

STATISTICAL HANDBOOK OF

JAPAN

2017



Statistics Bureau,
Ministry of Internal Affairs
and Communications



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Japan
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Edited and Published by
Statistics Bureau
Ministry of Internal Affairs and Communications
Japan
19-1 Wakamatsu-cho, Shinjuku-ku
Tokyo 162-8668 Japan

Printed in Japan
ISSN 0081-4792

<http://www.stat.go.jp/english/data/handbook/index.htm>

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 2017

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, 2017.
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.
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:

<http://www.stat.go.jp/english/data/handbook/index.htm>
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 2017, 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 380,000 square kilometers, a figure equivalent to 0.3 percent of the global land mass.

Since the Japanese archipelago is located in a zone of relatively young 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 (2016)
(Square kilometers)

| District | Area |
|----------------|---------|
| Japan | 377,972 |
| Honshu | 231,231 |
| Hokkaido | 83,424 |
| Kyushu | 42,232 |
| Shikoku | 18,804 |
| Okinawa | 2,281 |

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

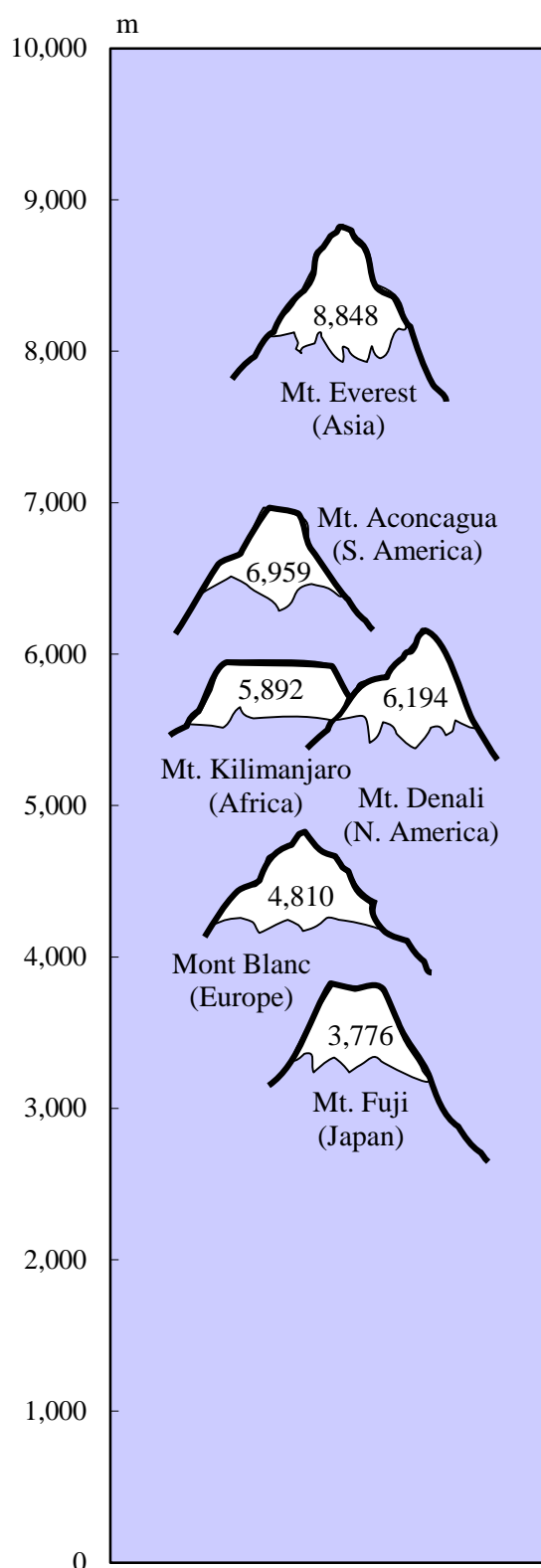
Table 1.2
Top 10 Countries According to Surface Area (2015) ¹⁾
(1,000 square kilometers)

| Country | Area |
|------------------|---------|
| World | 136,162 |
| Russia | 17,098 |
| Canada | 9,985 |
| U.S.A. | 9,834 |
| China | 9,600 |
| 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.

Source: United Nations.

Figure 1.1
Famous Mountains of the World



Source: National Astronomical Observatory of Japan.

Table 1.3
Mountains (2016)

| (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: Ministry of Land, Infrastructure, Transport and Tourism.

Table 1.4
Rivers (2015)

| (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 (2016)

| (Square kilometers) | |
|------------------------|-------|
| Name | Area |
| Lake Biwa | 669.3 |
| Lake Kasumigaura | 168.2 |
| 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: Ministry of Land, Infrastructure, Transport and Tourism.

Forestland and fields account for the largest portion of the nation's surface area. There are approximately 250,000 square kilometers of forestland and fields (which equates to 67 percent of the nation's surface area), followed by approximately 50,000 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 land for buildings (5 percent).

Table 1.6
Surface Area by Use

| (1,000 square kilometers) | | | | | | | |
|-----------------------------|-------|--------------------------|----------------------|-----------------|---------------------|--------------------------------|--------|
| Year | Total | Forestland and fields | Agricultural land | Inland water | Roads ¹⁾ | Building 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 |
| Percentage distribution (%) | | | | | | | |
| 2010 | 100.0 | 67.1 | 12.4 | 3.5 | 3.6 | 5.0 | 8.4 |

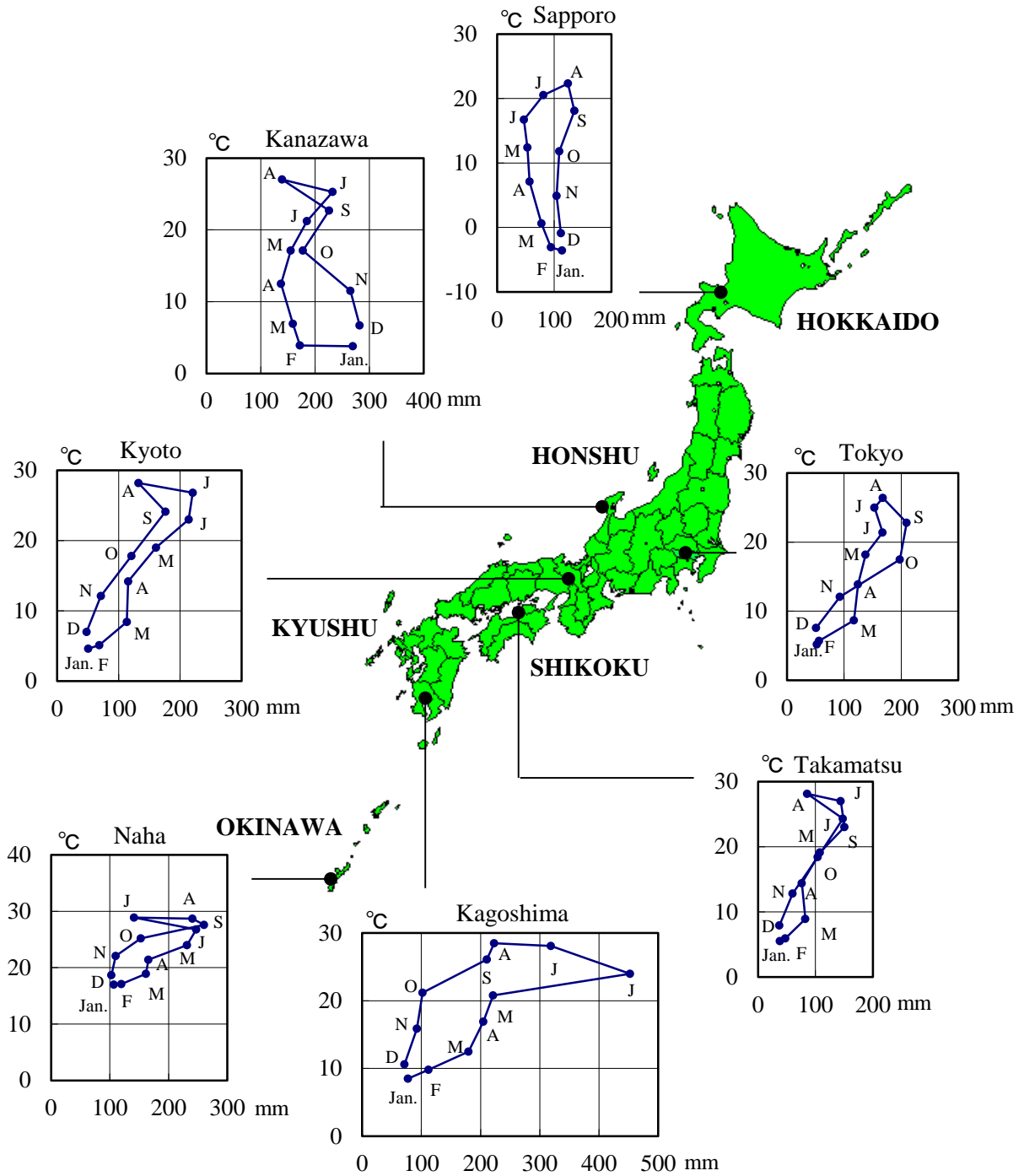
1) Including farm roads and forest roads, etc. 2) Including industrial land and other land for buildings.

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

1) Annual average for temperature and annual total for precipitation.

Source: Japan Meteorological Agency.

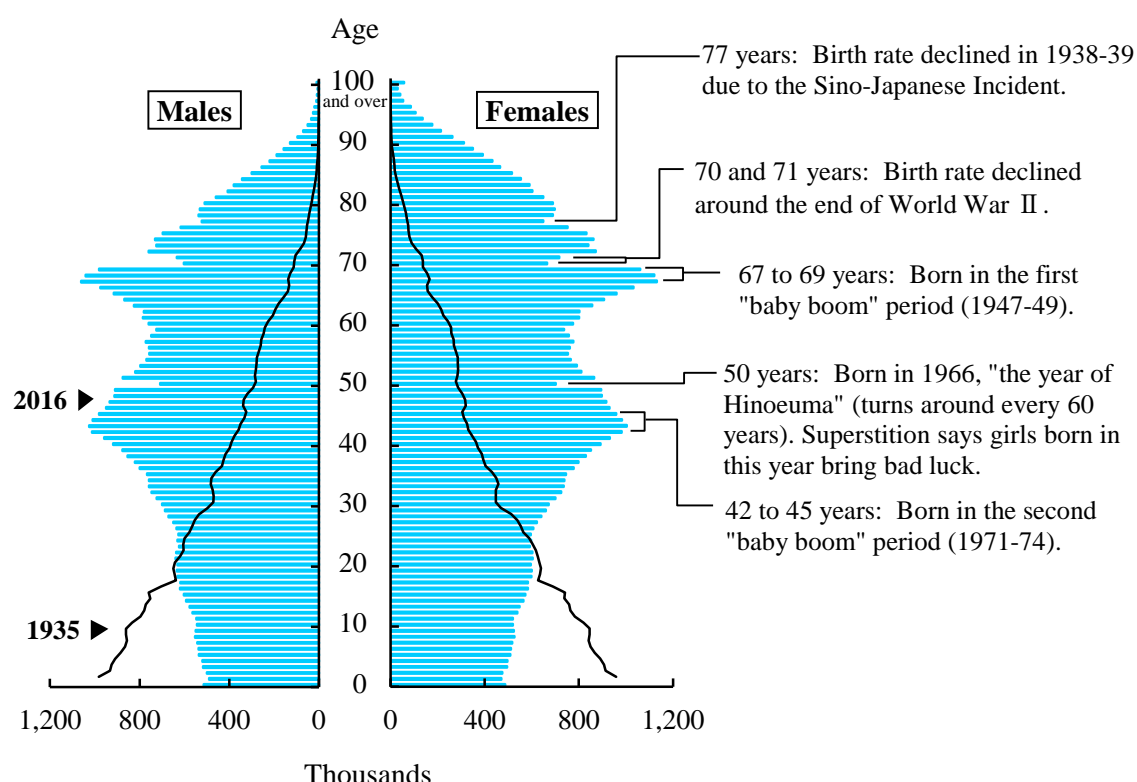
Chapter 2

Population

1. Total Population

Japan's total population in 2016 was 126.93 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 ninth among countries with a population of 10 million or more.

Figure 2.1
Population Pyramid



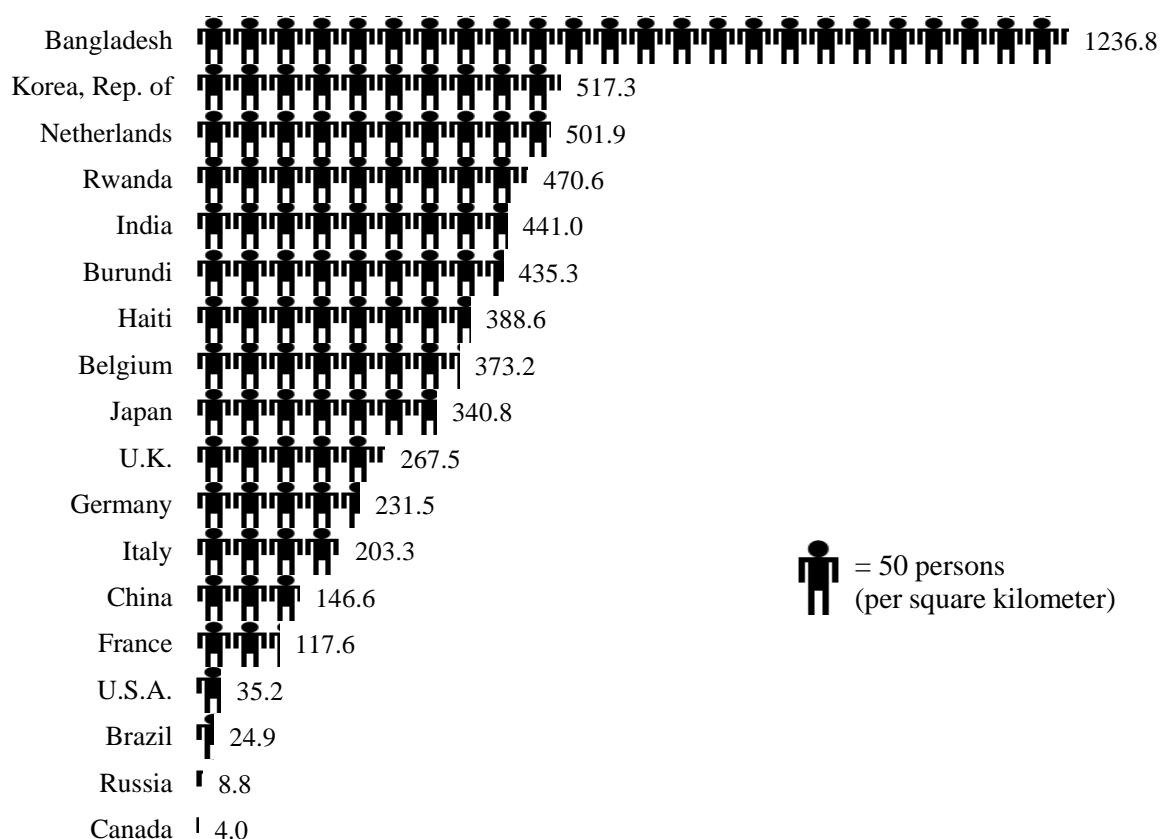
Source: Statistics Bureau, MIC.

Table 2.1
Countries with a Large Population (2016)

| | | (Millions) | |
|-----------------|------------|------------------|------------|
| Country | Population | Country | Population |
| World | 7,433 | Pakistan | 193 |
| China | 1,382 | Nigeria | 187 |
| India | 1,327 | Bangladesh | 163 |
| U.S.A. | 324 | Russia | 143 |
| Indonesia | 261 | Mexico | 129 |
| Brazil | 210 | Japan | 127 |

Source: Statistics Bureau, MIC; United Nations.

Figure 2.2
Population Density by Country (2015)



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 2016, it was 126.93 million, down by 162,000 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 | 254 |
| 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 | 301 |
| 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 |
| (Projection, 2017) | | | | | | | |
| 2020 | 125,325 | 60,897 | 12.0 | 59.1 | 28.9 | -0.32 | 336 |
| 2030 | 119,125 | 57,697 | 11.1 | 57.7 | 31.2 | -0.51 | 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 |

1) As of January 1.

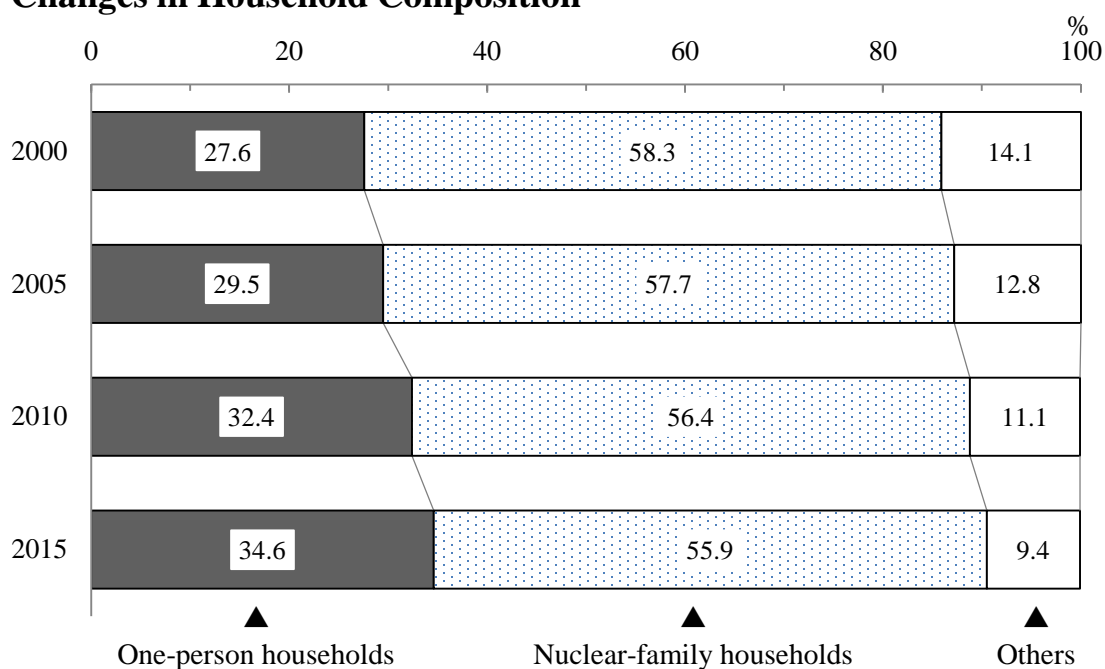
Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare; Ministry of Land, Infrastructure, Transport and Tourism.

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 further. The number of households is projected to peak in 2019 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

| Type of households | (Thousands) | | | | |
|--|-------------|--------|--------|--------|--------|
| | 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 |

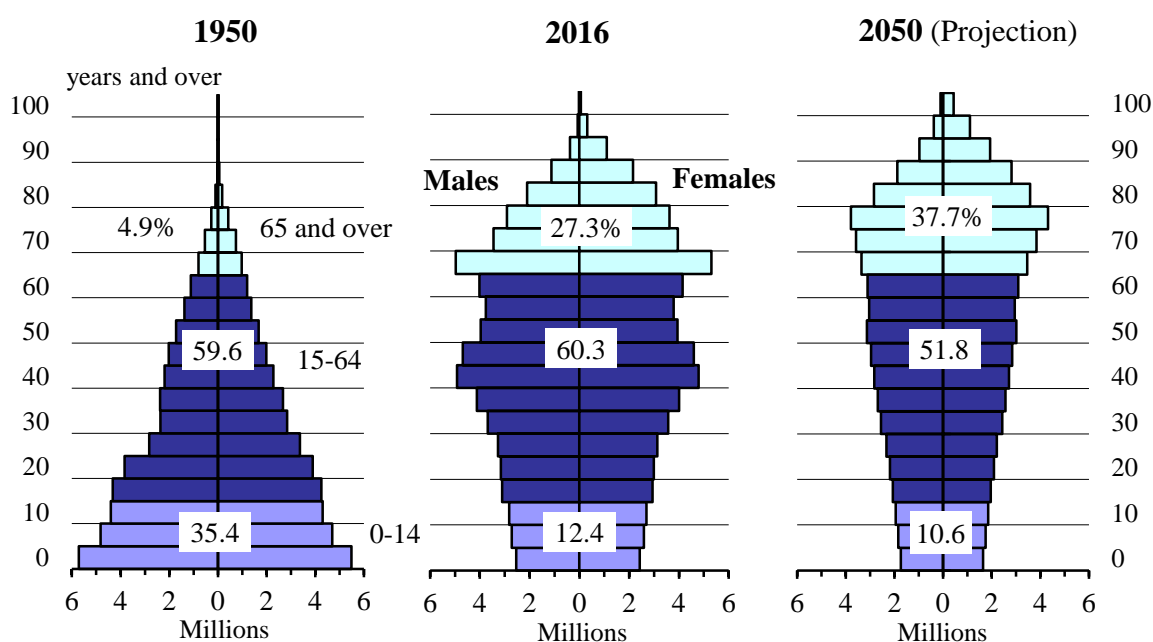
1) Consisting of a husband 65 years of age and over and his wife 60 years of age and over.

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 2016, the aged population (65 years and over) was 34.59 million, constituting 27.3 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

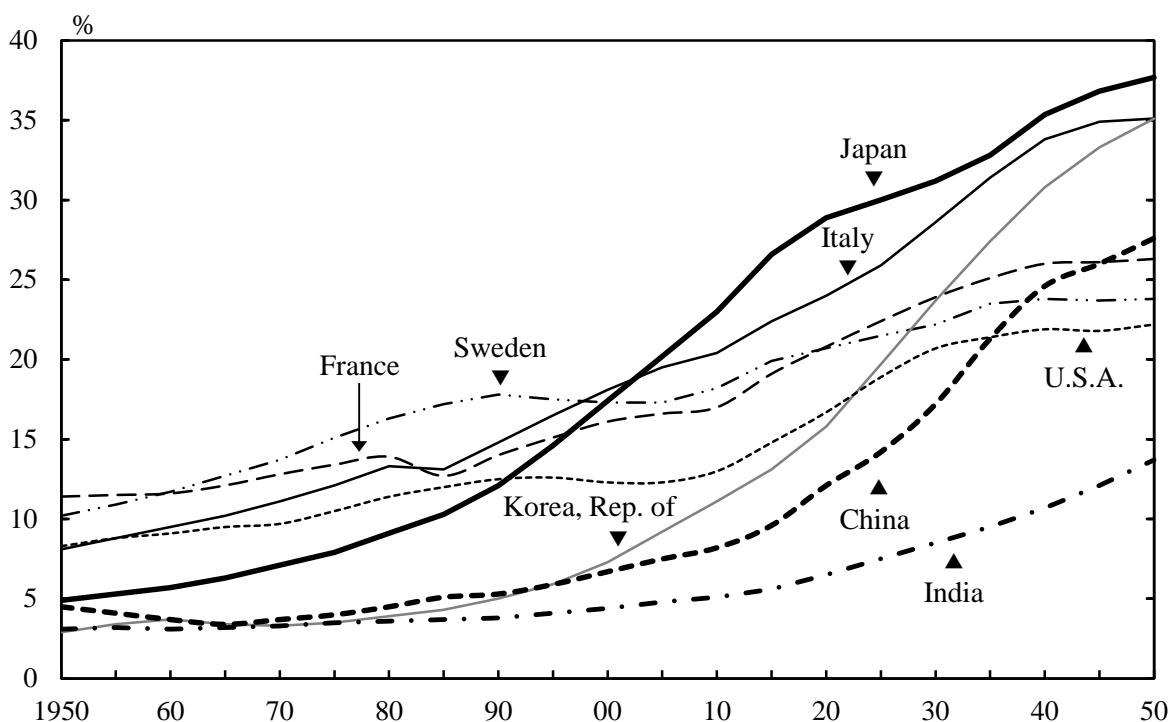


Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare.

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. and European countries, this occurred in 1940 in France, 1950 in Sweden, 1965 in Italy, and 1975 in the U.S., 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. (14.8 percent), France (19.1 percent), Sweden (19.9 percent), and Italy (22.4 percent), indicating that the aging society in Japan is progressing rapidly as compared to the U.S. and European countries.

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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 | 2015 | | | 2050 (projection) | | |
|----------------------|------------|-------|-------------|-------------------|-------|-------------|
| | 0-14 years | 15-64 | 65 and over | 0-14 years | 15-64 | 65 and over |
| Japan | 12.6 | 60.7 | 26.6 | 10.6 | 51.8 | 37.7 |
| Italy | 13.7 | 63.9 | 22.4 | 13.0 | 51.9 | 35.1 |
| Korea, Rep. of | 14.0 | 72.9 | 13.1 | 11.4 | 53.4 | 35.1 |
| Germany | 12.9 | 65.9 | 21.2 | 12.4 | 55.2 | 32.3 |
| China | 17.2 | 73.2 | 9.6 | 13.5 | 58.9 | 27.6 |
| Canada | 16.0 | 67.9 | 16.1 | 14.9 | 58.7 | 26.4 |
| France | 18.5 | 62.4 | 19.1 | 16.8 | 56.9 | 26.3 |
| U.K. | 17.8 | 64.5 | 17.8 | 16.6 | 58.7 | 24.7 |
| Sweden | 17.3 | 62.8 | 19.9 | 17.4 | 58.8 | 23.8 |
| Brazil | 23.0 | 69.1 | 7.8 | 15.0 | 62.2 | 22.8 |
| U.S.A. | 19.0 | 66.3 | 14.8 | 17.5 | 60.3 | 22.2 |
| Russia | 16.8 | 69.9 | 13.4 | 17.7 | 61.4 | 20.9 |
| India | 28.8 | 65.6 | 5.6 | 19.1 | 67.1 | 13.7 |

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

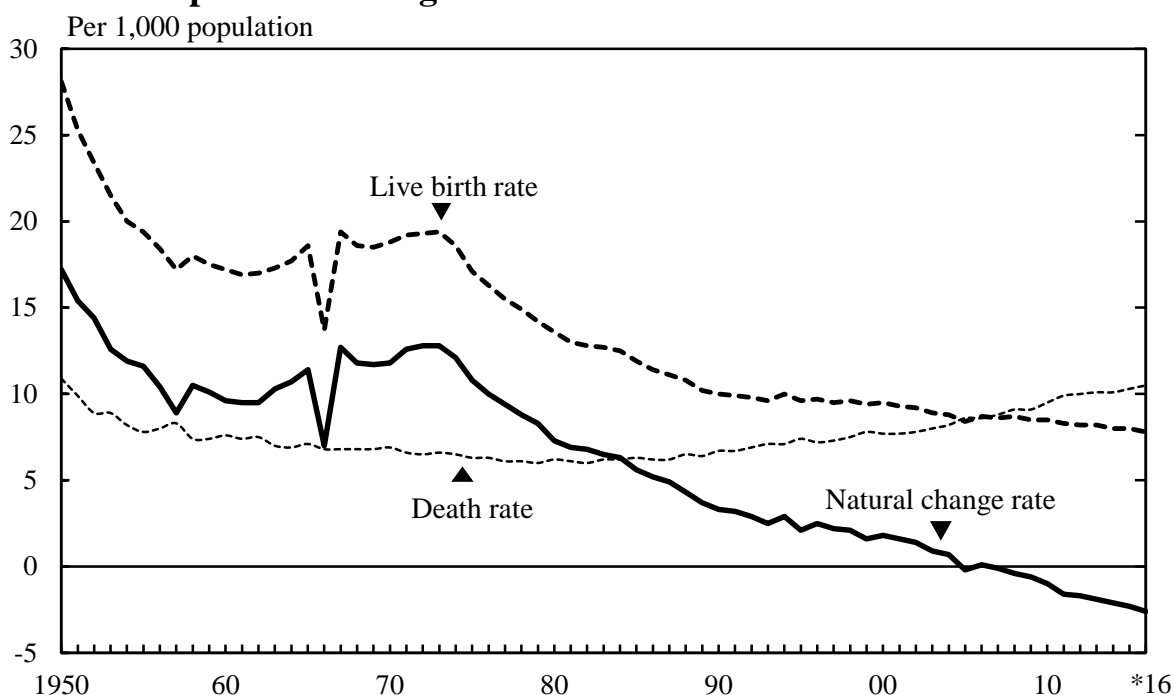
On the other hand, in 2016, the child population (0-14 years) in Japan amounted to 15.78 million, accounting for 12.4 percent of the total population, which was the lowest level on record. In terms of their proportion of the total population, the aged (65 years and over) have surpassed the child population since 1997. The productive-age population (15-64 years) totaled 76.56 million. In share terms, it accounted for 60.3 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 65.8 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 2016, the natural change rate was -2.6.

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 2016 was 7.8.

Figure 2.6
Natural Population Change



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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 | 80.79 | 87.05 |
| 2016* | 7.8 | 10.5 | 2.0 | -2.6 | 1.44 | ... | ... |

1) The infant mortality rate is per 1,000 live births. 2) The average number of children that would be born alive to a hypothetical cohort of women if, throughout their reproductive years, the age-specific fertility rates for the specified year remained unchanged.

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 2016. The total fertility rate was on a downward trend after dipping below 2.00 in 1975. It marked a record low of 1.26 in 2005 and started to increase after that. The total fertility rate reached 1.44 in 2016.

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 10.5 in 2016.

Table 2.7
Changes of Mothers' Age at Childbirth

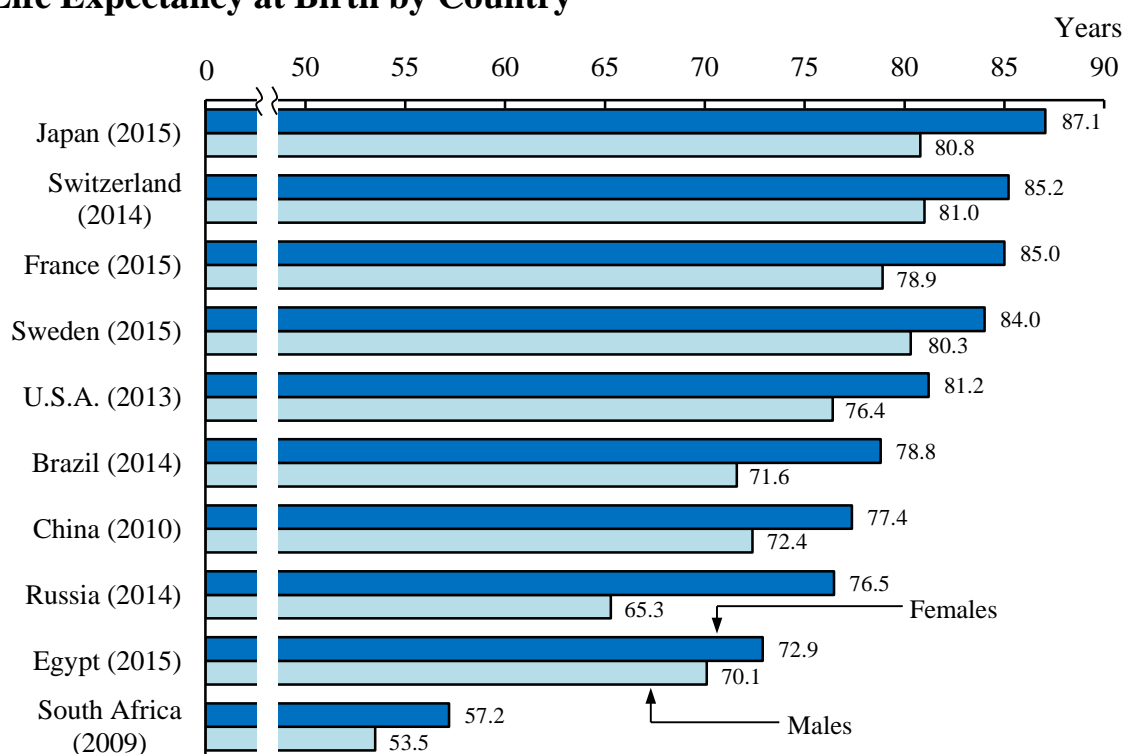
| Year | Number of births (1,000) ¹⁾ | Distribution of mothers' age (%) ²⁾ | | | | | | Mean age bearing first child |
|-------|--|--|-------|-------|-------|-------|-------------|------------------------------|
| | | Under 19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 and over | |
| 1970 | 1,934 | 1.0 | 26.5 | 49.2 | 18.5 | 4.2 | 0.5 | 25.6 |
| 1980 | 1,577 | 0.9 | 18.8 | 51.4 | 24.7 | 3.7 | 0.4 | 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 | 1.2 | 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 | 5.3 | 30.7 |
| 2016* | 977 | 1.1 | 8.4 | 25.7 | 36.3 | 22.9 | 5.6 | 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 2015, the life expectancy at birth was 87.1 years for women and 80.8 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 one 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 2011, 661,895 couples married, marking the first time this number fell below 700,000 couples. In 2016, 620,523 couples married, and the marriage rate was 5.0.

The mean age of first marriage was 31.1 for men and 29.4 for women in 2016. 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 3.0 years over the past 20 years. (in 1996: grooms, 28.5; brides, 26.4). 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.

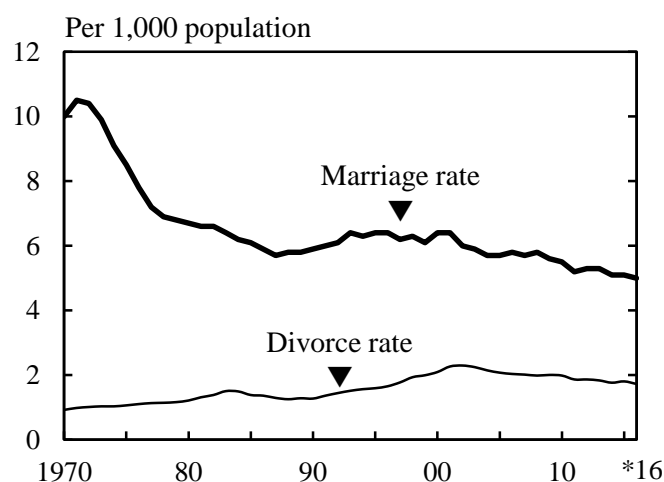
Table 2.8
Mean Age of First Marriage

| 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 |

Source: Ministry of Health, Labour and Welfare.

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 2016, the number of divorces totaled 216,805 couples, and the divorce rate (per 1,000 population) was 1.73.

Figure 2.8
Changes in Marriage Rate and Divorce Rate



Source: Ministry of Health, Labour and Welfare.

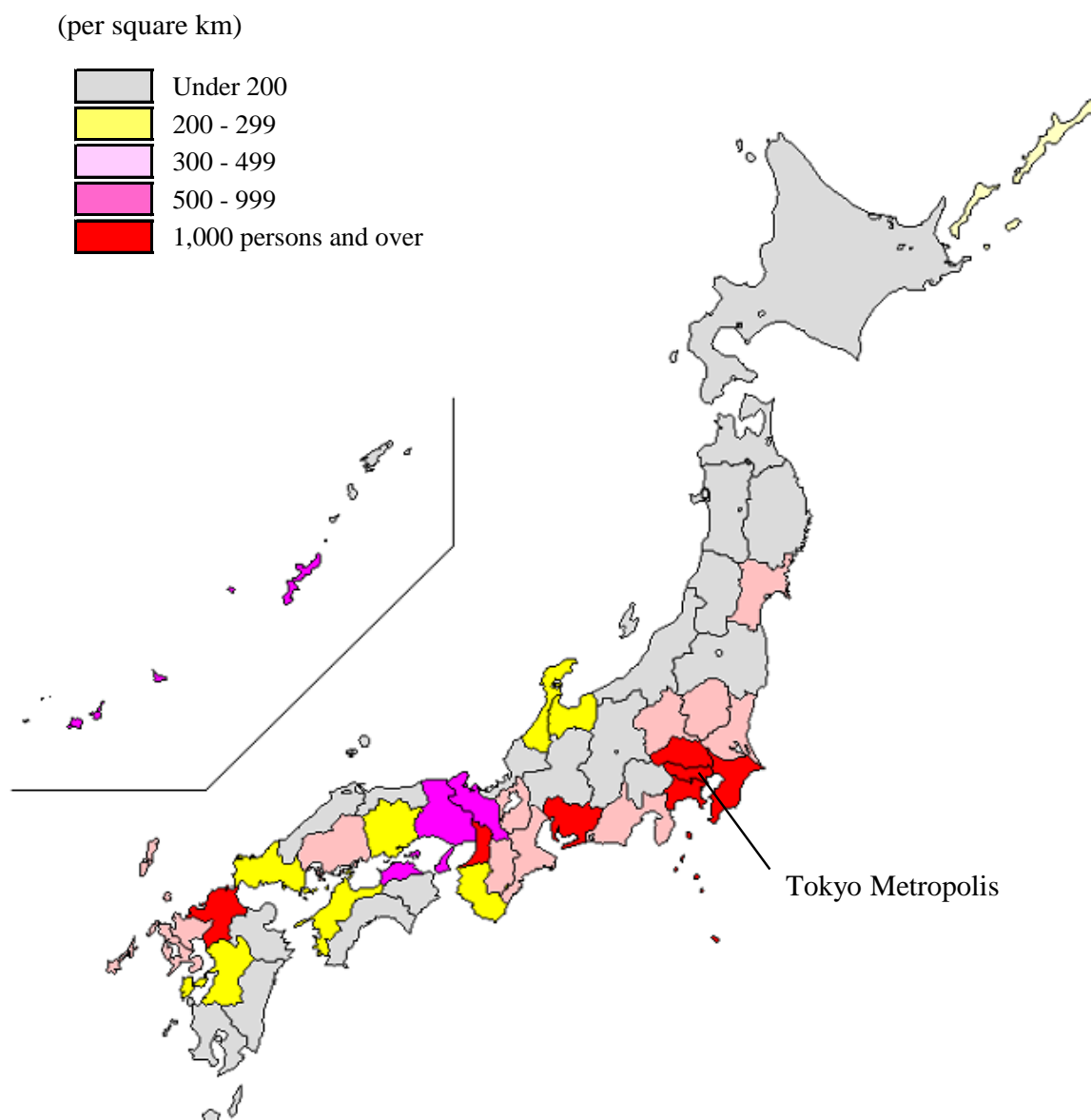
6. Population Density and Regional Distribution

(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 seven 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)



Source: Statistics Bureau, MIC.

In 2015, there were 12 cities in Japan with a population of one 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 2.9
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 2010, 51.0 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 2,631 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 1,484 persons per square kilometer.

Table 2.10
Population of Three Major Metropolitan Areas¹⁾ (2010)

| Areas | Population (1,000) | | Surface Area (km ²) | Population density (per km ²) |
|---|--------------------|-----------------------------|---------------------------------|---|
| | | Percentage of the total (%) | | |
| Kanto major metropolitan area | 36,923 | 28.8 | 14,034 | 2,631 |
| Chukyo major metropolitan area | 9,107 | 7.1 | 7,072 | 1,288 |
| Kinki major metropolitan area | 19,342 | 15.1 | 13,033 | 1,484 |
| Total of three major metropolitan areas | 65,373 | 51.0 | 34,138 | 1,915 |

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.

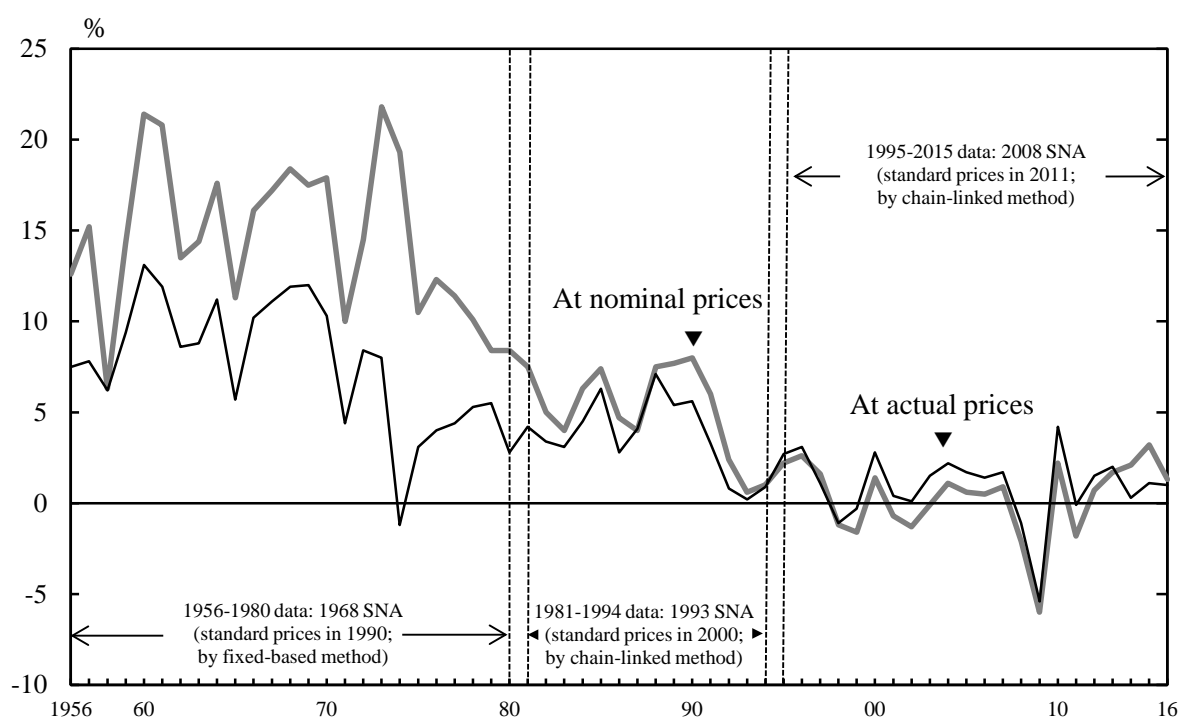
Chapter 3

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 ¹⁾



1) Data was estimated using a different method beginning in 1995.

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.

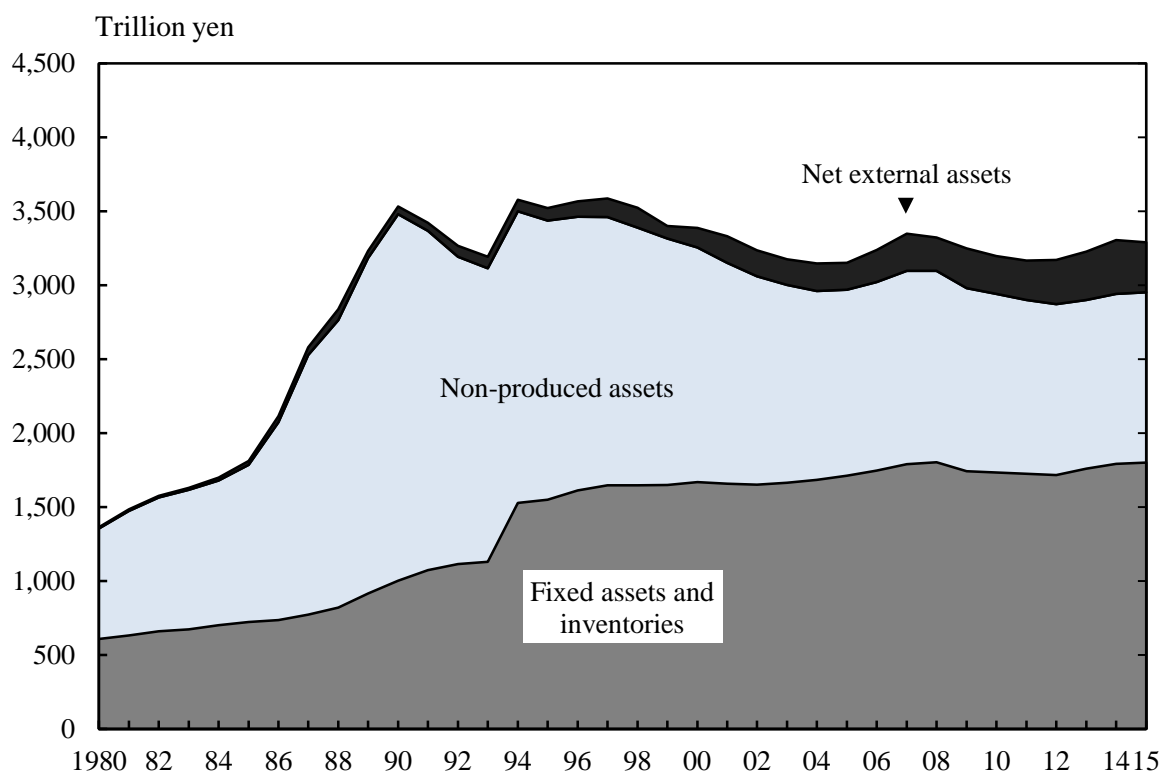
2. Bubble Economy and Its Collapse

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, Japan's national wealth began to decrease due to the collapse of the bubble economy. At the end of 2015, it was 3,290 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⁾

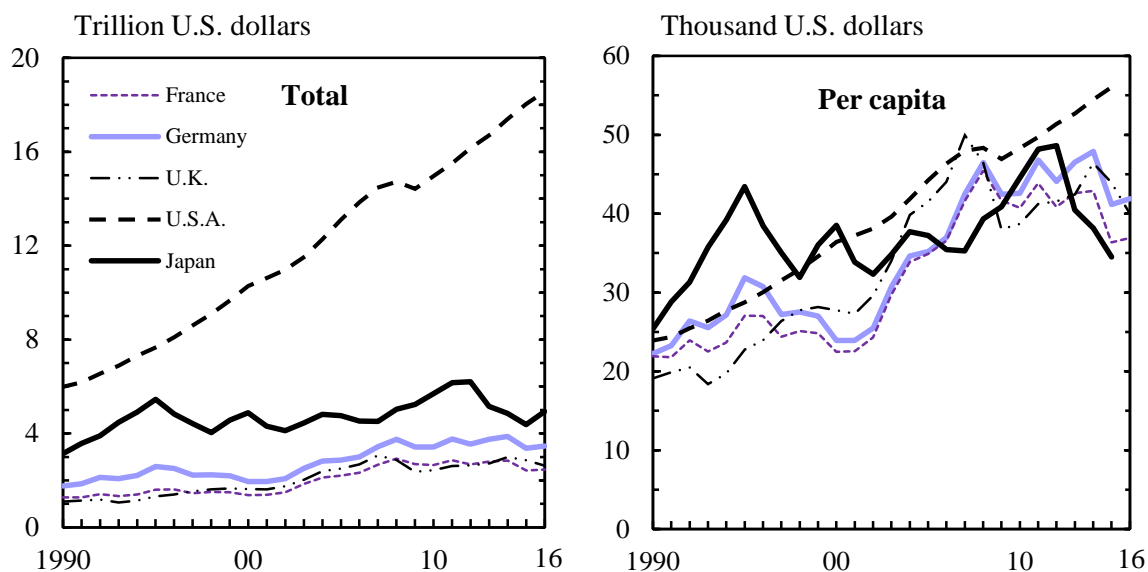


1) Data was estimated using a different method beginning in 1994.
Source: Cabinet Office.

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 | 2013 | 2014 | 2015 | 2016 |
| Gross domestic product (GDP) | 508,781.4 | 510,489.2 | 515,973.4 | 521,206.9 |
| Domestic demand | 517,680.9 | 519,525.0 | 523,120.9 | 525,159.2 |
| Private demand | 389,141.2 | 390,134.9 | 392,680.6 | 394,091.1 |
| Private final consumption expenditure | 298,980.7 | 296,435.1 | 295,235.3 | 296,297.6 |
| Private Residential Investment | 15,877.2 | 15,202.2 | 14,959.3 | 15,794.0 |
| Private plant and equipment | 74,892.8 | 78,762.9 | 79,645.3 | 80,696.5 |
| Changes in inventories of private sectors | -632.8 | -308.6 | 2,792.9 | 1,186.7 |
| Public demand | 128,539.7 | 129,390.3 | 130,440.8 | 131,069.1 |
| Government final consumption expenditure ... | 102,382.2 | 102,930.0 | 104,639.2 | 106,036.0 |
| Gross capital formation by public sectors | 26,181.3 | 26,374.2 | 25,816.9 | 25,040.6 |
| Changes in inventories of public sectors | -23.1 | 72.3 | -1.4 | 51.3 |
| Net exports of goods and services | -8,910.3 | -8,892.0 | -7,194.4 | -4,142.3 |
| Exports of goods and services | 73,835.6 | 80,695.2 | 83,071.2 | 84,054.4 |
| (less) Imports of goods and services | 82,745.9 | 89,587.3 | 90,265.6 | 88,196.7 |
| (Reference) | | | | |
| Trading gains/losses | -1,695.2 | -2,304.2 | 5,161.0 | 9,471.3 |
| Gross domestic income | 507,086.2 | 508,185.0 | 521,134.4 | 530,678.2 |
| Net income from the rest of the world | 17,014.3 | 18,287.6 | 19,994.8 | 17,190.6 |
| Incomes from the rest of the world | 23,808.7 | 26,973.8 | 29,731.3 | 27,477.1 |
| (less) Incomes to the rest of the world | 6,794.5 | 8,686.1 | 9,736.5 | 10,286.5 |
| Gross national income (GNI) | 524,100.5 | 526,472.6 | 541,129.2 | 547,868.8 |

1) 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.

