The Necessity of OSHA

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The study of regulation by economists includes considerable literature analyzing occupational safety and health. Most economists believe that the country has made insufficient use of economic incentives that promote the reduction of occupational injuries and disease. Indeed, some analysts are so confident of the efficacy of economic incentives that they favor abolishing the Occupational Safety and Health Administration (OSHA).

Congress created OSHA based on the judgment that economic incentives had failed to protect workers, and nothing that has happened since proves that Congress made a mistake. Economic incentives have a role to play in protecting workers, but OSHA regulation remains necessary to fill in the significant gap left by these incentives. This essay establishes the necessity of OSHA by explaining the limited extent to which workers are compensated for dangerous work because they are paid higher wages or receive workers' compensation.

I. Compensation for Dangerous Work

There are two economic incentives that can cause employers to invest in safety and health protections. First, workers may receive an ante payment in the form of a "wage premium" or "risk compensation." This payment constitutes compensation for undertaking risky tasks within the workplace. Second, workers may receive an post payment in the form of workers' compensation. This section considers the first incentive.

A. Economic Theory

Economic theory indicates why these monetary incentives should cause employers to reduce occupational risks to workers. In economic terms, workplace injuries and illnesses are called "externalities" or "spillover" costs, for the reason the following hypothetical demonstrates. Assume that workers are exposed to fumes in a factory that are dangerous to their health. In an unregulated labor market, i.e., one without workers' compensation or OSHA, the factory would appear to have no incentive to reduce the pollution, which would have the effect of reducing its profit. A portion of the cost of production -- the workers' illnesses -- therefore "spills over" to the employees in the sense that they, not the factory, will pay for the consequences of becoming ill. Put another way, these costs are "external" to the factory.

A market with an externality or spillover cost does not operate in an "efficient" manner. There is a market failure because the price of the product made by the factory does not reflect the costs paid by the workers concerning their illnesses. The underpricing of the product leads to overproduction. Because the price is lower than it would be if the factory paid for the spillover cost, consumers will purchase more of it than otherwise. The market is not efficient because more of the product is sold than if it

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were properly priced.

When this market failure exists, what should be done about it? Before Ronald Coase wrote his famous article in early 1960s, *The Problem of Social Cost*, economists assumed that the market failure required government intervention. They favored a tax that would require the factory to pay the cost of the illnesses caused by the pollution. If the tax is accurately calculated, the factory would "internalize" what was previously an "external" cost. The United States has never relied on taxes to address spillover costs, although we do use tort compensation or workers' compensation in the case of workplace injuries and illnesses. In theory, compensation operates with the same result as the tax and a polluter ends up paying for what were previously external costs.

Coase's fundamental insight was that government regulation may not be necessary to address spillover costs because the market would operate in a self-correcting manner. Coase demonstrated that those persons who are adversely affected by the spillover costs, *i.e.*, by the pollution, would bargain with the polluter for an adjustment in the level of pollution. Moreover, assuming that such bargaining was not subject to its own market imperfections, this adjustment would produce the same result (in terms of pollution reduction) as a tax imposed by the government. Therefore, after Coase, we need to consider the possibility that market transactions will reduce the level of spillover costs.

Labor markets, in theory, invite the type of bargaining that Coase predicted. Workers will seek safer jobs unless employers compensate them for workplace risks. Thus, for a given level of workers' compensation, economic theory predicts that workers will obtain a wage premium that compensates them for any inadequacies in ex post compensation. The employer's reaction will be to calculate whether it is less expensive to reduce a workplace hazard or pay the workers the compensation that they demand. The employer will, therefore, reduce occupational risks until the marginal cost of making the next reduction in risk is more than the workers demand in extra compensation for the assumption of that risk.

Workplace bargaining, then, will not eliminate workplace injuries and illnesses. Instead, economic theory predicts that it will produce the "optimal" level of injury and illness. The level is optimal in the following sense. If there is any further reduction in the level of risk, it will cost more than the harm that will result from the risk (as measured by the compensation demanded by workers). In other words, economic incentives will reduce workplace injuries and illnesses to the point where it costs more to make any further reductions than to pay compensation to those who are injured.

### B. Market Reality

The optimal level of occupational injury and illness will only be achieved if workers receive full compensation for their injuries and illnesses. The evidence, as I discuss below, indicates that workers are unlikely to receive full compensation in many circumstances. Before moving on in this discussion, however, I wish to point out that when Congress created OSHA, its economic goal of seeking an "optimal" level of harm to workers was the goal of regulatory policy. Although I have offered arguments in support of this decision, this justification is beyond the scope of this essay.
Economists have studied the extent to which workers receive compensation for undertaking dangerous employment. Some studies have found that workers in dangerous jobs receive higher wages after controlling for education, experience, and other market characteristics of safety hazards. Kip Viscusi, for example, has found that annual compensation for all job risks totals about $400. Although compensation is only $400, Viscusi estimates that workers receive a premium of $1 to 1.5 million per fatality and $10,000 per injury in 1969 dollars. The actual amount that workers receive is only $400 because, according to Viscusi's statistics, they have only a small chance of being killed or injured.

Despite such empirical data, there are two reasons for doubting that workers receive risk wages that fully compensate them for the risks they endure. First, the prediction that workers will be compensated for occupational risks is predicated on the assumption that bargaining for such wages is not itself subject to market failures. Risk compensation will be fully compensating only if workers (or least some workers) are fully informed of risks and their risk perceptions are not distorted by psychological defects in the way in which individuals process risk information, if firms possess sufficient information on worker expectations and preferences (directly or through revealed preferences), if bargaining between employers and employees is transacted in anonymous, perfectly competitive labor markets, and if safety is not a public good. As every day observation reveals, however, many markets lack one or more of these attributes. For example, "[e]ven workers with some knowledge of workplace risks must be able to discern marginal differences in risk to bargain effectively for appropriate pay. Such distinctions are especially difficult to make in the context of occupational illness, where huge uncertainties befuddle attempts to predict the precise effects of health risks on longevity and the quality of life once a disease has manifested itself." Moreover, as Peter Dorman impressively explained, there are good theoretical reasons why labor markets are subject to market failures that prevent workers from obtaining compensation that offsets occupational risks.

Second, the literature on wage premiums offers only equivocal support that wage premiums are adequate to compensate workers for their occupational risks or that they even exist. To start with a simple example, Viscusi's estimate that workers receive a $1 to 1.5 million premium per fatality and $10,000 premium per injury is based on existing statistics about the extent of workplace risks. There is a consensus among experts, however, that existing data significantly understates the extent of such risks. Indeed, the data is so poor regarding the risks of occupational disease that economists have been unable to test whether employees receive compensation for such risks. The findings about risk compensation are based on occupational accidents. If, as appears to be true, injury risks are greater than indicated by the data used by Viscusi, workers receive a lower premium for dangerous work than he estimates.

Peter Dorman and Paul Hagstron have identified a more fundamental problem with studies such as the one by Viscusi. Although such studies control for education, experience, and other market characteristics of safety hazards, they do not consider whether the higher wages earned by some workers in dangerous
industries are attributable to labor market imperfections in that industry, rather than risk compensation. When Dorman and Hagstrom included "industry level controls appropriate to a world of less-than-perfect competition" in their regression tests, the result was the "near disappearance of evidence for offsetting wage不同ials for risk of fatal and nonfatal injury" for all but one measure of fatality risk.\textsuperscript{14} Further, they argue that this measure of risk "is the one that possesses the least plausibility" in terms of measuring the actual risk that workers confront.\textsuperscript{15} Dorman and Hagstrom conclude, "[T]hese results cast doubt on the very existence of compensating differentials for all workers, union and nonunion alike."\textsuperscript{16}

