The Regulatory Review
A Publication of the Penn Program on Regulation

Opinion | Process | Sep 11, 2018

How Regulatory Agencies Undervalue Life

W. Kip Viscusi

Agencies should boost penalties for fatal rule violations to match the value of a statistical life.

Over the past three decades, regulatory agencies have made tremendous progress in the valuation of mortality risks in their regulatory impact analyses. Formerly, agencies had monetized mortality risks based on the financial losses associated with death, but

now agencies use the value of a statistical life (VSL) to calculate the benefits of reduced risks of death when analyzing prospective regulations. The VSL reflects the rate at which people are willing to pay to reduce small risks of death. Estimates of the VSL in the economics literature—as well as the VSL estimates used by regulatory agencies to value mortality risks in their prospective analyses of regulations—are now about $10 million for each expected life saved by regulations. For example, to eliminate a risk of death of 1/100,000, the average person would be willing to pay $10 million times 1/100,000, or $100.

As I detail in my new book, *Pricing Lives: Guideposts for a Safer Society*, regulatory agencies do not use the VSL to set penalty levels for regulatory violations leading to deaths. Consequently, agencies fall short in their enforcement of regulations with lower penalty levels than the VSL. Ideally, penalties for fatalities should create efficient incentives for deterrence to ensure that regulated entities assume the costs required to provide efficient levels of health and safety. Setting penalties based on the VSL would establish these incentives.

Enforcement of Occupational Safety and Health Administration (OSHA) regulations exemplifies the shortfall in agency practices. The Occupational Safety and Health Act caps penalties for serious violations, defined as those "most likely to result in death or serious physical harm," at $7,000 per violation. OSHA raised this cap to $12,934 in 2018 to adjust for inflation. For violations involving worker deaths, the median penalty levied in Fiscal Year 2016 was $6,500 for federal OSHA inspections and $2,500 for inspections undertaken under state plans. These penalty levels remain three orders of magnitude below the level of the VSL, which is the efficient deterrence level.

Even the most sizable penalties levied by OSHA fall short. For example, the second largest penalty in the history of the agency was only $21 million for the 2005 BP Oil Refinery explosion that killed 15 and injured at least 170.

The OSHA experience of inadequate penalties for regulatory violations causing deaths is not unique. After the General Motors ignition switch failure, the National Highway Traffic Safety Administration (NHTSA) levied $35 million in sanctions, which at that time was the maximum allowable penalty for a series of violations. When NHTSA levied the penalty, over a dozen deaths had been documented, and that number ultimately rose to 124 deaths and 275 injuries. Although Congress increased the

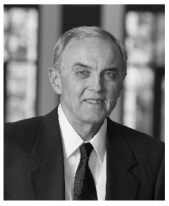
penalty cap to $105 million in 2015, even the updated cap would still be too constraining compared to penalties per fatality that were linked to the VSL.

The enforcement efforts to promote the safety of food and the environment similarly fall short of the ideal penalty amount. In 2013, a Listeria monocytogenes contamination of cantaloupes from a farm in Granada, Colorado led to 33 deaths and 147 hospitalizations. The U.S. Food and Drug Administration penalized the two farm operators $150,000 each and required them to perform community service.

Similarly, penalties levied by the U.S. Environmental Protection Agency (EPA) also fall short. After DuPont released chemicals into the Kanawha River as well as the toxic gas phosgene—killing one worker and creating "significant risk" to the surrounding population—EPA levied a fine of $1.275 million. Once again, the agency was operating under statutes limiting the penalty amounts.

These examples are not isolated worst-case scenarios. They also do not reflect a lack of diligence on the part of regulatory officials. Unfortunately, statutory restrictions on penalty levels have hamstrung agencies. The statutory limits on penalty amounts typically date back to the emergence of health, safety, and environmental regulations, roughly a half century ago. At that time, legislators failed to appreciate how costly compliance with the regulations would be. Regulatory oversight efforts soon sought to bring these costs under control and to foster a greater benefit-cost balance. Although the permissible sanctions have been increased over time to partially reflect inflation, a rethinking of how the sanctions should be formulated never accompanied these increases.

The presence of sometimes substantial regulatory compliance costs affects how enforcement efforts should be structured. Because compliance with regulations creates costs for regulated businesses, regulators must provide firms with the efficient incentives to comply with the regulatory standard. To address this shortfall, I propose that agency statutes be rewritten to align the penalty caps per fatality resulting from regulatory violations with the VSL. Doing so would enable regulatory agencies to not only set appropriate regulatory standards but also to enforce these standards with penalties that establish efficient deterrence amounts.



Kip Viscusi is the University Distinguished Professor of Law, Economics, and Management at Vanderbilt Law School and the author of Pricing Lives: Guideposts for a Safer Society.

Tagged: Congress, Cost-Benefit Analysis, EPA, FDA, OSHA, Regulation Analysis