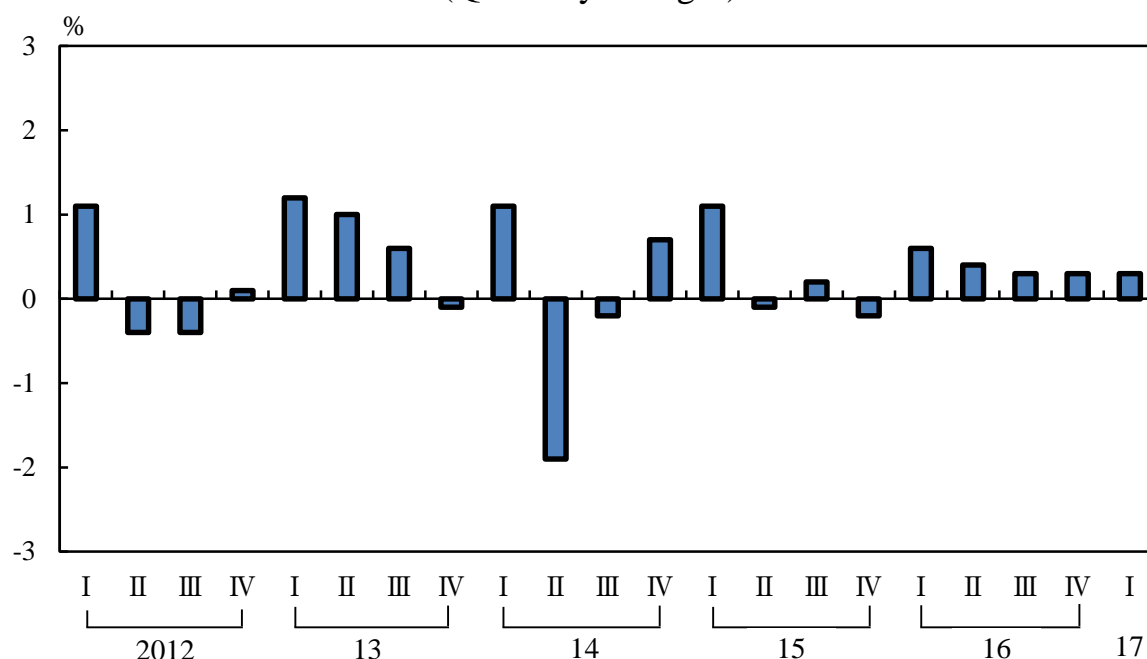
In order to achieve an early end to deflation and break free of economic stagnation, in January 2013, the government set forth its "three-arrows" strategy (also known as "Abenomics").

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 | # 1.8 | # 30.4 | # 67.8 |
| 2000 | 5.2 | 29.5 | 65.3 | 1.6 | 28.4 | 70.0 |
| 2005 | 4.9 | 26.4 | 68.6 | 1.2 | 25.8 | 73.0 |
| 2010 | 4.2 | 25.2 | 70.6 | 1.2 | 25.2 | 73.6 |
| 2015 | 4.0 | 25.0 | 71.0 | 1.1 | 26.2 | 72.7 |

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, 26.2 percent and 72.7 percent, respectively.

Table 3.3
Gross Domestic Product by Type of Economic Activity (2015)

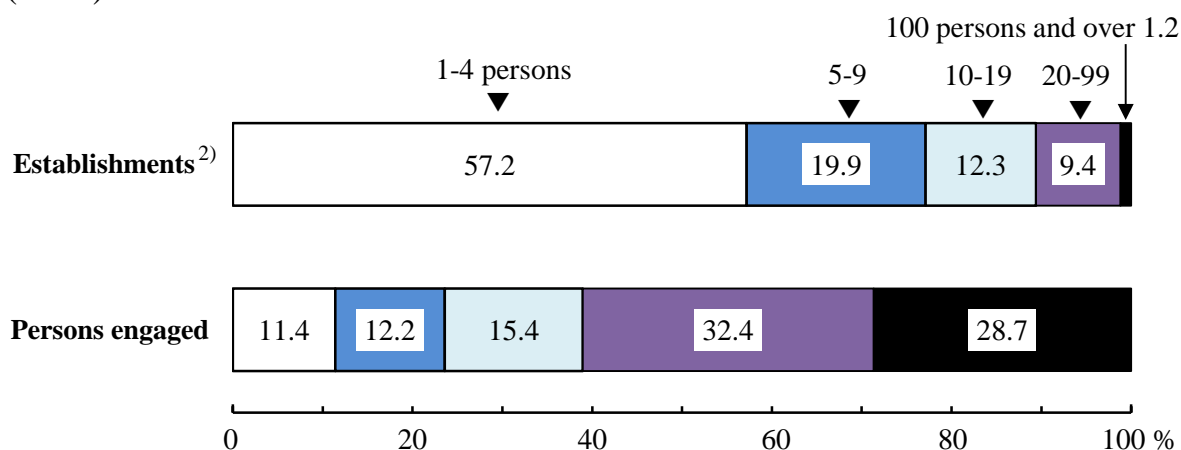
| | (%) | | | | |
|--|------|------|------|------|------|
| | 1995 | 2000 | 2005 | 2010 | 2015 |
| Primary industry | | | | | |
| Agriculture, forestry and fishing | 1.7 | 1.5 | 1.1 | 1.1 | 1.1 |
| Secondary industry | | | | | |
| Mining | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| Manufacturing | 23.5 | 22.6 | 21.6 | 20.8 | 20.4 |
| Construction | 7.8 | 6.9 | 5.6 | 4.8 | 5.5 |
| Tertiary industry | | | | | |
| Electricity, gas and water supply, waste management service | 3.0 | 3.2 | 2.9 | 2.8 | 2.7 |
| Wholesale and retail trade | 13.8 | 13.1 | 14.4 | 13.8 | 13.9 |
| Transport and postal activities | 5.5 | 4.9 | 5.1 | 5.0 | 5.1 |
| Accommodation and food service activities | 3.1 | 3.1 | 2.7 | 2.6 | 2.5 |
| Information and communications | 3.2 | 4.6 | 4.9 | 5.1 | 5.0 |
| Finance and insurance | 5.0 | 4.9 | 6.0 | 4.8 | 4.4 |
| Real estate | 9.9 | 10.3 | 10.4 | 11.9 | 11.4 |
| Professional, scientific and technical activities ... | 4.8 | 5.8 | 6.4 | 7.0 | 7.3 |
| Public administration | 4.8 | 5.2 | 5.1 | 5.3 | 5.0 |
| Education | 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 |
| Other service activities | 5.2 | 5.2 | 4.9 | 4.7 | 4.4 |

Source: Cabinet Office.

According to the "2016 Economic Census for Business Activity", there were 5.4 million establishments (excluding businesses whose operational details are unknown, national government services, and local government services) in Japan, at which a total of 57.4 million persons were employed. The average number of persons engaged per establishment was 10.7

establishments with less than 10 persons accounted for 77.2 percent of the total.

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



1) Preliminary tabulation. 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.

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 | 5,359,975 | 57,439,652 |
| By industry | | |
| Primary industry | | |
| Agriculture, forestry and fisheries | 32,675 | 366,949 |
| Secondary industry | | |
| Mining and quarrying of stone and gravel | 1,957 | 21,269 |
| Construction | 495,608 | 3,728,873 |
| Manufacturing | 453,810 | 8,925,749 |
| Tertiary industry | | |
| Electricity, gas, heat supply and water | 4,874 | 194,036 |
| Information and communications | 64,527 | 1,663,836 |
| Transport and postal activities | 131,213 | 3,235,442 |
| Wholesale and retail trade | 1,357,030 | 12,012,080 |
| Finance and insurance | 84,330 | 1,530,071 |
| Real estate and goods rental and leasing | 355,102 | 1,479,307 |
| Scientific research, professional and technical services | 221,414 | 1,815,209 |
| Accommodations, eating and drinking services | 701,241 | 5,460,685 |
| Living-related and personal services and amusement services ... | 470,744 | 2,419,128 |
| Education, learning support | 166,415 | 1,824,961 |
| Medical, health care and welfare | 430,265 | 7,419,831 |
| Compound services | 33,872 | 480,172 |
| Services, n.e.c. | 354,898 | 4,862,054 |
| By type of legal organizations | | |
| Individual proprietorships | 2,011,800 | 5,740,540 |
| Corporations | 3,319,000 | 51,574,686 |
| Companies | 2,895,256 | 43,212,387 |
| Organizations other than corporations | 29,175 | 124,426 |

1) Preliminary tabulation. Excluding businesses whose operational details are unknown, national government services, and local government services.

Source: Statistics Bureau, MIC.

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 11,080 companies at the end of fiscal 2015, and the overseas production ratio was 25.3 percent in actual performance in fiscal 2015, indicating a 1.0 percentage point increase as compared to the previous fiscal year, reaching the highest level ever.

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⁾ (%) |
|-------------|-------------------------------|---------------------------------|--|--|---|
| 2006 | 8,287 | 99,679,316 | 18.1 | 3,948,396 | 20.0 |
| 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 |

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 India, China, Indonesia and Vietnam.

Chapter 4

Finance

1. National and Local Government Finance

(1) National Government Finance

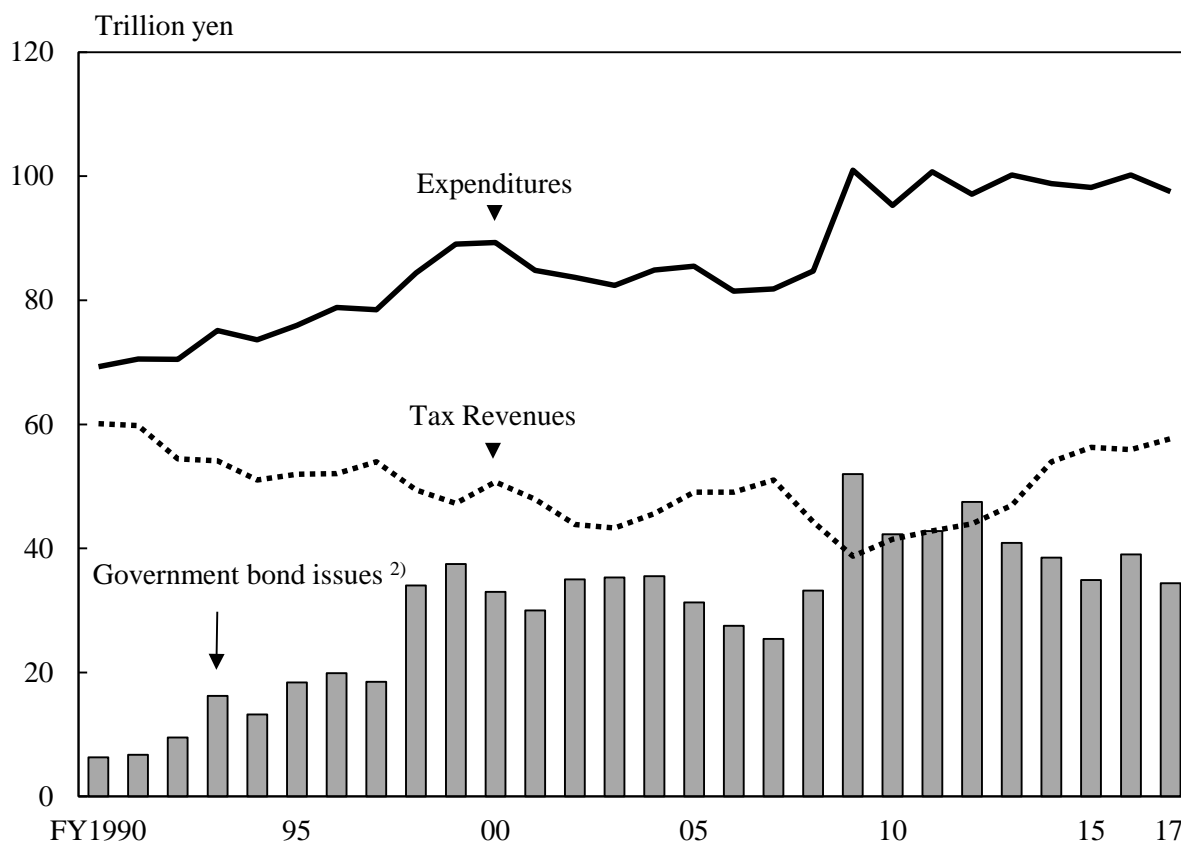
Japan's fiscal year starts in April, and ends in March of the following year. In setting the national budget, the government submits a proposed budget for the upcoming fiscal year to the Ordinary Session of the Diet, which begins in January. The proposal is then discussed, and an initial budget is approved 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, special accounts, and the budget for 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 2017, a total of 13 special accounts have been established, including the national debt consolidation fund, the grants of allocation tax and transferred tax and the Great East Japan Earthquake recovery fund.

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 of International Cooperation, and the Japan International Cooperation Agency (Loan Aid Section) are operated as government-affiliated agencies.

Figure 4.1
Revenues and Expenditures in the General Account ¹⁾



1) Based on settlements until FY2015, initial and supplementary budgets for FY2016, and draft budget for FY2017. 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 2017 was 97 trillion yen, an increase of 0.7 trillion yen (0.8 percent) from the initial budget of fiscal 2016. This is equivalent to 17.6 percent of the fiscal 2017 GDP, forecasted by the government at 554 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 |
| 2014 | 98,813 | 59,532 | 30,171 | 5,866 | 444 | 5,063 | 7,321 |
| 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 ²⁾ | 97,455 | 58,359 | 32,473 | 5,357 | 295 | 5,125 | 5,976 |

| 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 |
| 2014 | 655 | 417 | 1,303 | 1,074 | 7,218 | 22,186 | 17,096 |
| 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 ²⁾ | 511 | 181 | 963 | 1,017 | 6,460 | 23,528 | 15,567 |

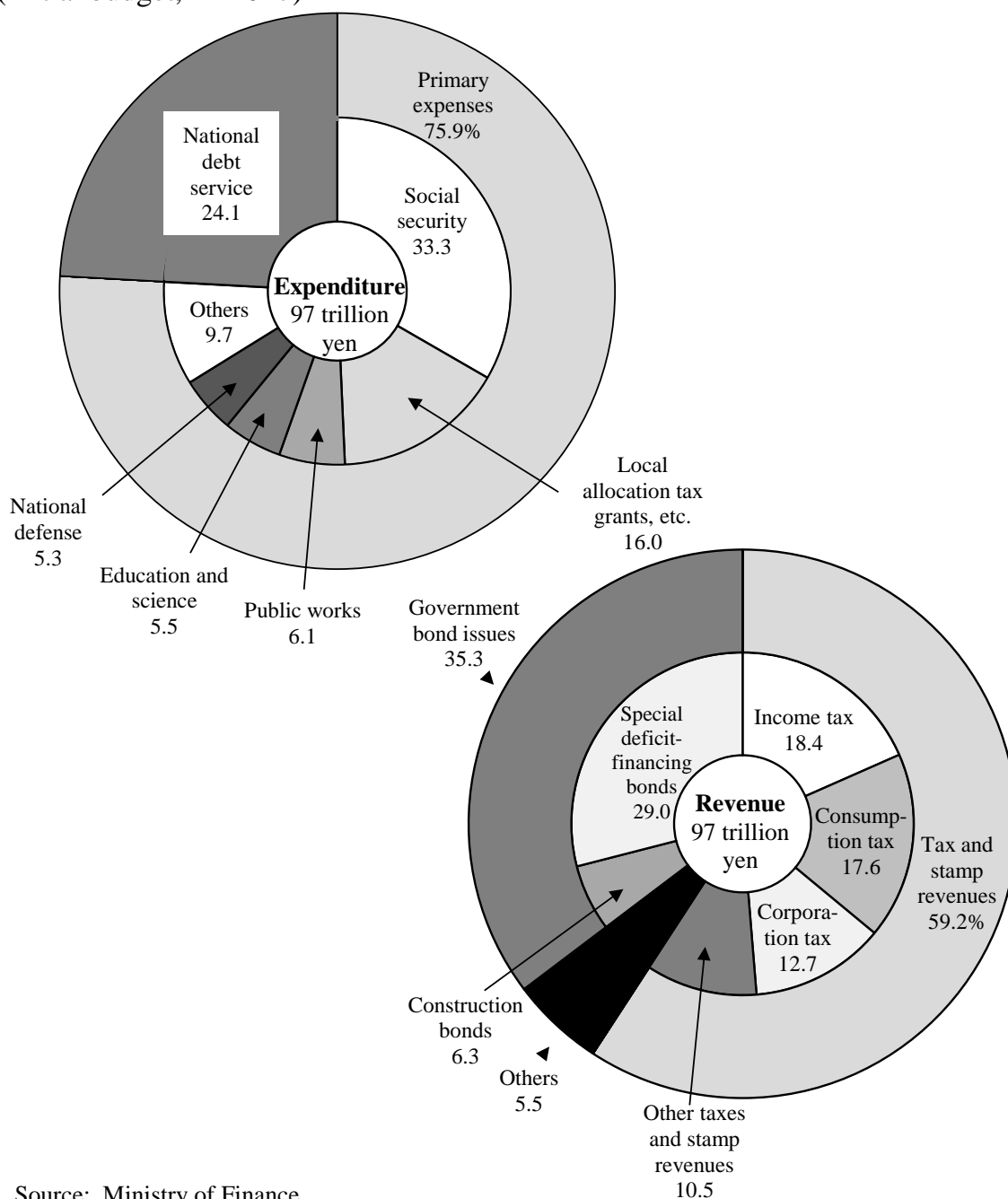
1) Revised budget. 2) Initial budget.

Source: Ministry of Finance.

In fiscal 2017, major expenditures from the initial general account budget include social security (33.3 percent), national debt service (24.1 percent), local allocation tax grants, etc. (16.0 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 2017 initial general account budget, income tax, consumption tax and corporation tax account for 48.7 percent. Even with the addition of other taxes and stamp revenues, these revenue sources only amount to 59.2 percent of the total revenue.

Figure 4.2
Composition of Revenue and Expenditure of General Account Budget
 (Initial budget, FY2017)



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 utilities,

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

While expenditures such as national defense 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 waste disposal; school education expenses; expenses covering judicial, police and fire services; 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 2015 (net) revenues came from local taxes, accounting for 38.4 percent of the total. The second-largest source, 17.1 percent, was local allocation tax grants.

Table 4.2
Local Government Finance¹⁾ (Ordinary accounts)

| Item | (Million yen) | | | | |
|-----------------------------------|---------------|------------|-------------|-------------|-------------|
| | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 |
| Revenues | 100,069,646 | 99,842,882 | 101,099,835 | 102,083,476 | 101,917,496 |
| Local taxes | 34,171,416 | 34,460,760 | 35,374,285 | 36,785,451 | 39,098,563 |
| Local transfer taxes | 2,169,911 | 2,271,480 | 2,558,842 | 2,936,867 | 2,679,246 |
| Special local grants, etc. | 364,020 | 127,467 | 125,522 | 119,188 | 118,868 |
| Local allocation tax | 18,752,268 | 18,289,826 | 17,595,454 | 17,431,428 | 17,390,640 |
| Treasury disbursements | 15,927,963 | 15,425,766 | 16,412,481 | 15,461,868 | 15,221,213 |
| Local government bonds | 11,760,270 | 12,337,932 | 12,284,850 | 11,518,456 | 10,688,010 |
| Expenditures | 97,002,646 | 96,418,554 | 97,412,028 | 98,522,799 | 98,405,225 |
| General administration | 9,345,975 | 9,961,845 | 10,000,563 | 9,869,954 | 9,608,827 |
| Public welfare | 23,182,534 | 23,152,326 | 23,463,324 | 24,450,891 | 25,254,815 |
| Sanitation | 6,743,245 | 5,993,241 | 5,988,543 | 6,143,397 | 6,301,793 |
| Agriculture, forestry and fishery | 3,207,580 | 3,181,270 | 3,500,949 | 3,348,633 | 3,218,216 |
| Commerce and industry | 6,547,758 | 6,206,903 | 5,915,650 | 5,509,540 | 5,516,105 |
| Civil engineering work | 11,284,876 | 11,242,282 | 12,125,221 | 12,050,506 | 11,707,165 |
| Education | 16,176,813 | 16,147,943 | 16,087,778 | 16,658,138 | 16,795,536 |

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 2016, the gross total of national government expenditure was 503 trillion yen, the net total was 246 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 (38 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)

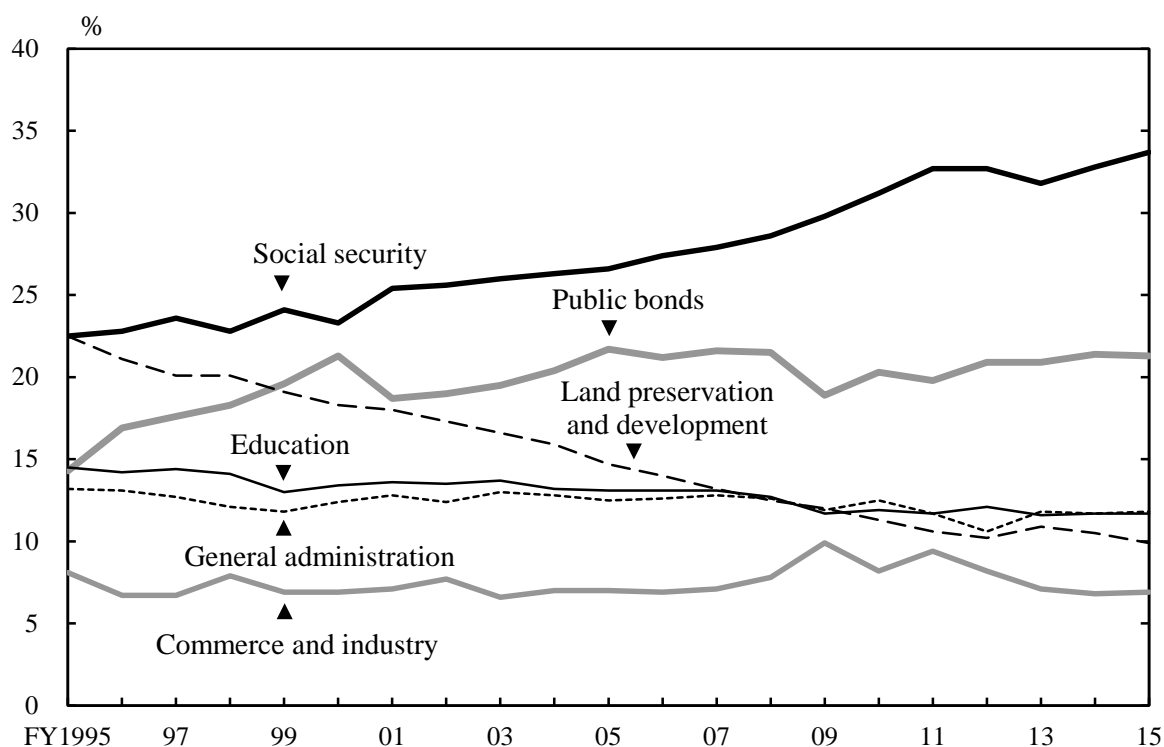
(Billion yen)

| Item | Expenditures | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| | FY1995 | FY2000 | FY2005 | FY2010 | FY2015 | FY2016 |
| General account | 70,987 | 84,987 | 82,183 | 92,299 | 96,342 | 96,722 |
| Special accounts | 241,718 | 318,689 | 411,944 | 367,074 | 403,553 | 403,852 |
| Government-affiliated agencies | 8,086 | 7,661 | 4,678 | 3,135 | 2,216 | 2,077 |
| Gross total (national) | 320,792 | 411,337 | 498,805 | 462,508 | 502,111 | 502,650 |
| Duplications | 160,054 | 200,435 | 257,490 | 244,744 | 262,184 | 256,212 |
| Net total (national) | 160,738 | 210,902 | 241,316 | 217,764 | 239,927 | 246,438 |
| Local public finance plan | 82,509 | 88,930 | 83,769 | 82,127 | 87,768 | 87,670 |
| Gross total (national + local) | 243,247 | 299,832 | 325,084 | 299,891 | 327,694 | 334,108 |
| Duplications | 32,035 | 37,216 | 32,689 | 31,563 | 35,484 | 37,937 |
| Net total (national + local) | 211,213 | 262,616 | 292,395 | 268,328 | 292,211 | 296,171 |

Source: Ministry of Finance.

The settlement amount for fiscal 2015, the net total of national and local government expenditures was 168 trillion yen. The national government disbursed 42 percent of this amount, while the local governments disbursed 58 percent.

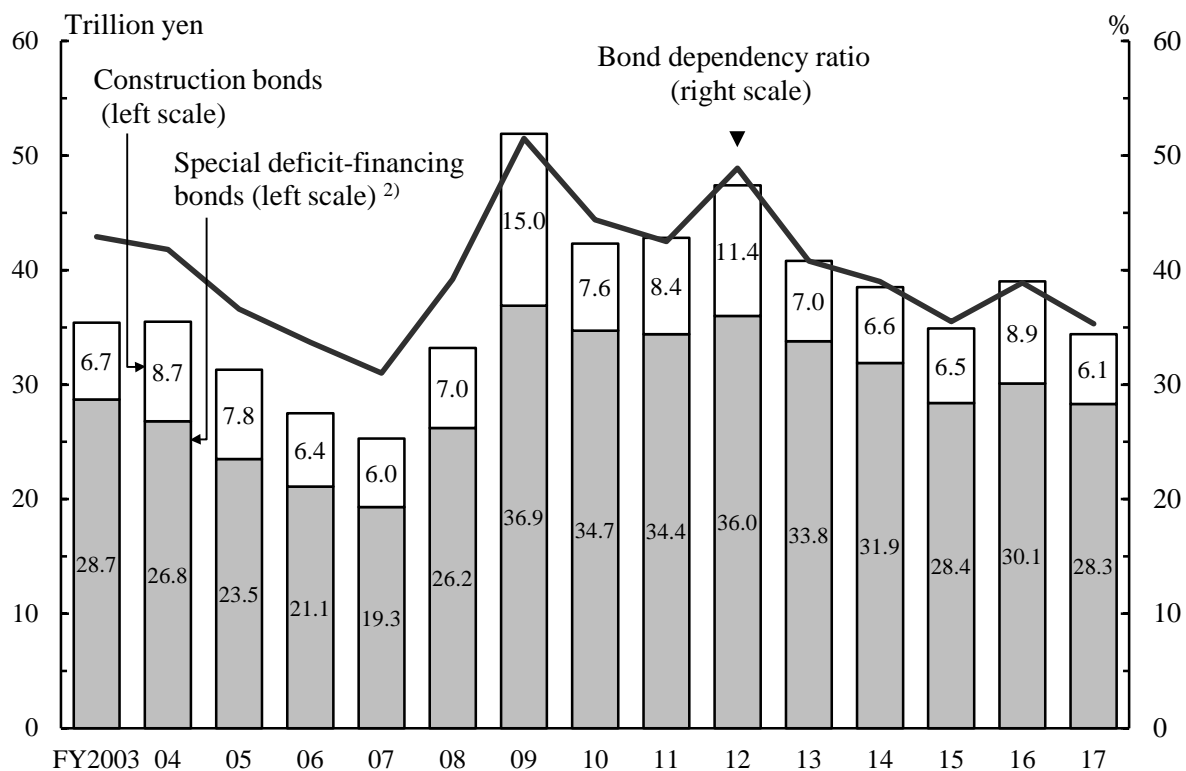
Figure 4.3
Ratio of Net Total National and Local Expenditures by Function



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 (33.7 percent), followed by public bonds (21.3 percent), general administration (11.8 percent), education (11.7 percent), and then land preservation and development (9.9 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 government expenditures net of overlaps. 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⁾

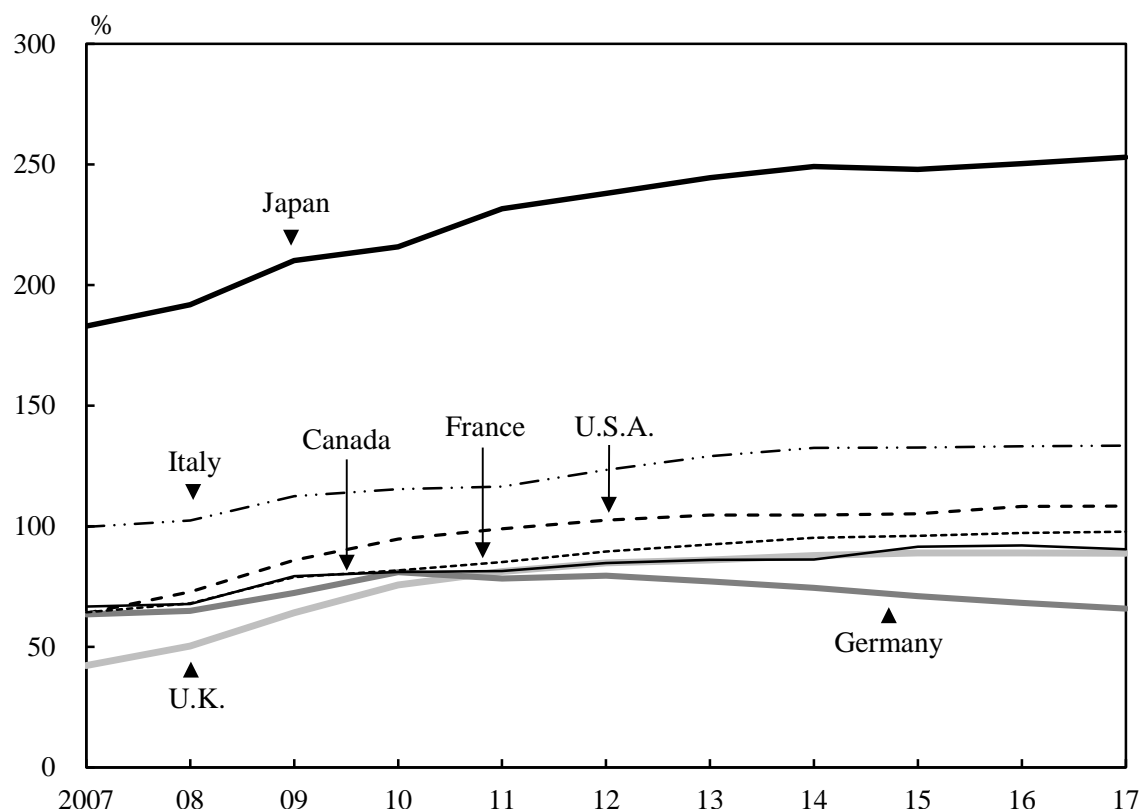


1) Based on settlements until FY2015, initial and supplementary budgets for FY2016, and draft budget for FY2017. 2) Excludes some special accounts.

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



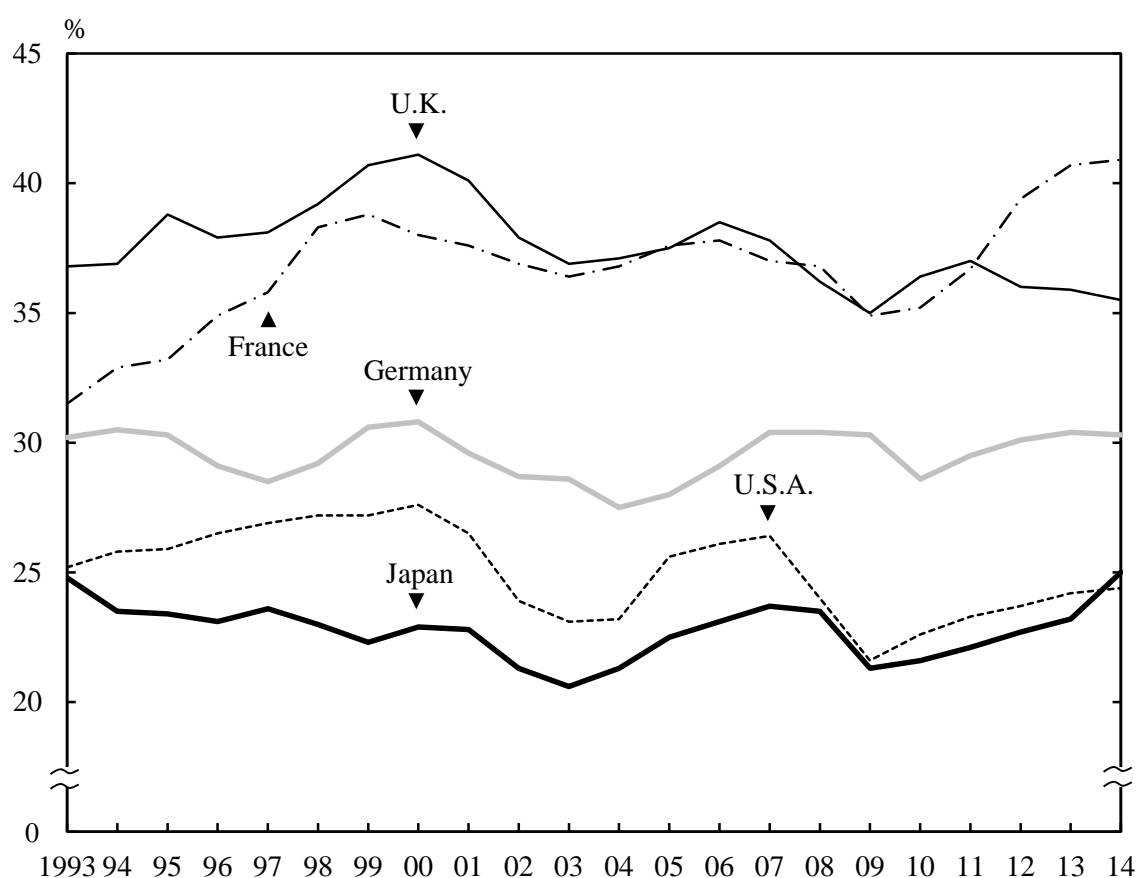
Source: Ministry of Finance.

(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 2017, it was 25.1 percent in terms of national and local taxes combined (15.2 percent for national tax and 9.9 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 2016, currency in circulation totaled 107 trillion yen (102.5 trillion yen in Bank of Japan notes and 4.7 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 | 2012 | 2013 | 2014 | 2015 | 2016 |
| Total | 91,231 | 94,770 | 97,738 | 103,120 | 107,203 |
| Bank of Japan notes | 86,653 | 90,143 | 93,082 | 98,430 | 102,461 |
| Coins | 4,578 | 4,627 | 4,656 | 4,690 | 4,742 |

Source: Bank of Japan.

The Bank of Japan compiles and publishes statistics on the following indicators: (i) M1, or cash currency in circulation plus deposit money; (ii) M2, or cash currency in circulation plus deposits in banks, etc. in Japan; (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 outstanding money stock in 2016 was 662 trillion yen in M1 and 939 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 |
| 2012 | 816,530 | 1,122,568 | 534,555 | 555,606 | 32,406 | 1,452,613 |
| 2013 | 845,971 | 1,155,364 | 560,311 | 561,426 | 33,627 | 1,499,078 |
| 2014 | 874,836 | 1,187,430 | 586,756 | 564,803 | 35,871 | 1,550,886 |
| 2015 | 907,127 | 1,223,255 | 617,079 | 568,922 | 37,253 | 1,612,519 |
| 2016 | 938,622 | 1,259,091 | 661,513 | 564,782 | 32,797 | 1,649,034 |

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 462.2 trillion yen as of the end of April 2017, up 19.7 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⁾ | Loan contract rates ³⁾ | 10 years' newly issued Govt. bonds yields | |
| 2007 | 0.75 | 0.459 | 1.875 | 1.673 | 1.500 | |
| 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 | |

1) Uncollateralized overnight. 2) Short-term loans. 3) Average of short-term loan contracts of domestically licensed banks.

Source: Bank of Japan.

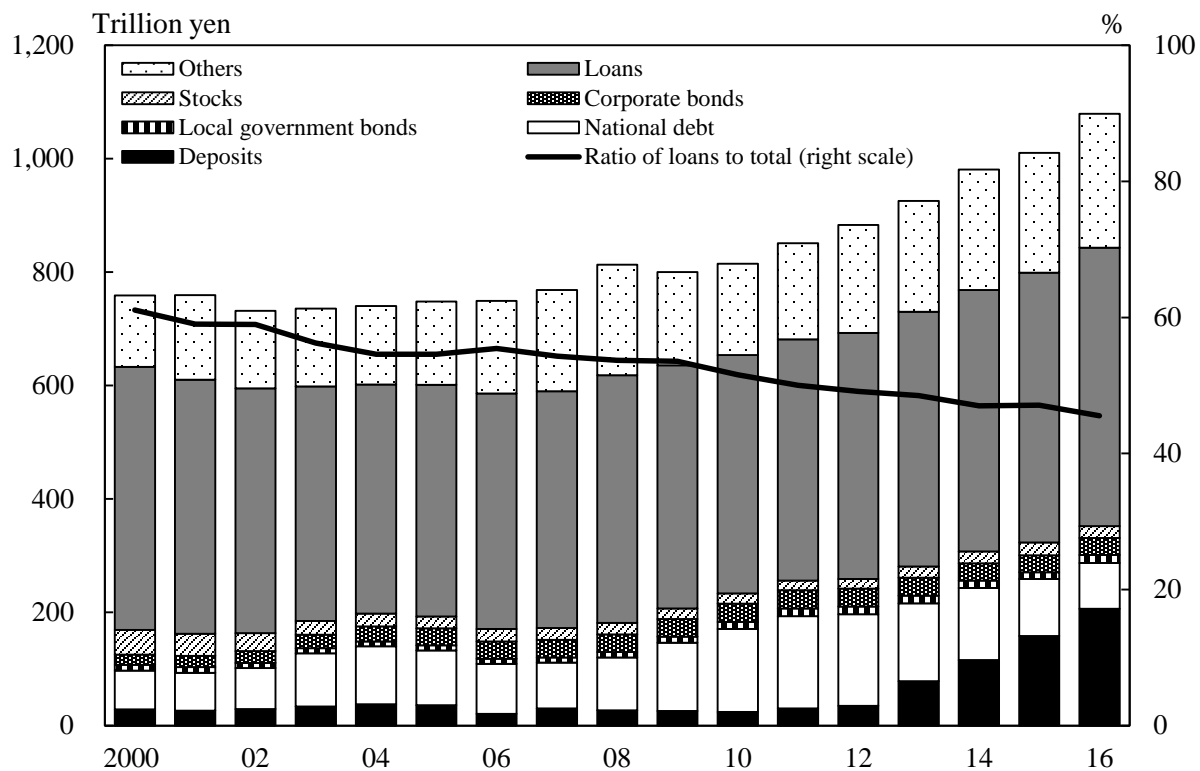
3. Financial Institutions

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 2016, the number of offices, including the branches of financial institutions operated domestically, post offices handling postal savings had the largest network with 24,105 offices. This was followed by domestically licensed banks, including city banks and regional banks, with a combined total of 13,589 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 7,142 trillion yen according to figures at the end of March 2016. Of these assets, those of the domestic nonfinancial sector were 3,450 trillion yen. The household sector (including the business funds of individual proprietorships) had assets of 1,752 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

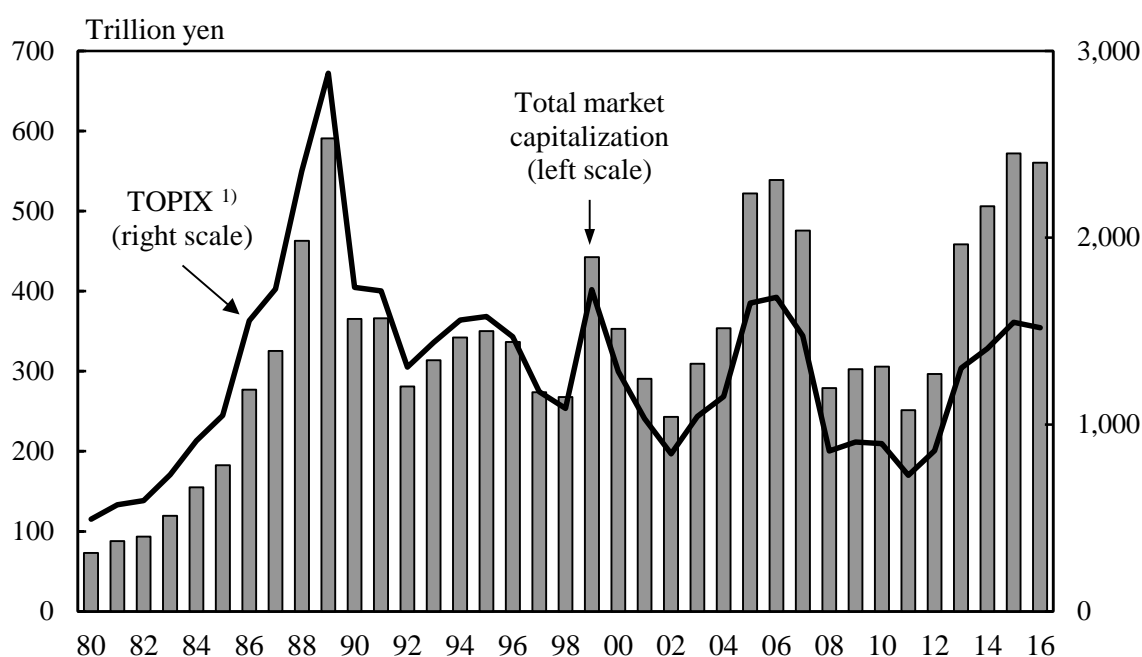
| | (Billion yen) | | |
|--|---------------|---------------|-------------------------|
| Sectors | March 2015 | March 2016 | Annual change (%) |
| Financial assets | | | |
| Domestic sectors | 7,026,341 | 7,141,767 | 1.6 |
| Financial institutions | 3,546,587 | 3,691,835 | 4.1 |
| Domestic nonfinancial sector | 3,479,754 | 3,449,932 | -0.9 |
| Nonfinancial corporations | 1,085,407 | 1,092,207 | 0.6 |
| General government | 579,701 | 549,774 | -5.2 |
| Households (incl. individual proprietorships) | 1,759,861 | 1,751,992 | -0.4 |
| Private nonprofit institutions serving households .. | 54,785 | 55,959 | 2.1 |
| Overseas | 589,434 | 573,617 | -2.7 |
| Financial liabilities | | | |
| Domestic sectors | 6,682,365 | 6,787,426 | 1.6 |
| Financial institutions | 3,427,218 | 3,542,797 | 3.4 |
| Domestic nonfinancial sector | 3,255,148 | 3,244,629 | -0.3 |
| Nonfinancial corporations | 1,643,578 | 1,576,911 | -4.1 |
| General government | 1,206,272 | 1,245,089 | 3.2 |
| Households (incl. individual proprietorships) | 376,575 | 391,826 | 4.0 |
| Private nonprofit institutions serving households .. | 28,722 | 30,804 | 7.2 |
| Overseas | 929,900 | 924,536 | -0.6 |

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.

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 19,114.37 yen at the end of 2016.

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 Jan. | 2,001 | 560,628,734 | 49,990,077 | 1,521.67 | 19,041.34 |
| Feb. | 2,001 | 565,825,277 | 50,914,304 | 1,535.32 | 19,118.99 |
| Mar. | 2,011 | 558,610,633 | 55,089,902 | 1,512.60 | 18,909.26 |

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.; Bank of Japan; Nikkei Inc.

At the end of March 2016, 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 49.4 million. In value terms, the ratio of stocks they possessed was 17.5 percent. The ratio of Japanese stocks held by foreign investors (total of corporations and individuals) was 29.8 percent in value terms, decline for the first time in four years.

A survey conducted of 257 securities firms by the Japan Securities Dealers Association (JSDA) showed that 27.6 percent of those companies offered Internet trading at the end of September 2016. Internet trading thus accounted for 20.6 percent of the total value of stock brokerage transactions from the period of April 2016 to September 2016.

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 2.28 million in 2015 (3.6 percent), and the GDP share of the industries fell from 12.8 percent in 1960 to 1.1 percent in 2015.

2. Agriculture

(1) Agricultural Production

Japan's total agricultural output in 2015 was 8.80 trillion yen, up 5.2 percent from the previous year. Crops yielded 5.63 trillion yen, up 4.9 percent from the previous year.

Table 5.1
Agricultural, Forestry and Fisheries Output

| | (Billion yen) | | | | |
|----------------------------------|---------------|--------|--------|--------|--------|
| Item | 2011 | 2012 | 2013 | 2014 | 2015 |
| Total | 10,082 | 10,333 | 10,327 | 10,319 | 10,826 |
| Agriculture | 8,246 | 8,525 | 8,467 | 8,364 | 8,798 |
| Crops | 5,639 | 5,879 | 5,703 | 5,363 | 5,625 |
| Rice | 1,850 | 2,029 | 1,781 | 1,434 | 1,499 |
| Vegetables | 2,134 | 2,190 | 2,253 | 2,242 | 2,392 |
| Fruits and nuts | 743 | 747 | 759 | 763 | 784 |
| Livestock and its products | 2,551 | 2,588 | 2,709 | 2,945 | 3,118 |
| Beef cattle | 463 | 503 | 519 | 594 | 689 |
| Dairy cattle | 751 | 775 | 778 | 805 | 840 |
| Pigs | 536 | 537 | 575 | 633 | 621 |
| Chickens | 753 | 724 | 784 | 853 | 905 |
| Forestry | 417 | 392 | 425 | 451 | 436 |
| Fisheries | 1,419 | 1,417 | 1,436 | 1,504 | 1,592 |

Source: Ministry of Agriculture, Forestry and Fisheries.

Table 5.2
Agricultural Production

| Products | (Thousand tons) | | | | |
|----------------------------------|-----------------|-------|-------|-------|--------|
| | 2000 | 2005 | 2010 | 2014 | 2015 |
| Cereal grains | | | | | |
| Rice | 9,490 | 9,074 | 8,483 | 8,439 | 7,989 |
| Wheat | 688 | 875 | 571 | 852 | 1,004 |
| Vegetables, potatoes and legumes | | | | | |
| Potatoes | 2,898 | 2,752 | 2,290 | 2,456 | 2,406 |
| Sweet potatoes | 1,073 | 1,053 | 864 | 887 | a) 814 |
| Soybeans, dried | 235 | 225 | 223 | 232 | 243 |
| Cucumbers | 767 | 675 | 588 | 549 | 550 |
| Tomatoes | 806 | 759 | 691 | 740 | 727 |
| Cabbages | 1,449 | 1,364 | 1,360 | 1,480 | 1,469 |
| Chinese cabbages | 1,036 | 924 | 889 | 914 | 895 |
| Onions | 1,247 | 1,087 | 1,042 | 1,169 | 1,265 |
| Lettuces | 537 | 552 | 538 | 578 | 568 |
| Japanese radishes | 1,876 | 1,627 | 1,496 | 1,452 | 1,434 |
| Carrots | 682 | 615 | 596 | 633 | 633 |
| Fruits | | | | | |
| Mandarin oranges | 1,143 | 1,132 | 786 | 875 | 778 |
| Apples | 800 | 819 | 787 | 816 | 812 |
| Grapes | 238 | 220 | 185 | 189 | 181 |
| Japanese pears | 393 | 362 | 259 | 271 | 247 |
| Industrial crops | | | | | |
| Crude tea | a) 85 | 100 | 85 | 84 | 80 |
| Sugar beets ¹⁾ | 3,673 | 4,201 | 3,090 | 3,567 | 3,925 |

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

| Products | (Tons) | | | | |
|------------------|-----------|-----------|-----------|-----------|-----------|
| | 2000 | 2005 | 2010 | 2014 | 2015 |
| Pork | 1,270,685 | 1,244,963 | 1,292,451 | 1,263,599 | 1,254,283 |
| Beef | 529,674 | 498,428 | 514,078 | 501,480 | 480,419 |
| Veal | 629 | 1,042 | 881 | 655 | 601 |
| Horse meat | 7,215 | 7,129 | 5,880 | 5,379 | 5,113 |
| Broilers | 1,551,101 | 1,702,001 | 1,835,091 | 1,946,449 | ... |
| Cow milk | 8,497,278 | 8,285,215 | 7,720,456 | 7,334,264 | 7,379,234 |
| Eggs | 2,540,075 | 2,481,000 | 2,515,323 | 2,501,921 | 2,520,873 |

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 2015, the total income per commercial farm household was 4.96 million yen, up 8.7 percent from the previous year. Of that amount, 1.53 million yen was from farming income, 1.47 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 4.47 million hectares in 2016. In the one-year period of 2016, there were 4,530 hectares of new cultivation but also a 29,900-hectare decrease. The most common cause for the decrease was degraded farmland, accounting for approximately 50 percent of all cases,

followed by land-use conversion for residential and other land uses, making up approximately 20 percent.