Although Dorman and Hagstrom failed to find a positive correlation between risk and wages, they did find evidence of a negative correlation -- \textit{i.e.}, relatively high risk and low wages -- for nonunion workers. They explain, "[I]n plain terms, nonunion workers in dangerous jobs are, in many cases, simply unlucky: they have found their way into situations of high risk and low pay and would presumably move to a better job if [sic] they could."\textsuperscript{17} James Robinson, likewise, has found that because hazardous jobs paid 20 to 30 percent less than safe employment, persons with education and training will avoid such jobs.\textsuperscript{18} According to Robinson, the labor pool for hazardous jobs therefore consists of "disadvantaged workers who are willing to accept health and safety risks in return for very modest amounts of compensation."\textsuperscript{19} Not surprising, this means minority workers are more likely to suffer disabling injuries or illnesses than others.\textsuperscript{20}

In light of this evidence, one cannot conclude that all, or even many, workers obtain a wage premium that compensates them for inadequacies in \textit{ex post} compensation concerning occupational accidents. Moreover, given the lack of studies of compensation for occupational disease, it cannot be concluded that workers are paid for their risk of occupational disease.

II. Employment At Will

At least some workers lack sufficient alternative job options that they can obtain compensation for the risk of occupational injuries. If they had a legal right to object to unsafe working conditions, they might be able to obtain additional protection. Under the employment-at-will doctrine, however, workers can be fired for any reason, or no reason at all. Under this doctrine, a nonunionized worker "who brings a citizen's suit, or otherwise engages in activities to spur OSHA enforcement, can expect a swift pink slip."\textsuperscript{21} Section 11(c) of the Occupational Safety and Health Act does prohibit an employer from taking any adverse action against an employee for exercising any rights provided by the statute,\textsuperscript{22} but there is little enforcement of this provision.\textsuperscript{23} As Walter Olson's book relates, some state courts have limited the scope of the employment-at-will doctrine,\textsuperscript{24} and this law offers workers some protection for whistle blowing. Olson is unhappy with many of these developments because of their scope and because employers now find it more difficult to predict their rights. He appears to ignore that these changes may benefit employees who lack any bargaining power.

\textit{Mehlman v. Mobil Oil Corporation}\textsuperscript{25} illustrates the impact of a whistle blowers exception to the employment at-will-doctrine. Mehlman, who was employed by Standard Oil, was
inspecting a company facility in Japan when he learned that the gasoline refined by the facility had high levels of benzene. The company was in compliance with applicable regulations in Japan, but Mobil could not have sold the same gasoline in the United States because of the excessive amount of benzene, which is a carcinogen. After Mehlman complained too much about this problem, he was fired. He sued under the New Jersey Conscientious Employee Protection Act. The issue was whether Mehlman could claim protection because he was attempting to protect people who were not citizens of the United States or even New Jersey.

The court interpreted the statute as a codification and an extension of the tort of wrongful discharge, which prohibits an employer’s discharge when it is contrary to a clear public policy mandate. The court declared that whether a clear public policy mandate exists is a matter of law, and that such a mandate exists when a policy is clearly defined and grounded in statute or administrative rules and regulations. Nevertheless, the court said that Mehlman was protected under the statute even though there was no Japanese law or regulation that prohibited Mobil’s practice. Mehlman was protected because he had a “reasonable belief” that the company’s behavior was illegal in Japan.

Olson complains in his book that state courts have made the employment-at-will doctrine less predictable by grafting onto it exceptions such as the one recognized in the Mehlman case. He is correct that a test based on an employee’s “reasonable understanding” is less predictable than one which only asks whether or not a law or regulation actually prohibits a practice. But the test adopted by the court is more protective of workers. Thus, there is a tension and a tradeoff. The New Jersey Supreme Court can limit exceptions to the employment-at-will doctrine to a few, clearly defined rules, or it can even refuse to adopt any exceptions. This would meet Olson’s preference for clearer law, but it would work against public policy, such as the policy in favor of safer workplaces. Workers, especially uneducated and powerless workers, may well be prone to make mistakes about what OSHA law and regulations actually prohibit. If they can be fired for such mistakes, even if they are reasonable, they will receive less protection as a practical matter.

