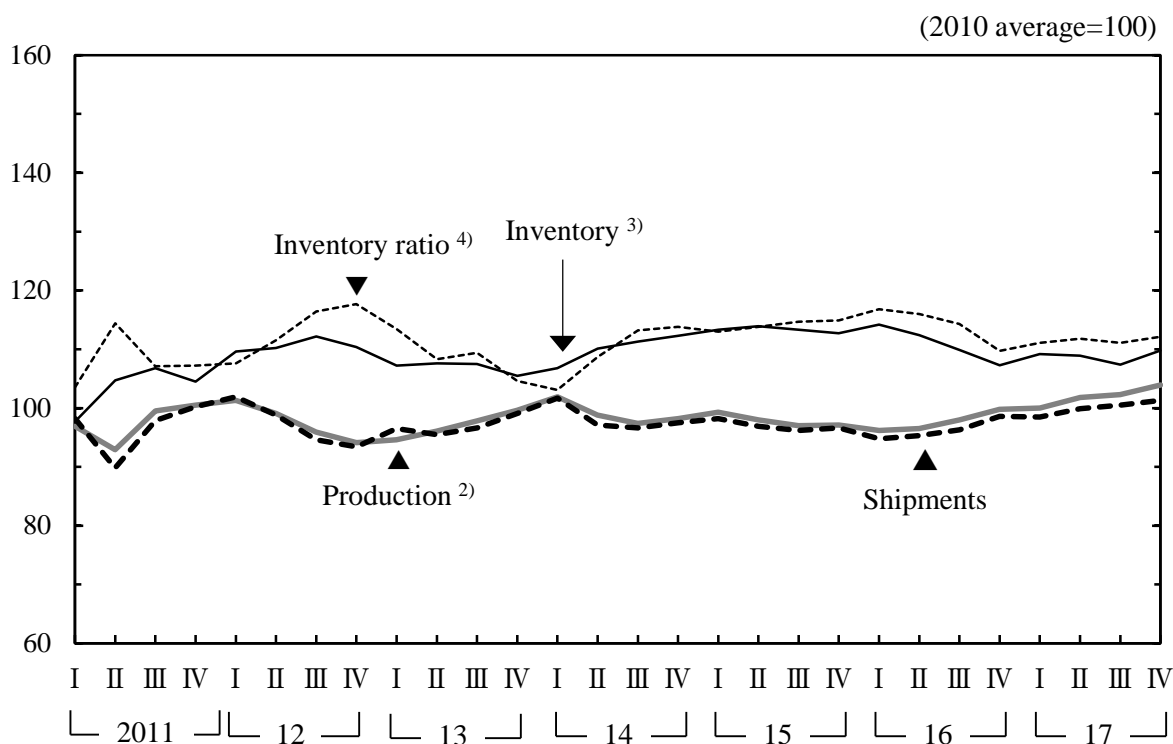
Industries	(2010 average=100)							
	Production ¹⁾		Shipments		Inventory ²⁾		Inventory Ratio ³⁾	
	Annual growth (%)	Annual growth (%)	Annual growth (%)	Annual growth (%)	Annual growth (%)	Annual growth (%)	Annual growth (%)	
Mining and manufacturing	102.0	4.4	100.1	3.9	108.4	1.9	111.5	-2.4
Manufacturing	102.0	4.4	100.1	3.9	108.5	2.0	111.5	-2.4
Foods and tobacco	96.6	0.0	97.1	2.4	107.1	11.8	108.5	8.2
Textiles	91.9	-1.5	92.6	-0.1	109.5	-5.4	117.7	-3.8
Pulp, paper and paper products	99.3	1.0	97.4	0.6	104.9	2.8	118.9	1.1
Chemicals	105.7	5.6	100.0	3.0	107.5	4.7	113.9	-2.0
Petroleum and coal products	89.6	-2.0	91.8	-1.4	77.9	-1.3	92.3	3.2
Plastic products	101.4	2.8	99.5	3.0	111.8	5.1	111.2	-1.6
Ceramics, stone and clay products	101.1	2.6	101.4	2.1	105.5	3.3	108.6	-3.1
Iron and steel	94.4	2.2	96.0	2.0	112.3	-6.3	121.0	-4.3
Non-ferrous metals	101.1	2.6	99.1	1.8	104.8	-3.9	112.4	-2.9
Fabricated metals	93.4	0.6	94.2	1.2	112.3	2.5	131.8	0.2
General-purpose machinery	105.6	6.1	102.6	3.0	116.6	3.6	120.2	2.0
Production machinery	136.8	11.7	138.2	11.4	144.4	-9.0	105.0	-14.5
Business oriented machinery	101.5	-1.1	105.7	0.6	110.5	-0.7	113.1	-11.3
Electronic parts and devices	107.2	11.2	119.7	12.8	88.5	7.8	103.6	-18.5
Electrical machinery	103.2	3.1	98.6	3.1	166.8	8.8	161.4	8.8
Information and communication electronics equipment	52.4	-5.2	44.8	-3.7	87.3	19.4	151.2	16.8
Transport equipment	105.5	5.4	102.7	4.8	90.5	22.6	85.4	3.3
Other manufacturing	92.5	-0.5	94.6	0.4	93.8	-3.2	95.5	-4.6
Mining	94.3	5.0	91.2	4.1	105.2	5.3	118.2	-0.7
(Reference)								
Electricity, gas, heat supply and water	89.5	0.7	91.5	0.8	-	-	-	-

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) End of the quarter.

4) Inventory ratio = Inventory quantity / Shipments quantity.

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 "2016 Economic Census for Business Activity (with four or more persons engaged)", and (b) is described by the "Indices on Mining and Manufacturing" (2010 average=100).

(1) Machinery Industry

(A) Transport Equipment Industry

(a) In 2016, a total of 11,423 establishments employed 1,041,452 persons, and shipped 64.7 trillion yen worth of products in 2015.

(b) In 2017, production and shipments increased by 5.4 percent and 4.8 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 "passenger cars", "motor vehicle parts", etc.

(B) Production Machinery Industry

(a) In 2016, a total of 20,651 establishments employed 564,958 persons, and shipped 17.8 trillion yen worth of products in 2015.

(b) In 2017, production and shipments increased by 11.7 percent and 11.4 percent, respectively, from the previous year, representing their first increase in two years. These increases (in both production and shipments) were due to an increase in "semiconductor and flat-panel display manufacturing equipment", "engineering and construction machinery", etc.

(C) Electrical Machinery, Equipment and Supplies Industry

(a) In 2016, a total of 9,476 establishments employed 482,552 persons, and shipped 17.4 trillion yen worth of products in 2015.

(b) In 2017, production and shipments both increased by 3.1 percent, from the previous year, representing their first increase in three years. These increases (in both production and shipments) were due to an increase in "switching devices", "household electrical machinery", etc.

(D) Electronic Parts and Devices Industry

(a) In 2016, a total of 4,535 establishments employed 381,686 persons, and shipped 14.8 trillion yen worth of products in 2015.

(b) In 2017, production and shipments increased by 11.2 percent and 12.8 percent, respectively, from the previous year, representing their first increase in two years. These increases (in both production and shipments) were due to an increase in "electronic parts", "integrated circuits", etc.

(E) General-purpose machinery Industry

(a) In 2016, a total of 7,336 establishments employed 306,415 persons, and shipped 10.8 trillion yen worth of products in 2015.

(b) In 2017, production and shipments increased by 6.1 percent and 3.0 percent, respectively, from the previous year, representing their first increase in three years. These increases (in both production and shipments) were due to an increase in "parts of general-purpose machinery", "fans, pumps and oil hydraulic equipment", etc.

(2) Chemical Industry

(a) In 2016, a total of 4,957 establishments employed 348,895 persons, and shipped 28.6 trillion yen worth of products in 2015.

(b) In 2017, production and shipments increased by 5.6 percent and 3.0 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 "cosmetics", "plastic materials", etc.

(3) Iron and Steel Industry

(a) In 2016, a total of 4,625 establishments employed 209,748 persons, and shipped 17.8 trillion yen worth of products in 2015.

(b) In 2017, production and shipments increased by 2.2 percent and 2.0 percent, respectively, from the previous year, representing their first increase in three years. 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 "cold finished steel", "metallic coated steel", etc.

Table 6.3
Steel Production

Products	(Thousand tons)				
	2013	2014	2015	2016	2017
Pig iron	83,849	83,872	81,011	80,186	78,330
Ferro-alloys	938	923	937	885	849
Crude steel	110,595	110,666	105,134	104,775	104,661
Semi-finished steel	107,991	107,856	102,858	102,574	102,362
Ordinary hot-rolled steel	77,006	76,968	74,133	73,187	72,097
Special hot-rolled steel	19,960	20,914	18,887	19,449	20,344

Source: Ministry of Economy, Trade and Industry.

(4) Fabricated Metal Products Industry

(a) In 2016, a total of 28,776 establishments employed 583,664 persons, and shipped 14.3 trillion yen worth of products in 2015.

(b) In 2017, production and shipments increased by 0.6 percent and 1.2 percent, respectively, from the previous year. This marked the first increase in production in five years, and the first increase in shipments in four years. These increases (for both production and shipments) were due to an increase in "heating and kitchen equipment", etc.

3. Construction

The construction industry, accounting for about 10 percent of both GDP and all employed persons, is one of the core industries in Japan. Construction investments at current prices had been 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 2016 amounted to 52.5 trillion yen at current prices, up 3.2 percent compared to the previous fiscal year; they totaled 48.0 trillion yen at constant fiscal 2005 prices, up 3.3 percent from the previous fiscal year.

A breakdown of construction investment shows that building construction totaled 29.2 trillion yen (up 6.8 percent from the previous fiscal year), while civil engineering works amounted to 23.3 trillion yen (down 0.9 percent).

In terms of public and private construction investment in fiscal 2016, public investment amounted to 21.1 trillion yen (down 0.1 percent from the previous fiscal year), while private investment totaled 31.4 trillion yen (up 5.7 percent). Public investment accounted for 40.2 percent of total construction investment, while private investment accounted for 59.8 percent.

Table 6.4
Construction Investment (Current prices)

Item	(Billion yen)			
	FY2013	FY2014	FY2015*	FY2016*
Total	51,298	51,141	50,820	52,470
Building construction	27,078	26,475	27,330	29,200
Dwellings	16,464	14,833	15,490	16,420
Public sector	675	712	750	740
Private sector	15,789	14,121	14,740	15,680
Non-dwellings	10,614	11,643	11,840	12,780
Public sector	2,195	2,332	1,840	2,180
Private sector	8,419	9,311	10,000	10,600
Mining and manufacturing	1,344	1,578	...	...
Others	7,075	7,733	...	...
Civil engineering works	24,220	24,666	23,490	23,270
Public sector	19,691	19,819	18,530	18,170
Public works	17,069	17,186	16,010	15,600
Others	2,622	2,632	2,520	2,570
Private sector	4,529	4,847	4,960	5,100
Total				
Public investment	22,561	22,862	21,120	21,090
Private investment	28,738	28,279	29,700	31,380
Building construction				
Public investment	2,870	3,043	2,590	2,920
Private investment	24,208	23,432	24,740	26,280
Civil engineering works				
Public investment	19,691	19,819	18,530	18,170
Private investment	4,529	4,847	4,960	5,100

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 2017 was 0.96 million housing units (down 0.3 percent from the previous year), and saw a decline for the first time in three years. When compared according to owner occupant relations, the number of housing for rent, and housing built for sale increased, however this was because the number of owned housing decreased.

The floor space (public and private) of the entire building whose construction started in 2017 was 134.68 million square meters, up 1.3 percent compared to the previous year.

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

Types	Floor space (1,000 m ²)		Construction cost (billion yen)	
	2016	2017	2016	2017
Total	132,962	134,679	26,315	27,698
Investor				
Public	7,400	7,038	2,167	2,237
Private	125,562	127,641	24,149	25,462
Dwellings and Industries				
Dwelling	82,210	81,711	15,637	16,005
Non-dwelling	50,753	52,968	10,678	11,693
Structure				
Wooden	56,579	56,157	9,391	9,366
Non-wooden	76,383	78,522	16,924	18,332

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

Chapter 7

Energy

1. Supply and Demand

Japan is dependent on imports for 91.7 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 in recent years, 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 2016, the domestic supply of primary energy in Japan was 19,836 petajoules, down 0.9 percent from the previous fiscal year. Its breakdown was: 39.7 percent in petroleum, 25.4 percent in coal, 23.8 percent in natural gas, 3.3 percent in hydro power, and 0.8 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

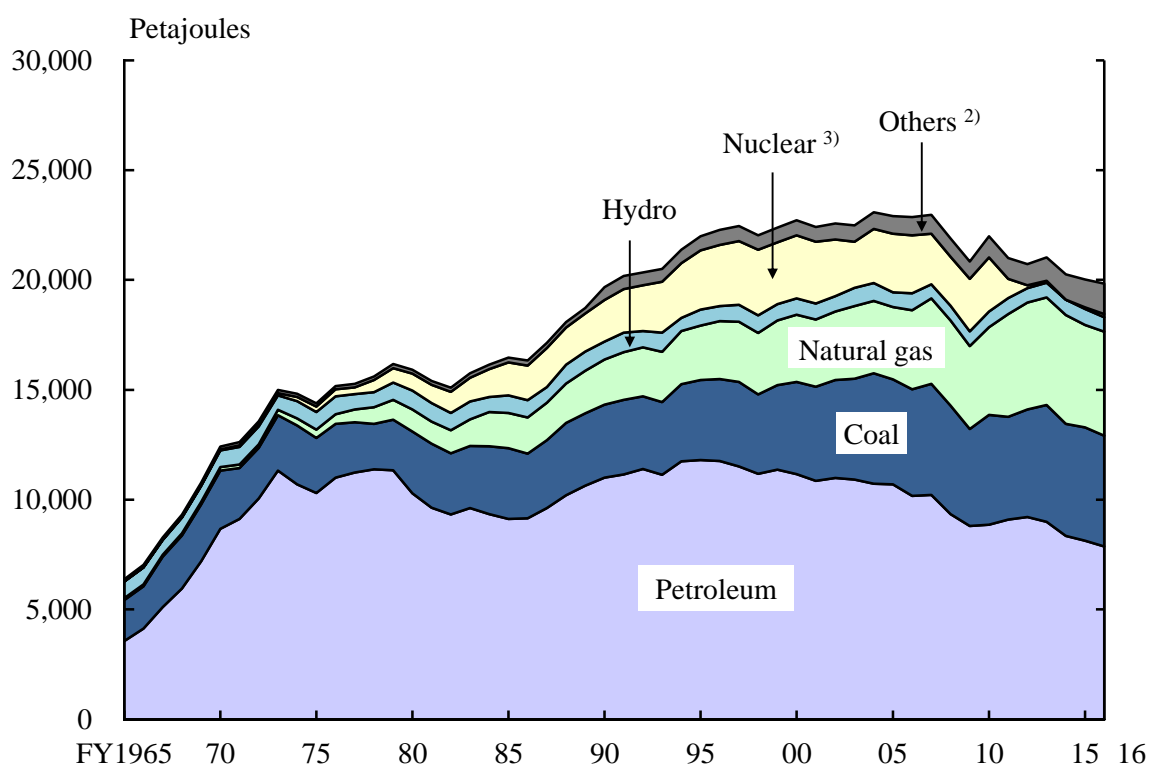
Joule (J) is employed as a common unit (International System of Units: SI) for energy across all energy sources in presenting international statistical information. The unit Petajoule (PJ: 10^{15} or quadrillion joules), etc. is used here to reduce the number of digits. The energy of one kiloliter of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

$$\begin{aligned}
 1 \text{ kiloliter of petroleum} &= 3.87 \times 10^{10} \text{ joules} \\
 1 \text{ gigajoule} &= 10^9 \text{ joules} \\
 1 \text{ petajoule} &= 10^{15} \text{ joules} \\
 1 \text{ exajoule} &= 10^{18} \text{ joules}
 \end{aligned}$$

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.

Source: Ministry of Economy, Trade and Industry.

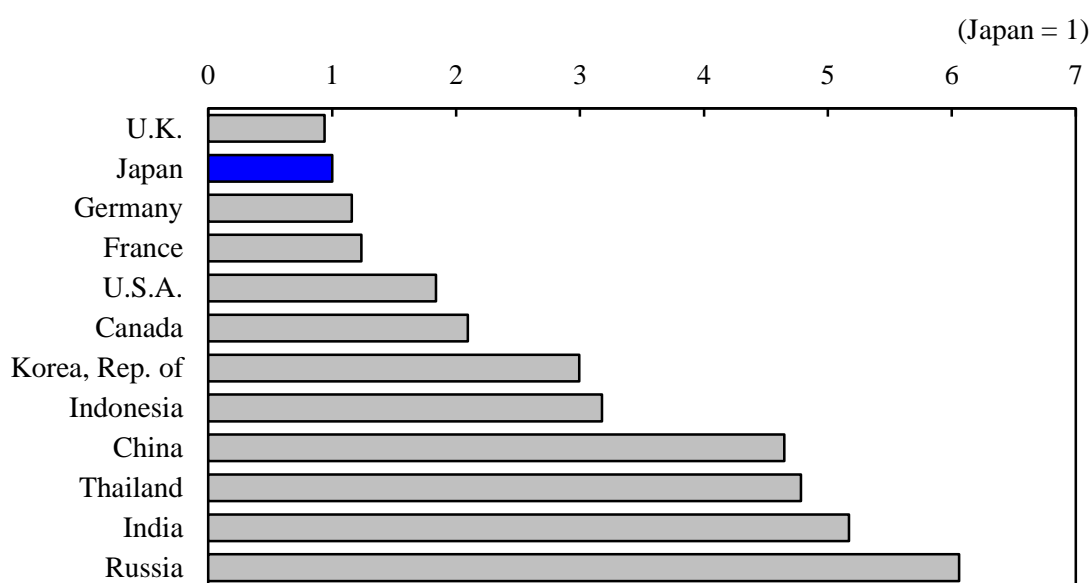
Table 7.1
Trends in Domestic Supply of Primary Energy and Percentage
by Energy Source

	(Petajoules)				
Item	FY2000	FY2005	FY2010	FY2015	FY2016
Domestic supply of primary energy ..	22,709	22,905	21,980	20,016	19,836
Energy self-sufficiency (%) ¹⁾	20.2	19.6	20.2	7.4	8.3
Petroleum	11,164	10,697	8,858	8,138	7,877
Coal	4,199	4,782	4,997	5,154	5,041
Natural gas	3,059	3,291	3,995	4,657	4,729
Hydro	746	671	716	726	651
Nuclear	2,858	2,660	2,462	79	149
Others ²⁾	683	803	951	1,262	1,388
Percentage					
Petroleum	49.2	46.7	40.3	40.7	39.7
Coal	18.5	20.9	22.7	25.8	25.4
Natural gas	13.5	14.4	18.2	23.3	23.8
Hydro	3.3	2.9	3.3	3.6	3.3
Nuclear	12.6	11.6	11.2	0.4	0.8
Others ²⁾	3.0	3.5	4.3	6.3	7.0

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⁾ (2015)



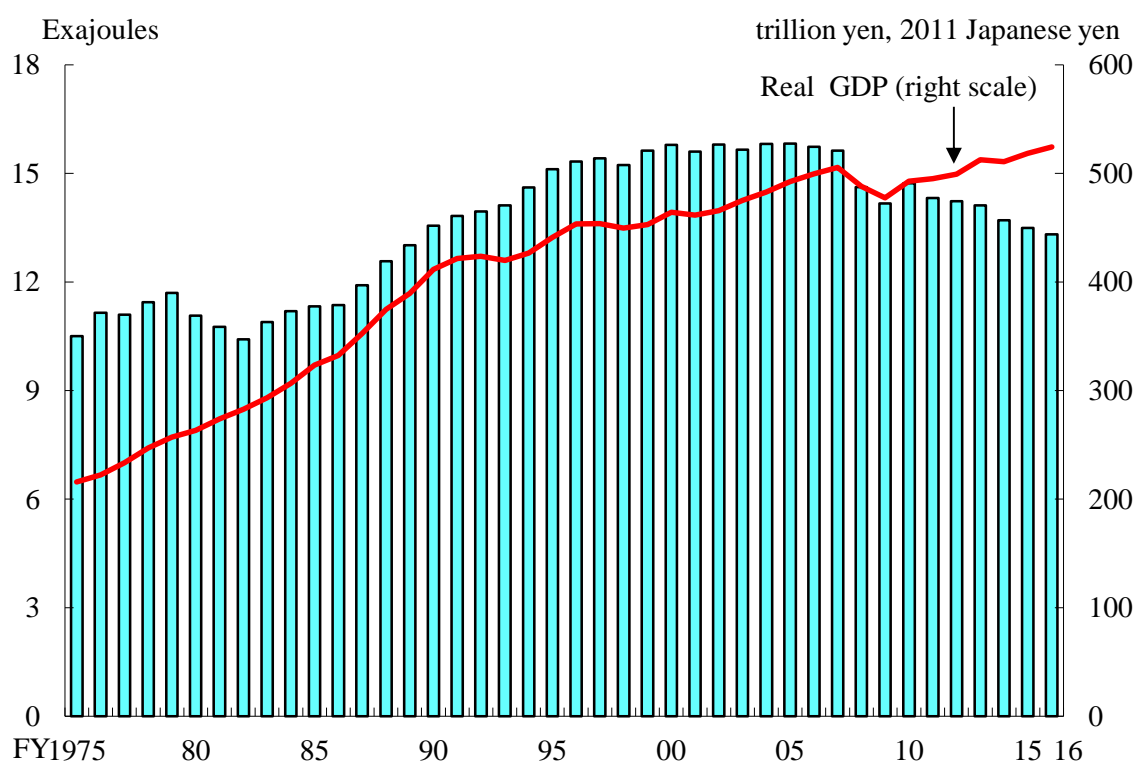
1) Primary energy consumption (tons of oil equivalent) / real GDP (2010 U.S. dollars).

Source: Ministry of Economy, Trade and Industry; International Energy Agency.

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 2004, and then started decreasing. In fiscal 2016, real GDP was higher than in fiscal 2015, but final energy consumption decreased.

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

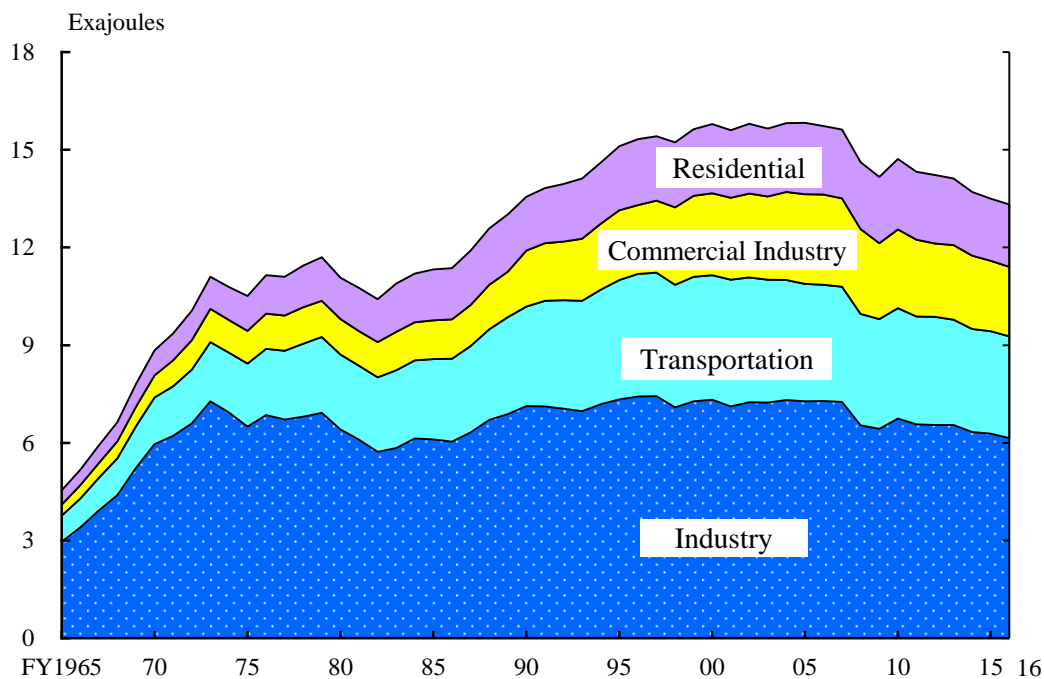


1) A different statistical method was used for the figures since FY1990.

Source: Cabinet Office, Ministry of Economy, Trade and Industry.

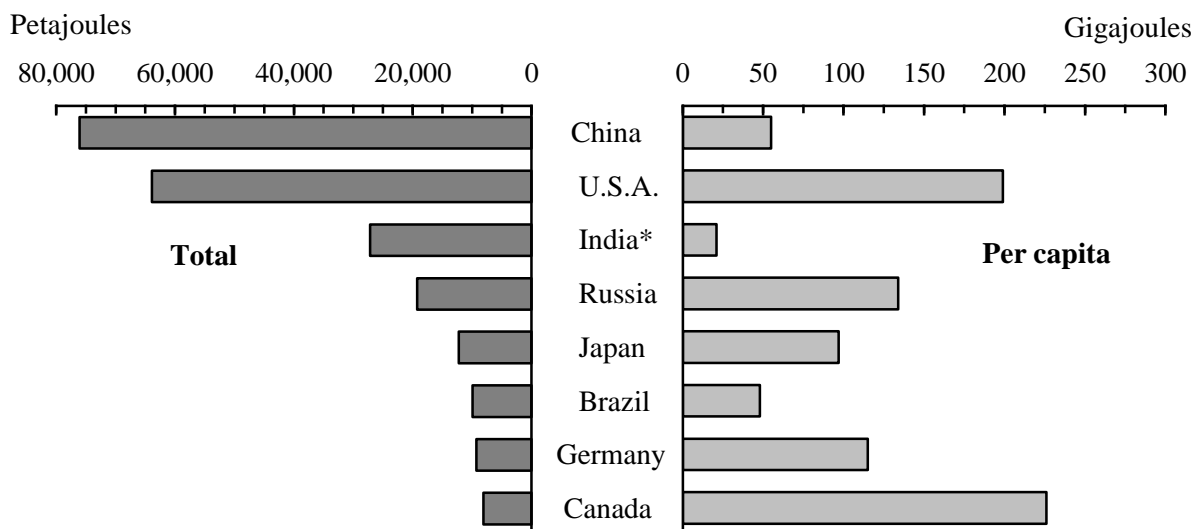
Final energy consumption in fiscal 2016 decreased 1.3 percent from the previous fiscal year, and even by sector, it has decreased in the industry sector, commercial industry sector, and transportation sector.

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 (2015)



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 998 billion kWh in fiscal 2016, down 2.6 percent from the previous fiscal year. Of this total, thermal power accounted for 87.9 percent; hydro power, 8.5 percent; nuclear power, 1.7 percent.

Table 7.2
Trends in Electricity Output and Power Consumption¹⁾

	(Million kWh)				
Item	FY2000	FY2005	FY2010	FY2015	FY2016
Electricity Output					
Total	1,091,500	1,157,926	1,156,888	1,024,179	998,055
Thermal	669,177	761,841	771,306	908,779	877,203
Hydro	96,817	86,350	90,681	91,383	84,540
Nuclear	322,050	304,755	288,230	9,437	17,300
Others ²⁾	3,456	4,980	6,671	14,580	19,012
Percentage					
Total	100.0	100.0	100.0	100.0	100.0
Thermal	61.3	65.8	66.7	88.7	87.9
Hydro	8.9	7.5	7.8	8.9	8.5
Nuclear	29.5	26.3	24.9	0.9	1.7
Others ²⁾	0.3	0.4	0.6	1.4	1.9
Power Consumption ³⁾					
Total	982,066	1,043,800	1,056,441	955,235	963,147
Generated by electric power suppliers ..	858,078	918,265	931,059	841,542	899,791
Consumption of in-house generation	123,988	125,535	125,382	113,693	63,355

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 1,423 petajoules in fiscal 2016, up 3.7 percent from the previous fiscal year. Of this total, natural gas plus liquefied natural gas (LNG) accounted for 96.8 percent; and the remaining 3.2 percent was made up of petroleum gases, such as volatile oil and liquefied petroleum gas. Gas purchases for fiscal 2016 totaled 245 petajoules.

Gas sales for fiscal 2016 totaled 1,578 petajoules, or a year-on-year growth of 4.0 percent. Of this total, 55.6 percent was sold to industry, 24.9 percent to residential use, and 11.4 percent to the commercial sector.

Table 7.3

Trends in Production and Purchases, and Sales of Gas¹⁾

	(Petajoules)							
Item	FY2005		FY2010		FY2015		FY2016	
Production and purchases	1,394		1,547		1,610		1,668	
Production	1,235 (100.0)		1,288 (100.0)		1,372 (100.0)		1,423 (100.0)	
Petroleum gases ²⁾	67	(5.4)	46	(3.6)	48	(3.5)	46	(3.2)
Natural gas and LNG	1,168	(94.6)	1,241	(96.4)	1,324	(96.5)	1,377	(96.8)
Others	-	(-)	-	(-)	-	(-)	-	(-)
Purchases	159 (100.0)		259 (100.0)		238 (100.0)		245 (100.0)	
Coal gas	2	(1.3)	-	(-)	-	(-)	-	(-)
Petroleum gases ³⁾	10	(6.4)	6	(2.4)	3	(1.1)	3	(1.3)
Natural gas and LNG ⁴⁾ ...	147	(92.3)	253	(97.6)	236	(98.9)	241	(98.6)
Others	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.1)
Sales	1,359 (100.0)		1,477 (100.0)		1,526 (100.0)		1,578 (100.0)	
Residential	416	(30.6)	410	(27.7)	387	(25.3)	394	(24.9)
Commercial	205	(15.1)	198	(13.4)	177	(11.6)	180	(11.4)
Industrial	619	(45.5)	738	(50.0)	842	(55.2)	877	(55.6)
Others	120	(8.8)	131	(8.9)	120	(7.9)	127	(8.1)

1) Figures in parentheses indicate a percentage. 2) Benzine gas, liquefied petroleum gas, other petroleum-based gas. 3) Vaporized liquefied petroleum gas, other petroleum-based gas. 4) Natural gas, vaporized liquefied natural 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 2017 totaled 853,700. The total R&D spending in fiscal 2016 amounted to 18.4 trillion yen, a decrease of 2.7 percent from the previous fiscal year. Relative to GDP, R&D spending was 3.42 percent and has decreased for two consecutive 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 (%)
2008	827,300	13.0	2007	18,944	530,997	3.57
2009	839,000	13.0	2008	18,800	509,466	3.69
2010	840,300	13.6	2009	17,246	492,070	3.50
2011	842,900	13.8	2010	17,110	499,281	3.43
2012	844,400	14.0	2011	17,379	494,017	3.52
2013	835,700	14.4	2012	17,325	494,478	3.50
2014	841,600	14.6	2013	18,134	507,246	3.57
2015	866,900	14.7	2014	18,971	518,469	3.66
2016	847,100	15.3	2015	18,939	533,904	3.55
2017	853,700	15.7	2016	18,433	539,254	3.42

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 2017, the number of researchers amounted to 488,800 persons in business enterprises, 38,600 persons in non-profit institutions and public organizations, and 326,200 persons in universities and colleges. In terms of R&D expenditures in fiscal 2016, business enterprises spent 13.3 trillion yen (72.3 percent of total R&D expenditures), non-profit institutions and public organizations spent 1.5 trillion yen (8.2 percent), and universities and colleges spent 3.6 trillion yen (19.6 percent).

