

DISCOUNT STOPPER

According to Georgetown Law Professor Lisa Heinzerling, most of the economic methods used to analyze pollution regulation are just plain wrong, and thereby grossly distort the social costs of government programs. Her method of rectifying the problem relies on a new concept of how environmental law prevents harm

From a sunny office at Georgetown University Law Center at the foot of Capitol Hill, Professor Lisa Heinzerling is launching a full-scale attack on how government agencies — and regulatory critics — evaluate environmental rulemaking. It is hard to open a major legal publication these days without finding another article by her assailing the fundamental underpinnings of the methodologies economists use to analyze regulations, from monetization to cost-benefit analysis to the use of statistics in characterizing populations. And especially discounting, the practice that attempts to translate future benefits into present terms. In Heinzerling's view, all of these techniques, and others, work together to present a false picture of how pollution affects people and, thus, what society should do about it.

To put her critique bluntly and in its most basic form, Heinzerling, who as an undergraduate at Princeton majored in philosophy, feels that toting up the costs and benefits of saving a life is absurd. "Deciding to allow an entity to harm or even kill a person on the basis of how much it costs the entity doing the harm to refrain from doing it denies the person harmed a right against harm. It makes a person's freedom from harm, indeed her life, contingent upon the financial profile of the life-threatening activity." In other words, for all the good that cost-benefit analysis purports to do in rationally allocating social resources to maximize harm prevention, in her view, it works within a system that fundamentally deprives individuals of a basic right.

This problem becomes even worse when statistics are used to analyze the potential harm not to individuals but to populations — the traditional risk analyses that trigger regulation when, say, one person in a million will die. "The use of cost-benefit analysis to evaluate life-saving regulatory programs has been justified by the creation of a new kind of entity — the statistical person. A primary feature of the statistical person is that she is not identified — no one's sister or daughter or mother ends up dying because of exposure to pollution. By distinguishing statistical lives from the lives of those we know, economic analysts have attempted to sidestep the uncomfortable fact that most of us profess ourselves quite incapable of identifying the monetary equivalent of the lives of our family and friends."

The absurdities continue. Different agencies value statistical lives differently in monetary terms. For EPA, a life is worth \$6.1 million. For the Consumer Product Safety Commission, a



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life is \$5 million. For the Department of Transportation, it is only \$2.5 million. That means that the benefit of saving a life is different depending on which agency’s regulations save it. Further, she says, “some analysts lately have become dissatisfied with the practice of placing a given monetary value on all statistical lives. Lives are never *saved*. They are only *prolonged*. Thus cost-benefit analysis is aimed at what is called ‘quality-adjusted life years,’ or ‘QALYs.’ When measured by QALYs, regulations saving the elderly, the sick, and the disabled will be a lower priority than regulations saving the young, healthy, and able-bodied. And although few analysts will admit it, the upshot of the prevailing method for valuing statistical lives — which asks how much individuals are willing to pay to reduce risk in their own lives — also favors the statistical lives of the rich over the statistical lives of the poor.”

Heinzerling first became interested in the economic and statistical techniques used to evaluate environmental regulations when she served as special counsel to the Senate Judiciary Committee in its review of Supreme Court nominee Stephen Breyer in 1994. Her career was already on an all-star trajectory. After graduating from University of Chicago Law School, where she was editor-in-chief of the law review, she clerked for Judge Richard A. Posner — an obvious influence because of his emphasis on economics as well as his interest in the philosophical school of pragmatism, which sees knowledge as coming from real-world experience rather than abstraction — then for Supreme Court Justice William J. Brennan. She also worked for three years as assistant attorney general of Massachusetts, in the Environmental Protection Division.

While helping to prepare committee chair Joseph Biden for Breyer’s confirmation hearings, she read the judge’s famous book *Breaking the Vicious Circle*, one of the most powerful critiques of environmental regulation ever written. Breyer’s thesis is that much of regulation is misguided because it is based on public misperception of risk rather than scientific analysis of which risks most deserve society’s limited resources. As a result, we don’t channel funding to those risks that kill the most people, and lives are needlessly lost. “That book bothered me, because while I thought he couldn’t be right, if he were right, then we have a problem.”

As a professor at Georgetown, she began to study the issue. A year later, she accused Breyer of “tunnel vision” in an article published in the *University of Chicago Law Review*. She observed that the jurist didn’t give any thought at all to the ecological benefits of regulation — a fault of much cost-benefit analysis, she later found out. Nor does he blame industry for creating many of the problems and thus, in her view of justice, having a large role in mitigating them. Most important, she patiently chased down the sources he cited and found a systematic bias. “Turn Breyer’s book inside out, bring the ‘but see’ citations to text, drop the points in text to the notes, and one has the same experts and the same studies but the opposite policy conclusions.”