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)

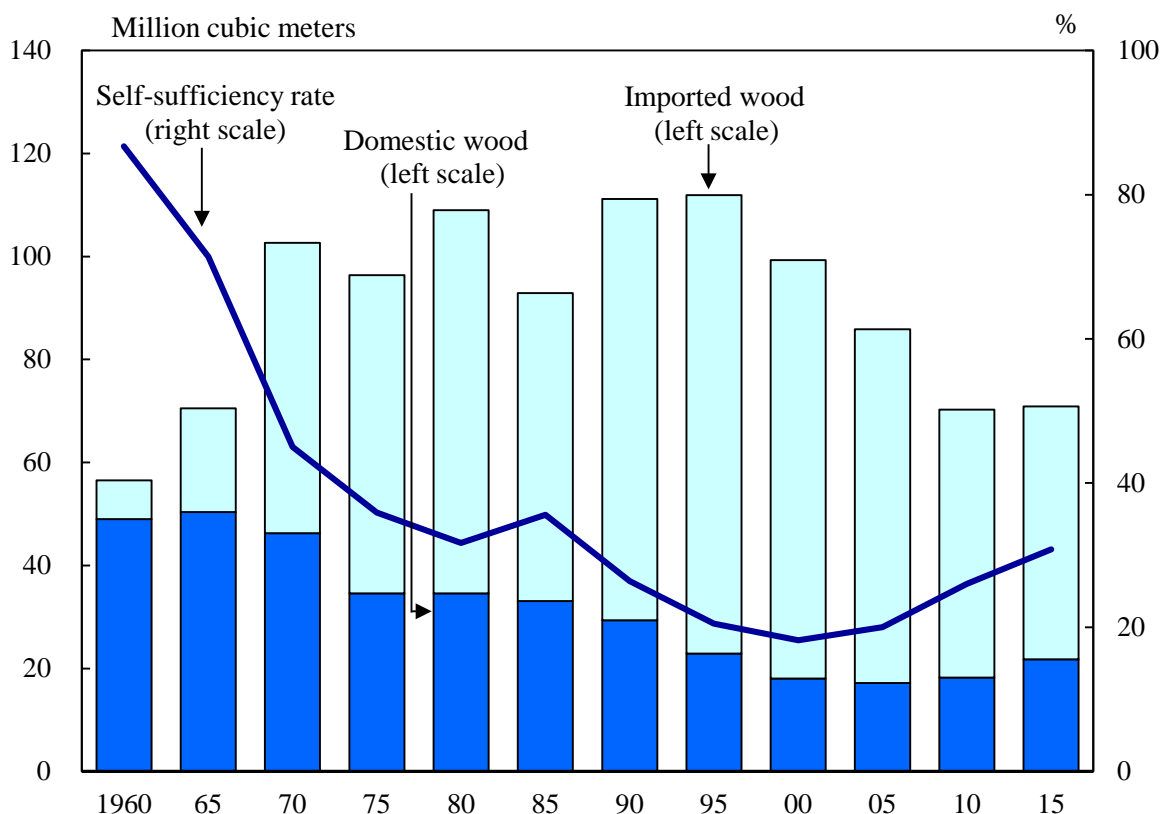
| Item | Total | National forest | Non-national forest | | |
|---|--------|-----------------|---------------------|---------|--------|
| | | | Municipal | Private | Others |
| Forest land area (1,000 ha) | 25,081 | 7,674 | 2,919 | 14,437 | 51 |
| Forest growing stock (million m ³) .. | 4,901 | 1,152 | 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 21.8 million cubic meters in 2015, which is equivalent to about 40 percent of the peak in 1967 (52.7

million cubic meters). In 2015, Japan's self-sufficiency rate for lumber was 30.8 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.

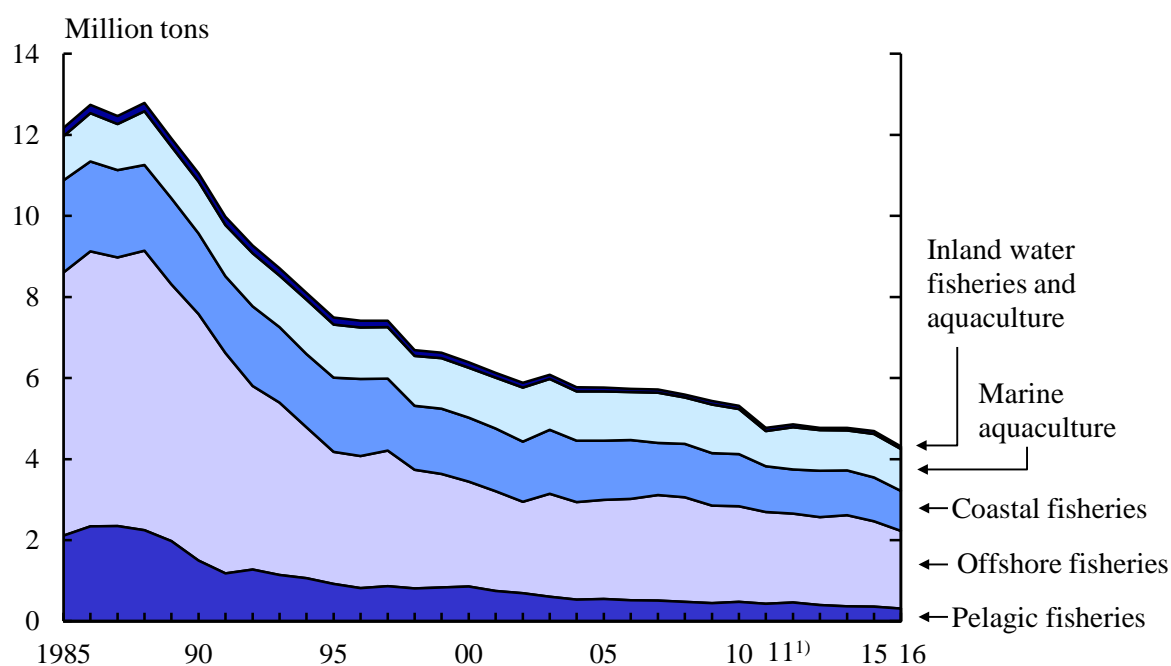
4. Fisheries

(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 2016 fishery production totaled 4.31 million tons. Of this, marine fishery and aquaculture production amounted to 4.25 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

| (Thousand tons) | | | | | |
|--------------------------------|-------|-------|-------|-------|-------|
| Fishery type and species | 2000 | 2005 | 2010 | 2015 | 2016* |
| Total | 6,384 | 5,765 | 5,313 | 4,688 | 4,312 |
| Marine fisheries | 5,022 | 4,457 | 4,122 | 3,550 | 3,217 |
| Tunas | 286 | 239 | 208 | 190 | 166 |
| Bonito | 369 | 399 | 331 | 264 | 208 |
| Sardine | 150 | 28 | 70 | 340 | 375 |
| Mackerels | 346 | 620 | 492 | 557 | 489 |
| Alaska pollack | 300 | 194 | 251 | 180 | 134 |
| Crabs | 42 | 34 | 32 | 29 | 28 |
| Squids | 624 | 330 | 267 | 168 | 107 |
| Marine aquaculture | 1,231 | 1,212 | 1,111 | 1,069 | 1,032 |
| Yellowtails | 137 | 160 | 139 | 140 | 141 |
| Oysters | 221 | 219 | 200 | 164 | 157 |
| Laver | 392 | 387 | 329 | 297 | 302 |
| Wakame Sea weed | 67 | 63 | 52 | 49 | 48 |
| Pearl (tons) | 30 | 29 | 21 | 20 | 20 |
| Inland water fisheries | 71 | # 54 | # 40 | # 33 | # 28 |
| Salmons and trouts | 17 | # 19 | # 14 | # 13 | # 8 |
| Sweetfish | 11 | # 7 | # 3 | # 2 | # 2 |
| Shellfishes | 20 | # 14 | # 14 | # 13 | # 12 |
| Inland water aquaculture | 61 | # 42 | 39 | 36 | 35 |
| Eel | 24 | 19 | 21 | 20 | 19 |
| Trouts | 15 | 12 | 9 | 8 | 8 |
| Common carp | 11 | 4 | 4 | 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 2016, there was a 4.0 percent decrease from the previous year, bringing the count to 160,020 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 |
| 2000 | 145,930 | 137,690 | 8,240 | 260,200 | ... | ... |
| 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 |

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 39 percent in fiscal 2015. 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., westernization 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.

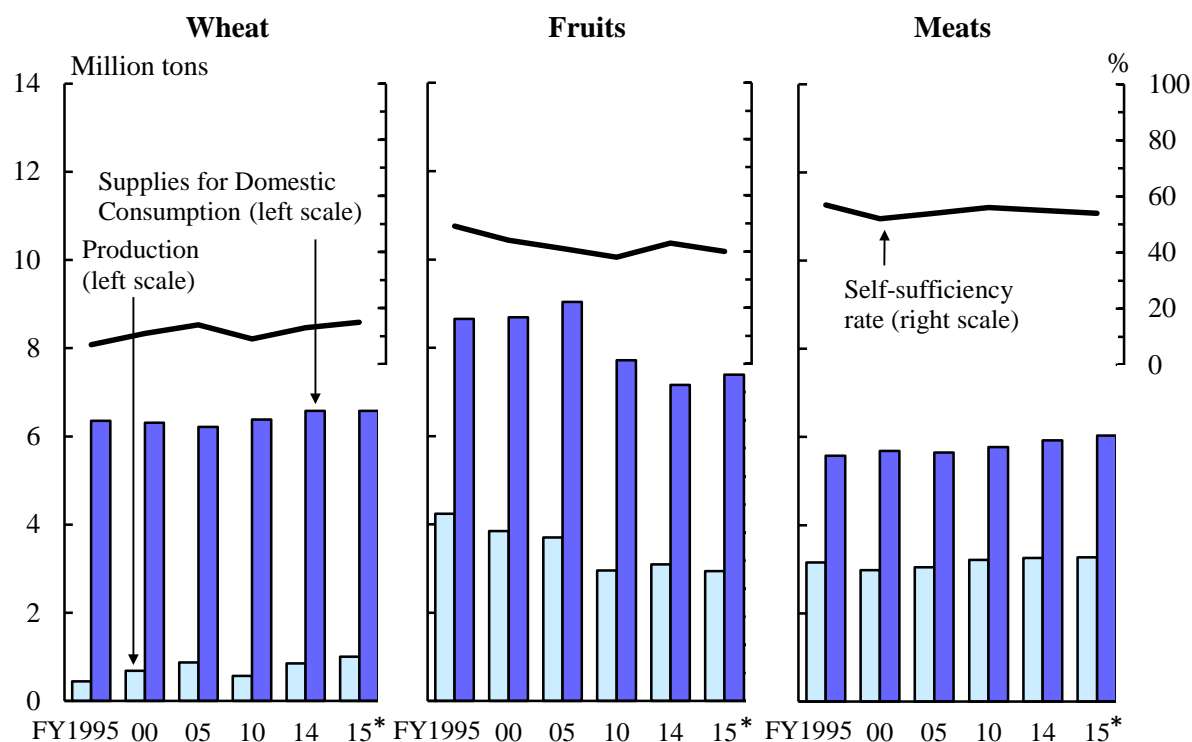
In fiscal 2015, the self-sufficiency rate (on an item-specific weight basis) was 100 percent for rice, 15 percent for wheat, nine percent for beans, 80 percent for vegetables, 40 percent for fruits, 54 percent for meats, and 59 percent for seafood. Although completely self-sufficient in rice, the staple 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 | | | | | |
| 1995 | 2,118 | 10,748 | 5.07 | 495 | 10,290 |
| 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 |
| Wheat | | | | | |
| 1995 | 151 | 444 | 2.93 | 5,750 | 6,355 |
| 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 | 6,581 |

Source: Ministry of Agriculture, Forestry and Fisheries.

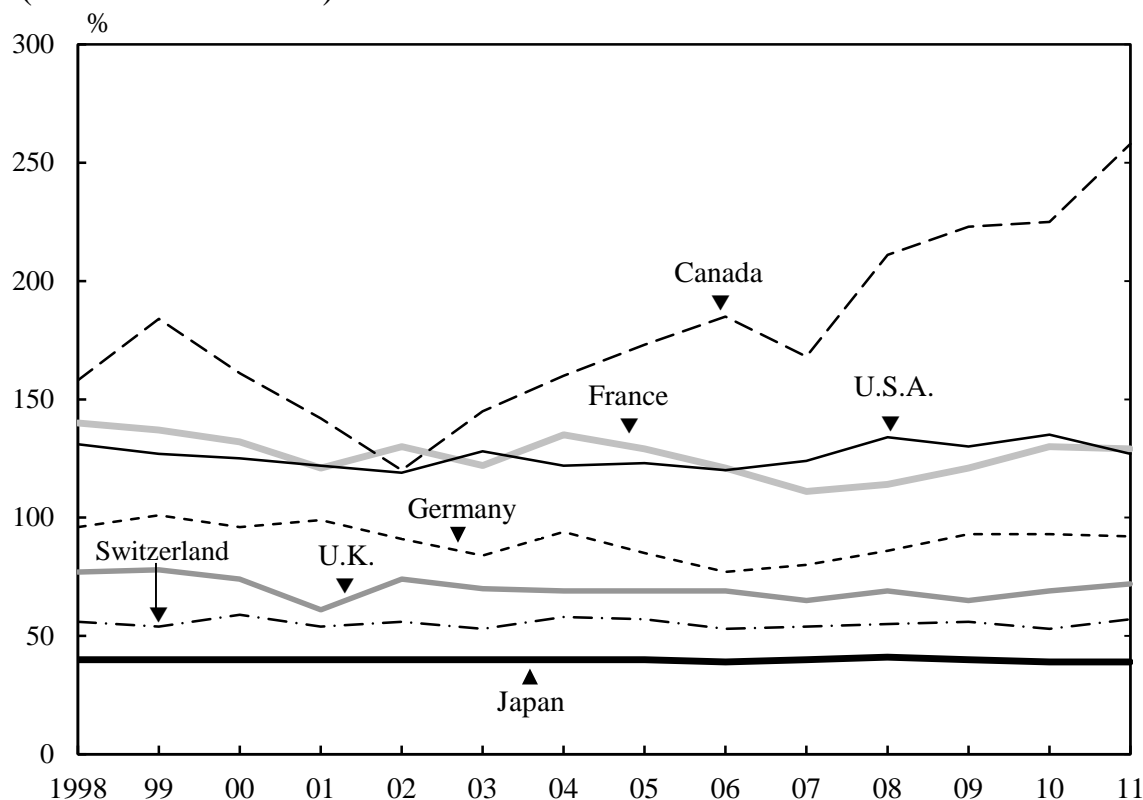
Figure 5.3
Self-Sufficiency Rates for Selected Categories of Agricultural Produce



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. Anxiety about industrial hollowing out increased. 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 2014, there were 202,410 establishments (with four or more persons engaged) in the manufacturing sector. By industry, "food" had the most, with 27,115 establishments (component ratio of 13.4 percent), followed by "fabricated metal products" with 26,797 establishments (13.2 percent) and "production machinery" with 19,083 establishments (9.4 percent).

There were 7.40 million persons engaged, and by industry, "food" had the most, with 1.11 million persons engaged (component ratio of 15.0 percent), followed by "transportation equipment" with 0.98 million persons engaged (13.2 percent) and "fabricated metal products" with 0.58 million persons engaged (7.8 percent).

The value of manufactured goods shipments was 305.1 trillion yen, and by industry, "transportation equipment" had the most at 60.1 trillion yen (component ratio of 19.7 percent), followed by "chemical and related products" at 28.1 trillion yen (9.2 percent) and "food" at 25.9 trillion yen (8.5 percent).

Table 6.1
Establishments, Persons Engaged and Value of Manufactured Goods
Shipments of the Manufacturing Industry ¹⁾ (2014)

| Industries | Number of establishments | Number of persons engaged | Value of manufactured goods shipments (billion yen) |
|---|--------------------------|---------------------------|---|
| Manufacturing | 202,410 | 7,403,269 | 305,140 |
| Food | 27,115 | 1,112,433 | 25,936 |
| Beverages, tobacco and feed | 4,128 | 99,451 | 9,597 |
| Textile mill products | 13,430 | 268,135 | 3,822 |
| Lumber and wood products ²⁾ | 5,547 | 91,497 | 2,520 |
| Furniture and fixtures | 5,550 | 96,824 | 1,915 |
| Pulp, paper and paper products | 5,969 | 181,868 | 6,974 |
| Printing and allied industries | 11,664 | 268,880 | 5,416 |
| Chemical and related products | 4,669 | 343,416 | 28,123 |
| Petroleum and coal products | 931 | 24,830 | 18,659 |
| Plastic products ³⁾ | 12,936 | 405,938 | 11,533 |
| Rubber products | 2,525 | 110,987 | 3,207 |
| Leather tanning, leather products and fur skins | 1,394 | 22,380 | 348 |
| Ceramic, stone and clay products | 9,974 | 237,733 | 7,332 |
| Iron and steel | 4,222 | 214,988 | 19,202 |
| Non-ferrous metals and products | 2,594 | 138,587 | 9,422 |
| Fabricated metal products | 26,797 | 576,707 | 13,933 |
| General-purpose machinery | 7,141 | 308,841 | 10,103 |
| Production machinery | 19,083 | 550,642 | 16,591 |
| Business oriented machinery | 4,159 | 204,404 | 7,034 |
| Electronic parts, devices and electronic circuits..... | 4,267 | 382,110 | 13,818 |
| Electrical machinery, equipment and supplies ... | 8,953 | 481,936 | 17,032 |
| Information and communication electronics equipment | 1,501 | 151,851 | 8,628 |
| Transportation equipment | 10,415 | 980,505 | 60,063 |
| Miscellaneous manufacturing products, n.e.c. ... | 7,446 | 148,326 | 3,933 |

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: Ministry of Economy, Trade and Industry.

Based on the Indices on Mining and Manufacturing (2010 average=100), the production index for 2016 was 97.7, down 0.1 percent from the previous year, while shipments stood at 96.3, a decrease of 0.6 percent from the year before.

Table 6.2
Indices on Mining and Manufacturing (2016)

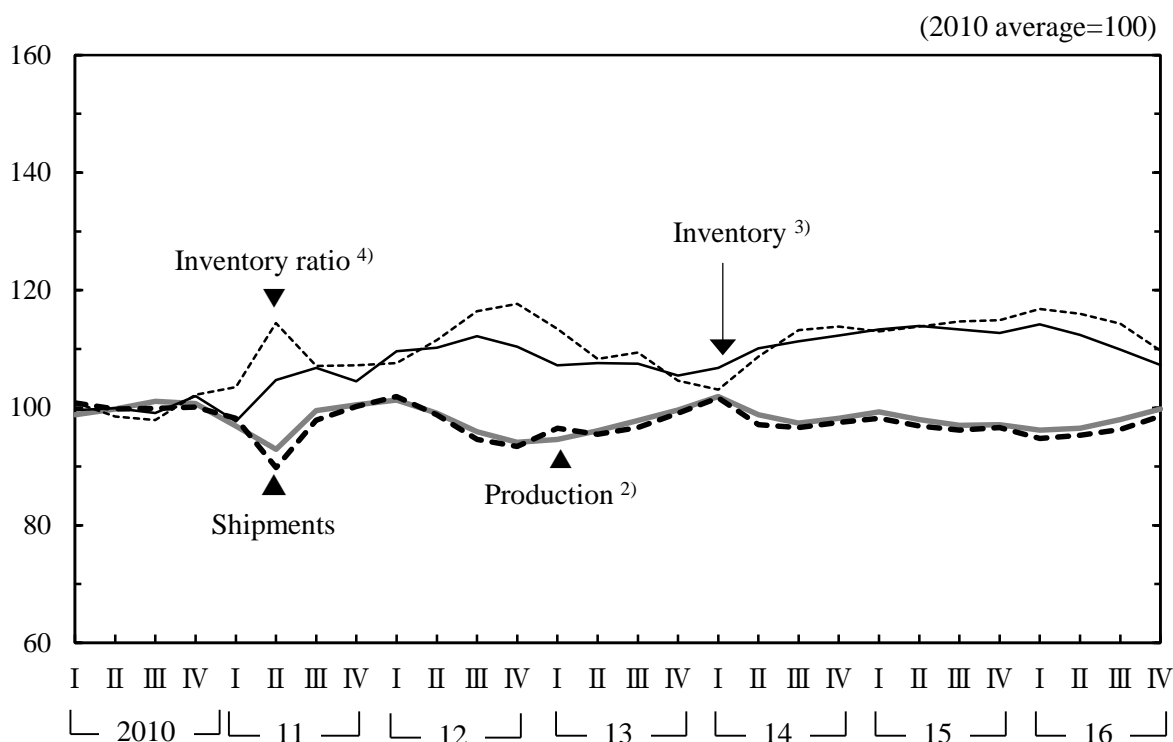
| Industries | (2010 average=100) | | | | | | | |
|---|--------------------------|-------------------|-------------------|-------------------|-------------------------|-------------------|-------------------------------|-------|
| | Production ¹⁾ | | Shipments | | Inventory ²⁾ | | Inventory Ratio ³⁾ | |
| | Annual growth (%) | Annual growth (%) | Annual growth (%) | Annual growth (%) | Annual growth (%) | Annual growth (%) | Annual growth (%) | |
| Mining and manufacturing .. | 97.7 | -0.1 | 96.3 | -0.6 | 106.4 | -5.3 | 114.2 | 0.0 |
| Manufacturing | 97.7 | -0.1 | 96.3 | -0.6 | 106.4 | -5.3 | 114.2 | 0.0 |
| Foods and tobacco | 96.6 | 0.1 | 94.8 | -0.5 | 95.8 | 17.1 | 100.3 | 13.7 |
| Textiles | 93.3 | -2.2 | 92.7 | -1.8 | 115.8 | 1.1 | 122.3 | 4.9 |
| Pulp, paper and paper products | 98.3 | 0.6 | 96.8 | 0.5 | 102.0 | -1.4 | 117.6 | 3.5 |
| Chemicals | 100.1 | 3.1 | 97.1 | 3.2 | 102.7 | -6.4 | 116.2 | -1.4 |
| Petroleum and coal products | 91.4 | 0.3 | 93.1 | -1.9 | 78.9 | -9.8 | 89.4 | -3.4 |
| Plastic products | 98.6 | 1.5 | 96.6 | 1.4 | 106.4 | -2.9 | 113.0 | 0.3 |
| Ceramics, stone and clay products | 98.5 | -0.7 | 99.3 | -0.5 | 102.1 | -5.4 | 112.1 | 0.4 |
| Iron and steel | 92.4 | -1.0 | 94.1 | -0.5 | 119.9 | 3.7 | 126.5 | 9.0 |
| Non-ferrous metals | 98.5 | 2.1 | 97.3 | 2.1 | 109.0 | -8.0 | 115.8 | -4.7 |
| Fabricated metals | 92.8 | -2.3 | 93.1 | -2.4 | 109.6 | -2.1 | 131.6 | 3.3 |
| General-purpose machinery .. | 99.5 | -2.0 | 99.6 | -1.8 | 112.6 | -3.1 | 117.8 | -4.5 |
| Production machinery | 122.5 | -1.2 | 124.1 | -0.2 | 158.7 | -14.3 | 122.8 | 3.5 |
| Business oriented machinery | 102.6 | 1.4 | 105.1 | 0.8 | 111.3 | -13.0 | 127.5 | -2.7 |
| Electronic parts and devices | 96.4 | -6.3 | 106.1 | -8.8 | 82.1 | -25.5 | 127.1 | -5.7 |
| Electrical machinery | 100.1 | -0.9 | 95.6 | -2.6 | 153.3 | 7.5 | 148.3 | 10.8 |
| Information and communication electronics equipment | 55.3 | 0.7 | 46.5 | -4.5 | 73.1 | -3.6 | 129.5 | 3.4 |
| Transport equipment | 100.1 | 1.3 | 98.0 | 1.2 | 73.8 | -18.4 | 82.7 | -19.2 |
| Other manufacturing | 93.0 | -0.7 | 94.2 | -0.7 | 96.9 | 0.0 | 100.1 | -1.8 |
| Mining | 89.8 | -0.7 | 87.6 | -1.2 | 99.9 | 3.6 | 119.0 | 8.8 |
| (Reference) | | | | | | | | |
| Electricity, gas, heat supply and water | 88.9 | -1.9 | 90.8 | -1.3 | - | - | - | - |

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 "Census of Manufactures 2014 (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 2014, a total of 10,415 establishments, employed 980,505 persons, and shipped 60.1 trillion yen worth of products.

(b) In 2016, production and shipments increased by 1.3 percent and 1.2 percent, respectively, from the previous year. Production increased for the first time in two years, while shipments increased for the first time in four

years. These increases were due to an increase in the production and shipments of "passenger cars", "motor vehicle parts", etc.

(B) Electrical Machinery, Equipment and Supplies Industry

(a) In 2014, a total of 8,953 establishments, employed 481,936 persons, and shipped 17.0 trillion yen worth of products.

(b) In 2016, production and shipments decreased by 0.9 percent and 2.6 percent, respectively, from the previous year, representing their second consecutive year of decrease. These decreases (in both production and shipments) were due to a decrease in "electrical rotating machinery", "wiring devices and luminaries", etc.

(C) Production Machinery Industry

(a) In 2014, a total of 19,083 establishments, employed 550,642 persons, and shipped 16.6 trillion yen worth of products.

(b) In 2016, production and shipments decreased by 1.2 percent and 0.2 percent, respectively, from the previous year, representing their first decrease in two years. These decreases (in both production and shipments) were due to a decrease in "engineering and construction machinery", "metal cutting machinery", etc.

(D) Electronic Parts and Devices Industry

(a) In 2014, a total of 4,267 establishments, employed 382,110 persons, and shipped 13.8 trillion yen worth of products.

(b) In 2016, production and shipments decreased by 6.3 percent and 8.8 percent, respectively, from the previous year, representing their first decrease in four years. These decreases (in both production and shipments) were due to a decrease in "electronic parts", "integrated circuits", etc.

(E) Information and Communication Electronics Equipment Industry

(a) In 2014, a total of 1,501 establishments, employed 151,851 persons, and shipped 8.6 trillion yen worth of products.

(b) In 2016, production increased by 0.7 percent and shipments decreased by 4.5 percent from the previous year. This marked the first increase in production in six years, and the sixth consecutive year of decrease in shipments. The increase in production was due to an increase in "household electronic machinery" and "electronic computers". The decrease in shipments was due to a decrease in "household electronic machinery", "electronic computers", etc.

(2) Chemical Industry

(a) In 2014, a total of 4,669 establishments, employed 343,416 persons, and shipped 28.1 trillion yen worth of products.

(b) In 2016, production and shipments increased by 3.1 percent and 3.2 percent, respectively, from the previous year, representing their second consecutive year of increase. The increase in production was due to an increase in "cosmetics", "soap, synthetic detergent and surface-active agents", etc. The increase in shipments was due to an increase in "plastic materials", "cosmetics", etc.

(3) Iron and Steel Industry

(a) In 2014, a total of 4,222 establishments, employed 214,988 persons, and shipped 19.2 trillion yen worth of products.

(b) In 2016, production and shipments decreased by 1.0 percent and 0.5 percent, respectively, from the previous year, representing their second consecutive year of decrease. The decrease in production was due to a decrease in "crude steel (incl. Semi-finished steel)", etc. The decrease in shipments was due to a decrease in "hot rolled steel", etc.

Table 6.3
Steel Production

| Products | (Thousand tons) | | | | |
|---------------------------------|-----------------|---------|---------|---------|---------|
| | 2012 | 2013 | 2014 | 2015 | 2016 |
| Pig iron | 81,405 | 83,849 | 83,872 | 81,011 | 80,186 |
| Ferro-alloys | 908 | 938 | 923 | 937 | 885 |
| Crude steel | 107,232 | 110,595 | 110,666 | 105,134 | 104,775 |
| Semi-finished steel | 104,571 | 107,991 | 107,856 | 102,858 | 102,574 |
| Ordinary hot-rolled steel | 74,911 | 77,006 | 76,968 | 74,133 | 73,187 |
| Special hot-rolled steel | 19,896 | 19,960 | 20,914 | 18,887 | 19,449 |

Source: Ministry of Economy, Trade and Industry.

(4) Fabricated Metal Products Industry

(a) In 2014, a total of 26,797 establishments, employed 576,707 persons, and shipped 13.9 trillion yen worth of products.

(b) In 2016, production and shipments decreased by 2.3 percent and 2.4 percent, respectively, from the previous year. Production decreased for the fourth consecutive year, while shipments decreased for the third consecutive year. These decreases (for both production and shipments) were due to a decrease in "metal products of building", "fabricated structural metal products", 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, but turned upward in fiscal 2011.

Construction investments in fiscal 2015 amounted to 51.0 trillion yen at current prices, down 0.6 percent compared to the previous fiscal year; they totaled 46.6 trillion yen at constant fiscal 2005 prices, down 0.1 percent from the previous fiscal year.

A breakdown of construction investment shows that building construction totaled 27.1 trillion yen (up 2.1 percent from the previous fiscal year), while civil engineering works amounted to 23.8 trillion yen (down 3.5 percent).

In terms of public and private construction investment in fiscal 2015, public investment amounted to 21.6 trillion yen (down 6.1 percent from the previous fiscal year), while private investment totaled 29.4 trillion yen (up 4.0 percent). Public investment accounted for 42.3 percent of total construction investment, while private investment accounted for 57.7 percent.

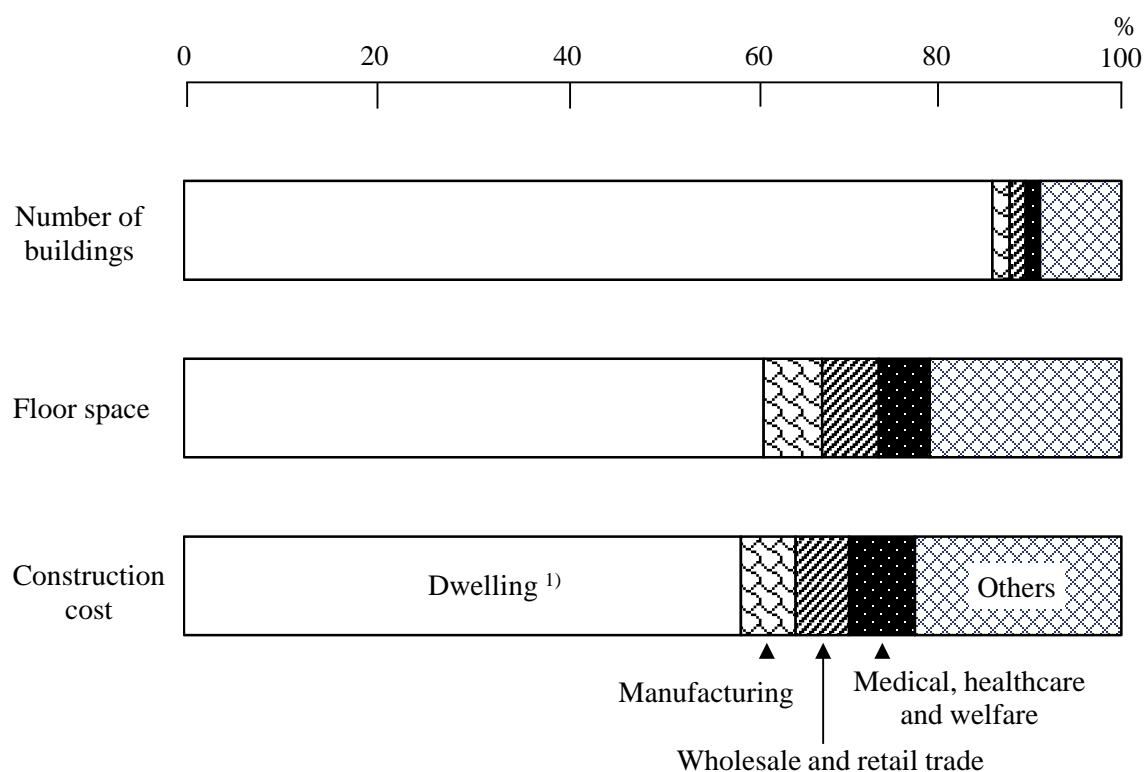
Table 6.4
Construction Investment (Current prices)

| Item | (Billion yen) | | | |
|--------------------------------|---------------|--------|---------|---------|
| | FY2012 | FY2013 | FY2014* | FY2015* |
| Total | 45,291 | 51,298 | 51,240 | 50,950 |
| Building construction | 23,513 | 27,078 | 26,560 | 27,130 |
| Dwellings | 14,577 | 16,464 | 14,920 | 15,140 |
| Public sector | 483 | 675 | 800 | 700 |
| Private sector | 14,094 | 15,789 | 14,120 | 14,440 |
| Non-dwellings | 8,936 | 10,614 | 11,640 | 11,990 |
| Public sector | 1,695 | 2,195 | 2,330 | 1,990 |
| Private sector | 7,240 | 8,419 | 9,310 | 10,000 |
| Mining and manufacturing | 1,249 | 1,344 | ... | ... |
| Others | 5,991 | 7,075 | ... | ... |
| Civil engineering works | 21,779 | 24,220 | 24,680 | 23,820 |
| Public sector | 17,539 | 19,691 | 19,830 | 18,860 |
| Public works | 14,966 | 17,069 | 17,190 | 16,160 |
| Others | 2,574 | 2,622 | 2,640 | 2,700 |
| Private sector | 4,240 | 4,529 | 4,850 | 4,960 |
| Total | | | | |
| Public investment | 19,717 | 22,561 | 22,960 | 21,550 |
| Private investment | 25,574 | 28,738 | 28,280 | 29,400 |
| Building construction | | | | |
| Public investment | 2,178 | 2,870 | 3,130 | 2,690 |
| Private investment | 21,335 | 24,208 | 23,430 | 24,440 |
| Civil engineering works | | | | |
| Public investment | 17,539 | 19,691 | 19,830 | 18,860 |
| Private investment | 4,240 | 4,529 | 4,850 | 4,960 |

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

The 2016 total floor space of building construction starts was 132.96 million square meters, up 2.7 percent from the previous year. In particular, the floor space of buildings for wholesale and retail trade use increased by 6.1 percent compared to the previous year, to 8.02 million square meters. Meanwhile, the number of housing construction starts (in the case of apartment buildings, the number of apartment units was counted) increased for owned houses, rented and built-for-sale units alike, totaling 0.97 million housing units, up 6.4 percent from the previous year. This was an increase for the second consecutive year.

Figure 6.2
Building Construction Started by Use Objective (2016)



1) Including dormitories and dormitories-industry concurrent use.
 Source: Ministry of Land, Infrastructure, Transport and Tourism.

Chapter 7

Energy

1. Supply and Demand

Japan is dependent on imports for 90.5 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 43.5 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 47.2 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 2015, the total primary energy supply in Japan was 20,934 petajoules, down 0.9 percent from the previous fiscal year. Its breakdown was: 44.7 percent in petroleum, 24.6 percent in coal, 22.3 percent in natural gas, 3.4 percent in hydro power, and 0.4 percent in nuclear power. Other sources were also used, though only in small quantities, including energy from waste, geothermal, and natural energy (photovoltaic, wind power, biomass energy, etc.).

Energy units

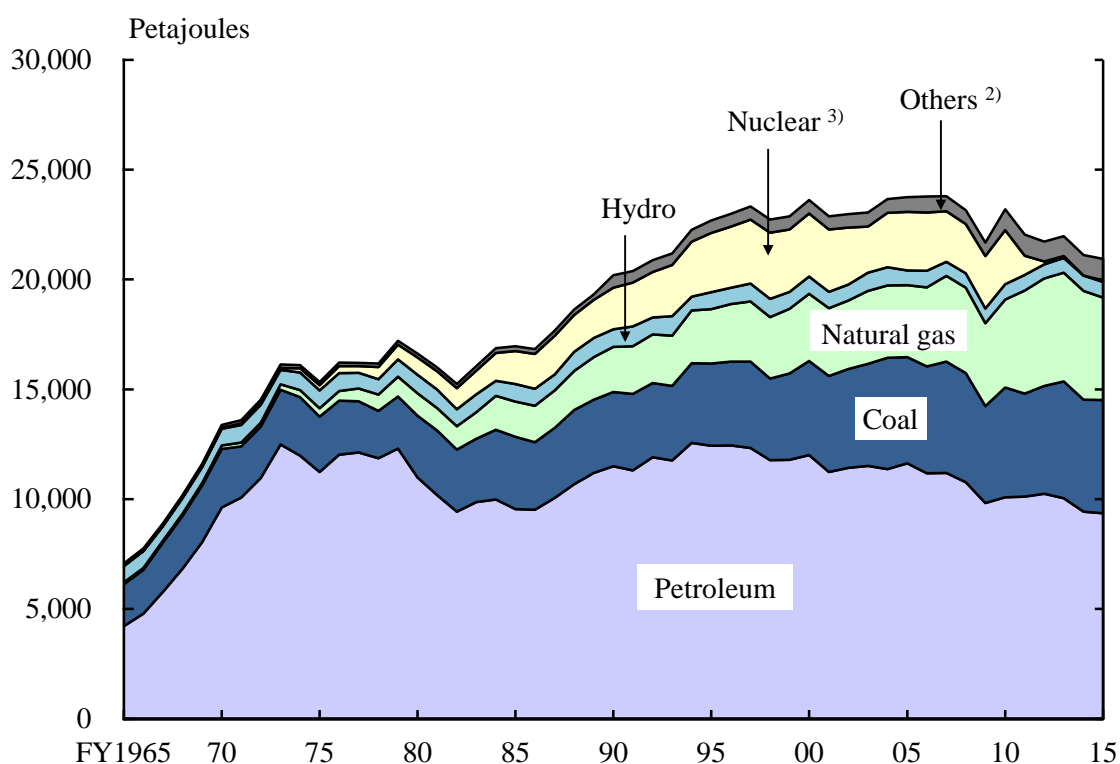
Joule (J) is employed as a common unit (International System of Units: SI) for energy across all energy sources in presenting international statistical information. The unit Petajoule (PJ: 10^{15} or quadrillion joules) is used here to reduce the number of digits. The energy of one kiloliter of petroleum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

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

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
Total Primary Energy Supply ¹⁾



1) A different statistical method was used for the figures for FY1989 and prior. 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 Total Primary Energy Supply and Percentage
by Energy Source

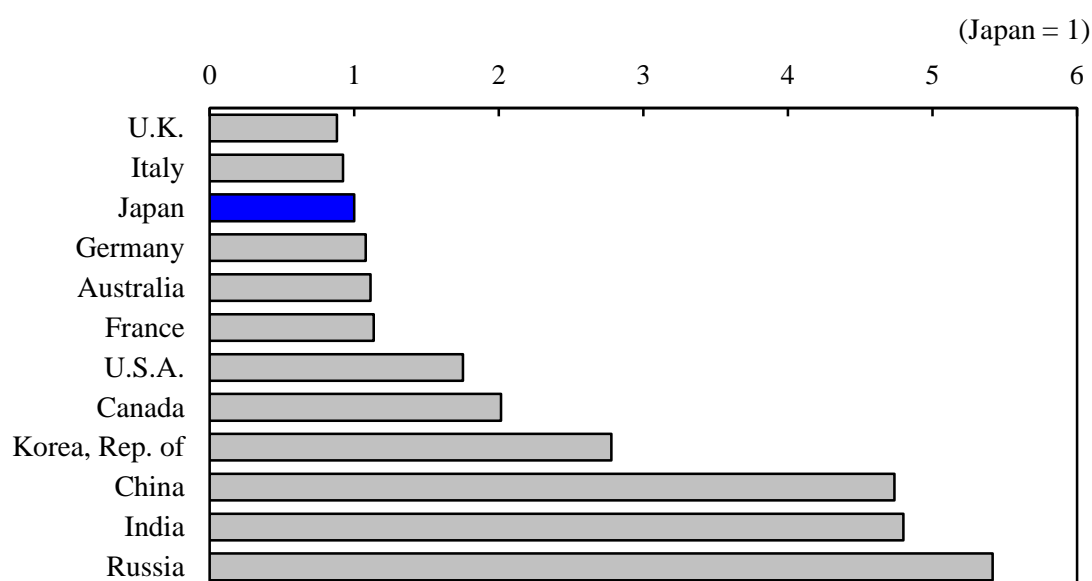
| | (Petajoules) | | | | |
|--|--------------|--------|----------|--------|--------|
| Item | FY2000 | FY2005 | FY2010 | FY2014 | FY2015 |
| Total primary energy supply | 23,622 | 23,755 | # 23,200 | 21,119 | 20,934 |
| Energy self-sufficiency (%) ¹⁾ .. | 19.6 | 18.3 | # 19.4 | 8.8 | 9.5 |
| Petroleum | 12,008 | 11,634 | 10,088 | 9,436 | 9,358 |
| Coal | 4,286 | 4,829 | 4,997 | 5,088 | 5,156 |
| Natural gas | 3,061 | 3,288 | 4,002 | 4,963 | 4,662 |
| Hydro | 778 | 668 | 703 | 687 | 710 |
| Nuclear | 2,873 | 2,662 | 2,465 | a) 0 | 79 |
| Others ²⁾ | 616 | 674 | # 944 | 944 | 970 |
| Percentage | | | | | |
| Petroleum | 50.8 | 49.0 | 43.5 | 44.7 | 44.7 |
| Coal | 18.1 | 20.3 | 21.5 | 24.1 | 24.6 |
| Natural gas | 13.0 | 13.8 | 17.2 | 23.5 | 22.3 |
| Hydro | 3.3 | 2.8 | 3.0 | 3.3 | 3.4 |
| Nuclear | 12.2 | 11.2 | 10.6 | 0.0 | 0.4 |
| Others ²⁾ | 2.6 | 2.8 | 4.1 | 4.5 | 4.6 |

1) Domestic production of primary energy (including nuclear)/Domestic supply of primary energy × 100 2) Photovoltaic, wind power, geothermal energy, etc.

a) 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.

Figure 7.2
International Comparison of Energy/GDP Ratio ¹⁾ (2014)



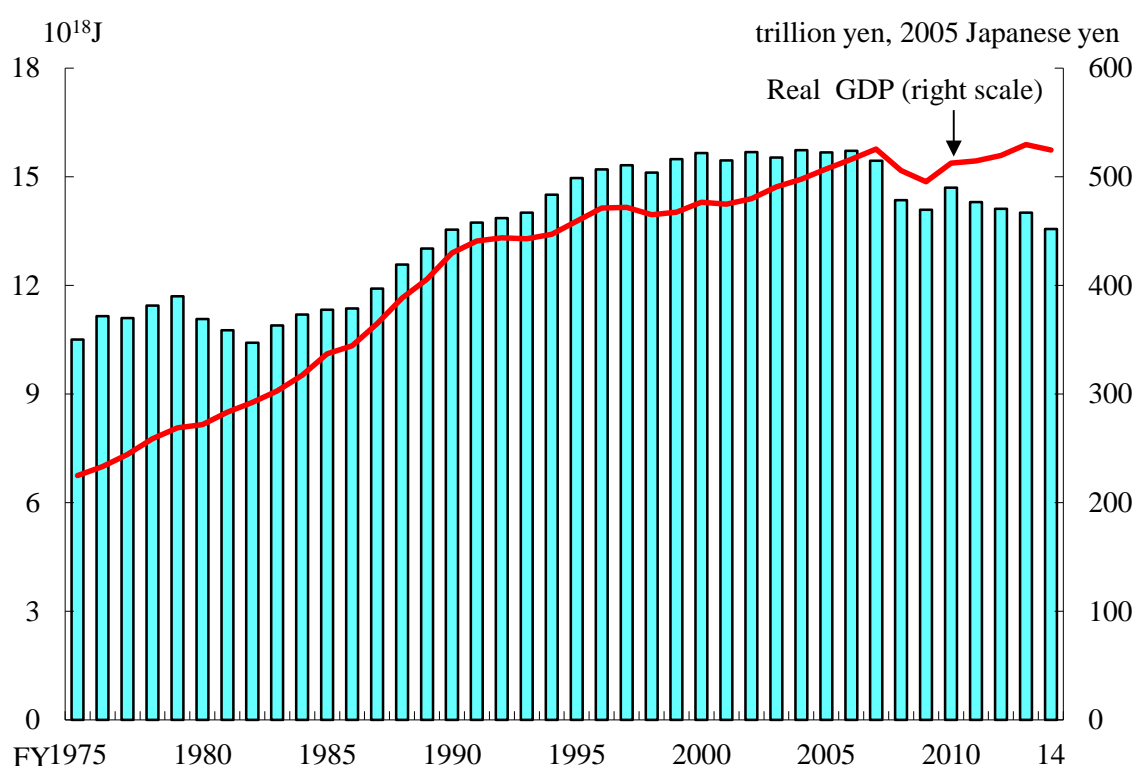
1) Total primary energy supply (tons of oil equivalent)/GDP (thousand 2010 U.S. dollars).

Source: International Energy Agency.

Total primary energy supply 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, energy consumption peaked in fiscal 2004, and then started decreasing. In fiscal 2014, real GDP was lower than in fiscal 2013, which added to a decrease in final energy consumption.

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

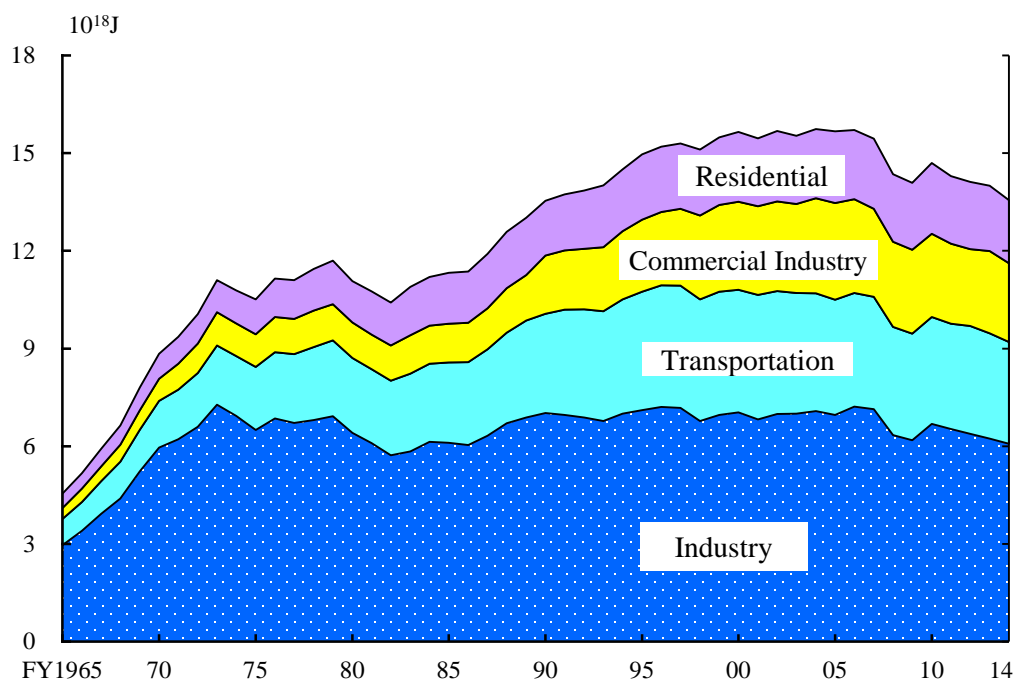


1) A different statistical method was used for the figures for FY1989 and prior.

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

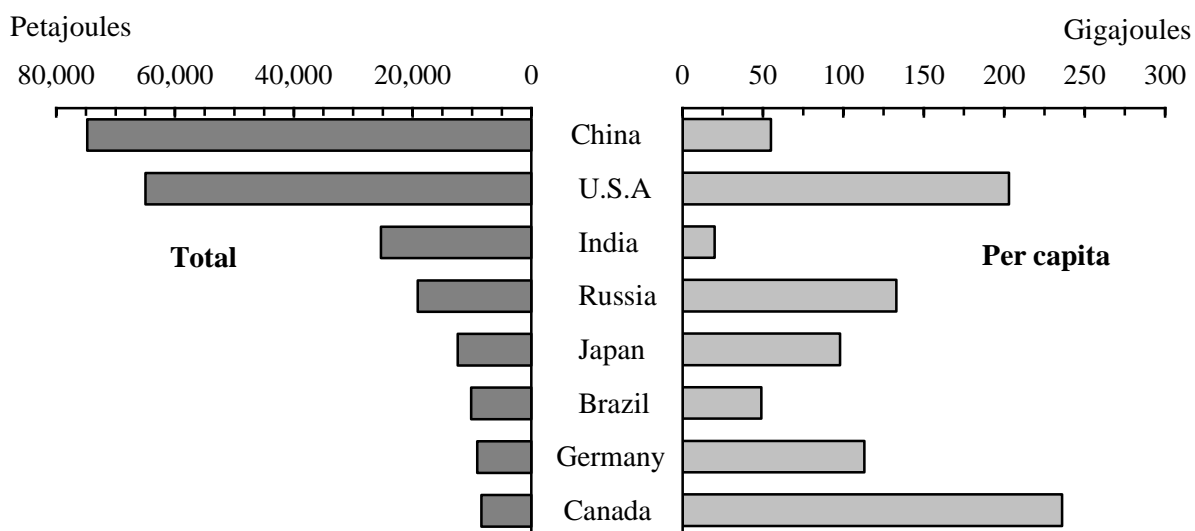
Final energy consumption in fiscal 2014 decreased 3.2 percent from the previous fiscal year, and even by sector, it has decreased in the industry sector, residential sector, and transportation sector.

Figure 7.4
Trends in Final Energy Consumption by Sector ¹⁾



1) A different statistical method was used for figures of FY1989 and prior.
 Source: Ministry of Economy, Trade and Industry.

Figure 7.5
Total Final Energy Consumption by Country (2014)



Source: United Nations.

2. Electric Power

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

Electricity output (including in-house power generation) in Japan totaled 1,024 billion kWh in fiscal 2015, down 2.8 percent from the previous fiscal year. Of this total, thermal power accounted for 88.7 percent; hydro power, 8.9 percent; nuclear power, 0.9 percent.

Table 7.2
Trends in Electricity Output and Power Consumption¹⁾

| | (Million kWh) | | | | |
|--|---------------|-----------|-----------|-----------|-----------|
| Item | FY2000 | FY2005 | FY2010 | FY2014 | FY2015 |
| Electricity Output | | | | | |
| Total | 1,091,500 | 1,157,926 | 1,156,888 | 1,053,717 | 1,024,179 |
| Thermal | 669,177 | 761,841 | 771,306 | 955,352 | 908,779 |
| Hydro | 96,817 | 86,350 | 90,681 | 86,942 | 91,383 |
| Nuclear | 322,050 | 304,755 | 288,230 | - | 9,437 |
| Others ²⁾ | 3,456 | 4,980 | 6,671 | 11,423 | 14,580 |
| Percentage | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Thermal | 61.3 | 65.8 | 66.7 | 90.7 | 88.7 |
| Hydro | 8.9 | 7.5 | 7.8 | 8.3 | 8.9 |
| Nuclear | 29.5 | 26.3 | 24.9 | - | 0.9 |
| Others ²⁾ | 0.3 | 0.4 | 0.6 | 1.1 | 1.4 |
| Power Consumption | | | | | |
| Total | 982,066 | 1,043,800 | 1,056,441 | 969,430 | 955,235 |
| Generated by electric power suppliers .. | 858,078 | 918,265 | 931,059 | 855,353 | 841,542 |
| Consumption of in-house generation | 123,988 | 125,535 | 125,382 | 114,078 | 113,693 |

1) Including in-house generation. 2) Photovoltaic, wind power, geothermal energy, etc.

Source: Ministry of Economy, Trade and Industry.

3. Gas

Gas production was 1,372 petajoules in fiscal 2015, down 0.7 percent from the previous fiscal year. Of this total, natural gas plus liquefied natural gas (LNG) accounted for 96.5 percent; and the remaining 3.5 percent was made up of petroleum gases, such as volatile oil and liquefied petroleum gas. Gas purchases for fiscal 2015 totaled 238 petajoules.

Gas sales for fiscal 2015 totaled 1,526 petajoules, or a year-on-year drop of 1.7 percent. Of this total, 55.2 percent was sold to industry, 25.3 percent to residential use, and 11.6 percent to the commercial sector.

Table 7.3

Trends in Production and Purchases, and Sales of Gas ¹⁾

| Item | (Petajoules) | | | | | | | |
|---------------------------------------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|
| | FY2005 | | FY2010 | | FY2014 | | FY2015 | |
| Production and purchases | 1,394 | | 1,547 | | 1,634 | | 1,610 | |
| Production | 1,235 (100.0) | | 1,288 (100.0) | | 1,382 (100.0) | | 1,372 (100.0) | |
| Petroleum gases ²⁾ | 67 | (5.4) | 46 | (3.6) | 58 | (4.2) | 48 | (3.5) |
| Natural gas and LNG | 1,168 | (94.6) | 1,241 | (96.4) | 1,324 | (95.8) | 1,324 | (96.5) |
| Others | - | (-) | - | (-) | - | (-) | - | (-) |
| Purchases | 159 (100.0) | | 259 (100.0) | | 252 (100.0) | | 238 (100.0) | |
| Coal gases | 2 | (1.3) | - | (-) | - | (-) | - | (-) |
| Petroleum gases ³⁾ | 10 | (6.4) | 6 | (2.4) | 4 | (1.5) | 3 | (1.1) |
| Natural gas and LNG ⁴⁾ ... | 147 | (92.3) | 253 | (97.6) | 248 | (98.4) | 236 | (98.9) |
| Others | 0 | (0.0) | 0 | (0.0) | 0 | (0.0) | 0 | (0.0) |
| Sales | 1,359 (100.0) | | 1,477 (100.0) | | 1,553 (100.0) | | 1,526 (100.0) | |
| Residential | 416 | (30.6) | 410 | (27.7) | 401 | (25.8) | 387 | (25.3) |
| Commercial | 205 | (15.1) | 198 | (13.4) | 181 | (11.6) | 177 | (11.6) |
| Industrial | 619 | (45.5) | 738 | (50.0) | 848 | (54.6) | 842 | (55.2) |
| Others ⁵⁾ | 120 | (8.8) | 131 | (8.9) | 123 | (7.9) | 120 | (7.9) |

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. 5) Public offices, schools, medical
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 2016 totaled 847,100. The total R&D spending in fiscal 2015 amounted to 19 trillion yen, a decrease of 0.2 percent from the previous fiscal year. Relative to GDP, R&D spending was 3.56 percent and dropped for the first time in three years.

Table 8.1
Trends in Research and Development

| Year ¹⁾ | Number of Researchers ²⁾ | Females (%) | Fiscal year | R&D expenditures (billion yen) | GDP (billion yen) | Ratio of R&D expenditures to GDP (%) |
|--------------------|-------------------------------------|-------------|-------------|--------------------------------|-------------------|--------------------------------------|
| 2007 | 826,600 | 12.4 | 2006 | 18,463 | 529,255 | 3.49 |
| 2008 | 827,300 | 13.0 | 2007 | 18,944 | 531,013 | 3.57 |
| 2009 | 839,000 | 13.0 | 2008 | 18,800 | 509,398 | 3.69 |
| 2010 | 840,300 | 13.6 | 2009 | 17,246 | 492,075 | 3.50 |
| 2011 | 842,900 | 13.8 | 2010 | 17,110 | 499,195 | 3.43 |
| 2012 | 844,400 | 14.0 | 2011 | 17,379 | 493,853 | 3.52 |
| 2013 | 835,700 | 14.4 | 2012 | 17,325 | 494,674 | 3.50 |
| 2014 | 841,600 | 14.6 | 2013 | 18,134 | 507,401 | 3.57 |
| 2015 | 866,900 | 14.7 | 2014 | 18,971 | 517,867 | 3.66 |
| 2016 | 847,100 | 15.3 | 2015 | 18,939 | 532,191 | 3.56 |

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 2016, the number of researchers amounted to 486,200 persons in business enterprises, 38,800 persons in non-profit institutions and public organizations, and 322,100 persons in universities and colleges. In terms of R&D expenditures in fiscal 2015, business enterprises spent 13.7 trillion yen (72.3 percent of total R&D expenditures), non-profit institutions and public organizations spent 1.6 trillion yen (8.5 percent), and universities and colleges spent 3.6 trillion yen (19.2 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.

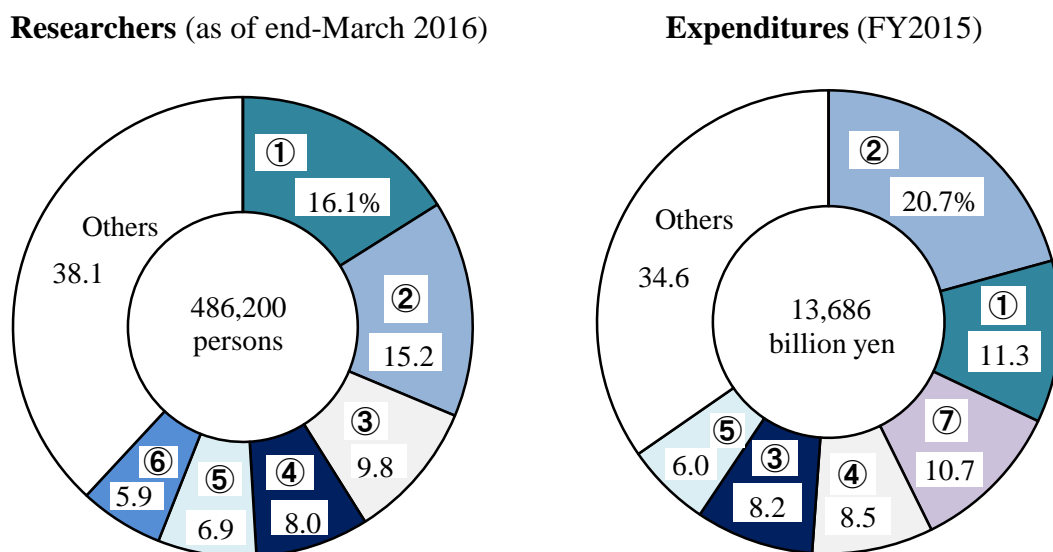
Based on the Science and Technology Basic Law, which was promulgated and enforced in 1995, the Japanese government has formulated a Basic Plan since fiscal 1996, and has promoted science and technology policies.

Currently, the Fourth Science and Technology Basic Plan (fiscal 2011 to fiscal 2015), which orients the recovery and reconstruction from the Great East Japan Earthquake as one of its main pillars, is being promoted. Within R&D spending in fiscal 2015, the amount of expenses used for the three fields the government should address as priority issues set in the Fourth Science and Technology Basic Plan consisted of 935 billion yen towards "Promotion of Life Innovation", 585.1 billion yen towards "Promotion of Green Innovation" and 82.3 billion yen towards "Recovery and Reconstruction from the Great East Japan Earthquake".

Approximately 90 percent of the 486,200 researchers at business enterprises at the end of March 2016, or 428,700 persons, were in the manufacturing industries; the largest number was in the information and communication electronics equipment industry, followed by the motor vehicles, parts and accessories industry, then by the business oriented machinery industry.

In terms of R&D expenditures in fiscal 2015, of 13.7 trillion yen spent by business enterprises, 11.9 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 Information and communication electronics equipment ② Motor vehicles, parts and accessories
 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 2015, Japan earned 3949.8 billion yen from technology exports, which was up 7.9 percent from the previous fiscal year. This was the fourth consecutive increase. Of the total receipts, 74.7 percent was from overseas parent/subsidiary companies. Meanwhile, payments from technology imports stood at 602.6 billion yen, an increase of 17.5 percent compared with the previous fiscal year. It increased for the first time in two years. Of this figure, 22.6 percent was for payments to overseas parent/subsidiary companies.

Table 8.2
Technology Trade by Business Enterprises¹⁾

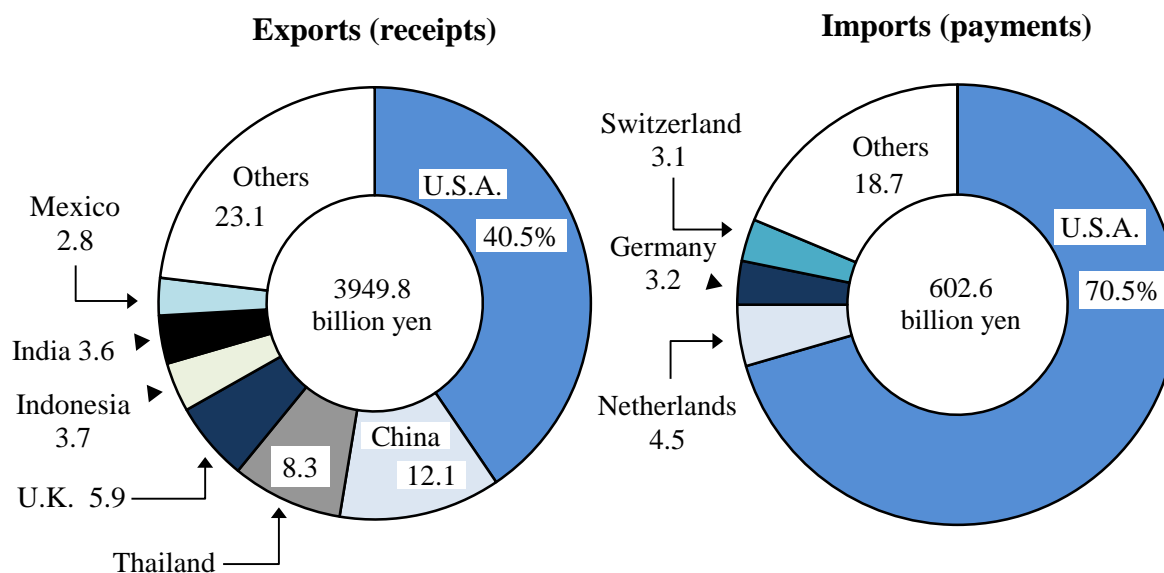
| Fiscal year | Exports | | Imports | | Exports value | Imports value |
|-------------|---------------------|--------------------------|---------------------|--------------------------|---------------|---------------|
| | Value (billion yen) | Annual increase rate (%) | Value (billion yen) | Annual increase 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 |
| 2014 | 3,660.3 | 7.8 | 513.0 | -11.2 | | 7.13 |
| 2015 | 3,949.8 | 7.9 | 602.6 | 17.5 | | 6.55 |

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

Source: Statistics Bureau, MIC.

In fiscal 2015, Japan exported 3949.8 billion yen of technologies; major export destinations were: the U.S.A. (1,597.9 billion yen, or 40.5 percent of total exports), followed by China (476.5 billion yen), Thailand (327.3 billion yen), and the U.K. (234.1 billion yen). On the other hand, Japan imported 602.6 billion yen of technologies, mainly from the U.S.A. (424.9 billion yen, or 70.5 percent of total imports), followed by the Netherlands (27.4 billion yen), Germany (19.3 billion yen) and Switzerland (18.4 billion yen).

Figure 8.2
Composition of Technology Trade by Major Country/Region
 (FY2015)



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 2015, there were 318,721 applications (down 2.2 percent from the previous year).

Table 8.3
Patents

| Item | (Cases) | | | | | |
|------------------------------|---------|-----------|-----------|-----------|-----------|-----------|
| | 1995 | 2000 | 2005 | 2010 | 2014 | 2015 |
| Applications | 369,215 | 436,865 | 427,078 | 344,598 | 325,989 | 318,721 |
| Registrations | 109,100 | 125,880 | 122,944 | 222,693 | 227,142 | 189,358 |
| Existing vested rights | 681,459 | 1,040,607 | 1,123,055 | 1,423,432 | 1,920,490 | 1,946,568 |

Source: Japan Patent Office.

Table 8.4
PCT International Applications by Country of Origin

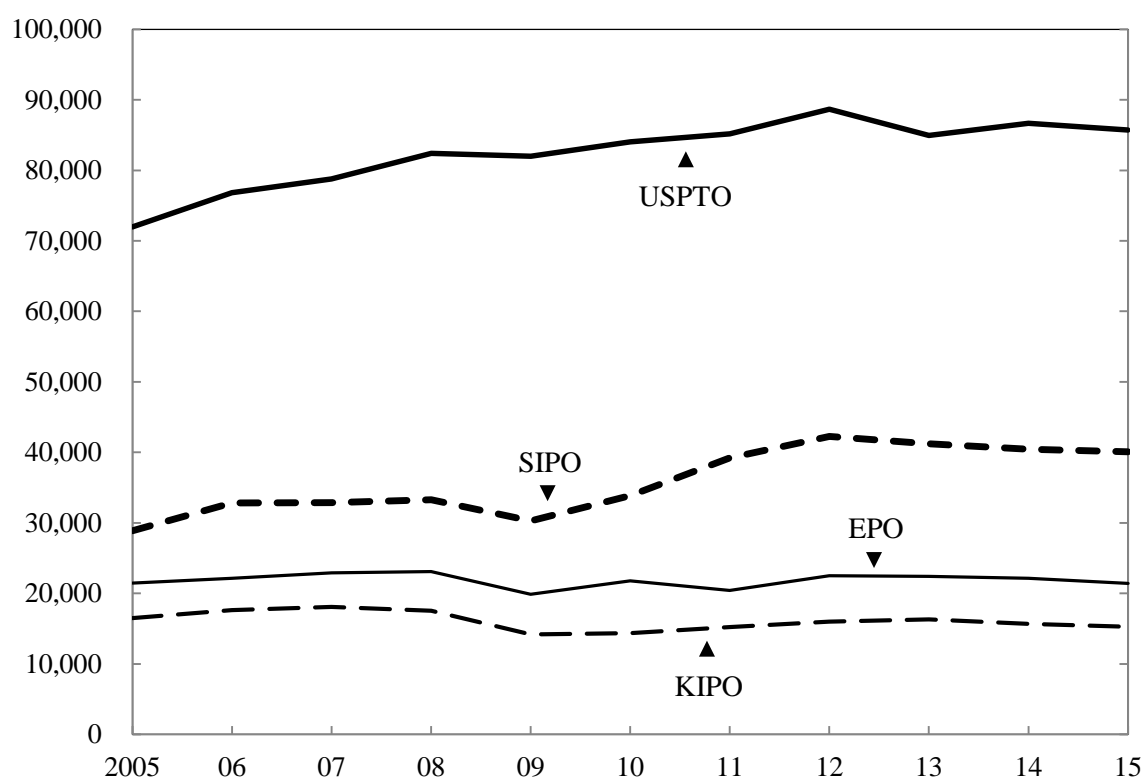
| Country | 2011 | 2012 | 2013 | 2014 | 2015 | Change from 2014 (%) |
|----------------------|---------|---------|---------|---------|---------|----------------------------|
| Total | 182,436 | 195,334 | 205,292 | 214,314 | 218,000 | 1.7 |
| U.S.A. | 49,210 | 51,860 | 57,455 | 61,477 | 57,385 | -6.7 |
| Japan | 38,864 | 43,523 | 43,771 | 42,381 | 44,235 | 4.4 |
| China | 16,398 | 18,620 | 21,515 | 25,548 | 29,846 | 16.8 |
| Germany | 18,846 | 18,750 | 17,920 | 17,983 | 18,072 | 0.5 |
| Korea, Rep. of | 10,357 | 11,787 | 12,381 | 13,117 | 14,626 | 11.5 |
| France | 7,406 | 7,802 | 7,905 | 8,260 | 8,476 | 2.6 |
| U.K. | 4,875 | 4,917 | 4,847 | 5,269 | 5,313 | 0.8 |
| Netherlands | 3,511 | 4,077 | 4,188 | 4,206 | 4,357 | 3.6 |
| Switzerland | 4,045 | 4,222 | 4,372 | 4,100 | 4,280 | 4.4 |
| Sweden | 3,476 | 3,600 | 3,946 | 3,913 | 3,858 | -1.4 |

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 2015, the number of international patent applications filed under the Patent Cooperation Treaty (PCT) was 218,000, of which 44,235 were from Japan, accounting for 20.3 percent.

The United States Patent and Trademark Office ranked first among major patent offices for applications filed by Japanese applicants in 2015, with 85,706 applications. The number of patent applications filed by Japanese applicants at the State Intellectual Property Office of the People's Republic of China was 40,078.

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



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.

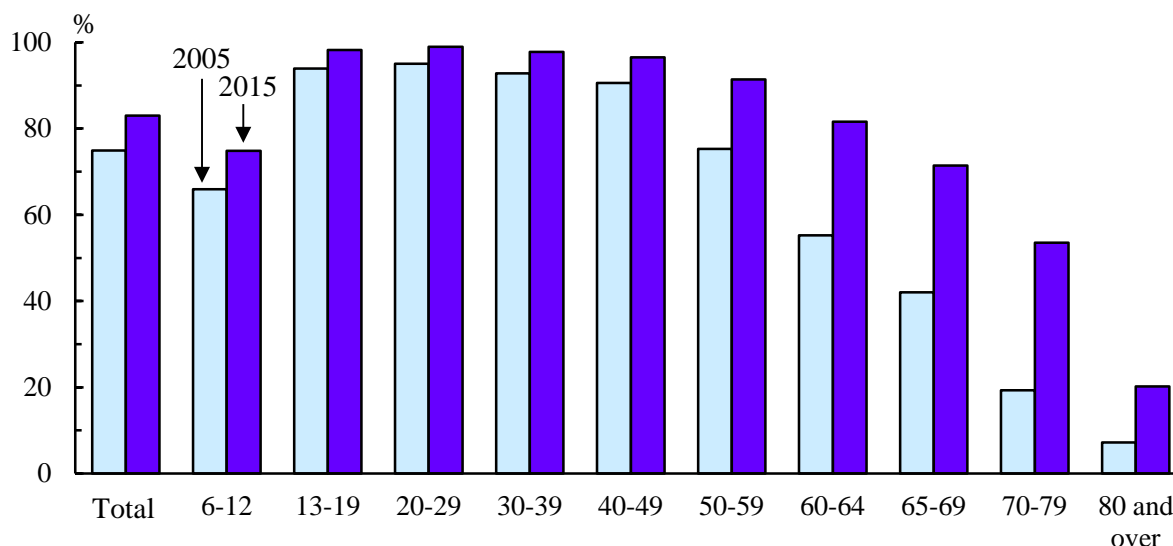
3. Information and Communication

(1) Diffusion of the Internet

The population of Internet users, the commercial use of which began in 1993, continues to increase. Since the end of 2013, the number of people who used the Internet over the past year as of the end of 2015 (individuals who are 6 years of age and older; Internet connected equipment includes any and all types of Internet connection devices, including PCs, cell phones, PHS (personal handyphone systems), smartphones, tablets and game consoles) exceeded 100 million people. According to the individual Internet usage rate by age group, the usage rate exceeded 90 percent in the

age group of 13 to 59 year olds, and there is also a trend of expansion of usage by the age group of 60 to 79 year olds.

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



1) Ages 6 years and over.

Source: Ministry of Internal Affairs and Communications.

According to the status of Internet use by terminal by age group as of the end of 2015, the usage rate of PCs was the highest (56.8 percent), followed by smartphones (54.3 percent). Figures for the rate of Internet use by terminal by age group show that over 70 percent of people in each age group between 13 and 49 years use smartphones, surpassing usage of PCs.

Table 8.5
Status of Internet Use by Terminal by Age Group (2015)

| Item | Usage rate | | | | | | | | % |
|------------------------|------------|------------|-------|-------|-------|-------|-------|-------------|---|
| | | 6-12 years | 13-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 and over | |
| PCs | 56.8 | 35.8 | 57.4 | 73.3 | 68.9 | 71.5 | 64.9 | 38.3 | |
| Mobile phones | 15.8 | 5.6 | 7.4 | 8.7 | 13.0 | 17.5 | 20.8 | 20.6 | |
| Smartphones | 54.3 | 32.8 | 78.3 | 91.3 | 84.6 | 73.6 | 54.8 | 15.9 | |
| Tablet Terminals | 18.3 | 27.6 | 23.5 | 20.4 | 23.5 | 24.5 | 20.1 | 8.1 | |

Source: Ministry of Internal Affairs and Communications.

As of the end of 2015, 16.2 percent of enterprises had introduced teleworking. The most frequent teleworking pattern was mobile work, 60.3 percent, followed by working from home, 22.9 percent and working from a satellite office, 15.8 percent.

(2) Progress of Communication Technologies

The number of broadband (connection) subscribers as of the end of March 2016 was 160 million. Among the number of broadband subscribers, those with subscriptions for 3.9-4G mobile phones (LTE) were the highest, amounting to 87 million subscriptions and accounting for 54.5 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 35 million subscribers, making up 21.9 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 2016, the total number of IP phone subscribers was 38 million.

Table 8.6

Subscribers to Telecommunications Services ¹⁾

| Item | (Thousands) | | | | | |
|---|-------------|---------|-------------|-----------|---------|---------|
| | 1995 | 2000 | 2005 | 2010 | 2015 | 2016 |
| Public phones (NTT ²⁾ only) | 801 | 736 | 442 | 283 | 184 | 171 |
| Fixed phone services | 59,936 | 55,547 | 51,626 | 37,918 | 24,081 | 21,703 |
| Mobile phone ³⁾ | 4,331 | 56,846 | 91,474 | 116,295 | 157,857 | 160,478 |
| IP phone | - | - | 8,305 | 23,172 | 35,641 | 38,456 |
| ISDN (Integrated Services Digital Network) | 344 | 6,683 | 7,981 | 5,421 | 3,652 | 3,374 |
| DSL (Digital Subscriber Line) | - | 0 | 13,676 | 9,735 | 3,753 | 3,204 |
| Cable Internet | - | 216 | 2,961 | 5,314 | 6,430 | 6,732 |
| FTTH (Fiber To The Home) | - | - | 2,890 | 17,802 | 26,607 | 27,868 |
| BWA (Broadband Wireless Access) .. | - | - | - | 153 | 19,466 | 35,208 |
| 3.9-4G mobile phones (LTE) | - | - | - | - | 67,781 | 87,390 |
| International phone calls, sent and received | 599,400 | 801,200 | # 1,103,700 | 1,101,600 | 599,300 | 500,600 |

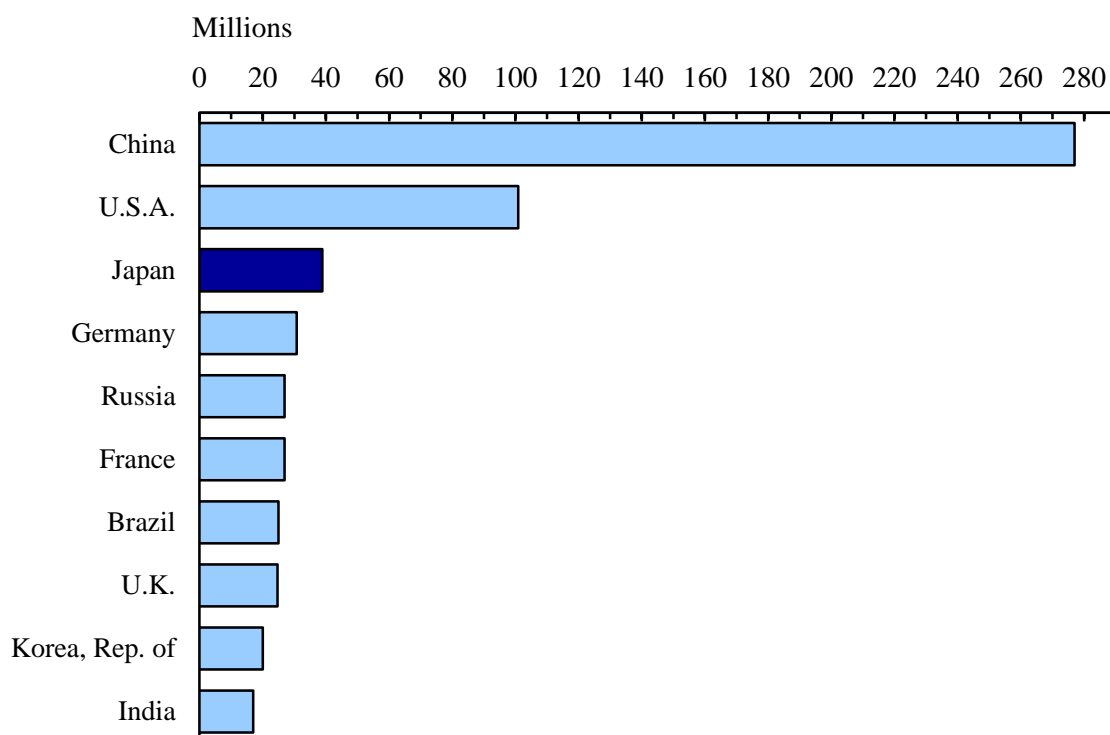
1) End of March. 2) Nippon Telegraph and Telephone Corporation.

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

Source: Ministry of Internal Affairs and Communications.

In 2015, the number of fixed broadband subscribers in Japan was 39 million, the third-largest after China, 277 million and the U.S.A., 101 million.

Figure 8.5
International Comparison of Fixed Broadband Subscribers (2015)

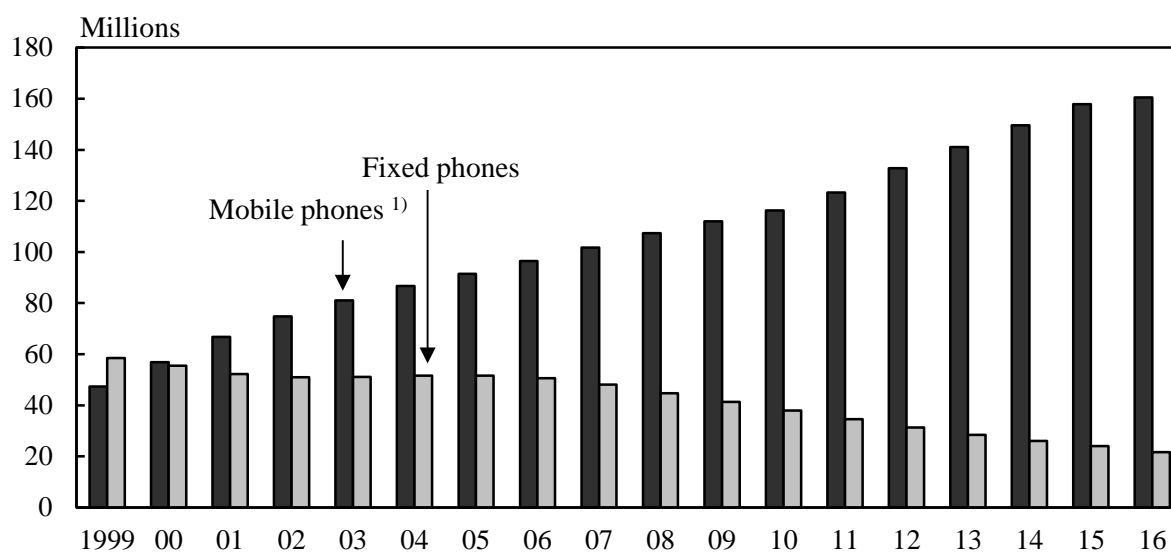


Source: International Telecommunication Union.

(3) Telephones

The number of fixed phone service subscription contracts has continued to decrease in recent years. As of the end of March 2016, the number of fixed phone subscribers was 22 million (down 9.9 percent from the previous year). Meanwhile, the number of mobile phone subscribers (cell phones and personal handyphone systems) totaled 158 million at the end of March 2015, marking a rise by 1.7 percent year-on-year to 160 million at the end of March 2016.

Figure 8.6
Telephone Service Subscribers



1) 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 2017, Japan Post Co., Ltd. had 24,421 post offices nationwide. In fiscal 2016, post offices handled 21.9 billion items of domestic mail (including parcels), which was a 0.7 percent decrease from the previous fiscal year. Furthermore, the total quantity of international mail (letters, Express Mail Services [EMS], and parcels) sent in fiscal 2016 amounted to 46.5 million items, a decrease of 4.9 percent from the previous fiscal year.

Table 8.7
Postal Services

| Item | (Millions) | | | | | |
|-----------------------------|------------|----------|----------|----------|----------|----------|
| | FY1995 | FY2000 | FY2005 | FY2010 | FY2015 | FY2016 |
| Domestic | | | | | | |
| Letters | 24,262.9 | 26,114.4 | 22,666.1 | 19,757.9 | 17,981.0 | 17,684.0 |
| Parcels | 400.2 | 310.5 | 2,075.0 | 2,968.4 | 4,052.4 | 4,195.3 |
| International | | | | | | |
| Sent | 122.8 | 106.0 | 77.5 | 54.2 | 48.9 | 46.5 |
| Letters ¹⁾ | 119.9 | 104.3 | 76.1 | 52.8 | 44.1 | 42.3 |
| Parcels | 2.9 | 1.7 | 1.5 | 1.4 | 4.8 | 4.1 |

1) Including Express Mail Services (EMS).

Source: Japan Post Co., Ltd.

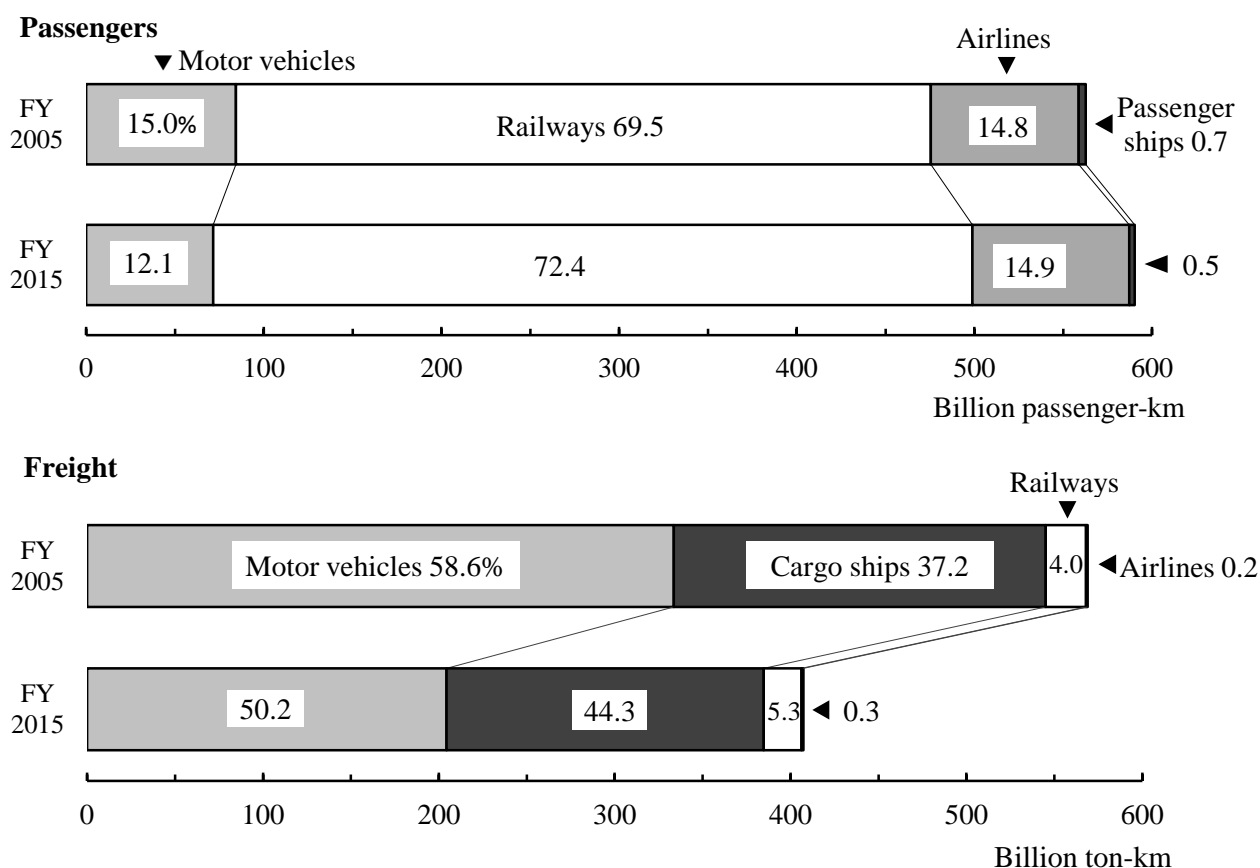
Chapter 9

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



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 2015, the number of domestic transport passengers was 30.51 billion (up 2.2 percent from the previous fiscal year). The total volume of passenger transport was 590.28 billion passenger-kilometers (up 2.4 percent).

Table 9.1
Domestic Passenger Transport

| Item | Passengers carried (thousands) | | Passenger kilometers (millions) | |
|------------------------------|-----------------------------------|------------|------------------------------------|---------|
| | FY2014 | FY2015 | FY2014 | FY2015 |
| Total transport volume | 29,838,333 | 30,505,204 | 576,235 | 590,284 |
| Railways | 23,599,851 | 24,289,894 | 413,970 | 427,486 |
| JR (Japan Railways) | 9,088,121 | 9,308,375 | 260,097 | 269,394 |
| Other than JR | 14,511,730 | 14,981,519 | 153,873 | 158,092 |
| Motor vehicles | 6,057,426 | 6,031,303 | 72,579 | 71,443 |
| Buses (Commercial use) .. | 4,500,163 | 4,565,210 | 65,649 | 64,936 |
| Taxis and limousine hires | 1,557,263 | 1,466,093 | 6,930 | 6,508 |
| Airlines | 95,197 | 96,063 | 86,763 | 88,216 |
| Passenger ships | 85,859 | 87,944 | 2,923 | 3,139 |

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

In fiscal 2015, the Japan Railways (JR) group reported 9.31 billion passengers (up 2.4 percent from the previous fiscal year) and 269.39 billion passenger-kilometers (up 3.6 percent). Railways other than JR reported 14.98 billion passengers (up 3.2 percent) and 158.09 billion passenger-kilometers (up 2.7 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 4.57 billion (up 1.4 percent from the previous fiscal year), but a decline in passenger-kilometers to 64.94 billion (down 1.1 percent) in fiscal 2015.

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 2015 air transport records show that there were 96.06 million passengers (up 0.9 percent from the previous fiscal year), and passenger-kilometers amounted to 88.22 billion (up 1.7 percent).

In fiscal 2015, passenger ships reported 87.94 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 4.70 billion metric tons (down 0.7 percent from the previous fiscal year) of freight was transported for a total of 407.27 billion ton-kilometers (down 1.9 percent) in fiscal 2015. As for transport tonnage volume in fiscal 2015, 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) | |
|------------------------------|--------------------------------|-----------|------------------------------|---------|
| | FY2014 | FY2015 | FY2014 | FY2015 |
| Total transport volume | 4,729,581 | 4,698,710 | 415,207 | 407,272 |
| Railways | 43,424 | 43,210 | 21,029 | 21,519 |
| Motor vehicles | 4,315,836 | 4,289,000 | 210,008 | 204,316 |
| Commercial use | 2,934,361 | 2,916,827 | 181,160 | 175,981 |
| Non-commercial use | 1,381,475 | 1,372,174 | 28,848 | 28,335 |
| Cargo ships | 369,302 | 365,486 | 183,120 | 180,381 |
| Airlines ¹⁾ | 1,019 | 1,014 | 1,050 | 1,056 |

1) Including overweight baggage and postal mail.

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

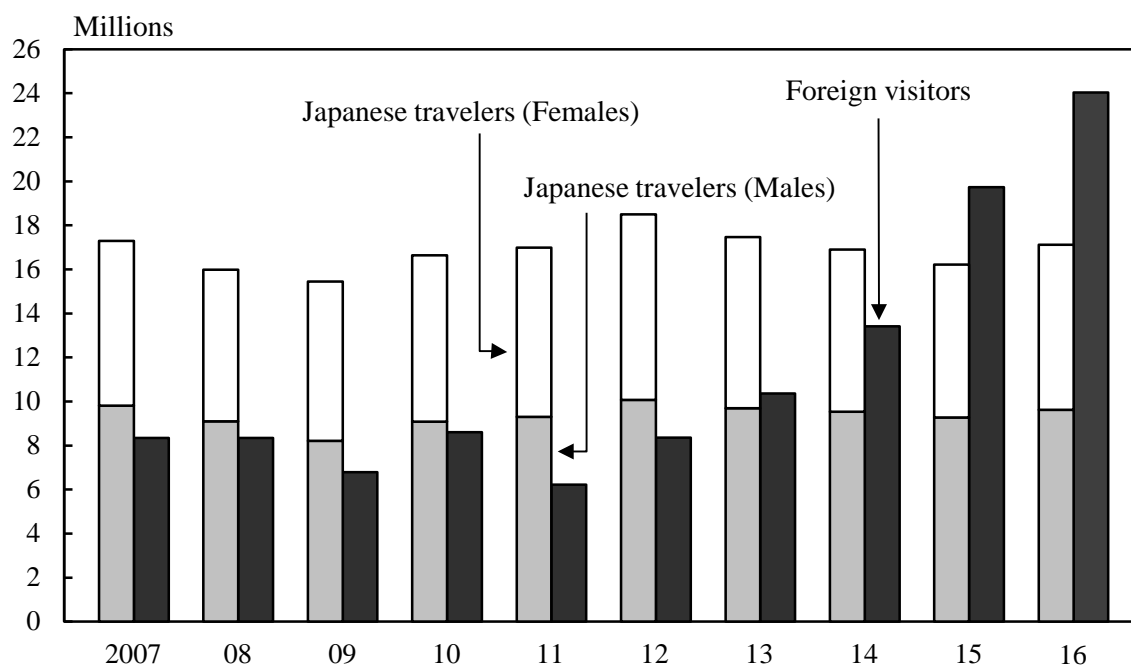
2. International Transport

(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 2015, Japanese airlines transported 18.25 million passengers (up 11.6 percent from the previous year) on international flights, and registered 82.11 billion passenger-kilometers (up 11.5 percent). Both recorded their fourth consecutive year of increase.

The number of Japanese overseas travelers in 2016 was 17.12 million (up 5.6 percent from the previous year). The number of foreign visitors to Japan in 2016 was 24.04 million, representing an increase of 21.8 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 2015.

Table 9.3
Japanese Travelers

| Country or area of destination | 2013 | | 2014 | | 2015 | |
|------------------------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| | Number of arrivals | Annual change (%) | Number of arrivals | Annual change (%) | Number of arrivals | Annual change (%) |
| U.S.A. ^{1) 2)} | 3,730,287 | 0.9 | 3,620,224 | -3.0 | 3,758,297 | 3.8 |
| China ³⁾ | 2,877,533 | -18.2 | 2,717,600 | -5.6 | 2,497,700 | -8.1 |
| Korea, Rep. of ³⁾ | 2,747,750 | -21.9 | 2,280,434 | -17.0 | 1,837,782 | -19.4 |
| Taiwan ⁴⁾ | 1,381,142 | -0.8 | 1,594,911 | 15.5 | 1,586,489 | -0.5 |
| Thailand ²⁾ | 1,515,718 | 13.0 | 1,254,858 | -17.2 | 1,349,388 | 7.5 |
| Hong Kong SAR ²⁾ .. | 607,877 | -21.5 | 636,432 | 4.7 | 632,959 | -0.5 |
| Germany ⁴⁾ | 711,529 | -3.1 | 670,804 | -5.7 | 647,243 | -3.5 |
| France ²⁾ | 660,841 | -6.6 | 776,870 | 17.6 | 682,121 | -12.2 |

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

Source: Japan National Tourism Organization.

The number of foreign visitors to Japan in 2016 broken down by country/region, the number of visitors from Asian countries was highest, totaling 20.43 million (up 22.7 percent from the previous year). Among Asian countries, the number of visitors from China was highest, amounting to 6.37 million, a figure that accounted for 26.5 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 | 2014 | | 2015 | | 2016* | |
|------------------------------------|--------------------|-------------------------|--------------------|-------------------------|--------------------|-------------------------|
| | Number of arrivals | Percentage distribution | Number of arrivals | Percentage distribution | Number of arrivals | Percentage distribution |
| Total arrivals ¹⁾ | 13,413,467 | 100.0 | 19,737,409 | 100.0 | 24,039,053 | 100.0 |
| Asia | 10,819,211 | 80.7 | 16,645,843 | 84.3 | 20,428,224 | 85.0 |
| China | 2,409,158 | 18.0 | 4,993,689 | 25.3 | 6,372,948 | 26.5 |
| Korea, Rep. of | 2,755,313 | 20.5 | 4,002,095 | 20.3 | 5,090,302 | 21.2 |
| Taiwan | 2,829,821 | 21.1 | 3,677,075 | 18.6 | 4,167,504 | 17.3 |
| Hong Kong SAR | 925,975 | 6.9 | 1,524,292 | 7.7 | 1,839,189 | 7.7 |
| Thailand | 657,570 | 4.9 | 796,731 | 4.0 | 901,458 | 3.7 |
| Singapore | 227,962 | 1.7 | 308,783 | 1.6 | 361,804 | 1.5 |
| Europe..... | 1,048,731 | 7.8 | 1,244,970 | 6.3 | 1,422,032 | 5.9 |
| U.K. | 220,060 | 1.6 | 258,488 | 1.3 | 292,457 | 1.2 |
| Africa..... | 28,336 | 0.2 | 31,918 | 0.2 | 33,770 | 0.1 |
| North America | 1,112,317 | 8.3 | 1,310,606 | 6.6 | 1,570,400 | 6.5 |
| U.S.A. | 891,668 | 6.6 | 1,033,258 | 5.2 | 1,242,702 | 5.2 |
| Canada | 182,865 | 1.4 | 231,390 | 1.2 | 273,211 | 1.1 |
| South America | 56,873 | 0.4 | 74,198 | 0.4 | 77,985 | 0.3 |
| Oceania..... | 347,339 | 2.6 | 429,026 | 2.2 | 505,541 | 2.1 |
| Australia | 302,656 | 2.3 | 376,075 | 1.9 | 445,237 | 1.9 |

1) Including stateless people, etc.

Source: Japan National Tourism Organization.

In 2016, of the total number of foreign visitors to Japan, tourists numbered 21.05 million people, or 87.6 percent of total foreign visitors. The highest number of tourists came from China, with 5.53 million travelers, followed by the Republic of Korea, with 4.59 million travelers.

(2) International Freight Transport

The volume of seaborne foreign transport in 2015 was 1,056 million tons, up 2.0 percent over the previous year. Of this figure, total exports increased by 4.1 percent to 61 million tons, and total imports increased by 1.8 percent to 545 million tons.

Table 9.5
Seaborne Foreign Transport

| Year | (Thousand tons) | | | |
|-------|-----------------|---------|---------|-----------------|
| | Total | Exports | Imports | 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 |
| 2014 | 1,035,239 | 58,431 | 535,244 | 441,563 |
| 2015* | 1,056,144 | 60,802 | 544,702 | 450,639 |

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

Air-shipped international freight in 2015 totaled 1.40 million tons in terms of volume (up 0.9 percent from the previous year) and 7.95 billion tons in terms of ton-kilometers (up 3.3 percent).

Chapter 10

Commerce

1. Wholesale and Retail

The "2014 Economic Census for Business Frame" showed that 1.41 million wholesale and retail establishments were in operation in Japan. The number of persons engaged at such establishments became 12.03 million. Sales in the wholesale and retail industries amounted to 425.69 trillion yen, accounting for 30.9 percent of the total of all industries.

(1) Wholesale Trade

The number of wholesale establishments was 382,000 in 2014. Observed by size of operation in terms of persons engaged, establishments with less than 20 persons accounted for 89.4 percent of the total. A total of 87.1 percent were corporations, while 12.8 percent were individual proprietorships.

Table 10.1

Establishments and Persons Engaged in the Wholesale and Retail Sector (2014)

| Item | Total | Wholesale | Retail |
|---|------------|-----------|-----------|
| Number of Establishments | 1,407,235 | 382,354 | 1,024,881 |
| Size of operation (persons engaged) | | | |
| 1-4 persons | 809,916 | 190,323 | 619,593 |
| 5-9 | 298,416 | 96,811 | 201,605 |
| 10-19 | 177,077 | 54,538 | 122,539 |
| 20-29 | 55,568 | 17,187 | 38,381 |
| 30-49 | 32,132 | 11,685 | 20,447 |
| 50-99 | 19,320 | 6,486 | 12,834 |
| 100 and over | 9,141 | 3,366 | 5,775 |
| Loaned or dispatched employees only | 5,665 | 1,958 | 3,707 |
| Persons engaged | 12,031,345 | 4,009,494 | 8,021,851 |
| Regular employees | 10,152,342 | 3,485,161 | 6,667,181 |
| Full-time employees | 5,340,113 | 2,806,083 | 2,534,030 |
| Other than full-time employees ¹⁾ | 4,812,229 | 679,078 | 4,133,151 |
| Temporary employees | 413,291 | 77,218 | 336,073 |
| Loaned or dispatched employees from the separately operated establishments | 322,235 | 128,786 | 193,449 |
| Loaned or dispatched employees to the separately operated establishments | 117,395 | 87,583 | 29,812 |

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.