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

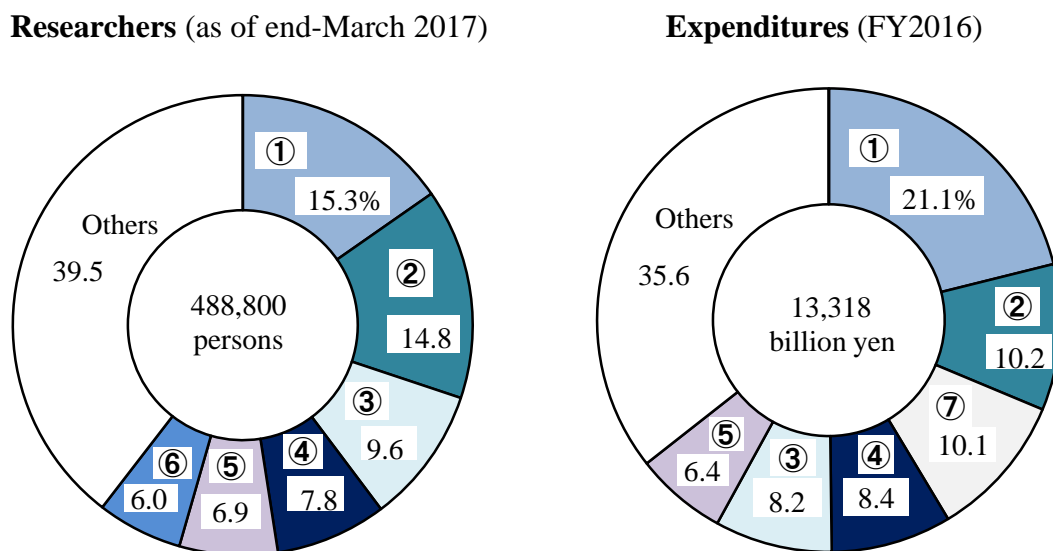
Based on the Science and Technology Basic Law, which was promulgated and enforced in 1995, the Japanese government has formulated a Basic Plan since fiscal 1996, and has promoted science and technology policies.

Currently, the Fifth Science and Technology Basic Plan (fiscal 2016 to fiscal 2020) is being initiated.

Approximately 90 percent of the 488,800 researchers at business enterprises at the end of March 2017, or 426,700 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 2016, of 13.3 trillion yen spent by business enterprises, 11.6 trillion yen was spent by manufacturing industries. The motor vehicles, parts and accessories industry spent the most, followed by the information and communication electronics equipment industry, then by the medicines industry.

Figure 8.1
Researchers and Expenditures by Industry (Business enterprises)



- 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 2016, Japan earned 3,571.9 billion yen from technology exports, which was down 9.6 percent from the previous fiscal year. This was the first decrease in five years. Of the total receipts, 76.5 percent was from overseas parent/subsidiary companies. Meanwhile, payments to technology imports stood at 452.9 billion yen, a decrease of 24.8 percent compared with the previous fiscal year. It decreased for the first time in two years. Of this figure, 27.6 percent was for payments to overseas parent/subsidiary companies.

Table 8.2
Technology Trade by Business Enterprises¹⁾

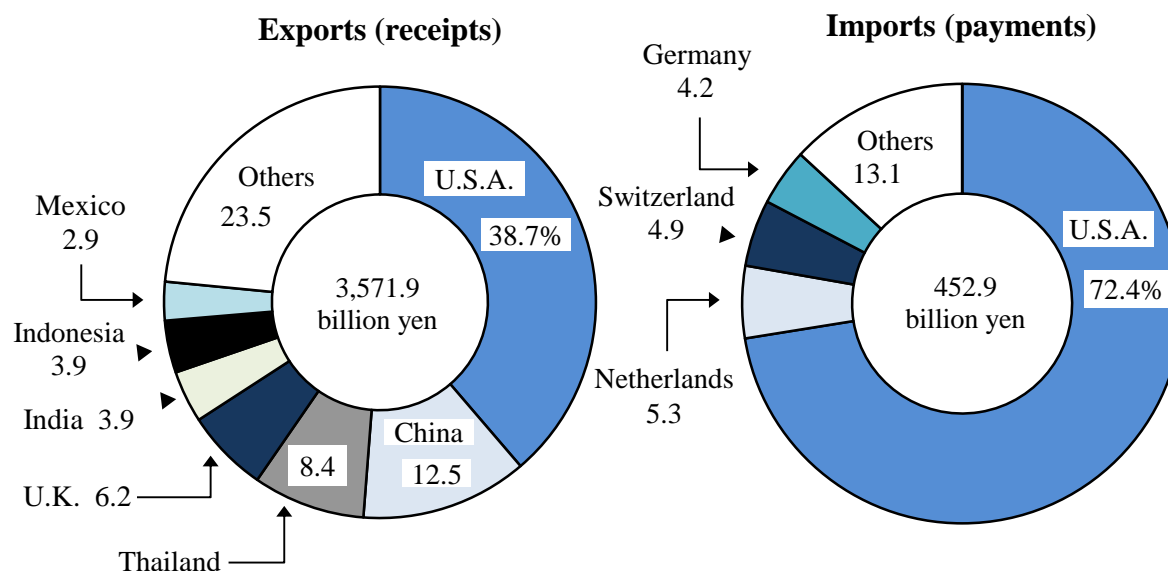
Fiscal year	Exports		Imports		Exports value	Imports value
	Value (billion yen)	Annual increase rate (%)	Value (billion yen)	Annual increase rate (%)		
1990	339.4	3.0	371.9	12.7		0.91
1995	562.1	21.6	391.7	5.7		1.43
2000	1,057.9	10.1	443.3	8.0		2.39
2005	2,028.3	14.6	703.7	24.0		2.88
2010	2,436.6	20.9	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

1) The survey coverage was expanded in FY1996 and FY2001.

Source: Statistics Bureau, MIC.

In fiscal 2016, Japan exported 3571.9 billion yen of technologies; major export destinations were: the U.S.A. (1,382.4 billion yen, or 38.7 percent of total exports), followed by China (445.6 billion yen), Thailand (301.6 billion yen), and the U.K. (221.1 billion yen). On the other hand, Japan imported 452.9 billion yen of technologies, mainly from the U.S.A. (328.0 billion yen, or 72.4 percent of total imports), followed by the Netherlands (24.1 billion yen), Switzerland (22.3 billion yen) and Germany (19.1 billion yen).

Figure 8.2
Composition of Technology Trade by Major Country (FY2016)



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. In 2016, there were 318,381 applications (down 0.1 percent from the previous year), and the width of decrease is shrinking.

Table 8.3
Patents

Item	(Cases)				
	2000	2005	2010	2015	2016
Applications	436,865	427,078	344,598	318,721	318,381
Registrations	125,880	122,944	222,693	189,358	203,087
Existing vested rights	1,040,607	1,123,055	1,423,432	1,946,568	1,980,985

Source: Japan Patent Office.

Table 8.4
PCT International Applications by Country of Origin

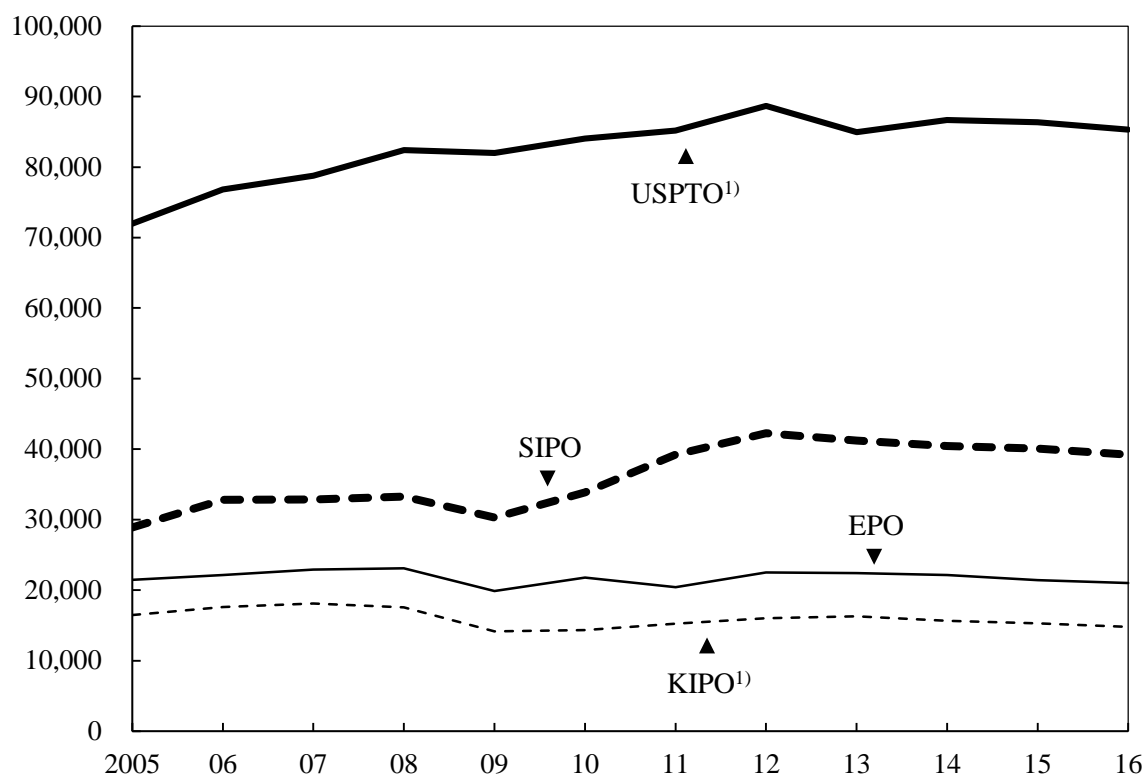
Country	2012	2013	2014	2015	2016	Change from 2015 (%)
Total	195,344	205,305	214,333	217,235	233,000	7.3
U.S.A.	51,861	57,459	61,483	57,123	56,595	-0.9
Japan	43,523	43,771	42,381	44,053	45,239	2.7
China	18,620	21,515	25,548	29,839	43,168	44.7
Germany	18,750	17,920	17,983	18,004	18,315	1.7
Korea, Rep. of	11,787	12,381	13,119	14,564	15,560	6.8
France	7,802	7,905	8,261	8,421	8,208	-2.5
U.K.	4,917	4,848	5,268	5,290	5,496	3.9
Netherlands	4,078	4,188	4,206	4,334	4,679	8.0
Switzerland	4,222	4,372	4,100	4,265	4,365	2.3
Sweden	3,600	3,946	3,913	3,842	3,720	-3.2

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 March 2017. In 2016, the number of international patent applications filed under the Patent Cooperation Treaty (PCT) was 233,000, of which 45,239 were from Japan, accounting for 19.4 percent.

The United States Patent and Trademark Office ranked first among major patent offices for applications filed by Japanese applicants in 2016, with 85,313 applications. The number of patent applications filed by Japanese applicants at the State Intellectual Property Office of the People's Republic of China was 39,207.

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



1) The USPTO and KIPO data for 2016 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.

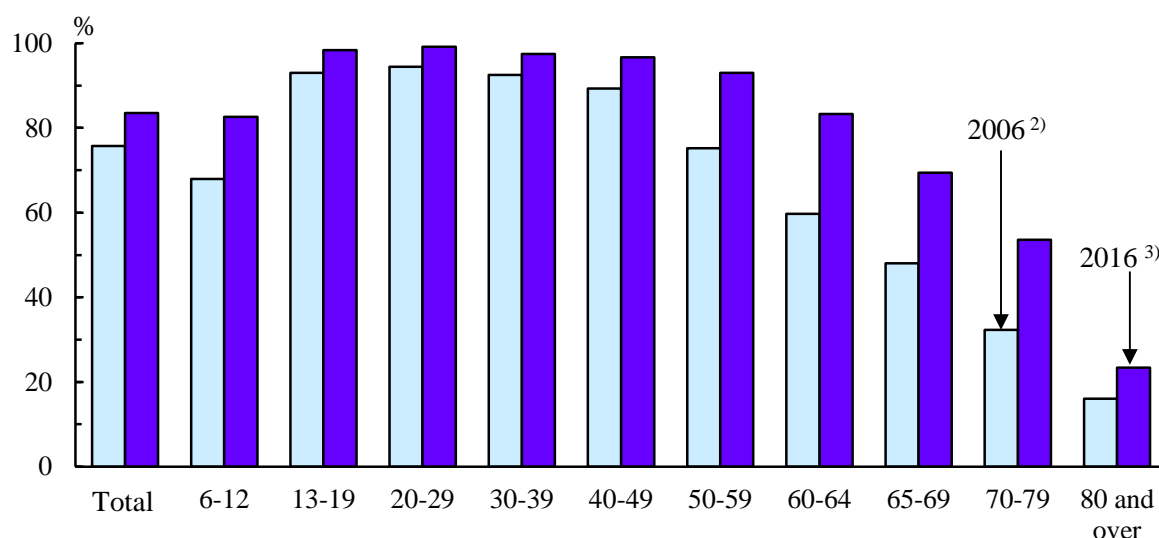
3. Information and Communication

(1) Diffusion of the Internet

The population of Internet users, the commercial use of which began in 1993, continues to increase. The number of people who used the Internet over the past year as of the end of September 2016 (individuals who are 6 years of age and older; Internet connected equipment includes any and all types of Internet connection devices, including computers, cell phones, PHS (personal handyphone systems), smartphones, tablets and game consoles) was 100.8 million and exceeded 100 million people since the end of 2013. According to the individual Internet usage rate by age group,

the usage rate exceeded 90 percent in each age group between 13 to 59 years old, and the usage rate of 6 to 12 years old was 82.6 percent, which was a significant increase from 74.8 percent the previous year.

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



1) Ages 6 years and over. 2) End of 2006. 3) End of September 2016.

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 2016, the usage rate of computers was the highest (58.6 percent), followed by smartphones (57.9 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 ages 13-49, and more than 90 percent use smartphones in the 20-29 age group.

Table 8.5
Status of Internet Use by Device by Age Group (2016)

Item	Usage rate	%							
		6-12 years	13-19	20-29	30-39	40-49	50-59	60-69	
Computers	58.6	40.0	61.7	78.9	72.1	73.0	69.6	50.0	
Mobile phones ¹⁾	13.3	6.1	6.1	7.1	9.7	14.8	17.2	20.7	
Smartphones	57.9	37.5	79.5	92.4	87.4	78.1	64.3	31.1	
Tablets	23.6	39.3	31.3	25.5	33.4	31.4	25.6	14.6	

1) Cell phones and PHS (Personal Handyphone System).

Source: Ministry of Internal Affairs and Communications.

As of the end of September 2016, 13.3 percent of enterprises had introduced telework. The most frequent telework pattern was mobile work, 63.7 percent, followed by working from home, 22.2 percent and working from a satellite office, 13.8 percent.

(2) Progress of Communication Technologies

The number of broadband (connection) subscribers as of the end of March 2017 was 189 million. Among the number of broadband subscribers, those with subscriptions for 3.9-4G mobile phones (LTE) were the highest, amounting to 103 million subscriptions and accounting for 54.3 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 48 million subscribers, making up 25.3 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 2017, the total number of IP phone subscribers was 41 million.

Table 8.6
Subscribers to Telecommunications Services¹⁾

Item	(Thousands)				
	2013	2014	2015	2016	2017
Public phones (NTT ²⁾ only)	210	196	184	171	161
Fixed phone services	28,471	26,094	24,081	21,703	19,868
Mobile phones ³⁾	141,129	149,561	157,857	160,560	166,853
IP phone	31,271	33,781	35,641	38,456	40,954
ISDN (Integrated Services Digital Network)	4,273	3,949	3,652	3,374	3,116
DSL (Digital Subscriber Line)	5,425	4,470	3,753	3,204	2,512
Cable Internet	6,012	6,225	6,430	6,732	6,852
FTTH (Fiber To The Home)	23,818	25,268	26,563	27,817	29,253
BWA (Broadband Wireless Access) ..	5,313	7,461	19,466	35,137	47,888
3.9-4G mobile phones (LTE)	20,373	46,413	67,781	87,472	102,942
International phone calls, sent and received	879,800	704,200	599,300	500,600	475,700

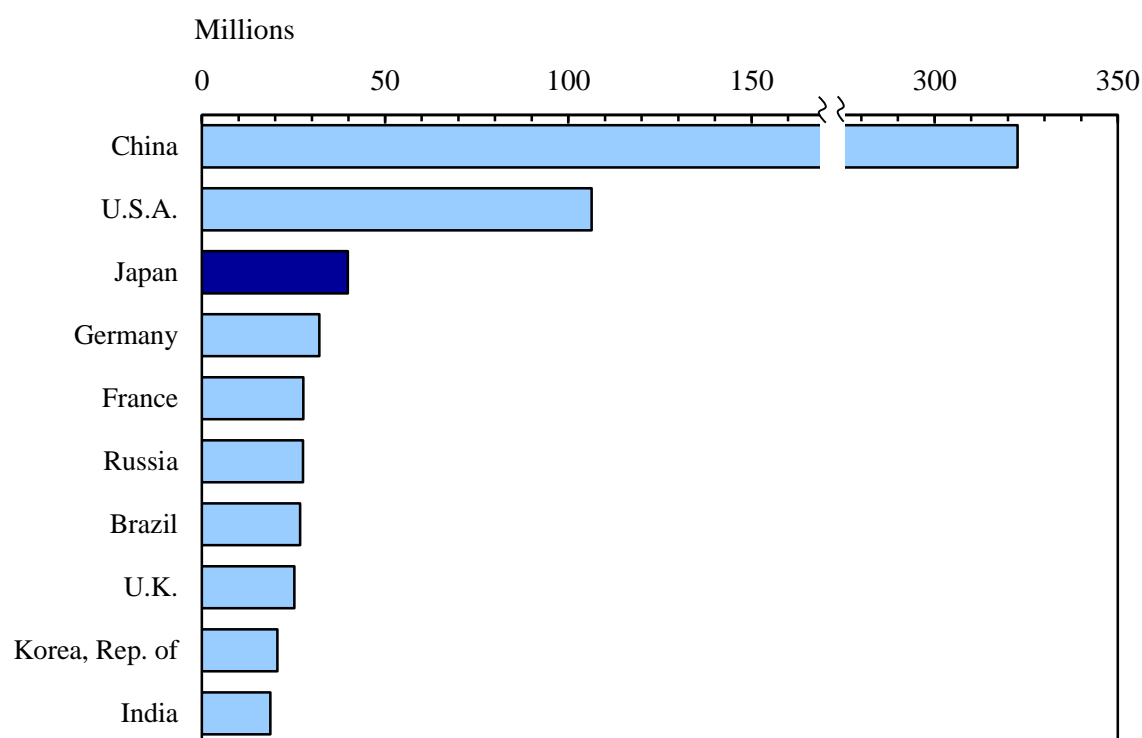
1) End of March. 2) Nippon Telegraph and Telephone Corporation.

3) Cell phones and PHS (Personal Handyphone System).

Source: Ministry of Internal Affairs and Communications.

In 2016, the number of fixed-broadband subscribers in Japan was 40 million, the third-largest after China, 323 million and the U.S.A., 106 million.

Figure 8.5
International Comparison of Fixed-Broadband Subscribers (2016)

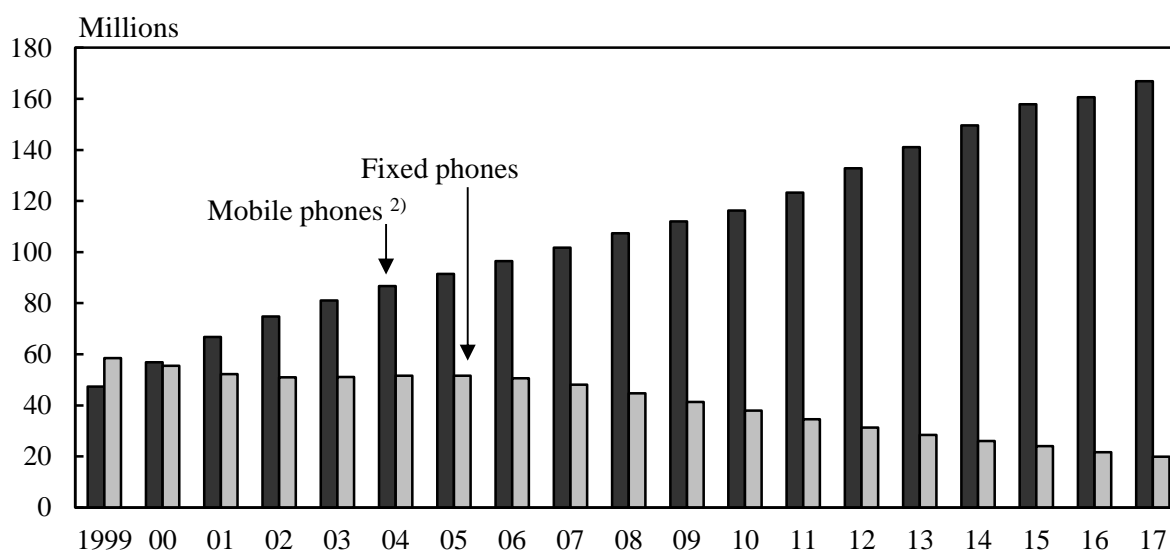


Source: International Telecommunication Union.

(3) Telephones

The number of fixed phone service subscription contracts has continued to decrease in recent years. As of the end of March 2017, the number of fixed phone subscribers was 20 million (down 8.5 percent from the previous year). Meanwhile, the number of mobile phone subscribers (cell phones and personal handyphone systems) totaled 161 million at the end of March 2016, marking a rise by 3.9 percent year-on-year to 167 million at the end of March 2017.

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 2018, Japan Post Co., Ltd. had 24,395 post offices nationwide. In fiscal 2017, post offices handled 21.7 billion items of domestic mail (including parcels), which was a 0.9 percent decrease from the previous fiscal year. Meanwhile, the total quantity of international mail (letters, Express Mail Services [EMS], and parcels) sent in fiscal 2017 amounted to 47.2 million items, an increase of 1.6 percent from the previous fiscal year.

Table 8.7
Postal Services

	(Millions)					
Item	FY2000	FY2005	FY2010	FY2015	FY2016	FY2017
Domestic						
Letters	26,114.4	22,666.1	19,757.9	17,981.0	17,684.0	17,174.9
Parcels	310.5	2,075.0	2,968.4	4,052.4	4,195.3	4,513.3
International						
Sent	106.0	77.5	54.2	48.9	46.5	47.2
Letters ¹⁾	104.3	76.1	52.8	44.1	42.3	43.1
Parcels	1.7	1.5	1.4	4.8	4.1	4.1

1) Including Express Mail Services (EMS).

Source: Japan Post Co., Ltd.

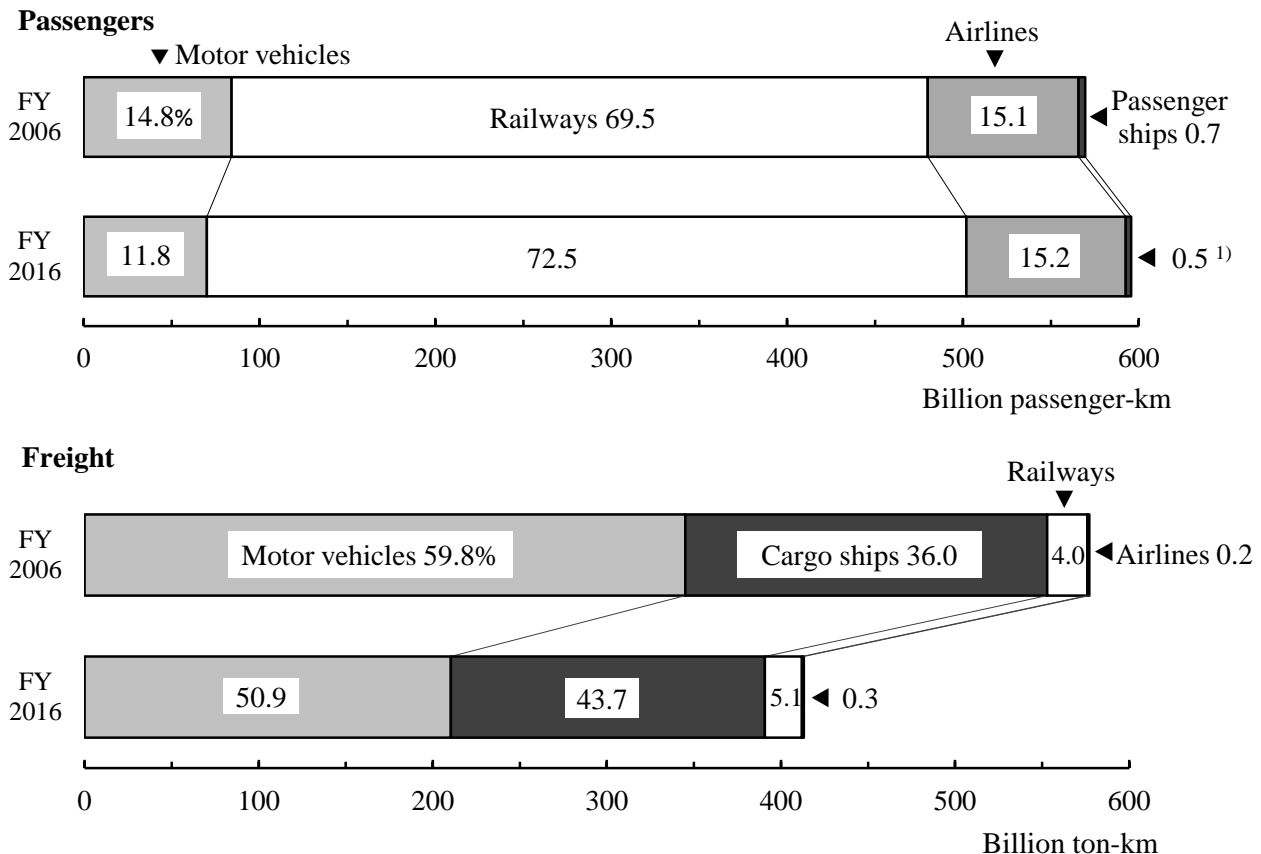
Chapter 9

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) The data for passenger ships is that for FY2015.
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 2016, the number of domestic transport passengers was 30.73 billion (up 0.7 percent from the previous fiscal year). The total volume of passenger transport was 592.49 billion passenger-kilometers (up 0.4 percent).

Table 9.1
Domestic Passenger Transport

Item	Passengers carried (thousands)		Passenger kilometers (millions)	
	FY2015	FY2016	FY2015	FY2016
Total transport volume	30,505,203	a) 30,731,414	590,282	a) 592,494
Railways	24,289,894	24,598,362	427,486	431,799
JR (Japan Railways)	9,308,375	9,392,177	269,394	271,996
Other than JR	14,981,519	15,206,185	158,092	159,802
Motor vehicles	6,031,303	6,034,928	71,443	70,119
Buses (Commercial use)	4,565,210	4,582,953	64,936	63,737
Taxis and limousine hires	1,466,093	1,451,975	6,508	6,382
Airlines	96,059	98,124	88,214	90,576
Passenger ships	87,947	...	3,139	...

a) Excluding figures for passenger ships.

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

In fiscal 2016, the Japan Railways (JR) group reported 9.39 billion passengers (up 0.9 percent from the previous fiscal year) and 272.00 billion passenger-kilometers (up 1.0 percent). Railways other than JR reported 15.21 billion passengers (up 1.5 percent) and 159.80 billion passenger-kilometers (up 1.1 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 4.58 billion (up 0.4 percent from the previous fiscal year), but a decline in passenger-kilometers to 63.74 billion (down 1.8 percent) in fiscal 2016.

In recent years, in order to beef up Japan's competitiveness in the global arenas of business and tourism, development of aviation networks has been carried out, such as through enhancements to the functions of the metropolitan airports, promotion of entry of LCCs that could create new demand for aviation through the expansion of domestic tourism, etc. Fiscal 2016 air transport records show that there were 98.12 million passengers (up 2.1 percent from the previous fiscal year), and passenger-kilometers amounted to 90.58 billion (up 2.7 percent).

In fiscal 2015, passenger ships reported 87.95 million passengers (up 2.4 percent from the previous fiscal year) and 3.14 billion passenger-kilometers (up 7.4 percent).

(2) Domestic Freight Transport

In the area of domestic freight, a total of 4.79 billion metric tons (up 1.9 percent from the previous fiscal year) of freight was transported for a total of 413.07 billion ton-kilometers (up 1.4 percent) in fiscal 2016. As for transport tonnage volume in fiscal 2016, 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)	
	FY2015	FY2016	FY2015	FY2016
Total transport volume	4,698,710	4,787,400	407,272	413,074
Railways	43,210	44,089	21,519	21,265
Motor vehicles	4,289,000	4,377,822	204,316	210,314
Commercial use	2,916,827	3,019,328	175,981	180,811
Non-commercial use	1,372,174	1,358,494	28,335	29,503
Cargo ships	365,486	364,485	180,381	180,438
Airlines ¹⁾	1,014	1,005	1,056	1,057

1) Including overweight baggage and postal mail.

