

# Appendix II

Fatality rates are used to compare the risk of incurring a fatal work injury among worker groups with varying employment levels. Because employment data are not collected by the Census of Fatal Occupational Injuries, fatality rates were calculated using estimates of employed civilian workers (aged 16 and older) from the Current Population Survey supplemented by counts of the resident Armed Forces provided by the U.S. Department of Defense.

To accurately describe fatality risk for a worker group, the numerator (fatalities) and denominator (employment) of the rate must refer to the same group of workers. Because the employment data used in the rate calculations exclude workers under the age of 16, fatalities occurring to those workers also were excluded from the numerator. Fatality rates, expressed as the number of fatal work injuries per 100,000 workers, were calculated as follows:

$$\text{Fatality rate} = (N / W) \times 100,000$$

N = the number of worker fatalities, workers aged 16 and older (Census of Fatal Occupational Injuries)

W = the annual average number of employed workers aged 16 and older (Current Population Survey, Department of Defense figures)

In 1999, there were 6,054 fatalities according to the Census of Fatal Occupational Injuries. Of these, 6,028 occurred to workers aged 16 and older. According to the combined Current Population Survey and Department of Defense figures, employment estimates for workers aged 16 and older totaled 134,666,000.

$$N = 6,028$$

$$W = 134,666,000$$

$$\text{Fatality rate} = (N / W) \times 100,000$$

$$\text{Fatality rate} = (6,028 / 134,666,000) \times 100,000 = 4.5$$

$$\text{Fatality rate} = 4.5 \text{ fatalities per } 100,000 \text{ workers}$$

There are a number of limitations to these fatality rates:

■ The Current Population Survey employment data used to calculate rates are estimates based upon a sample rather than a complete count. Therefore, the Current Population Survey estimates and, consequently, the fatality rates have sampling errors. The figures obtained for the rates may differ from figures that would have been obtained if it had been possible to take a census of employed persons. See “Explanatory Notes and Estimates of Error” in the January 2000 issue of *Employment and Earnings* for an explanation of Current Population Survey sampling and estimation methodology, and standard error computations. The relative standard errors of the Current Population Survey employment estimates can be used to approximate confidence ranges for the fatality rates.

■ The Current Population Survey categorizes workers according to their primary job, which may differ from the job at which the deceased was working when fatally injured as reported in the Census of Fatal Occupational Injuries.

■ The Current Population Survey counts workers by their State of residence, whereas the Census of Fatal Occupational Injuries counts them by State of injury. Although these numbers are proportionally small when considering national data, fatality rates may be affected significantly in States with large numbers of com-

muters, migrant workers, business travelers, and workers in interstate transportation. The data reveal that truckers in the transportation industry, for example, incur a large number of occupational fatalities outside of their domiciliary States.

■ The rates are based on employment. They factor out differences in the number of fatal work injuries between worker groups due to different employment levels. They do not take into account differences in the number of hours worked. Hours-based rates, which factor out these differences, are generally considered more accurate. However, because of limitations in the availability of data on hours worked, the rates are employment based.

■ Military fatalities are considered only for national fatality rates. Rates calculated by State, industry division, or demographic characteristic exclude these figures.

■ Fatality rates in this chartbook were calculated using updated fatality numbers and may differ slightly from rates previously published.

Fatalities occurring to workers in military occupations are shown separately in the National Profiles section. However, in the State Profiles, military occupations are included within the detailed occupations. For example, a truckdriver in the military would be shown as a truckdriver in the State section. In the National Profiles section, these workers would be shown in the 'Military Occupation' category.