



THE DEBATE

Is OSHA a Failed Agency — Or an Unheralded Success?

A panoply of federal regulatory agencies help protect Americans from hazards when they are breathing air and drinking water, when they are traveling on the highways and airways, and when they are using consumer products and financial instruments. But only one agency — the Occupational Safety and Health Administration — protects us for the half of our waking hours when we are on the job.

OSHA was founded in the same year, 1970, as the Environmental Protection Agency, and the two can point to some similar examples of good news. Just as concentrations of many major air pollutants have fallen by 90 percent or more during EPA's lifetime, fatal occupational injuries have fallen by 60 percent since OSHA came on the scene.

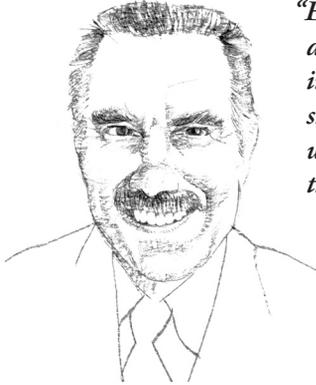
And probably to an even greater extent than its much larger sister agency, OSHA has engaged productively "on the ground" with hundreds of thousands of employers, providing invaluable (and free) advice on how to improve workplace conditions.

However, attributing the happy statistics to specific action by OSHA is controversial. Some critics point to the extremely low monetary penalties Congress has allowed the agency to levy as evidence that safer conditions are not being impelled, but are a natural result of nationwide de-industrialization. Indeed, the current number of manufacturing jobs is only 65 percent of the number in 1970.

And although OSHA standards have virtually eliminated some occupational diseases (such as "brown lung" disease in the textile industry, and accidental transmission of HIV and hepatitis in healthcare workers), the agency has clearly not controlled toxic substances that cause chronic disease as broadly as EPA has. There has been no survey of concentrations of toxic substances in U.S. workplaces since 1983, and OSHA has set exposure limits for only 18 hazardous substances in its 46 years of existence — and just two in the past 19 years. For comparison, there are roughly 70,000 chemicals in commerce, and the German equivalent of OSHA has set limits for more than 1,000 substances.

This Debate tackles the fundamental question of whether OSHA is succeeding in its original mission "to assure so far as possible every working man and woman in the nation safe and healthful working conditions." What are the agency's most praiseworthy success stories? And if OSHA's achievements have been limited, who bears responsibility: a stingy Congress, an anemic statute, recalcitrant employers, an apathetic public, unreasonable labor unions, or the staff and political leadership of the agency itself? What statutory, budgetary, organizational, structural, or philosophical changes could improve the agency's record?

The *Forum* invited OSHA Administrator David Michaels to be part of our Debate, but he declined.



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Baruch A. Fellner

Head, OSHA Practice
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UNIV. OF PENNSYLVANIA LAW SCHOOL



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Professor of Public Affairs
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“Congress should revise the OSH Act to make it stronger and to provide adequate resources to protect workers from on the job hazards.”

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Director
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LAW PROJECT



“When there has been strong leadership and commitment and OSHA has focused its efforts, the agency has made a real difference.”

Peg Seminario

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“OSHA has contributed to a significant decrease in worker injuries over time, but the agency could be even more effective.”

W. Kip Viscusi

Distinguished Professor of Law, Economics, and Management
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It Is a Success. So Why Do We Still Need It?

BARUCH A. FELLNER

It was the summer of 1972, when an excited young pup arrived at the Department of Labor to assume the enforcement responsibilities under a brand new statute, the Occupational Safety and Health Act. The department had not yet moved to its present digs with the beautiful view of the Capitol that would symbolize the invasion of politics into the implementation of salutary legislation.

In those halcyon days, OSHA was relatively innocent; it, like so much other socioeconomic legislation (such as the National Environmental Policy Act), was the product of that great “liberal” president, Richard Nixon. It was the Williams-Steiger Act, named after a committed Democrat and an inveterate Republican. Which is not to say that despite its embrace by Republicans and Democrats, OSHA’s birth was not controversial. To the contrary, wresting occupational safety and health from the patchwork regulations of the individual states was no mean political feat. But the widespread workplace carnage was the unarguable imperative and OSHA was to be its cure.

Two snapshots may give a glimpse of how things were in OSHA’s early days. We recognized early on that multiple employers worked simultaneously at many dangerous worksites, particularly in construction. It was neither fair nor sensible to issue citations only against the employer whose name was on the hardhat of the employee working near the roof’s unguarded edge. That employer could have been the plumber or the electrician without the authority to erect guardrails.