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

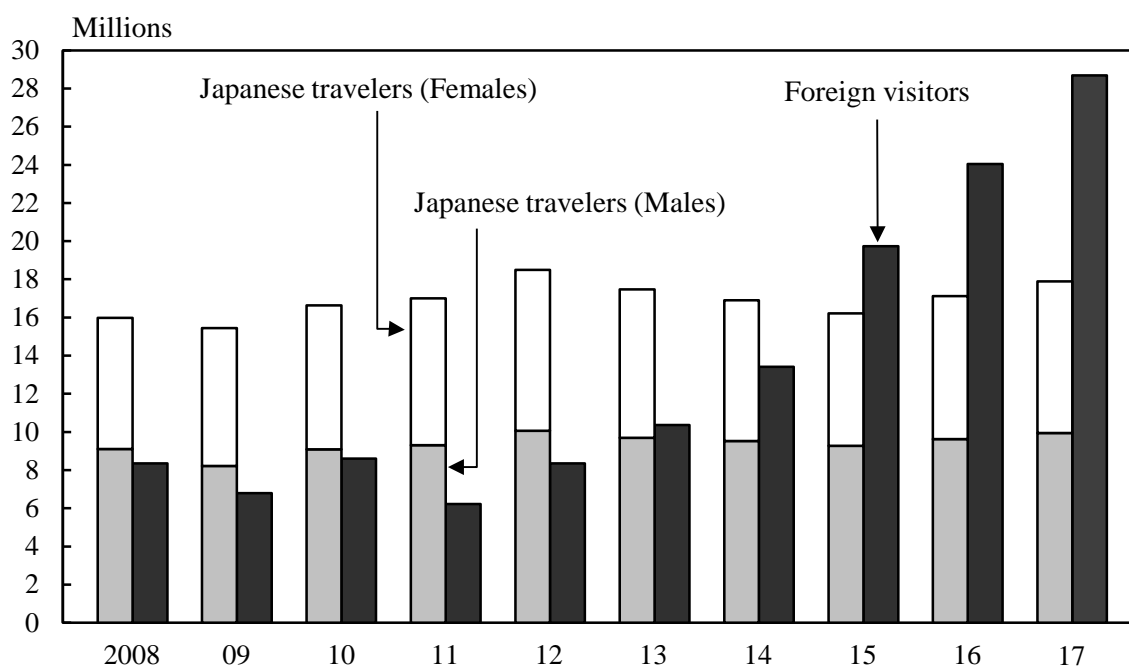
2. International Transport

(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 2016, Japanese airlines transported 20.51 million passengers (up 12.3 percent from the previous year) on international flights, and registered 90.40 billion passenger-kilometers (up 10.1 percent). Both recorded their fifth consecutive year of increase.

The number of Japanese overseas travelers in 2017 was 17.89 million (up 4.5 percent from the previous year). The number of foreign visitors to Japan in 2017 was 28.69 million, representing an increase of 19.3 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 2016.

Table 9.3
Japanese Overseas Travelers by Destination

Country or area of destination	2014		2015		2016	
	Number of arrivals	Annual change (%)	Number of arrivals	Annual change (%)	Number of arrivals	Annual change (%)
U.S.A. ¹⁾²⁾	3,620,224	-3.0	3,758,297	3.8	3,576,955	-4.8
China ³⁾	2,717,600	-5.6	2,497,657	-8.1	2,587,440	3.6
Korea, Rep. of ³⁾	2,280,434	-17.0	1,837,782	-19.4	2,297,893	25.0
Taiwan ⁴⁾	1,634,790	15.0	1,627,229	-0.5	1,895,702	16.5
Thailand ²⁾	1,254,858	-17.2	1,349,388	7.5	1,416,903	5.0
Hong Kong SAR ²⁾ ..	636,432	4.7	632,959	-0.5	692,529	9.4
Germany ⁵⁾	670,804	-5.7	647,243	-3.5	545,013	-15.8
France ²⁾	776,870	17.6	682,121	-12.2	411,043	-39.7

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 in all types of accommodation establishments, by country of residence.

Source: Japan National Tourism Organization.

The number of foreign visitors to Japan in 2017 broken down by country/region, the number of visitors from Asian countries was highest, totaling 24.72 million (up 21.0 percent from the previous year). Among Asian countries, the number of visitors from China was highest, amounting to 7.36 million, and reached seven million people for the first time. The figure accounted for 25.6 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	2015		2016		2017*	
	Number of arrivals	Percentage distribution	Number of arrivals	Percentage distribution	Number of arrivals	Percentage distribution
Total arrivals ¹⁾	19,737,409	100.0	24,039,700	100.0	28,691,073	100.0
Asia	16,645,843	84.3	20,428,866	85.0	24,716,396	86.1
China	4,993,689	25.3	6,373,564	26.5	7,355,818	25.6
Korea, Rep. of	4,002,095	20.3	5,090,302	21.2	7,140,165	24.9
Taiwan	3,677,075	18.6	4,167,512	17.3	4,564,053	15.9
Hong Kong SAR ...	1,524,292	7.7	1,839,193	7.7	2,231,568	7.8
Thailand	796,731	4.0	901,525	3.8	987,211	3.4
Singapore	308,783	1.6	361,807	1.5	404,132	1.4
Europe.....	1,244,970	6.3	1,421,934	5.9	1,525,662	5.3
U.K.	258,488	1.3	292,458	1.2	310,499	1.1
Africa.....	31,918	0.2	33,762	0.1	34,803	0.1
North America	1,310,606	6.6	1,570,420	6.5	1,756,732	6.1
U.S.A.	1,033,258	5.2	1,242,719	5.2	1,374,964	4.8
Canada	231,390	1.2	273,213	1.1	305,591	1.1
South America	74,198	0.4	77,958	0.3	92,106	0.3
Oceania.....	429,026	2.2	505,638	2.1	564,527	2.0
Australia	376,075	1.9	445,332	1.9	495,054	1.7

1) Including stateless people, etc.

Source: Japan National Tourism Organization.

In 2017, of the total number of foreign visitors to Japan, tourists numbered 25.44 million people, or 88.7 percent of total foreign visitors. The highest number of tourists came from the Republic of Korea, with 6.59 million

travelers, followed by China, with 6.45 million travelers.

(2) International Freight Transport

The volume of seaborne foreign transport in 2016 was 1,018 million tons, down 3.6 percent over the previous year. Of this figure, total exports increased by 8.4 percent to 66 million tons, and total imports decreased by 5.8 percent to 513 million tons.

Table 9.5
Seaborne Foreign Transport

Year	Total	Exports	Imports	(Thousand tons)
				Cross Transport
1995	703,606	38,761	529,929	134,916
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

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

Air-shipped international freight in 2016 totaled 1.53 million tons in terms of volume (up 9.0 percent from the previous year) and 8.41 billion tons in terms of ton-kilometers (up 5.9 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 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. A total of 88.5 percent 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 wholesale was 4 million in 2016, of which 703,623 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 legal organization, 60.6 percent of retail establishments were corporations, while 39.2 percent were individual proprietorships. The proportion of individual proprietorships was higher in the retail sector than in the wholesale sector.

The number of persons engaged in retail was 7.84 million in 2016, of which 4.39 million 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

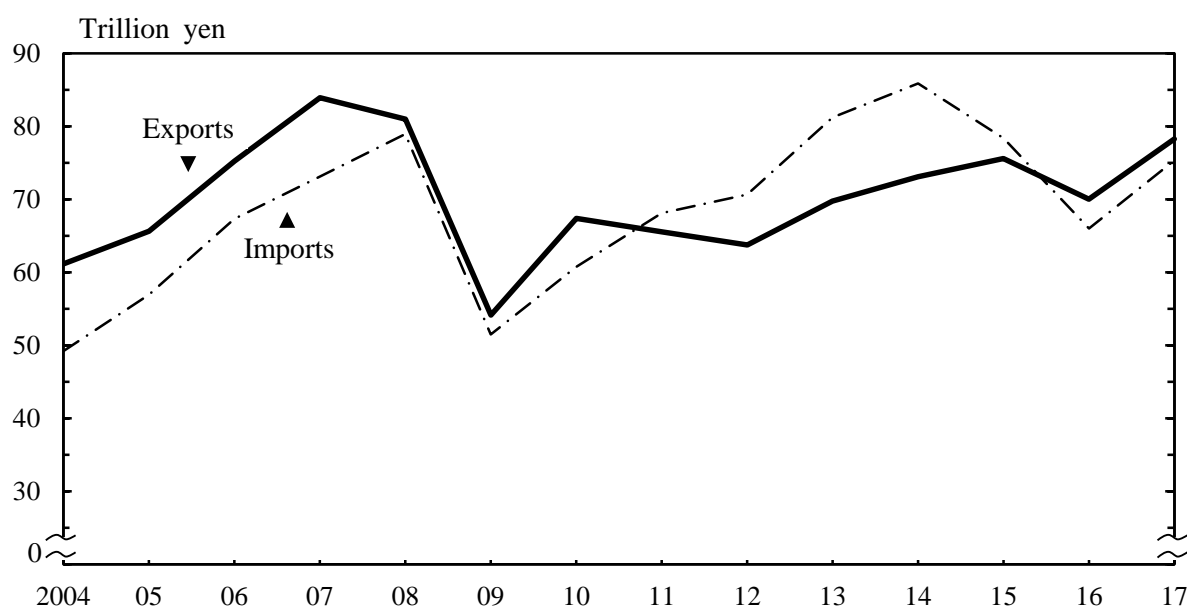
Trade, International Balance of Payments, and International Cooperation

1. Trade

(1) Overview of Trade

In 2017, Japan's international trade on a customs clearance basis increased, together with exports and imports. Exports (in FOB value) amounted to 78.3 trillion yen, which was an 11.8 percent increase as compared to the previous year, and an increase for the first time in two years. Imports (in CIF value) amounted to 75.4 trillion yen, which was a 14.1 percent increase as compared to the previous year. It increased for the first time in three years. Trade surplus totaled 2.9 trillion yen. This was for the second consecutive year of trade surplus.

Figure 11.1
Foreign Trade



Source: Ministry of Finance.

Table 11.1
Trends in Foreign Trade and Indices of Trade

Year	Value (billion yen)			Indices of trade (2010=100)					
	(Customs clearance basis)			Exports			Imports		
	Exports (FOB)	Imports (CIF)	Balance	Value index	Quantum index ¹⁾	Unit value index	Value index	Quantum index ¹⁾	Unit value index
2008	81,018	78,955	2,063	120.2	109.7	109.6	129.9	102.5	126.7
2009	54,171	51,499	2,671	80.4	80.5	99.8	84.8	87.8	96.5
2010	67,400	60,765	6,635	100.0	100.0	100.0	100.0	100.0	100.0
2011	65,546	68,111	-2,565	97.3	96.2	101.1	112.1	102.6	109.3
2012	63,748	70,689	-6,941	94.6	91.6	103.3	116.3	105.0	110.8
2013	69,774	81,243	-11,468	103.5	90.2	114.8	133.7	105.3	127.0
2014	73,093	85,909	-12,816	108.4	90.7	119.6	141.4	106.0	133.4
2015	75,614	78,406	-2,792	112.2	89.8	125.0	129.0	103.0	125.3
2016	70,036	66,042	3,994	103.9	90.0	115.5	108.7	102.6	105.9
2017	78,286	75,379	2,907	116.2	94.7	122.7	124.1	105.9	117.2

1) Quantum index = Value index / Unit value index × 100

Source: Ministry of Finance.

Japan's 2017 exports increased by 6.2 percent from the previous year in terms of unit value index (the first increase in two years), and increased by 5.2 percent from the previous year in terms of quantum index (an increase for the second consecutive year).

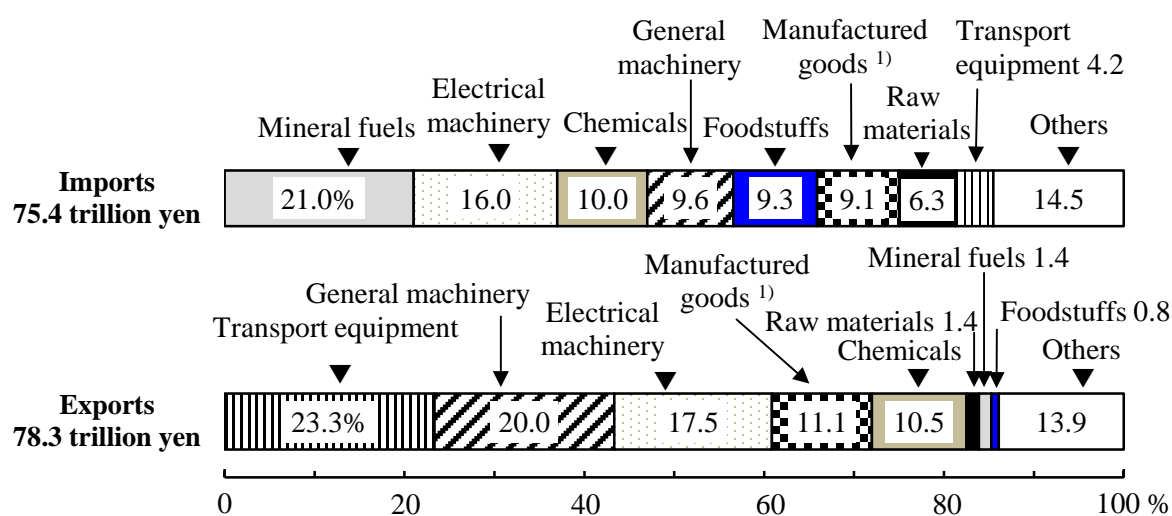
Japan's imports in 2017, unit value index and quantum index, increased by 10.7 percent and 3.2 percent compared to the previous year; both indices recorded an increase for the first time in three years.

(2) Trade by Commodity

Japan's exports in 2017 consisted of transport equipment, which accounted for the largest portion of the total export value, 23.3 percent, followed by general machinery and electrical machinery, making up 20.0 percent and 17.5 percent, respectively. Motor vehicles, which are in the transport equipment category, constituted 15.1 percent of the total export value, up 2.8 percent in quantity and up 4.3 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, and integrated circuits.

The leading import item category was mineral fuels, which represented 21.0 percent of the total value imported, followed by electrical machinery and chemicals, with 16.0 percent and 10.0 percent, respectively. Crude petroleum and partially refined petroleum, in the mineral fuels category, constituted 9.5 percent of the total import value, down 4.0 percent in quantity and up 29.3 percent in value from the previous year.

Figure 11.2
Component Ratios of Foreign Trade by Commodity (2017)



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

Source: Ministry of Economy, Trade and Industry.

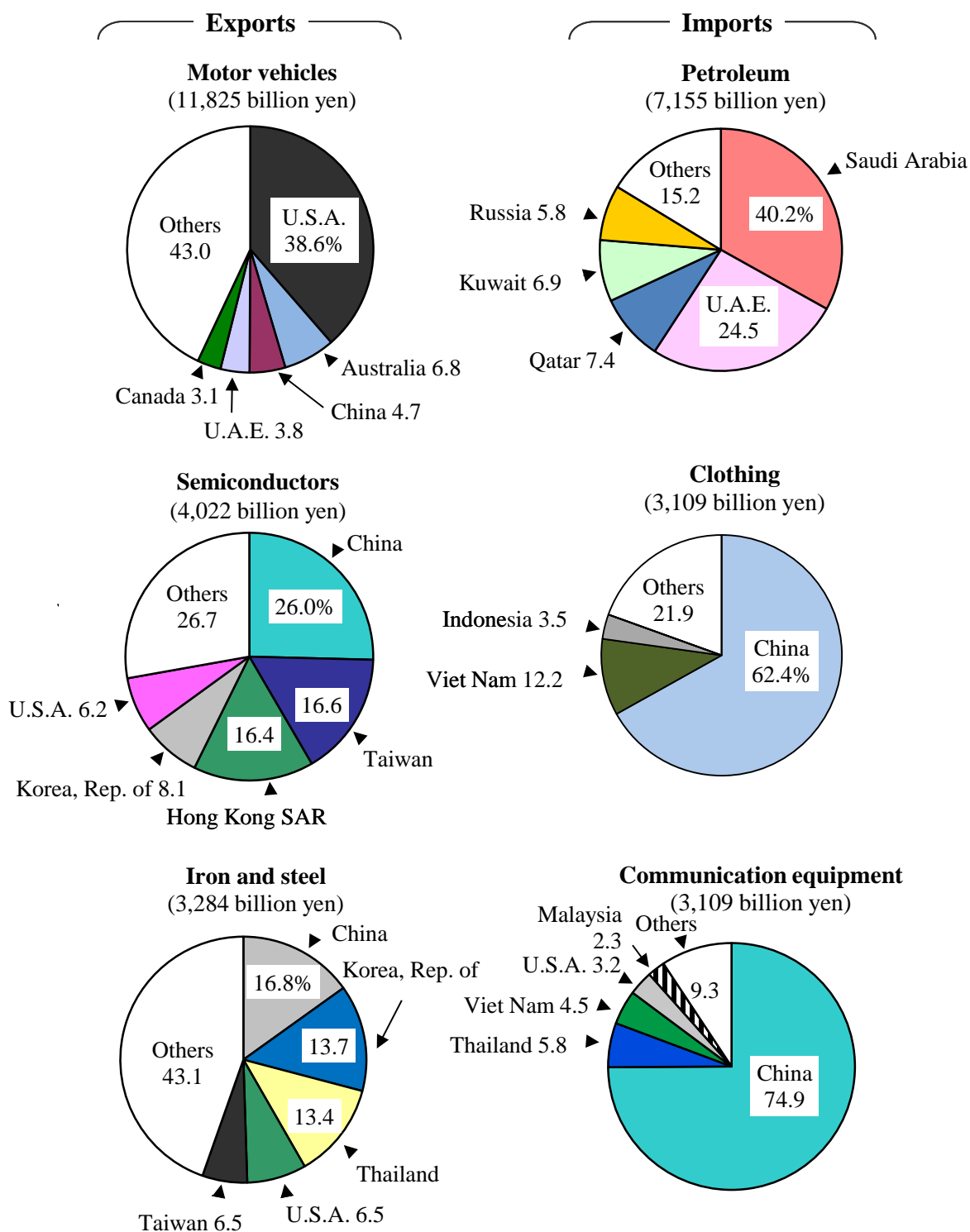
Table 11.2
Value of Exports and Imports, by Principal Commodity

Item	2014	2015	2016	2017	(Billion yen)
					Annual growth (%)
Exports, total	73,093	75,614	70,036	78,286	11.8
Foodstuffs	482	599	607	645	6.1
Raw materials	1,194	1,137	947	1,127	19.1
Mineral fuels	1,517	1,245	898	1,117	24.4
Chemicals	7,818	7,759	7,123	8,192	15.0
Plastic materials	2,413	2,444	2,272	2,511	10.6
Manufactured goods ¹⁾	9,464	9,220	7,847	8,686	10.7
Iron and steel products	3,958	3,668	2,843	3,284	15.5
General machinery	14,218	14,424	13,613	15,685	15.2
Power generating machinery	2,540	2,591	2,416	2,745	13.6
Electrical machinery	12,650	13,289	12,322	13,695	11.1
Semiconductors and other electronic parts	3,691	3,915	3,607	4,022	11.5
Transport equipment	16,907	18,141	17,338	18,232	5.2
Motor vehicles	10,919	12,046	11,333	11,825	4.3
Others	8,844	9,801	9,340	10,907	16.8
Scientific and optical instruments	2,436	2,376	2,046	2,416	18.1
Imports, total	85,909	78,406	66,042	75,379	14.1
Foodstuffs	6,732	7,002	6,363	7,018	10.3
Fish and fish preparation	1,524	1,575	1,480	1,649	11.4
Raw materials	5,590	4,853	4,012	4,725	17.8
Mineral fuels	27,692	18,218	12,052	15,840	31.4
Petroleum, crude and partially refined	13,873	8,185	5,532	7,155	29.3
Chemicals	6,864	7,748	7,111	7,567	6.4
Medical and pharmaceutical products	2,214	2,924	2,780	2,645	-4.9
Manufactured goods ¹⁾	6,994	7,039	6,068	6,849	12.9
General machinery	6,761	7,068	6,357	7,214	13.5
Computers and units	2,122	1,973	1,724	1,966	14.0
Electrical machinery	11,532	12,014	10,792	12,048	11.6
Communication equipment.....	2,865	2,933	2,722	3,109	14.2
Transport equipment	3,056	3,126	3,094	3,170	2.5
Others	10,688	11,336	10,193	10,949	7.4
Clothing and clothing accessories	3,260	3,415	2,998	3,109	3.7

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

Source: Ministry of Finance.

Figure 11.3
Japan's Major Export and Import Commodities (2017)



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 Exports and Imports by Country/Region

(Billion yen)

Year	Total	Asia	China	Korea, Rep. of	Taiwan	U.S.A.	EU 28 ¹⁾	Middle East	Oceania
Exports from Japan									
2013	69,774	37,867	12,625	5,512	4,061	12,928	7,000	2,478	2,029
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
Imports to Japan									
2013	81,243	35,972	17,660	3,493	2,315	6,815	7,649	15,667	5,376
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

1) EU member countries were 27 countries, before July 2013.

Source: Ministry of Finance.

(A) Trade with Asia

Japan's 2017 trade balance with Asia resulted in a 5.9 trillion yen in surplus, an increase for the third consecutive year (up 50.8 percent from the previous year). Exports (in FOB value) totaled 42.9 trillion yen (up 15.7 percent), an increase for the first time in two years; this was mainly due to the contributions for the increase in electrical machinery and general machinery. Imports (in CIF value) amounted to 37.0 trillion yen (up 11.5 percent), an increase for the first time in three years; this was mainly attributed to the increase in electrical machinery.

In 2017, Japan's trade with China amounted to 14.9 trillion yen in exports and 18.5 trillion yen in imports. The percentage of the total amount of Japan's imports and exports that is accounted for by imports and exports between Japan and China is approximately 20 percent, signifying that China is Japan's largest trading counterpart.

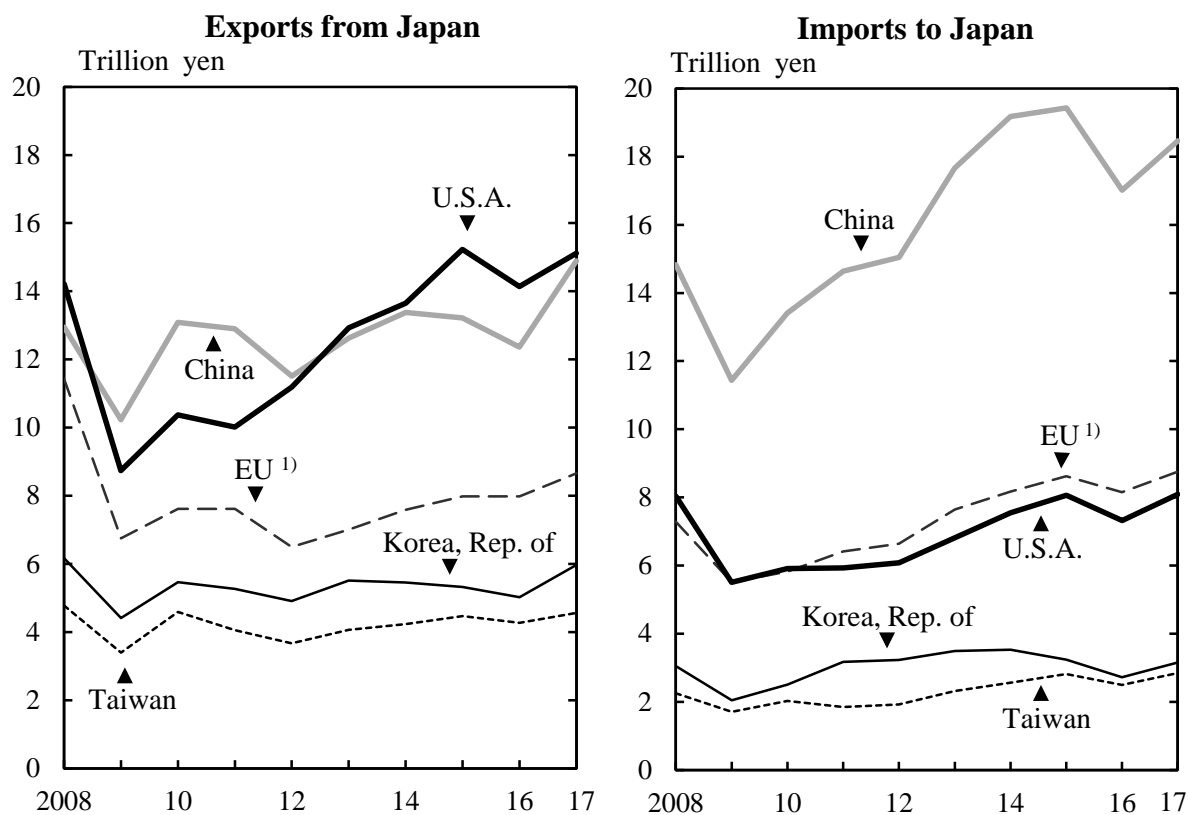
(B) Trade with U.S.A.

Japan's 2017 trade balance with the U.S.A. showed a surplus of 7.0 trillion yen (up 3.0 percent from the previous year), an increase for the first time in two years. The U.S.A. has been the biggest export counterpart for Japan for five consecutive years. Exports (in FOB value) totaled 15.1 trillion yen (up 6.9 percent), an increase for the first time in two years. The growth was due mainly to the contributions of transport equipment and general machinery. Imports (in CIF value) totaled 8.1 trillion yen (up 10.5 percent), an increase for the first time in two years. The growth was due mainly to the contributions of general machinery and mineral fuels.

(C) Trade with EU

In 2017, Japan's exports (in FOB value) to the EU (28 countries) increased by 8.5 percent year-on-year, to 8.7 trillion yen. Commodities such as transport equipment and general machinery contributed to the growth in exports. Imports (in CIF value) from the EU (28 countries) totaled 8.8 trillion yen, up 7.4 percent from the previous year. Commodities such as transport equipment and foodstuffs contributed to the growth in imports. Japan's trade balance with the EU (28 countries) registered a deficit of 100.0 billion yen.

Figure 11.4
Trends in Japan's Trade 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

Breaking down the current account in 2017, goods and services fell by 1.5 trillion yen from the previous year to 4.2 trillion yen. This trade surplus was for the second consecutive year. Primary income amounted to 19.7 trillion yen, which was a 9.1 percent increase from the previous year, indicating an increase in its surplus. As a result, the current account totaled 21.9 trillion yen, and its surplus bulged for the third consecutive year.

Breaking down the financial account in 2017, there was an increase in net assets for direct investment as compared to the previous year. However, since there was a decrease in net assets for portfolio investment as compared to the previous year, the financial account amounted to 17.1 trillion yen.

Table 11.4
International Balance of Payments

	(Billion yen)			
Item	2014	2015	2016	2017
Current account	3,921.5	16,235.1	20,342.1	21,874.2
Goods and services	-13,498.8	-2,816.9	4,377.1	4,224.6
Goods	-10,465.3	-886.2	5,525.1	4,930.8
Exports	74,074.7	75,274.2	68,979.7	77,195.5
Imports	84,540.0	76,160.4	63,454.6	72,264.7
Services	-3,033.5	-1,930.7	-1,148.0	-706.1
Primary income	19,414.8	21,018.9	18,101.1	19,739.7
Secondary income	-1,994.5	-1,966.9	-2,136.1	-2,090.2
Capital account	-208.9	-271.4	-743.3	-287.2
Financial account ¹⁾	6,278.2	21,592.0	28,698.5	17,107.7
Direct investment	12,587.7	15,847.6	14,562.4	16,429.0
Portfolio investment	-4,833.0	16,029.4	30,354.3	-6,071.2
Financial derivatives (other than reserves) ..	3,764.4	2,143.9	-1,723.5	3,447.3
Other investment	-6,130.6	-13,053.9	-13,916.6	650.9
Reserve assets	889.8	625.1	-578.0	2,651.8
Net errors and omissions	2,565.6	5,628.3	9,099.7	-4,479.3

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

Source: Ministry of Finance.

Japan's external assets (the balance of overseas assets held by residents in Japan) as of the end of 2017 amounted to 1,012.4 trillion yen, while its external liabilities (assets held in Japan by nonresidents) were 684.0 trillion yen. As a result, Japan's net external assets (external assets minus external liabilities) were 328.4 trillion yen.

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

(Billion yen)					
Item	2013	2014	2015	2016	2017
Assets	797,686	942,381	949,919	986,289	1,012,431
Liabilities	471,955	578,971	610,702	649,982	683,984
Net assets	325,732	363,409	339,217	336,306	328,447

1) End of year.

Source: Ministry of Finance.

Japan's foreign reserve assets remained at around 220 billion U.S. dollars during the period from 1996 to 1998. Beginning in 1999, foreign reserve assets increased continuously. At the end of 2012, however, they began to decrease, falling to 1,268.1 billion U.S. dollars (down 2.1 percent year-on-year). However, at the end of 2017, they were amounted to 1,264.3 billion U.S. dollars (up 3.9 percent), marking an increase for the first time in six years.

Table 11.6
Reserve Assets

(Million U.S. dollars)						
End of year	Total	Foreign currency ¹⁾	Reserve position in IMF	SDRs	Gold ²⁾	Other reserve assets ³⁾
2013	1,266,815	1,202,443	14,202	20,129	29,560	481
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

1) Including securities in market value. 2) Market value. 3) Including Asian Bond Fund.

