

it is the most useful method for understanding how expenditures have grown or declined over time. In addition, we can gain insight into the cycles of growth and decline over time.

PERCENTAGE OF TOTAL (COMMON SIZING). The percentage of total, or common sizing, explains the proportionality of an item; in other words, how much of the city's total health expenditures are in the Health Department only compared with the expenditures in the hospital system or the mental health system. When several years of data are used, it is possible to examine how proportionality has changed over time. The percentage of the total is calculated by dividing the item by the total. When using a calculator, again multiply the result by 100. See an example below using the data from Table 4.1.

Item / total × 100, when using a calculator

Department of Health Expenditures / Total Expenditures × 100 =

$$\$419,308,000 / \$1,828,756,000 \times 100 = 22.9 \text{ percent}$$

Thus, the proportion of the total health dollars in the city going to the Department of Health compared with the total city investment in health is 22.9 percent.

The advantage of using proportionality is that we see the changes that have taken place for one part of the total health expenditures for the city. And if we compare the proportionality from year to year, we gain in understanding of how types of health resources are being distributed in the city.

COMPARING REFERENCE GROUPS. Another way to analyze the changes in expenditures is to use a reference group, which is a way to compare the trends you have found in your analysis. You choose a reference group that has some relationship to your data. When examining health data, you may want to compare the amount of health expenditures and the changes in those amounts over time in large cities. In the following example (refer to Table 4.1 again), the reference group is New York City's total expenditures.

	FY 1996	FY 1997	Percentage change
New York City's total health expenditures	\$1,828,756,000	\$1,448,483,000	-20.8
New York City's total expenditures	\$32,066,586,000	\$33,736,152,000	5.2

is -20.8 percent, while the percentage change in total expenditure for New York City is 5.2 percent. During this period, health expenditures fell proportionally even as the city's total expenditures grew. Urban areas can be illuminating. In the exercises at the end of the chapter, we calculate reference groups over an eleven-year period and gauge the extent to which city officials placed health in a prominent policy making.

Calculating the Rate of Inflation (Constant Dollars or Real Dollars)

Constant dollars are the same as current dollars except we control for inflation; that is, we take inflation out of the dollar amount of items. To calculate the effects of inflation is to accurately compare costs over time. Using inflation-adjusted numbers (constant dollars) rather than current dollars helps us understand the fluctuations in unit costs over time. Taking inflation out of the numbers allows us to determine the real expenditures or revenues.

An index is a benchmark of activity and can be used to track changes over time. The **Consumer Price Index (CPI)** is one of the most widely used indices. It is a weighted average of prices of a basket of goods and services that people often purchase. The CPI provides a measure of inflation, which is the fall in the purchasing power of the dollar. It is used as a guide to various cost-of-living adjustments, such as increases in wages, salaries, and budgeting increases, from year to year. An example of how to calculate constant dollars from current dollars is given below.

First, we find the CPI by accessing the Bureau of Labor Statistics at <http://stats.bls.gov/>. At the Web site, we choose the CPI Index; on the next Web page, we choose the Urban Wage Earner's Index (UWEX) because most Americans live in cities and the index represents the costs in urban areas. We can also choose the rural index. In this case, we chose the New York metropolitan area.

This is an example of the Consumer Price Index for All Urban Consumers used in the following example: