CHAPTER II: POPULATION BY SEX AND AGE

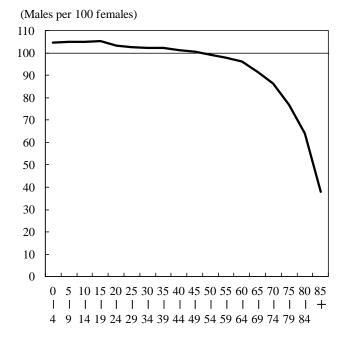
1. Sex Ratio in Population

Men and women match in number around the age of 50.

Observing the population of Japan by sex as of October 1, 2010 shows that the male population is 62.3 million and the female population is 65.7 million, revealing that women outnumber men by 3.4 million. This brings the sex ratio of the population (the number of men for every 100 women) to 94.8.

According to observations on the sex ratio in population by five-year groups in 2010, the sex ratio is around 105 in all groups under 20, but declines in groups for people aged 20 and over as age advances, and drops below 100 for people aged 50 and over. This is because boys are born in greater number than girls with

Figure 2.1 Sex Ratio in Population by Age (Five-Year Groups): 2010



a live birth rate difference of 5 to 6%. On the other hand, men's death rate is higher than women's death rate in all age groups, with the difference in death rate between the sexes widening as age advances. (Figure 2.1, Tables 2.1 and 2.2)

Sex ratios are low in Europe and are high in Asia.

Comparing the sex ratios in population in other countries shows that sex ratios are low in European countries and high in Asian countries. Among European countries, Ukraine (85.2), Russia (86.1), Poland (93.2), Portugal (94.0), Romania (94.3), etc. show low sex ratios. Meanwhile, among Asian countries, Saudi Arabia (124.0), China (108.0), Afghanistan (107.2), India (106.8), and Pakistan (103.4) have high sex ratios. Japan's sex ratio (94.8) is low level for Asian standards. (Table 2.3)

Table 2.1 Trends in the Population by Sex: 1920 to 2010

Table 2.2 Trends in the Sex Ratio in Population by Age (Five-Year Groups): 1920 to 2010

| | Popu | lation | Sex ratio 2010 | | | | | | |
|-----------|--------|--------|----------------|-----------------|-------|---------|---------|---------|---------|
| Year | (thous | | (Males per | Age | 1920 | 1950 | 1975 | 2005 | 2010 |
| | Male | Female | 100 females) | | 100.4 | 1) 06.2 | 1) 000 | 1) 05.2 | 1) 04 9 |
| 1920 | 28,044 | 27,919 | 100.4 | All ages | 100.4 | 96.2 | 1) 96.9 | 95.3 | 94.8 |
| 1925 | 30,013 | 29,724 | 101.0 | 0 - 4 years old | 101.3 | 104.2 | 105.2 | 104.8 | 104.8 |
| 1930 | 32,390 | 32,060 | 101.0 | 5 - 9 | 102.3 | 102.7 | 105.3 | 105.0 | 104.9 |
| 1935 | 34,734 | 34,520 | 100.6 | 10-14 | 102.6 | 102.4 | 104.7 | 105.0 | 104.9 |
| 1940 | 36,566 | 36,548 | 100.0 | 15-19 | 103.0 | 101.5 | 103.4 | 105.6 | 105.3 |
| 1945 1) | 33,894 | 38,104 | 89.0 | 20-24 | 101.0 | 98.5 | 101.2 | 104.4 | 103.4 |
| 1950 | 41,241 | 42,873 | 96.2 | 25-29 | 104.8 | 83.8 | 101.1 | 102.9 | 102.5 |
| 1955 | 44,243 | 45,834 | 96.5 | 30-34 | 103.2 | 83.0 | 100.1 | 102.3 | 102.4 |
| 1960 | 46,300 | 48,001 | 96.5 | 35-39 | 100.3 | 88.8 | 100.1 | 101.6 | 102.4 |
| 1965 | 48,692 | 50,517 | 96.4 | 40-44 | 102.3 | 96.1 | 100.6 | 101.3 | 101.4 |
| 1970 | 51,369 | 53,296 | 96.4 | 45-49 | 101.7 | 101.4 | 98.7 | 100.2 | 100.6 |
| 1975 | 55,091 | 56,849 | 96.9 | 50-54 | 100.9 | 102.7 | 82.7 | 99.3 | 99.3 |
| 1980 | 57,594 | 59,467 | 96.9 | 55-59 | 98.3 | 100.4 | 79.7 | 98.1 | 98.0 |
| 1985 | 59,497 | 61,552 | 96.7 | 60-64 | 94.2 | 92.7 | 82.4 | 94.6 | 96.2 |
| 1990 | 60,697 | 62,914 | 96.5 | 65-69 | 88.0 | 81.5 | 83.7 | 91.2 | 91.5 |
| 1995 | 61,574 | 63,996 | 96.2 | 70-74 | 80.4 | 72.8 | 80.4 | 84.5 | 86.3 |
| 2000 | 62,111 | 64,815 | 95.8 | 75-79 | 69.9 | 63.9 | 72.2 | 75.0 | 76.9 |
| 2005 | 62,349 | 65,419 | 95.3 | 80-84 | 60.2 | 52.9 | 61.4 | 55.8 | 64.0 |
| 2010 | 62,328 | 65,730 | 94.8 | 85 and over | 48.1 | 43.0 | 45.7 | 38.3 | 38.1 |
| 1) 17 1 1 | 01: 1 | | | 1\ T 1 . 1 !! A | | " | | | |

¹⁾ Excludes Okinawa-ken.