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 to put an end to deflation. Based on this, the exchange rate shifted towards yen depreciation. Afterwards, after continuing to hold steady, there was a trend towards somewhat of a yen appreciation. As of April 2018, the exchange rate was 109.4 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 nonprofit agencies, assistance activities by NGOs and volunteer citizen groups, etc. In addition, there are various forms of ODA, 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	2012	2013	2014	2015	2016
Total value	48,977	58,459	40,718	37,908	40,152
Official flows	15,997	12,867	8,584	8,148	8,655
Official Development Assistance (ODA)	10,605	11,582	9,483	9,203	10,417
Bilateral official development assistance ²⁾	6,402	8,611	6,129	6,166	7,048
Grants ²⁾	6,759	9,836	5,197	5,010	5,583
Grants-in-aid ²⁾	3,117	7,032	2,567	2,641	2,807
Technical cooperation	3,641	2,804	2,630	2,369	2,776
Loans, etc.	-356	-1,224	932	1,156	1,466
Contributions to multilateral institutions ³⁾	4,202	2,970	3,355	3,037	3,368
Other Official Flows (OOF)	5,393	1,286	-899	-1,055	-1,762
Official export credits (over one year)	-623	-441	-56	-66	599
Direct investment finance, etc.	6,829	1,946	-843	-990	-2,361
Concessional lending to multilateral institutions	-813	-219	-	-	-
Private Flows (PF)	32,494	45,133	31,667	29,262	30,814
Private export credits (over one year)	-3,951	3,271	-736	2,694	1,358
Direct investment	31,215	38,715	27,329	25,800	29,588
Bilateral investment in securities, etc.	6,470	4,859	6,254	576	354
Concessional lending to multilateral institutions	-1,241	-1,712	-1,180	193	-484
Grants by private nonprofit agencies	487	458	467	498	683
ODA as percentage of GNI (%)	0.17	0.22	0.20	0.21	0.20
ODA as percentage of GNI (DAC average) (%)	0.29	0.30	0.30	0.30	0.32

1) Net disbursement at current prices. Negative figures (-) indicate that loan repayments, etc., exceeded the disbursed amount. 2) Including bilateral grants through multilateral institutions. 3) Expenditures clearly addressing a country at the point of disbursement are considered as bilateral ODA.

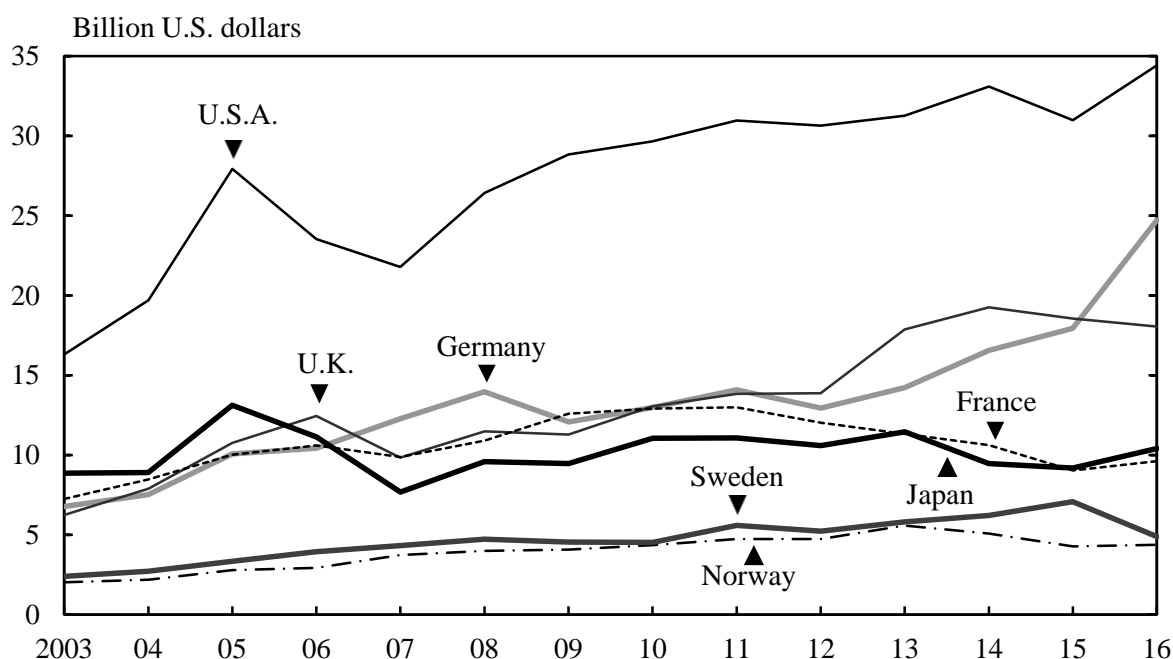
Source: Ministry of Foreign Affairs; Ministry of Finance; OECD.

In the ODA framework, Japan's spending (on the basis of net disbursement at current prices) in 2016 increased by 13.2 percent over the previous year to 10.4 billion U.S. dollars. Japan has contributed to the growth of developing countries as the world's number-one ODA donor for ten consecutive years up until 2000. Recently, Japan's ODA budget has been declining because of the country's severe economic and financial situation.

In the 2016 comparison of the ODA provided 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 0.20

percent, which is at the same level as compared with that of the previous year.

Figure 11.6
Trends in ODA by Country ¹⁾



1) Net disbursement at current prices.
Source: OECD.

Of the 10.4 billion U.S. dollars in ODA provided by Japan in 2016, 7.0 billion was bilateral ODA (up 14.3 percent year-on-year), and 3.4 billion was ODA contributed through multilateral institutions (up 10.9 percent).

Bilateral ODA (net disbursement at current prices, including assistance to graduated countries) provided in 2016 consisted of 2.8 billion U.S. dollars in grants-in-aid, 2.8 billion in technical cooperation, and 1.5 billion in loans, etc.

By region, bilateral ODA (net disbursement at current prices, including assistance to graduated countries) was distributed as follows: Asia, 1,788 million U.S. dollars; Sub-Saharan Africa, 1,389 million U.S. dollars; Middle East and North Africa, 1,288 million U.S. dollars; Europe, 336 million U.S. dollars; Oceania, 163 million U.S. dollars; and Latin America and the Caribbean, 82 million U.S. dollars.

Table 11.8

Regional Distribution of Bilateral ODA ¹⁾

(Million U.S. dollars)

Region	1990	2000	2010	2015	2016
Total	6,940	9,640	7,428	6,116	7,012
Asia	4,117	5,284	2,529	1,626	1,788
ASEAN ²⁾	2,299	# 3,126	902	570	469
Middle East and North Africa	666	727	1,592	864	1,288
Sub-Saharan Africa	831	970	1,733	1,789	1,389
Latin America and the Caribbean ..	561	800	-344	-17	82
Oceania	114	151	176	112	163
Europe	158	118	181	48	336
Multiple regions, etc.	494	1,592	1,562	1,694	1,966

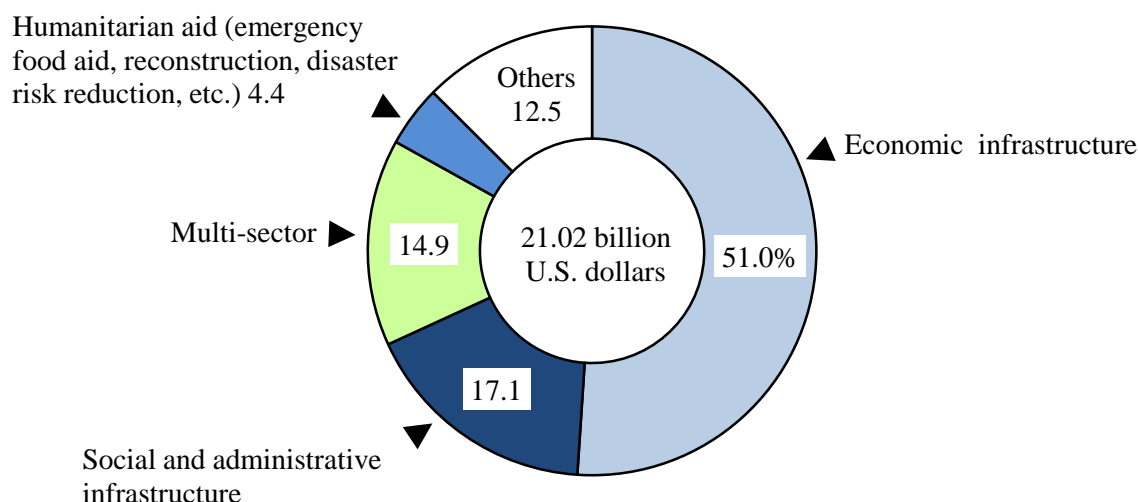
1) Net disbursement at current prices. Including assistance to graduated countries. Negative figures (-) indicate that loan repayments, etc., exceeded the disbursed amount. 2) The data in 1990: 6 countries, the data from 2000: 10 countries.

Source: Ministry of Foreign Affairs.

Bilateral ODA in 2016 (including assistance to graduated countries) was broken down by purpose (on a commitment basis) as follows: 51.0 percent for improving economic infrastructure, followed in descending order by social and administrative infrastructure (including education, water supply and sanitation), with 17.1 percent.

Figure 11.7

Distribution of Bilateral ODA by Sector ¹⁾ (2016)



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, both vital to the growth of a developing country, through its ODA activities.

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

Type of cooperation	FY2010	FY2013	FY2014	FY2015	FY2016
Total	41,212	42,632	43,660	46,771	39,327
Trainees received	23,978	22,240	24,101	25,203	17,613
Dispatched					
Experts	8,296	10,359	9,889	11,134	10,284
Research team	7,046	8,615	8,056	8,914	9,955
Japan Overseas					
Cooperation Volunteers	1,459	1,081	1,267	1,198	1,132
Other volunteers	433	337	347	322	343

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 and over peaked at 111.17 million people in 2011, it has been broadly flat since 2012. In 2017, this population reached 111.08 million people.

The labour force (among the population aged 15 years and over, the total of persons who are employed and persons who are unemployed) was decreasing in the 2000s in association with aging of the population, but shifted to an increase in 2013. The labour force numbered 67.2 million people in Japan in 2017, up 470,000 (0.7 percent) for the fifth consecutive year of increase.

The 2017 labour force participation rate (rate of the labour force to the population aged 15 years and over) was 60.5 percent (up 0.5 percentage points from the previous year). Observed by gender, the rate was 70.5 percent for men (up 0.1 percentage points) and 51.1 percent for women (up 0.8 percentage points).

Table 12.1
Population by Labour Force Status

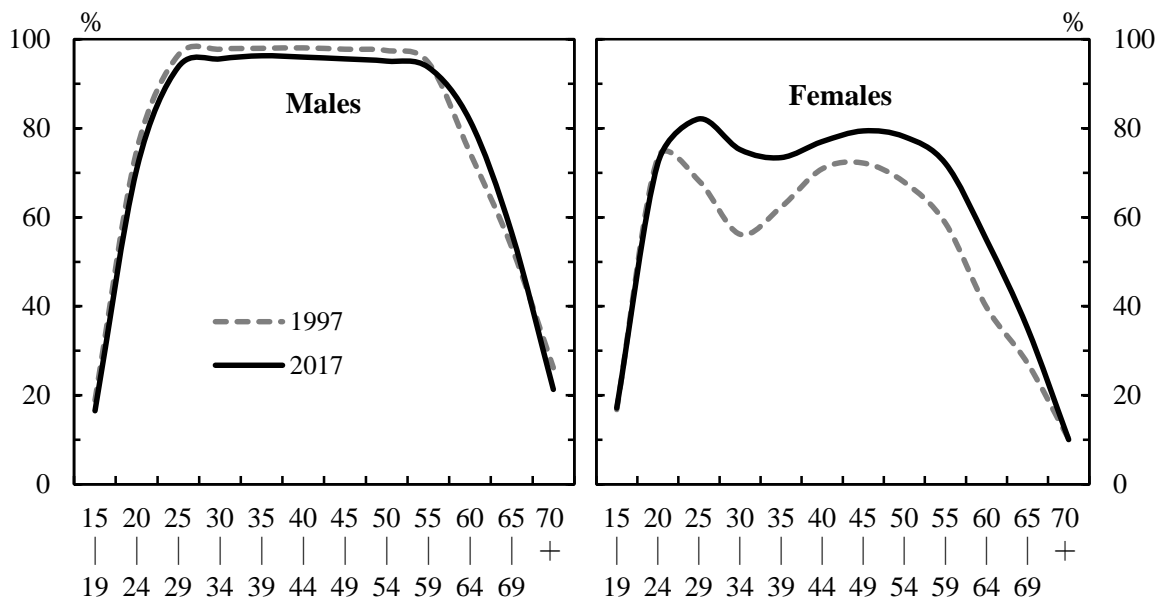
Year	Population aged 15 years and over	Labour force			Not in labour force	Unemploy- ment rate (%)
		Total	Employed	Unemployed		
Total						
2005	110,080	66,510	63,560	2,940	43,460	4.4
2010	111,110	66,320	62,980	3,340	44,730	5.1
2013	111,070	65,930	63,260	2,650	45,100	4.0
2014	111,090	66,090	63,710	2,360	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
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
2013	53,620	37,830	36,200	1,630	15,760	4.3
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
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
2013	57,460	28,090	27,070	1,030	29,340	3.7
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

Source: Statistics Bureau, MIC.

The female labour force participation rate by age group is in an M-shaped curve, which indicates that women leave the labour force when they get married or give birth and then rejoin the labour force after their child has grown and the burden of child-rearing is reduced. However, the shape of the M-shaped curve has changed in recent years. A comparison with the data from twenty years ago (1997) shows that, in 2017, 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 19.0 percentage points in the 30-34 age group and by 11.1 percentage points in the 35-39 age group, resulting in the bottom of the M-shaped curve becoming flatter and more gradual. Although this is thought to be greatly affected by the progression of enhancement of the legal system with respect to establishing both work and child-rearing, and development of a work environment such as at 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



Source: Statistics Bureau, MIC.

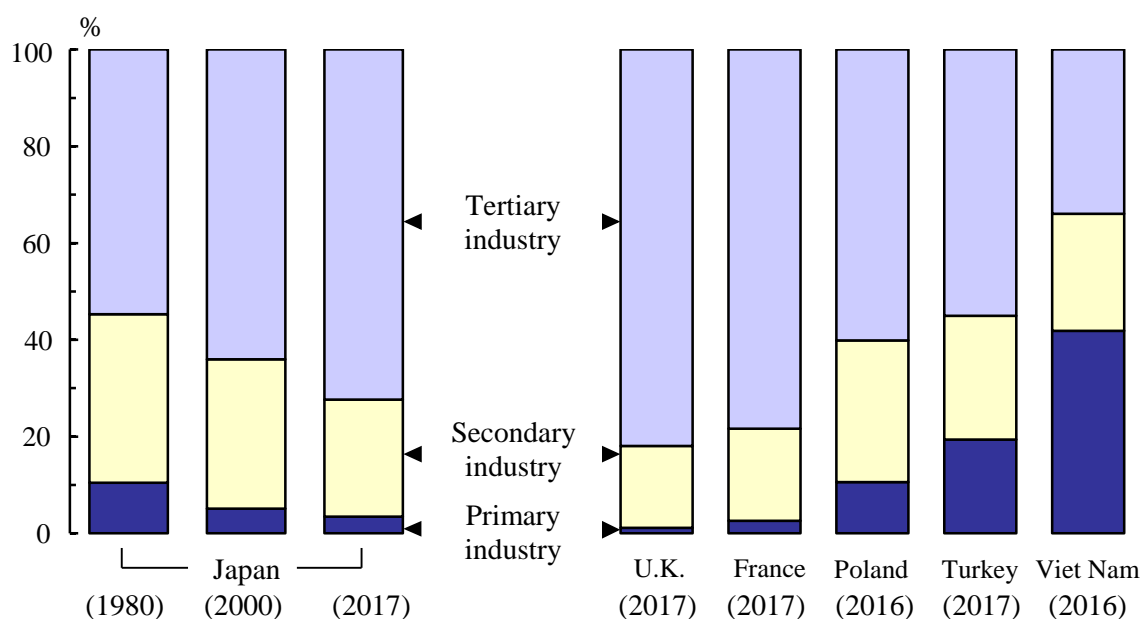
2. Employment

The number of employed persons continued to decline continuously since 1998, but began to rise in 2004 and continued rising for four years in a row. Although a downward trend set in once again in 2008, the number of employed persons increased again starting in 2013, which led to an increase of 650,000 in 2017, from 64.65 million (58.2 percent of the population aged 15 years and over) in the previous year to 65.3 million (58.8 percent).

(1) Employment by Industry

In 2017, the primary industry accounted for 3.4 percent of employment; the secondary industry, 24.2 percent; and the tertiary industry, 72.4 percent.

Figure 12.2
Structure of Employment by Country



Source: Statistics Bureau, MIC; International Labour Organization.

Over the long term, the percentage of people employed in the primary industry and in the secondary industry have been continually falling, while the percentage of people employed in the tertiary industry has been continually rising. The tertiary industry accounts for 70 percent of all industries. By industry, the number of persons employed in the primary industries of "agriculture and forestry" and in the secondary industry of "manufacturing" have been on a downward trend. On the other hand, the number of persons employed in the tertiary industries of "medical, health care and welfare" has been increasing.

Depending on the industrial sector, a difference was seen in the employment tendency between men and women. In 2017, of male employment was highest in "electricity, gas, heat supply and water" (86.2 percent), followed by "construction" (84.7 percent) and "transport and postal activities" (80.2 percent). The percentage of female employment was highest in "medical, health care and welfare" (75.2 percent), followed

by "accommodations, eating and drinking services" (61.4 percent) and "living-related and personal services and amusement services" (59.0 percent).

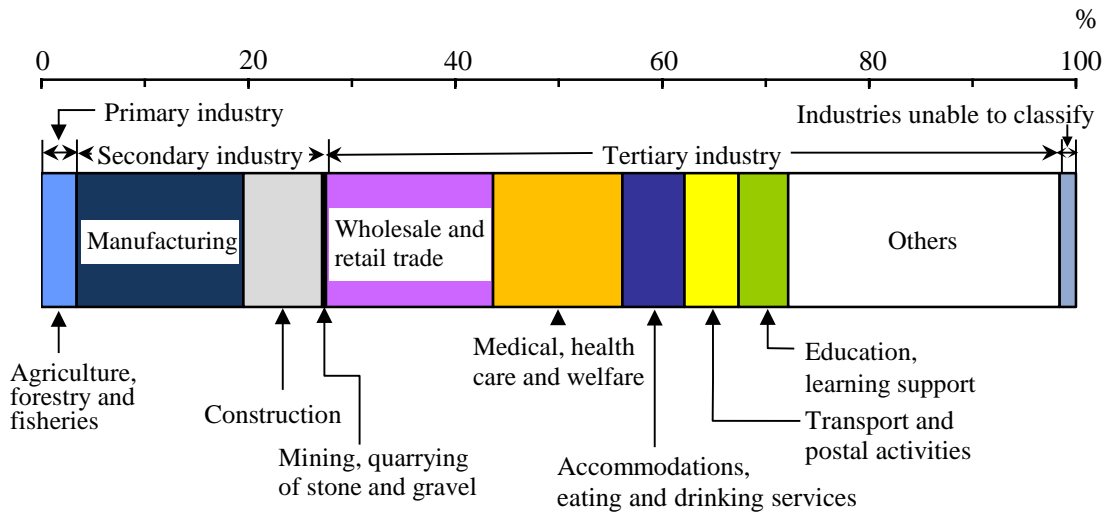
Table 12.2
Employment by Industry

Industries	2014	2015	2016	2017	(Thousands)	
					Percentage	
					Males	Females
Total ¹⁾	63,710	64,010	64,650	65,300	56.2	43.8
Primary industry	2,310	2,290	2,230	2,210	62.0	38.0
Agriculture and forestry	2,100	2,090	2,030	2,010	60.7	39.3
Fisheries	210	200	200	200	75.0	25.0
Secondary industry	15,530	15,440	15,430	15,530	74.7	25.3
Mining and quarrying of stone and gravel	30	30	30	30	100.0	0.0
Construction	5,070	5,020	4,950	4,980	84.7	15.3
Manufacturing	10,430	10,390	10,450	10,520	69.8	30.2
Tertiary industry	44,880	45,270	46,000	46,490	49.9	50.1
Electricity, gas, heat supply and water	290	290	300	290	86.2	13.8
Information and communications ..	2,040	2,090	2,080	2,130	73.7	26.3
Transport and postal activities	3,370	3,360	3,390	3,400	80.2	19.8
Wholesale and retail trade	10,620	10,580	10,630	10,750	48.7	51.3
Finance and insurance	1,550	1,540	1,630	1,680	44.9	55.1
Real estate and goods rental and leasing	1,130	1,210	1,240	1,250	60.8	39.2
Scientific research, professional and technical services	2,120	2,150	2,210	2,300	65.7	34.3
Accommodations, eating and drinking services	3,860	3,840	3,910	3,910	38.6	61.4
Living-related and personal services and amusement services	2,380	2,300	2,340	2,340	41.0	59.0
Education, learning support	3,010	3,040	3,080	3,150	42.5	57.5
Medical, health care and welfare ...	7,600	7,880	8,110	8,140	24.8	75.2
Compound services	570	590	620	570	61.4	38.6
Services, n.e.c.	3,990	4,090	4,150	4,290	59.7	40.3
Government ²⁾	2,350	2,310	2,310	2,290	72.9	27.1

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

Source: Statistics Bureau, MIC.

Figure 12.3
Distribution of Employment by Industry (2017)



Source: Statistics Bureau, MIC.

(2) Employment by Occupation

In terms of occupation, employment in the "administrative and managerial workers" and "agricultural, forestry and fishery workers" categories has been declining. 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 to welfare services. There is also a rising trend in the number of "professional and engineering workers", which accounted for approximately 17.0 percent of the total employed persons in 2017.

Table 12.3
Employment by Occupation

Occupation	(Thousands)					
	2014	2015	2016	2017	Percentage	
					Males	Females
Total ¹⁾	63,710	64,010	64,650	65,300	56.2	43.8
Administrative and managerial workers	1,420	1,450	1,470	1,440	86.8	13.2
Professional and engineering workers.....	10,280	10,590	10,850	11,110	52.7	47.3
Clerical workers.....	12,480	12,620	12,820	12,950	39.7	60.3
Sales workers	8,570	8,560	8,550	8,620	56.1	43.9
Service workers.....	7,900	7,890	8,050	8,080	32.5	67.5
Security workers	1,270	1,260	1,270	1,240	93.5	6.5
Agricultural, forestry and fishery workers ...	2,250	2,230	2,170	2,170	64.5	35.5
Manufacturing process workers	9,040	8,870	8,800	8,890	70.7	29.3
Transport and machine operation workers ...	2,230	2,180	2,180	2,190	97.7	2.3
Construction and mining workers	3,050	2,990	2,990	3,020	98.0	2.0
Carrying, cleaning, packaging, and related workers.....	4,330	4,470	4,580	4,640	54.7	45.3

1) Including figures unclassifiable or not reported.

Source: Statistics Bureau, MIC.

In 2017, the percentages of male and female employed persons by occupation show that men were particularly prominent among "construction and mining workers" (98.0 percent) and "transport and machine operation workers" (97.7 percent). Women were prominent among "service workers" (67.5 percent) and "clerical workers" (60.3 percent).

(3) Employment by Employment Pattern

When looking at 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 eighth consecutive year since 2010. The number of regular staff members has been on a slight declining trend since the early 2000s, but began to rise in 2015 and continued rising for three years in a row.

In 2017, there were 54.6 million employees (excluding company executives), of whom 20.36 million, or 37.3 percent, were non-regular staff members. The ratio of non-regular staff members among all male employees was 21.9 percent, while the corresponding ratio for females was

55.5 percent, revealing a large difference between the genders.

When looking at 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, and the elderly aged 65 or older 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.

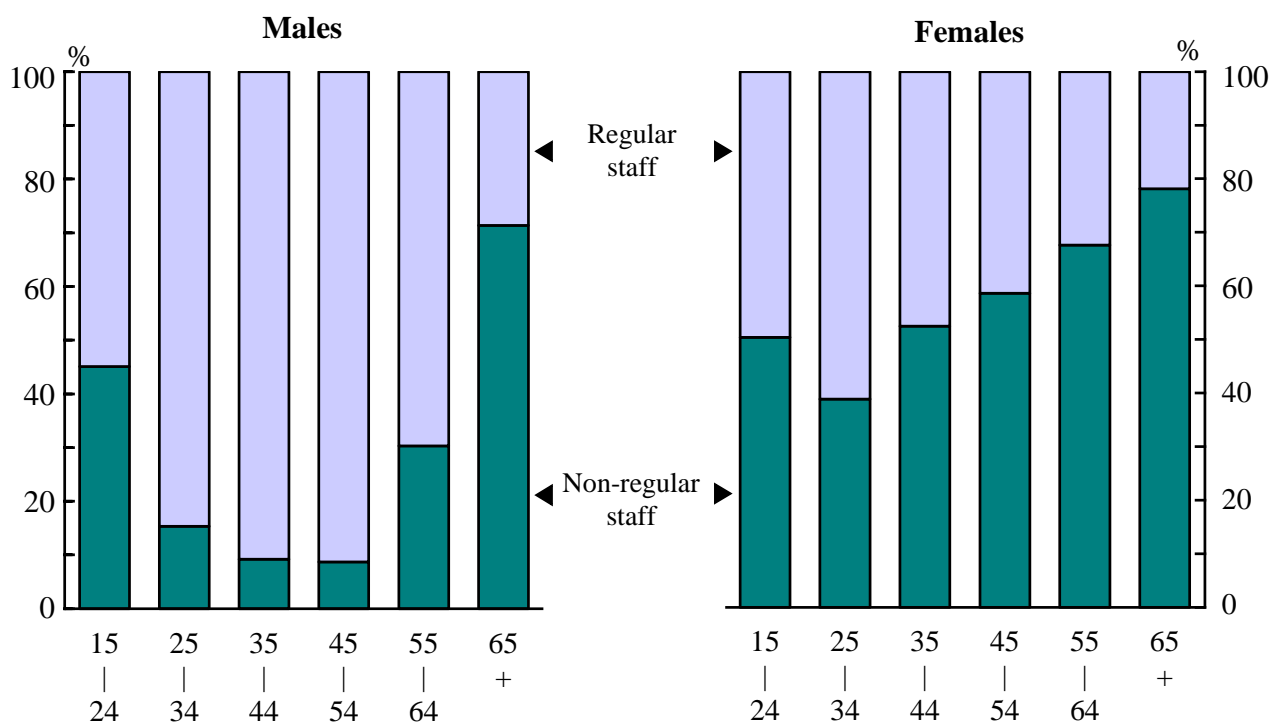
Table 12.4
Employment by Employment Pattern (2017)

	Employees ¹⁾	Regular staff		Non-regular staff	
		Percentage	Percentage	Percentage	Percentage
Total	54,600	34,230	62.7	20,360	37.3
Males	29,570	23,100	78.1	6,470	21.9
Females	25,030	11,140	44.5	13,890	55.5

1) Excluding company executives.

Source: Statistics Bureau, MIC.

Figure 12.4
Employment Pattern by Gender and Age (2017)



Source: Statistics Bureau, MIC.

When looking at 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 2017, with 1.57 million males (26.6 percent) choosing this reason, representing an increase by 80,000 people as compared to the previous year. The most popular reason among females was also "For working at convenient times", with 3.83 million females (29.1 percent) choosing this reason, representing an increase by 160,000 people.

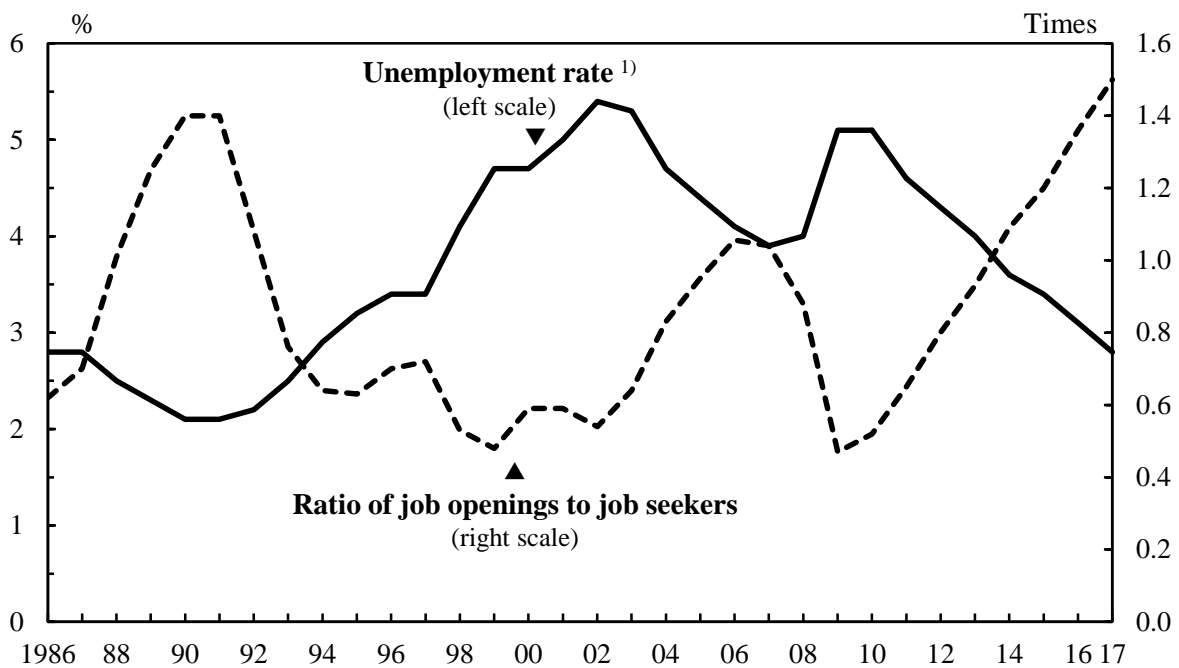
The employment rate of new graduates had been worsening as a result of the economic slowdown since 2008, but in recent years, their employment situation has been improving continuously.

3. Unemployment

In 2017 the unemployed numbered 1.9 million people, down 8.7 percent from the previous year and representing a decline for the eighth consecutive year. The unemployment rate was 2.8 percent, down 0.3 percentage points from the previous year.

After the ratio of job openings to job seekers peaked in 2006, it has been on a falling trend in recent years. Since 2009, the ratio has been increasing. The ratio of job openings to job seekers was 1.50 times in 2017, up 0.14 points from the previous year.

Figure 12.5
Unemployment Rate and Ratio of Job Openings to Job Seekers



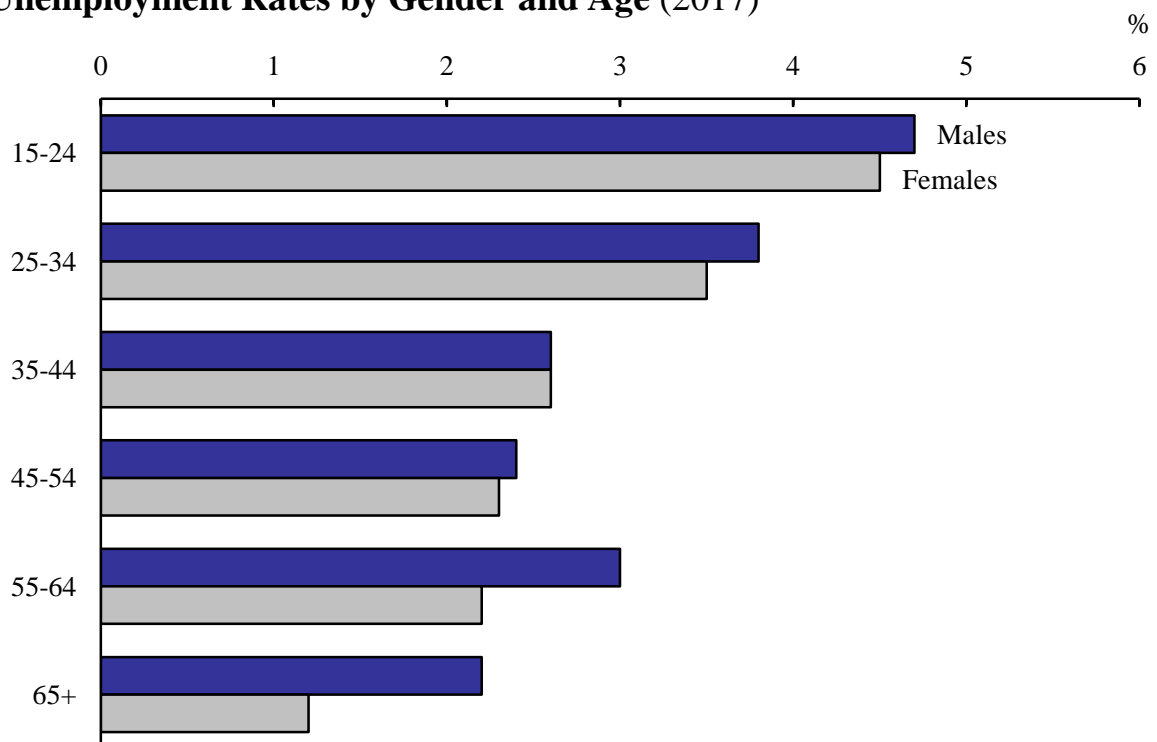
1) The data for 2011 indicates supplementary estimated figure.

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

A breakdown by gender shows that the unemployment rate in 2017 was 3.0 percent among men, and 2.7 percent among women. The unemployment rate has been higher among men for the twentieth consecutive year since 1998.

The unemployment rate was seen as notably higher in younger age groups than in other age groups, in men and women alike.

Figure 12.6
Unemployment Rates by Gender and Age (2017)

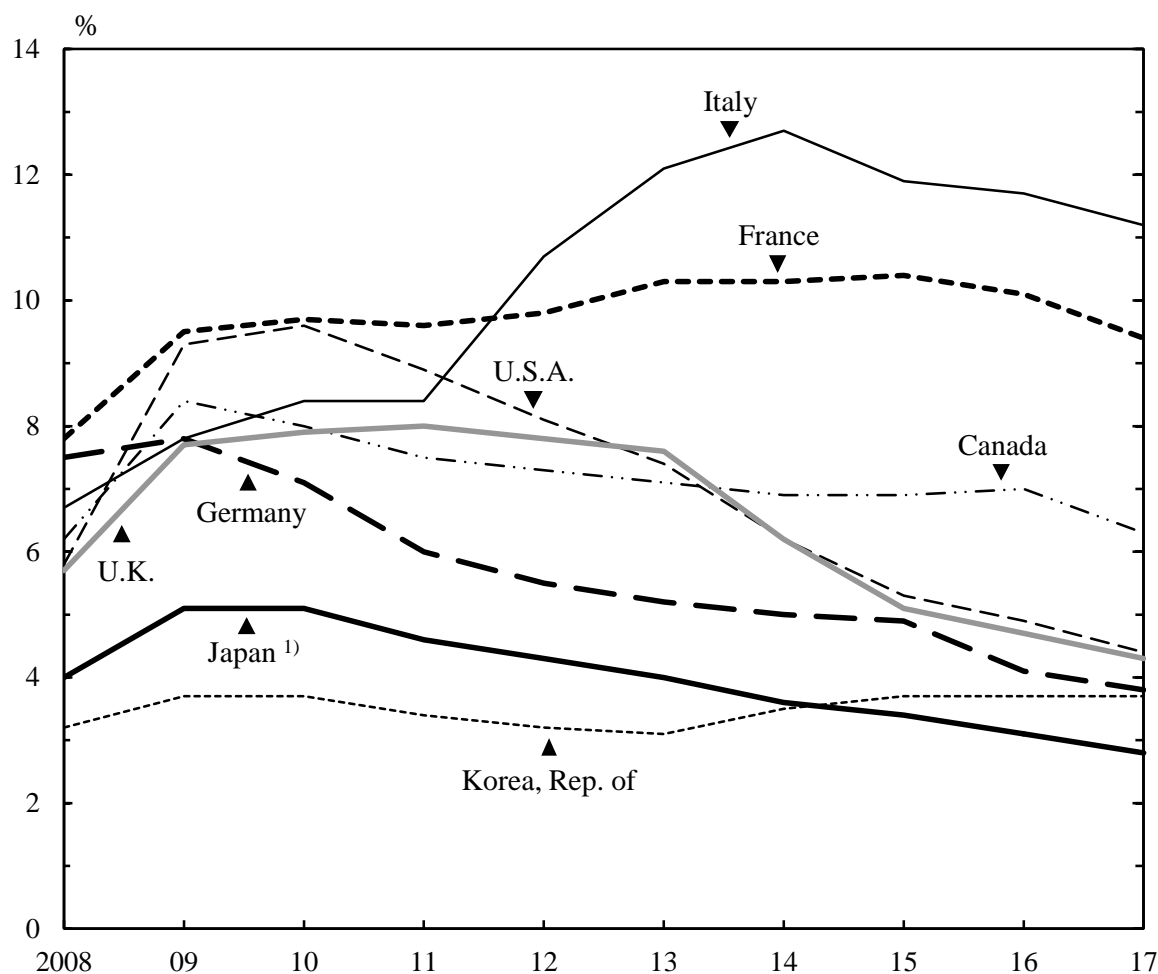


Source: Statistics Bureau, MIC.

Analyzing the total number of unemployed in 2017 (1.90 million people), by reason for job-seeking, the major reasons were: (i) involuntarily dismissed due to corporate or business circumstances, or reaching retirement age limit, 0.50 million persons; (ii) voluntarily left a job for personal or family reasons, 0.82 million persons; (iii) new job seekers due to the necessity to earn income, 0.27 million; and (iv) new job seekers just graduated from school, 0.07 million.

In terms of the duration of unemployment, most were unemployed for "one year or more" (0.67 million persons), followed by "less than three months" (0.64 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 2017, the monthly average of total hours worked was 143.4 per regular employee (in establishments with five or more regular employees), down 0.3 percent from the previous year, and an annual average of 1,721 hours.

Of the total monthly hours worked, 132.5 were scheduled working hours, representing a decrease of 0.4 percent from the previous year. Non-scheduled work such as overtime work averaged 10.9 hours per month, representing an increase of 1.0 percent from the previous year. Working days averaged 18.6 days per month in 2017.

In 2017, the monthly average of total cash earnings per regular employee (in establishments with five or more regular employees) was 316,966 yen. This total amount includes 260,776 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 56,190 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)

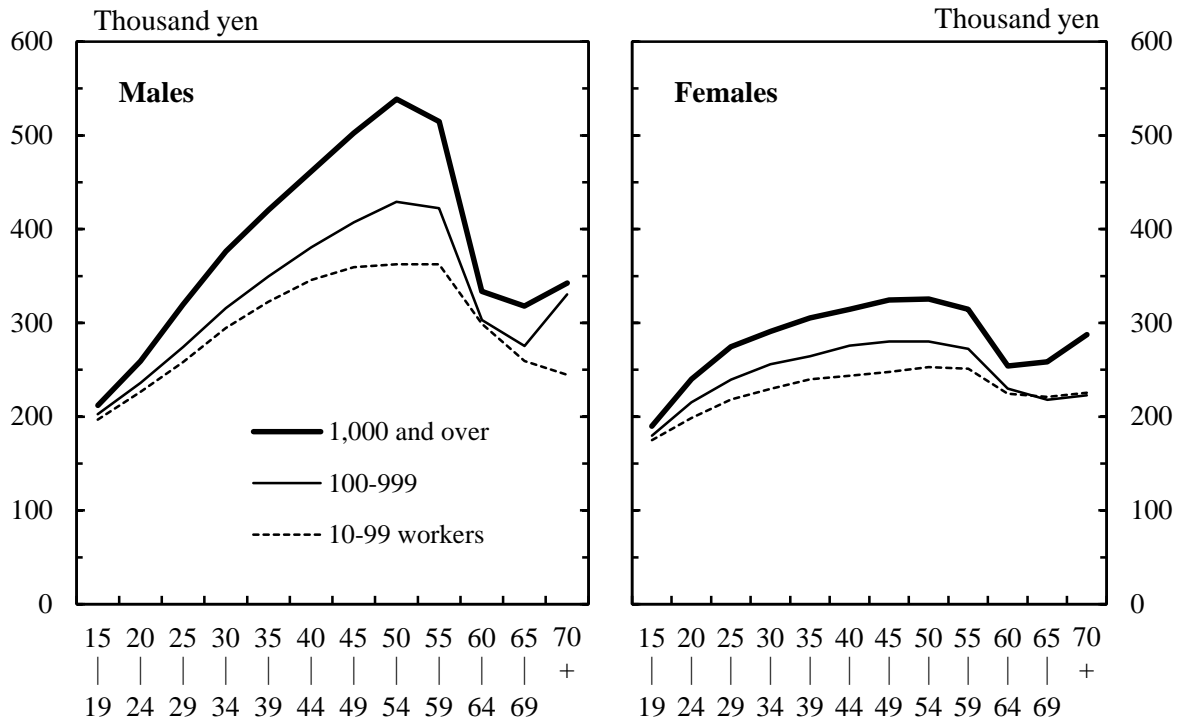
Year	Days worked	Hours Worked			Cash Earnings (1,000 yen)				
		Total	Scheduled	Non-scheduled	Total	Contractual	Scheduled	Non-scheduled	Special ²⁾
2005	19.5	150.2	139.8	10.4	335	273	253	19	62
2010	19.0	146.2	136.2	10.0	317	263	245	18	54
2014	18.8	145.1	134.1	11.0	317	261	241	20	56
2015	18.7	144.5	133.5	11.0	314	259	240	20	55
2016	18.6	143.7	132.9	10.8	316	260	240	19	56
2017	18.6	143.4	132.5	10.9	317	261	241	20	56
Indices (2015 average = 100) ³⁾									
2005	-	104.4	104.9	97.0	105.8	104.2	104.7	-	-
2010	-	101.5	102.2	93.0	101.0	101.4	102.1	-	-
2014	-	100.3	100.4	101.0	100.0	99.8	99.7	-	-
2015	-	100.0	100.0	100.0	100.0	100.0	100.0	-	-
2016	-	99.5	99.6	98.5	100.6	100.2	100.3	-	-
2017	-	99.2	99.2	99.5	101.0	100.6	100.7	-	-

1) Establishments with five or more regular employees. 2) Bonuses and other special allowances. 3) Data was recalculated for sample adjustments.

Source: Ministry of Health, Labour and Welfare.

Generally, the average earnings (scheduled cash earnings) in Japan go up with age until roughly the 40s to mid-50s are reached and then decline. Into the 1990s, an increasing number of enterprises reviewed their salary system, resulting in a more widespread introduction of a merit-based pay system placing emphasis on performance. In recent years, many companies have also adopted wage determination based on job performance skills with consistency.

Figure 12.8
Monthly Contractual Cash Earnings by Size of Enterprise (2017)



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 2017 results of the "Family Income and Expenditure Survey".

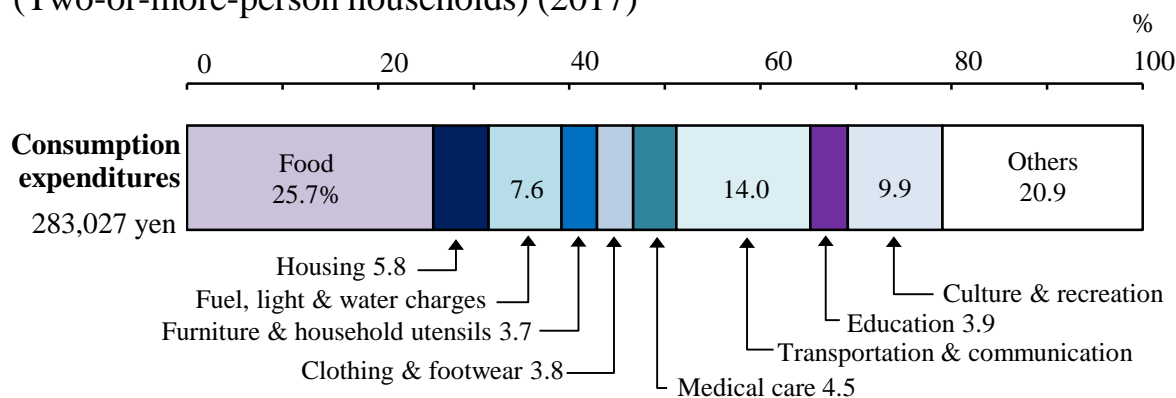
(1) Income and Expenditure

(A) Two-or-more-person Households

The 2017 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 59.6 years) was 283,027 yen. Compared to the previous year, it increased by 0.3 percent in nominal terms and decreased by 0.3 percent in real terms. The share of food expenses to total consumption expenditures (Engel's coefficient) was 25.7 percent.

When looking at the real annual change in consumption expenditures, although the width of decrease in 2017 has shrunk compared to 2016, there was a decrease in real terms for four consecutive years.

Figure 13.1
Average Monthly Consumption Expenditures
 (Two-or-more-person households) (2017)



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 3.35 and the average age of the household head being 49.1 years) was 533,820 yen in 2017, of which about 80 percent came from the household head's income.

Table 13.1**Average Monthly Income and Expenditures (Workers' households ¹⁾)**

	(Thousand yen)				
Item	2013	2014	2015	2016	2017
Income (A)	523.6	519.8	525.7	527.0	533.8
Wages and salaries	486.6	483.3	485.6	487.9	493.8
Others	37.0	36.5	40.1	39.0	40.0
Disposable income (A-C)	426.1	423.5	427.3	428.7	434.4
Expenditures	416.6	415.0	413.8	407.9	412.5
Consumption expenditures (B)	319.2	318.8	315.4	309.6	313.1
Non-consumption expenditures (C) ²⁾	97.5	96.2	98.4	98.3	99.4
Surplus ((A-C)-B)	107.0	104.8	111.9	119.1	121.4
Net increase in deposits and insurance	74.3	77.1	84.4	91.3	97.0
Average propensity to consume (%) ³⁾	74.9	75.3	73.8	72.2	72.1
Ratio of net increase in deposits and insurance (%) ⁴⁾	17.4	18.2	19.8	21.3	22.3
Engel's coefficient (%)	22.1	22.3	23.6	24.2	23.8
Annual change (%) (real terms)					
Disposable income	-0.2	-3.8	-0.1	0.4	0.7
Consumption expenditures	1.2	-3.3	-2.1	-1.7	0.5

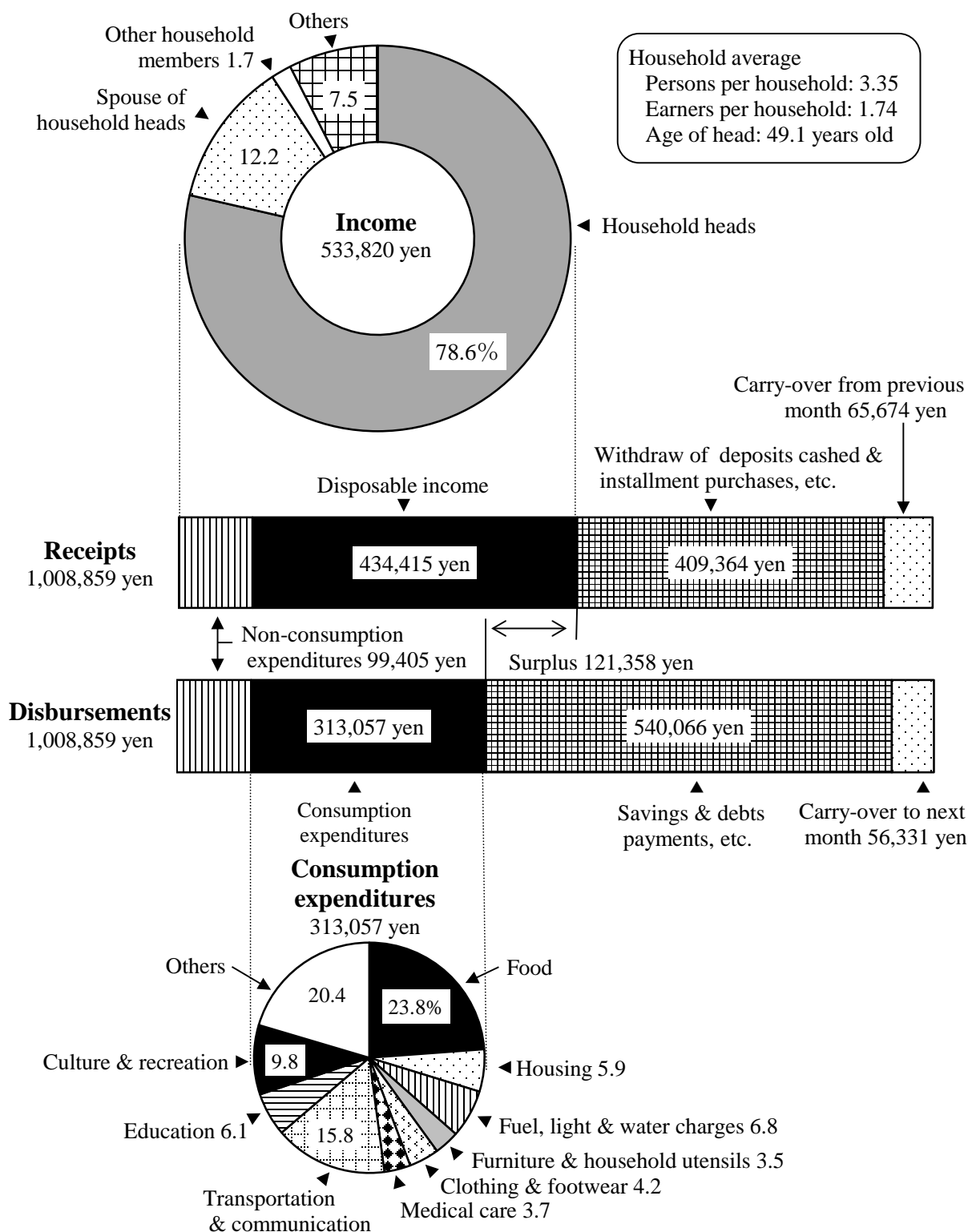
1) Two-or-more-person households. 2) Direct taxes, social insurance contributions, etc.

3) Ratio of consumption expenditures to disposable income. 4) Ratio of net increase in deposits and insurance to disposable income.

Source: Statistics Bureau, MIC.

Disposable income, calculated as income minus non-consumption expenditures such as taxes and social insurance contributions, was 434,415 yen. Of this disposable income, 313,057 yen was used for living expenses (consumption expenditures), such as food and housing expenses, while the remainder (surplus), totaling 121,358 yen, was applied to savings, life insurance premiums and repaying debt such as housing loans.

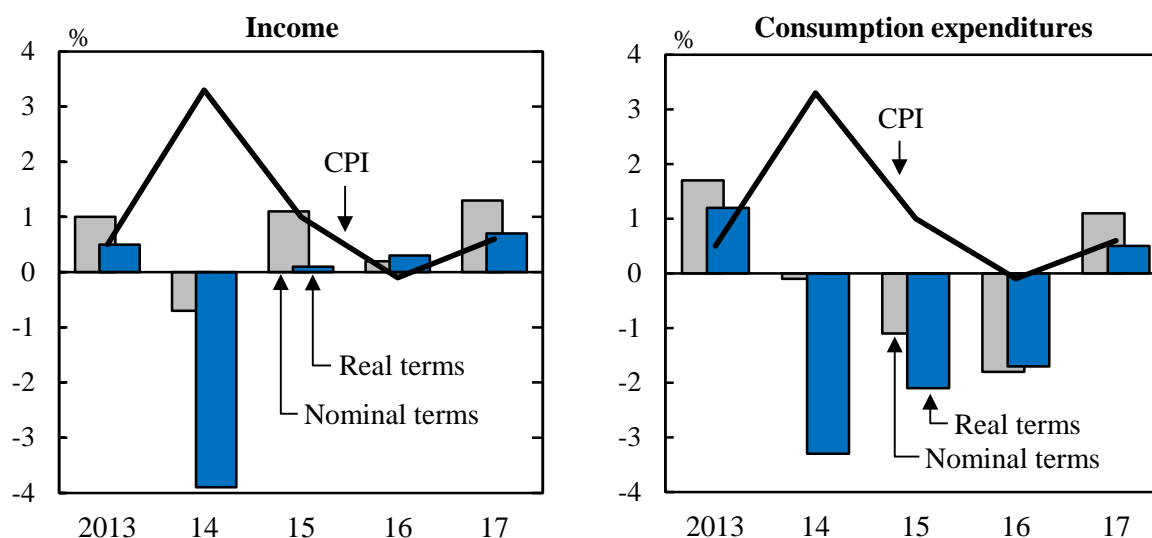
Figure 13.2
Balance of Income and Expenditures
 (Monthly average, workers' households ¹⁾) (2017)



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

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

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

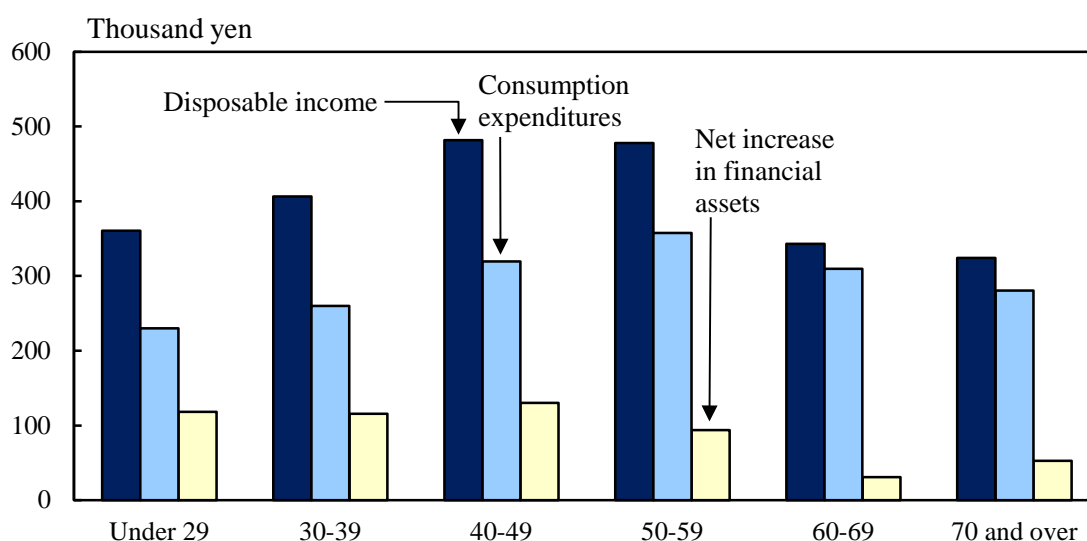


1) Two-or-more-person households.
 Source: Statistics Bureau, MIC.

Family budgets differ among households according to their stages in life. Observed by age group of the household head, the 2017 average monthly disposable income of workers' households was the highest in households in the 40s group (481,684 yen), followed by those in the 50s group (478,119 yen) and the 30s group (406,605 yen).

The 2017 average propensity to consume (the ratio of consumption expenditures to disposable income) was the lowest in households in the under-30 group (63.7 percent). The figure was 63.9 percent for households in the 30s group, 66.4 percent in the 40s group, 74.8 percent in the 50s group, 90.3 percent in the 60s group, and 86.5 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 40s group, followed by those in the 20s group.

Figure 13.4
Average Monthly Family Income and Consumption Expenditures
by Age Group of Household Head (Workers' households ¹⁾) (2017)



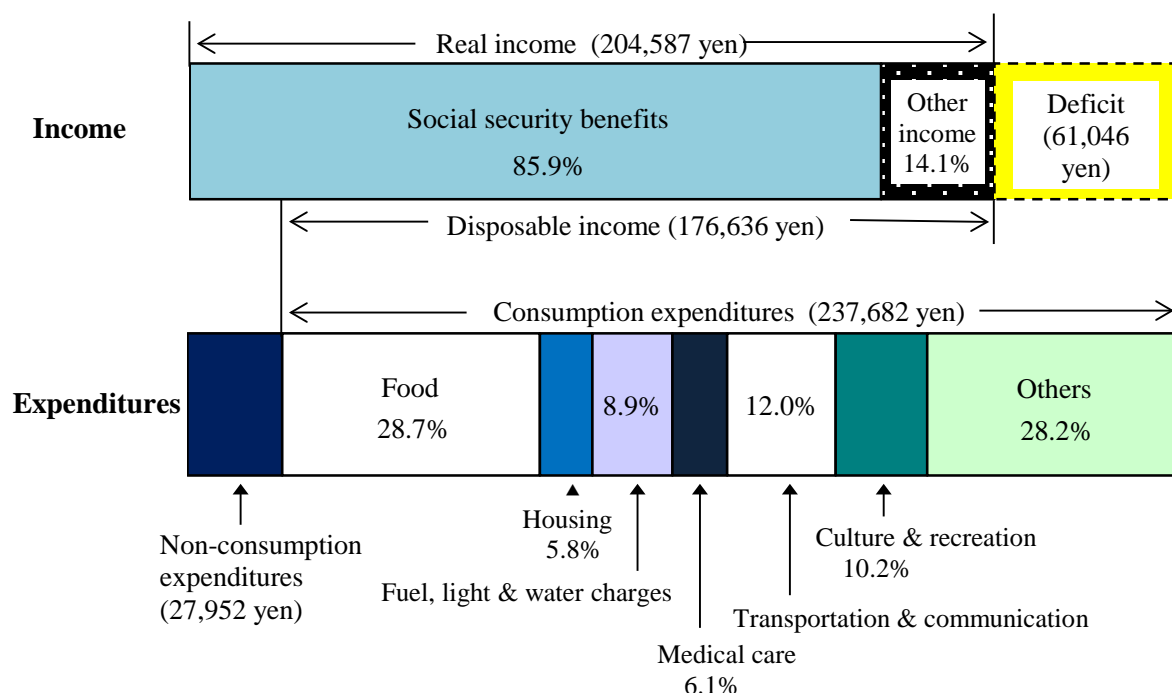
1) Two-or-more-person households.
 Source: Statistics Bureau, MIC.

(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 204,587 yen in 2017. Social security benefits amounted to 175,799 yen, thus accounting for 85.9 percent of income.

Disposable income averaged 176,636 yen, while consumption expenditures averaged 237,682 yen. The average propensity to consume in non-working elderly households was 134.6 percent, which means consumption expenditures exceeded disposable income. The deficit of disposable income to consumption expenditures (61,046 yen) increased from that of the previous year (60,517 yen). This deficit was financed by withdrawing financial assets such as deposits, etc.

Figure 13.5
Average Monthly Income and Expenditures
 (Non-working elderly households ¹⁾) (2017)



1) Two-or-more-person households. 2) The percentage of "Social security benefits" and "Other income" in the income graph is in proportion to the real income. 3) The percentage from "Food" to "Others" in the expenditures graph is in proportion to consumption expenditures.

Source: Statistics Bureau, MIC.

(B) One-person Households

The average monthly consumption expenditures of one-person households in 2017 was 161,623 yen, up 1.7 percent in nominal terms and up 1.1 percent in real terms from the previous year. Compared on an age-group basis to the previous year in real terms, the average monthly consumption expenditures were up 2.8 percent for the under 35-year-old group, up 4.4 percent in the 35-59 age group, and down 1.4 percent in 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 "transportation and communication".

Table 13.2
Average Monthly Consumption Expenditures by Age Group
 (One-person households)(2017)

(Yen)

Item	Average		Under 35 years		35-59		60 and over	
	Actual figures	ratio (%)	Actual figures	ratio (%)	Actual figures	ratio (%)	Actual figures	ratio (%)
Consumption expenditures	161,623	100.0	155,808	100.0	192,311	100.0	148,358	100.0
Food	39,649	24.5	39,510	25.4	45,883	23.9	36,604	24.7
Housing	20,680	12.8	29,811	19.1	25,347	13.2	15,372	10.4
Fuel, light and water charges	11,380	7.0	6,959	4.5	11,191	5.8	12,928	8.7
Furniture and household utensils	5,044	3.1	3,339	2.1	3,845	2.0	6,195	4.2
Clothing and footwear	5,661	3.5	7,712	4.9	6,975	3.6	4,341	2.9
Medical care	7,044	4.4	3,627	2.3	7,046	3.7	8,167	5.5
Transportation and communication	18,825	11.6	22,848	14.7	25,156	13.1	14,370	9.7
Education	7	0.0	0	0.0	25	0.0	0	0.0
Culture and recreation	18,433	11.4	17,155	11.0	21,089	11.0	17,546	11.8
Others	34,900	21.6	24,847	15.9	45,753	23.8	32,834	22.1
Annual change (real terms) (%)								
Consumption expenditures	1.1		2.8		4.4		-1.4	

Source: Statistics Bureau, MIC.