Rather, if effective worker protection was to be ensured, the employers that could anticipate and abate the workplace hazard should receive OSHA citations regardless of whether their employees were immediately exposed. These theories were tested in court, but were not the subject, as they are today, of political challenge or vitriol.

The second example illustrates the truth of the adage that fools rush in where angels fear to tread. In this instance, the fool was this young pup trying to extend OSHA’s reach. AstroTurf had been recently introduced and the data quickly emerged that football players and other athletes were harmed by the surface and the speed it generated. What an ideal target for OSHA’s General Duty Clause, which proscribes recognized hazards likely to cause death or serious physical harm. I recall my citation proposal to Eula Bingham, then the head of OSHA. Bingham was no shrinking violet when it came to extending OSHA’s reach. Nevertheless, she had the judgment to recognize OSHA’s limitations despite the persuasiveness of legal and factual arguments to the contrary. Or, in words that are not an exact quote, Bingham responded, “Are you nuts?”

The abandonment of such third-rail constraints reflects the evolution of OSHA from its constructive beginnings to its present state of endless controversy. Today, citations against circuses, Broadway shows, and zoos mark OSHA’s attempt to regulate inherent risk. OSHA proudly announces its objective to “regulate by shaming,” accentuated by bombastic press releases and millions of dollars of penalties aimed at retail establishments with an occasional package temporarily in an aisle way.

OSHA’s misplaced priorities are also revealed on the regulatory front. As we speak, the agency is gearing up for a challenge not seen since the days of OSHA’s midnight

ergonomics regulation at the end of the Clinton administration. OSHA’s ergonomics regulation was so objectionable that it remains the first and only regulation erased by Congress under the Congressional Review Act.

Obama’s misplaced priority is a regulation which would put hundreds of thousands of employers’ injuries and illnesses, unvarnished and without context, on OSHA’s website. The unashamed purpose of this regulation is to persuade employees, customers, and vendors not to work for, or do business with, entities based only on their injury records. In addition, this regulation would make it a citable offense to reward employees with a bonus or a pizza for working without injury under the guise that such incentive programs discourage the reporting of injuries and illnesses.

Notwithstanding the many bridges too far OSHA has traveled, the verdict is positive. Its presence in the workplace has raised the consciousness of American employers to the imperative of safety and health. No, that process is hardly an embrace of the compliance officer. Rather, it is the culture of safety that has taken root. Whether that mindset translates into daily pre-work safety talks or complex risk analyses is not the point. Employers have dramatically reduced injury incident rates simply because OSHA, with all its excesses, is on their radar screen.

As we begin to approach OSHA’s fifth decade, the agency should eschew initiatives that strain its legal and political limits. To do otherwise will jeopardize its very existence with the question, Why do we need OSHA at all if its success has already been achieved?

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Succeeding With the Cards You Are Dealt

ADAM M. FINKEL

The rising tides of environmental and safety improvement have done relatively little to lift the boats of workers, who still face injury and illness risks far above what we have come to expect elsewhere in society. Most of the success stories (safer cars, cleaner smokestacks, reduced tobacco exposure) either stop at the workplace door or include workplaces as an afterthought. While the number of fatal occupational accidents is falling almost imperceptibly slowly, occupational disease has become the eighth leading cause of premature death. Some very good things have come out of OSHA in the last 12 months (notably requirements for a small subset of firms to report injuries electronically, and a long-awaited silica regulation), but they look less impressive viewed over an eight-year administration.

There is no question that OSHA faces a gantlet of shrill opposition, benign neglect, and false friends. It depends on steady appropriations from Congress, many of whose members get teary eyed at the thought of “job creators” having to stop entrepreneuring and follow some rules, but who have little sympathy for bereaved families or the fiscal costs of chronic disease. And it relies in vain on being tugged proportionately “from the left” by a declining union movement, whose zeal ebbs further when regulatory controls might shift jobs away from antiquated or unsafe processes that both management and labor want to keep afloat.

But there is also no question that Congress and the courts intended for OSHA to be far more effective and more the master of its own fate. I suspect few readers are aware that judicial interpretations of the Occupational Safety and Health Act of 1970 explicitly allow OSHA to:

- reduce excess risks of chronic disease to far below 1 chance in 1,000, even if there are as few as several hundred exposed workers nationwide;
- impose costs high enough to threaten some firms’ viability, so long as the costs don’t “threaten the profitability of an industry as a whole”;
- impose a “general duty” on employers to remedy safety or health hazards even when no specific OSHA regulations exist, or even when obviously weak and antiquated rules apply;
- force industries, if necessary, to install novel risk-reducing technologies that go “beyond what the industry is presently capable of producing”; and
- change the fundamental nature of certain jobs (e.g., farms can no longer employ people to stand within grain silos to loosen the product).

So then why has OSHA so often let its detractors have their way, and let a blasé public continue to avert its eyes from hazards known for centuries to be needlessly dangerous? The answers often lie within the walls of my former agency. Under leaders of both parties, OSHA defends its won-lost percentage, its turf, and (though not always!) its career managers much more energetically than it empowers its superb rule-writers and onsite inspectors, and than it pursues cutting-edge science and stringent standards.

For one concrete example of many, consider the 2006 OSHA standard for hexavalent chromium, a human carcinogen. In 1998, our chief lawyer came in waving news of our “victory” in court that allowed us to shelve the promised rule. Here, the principle that “no one can tell us what to do” trumped the idea that perhaps we should use our reaffirmed discretion to accelerate the slow pace of this needed rule. Then, the final rule (issued only after a second court decision excoriated OSHA for further delay) was so weak that it allows about 85 percent of all establishments to *increase* chromium levels — and the new silica standard looks eerily similar in this regard. I find it depressing that an agency with the authorities granted above declares

“Mission Accomplished” with rules that enshrine excess cancer risks exceeding 1 chance per 100, and refuses to impose costs that exceed 1 percent of any firm’s revenue.

I reject the facile recommendation that OSHA should become oppositional for its own sake, or should respond to “manufactured doubt” and voodoo economics with exaggerations of its own. But when in the backcountry, it’s important to know which animals will lose interest if you play dead, but also which will attack unless you rise up and look bigger.

The best strategy for an over-matched regulator is to enlist partners in all directions. OSHA should involve other federal, state, and local regulators — and concerned citizens — as “eyes and ears” to lead its inspectors to serious hazards. It should work with the non-union “COSH” groups to insist that proven technologies required to protect the public also diffuse into the workplace, where risks are higher (all new passenger cars now must have backup cameras, but not the trucks and forklifts that cause backover fatalities at work).

And it should prod the best firms to evangelize for health and safety among their customers, suppliers, colleagues, and competitors. In 2000, an advocacy group convinced McDonald’s to stop buying from slaughterhouses that did not treat their animals humanely; recently Walmart and other companies have stopped buying eggs from caged hens (possibly increasing worker injuries and illnesses in the bargain). The only reason that companies like these do not also take pride in purchasing from and selling to companies who treat their *workers* humanely is that OSHA is satisfied to tie one hand behind its own back and bemoan its lack of reach.

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An Agency That Doesn't Know If It Has Been a Success

JOHN MENDELOFF

The most important factors affecting the level of workplace risks are the demand by workers for greater safety and the ability of firms to supply it. Both of these are mostly a function of wealth. But other factors matter as well. For example, the construction fatality rate in the United Kingdom is one half to one third the rate in the United States. And within the United States there are long-standing disparities of almost equal size across regions.

Regulation of work safety can speed up the adoption of new preventive technologies but, except in the cases of some disease exposures, it usually operates on the margins, making adoption happen a little faster than it would have. Regulators also try to enforce existing safety standards, which employers may be unaware of or willing to flout. This enforcement process is aided by making employees aware of the rules and giving them a role in forcing action.

With this background, how should we assess OSHA's success in reducing risks? In manufacturing, OSHA inspections that cite serious violations appear to cause injury rate reductions of 10 to 20 percent for a few years. We don't have evidence about other sectors. New OSHA safety standards have probably done some good, but good evaluations are missing. New OSHA health standards have slashed exposures to asbestos, lead, cotton dust, and a few other hazards.

The paucity of new health standards is embarrassing; most standards are still based on data from the 1950s and 1960s. Due in large part to the gaps noted above, we

don't have a good basis for assessing the total benefits and costs of the OSHA program relative to what would have happened in the absence of the program. Workers do have greater rights because of the OSHA program; however, the ability to exercise these rights has probably been eroded by the decline of labor unions and the growth in non-English speakers.