Table 2.3 International Comparison of Sex Ratio in Population: 2010

| Country | Sex ratio | Country | Sex ratio | Country | Sex ratio |
|--------------|-----------|------------------|-----------|--------------|-----------|
| Asia | | Northern America | | | |
| Afghanistan | 107.2 | Canada | 98.4 | Russia | 86.1 |
| Bangladesh | 102.6 | U.S.A | 97.4 | Spain | 97.5 |
| China | 108.0 | | | Sweden | 99.2 |
| India | 106.8 | Latin America | | U.K | 96.8 |
| Indonesia | 99.5 | Argentina | 95.8 | Ukraine | 85.2 |
| | | Brazil | 96.9 | | |
| Iran | 103.0 | Colombia | 96.8 | Africa | |
| Iraq | 100.6 | Mexico | 97.3 | Algeria | 101.9 |
| Japan | 94.8 | Peru | 100.4 | D.R Congo | 98.9 |
| Korea | 99.4 | Venezuela | 100.7 | Egypt | 100.9 |
| Malaysia | 103.0 | | | Ethiopia | 99.1 |
| · | | Europe | | Kenya | 99.8 |
| Myanmar | 97.2 | Belgium | 96.1 | · | |
| Nepal | 98.4 | France | 94.8 | Morocco | 96.2 |
| Pakistan | 103.4 | Germany | 96.1 | Nigeria | 102.5 |
| Philippines | 100.7 | Greece | 97.9 | South Africa | 98.1 |
| Saudi Arabia | 124.0 | Italy | 95.7 | Sudan | 101.5 |
| | | | | Tanzania | 99.8 |
| Thailand | 96.7 | Netherlands | 98.5 | | |
| Turkey | 99.5 | Norway | 100.1 | Oceania | |
| Uzbekistan | 98.8 | Poland | 93.2 | Australia | 99.3 |
| Viet Nam | 97.7 | Portugal | 94.0 | New Zealand | 96.5 |
| Yemen | 101.3 | Romania | 94.3 | | |

Source: United Nations, World Population Prospects, The 2010 Revision.

For Japan, based on the 2010 Population Census.

¹⁾ Includes "Age not reported".

Population Pyramid

0 - 4 years old

6

4 2

(%)

6

Gourd-shaped population pyramid

The change in age composition in the population of Japan is clearly reflected in the changing shape of its population pyramid.

The population pyramid of Japan was shaped like Mt. Fuji, with a broad base of younger people in the population before 1950. But, due to the declining number of live births after 1950 related to the end of first baby boom, the population pyramid became pot-shaped in 1960. Afterward, due to a gradual rise in the live birth rate from the 1960s to the early 1970s, which includes the second baby boom, the base of the population pyramid widened, turning the pyramid into a star-shape. The peak of number of live births was reached in 1973, after which the live birth rate then declined again, and the population pyramid became gourd-shaped with two bulging portions.

Regarding the population pyramids of other countries, the population pyramid of the United States of America (U.S.A) is bell-shaped with a hollow that represents young age groups, and that of Italy is pot-shaped, reflecting a decrease in the population aged under 15 due to the declining live birth rate. The population pyramid of the United Kingdom (U.K) is between the above two shapes. Meanwhile, the population pyramid of India is similar to Mt. Fuji in shape. (Figures 2.2 and 2.3, Table 2.4)

Figure 2.2 Trends in the Population Pyramid of Japan: 1920 to 2010 1920 1950 1960 85 and over 80-84 75-79 70-74 Male Male Male Female Female Female 0 - 4 years old 4 2 6 2 0 (%) (%) (%) 1975 2005 2010 85 and over Male Female Male Female Male Female

0

(%)

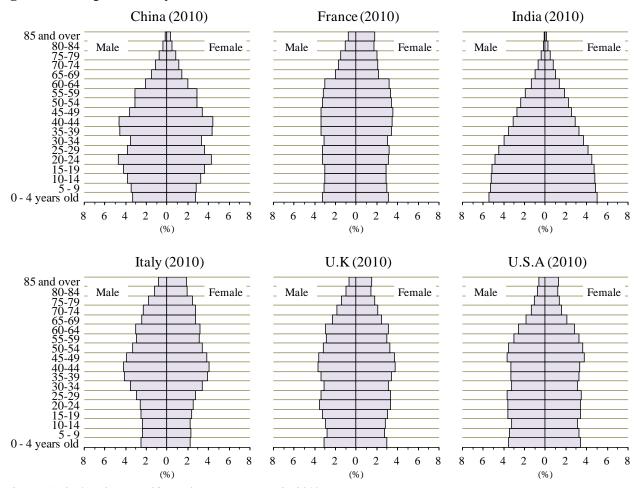
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(%)