(2) Savings and Debts

Two-or-more-person households in 2017 showed that the average amount of savings per workers' household was 13.27 million yen, resulting in a ratio to yearly income (7.22 million yen) of 183.8 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 7.92 million yen. On the other hand, the average amount of debt per household was 7.94 million yen, which was 110.0 percent relative to yearly income. The median value of households holding liabilities was 13.15 million yen. The portion of household debt accounted for by "housing and/or land" averaged 7.39 million yen. A total of 42.6 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	Ratio of		
					Housing and/or land	debts to yearly income (%)	households holding debts (%)
2013	7,080	12,440	175.7	7,400	6,870	104.5	54.0
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

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⁾) (2017)

(Million yen)

Item	Average	Age Group					
		Under 29	30-39	40-49	50-59	60-69	70 and over
Yearly income	7.22	5.13	6.09	7.65	8.55	6.26	5.80
Savings	13.27	4.01	6.34	10.74	16.41	21.17	21.06
Financial institutions	12.74	3.83	6.07	10.11	15.64	20.82	20.95
Demand deposits	3.71	1.78	2.82	3.38	3.81	5.14	6.01
Time deposits	4.45	1.17	1.66	3.16	5.15	8.64	9.39
Life insurance, etc.	3.14	0.79	1.26	2.52	4.50	4.68	3.10
Securities	1.45	0.09	0.33	1.06	2.18	2.37	2.45
Non-financial institutions	0.52	0.17	0.27	0.64	0.77	0.35	0.12
Debts	7.94	6.23	12.32	10.79	5.98	2.30	0.98
Housing and/or land	7.39	5.87	11.66	10.19	5.33	2.05	0.64
Other than housing and/or land	0.33	0.16	0.45	0.39	0.36	0.10	0.26
Monthly and yearly installments ..	0.21	0.20	0.21	0.21	0.28	0.14	0.08

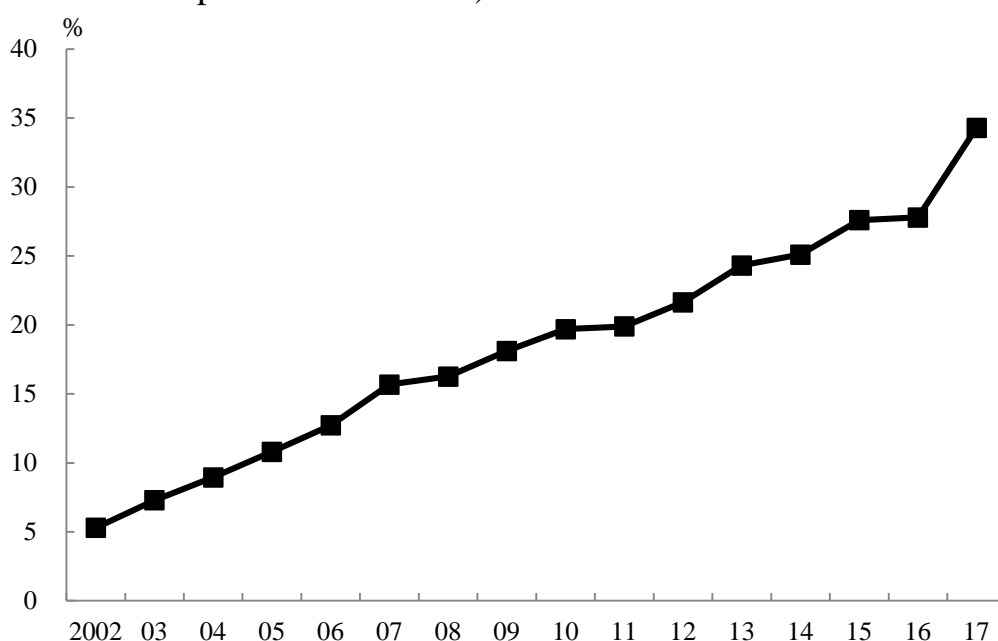
1) Two-or-more-person households.

Source: Statistics Bureau, MIC.

(3) Internet Shopping by Households

Due to popularization of computers, smartphones, etc., the use of Internet shopping has been increasing in recent years. 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 34.3 percent in 2017. Total monthly expenditures used on Internet shopping amounted to an average of 10,586 yen per household.

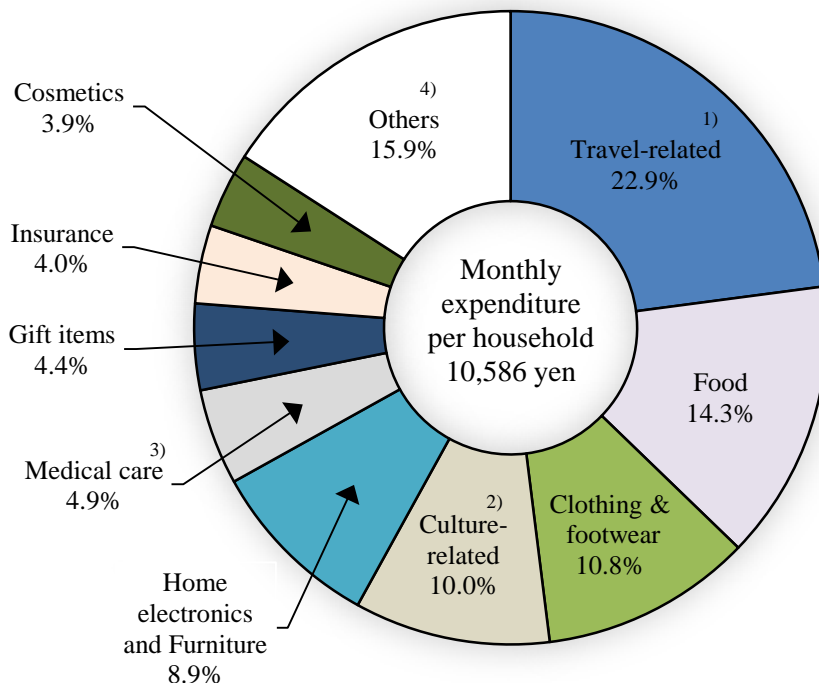
Figure 13.6
Proportion of Households Ordered over the Internet
 (Two-or-more-person households)



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 22.9 percent, followed by "food" at 14.3 percent, "clothing and footwear" at 10.8 percent, "culture-related" (such as books and music software) at 10.0 percent, and "home electronics and furniture" at 8.9 percent.

Figure 13.7
Ratio of Expenditure on Goods and Services Ordered over the Internet
 (Two-or-more-person Households) (2017)



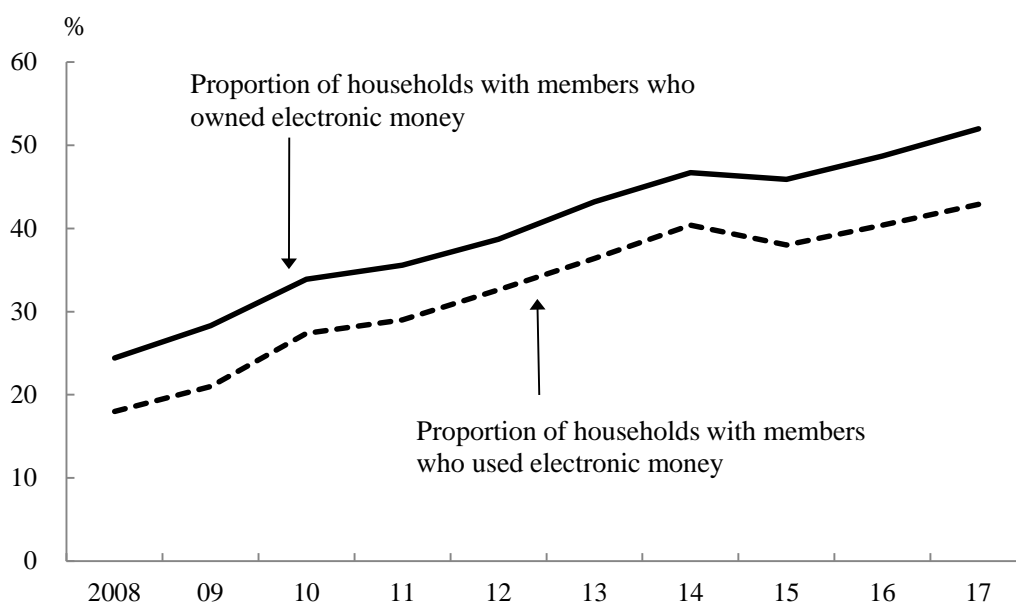
1) Total accommodation services, fares and package tours. 2) Total books and other reading materials, software (music, video, personal computer, TV game), digital books, download music, video, applications and tickets. 3) Total medicines and health foods. 4) Total private transportation, other goods 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 all 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 2017, the percentage of households with electronic money was 52.0 percent, and the percentage of households that have used electronic money was 42.9 percent, indicating increases as compared to the previous year.

Figure 13.8
Trends in Ownership and Utilization of Electronic Money
 (All households)



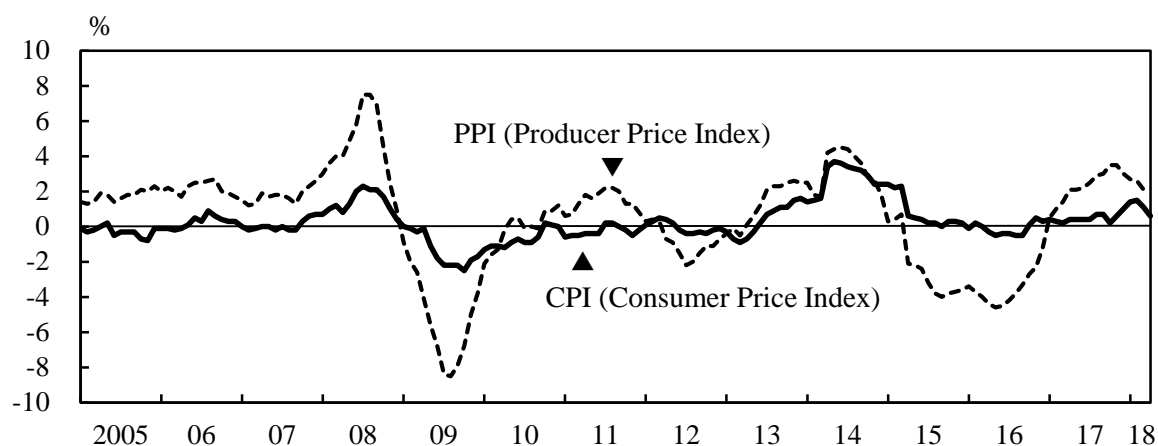
Source: Statistics Bureau, MIC.

2. Prices

Producer prices were on a downward trend starting in 1992, after the collapse of the bubble economy, and then turned upward in 2004. 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 turned downward in the second quarter of 2015, but showed an upward trend since the first quarter of 2017.

On the other hand, the width of the increase in consumer prices also shrank starting in 1992. Although the width of the increase of this index 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 100.4 in 2017, up 0.5 percent from the previous year.

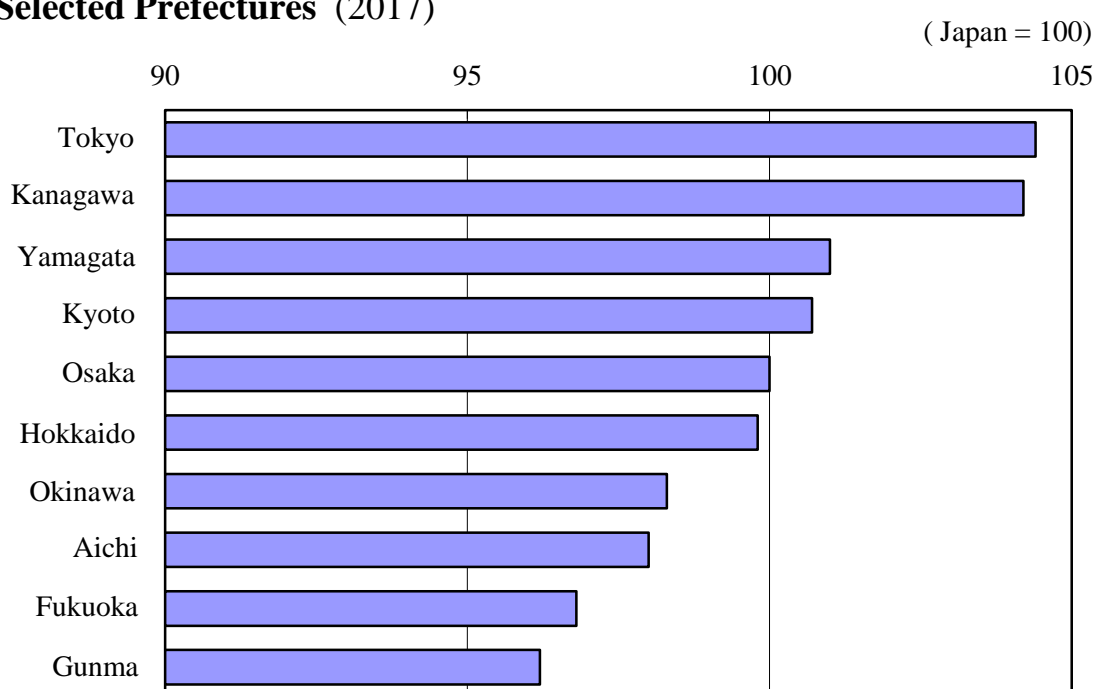
Table 13.5
CPI for Major Categories of Goods and Services

Item	Weight	(CY2015=100)				
		2000	2005	2010	2016	2017
All items	10000	99.1	96.9	96.5	99.9	100.4
All items, less imputed rent	8501	98.6	95.9	95.6	99.9	100.5
Food	2623	92.3	90.9	93.9	101.7	102.4
Housing	2087	101.8	101.5	100.9	99.9	99.7
Fuel, light and water charges	745	81.4	81.3	86.0	92.7	95.2
Furniture and household utensils	348	138.8	118.1	105.8	99.6	99.1
Clothing and footwear	412	101.7	95.9	95.7	101.8	102.0
Medical care	430	98.9	101.3	100.1	100.9	101.8
Transportation and communication ...	1476	99.4	98.1	96.5	98.0	98.3
Education	316	100.9	105.0	97.8	101.6	102.2
Culture and recreation	989	119.3	109.1	101.1	101.0	101.3
Miscellaneous	574	86.9	88.5	91.1	100.7	100.9
Goods	4969	99.7	95.5	95.4	99.4	100.4
Services	5031	98.4	98.3	97.6	100.3	100.3

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 2017, with a figure of 104.4 against the national average set at 100, followed by Kanagawa, with 104.2. On the other hand, Gunma registered the lowest score, with 96.2. The index for Tokyo was 8.5 percent higher than that of Gunma.

Figure 13.10
Regional Difference Index of Consumer Prices
by Selected Prefectures (2017)



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 2017, the Producer Price Index (2015 as the base year = 100) was 98.7, up 2.3 percent from the previous year.

In 2017, the Export Price Index increased to 100.2 on a contract currency basis (up 3.4 percent from the previous year), and to 95.5 on a yen basis (up 5.3 percent from the previous year). Meanwhile, the Import Price Index rose to 98.1 on a contract currency basis (up 8.8 percent from the previous year) and to 92.7 on a yen basis (up 10.9 percent from the previous year).

The Services Producer Price Index measures price movements of services traded between companies. In 2017, the Services Producer Price Index (CY2010 as the base year = 100) was 103.7, up 0.7 percent from the previous year.

Table 13.6
Corporate Goods and Services Producer Price Indices

Item	Weight	2010	2014	2015	2016	2017
Corporate Goods Price Index (CY2015=100)						
Producer Price Index	1000.0	97.4	102.4	100.0	96.5	98.7
Manufacturing industry products	888.3	99.1	102.3	100.0	97.0	98.9
Export Price Index (yen basis)	1000.0	89.5	98.8	100.0	90.7	95.5
Import Price Index (yen basis)	1000.0	88.1	112.7	100.0	83.6	92.7
Services Producer Price Index (CY2010=100)						
All items	1000.0	100.0	101.6	102.7	103.0	103.7
Information and communications	237.8	100.0	99.3	99.6	100.0	100.2
Transportation and postal activities.....	186.7	100.0	103.9	104.7	103.8	105.0
Real estate services	72.1	100.0	95.5	96.3	97.5	99.0
Advertising services	63.4	100.0	105.0	105.7	107.0	107.1

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 2016, 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 92.3 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 34.6 percent of the total, followed in order by emissions from the transport sector, the commercial sector (office buildings, etc.), the residential sector, and the energy sector (electric power plants, etc.).

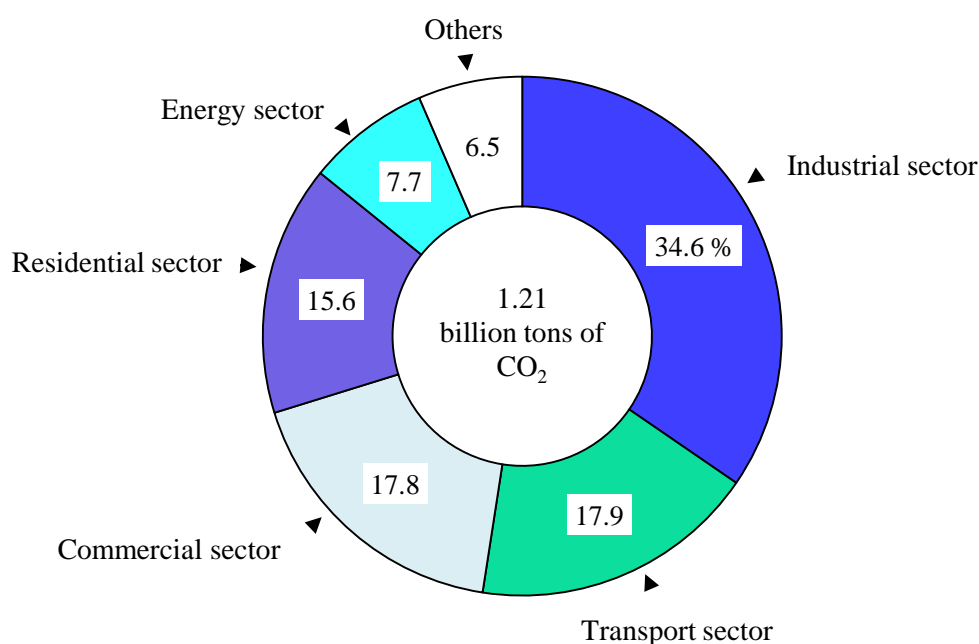
Table 14.1
Breakdown of Carbon Dioxide Emissions ^{1) 2)}

Item	(Million tons)					
	FY1990	FY2000	FY2005	FY2010	FY2015	FY2016
Total	1,161	1,267	1,290	1,214	1,226	1,206
Industrial sector	502	476	466	431	433	418
Transport sector	207	259	244	229	217	215
Commercial sector	129	187	217	201	218	214
Residential sector	130	158	174	177	187	188
Energy sector	97	90	97	98	93	93
Industrial processes and product use	65	59	56	46	46	46
Waste (incineration, etc.)	24	33	32	29	29	30
Others	7	6	4	4	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⁾ (FY2016)



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 automobile and electrical appliance recycling. 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) from the "3R" is now promoted.

Of various types of waste generated as a result of business activities, 20 of them, including sludge, waste oil, and soot and dust, are designated as "industrial waste". The fiscal 2015 nationwide industrial waste generation totaled 391 million tons. Sludge, animal waste 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 2015.

Meanwhile, a total of 44 million tons of "nonindustrial waste" (household waste and also shop, office and restaurant waste) was generated in fiscal 2015. This translates to 939 grams per person per day. In terms of nonindustrial waste disposal in fiscal 2015, the total volume of processed waste was 42 million tons. The total volume of recycled waste was 9 million tons, with the recycling rate at 20.4 percent.

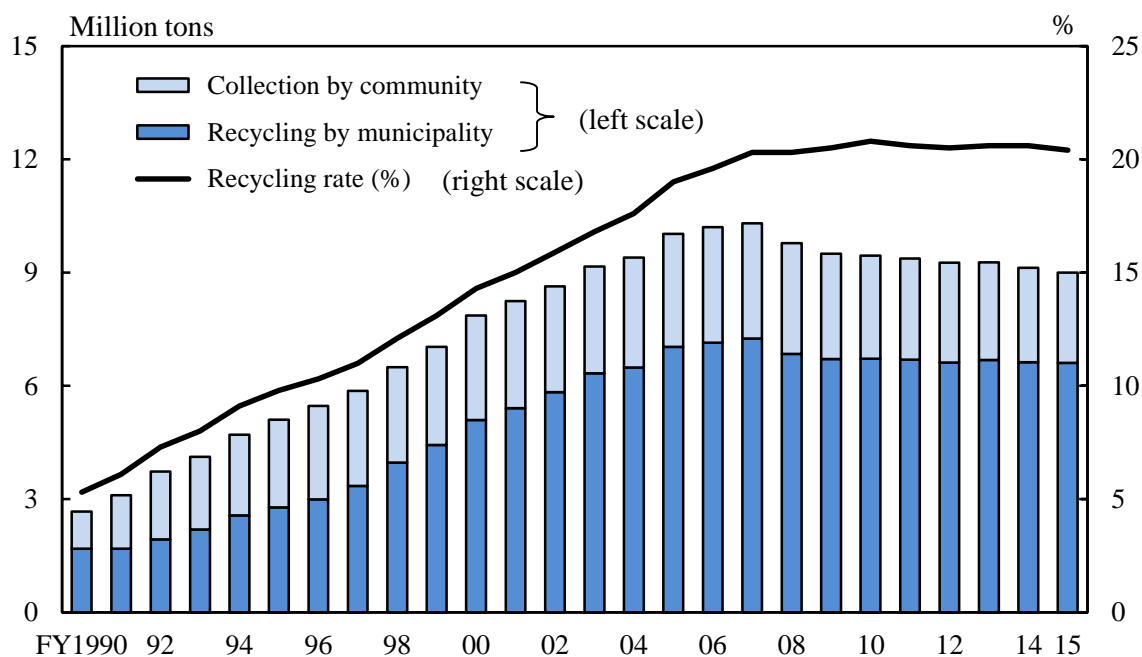
Table 14.2
Waste Generation and Disposal

	(Thousand tons)				
Item	FY1990	FY2000	FY2005	FY2010	FY2015
Industrial waste					
Total volume of waste generation	394,736	406,037	421,677	385,988	391,185
Recycling	150,568	184,237	218,888	204,733	207,561
Treatment for waste reduction	154,443	176,933	178,560	167,000	173,539
Final disposal	89,725	44,868	24,229	14,255	10,085
Nonindustrial waste ¹⁾					
Total volume of waste generation	50,257	54,834	52,720	45,359	43,981
Municipally scheduled and collected	42,495	46,695	44,633	38,827	37,867
Directly brought to					
waste treatment facilities	6,776	5,373	5,090	3,803	3,720
Recyclable waste					
collected by community	986	2,765	2,996	2,729	2,394
Waste generated					
daily per person (in grams)	1,115	1,185	1,131	976	939
Total volume of processed waste	49,282	52,090	49,754	42,791	41,699
Direct incineration	36,192	40,304	38,486	33,799	33,423
Intermediate treatment for recycling, etc. ...	} 3,300	6,479	7,283	6,161	5,777
Direct recycling		2,224	2,541	2,170	2,031
Direct final disposal	9,790	3,084	1,444	662	468

1) Due to the Great East Japan Earthquake, figures for FY2010 exclude those for Minamisanriku Town, Miyagi Prefecture. Figures for FY 2015 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.

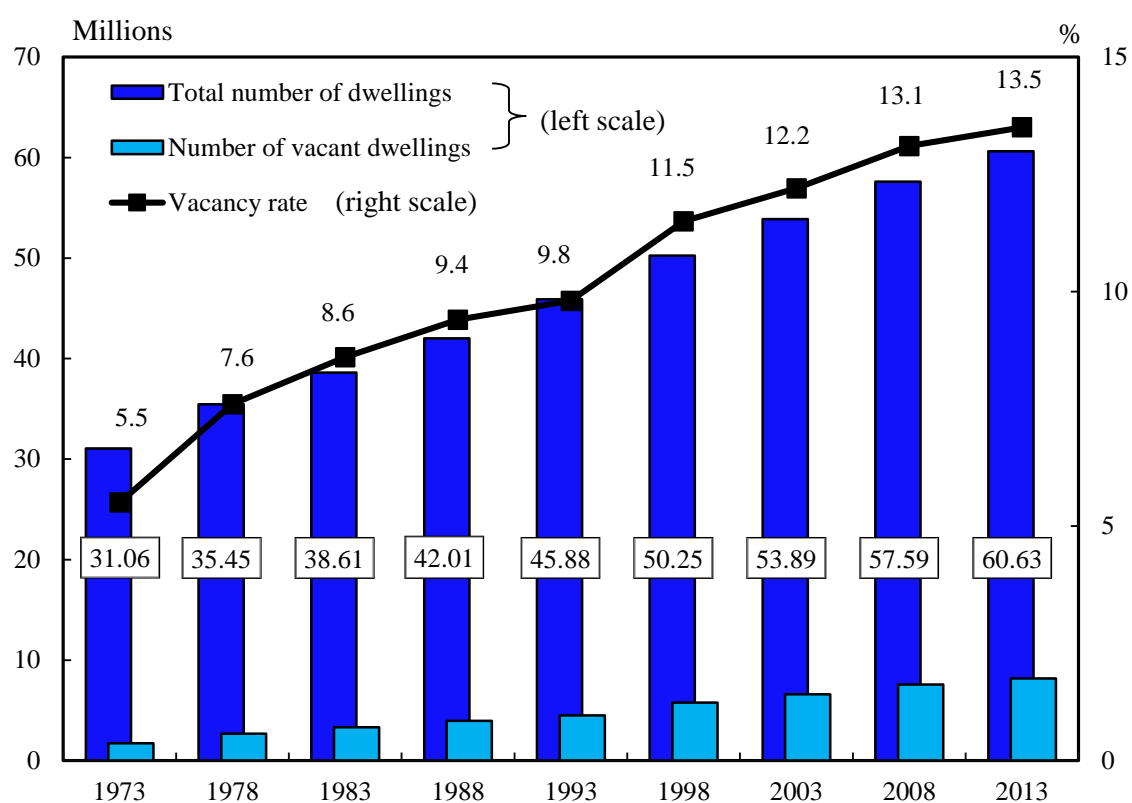
2. Housing

According to the "Housing and Land Survey" conducted in October 2013, the total number of dwellings (in the case of apartment buildings, counting the number of individual units) in Japan was 61 million, 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

Year	Total households	Total number of dwellings	Occupied dwellings ¹⁾	Ownership		Dwellings exclusively for living	Floor space per dwelling (m 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 ownership of dwelling "Not reported".

Source: Statistics Bureau, MIC.

Table 14.4
Occupied Dwellings by Type of Building

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

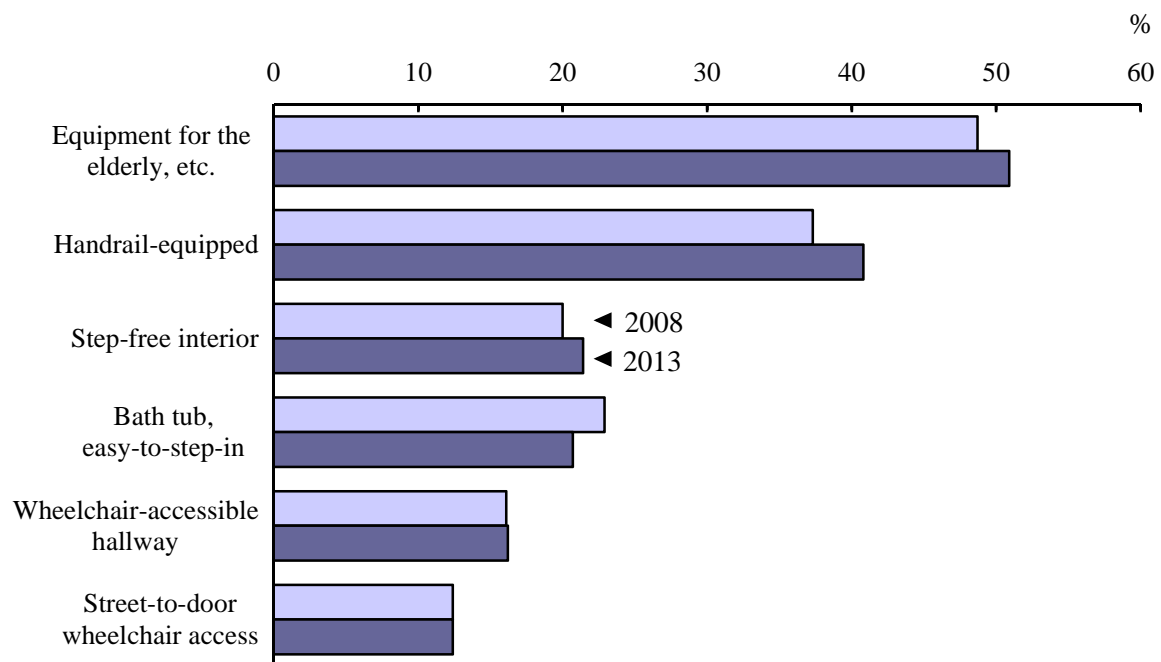
Source: Statistics Bureau, MIC.

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 component apartments were steel-framed concrete structures.

A study of housing with accessibility equipment for the elderly and physically challenged persons showed that the number of housing units "with equipment for the elderly, etc." was 27 million, or 50.9 percent of all housing, 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 Policies Basic Act in the same year. Based on this Act, the government has since promoted traffic safety measures in a comprehensive and systematic manner. As a result, the number of traffic accident fatalities was 3,904 in 2016, and this represented less than one-fourth the number in 1970.

In 2016, traffic deaths per 100,000 population were 3.1 persons, while the number of persons killed per 10,000 motor vehicles was 0.5 persons.

Table 14.5
Traffic Accidents and Casualties

Year	Traffic accidents	Injuries	Traffic deaths ¹⁾	per 100,000	
				motor vehicles	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
2015	536,899	666,023	4,117	0.5	3.2
2016	499,201	618,853	3,904	0.5	3.1

1) Death within 24 hours of the accident.

Source: National Police Agency.

4. Crime

In 2017, the reported number of penal code offenses was 915,042, a decrease of 81,078, or 8.1 percent compared to the previous year. The proportion of thefts was the highest, accounting for 71.6 percent, or 655,498 cases (down 9.4 percent from the previous year).

The number of persons arrested for penal code offenses was 215,003 in 2017, a decrease of 11,373, or 5.0 percent compared to the previous year, marking a decline for the thirteenth consecutive year.

The ratio of arrests to reported number of offenses marked a post-World War II low, at 19.8 percent, in 2001. From 2002 to 2007, this ratio increased, and levelled off afterwards. In 2017, it was 35.7 percent, an increase of 1.9 point 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	1,419.9
2000	2,443,470	576,771	309,649	23.6	1,925.1
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
2016	996,120	337,066	226,376	33.8	784.8
2017	915,042	327,081	215,003	35.7	722.2

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, offenses using cyber networks) in 2017 was 9,014, up 8.3 percent from the previous year. This represented about a ten-fold increase from the 913 cases registered in 2000.