Why hasn't it worked better? Regulation prior to OSHA was unduly lax. OSHA's creators shared the era's mistrust of agency discretion, both in standard-setting and in enforcement. Although courts generally upheld agency authority, they constrained it by raising the evidentiary bar. A reasonable system should allow the regulator to adopt moderate reductions in the face of suggestive evidence. Instead, OSHA can regulate only after a complex process of finding "significant risk" and economic "feasibility," and then is constrained to set standards at "the lowest feasible level." As a result, some health standards have been costly compared to their effects. The longer process tended to make it less likely that any rulemaking could be begun and completed within the term of any OSHA director.

In the field, officials enforced the set of OSHA standards. One problem is that most injuries are not caused by violations of those standards. A second is that inspectors had no general mission to go beyond compliance to help employers and employees figure out how to improve safety. Although penalties were quite low in OSHA's early years, they became larger, providing incentives for compliance after citations and, when well publicized, even before. The number of inspectors was slashed under the Reagan administration and never recovered.

What changes might help? For health standards, change the law to allow lower exposure limits based on lesser evidence when the reduc-

tions are moderate. Investigate how an engineering-based alternative might work. For safety standards, rely more on follow-back studies of state workers' compensation reports to obtain better information about the likely effects and costs of new standards.

For enforcement, transition to an inspectorate trained to focus on safety programs and management commitment. Reduce the use of "first-instance" penalties to a smaller set of standards. Target more inspections at establishments that have not been reviewed despite being in risky industries. Increase the number of inspections in those industries. These policies, although representing a major change for OSHA, actually reflect, to some degree, those used in Washington and Oregon (and are patterned on the United Kingdom's).

Compared to other regulatory agencies, OSHA has developed very little analytical capacity; one result is that it has not learned very much about the impact of its activities. "We're an enforcement agency, not a research agency," has been a frequent message. The National Institute for Occupational Safety and Health, created by the same statute that created OSHA, has played a very limited role in analysis or evaluation of OSHA programs. OSHA should use more small-scale experiments. A small OSHA research institute, reporting to the secretary of labor and with a scientific advisory board, should be established.

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Worker Health and Safety: More Needs to be Done

RANDY RABINOWITZ

When a worker is killed, injured, or made ill on the job, it represents a tragedy for the employee and his or her family. Workplace injuries often impoverish those affected. The total cost of occupational injuries and illnesses in the United States is at least \$250 billion annually. Workers' compensation pays only 21 percent of the costs. Workers, their families, and public and private social insurance and welfare programs subsidize the rest.

When Congress passed the Occupational Safety and Health Act in 1970, its goal was "to assure so far as possible every working man and woman in the nation safe and healthful working conditions" by focusing on prevention of work-related deaths, injury, and disease. Since then, the incidence of occupational injuries and fatalities has dropped significantly.

Reliable statistics do not exist to measure the incidence of work-related illnesses, particularly latent diseases. We do know, however, that standards issued by the Occupational Safety and Health Administration have significantly reduced worker exposure to toxic chemicals, such as lead and asbestos. Most workplaces are safer now than they were in 1970 and both employers and employees are more aware of the hazards present on the job, the risks they pose, and the steps needed to control those risks. Action by OSHA to implement the OSH Act is responsible for much of this improvement.

But the OSH Act has several key weaknesses. These limit OSHA's ability to fully protect workers from harm. The law has not been signifi-

cantly updated in the 46 years since it was passed. Congress should revise the OSH Act to make it stronger and provide adequate resources to protect workers from on-the-job hazards.

Congress directed OSHA to adopt standards regulating dangerous work practices and toxic exposures. Most employers voluntarily follow these standards and health and safety professionals rely on them as guideposts. Unfortunately, too many of OSHA's standards are woefully out of date and are based on consensus guidelines adopted in the 1960s or earlier.

The process for setting standards that protect workers has slowed to a crawl, because Congress, the executive branch, and the courts have weighed it down with added analytic and procedural requirements. The time-consuming hurdles that OSHA must overcome to revise its out-of-date standards means that it has less time to address new hazards that have been recognized since 1970, including the risk of workplace violence to health care and social service workers and musculoskeletal disorders arising from patient handling.

It now takes OSHA, on average, more than seven years to complete a new standard. Since 1970, OSHA has issued only 37 major health and 55 major safety standards. Congress should give OSHA the tools it needs to set new and revise out-of-date standards that address workplace hazards in a timely manner.

Even when standards exist to protect workers, too few are actually covered by the OSH Act. Federal law does not protect public employees who face on-the-job hazards, nor the increasing number of workers in the gig or on-demand economy who are being (mis)classified as independent contractors. When another agency regulates working conditions in an industry, OSHA cannot do so. This means that agricultural workers who apply pesticides (covered

by EPA), and transportation workers whose jobs involve work with airplanes, trains, truck, and boats (covered by FAA, FRA, FMCSA, and the Coast Guard) have limited OSHA protections.

OSHA has too few resources. It is charged with protecting workers in more than eight million workplaces. OSHA and state safety and health agencies had a total of 1850 inspectors who, during FY 2015, conducted 35,385 federal and 41,892 state inspections. The average penalty for a serious violation of the OSH Act — one that may cause death or serious physical harm — is just \$2,148.

The AFL-CIO estimates that federal OSHA can inspect every workplace in America once every 145 years. Employers have little incentive voluntarily to comply with the law when violations are so likely to go undetected. Congress should provide OSHA with adequate resources to fulfill the duties it has been assigned.

Employees are not adequately protected when they voice concerns about workplace safety. OSH Act enforcement relies on employees to spot hazards, to report injuries and illnesses when they occur, and to request inspections when hazards persist. Although the OSH Act prohibits retaliation against employees who speak up for their own protection, enforcement of OSH Act anti-retaliation provisions is limited. Too often, employees who assert their rights to a safe workplace are fired. Congress should let workers enforce their right to be free from retaliation.

Workers deserve a safe workplace. Current law is too weak to ensure work is free from hazards.

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Protecting Workers — Progress but a Long Way to Go

PEG SEMINARIO

In 1970, Congress passed the Occupational Safety and Health Act, with the goal of providing workers a protected place to work. The law didn't just happen — it took decades of struggles by unions and workers, and only came following workplace and environmental tragedies. It became part of a wave of federal legislation to protect workers, the public, and the environment from harm.

Like many of the environmental laws enacted at the time, it was based upon a foundation of setting and enforcing protective standards, with the federal government — in this case the Department of Labor — given the responsibility to carry out the law in collaboration with the states. In addition, the OSH Act gave workers and their representatives important new rights, including filing complaints, requesting onsite inspections, and having a voice in safety and health in the workplace.

The law has been described as radical and revolutionary, fundamentally changing the balance of power between not only the government and employers, but between workers and employers, on a central workplace issue. This direct challenge to “management prerogatives” on how workplaces are operated has been the source of much of the employer opposition and conflict regarding the law and its implementation for the past four decades. And it is in this context that OSHA has worked and often struggled to carry out the statute's mandates.

Forty-six years after the law went into effect and OSHA was created, there is no question that real progress has been made. Work-related

deaths have declined dramatically: from 14,000 in 1970 to 4,800 in 2014, with high-hazard industries like construction seeing the greatest reductions in the numbers and rate of fatalities. The same is true for work-related injuries and exposures to toxic substances like asbestos and benzene. While employers, unions, workers, and safety and health professionals have played a major role, OSHA through its standards, enforcement, and other programs has set the foundation for these gains.

OSHA standards have dramatically changed norms and practices. Just think about how asbestos removal is handled today — with enclosures, full-body personal protective equipment, and more — compared with decades ago. In health care, including dental offices, use of gloves and facemasks or respirators is standard practice, in large measure due to OSHA's bloodborne pathogens standard. These practices are now viewed as necessary and appropriate to protect both workers and the public. But when these standards were issued, there was huge employer opposition, with claims that the rules were unnecessary, infeasible, and would put employers out of business and cost jobs.

Similarly, OSHA enforcement has changed practice and improved conditions, both through emphasis programs that focus on high-hazard industries like meat packing and poultry, and inspections at individual workplaces with high injury rates or in response to complaints. It is well documented that OSHA inspections improve conditions, reducing exposures and injuries.

When there has been strong leadership and commitment and OSHA has focused its efforts, the agency has made a real and lasting difference.

OSHA's biggest problem and deficiency is that it simply does not have the resources that are needed to meet its responsibilities. OSHA's current budget is \$552 million. As a

comparison, the EPA budget is \$8.1 billion.

Federal OSHA and the state OSHA plans are responsible for overseeing the safety and health of 140 million workers at more than 8 million workplaces. But currently there are fewer than 2,000 OSHA inspectors (about 900 with federal OSHA). Federal OSHA is able to inspect workplaces under its jurisdiction on average only once every 147 years.

OSHA's ability to issue needed standards is likewise constrained. In its 46-year history the agency has issued standards for 30 toxic substances. The standard-setting process has gotten harder and longer, as layers of procedural and analytical requirements have been added and industry and political opposition has intensified. Early on, it took OSHA one to three years to issue new standards for major hazards. The most recent standards — silica and confined space entry in construction — took about 20 years. As a result for most hazards, standards are out of date or non-existent. OSHA can't address even long-recognized problems, let alone the emerging hazards that put workers in danger.

OSHA needs more resources. The statute, which has never been updated, needs strengthening. The act must be extended to cover the millions of public employees who still lack legal protection; penalties must be strengthened, including making criminal offenses a felony instead of a misdemeanor; and whistleblower protections improved so workers can exercise their rights.

But most of all OSHA — and worker safety and health — needs greater public and political support, which will only come when the nation places a higher value on workers' lives.

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Economic Incentives for Job Safety

W. KIP VISCUSI

In the 1970s, the Occupational Safety and Health Administration became the poster child for ineffective and intrusive regulation. OSHA was vilified for workplace standards that intruded on management decisions and often imposed seemingly nonsensical requirements. Early empirical studies of the impact of the agency on worker safety showed no demonstrable effects, so that there was no evident payoff from the imposition of regulatory costs.

Since this initial period of controversy, the nitpicking regulations were trimmed, and workplace safety has exhibited substantial improvement. Defenders of the agency point to the reduction in worker injuries as evidence of the efficacy of these command-and-control regulations. My own studies have found that OSHA has contributed to a significant decrease in worker injuries. But the preponderance of the decline in injuries over the past 80 years reflects continuation of the long-run improvements in safety. OSHA's efforts have enhanced safety, but the agency could be even more effective.

The underlying economic determinants of safety hinge on how government policies influence the incentives for safety. Firms will make additional investments in safety to the extent that there is a financial incentive to do so. The principal market incentive is that workers require additional pay to work on dangerous jobs, and they currently receive pay at a rate that implies a value of statistical life on the order of \$9 million. That works out to wage compensation at a rate of \$900 for an annual fatality risk of 1 in 10,000. The total wage compensa-

tion for workplace fatalities and injuries is about \$100 billion.

OSHA regulations contribute to this type of market operation through policies that inform workers of the hazards they face. One such regulatory effort that alerts workers to workplace risks and contributes to the functioning of markets is the OSHA hazard communication regulation. After OMB rejected the regulatory proposal, OSHA appealed the decision to then Vice President George H. W. Bush. OSHA's benefit assessments were too low, since they valued worker lives based on their lost earnings, or what they termed the "cost of death." My analysis that introduced the value of statistical life into OSHA's analysis led to benefits exceeding costs and the issuance of the regulation. OSHA has a continuing vital role to play in alerting workers to hazards that they might not otherwise understand.

In addition to payment of higher wages to workers to incur job risks, there is also compensation of workers after job injuries through the state workers' compensation programs. In 2013, the net workers' compensation premiums written through commercial lines was \$41 billion. This insurance program in turn establishes powerful incentives for safety through experience rating of firms. Larger firms especially are incentivized through this process. My empirical estimates found that in the absence of workers' compensation, workplace fatality rates would be 30 percent greater.

How do the financial incentives for safety created by OSHA compare with those generated through wage compensation and workers' compensation? The regulatory approach involves the use of inspections to identify standards violations, which can lead to financial penalties. In my research on EPA inspections of water pollution from pulp and paper mills, I found that this regulatory strategy can be extremely effective. In the case of water pollution, EPA

receives regular discharge monitoring reports and undertakes frequent on-site inspections. In contrast, seeing an OSHA inspector remains a rare event, with an annual probability of about 1 in 100 at any given worksite. The associated penalties levied in this enforcement process are still low, with total initial proposed OSHA penalties of under \$150 million in 2010. The financial incentives for safety created by OSHA are dwarfed by the other forces at work.

Bolstering OSHA's impact requires that the agency generate greater financial incentives for safety. A more vigorous enforcement effort and much more substantial penalty levels would be essential components of such an initiative. But there should also be a recognition of the underlying economic forces at work. OSHA should target its efforts at risks for which the market does not function effectively, such as dimly understood health hazards. More visible acute risks pose fewer challenges for the operation of market forces and workers' compensation incentives.

Identification of areas where market forces clearly fail can assist in the effective targeting of OSHA efforts. Mexican immigrant workers incur about 40 percent greater fatality risks than do native U.S. workers, but they receive less hazard pay for these risks. For Mexican immigrants who are not fluent in English, there is no evident wage compensation for the substantial fatality risks that they face. OSHA can potentially play a constructive role by creating powerful financial incentives for safety to address these and other market failures.

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