

1999 Census of Fatal Occupational Injuries Fatality/Employment Rates California

Year	All Industries (1)	Agriculture (2)	Mining (3)	Construction (3)	Manufacturing (3)	Transportation and public utilities (3)	Trade (3)	Finance, insurance, real estate (3)	Services (4)	Government (5)
1999.....	3.6	15.4	-	10.7	2.8	10.5	1.7	0.9	2.3	2.4
1994-98....	4.1	12.7	55.6	12.2	2.3	11.4	3.0	1.4	2.8	2.8

1 Includes the self-employed, family workers, and private household workers. Excludes military personnel.

2 Excludes forestry and fishing. Includes the self-employed and family workers.

3 Individual State rates exclude the self-employed and family workers.

4 Includes forestry and fishing. Individual State rates exclude the self-employed, family workers, and private household workers.

5 Includes workers in government organizations, regardless of industry. Excludes military personnel.

NOTE: Dashes indicate that a fatality rate was not calculated because the CPS employment estimate was not statistically reliable, or there were fewer than five work injury fatalities.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries.

Fatality/Employment rate computation

Fatality/employment rates may be used to compare the risk of incurring injury among worker groups with varying employment levels. A fatality incidence rate, based on the total hours of exposure for worker groups, is a better measure of risk. However, exposure hours are not available for computing fatality incidence rates. Fatality/employment rates were computed using estimates of civilian workers (age 16 and older) from the Current Population Survey (CPS). The numerator (fatalities) and denominator (employment) of the rate should refer to the same group of workers as closely as possible. Because CPS employment data exclude workers under the age of 16 and the military, fatalities to these workers were excluded from the numerator in the calculation. The rates were computed for 1999 and for the 5-year annual average (1994-98) as:

Fatality/employment rate (1999) = $(N_{99}/W_{99}) \times 100,000$

Fatality/employment rate (1994-98) = $[(N_{94} + N_{95} + N_{96} + N_{97} + N_{98}) / (W_{94} + W_{95} + W_{96} + W_{97} + W_{98})] \times 100,000$

N_{year} = number of civilian worker fatalities, age 16 and older

W_{year} = annual average number of employed civilians, age 16 and older

Fatality/employment rate limitations

- **State of residence versus State of incident**

The CPS counts workers by their State of residence, whereas the CFOI counts workers by State of injury. Fatality/employment rates may be affected significantly for States with net inflows or outflows of commuters, migrant workers, business travelers, and workers in inter-State transportation. For example, truck drivers incur a large number of occupational fatalities outside their State of residence. For this reason, comparisons among and between States should be made with caution.

- **Primary job versus job at the time of incident**

The CPS categorizes workers among industries according to their primary job, which may differ from the job held when fatally injured. The CFOI categorizes decedents into the industry in which they were employed at the time of the fatal incident. For example, the CPS classifies an elementary school teacher in the educational services industry. If the teacher works in the summer as a house painter and is fatally injured in a fall from a ladder while painting, the CFOI classifies the fatality in the construction industry. Comparisons among industries within a State also may be affected by differing inter-State worker inflows and outflows by industries.

- **Employment sampling errors**

The CPS employment data used to calculate the rates are estimates based on a sample of employers rather than a complete count. Therefore, the CPS estimates and the fatality rates have sampling errors. The estimates of fatality/employment rates may differ from rates that would have been obtained if it had been possible to take a census of employed persons. Users may use relative standard errors of the CPS employment estimates to approximate confidence intervals for the fatality/employment rates. See "Explanatory notes and estimates of error" in January 1999 *Employment and Earnings* for an explanation of CPS sampling, estimation, and standard error computations.