The number of persons engaged in wholesale was 4.01 million in 2014, of which 756,000 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 18.9 percent of the total.

(2) Retail Trade

The number of retail establishments in operation totaled 1.02 million in 2014. Observed by size of operation in terms of persons engaged, establishments with less than 10 persons accounted for 80.1 percent of the total. By type of legal organization, 59.5 percent of retail establishments were corporations, while 40.3 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 8.02 million in 2014, of which 4.47 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 55.7 percent of the total.

2. Eating and Drinking Places

There were 620,000 eating and drinking places establishments in operation and 4.23 million persons engaged at them in 2014.

Table 10.2
Eating and Drinking Places (2014)

| Size of operation (persons engaged) | Establishments | | Persons engaged | |
|--|----------------|-----------|-----------------|-----------|
| | Number | Ratio (%) | Number | Ratio (%) |
| Total | 619,629 | 100.0 | 4,230,881 | 100.0 |
| 1-4 persons | 382,051 | 61.7 | 820,526 | 19.4 |
| 5-9 | 119,600 | 19.3 | 777,767 | 18.4 |
| 10-19 | 69,025 | 11.1 | 938,339 | 22.2 |
| 20-29 | 27,491 | 4.4 | 649,378 | 15.3 |
| 30 and over | 20,813 | 3.4 | 1,044,871 | 24.7 |
| Loaned or dispatched employees only .. | 649 | 0.1 | - | - |

Source: Statistics Bureau, MIC.

Chapter 11

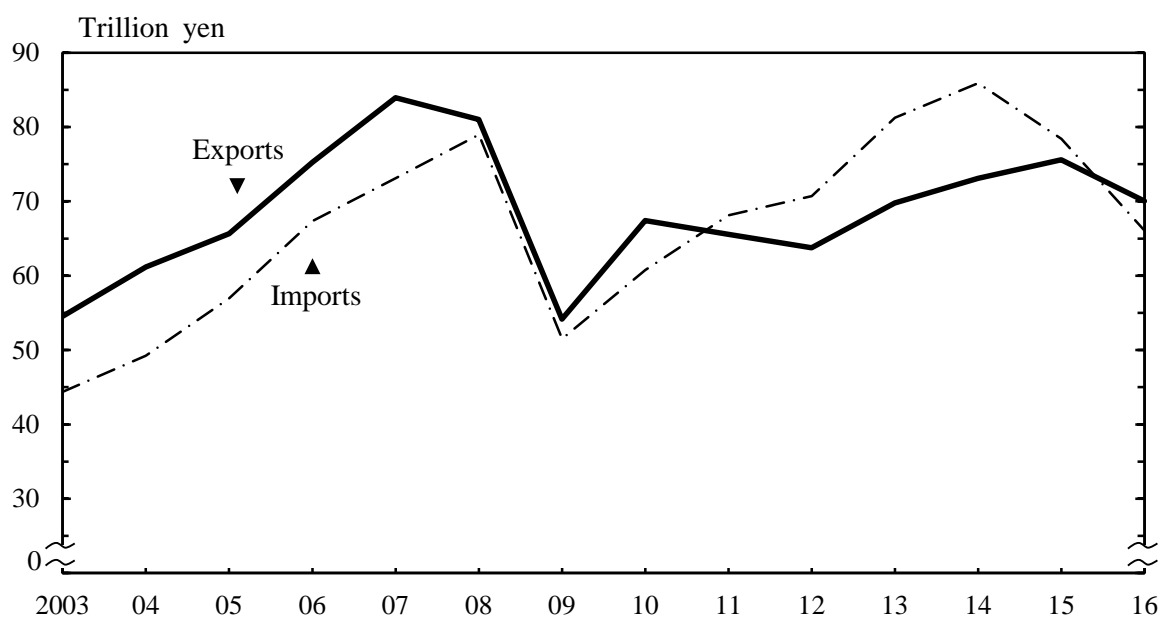
Trade, International Balance of Payments, and International Cooperation

1. Trade

(1) Overview of Trade

In 2016, Japan's international trade on a customs clearance basis decreased, together with exports and imports. Exports (in FOB value) amounted to 70.0 trillion yen, which was a 7.4 percent decrease as compared to the previous year, and a decrease for the first time in four years. Imports (in CIF value) amounted to 66.0 trillion yen, which was a 15.8 percent decrease as compared to the previous year. It decreased for the second consecutive year. Trade surplus totaled 4.0 trillion yen. This was for the first time in six years.

Figure 11.1
Foreign Trade



Source: Ministry of Finance.

Table 11.1
Trends in Foreign Trade and Indices of Trade

| Year | Value (billion yen) | | | 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 |
| 2007 | 83,931 | 73,136 | 10,796 | 124.5 | 111.4 | 111.8 | 120.4 | 103.2 | 116.7 |
| 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 |

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

Source: Ministry of Finance.

Japan's 2016 exports decreased by 7.6 percent from the previous year in terms of unit value index (the first decrease in seven years), and increased by 0.2 percent from the previous year in terms of quantum index (the first increase in two years).

Japan's imports in 2016, unit value index and quantum index, decreased by 15.5 percent and 0.4 percent compared to the previous year; both indices recorded a decrease for the second consecutive year.

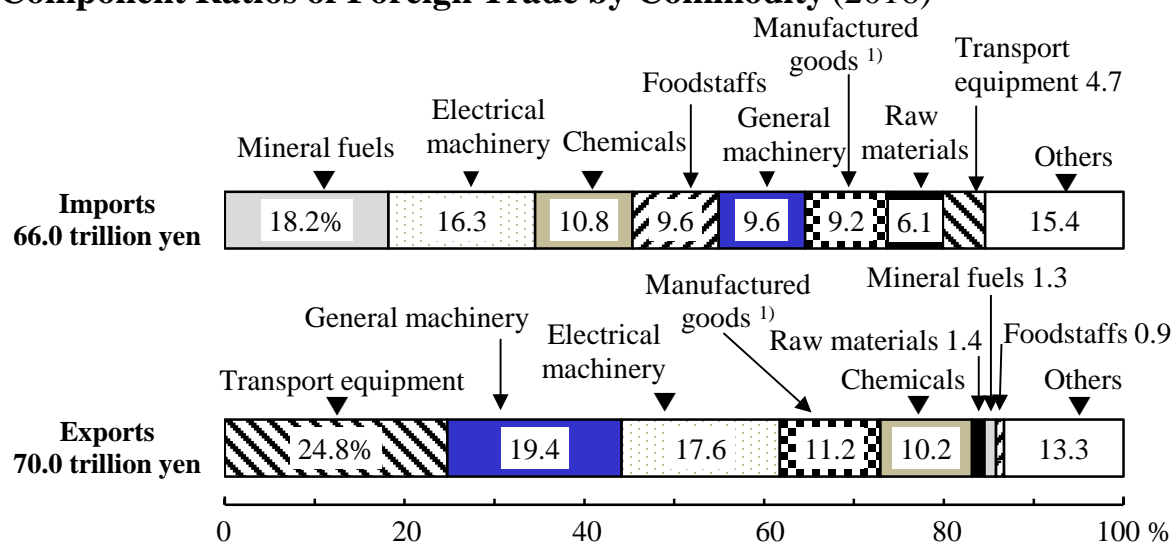
(2) Trade by Commodity

Japan's exports in 2016 consisted of transport equipment, which accounted for the largest portion of the total export value, 24.8 percent, followed by general machinery and electrical machinery, making up 19.4 percent and 17.6 percent, respectively. Motor vehicles, which are in the transport equipment category, constituted 16.2 percent of the total export value, down 0.7 percent in quantity and down 5.9 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 18.2 percent of the total value imported, followed by electrical machinery and chemicals, with 16.3 percent and 10.8 percent, respectively. Crude petroleum and partially refined petroleum, in the mineral fuels category, constituted 8.4 percent of the total import value, down 0.5 percent in quantity and down 32.4 percent in value from the previous year.

Figure 11.2

Component Ratios of Foreign Trade by Commodity (2016)



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

Source: Ministry of Economy, Trade and Industry.

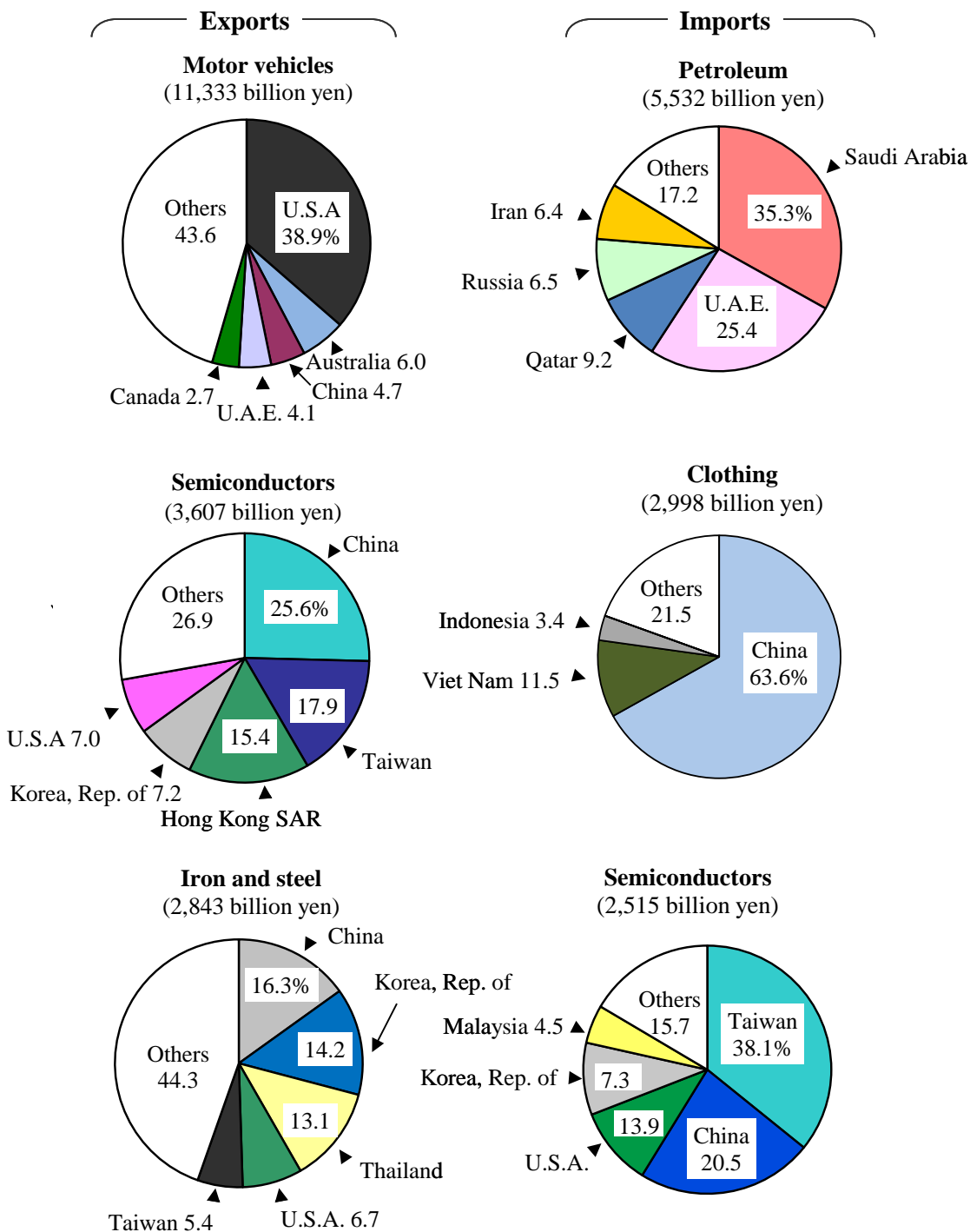
Table 11.2
Value of Exports and Imports, by Principal Commodity

| | (Billion yen) | | | | |
|--|---------------|--------|--------|--------|-------------------------|
| Item | 2013 | 2014 | 2015 | 2016 | Annual growth (%) |
| Exports, total | 69,774 | 73,093 | 75,614 | 70,036 | -7.4 |
| Foodstuffs | 436 | 482 | 599 | 607 | 1.4 |
| Raw materials | 1,206 | 1,194 | 1,137 | 947 | -16.7 |
| Mineral fuels | 1,533 | 1,517 | 1,245 | 898 | -27.9 |
| Chemicals | 7,507 | 7,818 | 7,759 | 7,123 | -8.2 |
| Plastic materials | 2,259 | 2,413 | 2,444 | 2,272 | -7.1 |
| Manufactured goods ¹⁾ | 9,177 | 9,464 | 9,220 | 7,847 | -14.9 |
| Iron and steel products | 3,793 | 3,958 | 3,668 | 2,843 | -22.5 |
| General machinery | 13,359 | 14,218 | 14,424 | 13,613 | -5.6 |
| Power generating machinery | 2,520 | 2,540 | 2,591 | 2,416 | -6.8 |
| Electrical machinery | 12,052 | 12,650 | 13,289 | 12,322 | -7.3 |
| Semiconductors and other electronic parts | 3,553 | 3,691 | 3,915 | 3,607 | -7.8 |
| Transport equipment | 16,332 | 16,907 | 18,141 | 17,338 | -4.4 |
| Motor vehicles | 10,413 | 10,919 | 12,046 | 11,333 | -5.9 |
| Others | 8,172 | 8,844 | 9,801 | 9,340 | -4.7 |
| Scientific and optical instruments | 2,223 | 2,436 | 2,376 | 2,046 | -13.9 |
| Imports, total | 81,243 | 85,909 | 78,406 | 66,042 | -15.8 |
| Foodstuffs | 6,473 | 6,732 | 7,002 | 6,363 | -9.1 |
| Raw materials | 5,358 | 5,590 | 4,853 | 4,012 | -17.3 |
| Mineral fuels | 27,444 | 27,692 | 18,218 | 12,052 | -33.8 |
| Petroleum, crude and partially refined .. | 14,245 | 13,873 | 8,185 | 5,532 | -32.4 |
| Chemicals | 6,464 | 6,864 | 7,748 | 7,111 | -8.2 |
| Medical and pharmaceutical products .. | 2,138 | 2,214 | 2,924 | 2,780 | -4.9 |
| Manufactured goods ¹⁾ | 6,245 | 6,994 | 7,039 | 6,068 | -13.8 |
| Non-ferrous metals | 1,541 | 1,692 | 1,683 | 1,344 | -20.1 |
| General machinery | 5,969 | 6,761 | 7,068 | 6,357 | -10.1 |
| Computers and units | 1,928 | 2,122 | 1,973 | 1,724 | -12.6 |
| Electrical machinery | 10,309 | 11,532 | 12,014 | 10,792 | -10.2 |
| Communication equipment..... | 2,679 | 2,865 | 2,933 | 2,722 | -7.2 |
| Transport equipment | 2,788 | 3,056 | 3,126 | 3,094 | -1.0 |
| Others | 10,192 | 10,688 | 11,336 | 10,193 | -10.1 |
| Clothing and clothing accessories | 3,248 | 3,260 | 3,415 | 2,998 | -12.2 |

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 (2016)



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 | | | | | | | | | |
| 2012 | 63,748 | 34,855 | 11,509 | 4,911 | 3,673 | 11,188 | 6,501 | 2,262 | 1,837 |
| 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 |
| Imports to Japan | | | | | | | | | |
| 2012 | 70,689 | 31,306 | 15,039 | 3,234 | 1,921 | 6,082 | 6,642 | 13,542 | 4,901 |
| 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 |

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

Source: Ministry of Finance.

(A) Trade with Asia

Japan's 2016 trade balance with Asia resulted in a 3.9 trillion yen in surplus, an increase for the second consecutive year (up 98.4 percent from the previous year). Exports (in FOB value) totaled 37.1 trillion yen (down 8.0 percent), a decrease for the first time in four years; this was mainly due to the contributions for the decrease in manufactured goods and electrical machinery. Imports (in CIF value) amounted to 33.2 trillion yen (down 13.5 percent), a decrease for the second consecutive year; this was mainly attributed to the decrease in mineral fuels.

In 2016, Japan's trade with China amounted to 12.4 trillion yen in exports and 17.0 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.

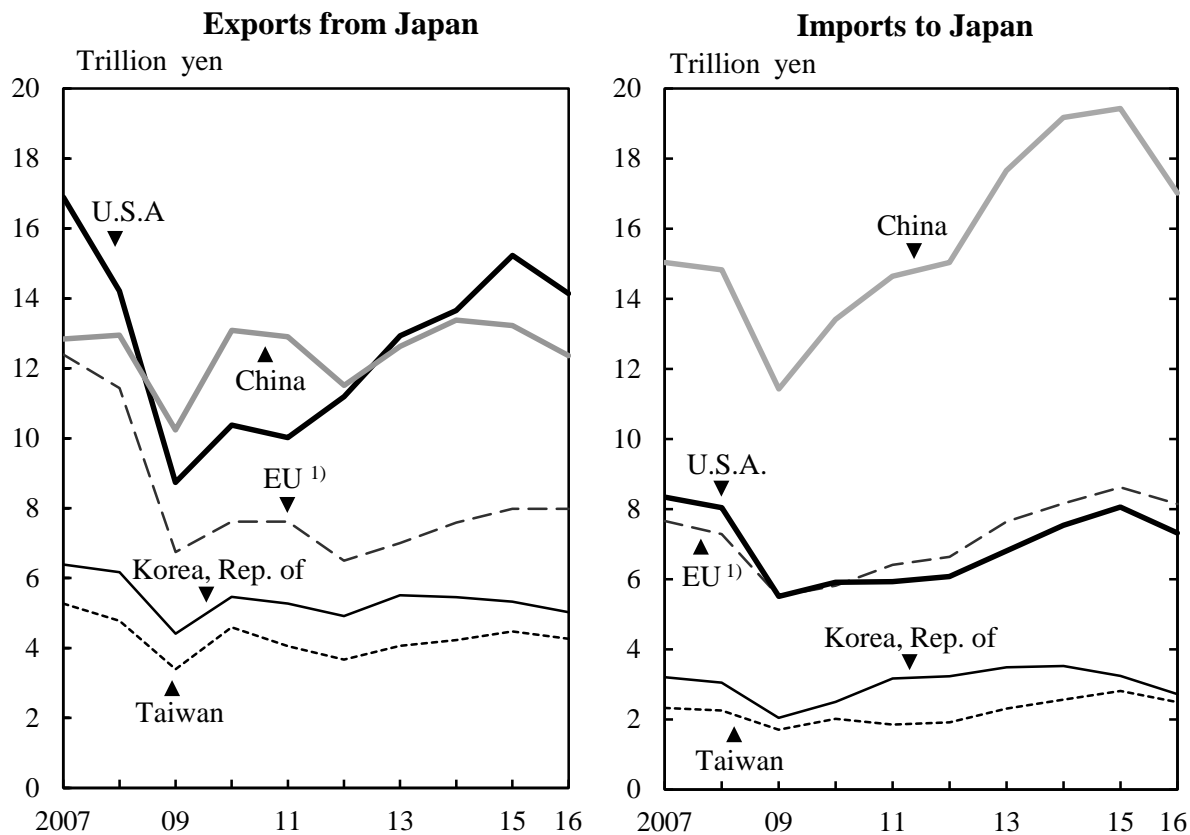
(B) Trade with U.S.A.

Japan's 2016 trade balance with the U.S.A. showed a surplus of 6.8 trillion yen (down 4.8 percent from the previous year), a decrease for the first time in two years. The U.S.A. has been the biggest export counterpart for Japan for four consecutive years. Exports (in FOB value) totaled 14.1 trillion yen (down 7.1 percent), declining for the first time in five years. This was due mainly to the drops in general machinery and electrical machinery. Imports (in CIF value) totaled 7.3 trillion yen (down 9.2 percent), declining for the first time in seven years. This was due mainly to the drops in foodstuffs and chemicals.

(C) Trade with EU

In 2016, Japan's exports (in FOB value) to the EU (28 countries) decreased by 0.04 percent year-on-year, to 8.0 trillion yen. Commodities such as general machinery and electrical machinery contributed to the drop in exports. Imports (in CIF value) from the EU (28 countries) totaled 8.2 trillion yen, down 5.5 percent from the previous year. Commodities such as chemicals and general machinery contributed to the drop in imports. As a result, Japan's trade balance with the EU (28 countries) registered a deficit of 170.0 billion yen.

Figure 11.4
Trends in Japan's Trade by Country/Region



1) 25 countries: from May 2004 to Dec. 2006, 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 2016, goods and services rose by 7.2 trillion yen from the previous year to 4.4 trillion yen. This trade surplus was for the first time in six years. This was due to the trade balance turning into a surplus, and the service balance shrinking by the degree of deficit. As a result, the current account totaled 20.3 trillion yen, and its surplus bulged for the second consecutive year.

Breaking down the financial account in 2016, there was a decrease in net assets for direct investment as compared to the previous year. However, since there was an increase in net assets for portfolio investment as compared to the previous year, the financial account amounted to 28.7 trillion yen.

Table 11.4
International Balance of Payments

| Item | (Billion yen) | | | |
|---|---------------|-----------|-----------|-----------|
| | 2013 | 2014 | 2015 | 2016 |
| Current account | 4,456.6 | 3,921.5 | 16,235.1 | 20,342.1 |
| Goods and services | -12,252.1 | -13,498.8 | -2,816.9 | 4,377.1 |
| Goods | -8,773.4 | -10,465.3 | -886.2 | 5,525.1 |
| Exports | 67,829.0 | 74,074.7 | 75,274.2 | 68,979.7 |
| Imports | 76,602.4 | 84,540.0 | 76,160.4 | 63,454.6 |
| Services | -3,478.6 | -3,033.5 | -1,930.7 | -1,148.0 |
| Primary income | 17,697.8 | 19,414.8 | 21,018.9 | 18,101.1 |
| Secondary income | -989.2 | -1,994.5 | -1,966.9 | -2,136.1 |
| Capital account | -743.6 | -208.9 | -271.4 | -743.3 |
| Financial account ¹⁾ | -408.7 | 6,278.2 | 21,592.0 | 28,698.5 |
| Direct investment | 14,245.9 | 12,587.7 | 15,847.6 | 14,562.4 |
| Portfolio investment | -26,565.2 | -4,833.0 | 16,029.4 | 30,354.3 |
| Financial derivatives (other than reserves) ... | 5,551.6 | 3,764.4 | 2,143.9 | -1,723.5 |
| Other investment | 2,508.5 | -6,130.6 | -13,053.9 | -13,916.6 |
| Reserve assets | 3,850.4 | 889.8 | 625.1 | -578.0 |
| Net errors and omissions | -4,121.7 | 2,565.6 | 5,628.3 | 9,099.7 |

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 2016 amounted to 997.8 trillion yen, while its external liabilities (assets held in Japan by nonresidents) were 648.7 trillion yen. As a result, Japan's net external assets (external assets minus external liabilities) were 349.1 trillion yen.

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

| (Billion yen) | | | | | |
|-------------------|---------|---------|---------|---------|---------|
| Item | 2012 | 2013 | 2014 | 2015 | 2016 |
| Assets | 658,927 | 797,686 | 942,381 | 949,919 | 997,771 |
| Liabilities | 359,625 | 471,955 | 578,971 | 610,702 | 648,658 |
| Net assets | 299,302 | 325,732 | 363,409 | 339,217 | 349,112 |

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). Moreover, at the end of 2016, they were amounted to 1,216.9 billion U.S. dollars (down 1.3 percent), marking a fifth consecutive annual decrease.

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⁾ |
| 2012 | 1,268,125 | 1,193,077 | 13,697 | 19,911 | 40,939 | 501 |
| 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 |

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

Source: Ministry of Finance.

The yen was worth 83.19 yen to the U.S. dollar in May 1995. The trend subsequently shifted to a progressively weaker yen, which eventually reached 143.79 yen to the U.S. dollar in July 1998. After hovering between the 100 and 140 yen ranges for the most part, the yen began appreciating sharply in late 2008. From 2011 into 2012, the yen 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 2017, the exchange rate was 111.29 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 assistance, including bilateral assistance and assistance through multilateral institutions.

Table 11.7

Net Flow of Development Cooperation ¹⁾

(Million U.S. dollars)

| Item | 2011 | 2012 | 2013 | 2014 | 2015 |
|--|--------|--------|--------|--------|--------|
| Total value | 61,828 | 48,977 | 58,459 | 40,718 | 37,909 |
| Official flows | 13,736 | 15,997 | 12,867 | 8,584 | 8,148 |
| Official development assistance (ODA) | 10,831 | 10,605 | 11,582 | 9,483 | 9,203 |
| Bilateral official development assistance ²⁾ | 6,943 | 6,402 | 8,611 | 6,129 | 6,147 |
| Grants ²⁾ | 8,567 | 6,759 | 9,836 | 5,197 | 4,991 |
| Grants-in-aid ²⁾ | 5,033 | 3,117 | 7,032 | 2,567 | 2,623 |
| Technical cooperation | 3,534 | 3,641 | 2,804 | 2,630 | 2,369 |
| Loans, etc. | -1,624 | -356 | -1,224 | 932 | 1,156 |
| Contributions to multilateral institutions ³⁾ | 3,888 | 4,202 | 2,970 | 3,355 | 3,055 |
| Other official flows (OOF) | 2,905 | 5,393 | 1,286 | -899 | -1,055 |
| Official export credits (over one year) | -622 | -623 | -441 | -56 | -66 |
| Direct investment finance, etc. | 3,889 | 6,829 | 1,946 | -843 | -990 |
| Concessional lending to multilateral institutions | -362 | -813 | -219 | - | - |
| Private flows (PF) | 47,594 | 32,494 | 45,133 | 31,667 | 29,262 |
| Private export credits (over one year) | 1,853 | -3,951 | 3,271 | -736 | 2,694 |
| Direct investment | 40,315 | 31,215 | 38,715 | 27,329 | 25,800 |
| Bilateral investment in securities, etc. | 5,844 | 6,470 | 4,859 | 6,254 | 576 |
| Concessional lending to multilateral institutions | -419 | -1,241 | -1,712 | -1,180 | 193 |
| Grants by private nonprofit agencies | 497 | 487 | 458 | 467 | 498 |
| ODA as percentage of GNI (%) | 0.18 | 0.17 | 0.22 | 0.20 | 0.21 |
| ODA as percentage of GNI (DAC average) (%) | 0.31 | 0.29 | 0.30 | 0.30 | 0.30 |

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.

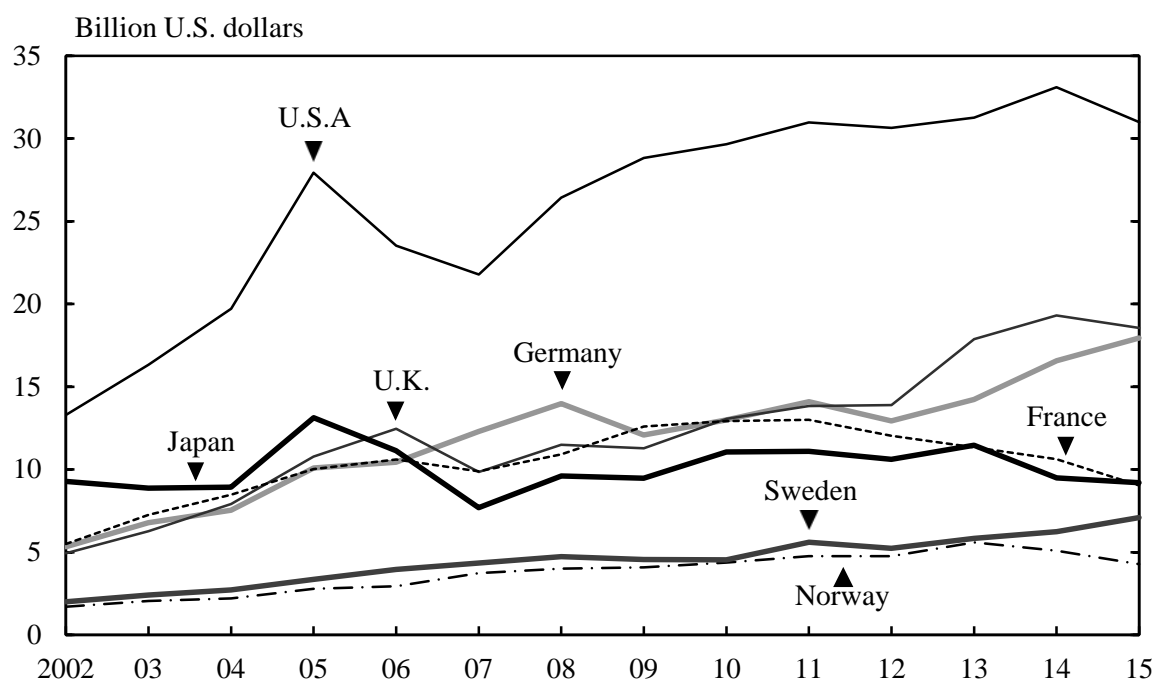
Source: Ministry of Foreign Affairs; Ministry of Finance; OECD.

In the ODA framework, Japan's spending (on the basis of net disbursement at current prices) in 2015 decreased by 3.0 percent over the previous year to 9.2 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 2015 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., the U.K. and Germany.

The ratio of Japan's ODA to Gross National Income (GNI) was 0.21 percent, or an increase of 0.01 percentage points 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 9.2 billion U.S. dollars in ODA provided by Japan in 2015, 6.1 billion was bilateral ODA (up 0.3 percent year-on-year), and 3.1 billion was ODA contributed through multilateral institutions (down 8.9 percent).

Bilateral ODA provided in 2015 consisted of 2.6 billion U.S. dollars in grants-in-aid, 2.4 billion in technical cooperation, and 1.2 billion in loans, etc.

By region, bilateral ODA (net disbursement at current prices, including assistance to graduated countries) was distributed as follows: Sub-Saharan Africa, 1,789 million U.S. dollars; Asia, 1,626 million U.S. dollars; Middle East and North Africa, 864 million U.S. dollars; Oceania, 112 million U.S. dollars; Europe, 48 million U.S. dollars; and Latin America and the Caribbean, -17 million U.S. dollars (the negative value indicates a larger amount of repayment received in 2015 than the amount lent in the same year).

Table 11.8

Regional Distribution of Bilateral ODA ¹⁾

(Million U.S. dollars)

| Region | 1990 | 2000 | 2010 | 2014 | 2015 |
|------------------------------------|-------|---------|-------|-------|-------|
| Total | 6,940 | 9,640 | 7,428 | 6,085 | 6,116 |
| Asia | 4,117 | 5,284 | 2,529 | 1,977 | 1,626 |
| ASEAN ²⁾ | 2,299 | # 3,126 | 902 | 807 | 570 |
| Middle East and North Africa | 666 | 727 | 1,592 | 927 | 864 |
| Sub-Saharan Africa | 831 | 970 | 1,733 | 1,557 | 1,789 |
| Latin America and the Caribbean .. | 561 | 800 | -344 | 30 | -17 |
| Oceania | 114 | 151 | 176 | 109 | 112 |
| Europe | 158 | 118 | 181 | 132 | 48 |
| Multiple regions, etc. | 494 | 1,592 | 1,562 | 1,353 | 1,694 |

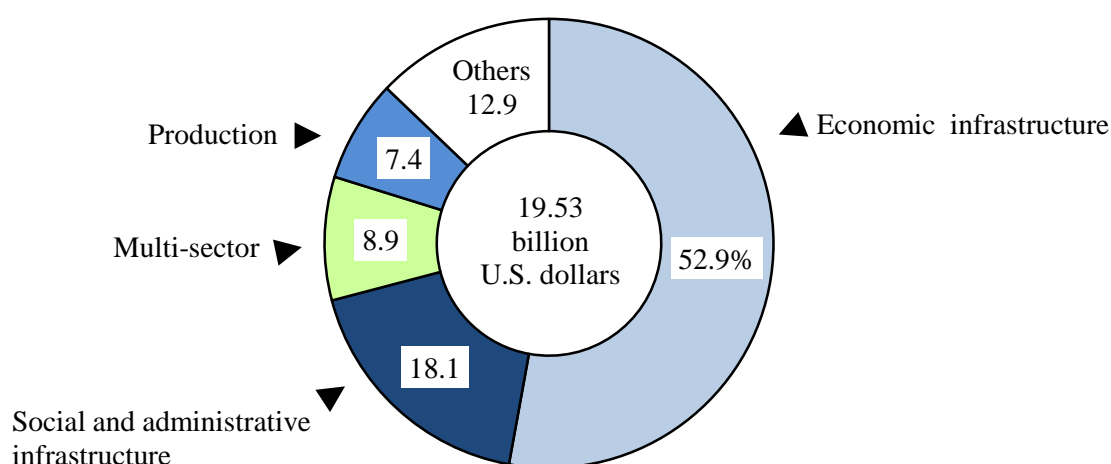
1) Net disbursement at current prices. Including assistance to graduated countries. Negative figures (-) indicate that loan repayments, etc., exceeded the disbursed amount. 2) The data in 1990: 6 countries, the data from 2000: 10 countries.

Source: Ministry of Foreign Affairs.

Bilateral ODA in 2015 (including assistance to graduated countries) was broken down by purpose (on a commitment basis) as follows: 52.9 percent for improving economic infrastructure, followed in descending order by social and administrative infrastructure (including education, water supply and sanitation), with 18.1 percent.

Figure 11.7

Distribution of Bilateral ODA by Sector ¹⁾ (2015)



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 Type¹⁾

| Type of cooperation | FY2005 | FY2010 | FY2013 | FY2014 | FY2015 |
|------------------------------|--------|--------|--------|--------|--------|
| Total | 37,291 | 41,212 | 42,632 | 43,660 | 46,771 |
| Trainees received | 24,504 | 23,978 | 22,240 | 24,101 | 25,203 |
| Dispatched | | | | | |
| Experts | 3,488 | 8,296 | 10,359 | 9,889 | 11,134 |
| Research team | 6,862 | 7,046 | 8,615 | 8,056 | 8,914 |
| Japan Overseas | | | | | |
| Cooperation Volunteers | 1,804 | 1,459 | 1,081 | 1,267 | 1,198 |
| Other volunteers | 633 | 433 | 337 | 347 | 322 |

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 on falling trend. Since 2014, however, this population has been increasing, and reached 111.11 million people in 2016.

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 66.73 million people in Japan in 2016, up 480,000 (0.7 percent) for the fourth consecutive year of increase.

The 2016 labour force participation rate (rate of the labour force to the population aged 15 years and over) was 60.0 percent (up 0.4 percentage points from the previous year). Observed by gender, the rate was 70.4 percent for men (up 0.1 percentage points) and 50.3 percent for women (up 0.7 percentage points).

Table 12.1
Population by Labour Force Status

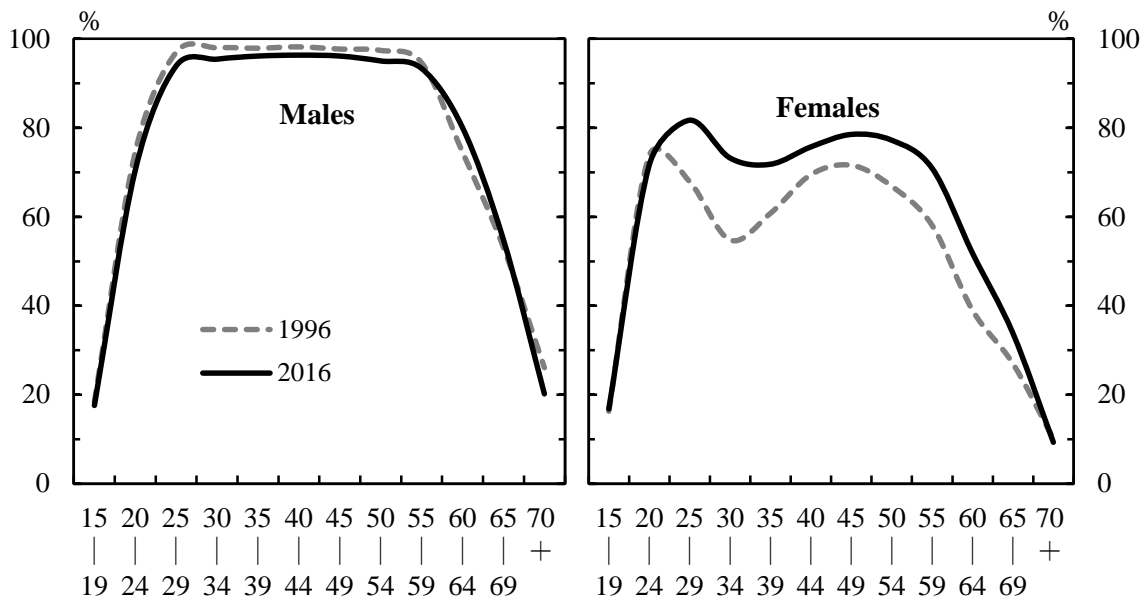
| Year | Population aged 15 years and over | Labour force | | | Not in labour force | Unemploy- ment rate (%) |
|----------------|---|--------------|----------|------------|------------------------|-------------------------------|
| | | Total | Employed | Unemployed | | |
| Total | | | | | | |
| 2000 | 108,360 | 67,660 | 64,460 | 3,200 | 40,570 | 4.7 |
| 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 |
| Males | | | | | | |
| 2000 | 52,530 | 40,140 | 38,170 | 1,960 | 12,330 | 4.9 |
| 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 |
| Females | | | | | | |
| 2000 | 55,830 | 27,530 | 26,290 | 1,230 | 28,240 | 4.5 |
| 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 |

Source: Statistics Bureau, MIC.

The female labour force participation rate by age group shows an M-shaped curve. This curve 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. A comparison with the data from twenty years ago (1996) shows that, in 2016, 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 18.4

percentage points in the 30-34 age group and by 11.0 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.

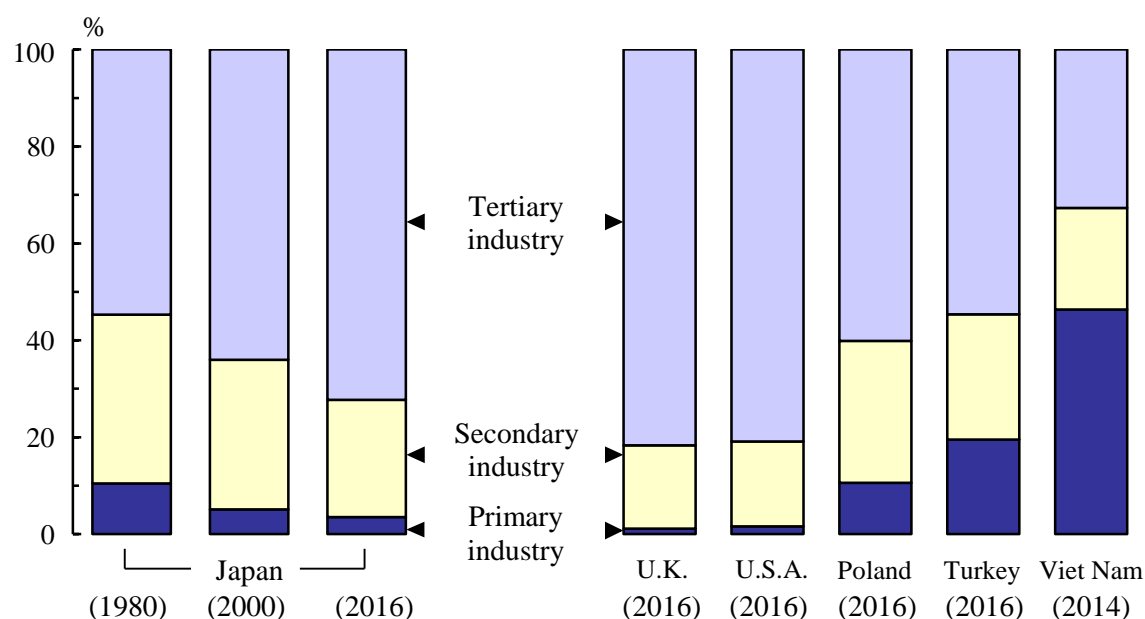
2. Employment

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 640,000 in 2016, from 64.01 million (57.6 percent of the population aged 15 years and over) in the previous year to 64.65 million (58.1 percent).

(1) Employment by Industry

In 2016, the primary industry accounted for 3.5 percent of employment; the secondary industry, 24.2 percent; and the tertiary industry, 72.3 percent.

Figure 12.2
Structure of Employment by Country



Source: Statistics Bureau, MIC; International Labour Organization; U.S. Bureau of Labor Statistics

Over the long term, the percentage employed in the primary industry has been continually falling, while the percentage employed in the tertiary industry has been continually rising. The percentage employed in the secondary industry has also been trending downward. By industry, the number of persons employed in the primary industries of agriculture and forestry has been on a downward trend.

Depending on the industrial sector, a difference was seen in the employment tendency between men and women. In 2016, of male employment was highest in "electricity, gas, heat supply and water" (86.7 percent), followed by "construction" (85.0 percent) and "transport and postal activities" (80.5 percent). The percentage of female employment was highest in "medical, health care and welfare" (74.9 percent), followed by "accommodations, eating and drinking services" (61.6 percent) and "living-related and personal services and amusement services" (59.6 percent).

Table 12.2
Employment by Industry

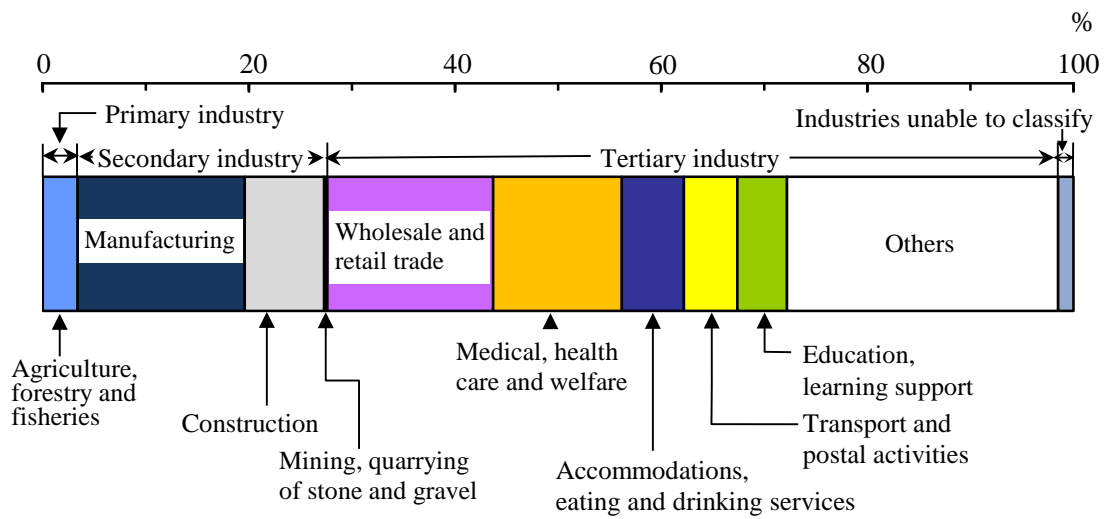
| Industries | 2013 | 2014 | 2015 | 2016 | (Thousands) | |
|--|---------------|---------------|---------------|---------------|-------------|-------------|
| | | | | | Percentage | |
| | | | | | Males | Females |
| Total ¹⁾ | 63,260 | 63,710 | 64,010 | 64,650 | 56.5 | 43.5 |
| Primary industry | 2,340 | 2,310 | 2,290 | 2,230 | 62.3 | 37.7 |
| Agriculture and forestry | 2,180 | 2,100 | 2,090 | 2,030 | 61.6 | 38.4 |
| Fisheries | 160 | 210 | 200 | 200 | 70.0 | 30.0 |
| Secondary industry | 15,440 | 15,530 | 15,440 | 15,430 | 74.8 | 25.2 |
| Mining and quarrying of stone and gravel | 30 | 30 | 30 | 30 | 66.7 | 33.3 |
| Construction | 5,000 | 5,070 | 5,020 | 4,950 | 85.0 | 15.0 |
| Manufacturing | 10,410 | 10,430 | 10,390 | 10,450 | 69.9 | 30.1 |
| Tertiary industry | 44,580 | 44,880 | 45,270 | 46,000 | 50.2 | 49.8 |
| Electricity, gas, heat supply and water | 310 | 290 | 290 | 300 | 86.7 | 13.3 |
| Information and communications .. | 1,920 | 2,040 | 2,090 | 2,080 | 73.6 | 26.4 |
| Transport and postal activities | 3,410 | 3,370 | 3,360 | 3,390 | 80.5 | 19.5 |
| Wholesale and retail trade | 10,600 | 10,620 | 10,580 | 10,630 | 48.9 | 51.1 |
| Finance and insurance | 1,650 | 1,550 | 1,540 | 1,630 | 46.0 | 54.0 |
| Real estate and goods rental and leasing | 1,110 | 1,130 | 1,210 | 1,240 | 61.3 | 38.7 |
| Scientific research, professional and technical services | 2,070 | 2,120 | 2,150 | 2,210 | 66.1 | 33.9 |
| Accommodations, eating and drinking services | 3,850 | 3,860 | 3,840 | 3,910 | 38.4 | 61.6 |
| Living-related and personal services and amusement services | 2,420 | 2,380 | 2,300 | 2,340 | 40.4 | 59.6 |
| Education, learning support | 3,000 | 3,010 | 3,040 | 3,080 | 43.2 | 56.8 |
| Medical, health care and welfare ... | 7,380 | 7,600 | 7,880 | 8,110 | 25.1 | 74.9 |
| Compound services | 550 | 570 | 590 | 620 | 62.3 | 37.7 |
| Services, n.e.c. | 4,020 | 3,990 | 4,090 | 4,150 | 60.7 | 39.3 |
| Government ²⁾ | 2,290 | 2,350 | 2,310 | 2,310 | 73.0 | 27.0 |

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

Source: Statistics Bureau, MIC.

In the tertiary industry, which accounted for approximately 70 percent of all industry, employment increased from the previous year by 230,000 and 90,000 in the "medical, health care and welfare" and "finance and insurance" sectors, respectively. Meanwhile, employment in "information and communications" decreased by 10,000.

Figure 12.3
Distribution of Employment by Industry (2016)



Source: Statistics Bureau, MIC.

(2) Employment by Occupation

In terms of occupation, employment in the "agricultural, forestry and fishery workers", "sales workers" and "manufacturing process workers" categories has been declining in recent years. The number of "agricultural, forestry and fishery workers" was 2.17 million in 2016, down 2.7 percent from the previous year's 2.23 million. In contrast, "service workers" such as home-care workers have been on a rising trend over the past few years due to a trend toward a service-oriented economy, the aging population, and improvements to welfare services. There is also a rising trend in the number of "professional and engineering workers".

Table 12.3
Employment by Occupation

| Occupation | 2013 | 2014 | 2015 | 2016 | (Thousands) | |
|--|--------|--------|--------|--------|-------------|---------|
| | | | | | Percentage | |
| | | | | | Males | Females |
| Total ¹⁾ | 63,260 | 63,710 | 64,010 | 64,650 | 56.5 | 43.5 |
| Administrative and managerial workers | 1,430 | 1,420 | 1,450 | 1,470 | 87.1 | 12.9 |
| Professional and engineering workers..... | 10,070 | 10,280 | 10,590 | 10,850 | 53.1 | 46.9 |
| Clerical workers..... | 12,390 | 12,480 | 12,620 | 12,820 | 40.4 | 59.6 |
| Sales workers | 8,620 | 8,570 | 8,560 | 8,550 | 55.9 | 44.1 |
| Service workers..... | 7,810 | 7,900 | 7,890 | 8,050 | 32.4 | 67.6 |
| Security workers | 1,260 | 1,270 | 1,260 | 1,270 | 92.9 | 7.1 |
| Agricultural, forestry and fishery workers ... | 2,290 | 2,250 | 2,230 | 2,170 | 64.5 | 35.5 |
| Manufacturing process workers | 9,020 | 9,040 | 8,870 | 8,800 | 71.0 | 29.0 |
| Transport and machine operation workers ... | 2,240 | 2,230 | 2,180 | 2,180 | 97.7 | 2.3 |
| Construction and mining workers | 3,030 | 3,050 | 2,990 | 2,990 | 98.0 | 2.0 |
| Carrying, cleaning, packaging, and related workers..... | 4,280 | 4,330 | 4,470 | 4,580 | 55.3 | 44.7 |

1) Including figures not reported.

Source: Statistics Bureau, MIC.

In 2016, 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" (67.6 percent) and "clerical workers" (59.6 percent).

(3) Employment by Employment Pattern

When looking at the trends in the number of employed persons by employment pattern, regular staff members have been on a slight declining trend since the early 2000s, but increased for the second consecutive year in 2016. Recently, the number of non-regular staff members, such as part-time workers and agency-dispatched workers, has also been increasing continuously for the seventh consecutive year.