Table 2.4 Trends in the Population by Age (Five-Year Groups): 1920 to 2010

| Table 2.4 Trends in the Population by Age (Five-Year Groups): 1920 to 2010 (%) | | | | | | | | | | (%) | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Age | 1920 | 1950 | 1960 | 1970 | 1975 | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
| All ages | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 0 - 4 years old | 13.3 | 13.5 | 8.4 | 8.5 | 8.9 | 7.3 | 6.2 | 5.3 | 4.8 | 4.7 | 4.4 | 4.2 |
| 5 - 9 | 12.3 | 11.4 | 9.9 | 7.9 | 8.0 | 8.6 | 7.1 | 6.1 | 5.2 | 4.8 | 4.7 | 4.4 |
| 10-14 | 10.9 | 10.5 | 11.8 | 7.6 | 7.4 | 7.7 | 8.3 | 6.9 | 6.0 | 5.2 | 4.7 | 4.7 |
| 15-19 | 9.7 | 10.3 | 9.9 | 8.8 | 7.1 | 7.1 | 7.4 | 8.1 | 6.8 | 5.9 | 5.2 | 4.8 |
| 20-24 | 8.2 | 9.3 | 8.9 | 10.2 | 8.1 | 6.7 | 6.8 | 7.1 | 7.9 | 6.6 | 5.8 | 5.1 |
| 25-29 | 7.0 | 7.4 | 8.8 | 8.7 | 9.6 | 7.7 | 6.5 | 6.5 | 7.0 | 7.7 | 6.5 | 5.7 |
| 30-34 | 6.4 | 6.2 | 8.0 | 8.1 | 8.3 | 9.2 | 7.5 | 6.3 | 6.5 | 6.9 | 7.7 | 6.6 |
| 35-39 | 6.1 | 6.1 | 6.5 | 7.9 | 7.5 | 7.9 | 8.9 | 7.3 | 6.2 | 6.4 | 6.9 | 7.7 |
| 40-44 | 5.8 | 5.4 | 5.4 | 7.1 | 7.3 | 7.1 | 7.5 | 8.6 | 7.2 | 6.2 | 6.3 | 6.9 |
| 45-49 | 4.8 | 4.8 | 5.1 | 5.7 | 6.6 | 6.9 | 6.8 | 7.3 | 8.5 | 7.0 | 6.1 | 6.3 |
| 50-54 | 4.0 | 4.1 | 4.5 | 4.6 | 5.2 | 6.2 | 6.6 | 6.6 | 7.1 | 8.2 | 6.9 | 6.0 |
| 55-59 | 3.3 | 3.3 | 3.9 | 4.3 | 4.2 | 4.8 | 5.8 | 6.3 | 6.3 | 6.9 | 8.1 | 6.8 |
| 60-64 | 3.0 | 2.8 | 3.1 | 3.6 | 3.8 | 3.8 | 4.5 | 5.5 | 6.0 | 6.1 | 6.7 | 7.9 |
| 65-69 | 2.3 | 2.1 | 2.3 | 2.9 | 3.1 | 3.4 | 3.5 | 4.1 | 5.1 | 5.6 | 5.8 | 6.5 |
| 70-74 | 1.6 | 1.5 | 1.7 | 2.1 | 2.3 | 2.6 | 2.9 | 3.1 | 3.7 | 4.7 | 5.2 | 5.5 |
| 75-79 | 0.9 | 0.8 | 1.0 | 1.2 | 1.5 | 1.7 | 2.1 | 2.4 | 2.6 | 3.3 | 4.1 | 4.7 |
| 80-84 | 0.3 | 0.3 | 0.5 | 0.6 | 0.7 | 0.9 | 1.2 | 1.5 | 1.8 | 2.1 | 2.7 | 3.4 |
| 85 and over | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.5 | 0.6 | 0.9 | 1.3 | 1.8 | 2.3 | 3.0 |

Figure 2.3 Population Pyramids of Other Countries: 2010



Source: United Nations, World Population Prospects, The 2010 Revision.

3. Population by Three Age Groups

The aged population is approximately 1.7 times the child population.

The population can be d ivided in three major age groups. Regarding the population distribution among these three age groups in Japan in 2010, the population aged under 15 (child population) is 16.8 million, the population aged 15 to 64 (productive-age population) is 81.0 million, and the population aged 65 and over (aged population) is 29.2 million, accounting for 13.2%, 63.8%, and 23.0% of the total population, respectively. Comparing these figures with those from 2005 shows that the child population has decreased by 718 thousand (4.1%) and the productive-age population by 3.1 million (3.6%) while, in contrast, the aged population has increased by 3.6 million (13.9%). As a result, the aged population now greatly exceeds the child population, by a factor of 1.7 times.

Observing the trends in the proportion of aged population compared to the total population, it shows that the aged population was around 5% before 1955, but gradually increased since then, and reached 10.3% of total population in 1985. After that, the aged population exceeded the 20% mark and reached 20.2% in 2005, and 23.0% in 2010.

It is estimated that the proportion of the aged population to the total population will continue to increase, reaching 29.1% by 2020 and 39.9% by 2060. (Figure 2.4, Tables 2.5, 2.6 and 2.7)

The proportion of the child population is 13.2%.

The child population was 29.8 million or 35.4% of the total population in 1950, the year immediately after the first baby boom, but dropped to 24.0% in 1970. Afterward, the second baby boom pushed up the proportion of the child population to 24.3% in 1975. Since 1980, however, the proportion of the child population has continued to fall due to the decreasing live birth rate, etc., shrinking to 13.8% in 2005, and to 13.2% in 2010. (Figure 2.4, Table 2.5)

(millions)

100
90
80
15-64 years old
70
60
50
40
30
20
10
0

1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010

Figure 2.4 Trends in the Distribution of the Population by Age (3 Groups): 1950 to 2010