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, 2017, the prefectural police operated police headquarters, police academies, 1,163 police stations, 6,256 police boxes and 6,380 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.

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, 5.21 million per month in fiscal 2015, and increased by approximately 2.8-fold over 15 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 2015 (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 9.8 trillion yen.

Table 15.1
Trends in Social Security Benefit Expenditures by Institutional Scheme

(Billion yen)

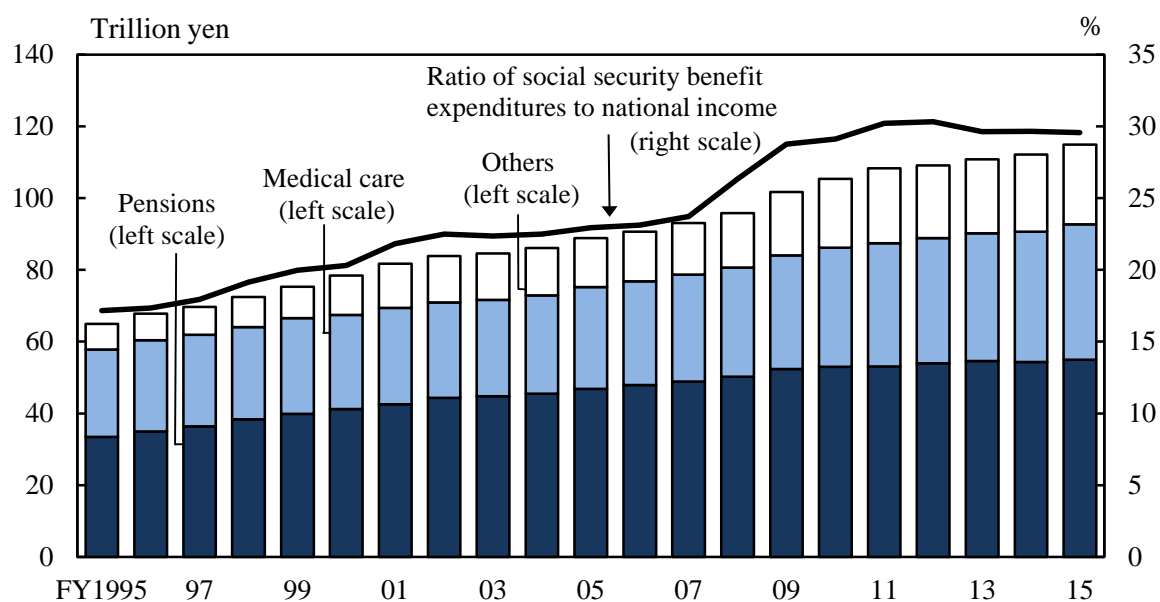
Item	FY2000	FY2005	FY2010	FY2014	FY2015
Total	78,399	88,853	105,361	112,167	114,860
Medical insurance	14,797	16,417	19,059	20,344	21,036
Health and medical services for the aged	10,447	10,754	11,718	13,429	14,047
Long-term care insurance	3,262	5,815	7,434	9,098	9,311
Pension benefits	39,173	45,214	51,755	53,413	54,084
Employment insurance ¹⁾	2,665	1,522	2,460	1,805	1,843
Workers' accident compensation insurance	1,054	990	952	936	919
Family allowance ²⁾	712	1,158	3,042	2,961	2,844
Public assistance	1,939	2,594	3,330	3,681	3,713
Social welfare	2,186	2,635	3,404	4,637	5,245
Public health	555	548	1,388	1,345	1,358
Gratuities for retired public employees ..	1,420	1,059	702	438	381
Aid for war victims	188	146	116	81	78

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 2015, social security benefit expenditures totaled 114.9 trillion yen (up 2.4 percent from the previous fiscal year), a figure which amounted to 903,700 yen per person. The ratio of Japan's social security benefit expenditures to national income registered 29.6 percent. Benefits for the aged accounted for approximately 70 percent of total social security benefit expenditures.

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



1) Because of retrospective tabulation up to FY2005 of expenditure items data that were added in FY2011, a gap has occurred with FY2004 data.

Source: Ministry of Health, Labour and Welfare.

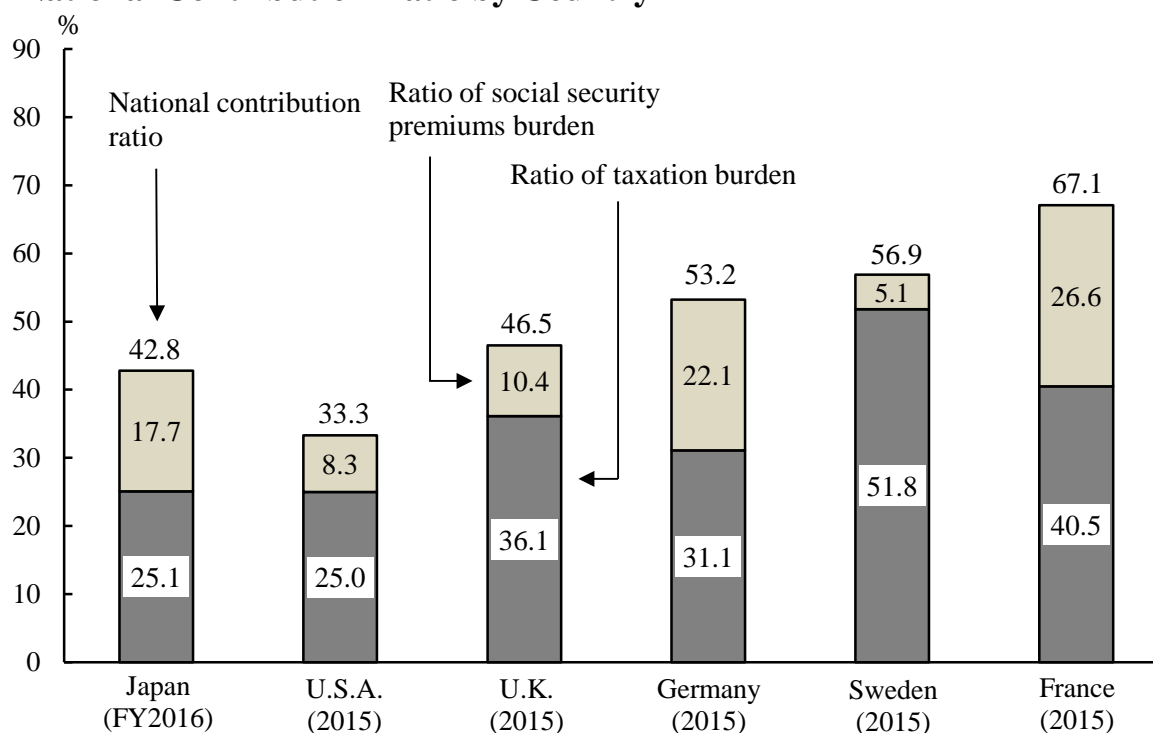
In fiscal 2015, pensions accounted for 47.8 percent of total social security benefit expenditures, while medical care accounted for 32.8 percent, and social welfare and others for 19.3 percent. Social security benefit expenditures are forecasted to continue growing, and are projected to reach 149 trillion yen in fiscal 2025.

In accordance with the rise in social security benefit expenditures, the amount of social insurance contributions and taxes has also increased, reaching 123.2 trillion yen in fiscal 2015. This was financed by 66.9 trillion yen from social insurance contributions, 46.1 trillion yen from taxes and 10.2 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 42.8 percent in fiscal 2016 (taxation burden: 25.1 percent; social security premiums: 17.7 percent), up 0.2 percentage points from 42.6 percent in fiscal 2015 (taxation burden: 25.4 percent; social security premiums: 17.2 percent). The national contribution

ratio in 2015 was 33.3 percent in the U.S.A., 46.5 percent in the U.K., and 67.1 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

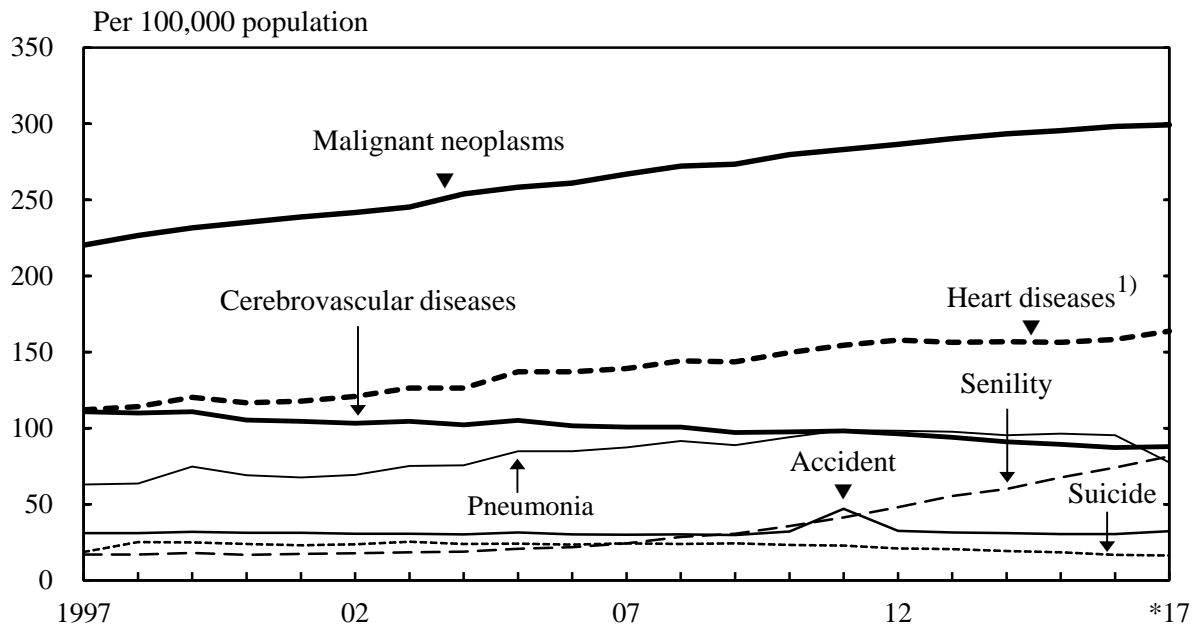
Japan has a universal health insurance regime to ensure that anyone can receive necessary medical treatment. Under this regime, every citizen enters a publicly regulated medical insurance system, such as employees' health insurance or national health insurance.

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 81.1 years for men in 2017. 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 2017.

Figure 15.3
Death Rates by Major Cause



1) Excluding hypertensive diseases.

Source: Ministry of Health, Labour and Welfare.

The death rate was 1,075.4 per 100,000 population in 2017. The leading cause of death was malignant neoplasms (299.4 per 100,000 population). Other major causes were lifestyle diseases such as heart diseases (163.8; excluding hypertensive diseases) and cerebrovascular diseases (88.1), in which people's daily diet and behavior are significant factors therefore. Together, these causes accounted for approximately 50 percent of all deaths. Malignant neoplasms became the leading cause of death in 1981. The death rate by malignant neoplasms has continued to increase since, reaching 27.8 percent of all deaths in 2017.

The number of deaths caused by suicide in Japan hovered at around 30,000 annually in 1998 and onwards, but for eight consecutive years, this number has been below 30,000, and the number of annual suicides has also been decreasing for the last eight years. The number of suicides in 2017 was 20,431. In 2017, suicide became the leading cause of deaths for people aged between 15 and 39.

In the past, humanity has 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. 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, 2016, the number of hospitals in Japan (excluding medical clinics and dental clinics) totaled 8,442. The number of hospital beds amounted to 1,561,005 (1,229.8 per 100,000 population).

Table 15.3
Medical Care Institutions and Beds

Type of Institution	2008	2011	2014	2015	2016
Institutions					
Total	175,656	176,308	177,546	178,212	178,911
Hospitals	8,794	8,605	8,493	8,480	8,442
Medical clinics	99,083	99,547	100,461	100,995	101,529
Dental clinics	67,779	68,156	68,592	68,737	68,940
Rates per 100,000 population					
Total	137.6	138.0	139.7	140.2	140.9
Hospitals	6.9	6.7	6.7	6.7	6.7
Medical clinics	77.6	77.9	79.1	79.5	80.0
Dental clinics	53.1	53.3	54.0	54.1	54.3
Beds					
Total	1,756,115	1,712,539	1,680,712	1,673,669	1,664,525
Hospitals	1,609,403	1,583,073	1,568,261	1,565,968	1,561,005
Medical clinics	146,568	129,366	112,364	107,626	103,451
Dental clinics	144	100	87	75	69
Rates per 100,000 population					
Total	1,375.3	1,340.0	1,322.5	1,316.9	1,311.3
Hospitals	1,260.4	1,238.7	1,234.0	1,232.1	1,229.8
Medical clinics	114.8	101.2	88.4	84.7	81.5
Dental clinics	0.1	0.1	0.1	0.1	0.1

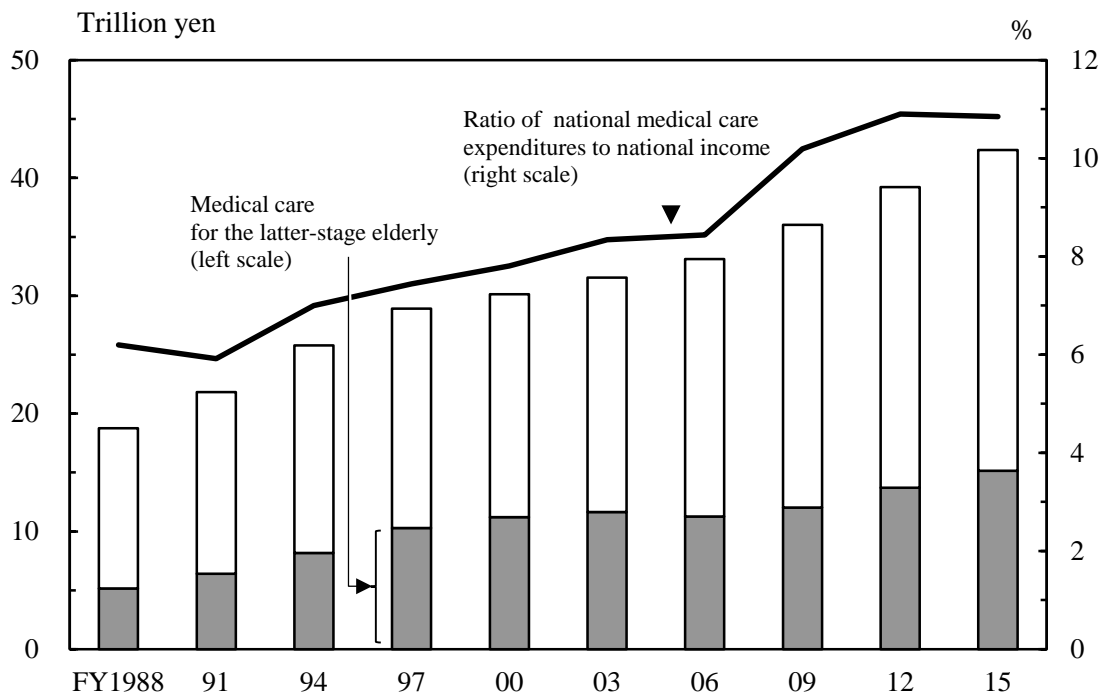
Source: Ministry of Health, Labour and Welfare.

National medical care expenditures have been increasing gradually. In fiscal 2015, the expenditures totaled 42.4 trillion yen or 10.91 percent of Japan's national income. The cost of medical care per person averaged 333,300 yen in fiscal 2015.

Medical costs for treating the latter-stage elderly in fiscal 2015 were 15.1 trillion yen, or about one-third of national medical care expenditure, and accounted for 3.88 percent of the national income. The per-capita cost of medical care for the latter-stage elderly averaged 949,070 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



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, 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.

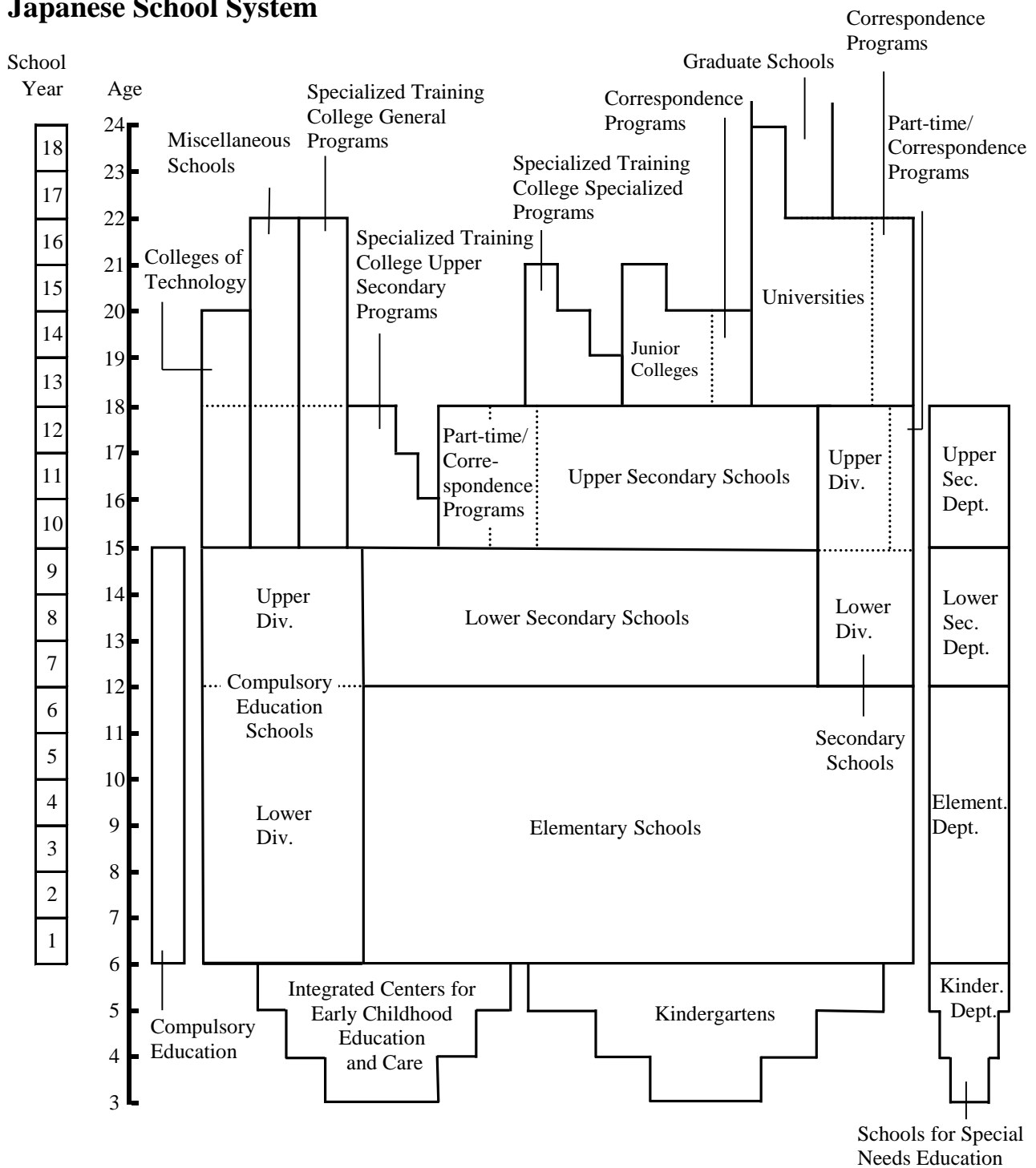
Table 16.1
Educational Institutions in Japan (as of May 1, 2017)

Type of institution	Schools			Full-time teachers (1,000)	Students (1,000)		
	Total	National	Public		Private	Males	Females
Kindergartens	10,878	49	3,952	6,877	98	644	628
Integrated centers for early childhood education and care	3,673	-	552	3,121	76	260	246
Elementary schools	20,095	70	19,794	231	419	3,300	3,148
Lower secondary schools	10,325	71	9,479	775	250	1,704	1,629
Compulsory education schools ..	48	2	46	-	2	11	11
Upper secondary schools	4,907	15	3,571	1,321	234	1,655	1,625
Secondary schools	53	4	31	18	3	16	16
Schools for special needs education ¹⁾	1,135	45	1,076	14	84	93	49
Colleges of technology	57	51	3	3	4	47	11
Junior colleges	337	-	17	320	8	14	110
Universities	780	86	90	604	185	1,627	1,264
Graduate schools	629	86	80	463	105	171	80
Specialized training colleges	3,172	9	188	2,975	41	290	365
Miscellaneous schools.....	1,183	-	6	1,177	9	65	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 2017 upper secondary school graduates, 54.8 percent went straight on to enter a university, junior college, etc. The ratio of upper secondary school graduates who entered a university or junior college in 2017 was 57.3 percent (56.8 percent of male and 57.7 percent of female graduates), including graduates from previous years.

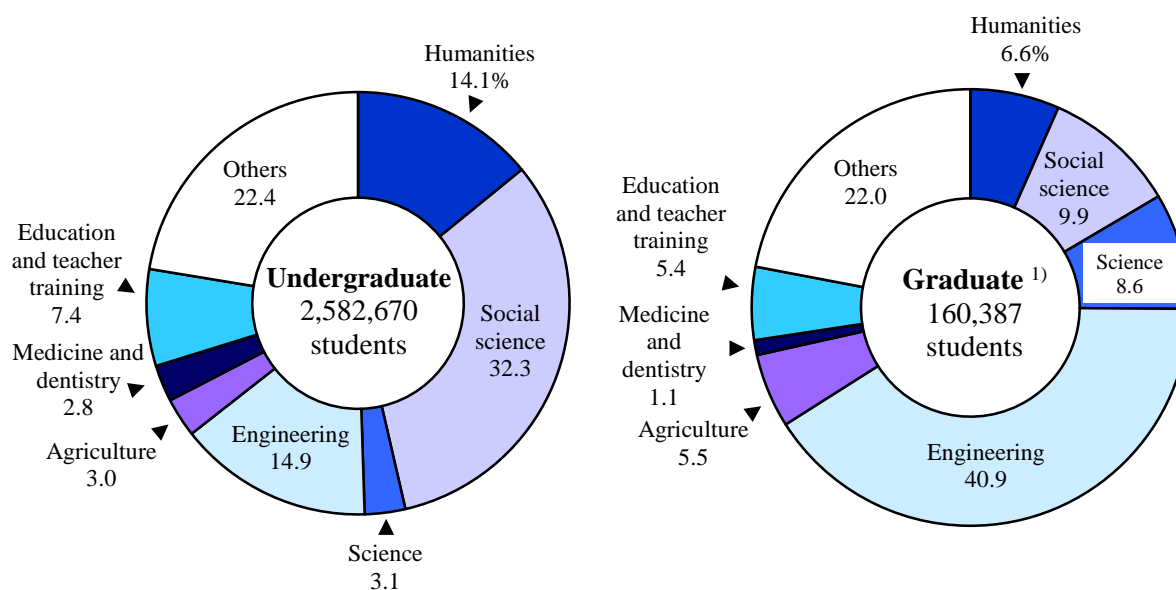
Table 16.2
Number of University Students (as of May 1)

	2005	2010	2015	2016	2017
Total	2,865,051	2,887,414	2,860,210	2,873,624	2,890,880
Undergraduate	2,508,088	2,559,191	2,556,062	2,567,030	2,582,670
Graduate schools	254,480	271,454	249,474	249,588	250,891
Others ¹⁾	102,483	56,769	54,674	57,006	57,319
Females	1,124,900	1,185,580	1,231,868	1,247,726	1,263,893
Undergraduate	1,009,217	1,077,782	1,127,372	1,141,425	1,156,021
Graduate schools	75,734	82,133	77,831	78,603	79,793
Others ¹⁾	39,949	25,665	26,665	27,698	28,079
National	627,850	625,048	610,802	610,401	609,473
Public	124,910	142,523	148,766	150,513	152,931
Private	2,112,291	2,119,843	2,100,642	2,112,710	2,128,476

1) Non-degree students, auditing students and research students.

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

Figure 16.2
University Students by Major Subject (as of May 1, 2017)



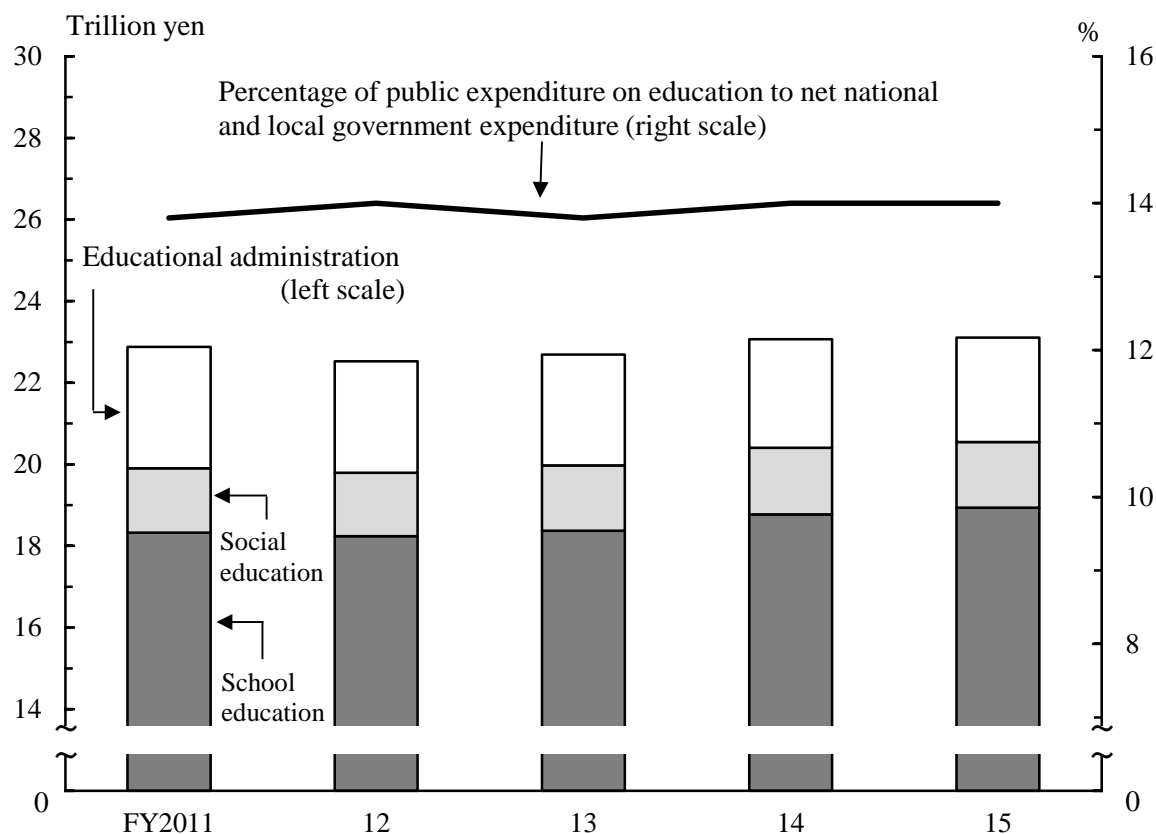
1) Master's course.

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

As of May 1, 2017, a total of 125,834 foreign students were enrolled in Japanese junior colleges, universities, and graduate schools. Of the total foreign students, 88.9 percent were from Asia, including 63,283 from China, 13,508 from Vietnam and 11,225 from the Republic of Korea.

Fiscal 2015 public expenditure on education in Japan was 23 trillion yen, which is equivalent to 14.0 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

In recent years, people's demand for learning has been increasing and the contents are becoming more diverse and advanced. This has raised more and more expectations for the realization of a "Lifelong Learning Society" in which people are able to freely select learning opportunities during their life, and their learning outcomes are evaluated appropriately.

Table 16.3
Social Education Facilities and Users

Facilities	Number ²⁾		Users (1,000) ³⁾	
	2011	2015	2010	2014
Citizens' public halls ¹⁾	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
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
Theaters, Concert halls, etc.	1,866	1,851	...	...
Lifelong learning centers	409	449	26,483	26,218

1) Includes similar facility. 2) As of October 1. 3) Total of fiscal year.

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

Today, in order to develop a society where people have the freedom to continue learning 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, social education facilities (public halls, libraries, museums, and sports facilities, etc.) play a vital role.

3. Leisure Activities

The results of the "2016 Survey on Time Use and Leisure Activities" conducted on people living in this country, aged 10 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 (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.

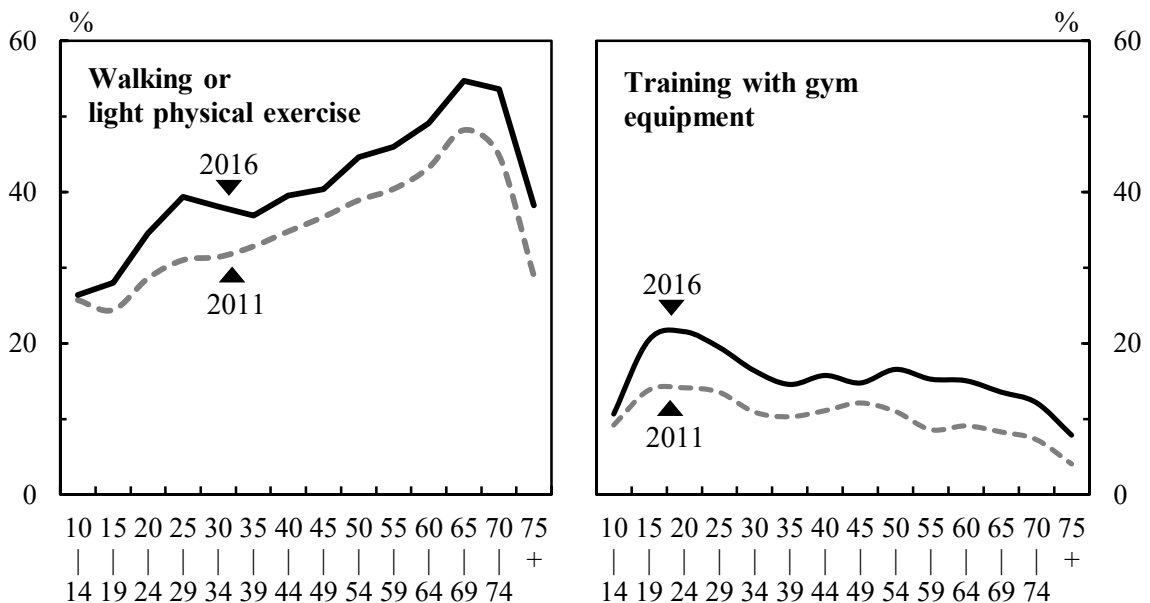
3) Excluding sports played by professional athletes and by students in PE class. 4) Excluding worker training at the workplace, and study and research activities performed by children, pupils or students as schoolwork, such as study in class, preparation for class and review of lessons.