In 2016, there were 53.72 million employees (excluding company executives), of whom 20.16 million, or 37.5 percent, were non-regular staff members. The ratio of non-regular staff members among all male employees was 22.1 percent, while the corresponding ratio for females was

55.9 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.

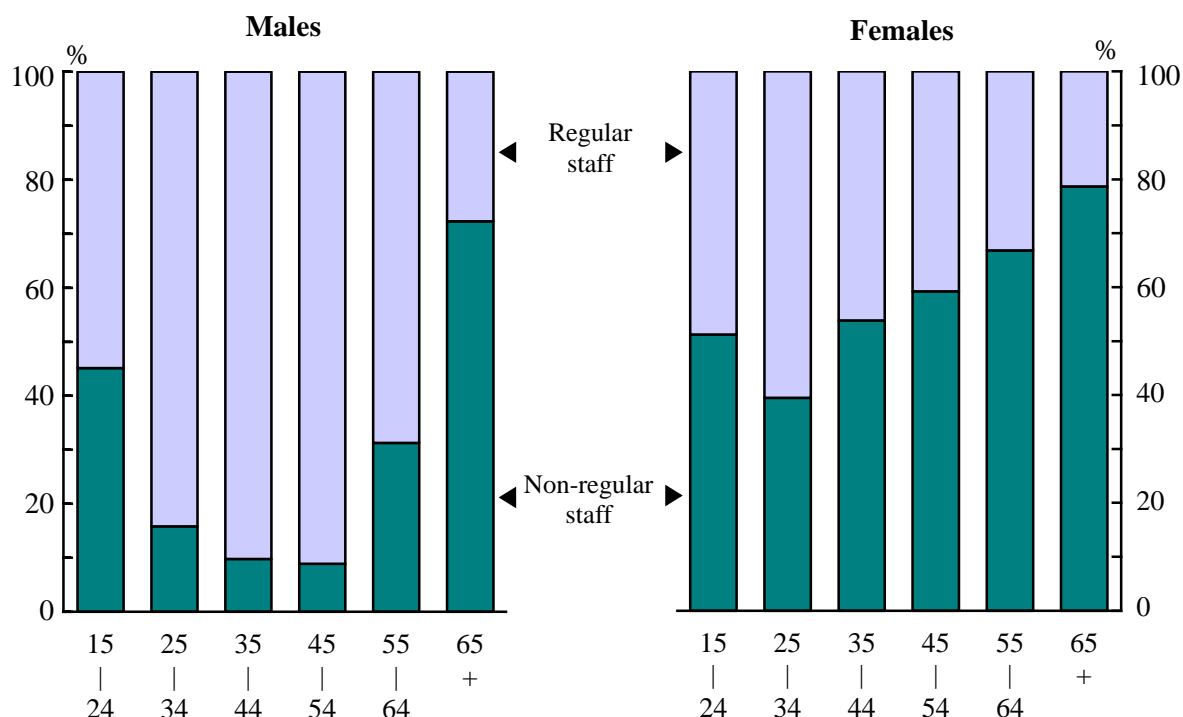
Table 12.4
Employment by Employment Pattern (2016)

| (Thousands) | | | | | |
|---------------|-------------------------|---------------|------------|-------------------|------------|
| | Employees ¹⁾ | Regular staff | Percentage | Non-regular staff | Percentage |
| Total | 53,720 | 33,550 | 62.5 | 20,160 | 37.5 |
| Males | 29,260 | 22,780 | 77.9 | 6,480 | 22.1 |
| Females | 24,450 | 10,780 | 44.1 | 13,670 | 55.9 |

1) Excluding company executives.

Source: Statistics Bureau, MIC.

Figure 12.4
Employment Pattern by Gender and Age (2016)



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 2016, with 1.48 million males (25.0 percent) choosing this reason, representing an increase by 100,000 people as compared to the previous year. The most popular reason among females was also "For working at convenient times", with 3.66 million females (28.1 percent) choosing this reason, representing an increase by 120,000 people.

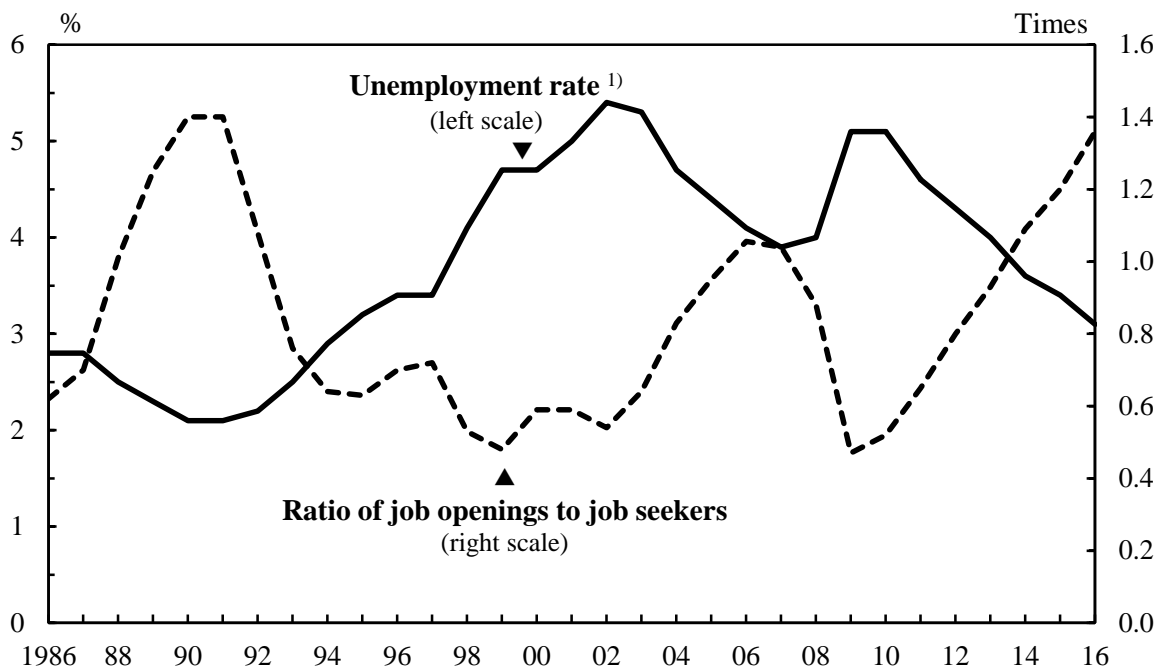
The employment rate of new graduates had been worsening as a result of the economic slowdown since 2008, but in recent years, their employment situation has been improving continuously.

3. Unemployment

In 2016 the unemployed numbered 2.08 million people, down 6.3 percent from the previous year and representing a decline for the seventh consecutive year. The unemployment rate was 3.1 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 1.36 times in 2016, up 0.16 points from the previous year. The ratio of job openings to job seekers in April 2017 was 1.48 times, exceeding the record high of 1.46 times during the bubble economy in July 1990. Since hitting 1.53 times in February 1974, this marked the first time in 43 years and 2 months that a high level was recorded for this ratio.

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



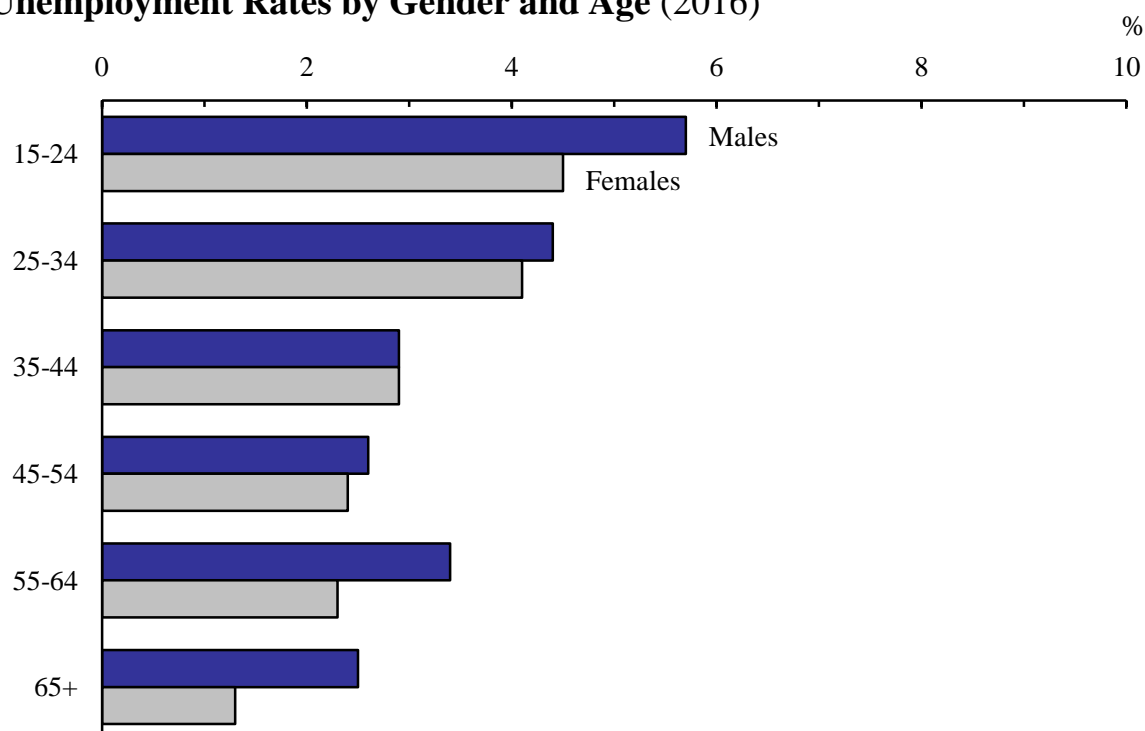
1) The data for 2011 indicates supplementary estimated figure.

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

A breakdown by gender shows that the unemployment rate in 2016 was 3.3 percent among men, and 2.8 percent among women. The unemployment rate has been higher among men for the nineteenth 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 (2016)

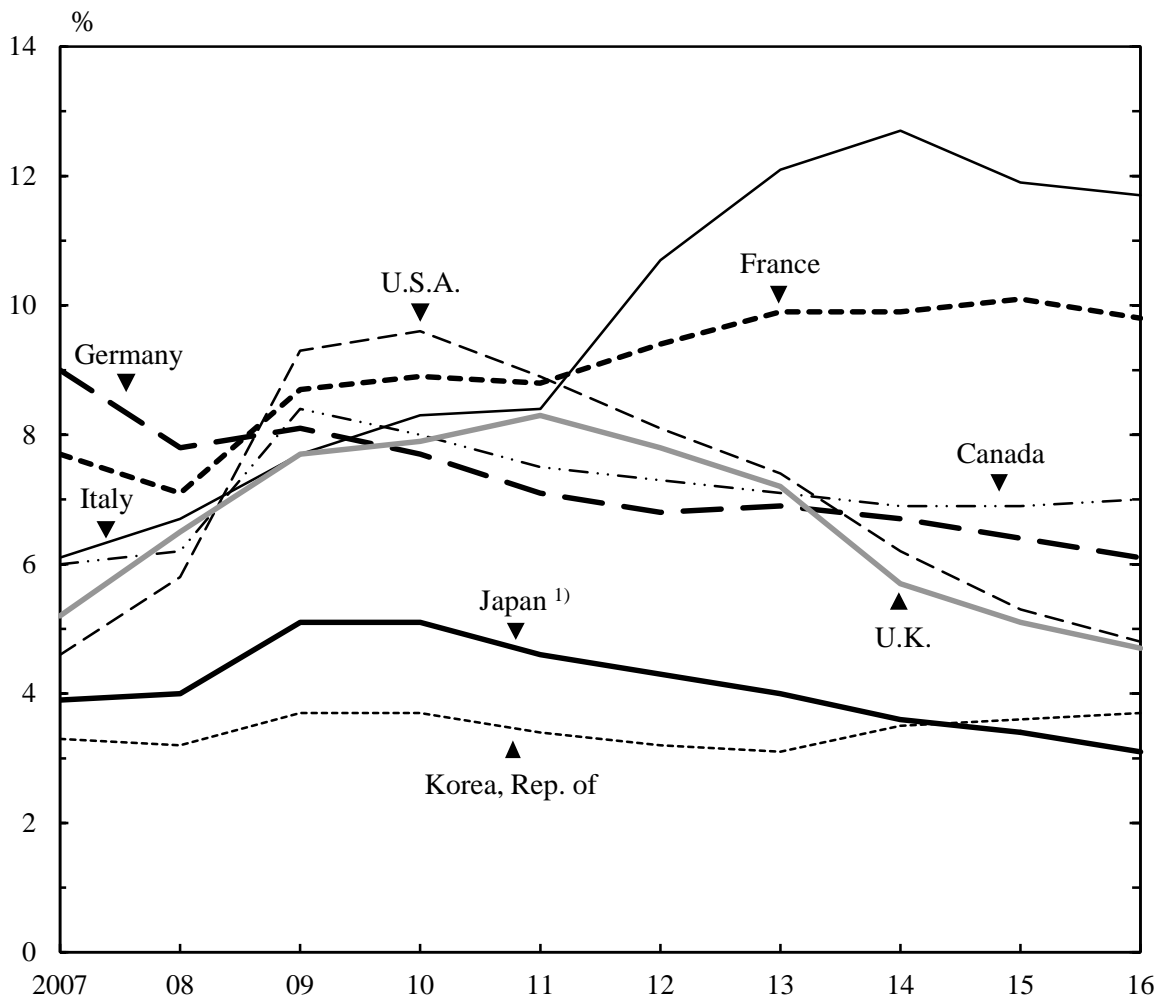


Source: Statistics Bureau, MIC.

Analyzing the total number of unemployed in 2016 (2.08 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, 0.58 million persons; (ii) voluntarily left a job for personal or family reasons, 0.87 million persons; (iii) new job seekers due to the necessity to earn income, 0.29 million; and (iv) new job seekers just graduated from school, 0.08 million.

In terms of the duration of unemployment, most were unemployed for "one year or more" (0.76 million persons), followed by "less than three months" (0.68 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 of Work and Wages

In 2016, the monthly average of total hours worked was 143.7 per regular employee (in establishments with five or more regular employees), down 0.6 percent from the previous year, and an annual average of 1,724 hours.

Of the total monthly hours worked, 132.9 were scheduled working hours, representing a decrease of 0.5 percent from the previous year. Non-scheduled work such as overtime work averaged 10.8 hours per month, representing a decrease of 1.5 percent from the previous year. Working days averaged 18.6 days per month in 2016.

In 2016, the monthly average of total cash earnings per regular employee (in establishments with five or more regular employees) was 315,590 yen. This total amount includes 259,737 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 55,853 yen in "special cash earnings" (which include summer and year-end bonuses, payments to celebrate employees' marriages, etc.).

Table 12.5**Hours of Work and Wages** ¹⁾ (Monthly average)

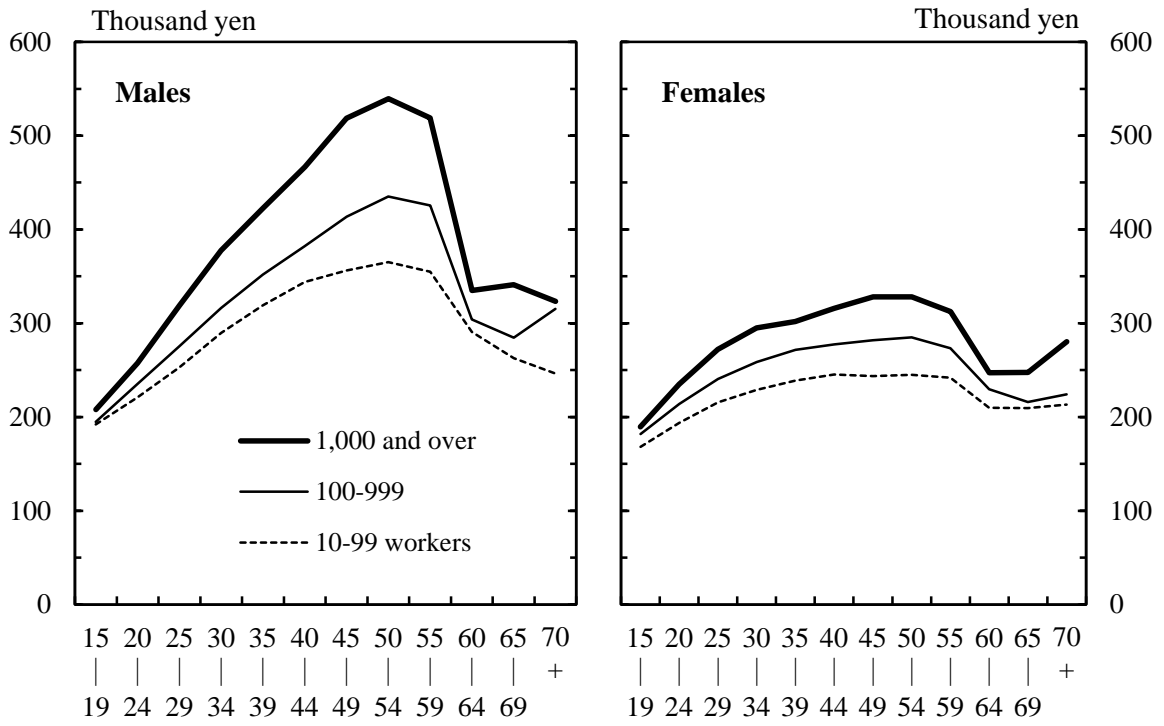
| Year | Days worked | Hours of Work | | | Wages (1,000 yen) | | | | |
|--|-------------|---------------|-----------|---------------|-------------------|-------------|-----------|---------------|-----------------------|
| | | Total | Scheduled | Non-scheduled | Total | Contractual | Scheduled | Non-scheduled | Special ²⁾ |
| 2000 | 20.0 | 154.4 | 144.6 | 9.8 | 355 | 284 | 265 | 19 | 72 |
| 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 |
| Indices (2015 average = 100) ³⁾ | | | | | | | | | |
| 2000 | - | 106.9 | 108.1 | 91.3 | 111.7 | 107.9 | 108.9 | - | - |
| 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 | - | - |

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 (2016)



Source: Ministry of Health, Labour and Welfare.

Chapter 13

Family Budgets and Prices

1. Family Budgets

In 2015, there were approximately 53 million 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 2016 results of the Family Income and Expenditure Survey.

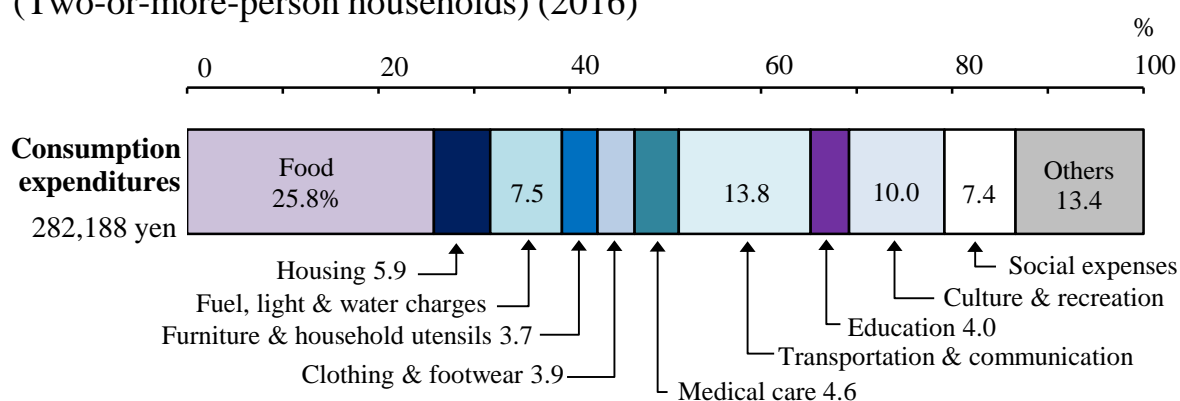
(1) Income and Expenditure

(A) Two-or-more-person Households

The 2016 average monthly consumption expenditures per two-or-more-person household (the average number of household members being 2.99 and the average age of the household head being 59.2 years) was 282,188 yen. Compared to the previous year, it decreased by 1.8 percent in nominal terms and decreased by 1.7 percent in real terms. The share of food expenses to total consumption expenditures (Engel's coefficient) was 25.8 percent.

When looking at the real annual change in consumption expenditures, although the width of decrease shrank in 2016 as compared to 2015, there was a decrease in real terms for the third consecutive year.

Figure 13.1
Average Monthly Consumption Expenditures
 (Two-or-more-person households) (2016)



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 3.39 and the average age of the household head being 48.5 years) was 526,973 yen in 2016, of which about 80 percent came from the household head's income.

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

| Item | (Thousand yen) | | | | |
|---|----------------|-------|-------|-------|-------|
| | 2012 | 2013 | 2014 | 2015 | 2016 |
| Income (A) | 518.5 | 523.6 | 519.8 | 525.7 | 527.0 |
| Wages and salaries | 479.6 | 486.6 | 483.3 | 485.6 | 487.9 |
| Others | 38.9 | 37.0 | 36.5 | 40.1 | 39.0 |
| Disposable income (A-C) | 425.0 | 426.1 | 423.5 | 427.3 | 428.7 |
| Expenditures | 407.4 | 416.6 | 415.0 | 413.8 | 407.9 |
| Consumption expenditures (B) | 313.9 | 319.2 | 318.8 | 315.4 | 309.6 |
| Non-consumption expenditures (C) ²⁾ | 93.5 | 97.5 | 96.2 | 98.4 | 98.3 |
| Surplus ((A-C)-B) | 111.1 | 107.0 | 104.8 | 111.9 | 119.1 |
| Net increase in deposits and insurance | 77.8 | 74.3 | 77.1 | 84.4 | 91.3 |
| Average propensity to consume (%) ³⁾ | 73.9 | 74.9 | 75.3 | 73.8 | 72.2 |
| Ratio of net increase in deposits and insurance (%) ⁴⁾ . | 18.3 | 17.4 | 18.2 | 19.8 | 21.3 |
| Engel's coefficient (%) | 22.1 | 22.1 | 22.3 | 23.6 | 24.2 |
| Annual change (%) (real terms) | | | | | |
| Disposable income | 1.1 | -0.2 | -3.8 | -0.1 | 0.4 |
| Consumption expenditures | 1.6 | 1.2 | -3.3 | -2.1 | -1.7 |

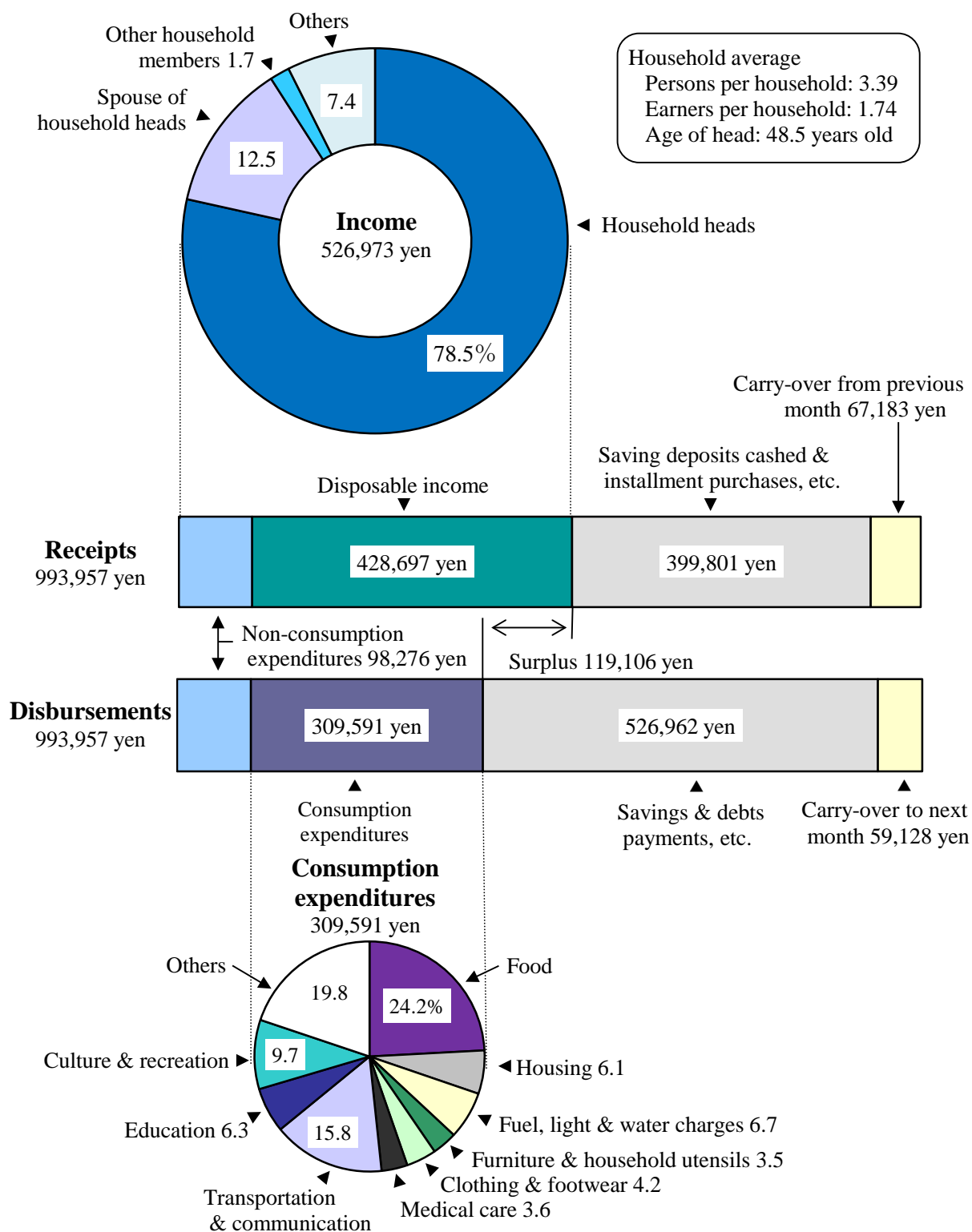
1) Two-or-more-person households. 2) Direct taxes, social insurance contributions, etc.

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 428,697 yen. Of this disposable income, 309,591 yen was used for living expenses (consumption expenditures), such as food and housing expenses, while the remainder (surplus), totaling 119,106 yen, was applied to savings, life insurance premiums and repaying debt such as housing loans.

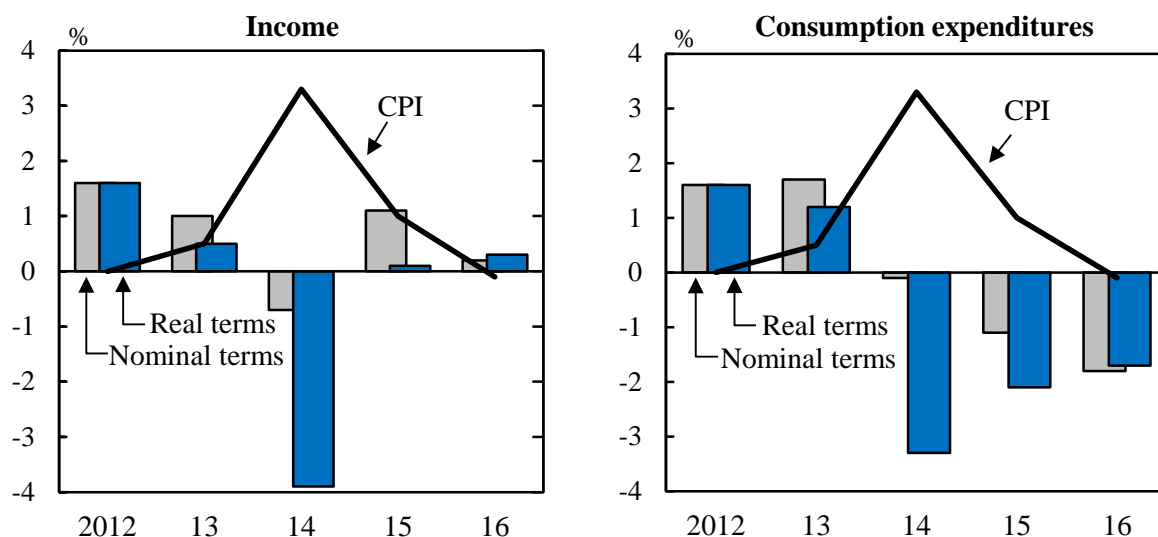
Figure 13.2
Balance of Income and Expenditures
 (Monthly average, workers' households ¹⁾) (2016)



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

A comparison of consumption expenditures by category showed that spending on "housing" and "medical care" increased from the previous year in real terms, while spending on "food", "clothing and footwear", etc. decreased in real terms.

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

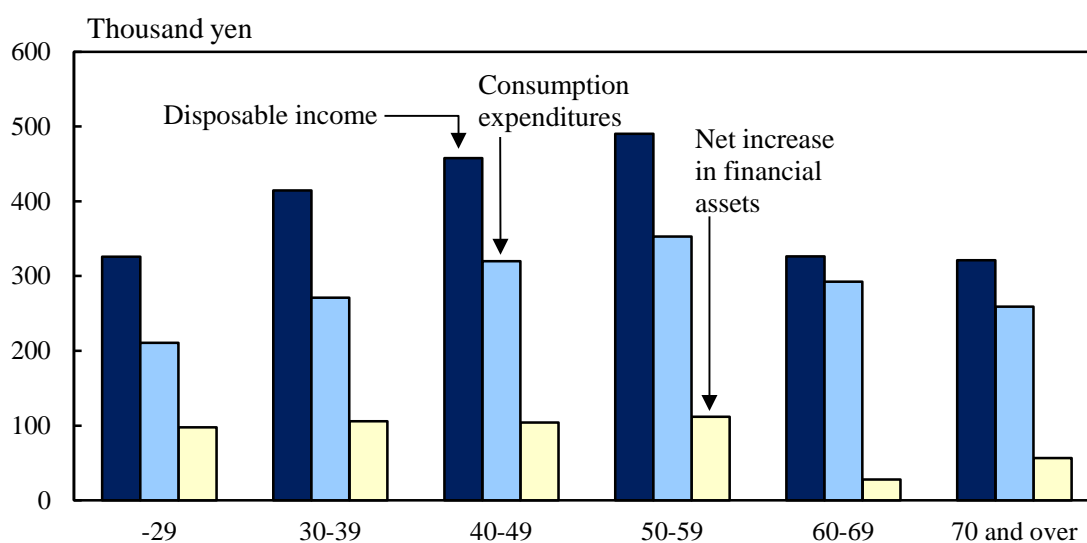


1) Two-or-more-person households.
 Source: Statistics Bureau, MIC.

Family budgets differ among households according to their stages in life. Observed by age group of the household head, the 2016 average monthly disposable income of workers' households was the highest in households in the 50s group (490,139 yen), followed by those in the 40s group (457,970 yen) and the 30s group (414,527 yen).

The 2016 average propensity to consume (the ratio of consumption expenditures to disposable income) was the lowest in households in the under-30 group (64.6 percent). The figure was 65.4 percent for households in the 30s group, 69.8 percent in the 40s group, 72.0 percent in the 50s group, 89.6 percent in the 60s group, and 80.8 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 50s group, followed by those in the 30s group.

Figure 13.4
Average Monthly Family Income and Expenditures by Age Group
of Household Head (Workers' households ¹⁾) (2016)



1) Two-or-more-person households.

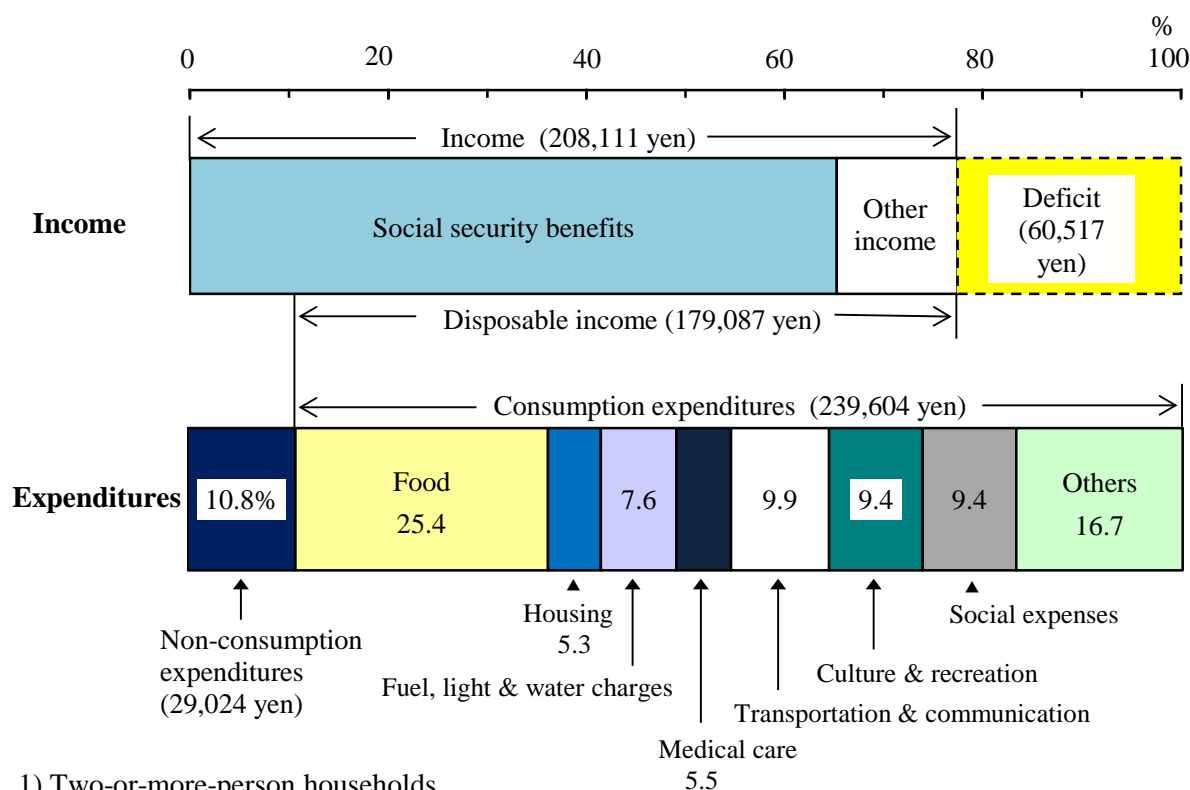
Source: Statistics Bureau, MIC.

(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 208,111 yen in 2016. Social security benefits amounted to 175,312 yen, thus accounting for 84.2 percent of income.

Disposable income averaged 179,087 yen, while consumption expenditures averaged 239,604 yen. The average propensity to consume in non-working elderly households was 133.8 percent, which means consumption expenditures exceeded disposable income. The deficit of disposable income to consumption expenditures (60,517 yen) decreased from that of the previous year (67,510 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⁾) (2016)



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

(B) One-person Households

The average monthly consumption expenditures of one-person households in 2016 was 158,911 yen, down 0.7 percent in nominal terms and down 0.6 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 down 10.4 percent for the under 35-year-old group, up 3.5 percent in the 35-59 age group, and up 0.5 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".

Table 13.2
Average Monthly Consumption Expenditures by Age Group
 (One-person households)(2016)

(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 | 158,911 | 100.0 | 150,625 | 100.0 | 183,106 | 100.0 | 149,552 | 100.0 |
| Food | 39,808 | 25.1 | 39,580 | 26.3 | 45,620 | 24.9 | 36,982 | 24.7 |
| Housing | 20,169 | 12.7 | 30,737 | 20.4 | 27,412 | 15.0 | 13,092 | 8.8 |
| Fuel, light and water charges | 11,028 | 6.9 | 7,015 | 4.7 | 10,567 | 5.8 | 12,577 | 8.4 |
| Furniture and household utensils | 5,343 | 3.4 | 3,568 | 2.4 | 6,435 | 3.5 | 5,384 | 3.6 |
| Clothing and footwear | 5,554 | 3.5 | 7,604 | 5.0 | 6,268 | 3.4 | 4,522 | 3.0 |
| Medical care | 6,720 | 4.2 | 3,771 | 2.5 | 6,064 | 3.3 | 8,016 | 5.4 |
| Transportation and communication | 18,640 | 11.7 | 21,129 | 14.0 | 25,537 | 13.9 | 14,378 | 9.6 |
| Culture and recreation | 19,230 | 12.1 | 20,016 | 13.3 | 21,740 | 11.9 | 17,718 | 11.8 |
| Others | 32,406 | 20.4 | 17,205 | 11.4 | 33,464 | 18.3 | 36,862 | 24.6 |
| Annual change (real terms) (%) | | | | | | | | |
| Consumption expenditures | -0.6 | | -10.4 | | 3.5 | | 0.5 | |

Source: Statistics Bureau, MIC.

(2) Savings and Debts

Two-or-more-person households in 2016 showed that the average amount of savings per workers' household was 12.99 million yen, resulting in a ratio to yearly income (7.15 million yen) of 181.7 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 7.34 million yen. On the other hand, the average amount of debt per household was 7.81 million yen, which was 109.2 percent relative to yearly income. The median value of households holding liabilities was 13.13 million yen. The portion of household debt accounted for by "housing and/or land" averaged 7.16 million yen. A total of 41.8 percent of workers' households held "debts for housing and/or land".

Table 13.3**Average Amount of Savings and Debts (Workers' households ¹⁾)**

(Thousand yen)

| Year | Yearly income | Savings | Ratio of savings to yearly income (%) | Debts | Ratio of debts to yearly income (%) | | Ratio of households holding debts (%) |
|------|---------------|---------|---------------------------------------|-------|-------------------------------------|-------|---------------------------------------|
| | | | | | Housing and/or land | | |
| 2012 | 6,910 | 12,330 | 178.4 | 6,950 | 6,480 | 100.6 | 53.5 |
| 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 |

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⁾) (2016)

(Million yen)

| Item | Average | -29 | 30-39 | 40-49 | 50-59 | 60-69 | 70 and over |
|-------------------------------------|---------|------|-------|-------|-------|-------|-------------|
| Yearly income | 7.15 | 4.90 | 6.31 | 7.36 | 8.44 | 6.26 | 5.91 |
| Savings | 12.99 | 3.07 | 6.13 | 10.40 | 16.96 | 21.18 | 19.87 |
| Financial institutions | 12.41 | 3.03 | 5.92 | 9.75 | 15.90 | 20.86 | 19.82 |
| Demand deposits | 3.39 | 1.55 | 2.69 | 3.25 | 3.51 | 4.48 | 4.68 |
| Time deposits | 4.39 | 0.94 | 1.74 | 2.94 | 5.75 | 8.50 | 8.36 |
| Life insurance, etc. | 3.14 | 0.38 | 1.15 | 2.62 | 4.46 | 4.92 | 3.97 |
| Securities | 1.49 | 0.16 | 0.33 | 0.93 | 2.18 | 2.96 | 2.82 |
| Non-financial institutions | 0.59 | 0.04 | 0.21 | 0.65 | 1.06 | 0.32 | 0.04 |
| Debts | 7.81 | 4.99 | 12.33 | 10.43 | 5.75 | 1.91 | 0.80 |
| Housing and/or land | 7.16 | 4.56 | 11.79 | 9.72 | 4.85 | 1.55 | 0.54 |
| Other than housing and/or land | 0.45 | 0.26 | 0.33 | 0.53 | 0.65 | 0.18 | 0.11 |
| Monthly and yearly installments .. | 0.20 | 0.16 | 0.20 | 0.17 | 0.26 | 0.17 | 0.15 |

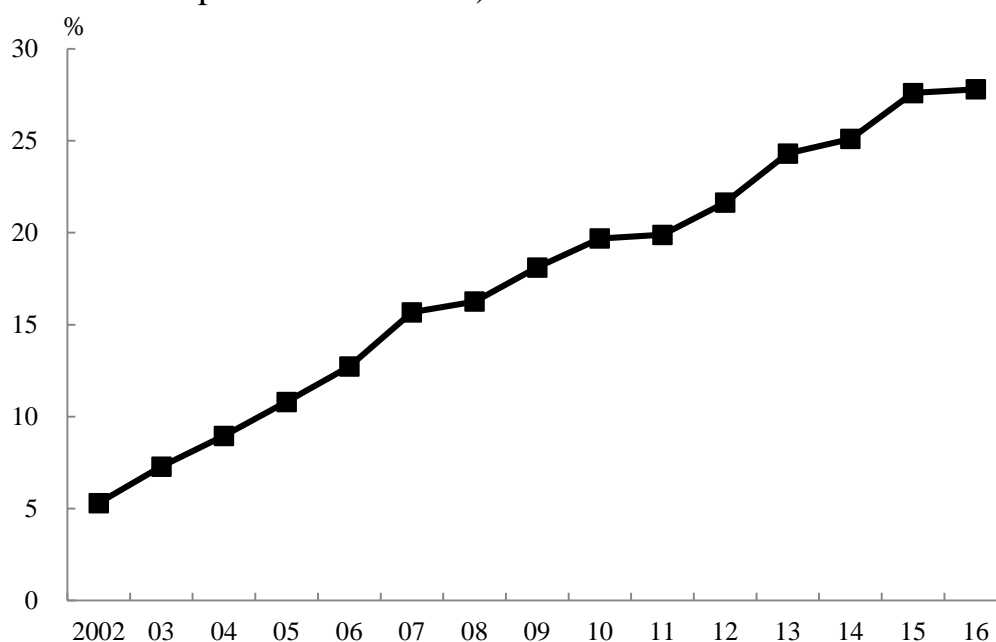
1) Two-or-more-person households.

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 27.8 percent in 2016. Total expenditures used on Internet shopping in one year amounted to an average of 102,420 yen per household.

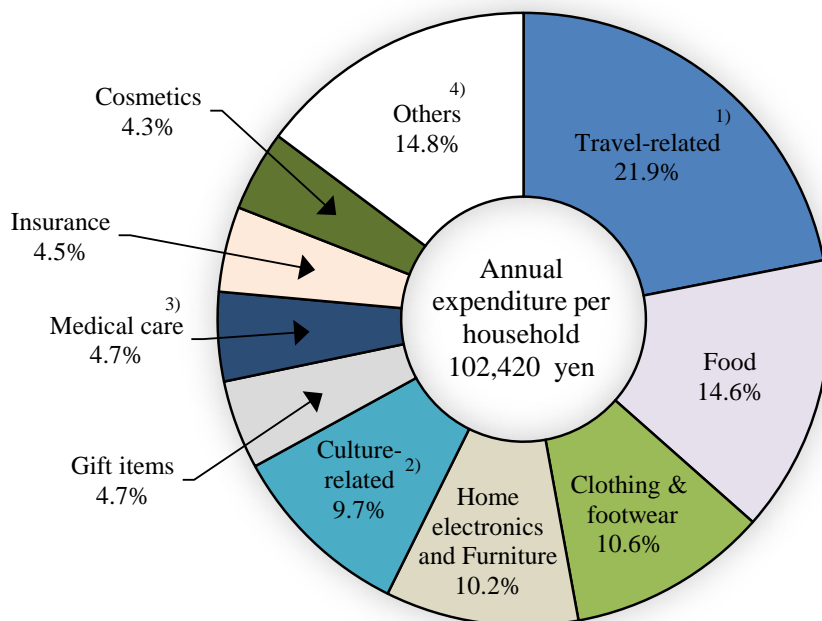
Figure 13.6
Proportion of Households Ordered over the Internet
 (Two-or-more-person households)



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 21.9 percent, followed by "food" at 14.6 percent, "clothing and footwear" at 10.6 percent, "home electronics and furniture" at 10.2 percent, and "culture-related" (such as books and music software) at 9.7 percent.

Figure 13.7
Ratio of Expenditure on Goods and Services Ordered over the Internet
 (Two-or-more-person Households) (2016)



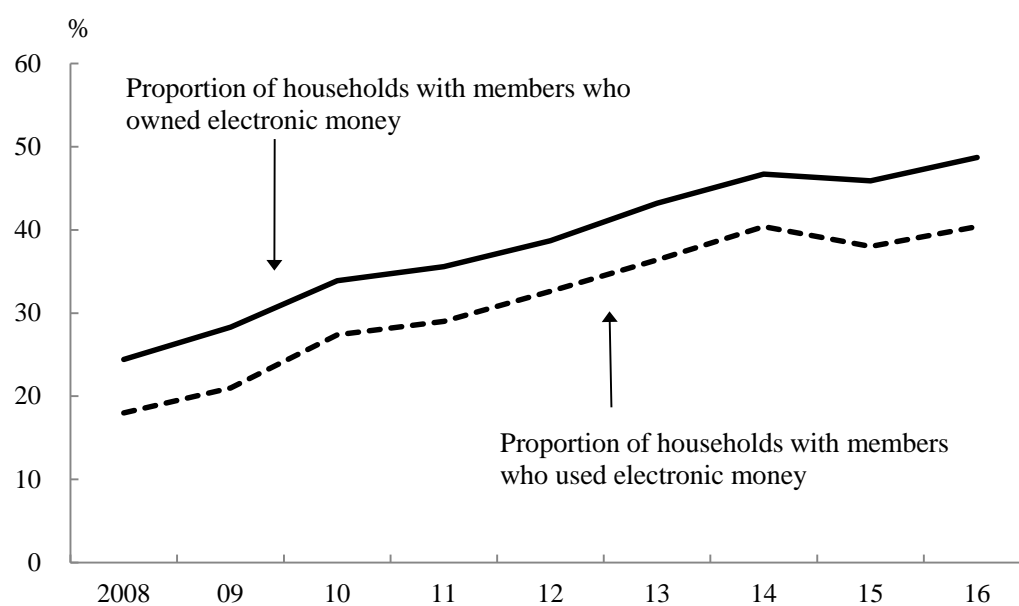
1) Total accommodation services, fares and package tours. 2) Total books and other reading materials, software (music, video, personal computer, TV game), digital books, download music, video, applications and tickets. 3) Total medicines and health foods. 4) Total private transportation, other goods 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 2016, the percentage of households with electronic money was 48.7 percent, and the percentage of households that have used electronic money was 40.4 percent, indicating increases as compared to the previous year.

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



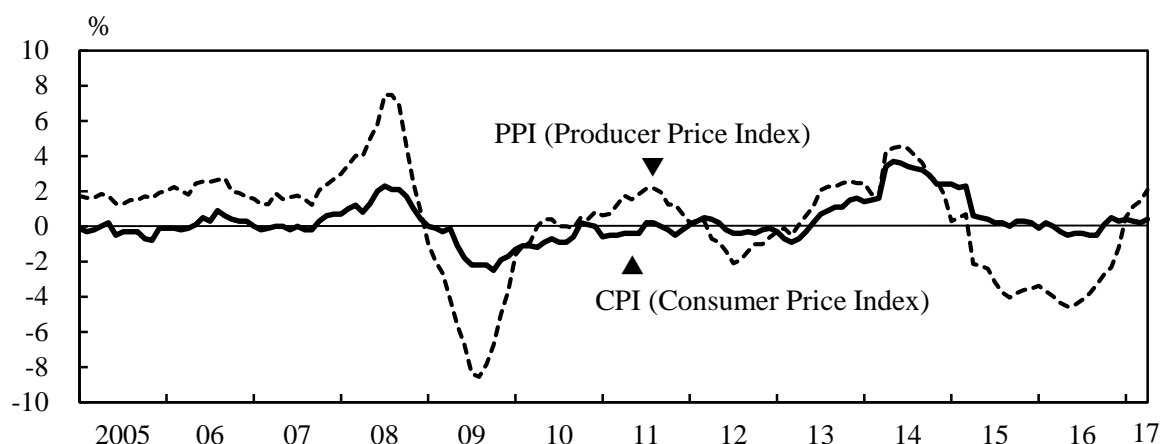
Source: Statistics Bureau, MIC.

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 in 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 the rate of increase shrank due to the cycle of effects of the tax increase and a drop in energy prices in the second quarter of 2015. Although it became negative starting in the first quarter of 2016, the width of increase turned positive starting in the fourth quarter of 2016.

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 99.9 in 2016, down 0.1 percent from the previous year.