Table 2.5 Trends in the Population by Age (3 Groups): 1920 to 2010

| | | Popul | ation (thous | ands) | | Proportion (%) | | | | | |
|--------------------|----------|-----------|--------------|--------|----------|----------------|-----------|-------|--------|--|--|
| Year | All ages | 0-14 | 15-64 | 65 and | Not | All ages | 0-14 | 15-64 | 65 and | | |
| | All ages | years old | 13-04 | over | reported | All ages | years old | 13-04 | over | | |
| 1920 | 55,963 | 20,416 | 32,605 | 2,941 | 0 | 100.0 | 36.5 | 58.3 | 5.3 | | |
| 1925 | 59,737 | 21,924 | 34,792 | 3,021 | 0 | 100.0 | 36.7 | 58.2 | 5.1 | | |
| 1930 | 64,450 | 23,579 | 37,807 | 3,064 | 0 | 100.0 | 36.6 | 58.7 | 4.8 | | |
| 1935 | 69,254 | 25,545 | 40,484 | 3,225 | 0 | 100.0 | 36.9 | 58.5 | 4.7 | | |
| 1940^{-1} | 73,075 | 26,369 | 43,252 | 3,454 | 1 | 100.0 | 36.1 | 59.2 | 4.7 | | |
| 1945 ²⁾ | 71,998 | 26,477 | 41,821 | 3,700 | 0 | 100.0 | 36.8 | 58.1 | 5.1 | | |
| 1950 | 84,115 | 29,786 | 50,168 | 4,155 | 5 | 100.0 | 35.4 | 59.6 | 4.9 | | |
| 1955 | 90,077 | 30,123 | 55,167 | 4,786 | 1 | 100.0 | 33.4 | 61.2 | 5.3 | | |
| 1960 | 94,302 | 28,434 | 60,469 | 5,398 | 0 | 100.0 | 30.2 | 64.1 | 5.7 | | |
| 1965 | 99,209 | 25,529 | 67,444 | 6,236 | 0 | 100.0 | 25.7 | 68.0 | 6.3 | | |
| 1970 | 104,665 | 25,153 | 72,119 | 7,393 | 0 | 100.0 | 24.0 | 68.9 | 7.1 | | |
| 1975 | 111,940 | 27,221 | 75,807 | 8,865 | 46 | 100.0 | 24.3 | 67.7 | 7.9 | | |
| 1980 | 117,060 | 27,507 | 78,835 | 10,647 | 71 | 100.0 | 23.5 | 67.4 | 9.1 | | |
| 1985 | 121,049 | 26,033 | 82,506 | 12,468 | 41 | 100.0 | 21.5 | 68.2 | 10.3 | | |
| 1990 | 123,611 | 22,486 | 85,904 | 14,895 | 326 | 100.0 | 18.2 | 69.7 | 12.1 | | |
| 1995 | 125,570 | 20,014 | 87,165 | 18,261 | 131 | 100.0 | 16.0 | 69.5 | 14.6 | | |
| 2000 | 126,926 | 18,472 | 86,220 | 22,005 | 229 | 100.0 | 14.6 | 68.1 | 17.4 | | |
| 2005 | 127,768 | 17,521 | 84,092 | 25,672 | 482 | 100.0 | 13.8 | 66.1 | 20.2 | | |
| 2010 | 128,057 | 16,803 | 81,032 | 29,246 | 976 | 100.0 | 13.2 | 63.8 | 23.0 | | |

 $^{1) \} Excludes \ for eigners \ residents \ of \ national ities \ other \ than \ those \ of \ Korea, \ Taiwan, \ Karafuto \ and \ Nanyo-gunto.$

²⁾ Excludes Okinawa-ken.

Table 2.6 Trends in Population Change by Age (3 Groups): 1920 to 2010

| | Nur | nber of char | nge (thousa | nds) | | Change | rate (%) | 15-64 65 and over 6.7 2.7 8.7 1.4 7.1 5.3 6.8 7.1 -2.6 8.4 18.7 11.1 10.0 15.2 9.6 12.8 11.5 15.5 6.9 18.6 5.1 19.9 4.0 20.1 | | | |
|------------------------------|----------|---------------------------|-------------|-------------|----------|-------------------|----------|---|--|--|--|
| Year | All ages | nges 0-14 years old 15-64 | | 65 and over | All ages | 0-14 years old | 15-64 | | | | |
| 1920 - 1925 | 3,774 | 1,508 | 2,186 | 80 | 6.7 | 7.4 | 6.7 | 2.7 | | | |
| 1925 - 1930 | 4,713 | 1,655 | 3,015 | 43 | 7.9 | 7.5 | 8.7 | 1.4 | | | |
| 1930 - 1935 | 4,804 | 1,966 | 2,677 | 161 | 7.5 | 8.3 | 7.1 | 5.3 | | | |
| 1935 - 1940 ¹⁾ | 3,821 | 824 | 2,768 | 229 | 5.5 | 3.2 | 6.8 | 7.1 | | | |
| 1940 - 1945 ^{1) 2)} | -502 | 342 | -1,130 | 286 | -0.7 | 1.3 | -2.6 | 8.4 | | | |
| 1945 - 1950 2) | 11,202 | 2,951 | 7,837 | 409 | 15.6 | 11.1 | 18.7 | 11.1 | | | |
| 1950 - 1955 | 5,962 | 336 | 4,998 | 631 | 7.1 | 1.1 | 10.0 | 15.2 | | | |
| 1955 - 1960 | 4,225 | -1,689 | 5,303 | 612 | 4.7 | -5.6 | 9.6 | 12.8 | | | |
| 1960 - 1965 | 4,908 | -2,905 | 6,975 | 838 | 5.2 | -10.2 | 11.5 | 15.5 | | | |
| 1965 - 1970 | 5,456 | -376 | 4,675 | 1,158 | 5.5 | -1.5 | 6.9 | 18.6 | | | |
| 1970 - 1975 | 7,274 | 2,068 | 3,688 | 1,472 | 7.0 | 8.2 | 5.1 | 19.9 | | | |
| 1975 - 1980 | 5,121 | 286 | 3,027 | 1,782 | 4.6 | 1.1 | 4.0 | 20.1 | | | |
| 1980 - 1985 | 3,989 | -1,474 | 3,671 | 1,821 | 3.4 | -5.4 | 4.7 | 17.1 | | | |
| 1985 - 1990 | 2,562 | -3,547 | 3,398 | 2,426 | 2.1 | -13.6 | 4.1 | 19.5 | | | |
| 1990 - 1995 | 1,959 | -2,473 | 1,261 | 3,366 | 1.6 | -11.0 | 1.5 | 22.6 | | | |
| 1995 - 2000 | 1,356 | -1,541 | -945 | 3,744 | 1.1 | -7.7 | -1.1 | 20.5 | | | |
| 2000 - 2005 | 842 | -951 | -2,127 | 3,667 | 0.7 | -5.1 | -2.5 | 16.7 | | | |
| 2005 - 2010 | 289 | -718 | -3,061 | 3,574 | 0.2 | -4.1 | -3.6 | 13.9 | | | |

¹⁾ Excludes foreigners residents of nationalities other than those of Korea, Taiwan, Karafuto and Nanyo-gunto, for the figure 1940.

