

Citation

Viscusi, W. (1979). The impact of Occupational Safety and Health regulation. *The Bell Journal of Economics*, 10(1), 117–140.

Highlights

- The study's objective was to examine the effects of OSHA inspections and penalties at the industry level on workplace injuries between 1972 and 1975. Although OSHA no longer operates as it did during this period, this study provides historical context for changes that were later made to the program.
- The study used a regression model to examine differences in injury rates for industries and years with higher rates of OSHA inspections and penalties, relative to industries and years with lower rates of OSHA inspections or penalties.
- The study found that OSHA inspections and proposed penalties were not statistically significantly related to injuries.
- The quality of causal evidence presented in this study is low. This means we are not confident that the study's findings provide causal evidence of the effect of inspections on injuries.

OSHA Enforcement Activities and Outcomes

The study examined the effects of OSHA inspections and penalties at the industry level on workplace injuries between 1972 and 1975. Although OSHA no longer operates as it did during this period, this study provides historical context for changes that were later made to the program.

The author analyzed the annual number of injuries and illnesses per full-time worker as a function of the number of OSHA inspections per 100,000 workers and the total amount of proposed penalties per 1,000 workers. The study examined the association between injury rates and enforcement activities that occurred in the same year, previous year, two years earlier, and three years earlier.

Features of the Study

The study used regression analysis to examine differences in injury rates across industries and over time. The model compared industries with higher rates of OSHA inspections and penalties during the preceding four years with industries with lower rates of OSHA inspections or penalties during the same period. The model included controls for industry group (four indicators); injury rates in the previous year; the percentages of female, black, younger, and older workers; employment; hours; overtime hours; year; and investment in health and safety in the current year.

The author used injury data from the Department of Labor Occupational Injuries and Illnesses, by Industry; unpublished OSHA data on inspections and penalties; and data on industry employment and characteristics from the Department of Labor, Employment, and Earnings and the Census Bureau for 22 industries in 1972 and 61 industries in 1973–1975. The sample included 84 percent of the workers in industries within OSHA’s jurisdiction.

Findings

The study found that OSHA inspections and proposed penalties were not statistically significantly related to industry-level injury rates.

Considerations for Interpreting the Findings

The study found no relationship between OSHA inspections and industry-level injury rates. However, the groups being compared in this study were likely not similar and, thus, the results likely do not reflect the causal impact of inspections on injuries. The differences in industry-level injury rates could reflect underlying differences in safety or other factors between the industries being compared. For example, some inspections are targeted to high-injury industries. Therefore, the firms that receive inspections likely have more underlying workplace hazards, on average, than firms that are not inspected. Similarly, firms that received a penalty likely have more egregious safety violations than those that were inspected and did not receive a penalty. In the absence of inspections, firms with more hazards and safety violations may have experienced different changes in injury rates as conditions deteriorated or because management would have made improvements to address unsafe working conditions.

Causal Evidence Rating

The quality of causal evidence presented in this study is low. This means we cannot be confident that the relationship between industry-level injury rates and OSHA inspections represents the causal effect of inspections on injuries. To provide more convincing causal evidence that meets CLEAR criteria, the study could have estimated industry-level inspection and injury rates based only on the firms that received inspections at random.