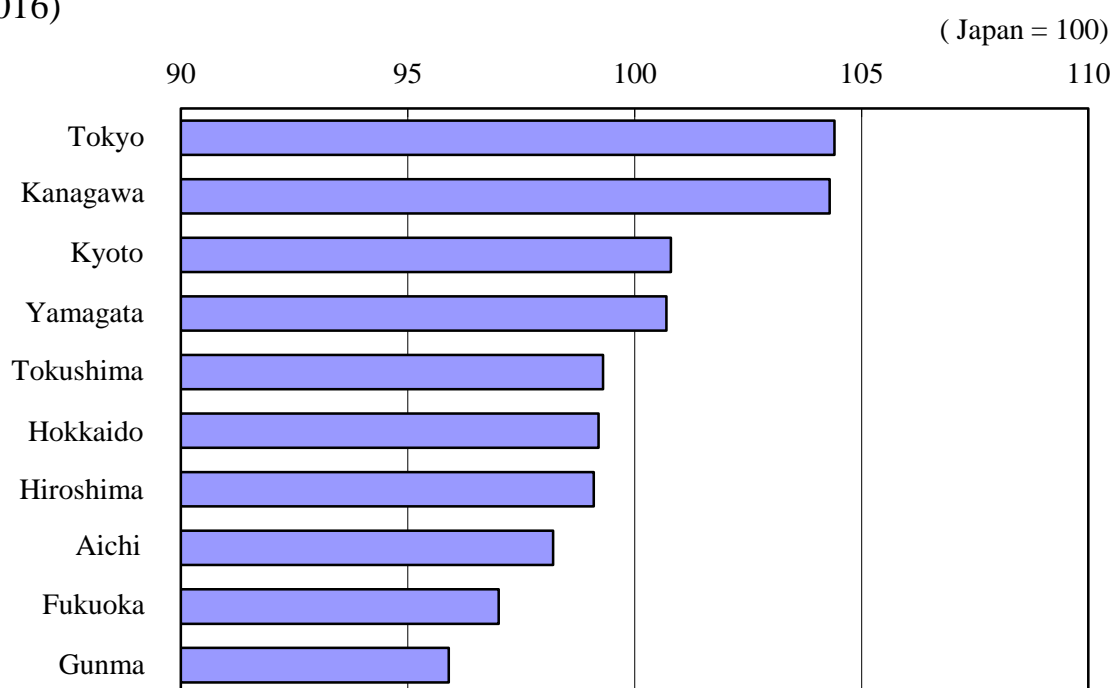
Table 13.5
CPI for Major Categories of Goods and Services

| | | (CY2015=100) | | | | |
|--|--------|--------------|-------|-------|-------|-------|
| Item | Weight | 2000 | 2005 | 2010 | 2014 | 2016 |
| All items | 10000 | 99.1 | 96.9 | 96.5 | 99.2 | 99.9 |
| All items, less imputed rent | 8501 | 98.6 | 95.9 | 95.6 | 99.0 | 99.9 |
| Food | 2623 | 92.3 | 90.9 | 93.9 | 97.0 | 101.7 |
| Housing | 2087 | 101.8 | 101.5 | 100.9 | 100.0 | 99.9 |
| Fuel, light and water charges | 745 | 81.4 | 81.3 | 86.0 | 102.6 | 92.7 |
| Furniture and household utensils | 348 | 138.8 | 118.1 | 105.8 | 98.5 | 99.6 |
| Clothing and footwear | 412 | 101.7 | 95.9 | 95.7 | 97.8 | 101.8 |
| Medical care | 430 | 98.9 | 101.3 | 100.1 | 99.1 | 100.9 |
| Transportation and communication ... | 1476 | 99.4 | 98.1 | 96.5 | 102.0 | 98.0 |
| Education | 316 | 100.9 | 105.0 | 97.8 | 98.4 | 101.6 |
| Culture and recreation | 989 | 119.3 | 109.1 | 101.1 | 98.1 | 101.0 |
| Miscellaneous | 574 | 86.9 | 88.5 | 91.1 | 99.0 | 100.7 |
| Goods | 4969 | 99.7 | 95.5 | 95.4 | 99.2 | 99.4 |
| Services | 5031 | 98.4 | 98.3 | 97.6 | 99.2 | 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 2016, with a figure of 104.4 against the national average set at 100, followed by Kanagawa, with 104.3. On the other hand, Gunma registered the lowest score, with 95.9. The index for Tokyo was 8.9 percent higher than that of Gunma.

Figure 13.10
Regional Difference Index of Consumer Prices by Selected Prefectures
 (2016)



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 2016, the producer price index (2015 as the base year = 100) was 96.5, down 3.5 percent from the previous year.

In 2016, the export price index decreased to 96.9 on a contract currency basis (down 3.1 percent from the previous year), and to 90.6 on a yen basis (down 9.4 percent from the previous year). Meanwhile, the import price index fell to 90.2 on a contract currency basis (down 9.8 percent from the previous year) and to 83.6 on a yen basis (down 16.4 percent from the previous year).

The services producer price index measures price movements of services traded between companies. In 2016, the services producer price index (CY2010 as the base year = 100) was 103.0, up 0.3 percent from the previous year.

Table 13.6
Corporate Goods and Services Producer Price Indices

| Item | Weight | 2010 | 2013 | 2014 | 2015 | 2016 |
|---|--------|-------|-------|-------|-------|-------|
| Corporate goods price index (CY2015=100) | | | | | | |
| Producer price index | 1000.0 | 97.4 | 99.2 | 102.4 | 100.0 | 96.5 |
| Manufacturing industry products | 888.3 | 99.1 | 99.4 | 102.3 | 100.0 | 97.0 |
| Export price index (yen basis) | 1000.0 | 89.5 | 95.7 | 98.8 | 100.0 | 90.6 |
| Import price index (yen basis) | 1000.0 | 88.1 | 108.1 | 112.7 | 100.0 | 83.6 |
| Services producer price index (CY2010=100) | | | | | | |
| All items | 1000.0 | 100.0 | 99.0 | 101.6 | 102.7 | 103.0 |
| Information and communications | 237.8 | 100.0 | 97.6 | 99.3 | 99.7 | 100.1 |
| Transportation and postal activities..... | 186.7 | 100.0 | 100.9 | 103.9 | 104.7 | 103.8 |
| Real estate services | 72.1 | 100.0 | 93.5 | 95.5 | 96.3 | 97.5 |
| Advertising services | 63.4 | 100.0 | 102.3 | 105.0 | 105.7 | 107.0 |

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 2015, 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 2.9 percent from the previous fiscal year. Carbon dioxide accounted for 92.7 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 33.5 percent of the total, followed in order by emissions from the commercial sector (office buildings, etc.), the transport sector, the residential sector, and the energy sector (electric power plants, etc.).

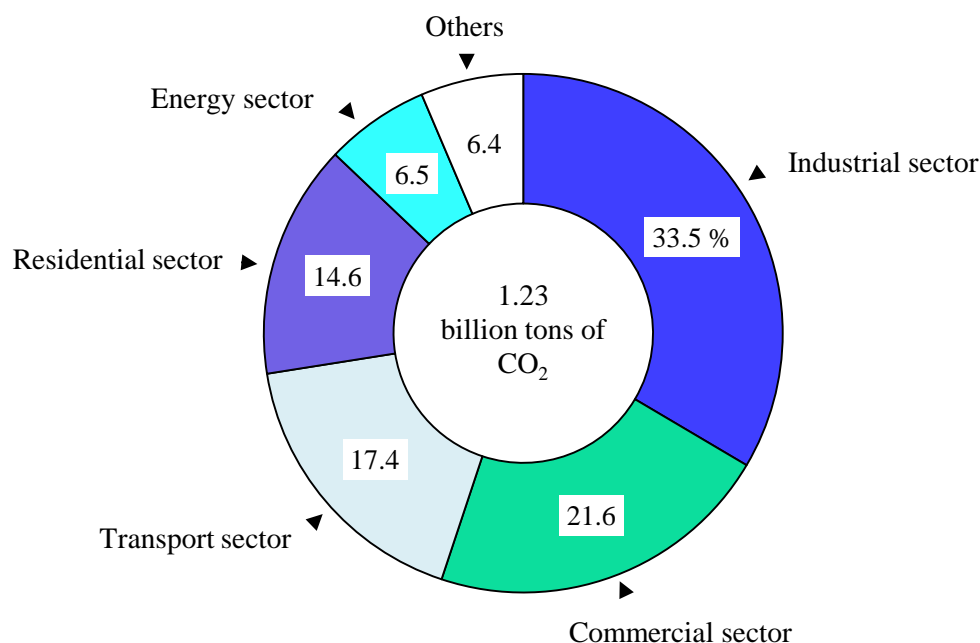
Table 14.1
Breakdown of Carbon Dioxide Emissions ¹⁾

| Item | (Million tons) | | | | | |
|--|----------------|--------|--------|--------|--------|--------|
| | FY1990 | FY2000 | FY2005 | FY2010 | FY2014 | FY2015 |
| Total | 1,162 | 1,280 | 1,311 | 1,217 | 1,269 | 1,227 |
| Industrial sector | 502 | 466 | 457 | 414 | 424 | 411 |
| Commercial sector | 137 | 210 | 239 | 219 | 274 | 265 |
| Transport sector | 206 | 255 | 240 | 222 | 217 | 213 |
| Residential sector | 131 | 161 | 180 | 174 | 189 | 179 |
| Energy sector | 91 | 90 | 104 | 110 | 85 | 80 |
| Industrial processes and product use..... | 65 | 59 | 56 | 46 | 47 | 46 |
| Waste (incineration, etc.) | 24 | 33 | 32 | 29 | 29 | 29 |
| Others | 6 | 6 | 4 | 4 | 3 | 3 |

1) Volume of carbon dioxide after reallocation to the end-use sector.

Source: Ministry of the Environment.

Figure 14.1
Sources of Carbon Dioxide Emissions ¹⁾ (FY2015)



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. Another ongoing effort is the promotion of the "3R" (reduce, reuse and recycle) in waste management, including appropriate management of hazardous materials and R&D on waste recycling technology.

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 2014 nationwide industrial waste generation totaled 393 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 2014.

Meanwhile, a total of 44 million tons of "nonindustrial waste" (household waste and also shop, office and restaurant waste) was generated in fiscal 2014. This translates to 947 grams per person per day. In terms of nonindustrial waste disposal in fiscal 2014, the total volume processed was 42 million tons. The total volume of recycled waste was 9 million tons, with the recycling rate at 20.6 percent.

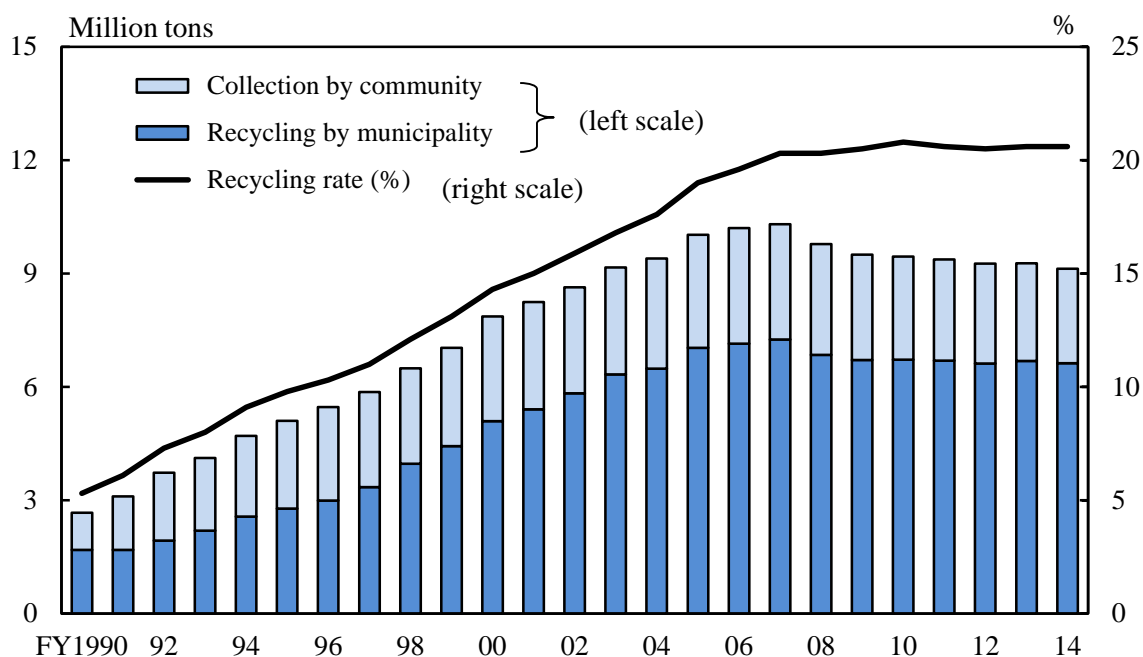
Table 14.2
Waste Generation and Disposal

| | (Thousand tons) | | | | |
|--|-----------------|---------|---------|---------|---------|
| Item | FY1990 | FY2000 | FY2005 | FY2010 | FY2014 |
| Industrial waste | | | | | |
| Total volume of waste generation | 394,736 | 406,037 | 421,677 | 385,988 | 392,840 |
| Recycling | 150,568 | 184,237 | 218,888 | 204,733 | 209,676 |
| Treatment for waste reduction | 154,443 | 176,933 | 178,560 | 167,000 | 172,764 |
| Final disposal | 89,725 | 44,868 | 24,229 | 14,255 | 10,399 |
| Nonindustrial waste ¹⁾ | | | | | |
| Total volume of waste generation | 50,257 | 54,834 | 52,720 | 45,359 | 44,317 |
| Municipally scheduled and collected | 42,495 | 46,695 | 44,633 | 38,827 | 38,095 |
| Directly brought to | | | | | |
| waste treatment facilities | 6,776 | 5,373 | 5,090 | 3,803 | 3,718 |
| Recyclable waste | | | | | |
| collected by community | 986 | 2,765 | 2,996 | 2,729 | 2,503 |
| Waste generated | | | | | |
| daily per person (in grams) | 1,120 | 1,185 | 1,131 | 976 | 947 |
| Total volume of processed waste | 49,282 | 52,090 | 49,754 | 42,791 | 41,841 |
| Direct incineration | 36,192 | 40,304 | 38,486 | 33,799 | 33,470 |
| Intermediate treatment for recycling, etc. ... | } 3,300 | 6,479 | 7,283 | 6,161 | 5,770 |
| Direct recycling | | 2,224 | 2,541 | 2,170 | 2,076 |
| Direct final disposal | 9,790 | 3,084 | 1,444 | 662 | 525 |

1) Due to the Great East Japan Earthquake, figures for FY2010 exclude those for Minamisanriku Town, Miyagi Prefecture. Figures for FY 2014 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.

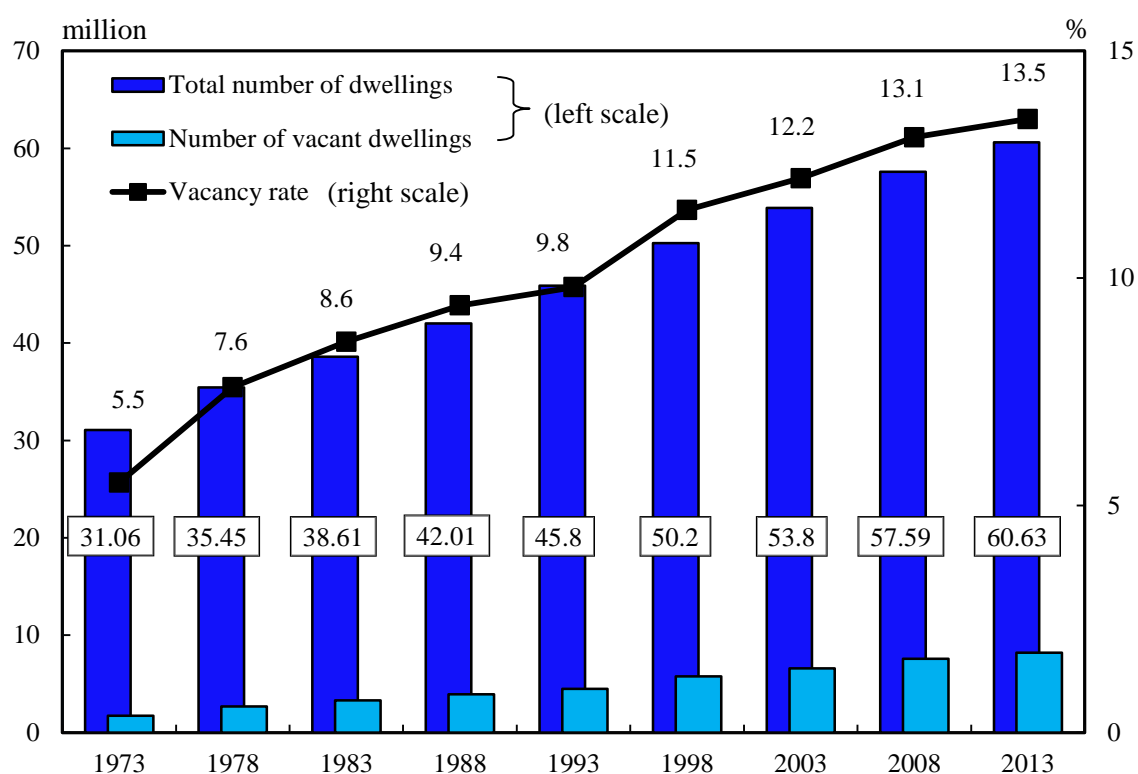
Source: Ministry of the Environment.

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 class 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 tenure 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 |

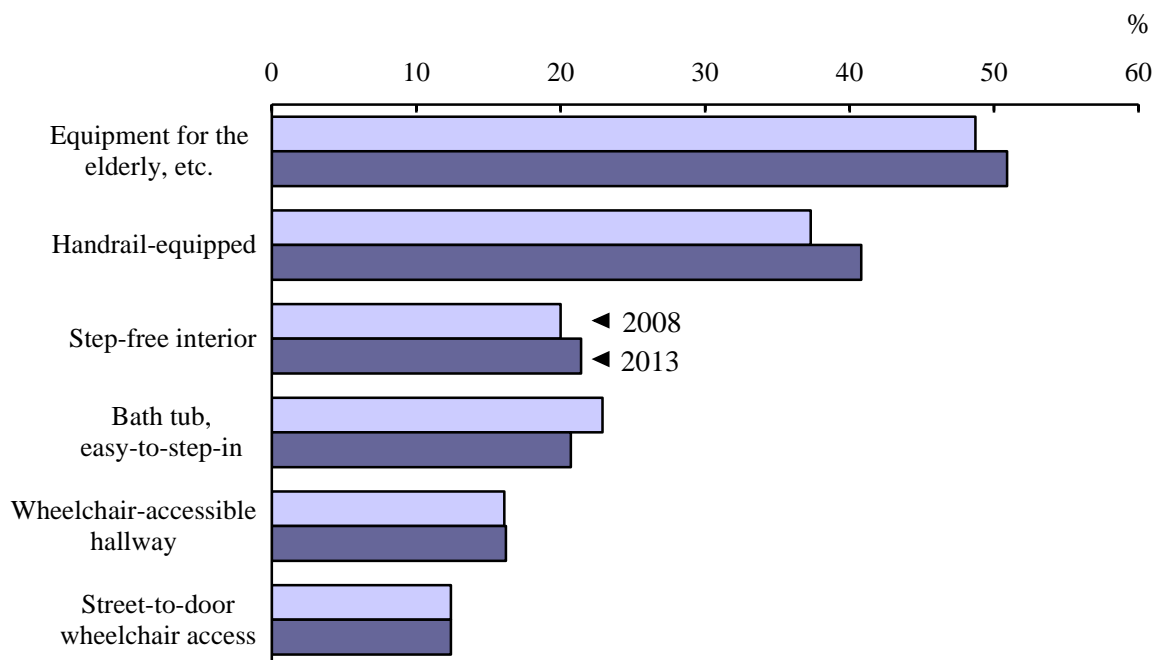
Source: Statistics Bureau, MIC.

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. The number of traffic accident fatalities was 4,117 in 2015, and although this represented an increase for the first time in 15 years. This number in 2015 was still less than one-fourth the number in 1970.

In 2015, traffic deaths per 100,000 population were 3.2 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 |
| 2014 | 573,842 | 711,374 | 4,113 | 0.5 | 3.2 |
| 2015 | 536,899 | 666,023 | 4,117 | 0.5 | 3.2 |

1) Death within 24 hours of the accident.

Source: National Police Agency.

4. Crime

In 2016, the reported number of penal code offenses (excluding cases related to traffic accidents) was 1 million, a decrease of 102,849, or 9.4 percent compared to the previous year. The proportion of thefts was the highest, accounting for 72.6 percent, or 723,148 cases (down 10.5 percent from the previous year).

The number of persons arrested for penal code offenses was 226,376 in 2016, a decrease of 12,979, or 5.4 percent compared to the previous year, marking a decline for the twelfth 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 2016, it was 33.8 percent, an increase of 1.3 point from the previous year.

Table 14.6
Trends in Crime ¹⁾ (Penal code offenses)

| Year | Reported offenses | Resultant arrests | Persons arrested | Arrest rate ²⁾ (%) | Crime rate per 100,000 population |
|------|-------------------|-------------------|------------------|-------------------------------|-----------------------------------|
| 1980 | 1,357,461 | 811,189 | 392,113 | 59.8 | 1159.6 |
| 1985 | 1,607,697 | 1,032,879 | 432,250 | 64.2 | 1328.1 |
| 1990 | 1,636,628 | 692,593 | 293,264 | 42.3 | 1324.0 |
| 1995 | 1,782,944 | 753,174 | 293,252 | 42.2 | 1419.9 |
| 2000 | 2,443,470 | 576,771 | 309,649 | 23.6 | 1925.1 |
| 2005 | 2,269,293 | 649,503 | 386,955 | 28.6 | 1775.7 |
| 2010 | 1,604,019 | 497,356 | 322,620 | 31.0 | 1252.2 |
| 2015 | 1,098,969 | 357,484 | 239,355 | 32.5 | 864.6 |
| 2016 | 996,120 | 337,066 | 226,376 | 33.8 | 784.8 |

1) Excluding traffic offenses. 2) The ratio of arrests to reported number of offenses.

Source: National Police Agency.

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 unauthorized commands for electromagnetic records, offenses using cyber networks) in 2016 was 8,324, up 2.8 percent from the previous year. This represented about a nine-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, 2016, the prefectural police operated police headquarters, police academies, 1,166 police stations, 6,248 police boxes and 6,431 police substations in 47 prefectures.

Local 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 2.7-fold, to 5.86 million people as of April 2014, 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, 5.03 million per month in fiscal 2014, and increased by approximately 2.7-fold over 14 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 2014 (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 9.6 trillion yen.

Table 15.1
Trends in Social Security Benefit Expenditures by Institutional Scheme

(Billion yen)

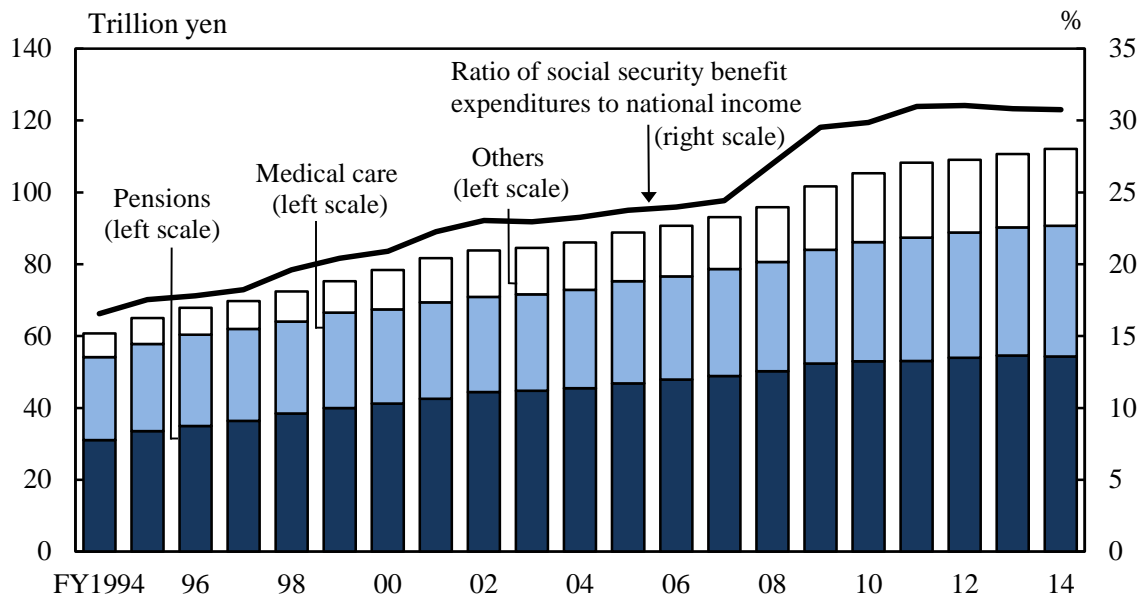
| Item | FY2000 | FY2005 | FY2010 | FY2013 | FY2014 |
|--|--------|--------|---------|---------|---------|
| Total | 78,399 | 88,852 | 105,361 | 110,705 | 112,102 |
| Medical insurance | 14,797 | 16,417 | 19,059 | 20,004 | 20,344 |
| Health and medical services for the aged | 10,447 | 10,754 | 11,718 | 13,135 | 13,429 |
| Long-term care insurance | 3,262 | 5,815 | 7,434 | 8,702 | 9,098 |
| Pension benefits | 39,173 | 45,214 | 51,755 | 53,610 | 53,413 |
| Employment insurance ¹⁾ | 2,665 | 1,522 | 2,460 | 1,886 | 1,805 |
| Workers' accident compensation insurance | 1,054 | 990 | 952 | 938 | 936 |
| Family allowance ²⁾ | 712 | 1,158 | 3,042 | 2,898 | 2,961 |
| Public assistance | 1,939 | 2,594 | 3,330 | 3,629 | 3,681 |
| Social welfare | 2,186 | 2,635 | 3,404 | 4,057 | 4,636 |
| Public health | 555 | 548 | 1,388 | 1,242 | 1,281 |
| Gratuities for retired public employees .. | 1,420 | 1,059 | 702 | 498 | 438 |
| Aid for war victims | 188 | 146 | 116 | 106 | 81 |

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 2014, social security benefit expenditures totaled 112.1 trillion yen (up 1.3 percent from the previous fiscal year), a figure which amounted to 882,100 yen per person. The ratio of Japan's social security benefit expenditures to national income registered 30.8 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 Sector¹⁾



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.

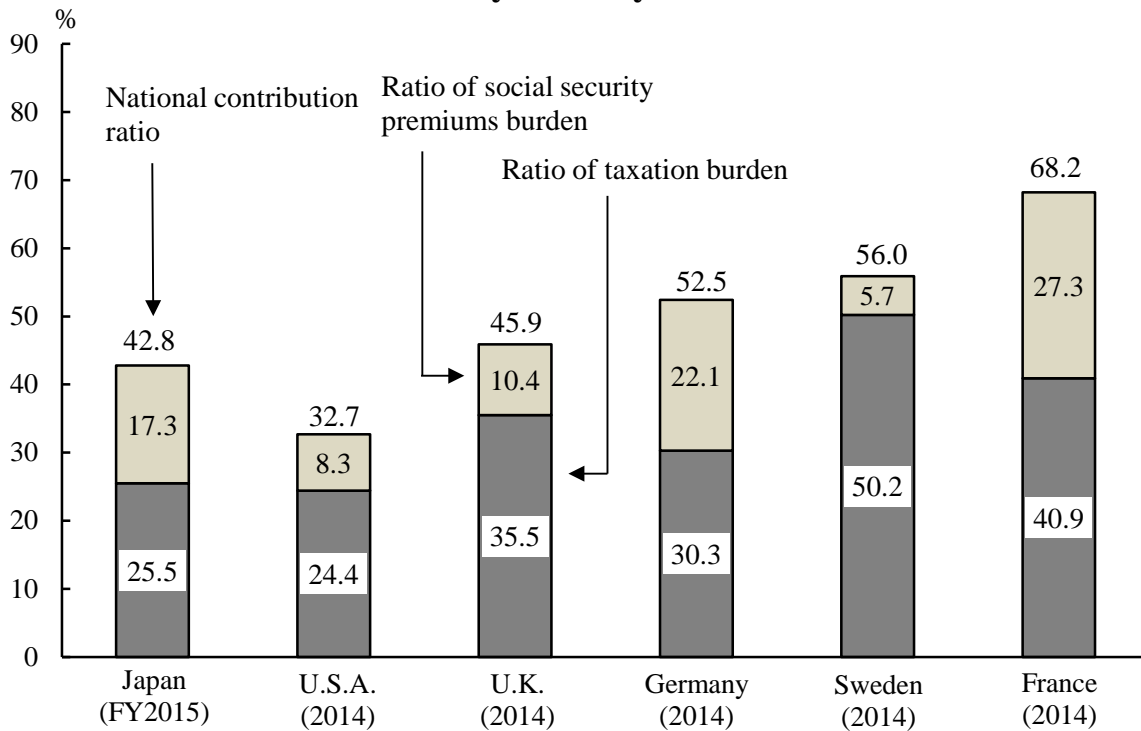
In fiscal 2014, pensions accounted for 48.5 percent of total social security benefit expenditures, while medical care accounted for 32.4 percent, and social welfare and others for 19.1 percent. Social security benefit expenditures are forecasted to continue growing, and are projected to reach 149 trillion yen in fiscal 2025.

In accordance with the rise in social security benefit expenditures, the amount of funds necessary to cover these expenditures has also increased, reaching 136.6 trillion yen in fiscal 2014. This was financed by 65.2 trillion yen from social insurance contributions, 44.8 trillion yen from taxes and 26.6 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 2015 (taxation burden: 25.5 percent; social security premiums: 17.3 percent), up 0.6 percentage points from 42.2 percent in fiscal 2014 (taxation burden: 25.0 percent; social security premiums: 17.2 percent). The national contribution

ratio in 2014 was 32.7 percent in the U.S.A., 45.9 percent in the U.K., and 68.2 percent in France. While the ratio in Japan was higher than that of the U.S.A., it was lower than European countries.

Figure 15.2
National Contribution Ratio by Country



Source: Ministry of Finance.

2. Health Care and Public Hygiene

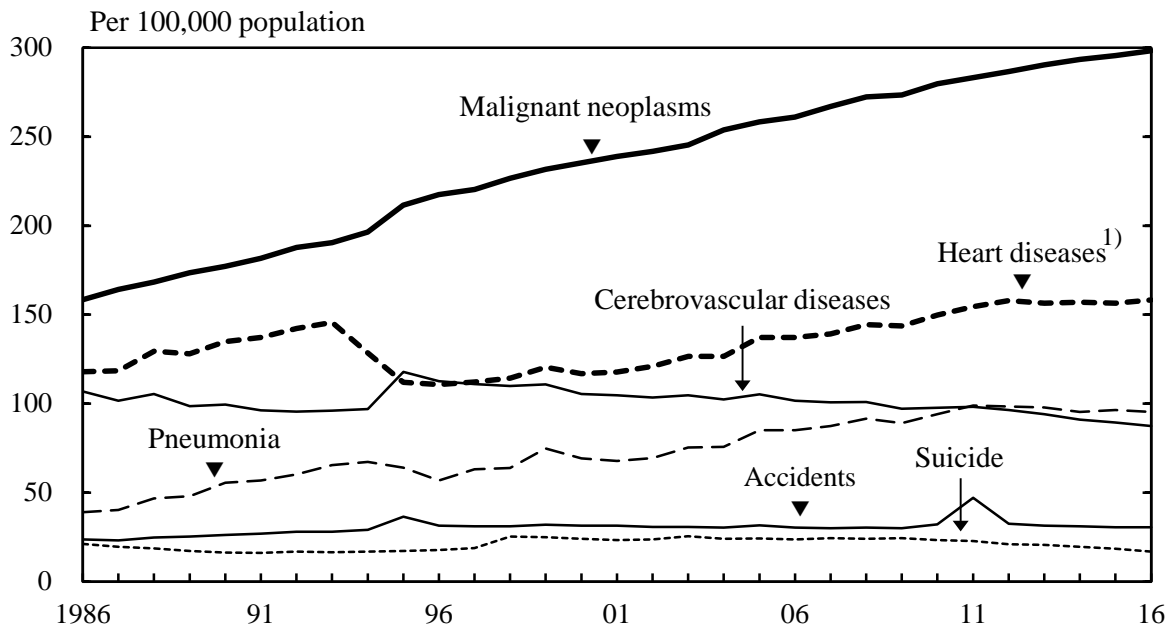
Japan has a universal health insurance regime to ensure that anyone can receive necessary medical treatment. Under this regime, every citizen enters a publicly regulated medical insurance system, such as employees' health insurance or national health insurance.

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 87.1 years for women and 80.8 years for men in 2015. Japan's life expectancy remains the highest 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 had the world's highest as of 2013, with 74.2 years for women and 71.2 years for men. Japan's infant mortality rate was 2.0 per 1,000 births in 2016.

Figure 15.3
Death Rates by Major Cause



1) Excluding hypertensive diseases.

Source: Ministry of Health, Labour and Welfare.

The death rate was 1,046.0 per 100,000 population in 2016. The leading cause of death was malignant neoplasms (298.2 per 100,000 population), followed by lifestyle diseases such as heart diseases (158.2; excluding hypertensive diseases), in which people's daily diet and behavior are significant factors, and pneumonia (95.3). Malignant neoplasms became the leading cause of death in 1981. The death rate by malignant neoplasms has continued to increase since, reaching 28.5 percent of all deaths in 2016.

The number of deaths caused by suicide in Japan hovered at around 30,000 annually in 1998 and onwards, but for 7 consecutive years, this number has been below 30,000, and the number of annual suicides has also been decreasing for the last 7 years. The number of suicides in 2016 was 20,984. In 2016, 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 308,651 physicians engaged in medical care, or 242.9 physicians per 100,000 population, in 2014. 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 | 2006 | 2008 | 2010 | 2012 | 2014 |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Number | | | | | |
| Physicians | 275,127 | 283,915 | 292,338 | 300,664 | 308,651 |
| Dentists | 95,944 | 98,063 | 100,161 | 101,110 | 102,534 |
| Pharmacists | 234,429 | 249,251 | 258,713 | 262,520 | 271,364 |
| Nurses and Assistant nurses | 1,194,121 | 1,252,224 | 1,320,871 | 1,373,521 | 1,426,932 |
| Rates per 100,000 population | | | | | |
| Physicians | 215.1 | 221.7 | 228.3 | 235.8 | 242.9 |
| Dentists | 75.0 | 76.6 | 78.2 | 79.3 | 80.7 |
| Pharmacists | 183.3 | 194.6 | 202.0 | 205.9 | 213.5 |
| Nurses and Assistant nurses | 933.6 | 977.7 | 1,031.5 | 1,077.1 | 1,122.8 |

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

As of October 1, 2015, the number of hospitals in Japan (excluding medical clinics and dental clinics) totaled 8,480. The number of hospital beds amounted to 1,565,968 (1232.1 per 100,000 population).

Table 15.3
Medical Care Institutions and Beds

| Type of Institution | 2005 | 2008 | 2011 | 2014 | 2015 |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Institutions | | | | | |
| Total | 173,200 | 175,656 | 176,308 | 177,546 | 178,212 |
| Hospitals | 9,026 | 8,794 | 8,605 | 8,493 | 8,480 |
| Medical clinics | 97,442 | 99,083 | 99,547 | 100,461 | 100,995 |
| Dental clinics | 66,732 | 67,779 | 68,156 | 68,592 | 68,737 |
| Rates per 100,000 population | | | | | |
| Total | 135.6 | 137.6 | 138.0 | 139.7 | 140.2 |
| Hospitals | 7.1 | 6.9 | 6.7 | 6.7 | 6.7 |
| Medical clinics | 76.3 | 77.6 | 77.9 | 79.1 | 79.5 |
| Dental clinics | 52.2 | 53.1 | 53.3 | 54.0 | 54.1 |
| Beds | | | | | |
| Total | 1,798,637 | 1,756,115 | 1,712,539 | 1,680,712 | 1,673,669 |
| Hospitals | 1,631,473 | 1,609,403 | 1,583,073 | 1,568,261 | 1,565,968 |
| Medical clinics | 167,000 | 146,568 | 129,366 | 112,364 | 107,626 |
| Dental clinics | 164 | 144 | 100 | 87 | 75 |
| Rates per 100,000 population | | | | | |
| Total | 1,407.7 | 1,375.3 | 1,340.0 | 1,335.9 | 1,316.9 |
| Hospitals | 1,276.9 | 1,260.4 | 1,238.7 | 1,234.0 | 1,232.1 |
| Medical clinics | 130.7 | 114.8 | 101.2 | 88.4 | 84.7 |
| Dental clinics | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |

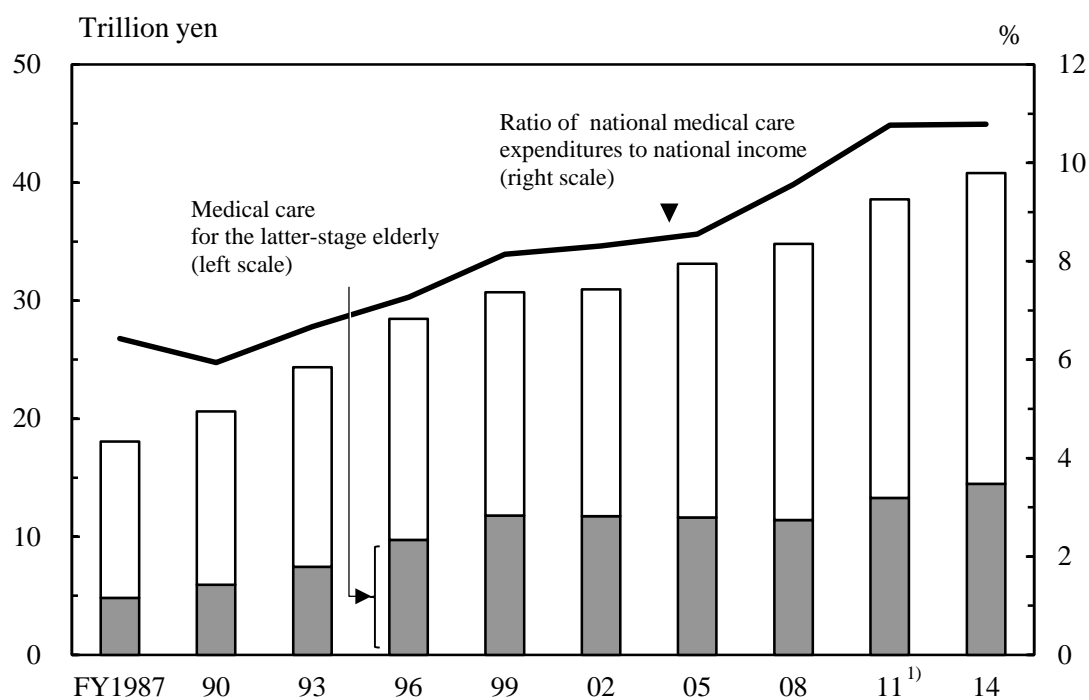
Source: Ministry of Health, Labour and Welfare.

National medical care expenditures have been increasing gradually. In fiscal 2014, the expenditures totaled 40.8 trillion yen or 11.20 percent of Japan's national income. The cost of medical care per person averaged 321,100 yen in fiscal 2014.

Medical costs for treating the latter-stage elderly in fiscal 2014 were 14.5 trillion yen, or about one-third of national medical care expenditure, and accounted for 3.83 percent of the national income. The per-capita cost of medical care for the latter-stage elderly averaged 932,290 yen for the year. The percentage of national medical care expenditures accounted for by medical care costs for the late-stage elderly decreased when the age of

persons eligible to receive later-stage elderly medical care was raised in a phased manner over 5 years from 70 years to 75 years old in October 2002, but in recent years, there has been a slight uptrend.

Figure 15.4
Trends in Medical Care Expenditures



1) Excluding medical care expenditures pertaining to the Great East Japan Earthquake (4.5 billion yen in total, combining the payment for estimated billing and the medical care expenditures of unidentified insurers).

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.

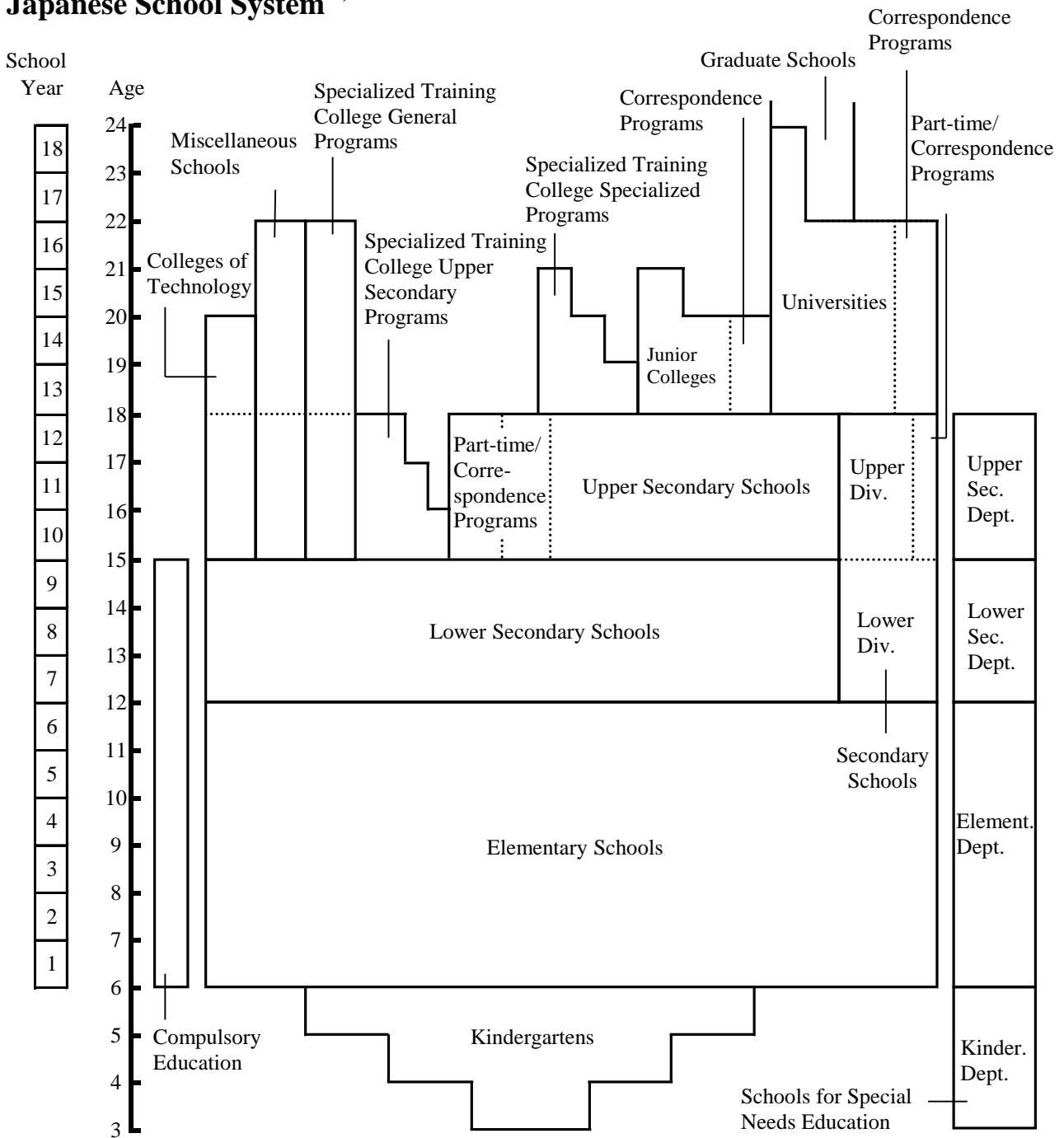
Table 16.1
Educational Institutions in Japan (as of May 1, 2016)

| Type of institution | Schools | | | | Full-time teachers (1,000) | Students (1,000) | |
|---|---------|----------|--------|---------|----------------------------|------------------|---------|
| | Total | National | Public | Private | | Males | Females |
| Kindergartens | 11,252 | 49 | 4,127 | 7,076 | 100 | 679 | 661 |
| Integrated centers for early childhood education and care | 2,822 | - | 452 | 2,370 | 57 | 204 | 194 |
| Elementary schools | 20,313 | 72 | 20,011 | 230 | 417 | 3,317 | 3,167 |
| Lower secondary schools | 10,404 | 73 | 9,555 | 776 | 252 | 1,742 | 1,664 |
| Compulsory education schools .. | 22 | - | 22 | - | 1 | 7 | 6 |
| Upper secondary schools | 4,925 | 15 | 3,589 | 1,321 | 235 | 1,668 | 1,641 |
| Secondary schools | 52 | 4 | 31 | 17 | 3 | 16 | 16 |
| Schools for special needs education ¹⁾ | 1,125 | 45 | 1,067 | 13 | 82 | 91 | 48 |
| Colleges of technology | 57 | 51 | 3 | 3 | 4 | 47 | 10 |
| Junior colleges | 341 | - | 17 | 324 | 8 | 14 | 114 |
| Universities | 777 | 86 | 91 | 600 | 184 | 1,626 | 1,248 |
| Graduate schools | 627 | 86 | 79 | 462 | 107 | 171 | 79 |
| Specialized training colleges | 3,183 | 9 | 189 | 2,985 | 41 | 291 | 366 |
| Miscellaneous schools..... | 1,200 | - | 6 | 1,194 | 9 | 64 | 56 |

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 ¹⁾



1) As of FY2015. Compulsory education schools were established in FY2016.

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

Of the March 2016 upper secondary school graduates, 54.8 percent went straight on to enter a university or junior college. The ratio of upper secondary school graduates who entered a university, junior college, etc. in 2016 was 56.8 percent (56.6 percent of male and 57.1 percent of female graduates), including graduates from previous years.