Table 2.7 Population Projections by Age (3 Groups): 2020 to 2060

| Age | 2020 | 2030 | 2040 | 2050 | 2060 | |
|------------------------|---------|---------|---------|--------|--------|--|
| Population (thousands) | | | | | | |
| All ages | 124,100 | 116,618 | 107,276 | 97,076 | 86,737 | |
| 0-14 years old | 14,568 | 12,039 | 10,732 | 9,387 | 7,912 | |
| 15-64 | 73,408 | 67,730 | 57,866 | 50,013 | 44,183 | |
| 65 and over | 36,124 | 36,849 | 38,678 | 37,676 | 34,642 | |
| Proportion (%) | | | | | | |
| All ages | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| 0-14 years old | 11.7 | 10.3 | 10.0 | 9.7 | 9.1 | |
| 15-64 | 59.2 | 58.1 | 53.9 | 51.5 | 50.9 | |
| 65 and over | 29.1 | 31.6 | 36.1 | 38.8 | 39.9 | |

Source: "Population Projections for Japan (January, 2012)", National Institute of Population and Social Security Research, Medium-fertility projection.

²⁾ Excludes Okinawa-ken.

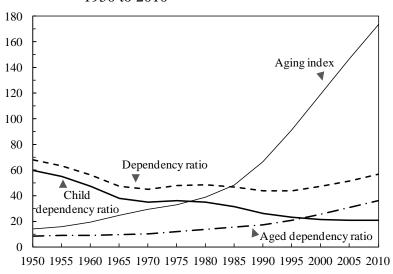
| - 25 - | |
|--------|--|
|--------|--|

4. Age Composition Index

Child dependency ratio is falling.

The features of the age composition in a population are expressed by the following indices: child dependency ratio (ratio of the child population to the productive-age population), aged dependency ratio (ratio of the aged population to productive-age population), and dependency ratio (sum of the child dependency ratio and aged dependency ratio). Over the years the indices have changed; the child dependency ratio was in the low 60s before 1945, but stood at 59.4 in 1950,

Figure 2.5 Trends in Indices of Age Composition: 1950 to 2010



dropped sharply after 1950 as the live birth rate declined, reaching 34.9 in 1970. The child dependency ratio rose slightly with the arrival of the second baby boom to become 35.9 in 1975, but started dropping again from 1980 and has continued its downward trend, shrinking to 20.7 in 2010.

Meanwhile, the aged dependency ratio was between 8 and 9 before 1965, but reached 10.3 that exceeded 10 for the first time in 1970. After that, the aged dependency ratio continued to rise steadily, reaching 30.5 in 2005 and 36.1 in 2010, which means the aged dependency ratio became 15 points higher than the child dependency ratio. (Figure 2.5, Table 2.8)

Aging index climbed to 174.0.

The aging index (ratio of the aged population to the child population) provides a very sensitive indicator of the progress of population aging. In recent years Japan's aging index continued to rise sharply, with the increase rate of the aged population exceeding that of the child population ever since 1955. As a result, the index was 119.1 in 2000, the first time it exceeded the 100 mark, and climbed further to 146.5 in 2005 and to 174.0 in 2010.

Comparing with other countries, Japan's aging index exceeds that of Germany (151.2), Italy (144.7) and others, and is now the highest in the world. (Figure 2.5, Tables 2.8 and 2.9)

Table 2.8 Trends in Indices of Age Composition, Average Age and Median Age: 1920 to 2010

| Year | Child dependency ratio | Aged dependency ratio | Dependency ratio | Aging index | Average age | Median age |
|---------|------------------------------|-----------------------------|---------------------|-------------|-------------|------------|
| 1920 | 62.6 | 9.0 | 71.6 | 14.4 | 26.7 | 22.2 |
| 1925 | 63.0 | 8.7 | 71.7 | 13.8 | 26.5 | 22.0 |
| 1930 | 62.4 | 8.1 | 70.5 | 13.0 | 26.3 | 21.8 |
| 1935 | 63.1 | 8.0 | 71.1 | 12.6 | 26.3 | 22.0 |
| 1940 | 61.0 | 8.0 | 69.0 | 13.1 | 26.6 | 22.1 |
| 1945 1) | 63.3 | 8.8 | 72.2 | 14.0 | 26.8 | 21.3 |
| 1950 | 59.4 | 8.3 | 67.7 | 13.9 | 26.6 | 22.2 |
| 1955 | 54.6 | 8.7 | 63.3 | 15.9 | 27.6 | 23.6 |
| 1960 | 47.0 | 8.9 | 55.9 | 19.0 | 29.0 | 25.6 |
| 1965 | 37.9 | 9.2 | 47.1 | 24.4 | 30.3 | 27.4 |
| 1970 | 34.9 | 10.3 | 45.1 | 29.4 | 31.5 | 29.0 |
| 1975 | 35.9 | 11.7 | 47.6 | 32.6 | 32.5 | 30.6 |
| 1980 | 34.9 | 13.5 | 48.4 | 38.7 | 33.9 | 32.5 |
| 1985 | 31.6 | 15.1 | 46.7 | 47.9 | 35.7 | 35.2 |
| 1990 | 26.2 | 17.3 | 43.5 | 66.2 | 37.6 | 37.7 |
| 1995 | 23.0 | 20.9 | 43.9 | 91.2 | 39.6 | 39.7 |
| 2000 | 21.4 | 25.5 | 46.9 | 119.1 | 41.4 | 41.5 |
| 2005 | 20.8 | 30.5 | 51.4 | 146.5 | 43.3 | 43.3 |
| 2010 | 20.7 | 36.1 | 56.8 | 174.0 | 45.0 | 45.0 |

¹⁾ Excludes Okinawa-ken.

