

## Chapter 5

# Describing the Age of Populations

Of the population component variables, age is one of the most used in census cross tabulations and other population reports. This is because so much of human behavior, preferences, and lifestyles are linked to age. In certain age ranges people are more likely to attend school, be employed, and marry and have children. The total population of any place is composed of people in different age groups. A number of statistics have been developed to express the age composition of a population.

### A. Median Age

The median age is often used as an indicator of the general age of people in some areas. It is the simplest and most widely used indicator of the age of any population. This figure can be compared to that of the same place at earlier time periods in order to monitor changes over time or it can be compared to other places and aggregations to evaluate relative differences. The problem with the median is that it masks the variability of population ages.

### B. Dependency Ratios

Another age statistic is the Dependency Ratio. It provides an indication of the proportionate size of the economically dependent age groups that must be supported by the remaining population. Usually this is expressed as the sum of the number of persons between 0 and 14 years of age plus the number of persons 65 years of age and older divided by the number of persons between ages 15 and 64. A more informative approach is to disaggregate the Dependency Ratio into a Youth Dependency Ratio (numerator 0-14) and an Elder Dependency Ratio (numerator 65 and older).

The table below gives the number of people in the dependent and non-dependent age categories for the United States, California, and the City of Los Angeles. For the United States the Dependency Ratio (DR) is .512, the Youth Dependency Ratio (YDR) is .324, and the Elderly Dependency Ratio (EDR) is .188. The DR value would imply that there are about two people in the 15-64 age category for every one person in the dependent age categories. The proportion of elderly is about half that of the youth category. California has a somewhat lower DR than the U.S., meaning that there are relatively fewer people that are dependent. However, the state does have a higher YDR than the entire U.S. Los Angeles City is lower than California in all dependency ratios that means it has a greater proportion of its population in the 15-64 year old age group. Outside the United States in developing countries dependency ratios can be quite high.

**Table 7. Dependency Ratios, 2000**

	<b>United States</b>	<b>California</b>	<b>Los Angeles City</b>	<b>Glendale City</b>
	<b>Persons</b>	<b>Persons</b>	<b>Persons</b>	<b>Persons</b>
Less than 15 years	60,253,375	7,783,683	839,417	36,030
15 - 64 years	186,176,778	22,492,307	2,498,274	131,829
Greater than 64 years	34,991,753	3,595,658	357,129	27,114
YDR	0.324	0.346	0.336	0.273
EDR	0.188	0.160	0.143	0.206
DR	0.512	0.506	0.479	0.479

### C. Population Pyramids

The most detailed population breakdown is provided by a population pyramid. This graphic device presents the percents of a population that are males and females in different age groups as a series of horizontal bars. Each bar represents an age group or cohort of the population. Bars are stacked with males on the left, females on the right and with youngest groups on the bottom progressing upward to the eldest groups.

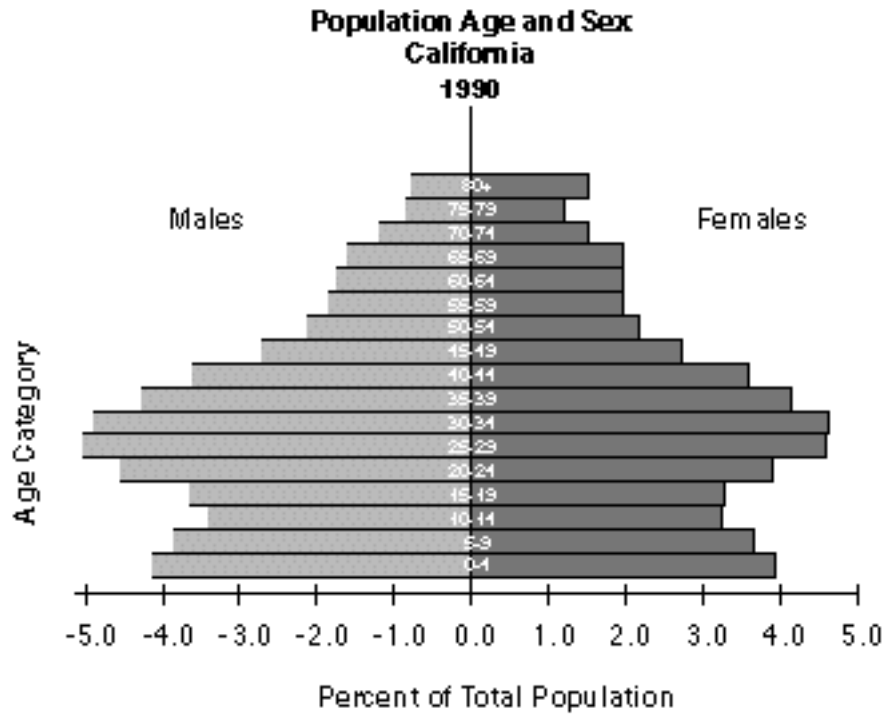
The shape of the population pyramid is determined by a series of horizontal bars which eventually narrow to a pointed top. This occurs simply because people die over time thereby shortening the lengths of bars for successive age groups. Developing nations with high birth and death rates have a very wide base and concave sides which rapidly narrow to a peak. Developed nations with lower birth and death rates tend to have narrower bases and bars that remain fairly constant in width until old age begins to reduce the numbers of people. In many cases years of increased or decreased births show up as waves in the patterns of bars.

Normally the percentage of males in any area exceeds that of females for the youngest age groups and then females predominate older age groups. Because of migrations, wars, and changing birth rates over time, the shapes of the pyramids vary a great deal. For small geographical areas such as tracts, the presence of prisons, retirement homes, colleges, and hospitals with nurses living nearby can affect the shape of a pyramid.

The population pyramid below reflects the age and sex structure for the State of California in 1990. The very wide portion from about age 20 through age 45 is the so-called "baby boom" generation that began after World War II. Note the wider base that is mostly due to the "echo" effect of the baby boomers reaching child-bearing ages. The predominance of women in the older age groups is also quite evident.

Population pyramids suggest events for which planners and businesses need to be aware. For example, what are the implications of the baby boomers reaching retirement ages on social programs and purchasing patterns? What might happen to the economy if this large group begins to spend savings at retirement and cash in stocks, bonds, and mutual funds? What are the implications in housing if the group decides to sell homes

and seek smaller living quarters? What is the implication of the children of baby boomers on schools and purchasing patterns?



#### D. Exercises

Ex 9. Dependency Ratio

Ex 10. Population Pyramid