Source: Statistics Bureau, MIC.

The participation rate for "hobbies and amusements" was 87.0 percent, and when separated according to gender, 87.2 percent was male and 86.8 percent was female. In addition, when separated according to the type of leisure, "watching movies in places other than cinemas" was the highest at 52.1 percent, followed by "listening to music on CD and smartphone, etc." at 49.0 percent, and "watching movies at the cinema" at 39.6 percent.

The participation rate for "sports" was 68.8 percent (percentage of people (aged 10 and over) who engaged in the activity within the past 12 months), and when the rate was separated according to gender, 73.5 percent was male and 64.4 percent was female. In addition, when separated according to the 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



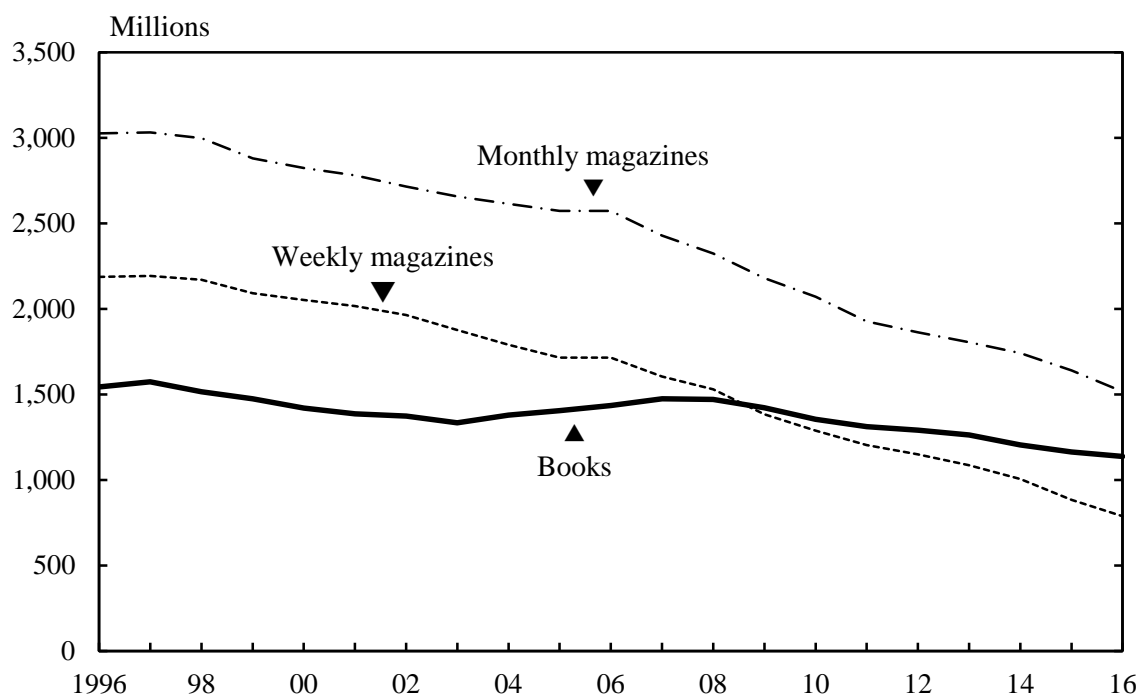
Source: Statistics Bureau, MIC.

4. Publishing and Mass Media

The total number of books and magazines published in Japan during 2016 was 1,138 million and 2,304 million, respectively. Of the latter, 1,516 million were monthlies and 788 million were weeklies.

A total of 78,113 new book titles were released in 2016. The number of magazine titles published was 3,589 (including 1,934 monthlies and 94 weeklies) as of the end of March 2017. In recent years, there has been an increasing trend in the popularization of the Internet and e-books.

Figure 16.5
Trends in Number of Publications



Source: Shuppan News Co., Ltd.

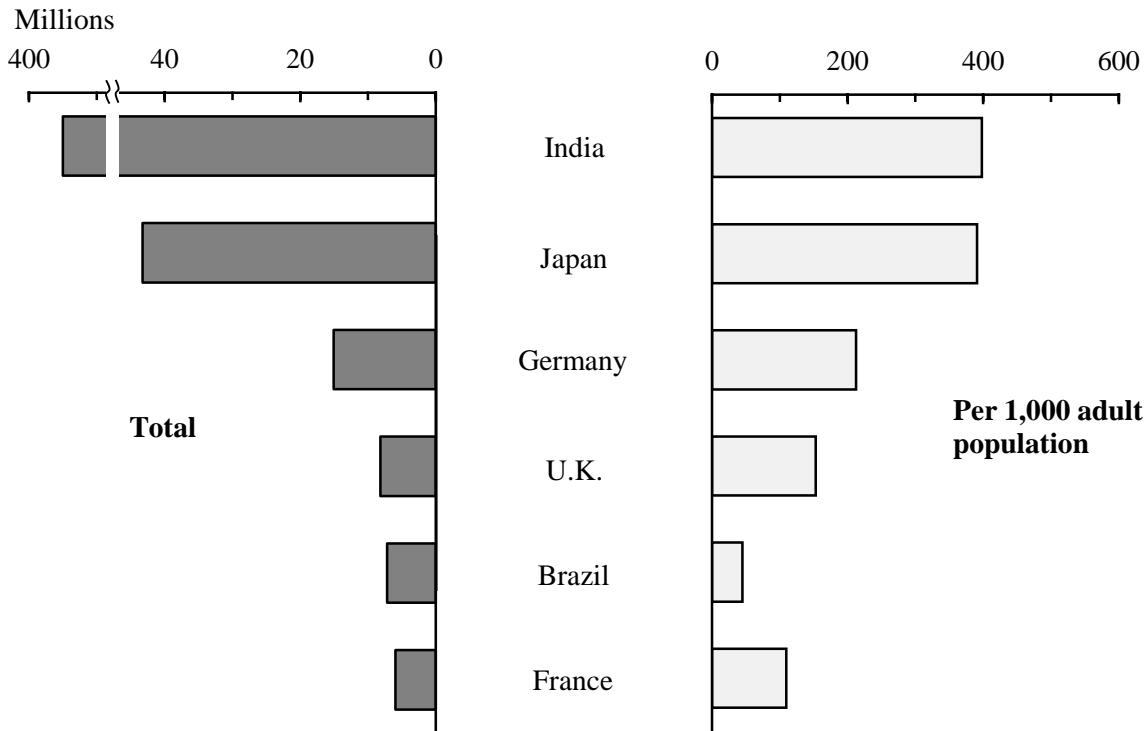
Table 16.5
Number of New Publications

Subject	(Titles)				
	2000	2005	2010	2015	2016
Total	65,065	78,304	77,773	80,048	78,113
General works	2,587	2,551	2,080	1,715	1,792
Philosophy	2,997	3,763	4,381	4,275	4,215
General history	4,634	5,102	4,969	5,233	4,749
Social sciences	14,099	16,201	15,757	15,598	14,805
Natural sciences	5,218	6,226	6,780	7,079	6,711
Technology and engineering ..	6,105	8,104	8,499	8,333	7,988
Industry and commerce	3,000	3,337	3,478	3,175	3,253
Art	8,895	10,884	11,535	12,972	12,911
Languages	1,766	2,063	1,884	1,796	1,776
Literature	11,484	13,595	12,879	13,390	13,381
Children's books	3,334	5,064	4,675	4,801	4,871
School textbooks	946	1,414	856	1,681	1,661

Source: Shuppan News Co., Ltd.

A total of 117 daily newspapers were in circulation, and the penetration rate was 0.75 newspapers per household as of October 2017.

Figure 16.6
Newspaper Circulation by Country (2016)



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 three 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, promotion of the receiving environment is being steadily conducted on broadcasting services in 4K and 8K, which have 4 and 16 times the pixel number of existing full high definition, towards the commencement of actual broadcasting on December 2018.

In 2017, advertising expenditures in the four major mass media types in Japan (newspapers, magazines, radio and television) totaled 2.8 trillion yen, down compared with the previous year. This accounted for 43.7 percent of total advertising expenditures, which were 6.4 trillion yen. Spending on Internet advertising reached 1.5 trillion yen (up 15.2 percent from the previous year), maintaining a double-digit growth rate. This amounted to 23.6 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)								
2005	6,823.5	1,037.7	484.2	177.8	2,041.1	48.7	377.7	2,656.3
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
Percentage distribution (%)								
2005	100.0	15.2	7.1	2.6	29.9	0.7	5.6	38.9
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

1) Television including Satellite Media-Related advertising after 2013.

Source: Dentsu Inc.

5. Cultural Assets

Throughout the 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 June 1, 2018)

Type of cultural properties	Number	
Designated important cultural properties	13,166	a) 1,110
Fine arts and crafts	10,686	a) 885
Structures	2,480	a) 225
Historic sites, places of scenic beauty and natural monuments	3,242	b) 173
Historic sites	1,805	b) 62
Places of scenic beauty	410	b) 36
Natural monuments	1,027	b) 75
Important tangible folk cultural properties	220	
Important intangible folk cultural properties	309	
Important intangible cultural properties		
Recognized individuals	76	
Performing arts	38	
Craft techniques	38	
Recognized holding groups	30	
Performing arts	14	
Craft techniques	16	
Traditional building preservation areas	117	

a) National treasures only. b) Specially designated places only.

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

As of June 1, 2018, 13,166 items were assigned as designated important cultural properties, of which 1,110 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 World Cultural and Natural Heritage) in 1992.

In July 2017, "Sacred Island" of Okinoshima and Associated Sites in the Munakata Region were registered as Japan's 21st World Heritage, as a unique "repository" of ancient sacrifices, and as evidence indicating what sacrifices called for in praying for safety of maritime navigation associated with active exchanges among the Japanese archipelago, Korean Peninsula, and Asian Continent that were carried out from the 4th century to the end of the 9th century.

In June 2018, sites connected to Hidden Christian Sites in the Nagasaki Region have been registered 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.

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	Yakushima (island)	Kagoshima
	Natural	Shirakami-Sanchi (mountains)	Aomori, Akita
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	Natural	Ogasawara Islands	Tokyo
	Cultural	Hiraizumi-Temples, Gardens and Archaeological Sites Representing the Buddhist Pure Land	Iwate
2013	Cultural	Fujisan, Sacred Place and Source of Aristic Inspiration	Shizuoka, Yamanashi
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	Yamaguchi, Fukuoka, Saga, Kumamoto, Nagasaki, Kagoshima, Iwate, Shizuoka
2016	Cultural	Main building of 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

1) As of June, 2018.

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

In 2006, the UNESCO Convention for the safeguarding of intangible cultural heritage entered into force. As of May 2018, 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.

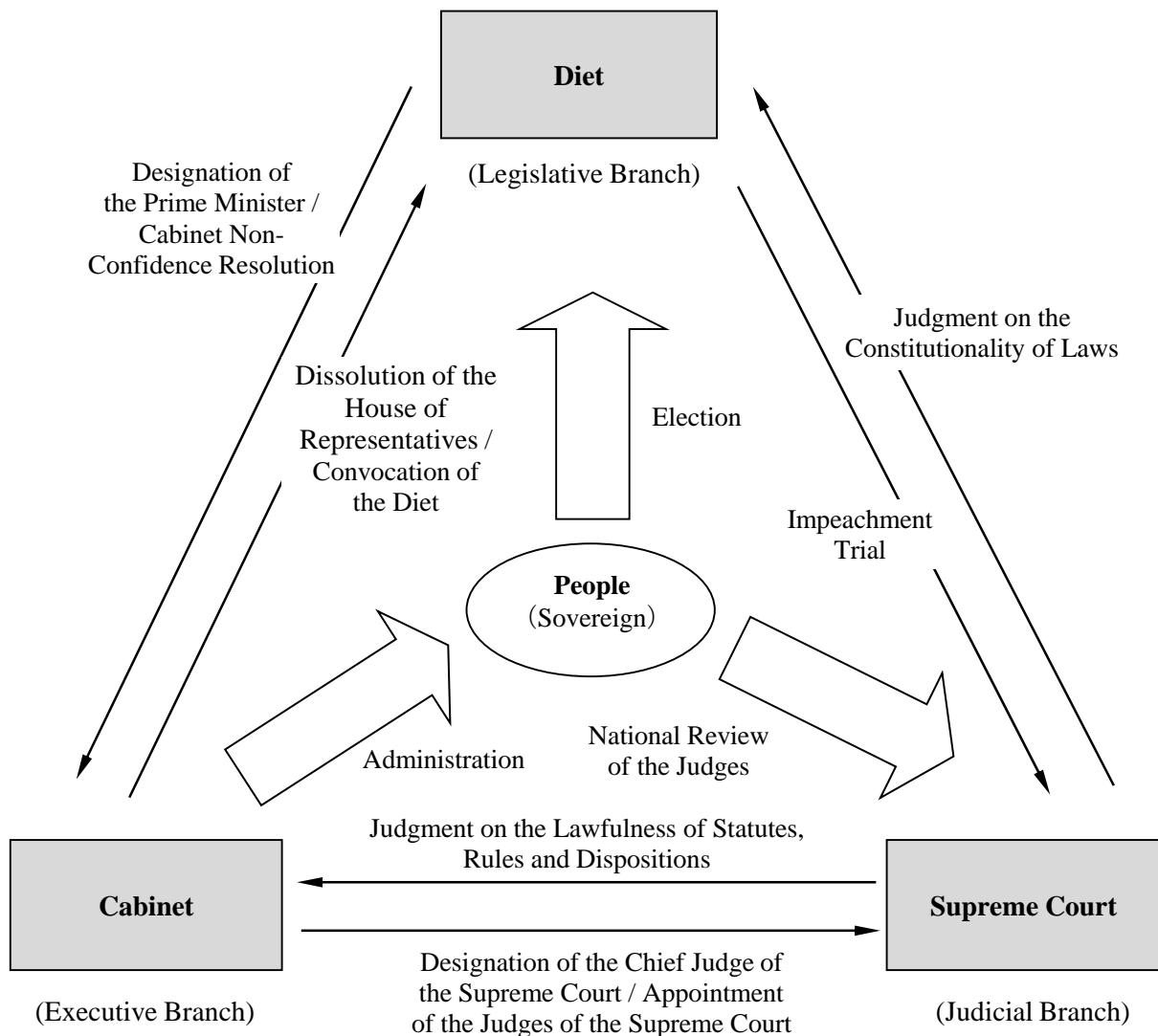
Chapter 17

Government System

1. Separation of Powers

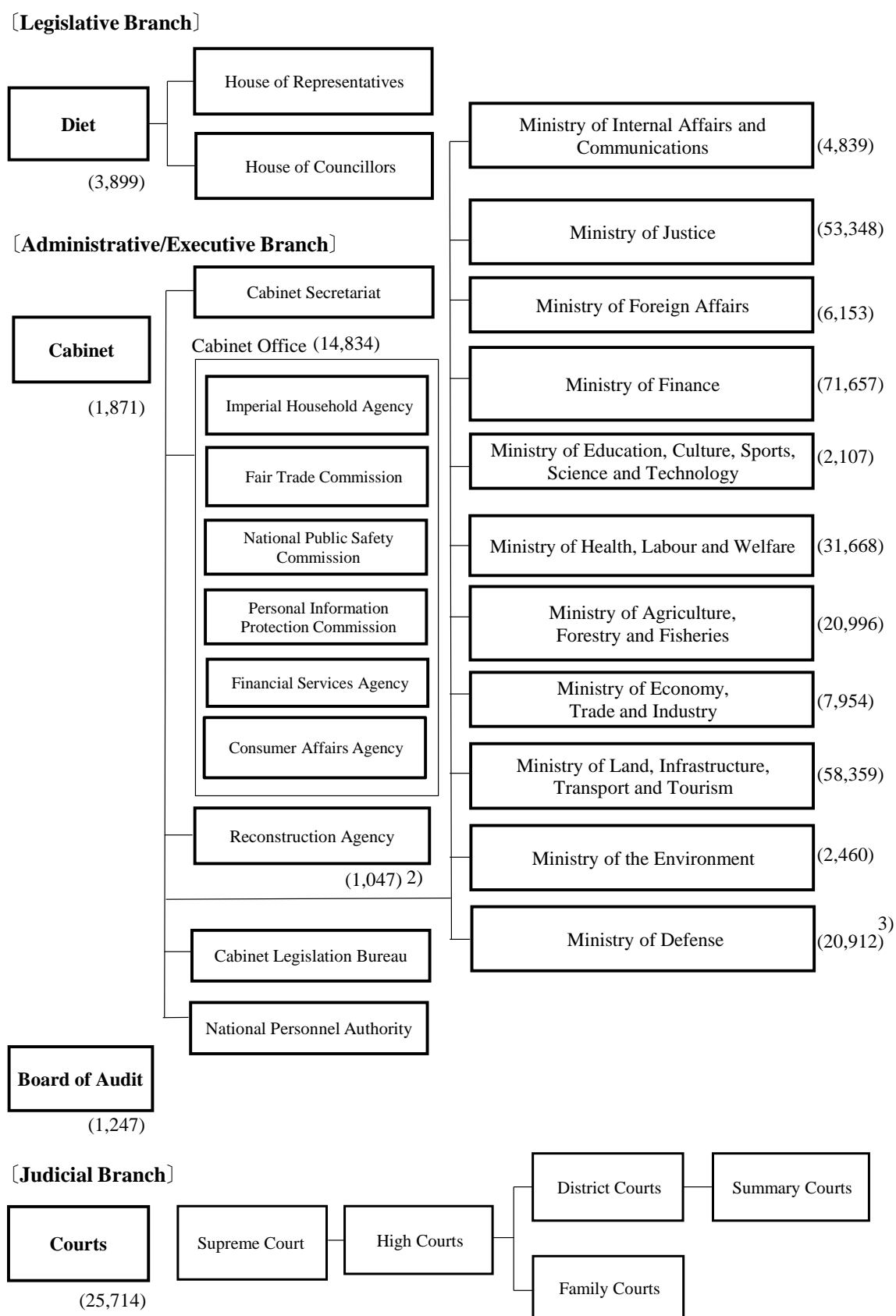
The Constitution of Japan, which went into effect on May 3, 1947, is based on three core principles: sovereignty of the people, respect for fundamental human rights and pacifism. To control governmental power effectively through checks and balances, governmental power is separated into three independent 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⁾ (FY2018)



1) Figures in parentheses refer to budgetary fixed number of national government employees.
 2) Of the 1,047 employees, 210 are from the Reconstruction Agency and 837 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 four-year term, while members of the House of Councillors, six years. Elections for the latter are held every three 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 242 members, of whom 96 are elected through proportional representation, and 146 are elected as representatives from 45 electoral districts of the nation, i.e. prefectures. The last regular election was held in July 2016.

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 abovementioned House of Councillors election, which was officially announced in June 2016. Furthermore, 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 May 9, 2018)			House of Councillors (as of June 12, 2018)		
Membership 465, Vacancies 0			Membership 242, Vacancies 0		
Name	Males	Females	Name	Males	Females
Incumbents	418	47	Incumbents	192	50
Liberal Democratic Party	261	22	Liberal Democratic Party and		
The Constitutional Democratic			The Party for Japanese Kokoro	106	19
Party of Japan	42	13	Komeito	20	5
Democratic Party For the People	37	2	Democratic Party For the People		
Komeito	25	4	and The Shin-Ryokufukai	19	5
The Group of Independents	12	1	The Constitutional Democratic		
Japanese Communist Party	9	3	Party of Japan and Minyukai	17	6
Nippon Ishin			Japanese Communist Party	9	5
(Japan Innovation Party)	10	1	Nippon Ishin		
Liberal Party	2	0	(Japan Innovation Party)	9	2
Social Democratic Party	2	0	Hope Coalition (Kibou)	3	3
The Party of Hope	2	0	The Party of Hope	1	2
			Independents Club	1	1
			Okinawa Whirlwind	1	1
			Voice of The People	1	1
Independents	16	1	Independents	5	0

Source: House of Representatives; 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 majority of the ministers of state to be appointed by the Prime Minister 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 naming 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 four lower-level courts (High Court, District Court, Family Court and Summary Court). At present, there are eight 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 allows a case to be heard and ruled on up to three 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 instances.

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 10,514 people were tried in lay judge trials held between the start of the system and December 2017.

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

(Thousands)

Year	Civil and administrative cases			Criminal cases ¹⁾		
	Commenced	Ended	Pending	Commenced	Ended	Pending
2000	3,052	3,062	780	1,638	1,636	43
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

Year	Domestic cases			Juvenile cases ¹⁾		
	Commenced	Ended	Pending	Commenced	Ended	Pending
2000	561	555	78	286	288	49
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

1) Persons involved.

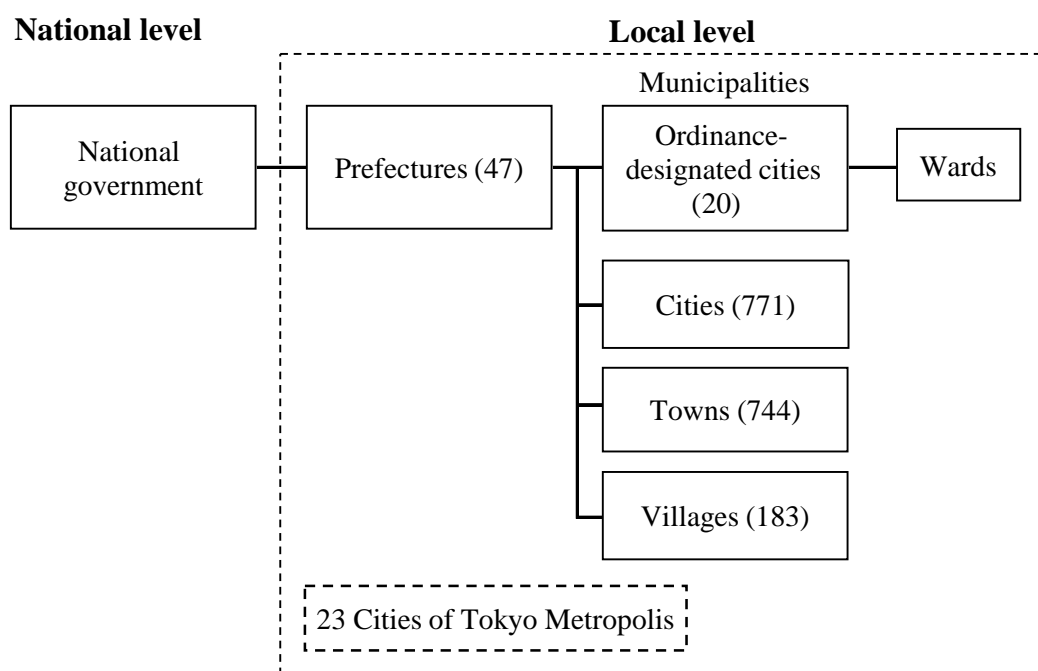
Source: Supreme Court of Japan.

5. Local Governments

The affairs of local governments are conducted on two levels in Japan: by the prefectures and by the municipalities within each prefecture. As of April 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.

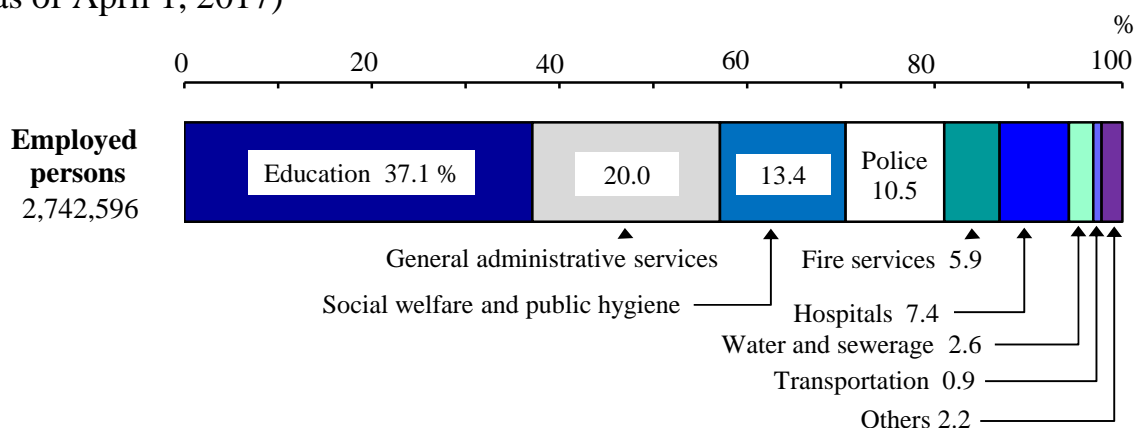
Municipalities that satisfy certain population criteria (i.e., 500,000 people or more) are eligible for designation as "Ordinance-designated cities". This designation gives them administrative and fiscal authority equivalent to those of prefectures. With the addition of Kumamoto City in April 2012, there 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 10, 2016)



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, 2017)



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)	
		2015 ¹⁾	2017 ²⁾	Total area	Inhabitable	Total area	Inhabitable
				2017	2016	2016	2016
Japan		127,095	126,706	377,974	122,632	340	1,035
Hokkaido	Sapporo City	5,382	5,320	83,424	22,372	68	239
Aomori	Aomori City	1,308	1,278	9,646	3,230	134	400
Iwate	Morioka City	1,280	1,255	15,275	3,714	83	341
Miyagi	Sendai City	2,334	2,323	7,282	3,155	320	739
Akita	Akita City	1,023	996	11,638	3,204	87	315
Yamagata	Yamagata City	1,124	1,102	9,323	2,885	119	386
Fukushima	Fukushima City	1,914	1,882	13,784	4,217	138	451
Ibaraki	Mito City	2,917	2,892	6,097	3,975	477	731
Tochigi	Utsunomiya City	1,974	1,957	6,408	2,983	307	659
Gunma	Maebashi City	1,973	1,960	6,362	2,279	309	863
Saitama	Saitama City	7,267	7,310	3,798	2,585	1,919	2,820
Chiba	Chiba City	6,223	6,246	5,158	3,554	1,209	1,755
Tokyo	23 Cities of Tokyo	13,515	13,724	2,194	1,418	6,218	9,605
Kanagawa	Yokohama City	9,126	9,159	2,416	1,471	3,785	6,218
Niigata	Niigata City	2,304	2,267	12,584	4,535	182	504
Toyama	Toyama City	1,066	1,056	4,248	1,843	250	576
Ishikawa	Kanazawa City	1,154	1,147	4,186	1,392	275	827
Fukui	Fukui City	787	779	4,191	1,077	187	726
Yamanashi	Kofu City	835	823	4,465	954	186	870
Nagano	Nagano City	2,099	2,076	13,562	3,226	154	647
Gifu	Gifu City	2,032	2,008	10,621	2,211	190	915
Shizuoka	Shizuoka City	3,700	3,675	7,777	2,749	474	1,341
Aichi	Nagoya City	7,483	7,525	5,173	2,988	1,451	2,512
Mie	Tsu City	1,816	1,800	5,774	2,059	313	878
Shiga	Otsu City	1,413	1,413	4,017	1,307	352	1,081
Kyoto	Kyoto City	2,610	2,599	4,612	1,174	565	2,219
Osaka	Osaka City	8,839	8,823	1,905	1,331	4,636	6,639
Hyogo	Kobe City	5,535	5,503	8,401	2,783	657	1,984
Nara	Nara City	1,364	1,348	3,691	856	367	1,585
Wakayama	Wakayama City	964	945	4,725	1,115	202	856
Tottori	Tottori City	573	565	3,507	901	163	633
Shimane	Matsue City	694	685	6,708	1,299	103	531
Okayama	Okayama City	1,922	1,907	7,114	2,219	269	863
Hiroshima	Hiroshima City	2,844	2,829	8,480	2,311	335	1,228
Yamaguchi	Yamaguchi City	1,405	1,383	6,113	1,707	228	817
Tokushima	Tokushima City	756	743	4,147	1,010	181	742
Kagawa	Takamatsu City	976	967	1,877	1,006	518	967
Ehime	Matsuyama City	1,385	1,364	5,676	1,673	242	822
Kochi	Kochi City	728	714	7,104	1,163	102	620
Fukuoka	Fukuoka City	5,102	5,107	4,987	2,761	1,024	1,848
Saga	Saga City	833	824	2,441	1,336	339	620
Nagasaki	Nagasaki City	1,377	1,354	4,131	1,676	331	816
Kumamoto	Kumamoto City	1,786	1,765	7,409	2,796	239	634
Oita	Oita City	1,166	1,152	6,341	1,799	183	645
Miyazaki	Miyazaki City	1,104	1,089	7,735	1,850	142	593
Kagoshima	Kagoshima City	1,648	1,626	9,187	3,313	178	494
Okinawa	Naha City	1,434	1,443	2,281	1,169	631	1,231

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 kilometer (km)	{ 1.09361 yards
Area:	1 square meter (m ²)	{ 0.62139 miles
	1 square kilometer (km ²)	{ 10.76392 square feet
	1 hectare (ha)	{ 1.19599 square yards
	10,000 square meters (m ²)]	{ 0.38610 square miles
		{ 2.47103 acres
Volume:	1 cubic meter (m ³)	{ 35.31073 cubic feet
		{ 1.30795 cubic yards
Weight:	1 kilogram (kg)	{ 35.27337 ounces
		{ 2.20459 pounds
	1 ton (t)	{ 0.98416 long tons
Capacity:	1 liter (L)	{ 1.10229 short tons
		{ 0.87951 imp. Quarts
Temperature:	centigrade (°C)	{ 1.05669 U.S. liq. Quarts
		{ 5 / 9 × (Fahrenheit - 32)

Appendix 3

Foreign Exchange Rates ¹⁾

(Yen per U.S. dollar)

Year	Average	End of year
1990	144.88	135.40
1995	94.06	102.91
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

1) Midpoint rate in the interbank foreign exchange market in Tokyo.

Source: Bank of Japan.