Notes:
Child dependency ratio =
$$\frac{\text{population aged }0\text{-}14}{\text{population aged }15\text{-}64} \times 100$$
Aged dependency ratio = $\frac{\text{population aged }65 \text{ and over}}{\text{population aged }0\text{-}14} \times 100$

Dependency ratio = $\frac{\text{(population aged }0\text{-}14) + \text{(population aged }65 \text{ and over)}}{\text{population aged }15\text{-}64} \times 100$

Aging index = $\frac{\text{population aged }65 \text{ and over}}{\text{population aged }65 \text{ and over}} \times 100$

Table 2.9 Proportion of Population by Age (3 Groups) and Indices of Age Composition of Other Countries: 2010

| | Prop | oortion by age | (%) | Child | Aged | Dependency | |
|---------|-----------|----------------|-------------|------------|------------|------------|-------------|
| Country | 0-14 | 15-64 | 65 and over | dependency | dependency | ratio | Aging index |
| | years old | 13-04 | os and over | ratio | ratio | Tauo | |
| Japan | 13.2 | 63.8 | 23.0 | 20.7 | 36.1 | 56.8 | 174.0 |
| France | 18.4 | 64.8 | 16.8 | 28.3 | 25.9 | 54.2 | 91.4 |
| Germany | 13.5 | 66.1 | 20.4 | 20.4 | 30.8 | 51.2 | 151.2 |
| Italy | 14.1 | 65.6 | 20.4 | 21.4 | 31.0 | 52.5 | 144.7 |
| Sweden | 16.5 | 65.2 | 18.2 | 25.4 | 28.0 | 53.3 | 110.3 |
| U.K | 17.4 | 66.0 | 16.6 | 26.3 | 25.1 | 51.4 | 95.5 |
| U.S.A | 20.1 | 66.9 | 13.1 | 30.0 | 19.5 | 49.6 | 65.0 |

Source: United Nations, World Population Prospects, The 2010 Revision.

For Japan, based on the 2010 Population Census.

[&]quot;Median age" represents the age that falls on the middle of an increasingly ordered age distribution covering the whole population.

5. International Comparison of Population by Age

The age composition of Japan is similar to that of Italy.

Comparing the population of the three age groups of Japan with those of other countries, it shows that the proportion of the child population in Japan is the lowest level while that of the aged population is the highest level in the world. The age composition of Japan is similar to that of Italy. In Japan, the proportions of the child population, the productive-age population and the aged population are 13.2%, 63.8%, and 23.0%, respectively. In comparison, in Italy, the levels stand at 14.1%, 65.6%, and 20.4%, respectively. (Table 2.9)

Japan is aging more rapidly than other countries.

The periods at which the proportion of the aged population first exceeded 10% in other countries are as follows: 1940 in France, 1950 in Sweden and the U.K, 1955 in Germany, 1965 in Italy, and 1975 in the U.S.A. All these are earlier than 1985, the year when the proportion of the aged population in Japan exceeded 10%. By 2010, however, the proportion of the aged population in Japan reached 23.0%, which was greater than that of the U.S.A (13.1%), the U.K (16.6%), France (16.8%), Sweden (18.2%), Italy (20.4%) and Germany (20.4%). By 2060, these figures are estimated to rise to 21.9% in U.S.A, 25.0% in France, 25.1% in U.K, 26.2% in Sweden, 30.1% in Germany and 31.4% in Italy while in Japan the figure is estimated to reach an extremely high 39.9%. (Figure 2.6, Table 2.10)

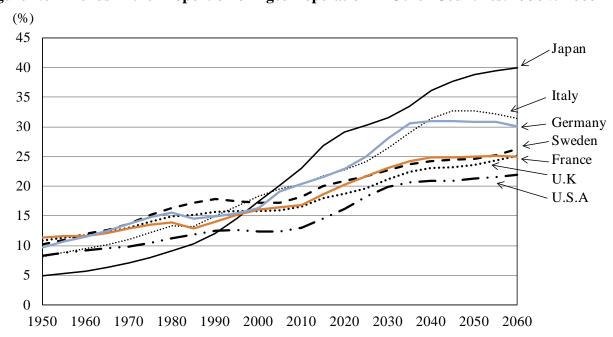


Figure 2.6 Trends in the Proportion of Aged Population in Other Countries: 1950 to 2060

Source: United Nations, *The Aging of Populations and its Economic and Social implications*, 1956 and United Nations, *World Population Prospects, The 2010 Revision*.

For Japan, the figures before 2010 are based on the Population Census, and figures between 2015 and 2060 are based on "Population Projections for Japan (January, 2012)", National Institute of Population and Social Security Research, Medium-fertility projection.

Table 2.10 Trends in the Proportion of Aged Population in Other Countries: 1870 to 2060