Further study by chasing through footnotes revealed another curious fact. Most of the vast body of regulatory criticism, including Breyer’s, traced back to a single table published in 1986 in the journal *Regulation*. Economist John Morrall of the Office of Management and Budget calculated the “cost per life saved” of a host of safety, health, and environmental regulations. The costs ranged from a low of \$100,000 per life, for collapsible steering columns in cars, to \$72 billion, for regulation of worker exposure to formaldehyde. Interestingly, all of the regulations that cost more than EPA’s value of a statistical life were OSHA or environmental regulations, almost all of those below were safety regulations like better exit lighting on planes or fire-resistant kids pajamas. If the table were to be believed, environmental regulation appeared to be as ridiculous as Breyer claimed.

But more research revealed some surprising facts about Morrall’s table. Many of the high-dollar regulations were never actually made into final rules by the agency considering them. And many of the high-dollar rules were calculated by Morrall using lower estimates of risk than the agencies had used, thereby inflating the cost of a saved life. But then Morrall inflated the costs even further, sometimes way beyond agency estimates, by applying a technique called “discounting.”

Discounting is used by economists to translate future benefits into present-day terms, partly on the theory that a person values something today more than the same thing in the future. It is done by applying a “discount rate,” which is a percentage and works exactly like compound interest, only backwards. Morrall used a discount rate of 10 percent, the standard at OMB at the time for the “regulatory impact analysis” it performs for the White House for major rules before they are published in the



Federal Register. In this case, Morrall was doing something that Heinzerling calls with some distaste “discounting lives,” since the benefits of these rules were lives saved — as opposed to, say, financial costs of cleaning up polluted groundwater. And the adjustment made a huge difference, because most of the quantified benefits of environmental programs are cancer cases prevented, and cancer can take 10-40 years to develop, giving a long time span for discounting to work in. As an example, cost per life saved from reduced exposure to hazardous waste in landfills, which was \$2.4 million in EPA’s cost-benefit analysis, rose to \$3.5 billion in Morrall’s table.

When “discounting lives” is expressed not in dollars per life saved in present terms but *number* of lives saved, the difference that results from Morrall’s methodology highlights its absurdity, in Heinzerling’s view. “Take occupational exposure to arsenic. Morrall’s table shows that OSHA’s rule to limit exposure would save roughly 12 lives per year. Discounting dropped this estimate to a third of a life.”

Finally, Heinzerling discovered that in almost all cases missing from the calculation are any environmental benefits as well as health risks that are difficult to quantify. “The assumption that the consequences we can quantify dwarf the ones we cannot makes some regulatory decisions look very odd. A good example is EPA’s initial cost-benefit analysis of eliminating lead emissions from automobiles. The greatest benefit of the rule was its effect on cars — it lowered maintenance costs — rather than its effect on people.”

At root, regulation of pollution is an issue of law, however, not one of economics, so Heinzerling has recently turned her attention to the legal theory into which cost-benefit analysis fits. “Laws restricting pollution begin to reduce the risk of illness and death as soon as they are implemented,” she wrote in the September issue of *ELR News & Analysis*. “Often, however, the people who would have died in the absence of regulation would not have done so for many years.” Some diseases have long latency periods, some take a long period of exposure to manifest themselves. “For this reason, it has become commonplace to assume that the benefits of life-saving environmental regulation occur, for the most part, at a large temporal distance from the regulatory activities that reduce the risk.”

In her article, Heinzerling offers no less than “a new conception of the temporal dimension in environmental law.” She argues that benefits of a rule begin to accrue “the very moment it takes effect.” She sees benefits as taking place along a continuum, not just at the point where a person who would have died doesn’t. Further, she sees the future and the present as interactive. “Perceptions about what the future is likely to hold affect present well-being. Moreover, this interaction sometimes makes remote human health consequences as problematic as immediate ones, or even more so.”

The reason that benefits begin immediately is because many harms begin immediately. Some of these are direct physical symptoms, such as rashes and respiratory, neurological, and digestive disorders. Other harms are psychological, and very real. Anxiety can profoundly affect whole communities exposed to toxic substances, producing in some people a host of physical symptoms, including fatigue, diarrhea, headaches, and immune suppression.

But to date, regulatory critics and some agencies have maintained that “harm” does not occur until a disease is actually detected or a person dies. As a result, Heinzerling argues in favor of “a new understanding of latency in the regulatory context, in which regulatory benefits are deemed to accrue the moment risk is reduced. If that standard were to apply, discounting would collapse as a defensible concept in rulemaking.”

Moreover, Heinzerling argues, “Expanding our vision of the benefits of environmental law beyond quantified deaths averted would bring into focus the prevention of painful and debilitating illnesses and emotional reactions that are hard to quantify, as well as the salutary lifestyle changes that might be brought about by regulation. At its best, environmentalism is not only about prolonging lives and preventing illness; it is also about encouraging a habit of living that is simple, frugal, and natural.”

Last summer, the Senate considered the nomination of John Graham, head of the Harvard Center for Risk Analysis, to head the OMB office that conducts regulatory impact analyses. Graham is a leading apostle today of discounting lives and opposes many environmental regulations because of their supposed excessive social costs. Heinzerling was widely cited by those opposing his nomination and submitted testimony herself, but Graham was nonetheless approved.

Needless to say, his work will be closely scrutinized over at Georgetown law school. •

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