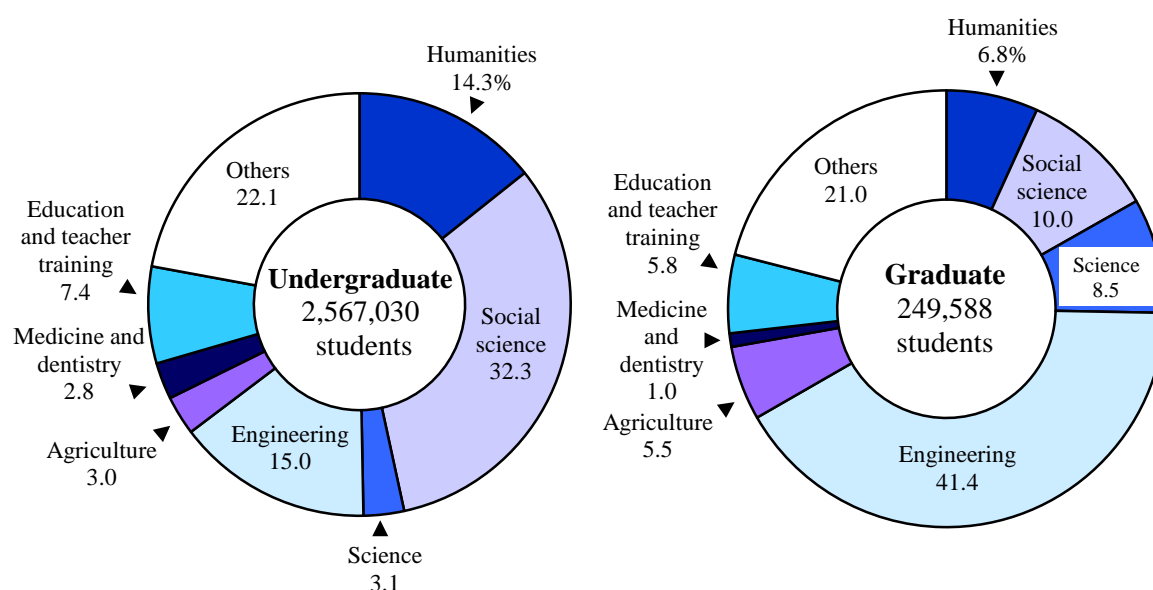
Table 16.2
Number of University Students (as of May 1)

| | 2005 | 2010 | 2014 | 2015 | 2016 |
|----------------------------|-----------|-----------|-----------|-----------|-----------|
| Total | 2,865,051 | 2,887,414 | 2,855,529 | 2,860,210 | 2,873,624 |
| Undergraduate | 2,508,088 | 2,559,191 | 2,552,022 | 2,556,062 | 2,567,030 |
| Graduate schools | 254,480 | 271,454 | 251,013 | 249,474 | 249,588 |
| Others ¹⁾ | 102,483 | 56,769 | 52,494 | 54,674 | 57,006 |
| Females | 1,124,900 | 1,185,580 | 1,220,091 | 1,231,868 | 1,247,726 |
| Undergraduate | 1,009,217 | 1,077,782 | 1,117,778 | 1,127,372 | 1,141,425 |
| Graduate schools | 75,734 | 82,133 | 77,645 | 77,831 | 78,603 |
| Others ¹⁾ | 39,949 | 25,665 | 24,668 | 26,665 | 27,698 |
| National | 627,850 | 625,048 | 612,509 | 610,802 | 610,401 |
| Public | 124,910 | 142,523 | 148,042 | 148,766 | 150,513 |
| Private | 2,112,291 | 2,119,843 | 2,094,978 | 2,100,642 | 2,112,710 |

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, 2016)

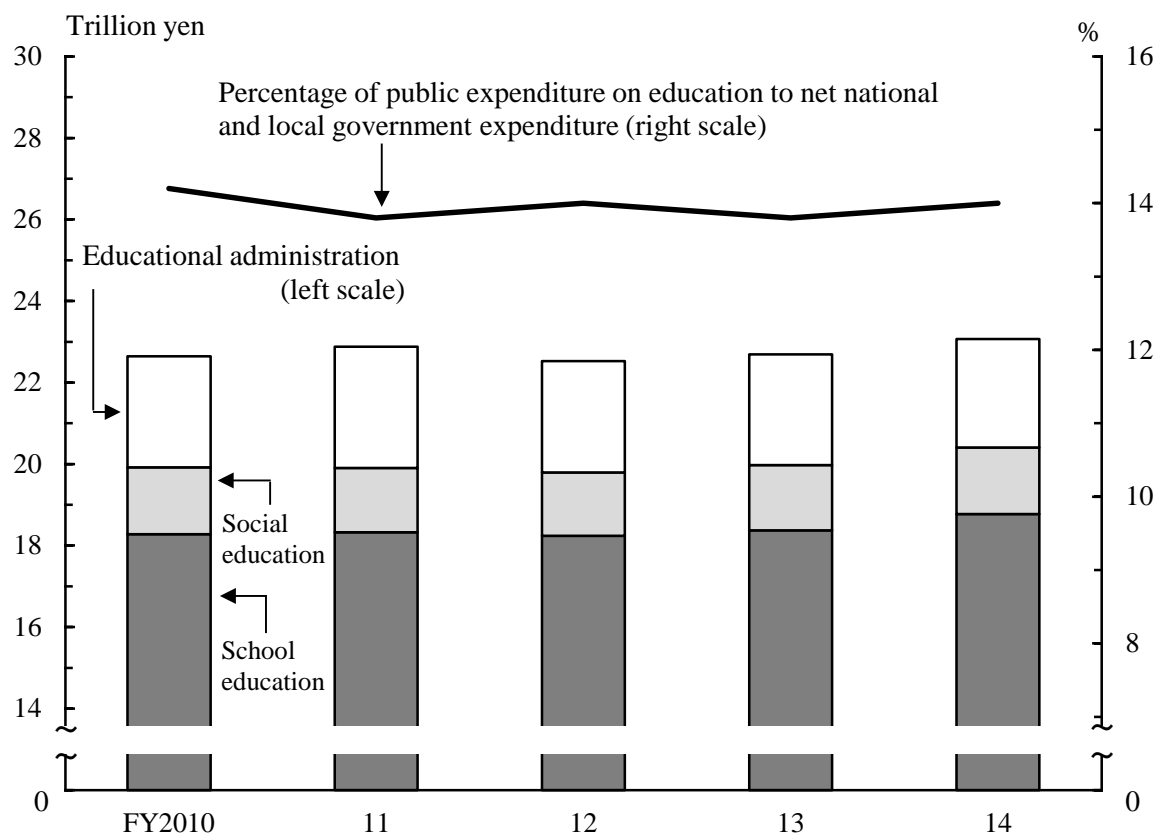


Source: Ministry of Education, Culture, Sports, Science and Technology.

As of May 1, 2015, a total of 110,282 foreign students were enrolled in Japanese junior colleges, universities, and graduate schools. Of the total foreign students, 89.0 percent were from Asia, including 61,249 from China, 11,366 from the Republic of Korea and 7,412 from Vietnam.

Fiscal 2014 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 2014 school expenditure by households with children attending public school averaged 59,228 yen per elementary school pupil, 128,964 yen per lower-secondary school student and 242,692 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 2011 Survey on Time Use and Leisure Activities conducted with people aged 10 and over show that the per-day average amount of free time was 6 hours and 27 minutes, which was the time remaining after activities that were physiologically necessary (sleeping, eating, etc.) and societally essential (work, housework, etc.). It was found that 1 hour and 14 minutes of free time was spent on hobbies, sports, learning for personal development, volunteer activities, etc.

Table 16.4

Major Leisure Activities by Gender (10 years old and over) (2011)

| Leisure Activities | Total | Males | Females |
|---|-------|-------|---------|
| Free time per day (hours and minutes) | 6:27 | 6:38 | 6:16 |
| Active leisure time (hours and minutes) | 1:14 | 1:28 | 1:04 |
| Participation rate (%) ¹⁾ | | | |
| Hobbies and amusements | 84.8 | 84.8 | 84.9 |
| Sports ²⁾ | 63.0 | 67.9 | 58.3 |
| Learning, self-education and training ²⁾ | 35.2 | 34.3 | 36.1 |
| Travel (domestic) ³⁾ | 57.9 | 57.2 | 58.6 |
| Travel (abroad) ³⁾ | 8.9 | 8.5 | 9.2 |
| Volunteer activities | 26.3 | 24.5 | 27.9 |

1) Total participants / Population (10 years old and over) × 100 2) Excluding school and professional activities. 3) Excluding day trips.

Source: Statistics Bureau, MIC.

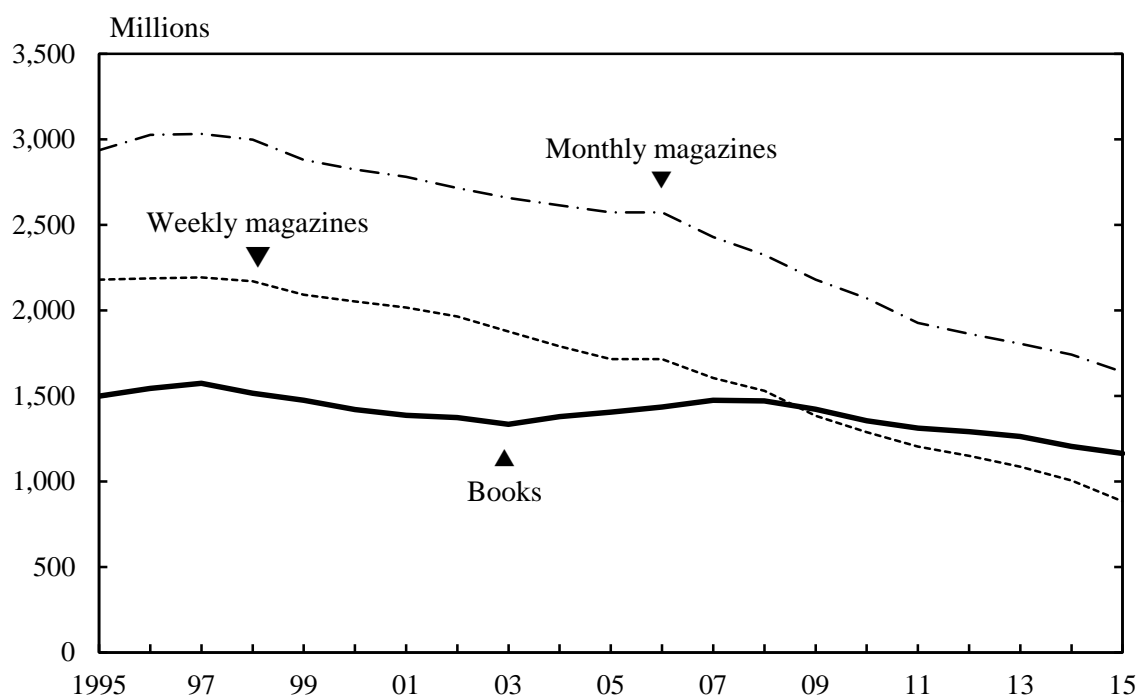
The participation rate for "sports" was 63.0 percent (percentage of people who engaged in the activity within the past 12 months). The most popular sport for both genders was "walking or light physical exercise" (men: 31.1 percent; women: 39.2 percent). Other popular sports for men were "bowling" (15.1 percent) and "golf (including golf practice range)" (13.7 percent). For women, such sports were "bowling" (10.6 percent) and "swimming" (9.7 percent). The participation rate for "learning, self-education, and training (excluding school and professional activities)" was 35.2 percent. Men preferred "computing etc." (14.8 percent) and "foreign language" (11.0 percent), while women preferred "cooking, sewing or home management, etc." (12.6 percent), as well as "arts and culture" (12.3 percent).

4. Publishing and Mass Media

The total number of books and magazines published in Japan during 2015 was 1,163 million and 2,523 million, respectively. Of the latter, 1,641 million were monthlies and 882 million were weeklies.

A total of 80,048 new book titles were released in 2015. The number of magazine titles published was 3,674 (including 1,996 monthlies and 92 weeklies) as of the end of March 2016. In recent years, there has been an increasing trend in the popularization of the Internet and e-books.

Figure 16.4
Trends in Number of Publications



Source: Shuppan News Co., Ltd.

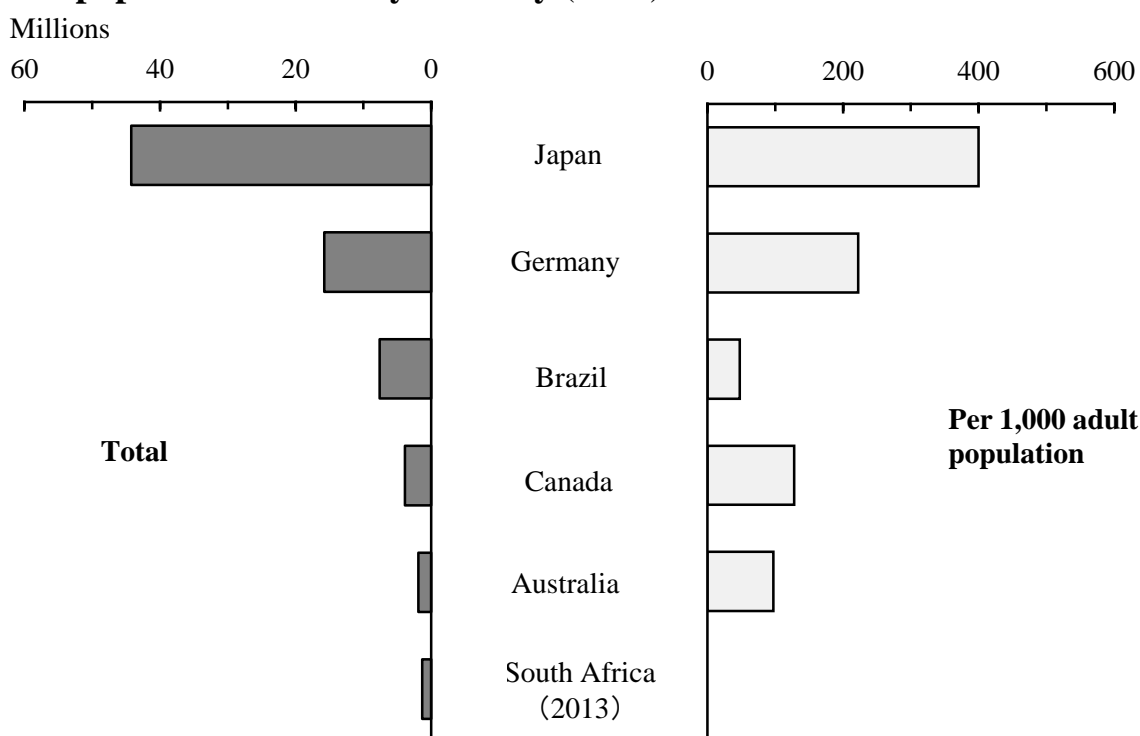
Table 16.5
Number of New Publications

| Subject | (Titles) | | | | |
|-------------------------------|----------|--------|--------|--------|--------|
| | 2000 | 2005 | 2010 | 2014 | 2015 |
| Total | 65,065 | 78,304 | 77,773 | 80,954 | 80,048 |
| General works | 2,587 | 2,551 | 2,080 | 1,924 | 1,715 |
| Philosophy | 2,997 | 3,763 | 4,381 | 4,255 | 4,275 |
| General history | 4,634 | 5,102 | 4,969 | 4,876 | 5,233 |
| Social sciences | 14,099 | 16,201 | 15,757 | 15,858 | 15,598 |
| Natural sciences | 5,218 | 6,226 | 6,780 | 7,007 | 7,079 |
| Technology and engineering .. | 6,105 | 8,104 | 8,499 | 8,736 | 8,333 |
| Industry and commerce | 3,000 | 3,337 | 3,478 | 3,427 | 3,175 |
| Art | 8,895 | 10,884 | 11,535 | 13,063 | 12,972 |
| Languages | 1,766 | 2,063 | 1,884 | 1,751 | 1,796 |
| Literature | 11,484 | 13,595 | 12,879 | 13,484 | 13,390 |
| Children's books | 3,334 | 5,064 | 4,675 | 5,160 | 4,801 |
| School textbooks | 946 | 1,414 | 856 | 1,413 | 1,681 |

Source: Shuppan News Co., Ltd.

A total of 117 daily newspapers were in circulation, and the penetration rate was 0.78 newspapers per household as of October 2016.

Figure 16.5
Newspaper Circulation by Country (2015)



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, examinations are being conducted towards an early start of broadcasting services in 4K and 8K, which have 4 and 16 times the pixel number of existing full high-definition.

In 2016, advertising expenditures in the four major mass media types in Japan (newspapers, magazines, radio and television) totaled 2.9 trillion yen, down compared with the previous year. This accounted for 45.5 percent of total advertising expenditures, which were 6.3 trillion yen. Spending on Internet advertising reached 1.3 trillion yen (up 13.0 percent from the previous year), maintaining a double-digit growth rate. This amounted to 20.8 percent of the total advertising expenditures.

Table 16.6
Advertising Expenditures by Medium

| Year | Total | News- papers | Maga- zines | Radio | Tele- vision ^{a)} | Satellite media- related | Internet | Others |
|---|---------|-----------------|----------------|-------|-------------------------------|--------------------------------|----------|---------|
| 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 |
| 2014 | 6,152.2 | 605.7 | 250.0 | 127.2 | 1,956.4 | - | 1,051.9 | 2,161.0 |
| 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 |
| 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 |
| 2014 | 100.0 | 9.8 | 4.1 | 2.1 | 31.8 | - | 17.1 | 35.1 |
| 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 |

a) 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, 2017)

| Type of cultural properties | Number | |
|---|--------|----------|
| Designated important cultural properties | 13,119 | a) 1,101 |
| Fine arts and crasts | 10,654 | a) 878 |
| Structures | 2,465 | a) 223 |
| Historic sites, places of scenic beauty and natural monuments | 3,210 | b) 172 |
| Historic sites | 1,784 | b) 61 |
| Places of scenic beauty | 402 | b) 36 |
| Natural monuments | 1,024 | b) 75 |
| Important tangible folk cultural properties | 220 | |
| Important intangible folk cultural properties | 303 | |
| Important intangible cultural properties | | |
| Recognized individuals | 76 | |
| Performing arts | 37 | |
| Craft techniques | 39 | |
| Recognized holding groups | 27 | |
| Performing arts | 13 | |
| Craft techniques | 14 | |
| Traditional building preservation areas | 114 | |

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

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

As of June 1, 2017, 13,119 items were assigned as designated important cultural properties, of which 1,101 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 2016, 17 assets located in the 7 countries of Japan, France, Germany, Argentina, Belgium, India, and Switzerland, including the National Museum of Western Art, were registered collectively as Japan's 20th world heritage as "architectural works of Le Corbusier". The main building of the National Museum of Western Art is the only building designed by Le Corbusier in Japan, and is considered as being a representative work that shows Le Corbusier's characteristic design elements. Such a world heritage that extends over different continents is the first of its kind.

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.

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 Artistic 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 |

1) As of July, 2017.

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 December 2016, 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.

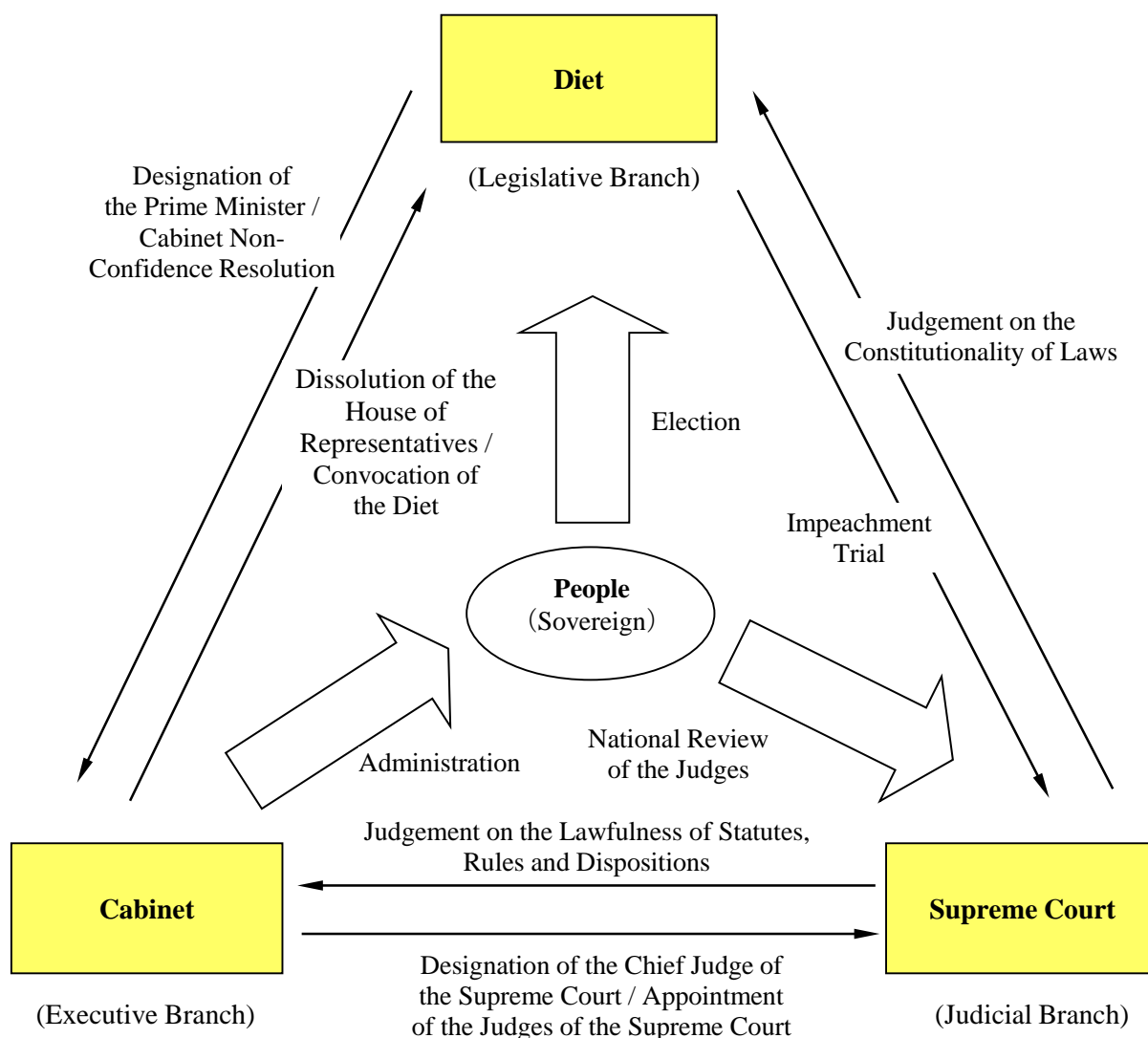
Chapter 17

Government System

1. Separation of Powers

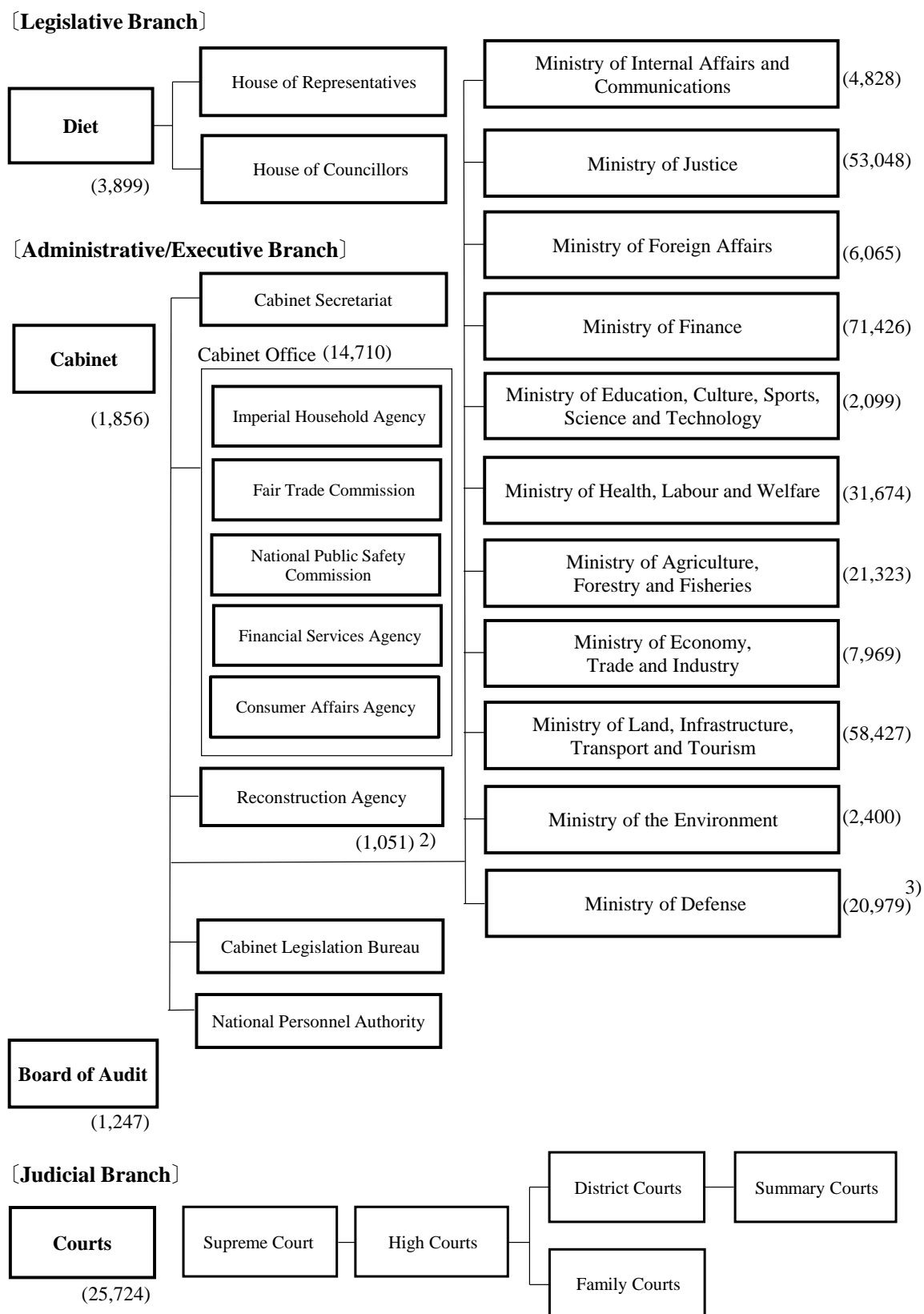
The Constitution of Japan, which went into effect on May 3, 1947, is based on three core principles: sovereignty of the people, respect for fundamental human rights and pacifism. To control governmental power effectively through checks and balances, governmental power is separated into three independent 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⁾ (FY2017)



1) Figures in parentheses refer to budgetary fixed number of national government employees.
 2) Of the 1,051 employees, 205 are from the Reconstruction Agency and 846 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 December 2014. 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 April 21, 2017) | | | House of Councillors (as of June 18, 2017) | | |
|---|-------|---------|--|-------|---------|
| Membership ¹⁾ 474, Vacancies 1 | | | Membership 242, Vacancies 0 | | |
| Name | Males | Females | Name | Males | Females |
| Incumbents | 430 | 44 | Incumbents | 192 | 50 |
| Liberal Democratic Party | 267 | 25 | Liberal Democratic Party and | | |
| The Democratic Party | | | The Party for Japanese Kokoro | 106 | 20 |
| and Club of Independents | 86 | 9 | The Democratic Party | | |
| Komeito | 32 | 3 | and The Shin-Ryokufukai | 38 | 12 |
| Japanese Communist Party | 15 | 6 | Komeito | 20 | 5 |
| Nippon Ishin | | | Japanese Communist Party | 9 | 5 |
| (Japan Innovation Party) | 15 | 0 | Nippon Ishin | | |
| Liberal Party | 2 | 0 | (Japan Innovation Party) | 10 | 2 |
| Social Democratic Party | 2 | 0 | Hope Coalition (Kibou) | 3 | 3 |
| | | | Independents Club | 2 | 2 |
| | | | Okinawa Whirlwind | 1 | 1 |
| Independents | 11 | 1 | Independents | 3 | 0 |

Source: House of Representatives; House of Councillors.

1) Due to the revision to the Public Offices Election Law in July 2017, the constant number of seats is 465, which are applied from the next general election for the House of Representatives.

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 9,548 people were tried in lay judge trials held between the start of the system and December 2016.

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

(Thousands)

| Year | Civil and administrative cases | | | Criminal cases ¹⁾ | | |
|------|--------------------------------|------------|---------|------------------------------|------------|---------|
| | Commenced | Terminated | Pending | Commenced | Terminated | Pending |
| 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 |
| 2014 | 1,456 | 1,465 | 403 | 1,019 | 1,018 | 32 |
| 2015 | 1,432 | 1,425 | 410 | 1,033 | 1,031 | 34 |

| Year | Domestic cases | | | Juvenile cases ¹⁾ | | |
|------|----------------|------------|---------|------------------------------|------------|---------|
| | Commenced | Terminated | Pending | Commenced | Terminated | Pending |
| 2000 | 561 | 555 | 78 | 286 | 288 | 49 |
| 2005 | 718 | 713 | 99 | 237 | 238 | 32 |
| 2010 | 815 | 815 | 106 | 165 | 168 | 25 |
| 2014 | 911 | 910 | 122 | 109 | 112 | 16 |
| 2015 | 970 | 959 | 133 | 95 | 98 | 13 |

1) Persons involved.

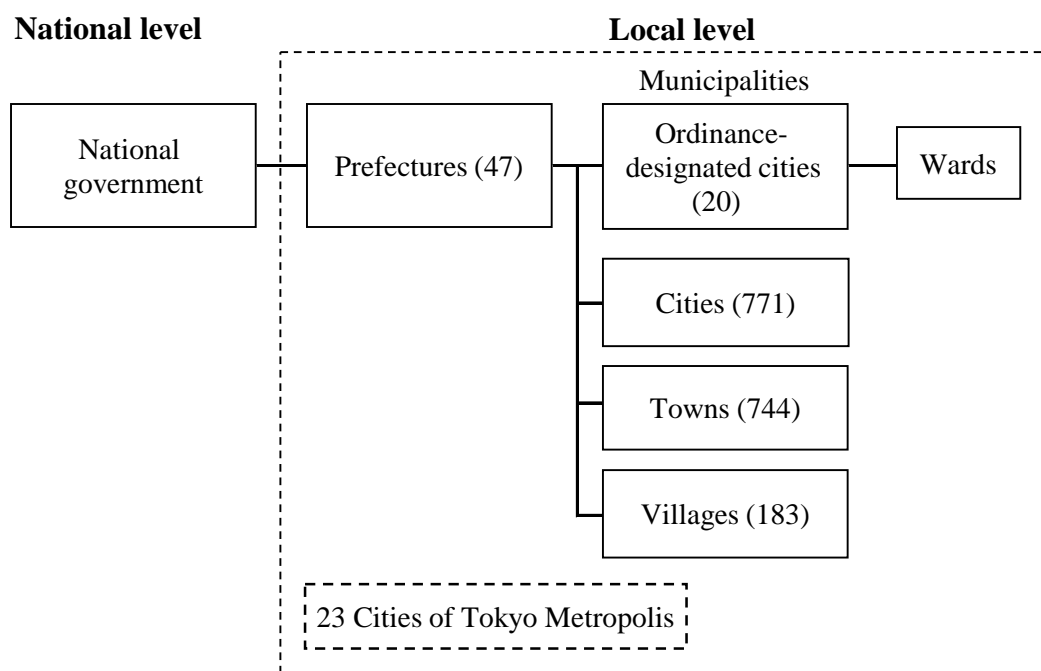
Source: Supreme Court.

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, 2017, 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.

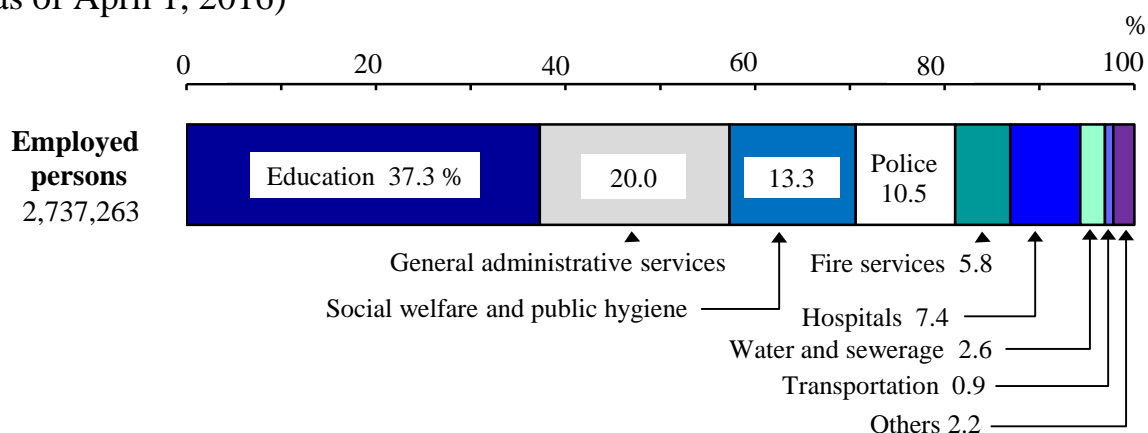
Municipalities that satisfy certain population criteria (i.e., 500,000 people or more) are eligible for designation as "Ordinance-designated cities". This designation gives them administrative and fiscal authority equivalent to those of prefectures. With the addition of Kumamoto City in April 2012, there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



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⁾ | 2016 ²⁾ | Total area | Inhabitable | Total area | Inhabitable |
| | | | | 2015 | 2015 | 2015 | 2015 |
| Japan | | 127,095 | 126,933 | 377,972 | 122,631 | 341 | 1,036 |
| Hokkaido | Sapporo City | 5,382 | 5,352 | 83,424 | 22,373 | 69 | 241 |
| Aomori | Aomori City | 1,308 | 1,293 | 9,646 | 3,230 | 136 | 405 |
| Iwate | Morioka City | 1,280 | 1,268 | 15,275 | 3,714 | 84 | 345 |
| Miyagi | Sendai City | 2,334 | 2,330 | 7,282 | 3,155 | 321 | 740 |
| Akita | Akita City | 1,023 | 1,010 | 11,638 | 3,204 | 88 | 319 |
| Yamagata | Yamagata City | 1,124 | 1,113 | 9,323 | 2,885 | 121 | 390 |
| Fukushima | Fukushima City | 1,914 | 1,901 | 13,784 | 4,217 | 139 | 454 |
| Ibaraki | Mito City | 2,917 | 2,905 | 6,097 | 3,975 | 478 | 734 |
| Tochigi | Utsunomiya City | 1,974 | 1,966 | 6,408 | 2,983 | 308 | 662 |
| Gunma | Maebashi City | 1,973 | 1,967 | 6,362 | 2,279 | 310 | 866 |
| Saitama | Saitama City | 7,267 | 7,289 | 3,798 | 2,585 | 1,913 | 2,811 |
| Chiba | Chiba City | 6,223 | 6,236 | 5,158 | 3,554 | 1,207 | 1,751 |
| Tokyo | 23 Cities of Tokyo | 13,515 | 13,624 | 2,191 | 1,418 | 6,169 | 9,529 |
| Kanagawa | Yokohama City | 9,126 | 9,145 | 2,416 | 1,471 | 3,778 | 6,206 |
| Niigata | Niigata City | 2,304 | 2,286 | 12,584 | 4,535 | 183 | 508 |
| Toyama | Toyama City | 1,066 | 1,061 | 4,248 | 1,843 | 251 | 579 |
| Ishikawa | Kanazawa City | 1,154 | 1,151 | 4,186 | 1,392 | 276 | 829 |
| Fukui | Fukui City | 787 | 782 | 4,190 | 1,077 | 188 | 730 |
| Yamanashi | Kofu City | 835 | 830 | 4,465 | 954 | 187 | 875 |
| Nagano | Nagano City | 2,099 | 2,088 | 13,562 | 3,226 | 155 | 651 |
| Gifu | Gifu City | 2,032 | 2,022 | 10,621 | 2,211 | 191 | 919 |
| Shizuoka | Shizuoka City | 3,700 | 3,688 | 7,777 | 2,749 | 476 | 1,346 |
| Aichi | Nagoya City | 7,483 | 7,507 | 5,173 | 2,988 | 1,447 | 2,505 |
| Mie | Tsu City | 1,816 | 1,808 | 5,774 | 2,059 | 315 | 882 |
| Shiga | Otsu City | 1,413 | 1,413 | 4,017 | 1,307 | 352 | 1,081 |
| Kyoto | Kyoto City | 2,610 | 2,605 | 4,612 | 1,174 | 566 | 2,224 |
| Osaka | Osaka City | 8,839 | 8,833 | 1,905 | 1,331 | 4,640 | 6,643 |
| Hyogo | Kobe City | 5,535 | 5,520 | 8,401 | 2,783 | 659 | 1,989 |
| Nara | Nara City | 1,364 | 1,356 | 3,691 | 856 | 370 | 1,595 |
| Wakayama | Wakayama City | 964 | 954 | 4,725 | 1,115 | 204 | 864 |
| Tottori | Tottori City | 573 | 570 | 3,507 | 901 | 164 | 637 |
| Shimane | Matsue City | 694 | 690 | 6,708 | 1,299 | 104 | 535 |
| Okayama | Okayama City | 1,922 | 1,915 | 7,114 | 2,219 | 270 | 866 |
| Hiroshima | Hiroshima City | 2,844 | 2,837 | 8,479 | 2,311 | 335 | 1,231 |
| Yamaguchi | Yamaguchi City | 1,405 | 1,394 | 6,112 | 1,707 | 230 | 823 |
| Tokushima | Tokushima City | 756 | 750 | 4,147 | 1,010 | 182 | 748 |
| Kagawa | Takamatsu City | 976 | 972 | 1,877 | 1,006 | 520 | 971 |
| Ehime | Matsuyama City | 1,385 | 1,375 | 5,676 | 1,673 | 244 | 828 |
| Kochi | Kochi City | 728 | 721 | 7,104 | 1,163 | 103 | 626 |
| Fukuoka | Fukuoka City | 5,102 | 5,104 | 4,986 | 2,761 | 1,023 | 1,847 |
| Saga | Saga City | 833 | 828 | 2,441 | 1,336 | 341 | 624 |
| Nagasaki | Nagasaki City | 1,377 | 1,367 | 4,132 | 1,676 | 333 | 822 |
| Kumamoto | Kumamoto City | 1,786 | 1,774 | 7,409 | 2,796 | 241 | 639 |
| Oita | Oita City | 1,166 | 1,160 | 6,341 | 1,799 | 184 | 648 |
| Miyazaki | Miyazaki City | 1,104 | 1,096 | 7,735 | 1,850 | 143 | 597 |
| Kagoshima | Kagoshima City | 1,648 | 1,637 | 9,187 | 3,313 | 179 | 498 |
| Okinawa | Naha City | 1,434 | 1,439 | 2,281 | 1,169 | 628 | 1,226 |

1) Population census. 2) Population estimates.

Source: Statistics Bureau, MIC; Ministry of Land, Infrastructure, Transport and Tourism.

Appendix 2

Main Economic Indicators of Selected Countries

| Item | Year | Japan | Argentina | Australia | Brazil | Canada |
|---|-----------------------------|-----------|-----------|-----------------------|---------|---------------------|
| Population (thousands) | 2014 | 127,083 | 42,980 | 23,622 | 206,078 | 35,588 |
| | 2015 | 127,095 | 43,417 | 23,969 | 207,848 | 35,940 |
| | 2016 | 126,838 | 43,847 | 24,309 | 209,568 | 36,286 |
| | Projection (medium variant) | 2050 | 101,923 | 55,445 | 33,496 | 238,270 |
| Employed persons (1,000) | 2015 | a 6,465 | b 15,686 | 11,752 | 91,726 | 17,947 |
| Unemployed persons (1,000) | 2015 | a 208 | b 1,184 | 758 | 8,432 | 1,331 |
| Unemployment rates (%) | 2015 | a 3.1 | b 7.2 | 6.2 | 8.6 | 7.0 |
| Hours of work per week (manufacturing) | 2015 | a 41.6 | b 43.0 | ... | 40.0 | 40.0 |
| Industrial production index (2010=100) | 2015 | 98.2 | ... | 109.8 | 89.1 | 111.7 |
| | 2016 | 97.4 | ... | 111.2 | 83.1 | 113.3 |
| Gross domestic product (US\$ billion) | 2014 | 4,853 | 571 | 1,451 | 2,417 | 1,793 |
| | 2015 | 4,384 | 632 | 1,231 | 1,773 | 1,553 |
| Producer Price index (2010=100) | 2015 | 102.7 | ... | 107.5 | 136.1 | 110.3 |
| | 2016 | 99.1 | ... | 106.9 | 151.8 | 110.1 |
| Consumer price index (2010=100) | 2015 | 103.6 | ... | 112.0 | 138.4 | 108.7 |
| | 2016 | 103.5 | ... | 113.5 | 150.5 | 110.2 |
| Broad money | | | | | | |
| Percent changes from the previous year (%) | End of 2015 | 2.5 | 37.3 | 6.0 | 11.2 | 9.1 |
| | End of 2016 | ... | 37.5 | 6.9 | 10.6 | 8.4 |
| Exports, FOB (US\$ billion) | 2016 | 624.8 | 59.7 | 187.7 | 191.1 | 409.0 |
| Imports, CIF (US\$ billion) | 2016 | 644.9 | 57.7 | 191.1 | 185.3 | 389.4 |
| Gold and foreign exchange reserves (US\$ million) | End of 2016 | 1,189,485 | 36,410 | 52,214 | 362,606 | 82,718 |
| Foreign exchange rates (national currency per US\$) | | Yen | Pesos | Australian dollars | Reais | Canadian dollars |
| End of year | 2016 | 117.11 | 15.9000 | 1.3820 | 3.2585 | 1.3427 |
| Period average | 2016 | 108.84 | 14.7582 | 1.3452 | 3.4901 | 1.3254 |

a) 2016. b) 2014. Urban areas only.

Appendix 2

Main Economic Indicators of Selected Countries (Continued)

| Item | Year | China | Euro Area | France | Germany | India |
|---|-----------------------------|-----------|-----------|--------|---------|-----------|
| Population (thousands) | 2014 | 1,369,436 | # 337,503 | 64,121 | 80,646 | 1,295,292 |
| | 2015 | 1,376,049 | # 338,524 | 64,395 | 80,689 | 1,311,051 |
| | 2016 | 1,382,323 | # 339,887 | 64,668 | 80,682 | 1,326,802 |
| | Projection (medium variant) | 2050 | 1,348,056 | ... | 71,137 | 74,513 |
| Employed persons (1,000) | 2015 | * 774,510 | ... | 26,424 | 40,211 | a 383,225 |
| Unemployed persons (1,000) | 2015 | *b 24,370 | ... | 3,054 | 1,950 | a 10,593 |
| Unemployment rates (%) | 2015 | ... | ... | 10.4 | 4.7 | a 2.8 |
| Hours of work per week (manufacturing) | 2015 | ... | ... | 37.0 | 38.0 | ... |
| Industrial production index (2010=100) | 2015 | ... | 103.4 | 100.8 | 111.0 | ... |
| | 2016 | ... | 105.0 | 101.2 | 112.5 | ... |
| Gross domestic product (US\$ billion) | 2014 | 10,535 | ... | 2,839 | 3,879 | 2,046 |
| | 2015 | 11,158 | ... | 2,419 | 3,364 | 2,116 |
| Producer Price index (2010=100) | 2015 | 89.6 | 103.9 | 103.8 | 103.9 | 126.4 |
| | 2016 | 88.5 | 101.5 | 101.5 | 102.1 | 128.9 |
| Consumer price index (2010=100) | 2015 | 100.0 | 107.2 | 105.6 | 106.9 | 147.7 |
| | 2016 | 102.0 | 107.5 | 105.8 | 107.4 | 155.0 |
| Broad money | | | | | | |
| Percent changes from the previous year (%) | End of 2015 | 13.3 | 4.7 | ... | ... | 10.7 |
| | End of 2016 | 11.3 | 5.0 | ... | ... | 6.6 |
| Exports, FOB (US\$ billion) | 2016 | 2,284.5 | 2,263.6 | 494.5 | 1,323.7 | 267.8 |
| Imports, CIF (US\$ billion) | 2016 | 2,134.5 | 2,265.9 | 488.8 | 1,335.9 | 264.6 |
| Gold and foreign exchange reserves (US\$ million) | End of 2016 | 3,032,562 | 360,754 | 59,809 | 64,692 | 341,989 |
| Foreign exchange rates (national currency per US\$) | | Yuan | Euros | Euros | Euros | Rupees |
| End of year | 2016 | 6.9498 | 0.9487 | 0.9487 | 0.9487 | 67.955 |
| Period average | 2016 | 6.6445 | 0.9040 | 0.9040 | 0.9040 | 67.195 |

a) 2012. b) 2014. Excluding age 15.

Appendix 2**Main Economic Indicators of Selected Countries (Continued)**

| Item | Year | Indonesia | Italy | Korea, Rep. of | Mexico | Russia |
|---|-----------------------------|-----------|---------|----------------|---------|---------|
| Population (thousands) | 2014 | 254,455 | 59,789 | 50,074 | 125,386 | 143,429 |
| | 2015 | 257,564 | 59,798 | 50,293 | 127,017 | 143,457 |
| | 2016 | 260,581 | 59,801 | 50,504 | 128,632 | 143,440 |
| | Projection (medium variant) | 2050 | 322,237 | 56,513 | 50,593 | 163,754 |
| Employed persons (1,000) | 2015 | 114,819 | 22,465 | 25,936 | 50,611 | 72,324 |
| Unemployed persons (1,000) | 2015 | 7,561 | 3,033 | 976 | 2,294 | 4,264 |
| Unemployment rates (%) | 2015 | 6.5 | 12.1 | 3.7 | 4.5 | 5.6 |
| Hours of work per week (manufacturing) | 2015 | ... | 39.0 | ... | 44.0 | ... |
| Industrial production index (2010=100) | 2015 | ... | 92.4 | 108.1 | 110.1 | ... |
| | 2016 | ... | 94.2 | 109.2 | 110.0 | ... |
| Gross domestic product (US\$ billion) | 2014 | 890 | 2,150 | 1,411 | 1,295 | 2,031 |
| | 2015 | 862 | 1,822 | 1,378 | 1,141 | 1,326 |
| Producer Price index (2010=100) | 2015 | 143.7 | 103.0 | 101.0 | 117.9 | 154.8 |
| | 2016 | 155.1 | 101.0 | 99.1 | 124.6 | 161.2 |
| Consumer price index (2010=100) | 2015 | 132.3 | 107.5 | 109.8 | 119.4 | 151.5 |
| | 2016 | 137.0 | 107.3 | 110.9 | 122.8 | 162.2 |
| Broad money | | | | | | |
| Percent changes from the previous year (%) | End of 2015 | 9.0 | ... | 8.2 | 7.2 | 19.7 |
| | End of 2016 | 10.0 | ... | 7.1 | 10.6 | -0.9 |
| Exports, FOB (US\$ billion) | 2016 | 150.4 | 458.5 | 526.8 | 380.8 | 341.5 |
| Imports, CIF (US\$ billion) | 2016 | 144.3 | 455.8 | 535.7 | 373.9 | 282.2 |
| Gold and foreign exchange reserves (US\$ million) | End of 2016 | 113,612 | 48,511 | 366,466 | 173,718 | 319,988 |
| Foreign exchange rates (national currency per US\$) | | Rupiah | Euros | Won | Pesos | Rubles |
| End of year | 2016 | 13,436.0 | 0.9487 | 1,208.5 | 20.731 | 60.657 |
| Period average | 2016 | 13,308.3 | 0.9040 | 1,160.3 | 18.664 | 67.056 |

Appendix 2**Main Economic Indicators of Selected Countries (Continued)**

| Item | Year | Saudi Arabia | South Africa | Turkey | U.K. | U.S.A. |
|---|-----------------------------|--------------|--------------|--------|--------------------|-----------------|
| Population (thousands) | 2014 | 30,887 | 53,969 | 77,524 | 64,331 | 319,449 |
| | 2015 | 31,540 | 54,490 | 78,666 | 64,716 | 321,774 |
| | 2016 | 32,158 | 54,979 | 79,622 | 65,111 | 324,119 |
| | Projection (medium variant) | 2050 | 46,059 | 65,540 | 95,819 | 75,361 |
| Employed persons (1,000) | 2015 | 11,485 | 15,928 | 26,619 | 31,205 | a 148,834 |
| Unemployed persons (1,000) | 2015 | 680 | 5,354 | 3,035 | 1,747 | a 8,296 |
| Unemployment rates (%) | 2015 | 5.7 | 25.4 | 10.4 | 5.4 | a 5.4 |
| Hours of work per week (manufacturing) | 2015 | ... | 43.0 | 49.0 | 40.0 | ... |
| Industrial production index (2010=100) | 2015 | ... | ... | ... | 98.6 | 110.8 |
| | 2016 | ... | ... | ... | 99.7 | 109.4 |
| Gross domestic product (US\$ billion) | 2014 | 754 | 351 | 798 | 2,999 | 17,393 |
| | 2015 | 653 | 315 | 718 | 2,858 | 18,037 |
| Producer Price index (2010=100) | 2015 | 107.6 | 133.2 | 142.9 | 106.6 | 103.1 |
| | 2016 | 110.9 | 141.9 | 149.1 | 107.0 | 100.4 |
| Consumer price index (2010=100) | 2015 | 118.2 | 130.1 | 146.1 | 111.8 | 108.7 |
| | 2016 | 122.4 | 138.4 | 157.4 | 112.6 | 110.1 |
| Broad money | | | | | | |
| Percent changes from the previous year (%) | End of 2015 | 2.6 | 10.3 | 16.2 | 4.1 | 5.8 |
| | End of 2016 | 0.7 | 6.1 | 17.8 | 7.4 | 7.1 |
| Exports, FOB (US\$ billion) | 2016 | 203.5 | 81.7 | 143.8 | 439.3 | 1,504.6 |
| Imports, CIF (US\$ billion) | 2016 | 182.3 | 76.5 | 142.8 | 407.2 | 1,453.8 |
| Gold and foreign exchange reserves (US\$ million) | End of 2016 | 535,853 | 42,755 | 92,624 | 123,970 | 118,594 |
| Foreign exchange rates (national currency per US\$) | | Riyals | Rand | Liras | pounds sterling | U.S. dollars |
| End of year | 2016 | 3.7500 | 13.6845 | 3.5224 | 0.8129 | 1.0000 |
| Period average | 2016 | 3.7500 | 14.7096 | 3.0201 | 0.7406 | 1.0000 |

a) Excluding age 15.

Source: Statistics Bureau, MIC; Cabinet Office; Ministry of Health, Labour and Welfare; Bank of Japan; United Nations; International Labour Organization; International Monetary Fund; EUROSTAT.

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 |

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

Source: Bank of Japan.

Appendix 4 Conversion Factors

| | Metric units | British Imperial and U.S. equivalents |
|------------------------------------|---|--|
| Length: | 1 centimeter (cm) | 0.39370 inches |
| | 1 meter (m) | { 3.28084 feet 1.09361 yards |
| | 1 kilometer (km) | 0.62139 miles |
| Area: | 1 square meter (m ²) | { 10.76392 square feet 1.19599 square yards |
| | 1 square kilometer (km ²) | 0.38610 square miles |
| | 1 hectare (ha) | } 2.47103 acres |
| | 10,000 square meters (m ²)] | |
| Volume: | 1 cubic meter (m ³) | { 35.31073 cubic feet 1.30795 cubic yards |
| | Weight: | 1 kilogram (kg) |
| 1 ton (t) | | { 0.98416 long tons 1.10229 short tons |
| | | Capacity: |
| Temperature: centigrade (°C) | 5 / 9 × (Fahrenheit - 32) | |