| | | | | | | | | | | | (%) |
|------|-------|----------|------|--------|------|--------|------|--------|--------|-----|-------|
| Year | Japan | France | | Germ | any | Ital | ly | Sweden | U.K | 1) | U.S.A |
| 1870 | - | (1872) 7 | .4 | | - | (1871) | 5.1 | 5.4 | (1871) | 4.8 | - |
| 1880 | - | (1881) 8 | .1 | | 4.7 | (1881) | 5.1 | 5.9 | (1881) | 4.6 | - |
| 1890 | - | (1891) 8 | .3 | | 5.1 | | - | 7.7 | (1891) | 4.8 | - |
| 1900 | - | (1901) 8 | .2 | | 4.9 | (1901) | 6.2 | 8.4 | (1901) | 4.7 | 4.1 |
| 1910 | - | (1911) 8 | .4 | | 5.0 | (1911) | 6.5 | 8.4 | (1911) | 5.2 | 4.3 |
| 1920 | 5.3 | (1921) 9 | .1 (| (1925) | 5.8 | (1921) | 6.8 | 8.4 | (1921) | 6.0 | 4.7 |
| 1930 | 4.8 | (1931) 9 | .4 (| (1933) | 7.4 | | - | 9.2 | (1931) | 7.4 | 5.4 |
| 1940 | 4.7 | 11 | .4 | | - | (1936) | 7.4 | 9.4 | (1939) | 9.0 | 6.9 |
| 1950 | 4.9 | 11 | .4 | | 9.7 | | 8.1 | 10.3 | 1 | 0.8 | 8.3 |
| 1955 | 5.3 | 11 | .6 | | 10.7 | | 8.8 | 10.9 | 1 | 1.3 | 8.8 |
| 1960 | 5.7 | 11 | .6 | | 11.5 | | 9.5 | 12.0 | 1 | 1.7 | 9.2 |
| 1965 | 6.3 | 12 | .1 | | 12.5 | | 10.1 | 12.7 | 1 | 2.2 | 9.5 |
| 1970 | 7.1 | 12 | .9 | | 13.7 | | 11.1 | 13.7 | 1 | 3.0 | 9.8 |
| 1975 | 7.9 | 13 | .5 | | 14.8 | | 12.2 | 15.1 | 1 | 4.0 | 10.5 |
| 1980 | 9.1 | 13 | .9 | | 15.6 | | 13.4 | 16.3 | 1 | 4.9 | 11.3 |
| 1985 | 10.3 | 12 | .9 | | 14.6 | | 13.1 | 17.2 | 1 | 5.1 | 11.9 |
| 1990 | 12.1 | 14 | .0 | | 14.9 | | 14.9 | 17.8 | 1 | 5.7 | 12.5 |
| 1995 | 14.6 | 15 | .2 | | 15.4 | | 16.7 | 17.5 | 1 | 5.8 | 12.6 |
| 2000 | 17.4 | 16 | .1 | | 16.3 | | 18.3 | 17.2 | 1 | 5.8 | 12.4 |
| 2005 | 20.2 | 16 | .4 | | 19.1 | | 19.6 | 17.3 | 1 | 6.0 | 12.3 |
| 2010 | 23.0 | 16 | .8 | | 20.4 | | 20.4 | 18.2 | 1 | 6.6 | 13.1 |
| 2020 | 29.1 | 20 | .3 | | 23.0 | | 22.8 | 20.9 | 1 | 8.7 | 16.2 |
| 2030 | 31.6 | 23 | .1 | | 28.0 | | 26.4 | 22.6 | 2 | 1.1 | 19.9 |
| 2040 | 36.1 | 24 | .9 | | 31.0 | | 31.4 | 24.3 | 2 | 3.0 | 20.9 |
| 2050 | 38.8 | 24 | .9 | | 30.9 | | 32.7 | 24.6 | 2 | 3.6 | 21.2 |
| 2060 | 39.9 | 25 | .0 | | 30.1 | | 31.4 | 26.2 | 2 | 5.1 | 21.9 |

¹⁾ Excludes Ireland or Northern Ireland before 1940.

Source: United Nations, The Aging of Populations and its Economic and Social implications, 1956 and

United Nations, World Population Prospects , The 2010 Revision .

For Japan, the figures before 2010 are based on the Population Census, and figures between 2020 and 2060 are based on

[&]quot;Population Projections for Japan (January, 2012)", National Institute of Population and Social Security Research, Medium-fertility projection.

6. Proportion of Population in Prefectures by Three Age Groups

The proportion of the aged population exceeds 20% in all prefectures excluding Okinawa-ken.

When looking at the child population by prefecture, the highest percentage is in Okinawa-ken with 17.8%, followed by Shiga-ken (15.1%), Saga-ken (14.6%), Aichi-ken (14.5%) and Fukui-ken (14.0%).

Meanwhile, regarding the aged population by prefecture, the highest percentage is in Akita-ken with 29.6%, followed by Shimane-ken (29.1%), Kochi-ken (28.8%), Yamaguchi-ken (28.0%), and Yamagata-ken (27.6%). As a result, the proportion of the aged population exceeds 20% in all prefectures excluding Okinawa-ken. (Figures 2.7 and 2.8, Table 2.11)

Figure 2.7 Proportion of the Child Population by Prefecture: 2010

Figure 2.8 Proportion of the Aged Population by Prefecture: 2010

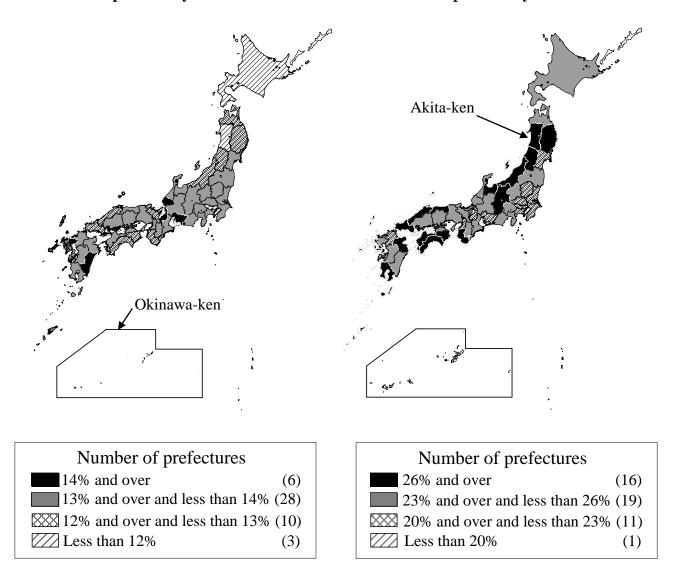


Table 2.11 Proportion within the Population and Change Rate by Age (3 Groups) and Prefecture: 2005-2010

(%) Proportion within the population by age (3 groups) Population change rate 2010 2005 (2005-2010)0-14 0-14 0-14 Prefecture 65 and 65 and 65 and years All ages All ages 15-64 years 15-64 years 15-64 over over over old old old Japan 100.0 13.2 63.8 23.0 100.0 13.8 66.1 20.2 -4.1 -3.6 13.9 Hokkaido 100.0 12.0 63.3 24.7 100.0 12.8 65.8 21.5 -8.6 -5.8 12.6 Aomori-ken 100.0 12.6 61.7 25.8 100.0 13.9 63.4 22.7 -13.6 -7.4 8.0 Iwate-ken 100.0 12.7 60.1 27.2 100.0 13.8 61.6 24.6 -11.4 -6.46.0 13.2 64.4 100.0 13.8 20.0 -5.4 10.7 Miyagi-ken 100.0 22.3 66.2 -3.6Akita-ken 100.0 11.4 59.0 29.6 100.0 12.4 60.6 26.9 -12.9-7.9 4.0 59.6 25.5 Yamagata-ken 100.0 12.8 27.6 100.0 13.7 60.8 -10.1-6.1 3.8 Fukushima-ken 100.0 13.7 61.3 25.0 100.0 14.7 62.6 22.7 -10.2-5.5 6.2 Ibaraki-ken 100.0 13.5 64.0 22.5 100.0 14.2 66.4 19.4 -5.5 -4.2 15.4 Tochigi-ken 100.0 13.6 64.4 22.0 100.0 14.2 66.4 19.4 -5.4 -4.1 12.1 Gumma-ken 100.0 13.8 62.7 23.6 100.0 14.4 65.0 20.6 -5.7 -4.8 12.9 20.4 100.0 13.3 66.3 69.5 16.4 -3.3 -2.9 Saitama-ken 100.0 14.0 26.6 Chiba-ken 100.0 13.0 65.4 21.5 100.0 13.6 68.8 17.6 -2.4-3.524.5 Tokyo-to 100.0 11.4 68.2 20.4 100.0 11.5 70.0 18.5 3.7 1.8 15.1 20.2 22.9 Kanagawa-ken 100.0 13.2 66.6 100.0 13.5 69.6 16.9 0.3 -1.6 12.8 23.9 -8.7 -4.9 7.0 Niigata-ken 100.0 61.0 26.3 100.0 13.6 62.4 100.0 60.8 26.2 100.0 13.5 23.3 -5.1 10.4 Toyama-ken 13.0 63.3 -5.8Ishikawa-ken 14.2 20.9 -4.1 100.0 13.7 62.6 23.7 100.0 64.9 -4.612.0 Fukui-ken 14.0 25.2 100.0 14.7 22.6 -7.1 -5.5 100.0 60.8 62.7 8.3 13.4 61.9 21.9 -9.6 -5.5 9.3 Yamanashi-ken 100.0 24.6 100.0 14.4 63.7 Nagano-ken 100.0 13.8 59.7 26.5 100.0 14.4 61.8 23.8 -6.5 -5.5 9.1 100.0 -5.3 -5.5 Gifu-ken 100.0 14.0 61.9 24.1 14.5 64.5 21.0 13.0 Shizuoka-ken 100.0 13.7 62.5 23.8 100.0 14.2 65.3 20.6 -4.7-5.3 14.5 Aichi-ken 100.0 14.5 65.2 20.3 100.0 14.8 67.9 17.3 -0.4 -2.2 19.5 13.7 14.3 64.2 21.5 Mie-ken 100.0 62.0 24.3 100.0 -5.1-4.6 11.6 Shiga-ken 100.0 15.1 64.2 20.7 100.0 15.5 66.5 18.1 -1.1 -2.1 15.8 Kyoto-fu 63.8 23.4 100.0 66.7 20.2 -3.1 -5.8 14.2 100.0 12.9 13.1 Osaka-fu 100.0 13.3 64.4 22.4 100.0 13.8 67.5 18.7 -3.8-4.5 20.1 13.7 63.3 23.1 100.0 14.3 19.9 -4.4 -4.1 15.6 Hyogo-ken 100.0 65.8 Nara-ken 100.0 13.2 62.8 24.0 100.0 13.9 66.1 20.0 -6.7-6.8 17.7 Wakayama-ken 100.0 12.9 59.9 27.3 100.0 13.8 62.1 24.1 -10.3-7.4 8.6 100.0 13.4 60.3 26.3 100.0 14.0 61.9 24.1 -8.1 5.1 Tottori-ken -6.2100.0 12.9 58.0 29.1 100.0 13.6 59.3 27.1 -8.3 -5.8 3.1 Shimane-ken 100.0 13.7 61.1 25.1 100.0 14.1 63.4 22.5 -3.9 -4.7 10.7 Okayama-ken Hiroshima-ken 100.0 13.7 62.4 23.9 100.0 14.1 64.9 21.0 -4.1 -5.0 12.7 Yamaguchi-ken 100.0 12.7 59.3 28.0 100.0 13.2 61.8 25.0 -6.4-6.8 8.4 100.0 27.0 -8.7 Tokushima-ken 100.0 12.4 60.6 13.1 62.6 24.4 -6.9 6.4 Kagawa-ken 100.0 13.4 60.7 25.8 100.0 13.8 62.9 23.3 -5.6-6.3 7.5 Ehime-ken 100.0 13.0 60.4 26.6 100.0 13.7 62.4 24.0 -7.5 -6.1 7.6 Kochi-ken 12.2 59.0 28.8 12.9 61.2 25.9 -9.4 -8.2 5.7 100.0 100.0 22.3 19.9 -2.4 Fukuoka-ken 100.0 13.6 64.1 100.0 14.0 66.2 -3.0 12.6 100.0 14.6 60.8 24.6 100.0 15.2 62.1 22.6 -6.5 -4.26.1 Saga-ken Nagasaki-ken 100.0 13.6 60.4 26.0 100.0 14.6 61.8 23.6 -10.4-6.1 5.9 Kumamoto-ken 100.0 13.8 60.5 25.6 100.0 14.3 61.9 23.8 -5.5 -4.0 6.0 Oita-ken 100.0 13.1 60.3 26.6 100.0 13.6 62.1 24.3 -5.4 -4.2 8.2 14.0 60.2 25.8 14.7 61.8 23.5 -6.2 -4.4 7.7 Miyazaki-ken 100.0 100.0 100.0 13.7 59.8 26.5 100.0 14.4 60.8 24.8 -7.5 -4.7 3.5 Kagoshima-ken 18.7 Okinawa-ken 100.0 17.8 64.8 17.4 100.0 65.2 16.1 -3.1 1.1 9.9