Besides unclear law, Mr. Olson objects to judicial acceptance of new theories of law that limit employment-at-will. Another case, Fredrick v. Simmons Airlines, Inc., illustrates this trend in the context of health and safety policy. After a pilot for a commuter airline was fired for protesting safety problems with the aircraft he flew, he filed a tort claim of interference with prospective economic advantage. The plaintiff argued that the fact he had been fired would limit his opportunities to obtain a job as a pilot with another airline, but a federal court disagreed. It held that the mere hope of obtaining another job is not sufficient to establish a tort under Illinois law, and the plaintiff did not allege he had a job offer or interview that was adversely impacted from being fired from his first job.

Olson would approve of the court’s refusal to adopt plaintiff’s innovative argument, but the story does not end here. The court held for the plaintiff under the doctrine of retaliatory discharge, which Illinois case law recognizes as
a limitation on the employment-at-will doctrine. According to Illinois law, an employer cannot fire an employee if the reason is the employee's efforts to force the employer to comply with a safety standard. The defendant tried to avoid this limitation by arguing that the state did not have a policy regarding airline safety because such rules and regulations were the responsibility of the federal government. The court understandably rejected the argument on the ground that Illinois citizens benefitted from the federal rules and would be served by protecting the pilot's efforts to gain compliance with them. The court also rejected the defendant's argument that the pilot was not protected under the Illinois law because he publicized his allegations about the airline. At the time of the case, the Illinois courts had not definitively decided this issue, but the federal court found for the plaintiff based on its interpretation of Illinois law.\footnote{31}

I assume Mr. Olson would disapprove of the court's effort to limit the employment-at-will doctrine concerning the enforcement of safety regulations. Yet, this case will assist workers in protecting themselves. Thus, once again, there is a tension between clear law and worker protection. I do not propose here to suggest exactly how this tension might be resolved. But it is worth noting that Olson's preference to retain as much of the employment-at-will doctrine as possible works against the nation's policy of protecting workers from occupational injuries and diseases. My own preference, defended elsewhere,\footnote{32} would be to give workers a right of action in federal court to enforce Section 11(c) of the OSH Act. This section, you will recall, prohibits an employer from taking any adverse action against an employee for exercising any rights provided by the OSHA statute.\footnote{33}

\section{Workers' Compensation}

In theory, workers receive \textit{ex ante} and \textit{ex post} compensation for occupational injuries and disease. They receive compensation before they are injured, in the form of risk compensation, and after they are injured or become ill, in the form of workers' compensation. Available evidence, discussed earlier, suggests that many workers do not receive sufficient \textit{ex ante} compensation to offset the costs of injuries and illnesses not paid by workers' compensation. Similarly, it does not appear that workers' compensation actually works in the manner indicated by economic theory.

\subsection{Economic Theory}

Shortly after the Coase article was published, Calabresi and Melamed explained that economic theory predicts that tort law will produce the same result as the bargaining process identified by Professor Coase.\footnote{34} In a Coasian bargain, the amount that someone is willing to pay for additional protection depends on the extent to which an externality damages that person's property or harms them, which is the same amount of compensation that a court would award. Although the result is the same, Calabresi and Melamed noted that government regulation (tort law) is necessary to achieve an efficient result if the bargaining process is subject to market imperfections. By requiring a firm (or person) to pay for property or personal damage to others, tort law internalizes what were previously external costs. A firm will reduce or abate an externality until the marginal cost of making the next improvement, or
reduction in risk, is more than the firm would owe if someone sues and recovers damages. Thus, like Coasian bargaining, the goal of tort compensation in economic theory is to produce the “optimal” level of injury and illness.

Workers cannot utilize the tort system to sue their employers because compensation laws almost always prohibit such law suits. Still, economic theory predicts the same “efficient” result. An employer determines the extent of its efforts to prevent occupational injuries and illnesses by comparing the cost of prevention with the cost of not reducing these risks. Thus, a firm will invest in safety and health precautions until the cost of an additional investment is greater than the cost to the employer (risk wages and workers compensation) of not making that investment. If workers are fully compensated (ex post and ex ante) for the remaining accidents and illnesses, the market for an employer’s product or services will reflect the actual cost to society of the production of a good or service.

B. Compensation Reality

Economic theory falls short of describing the actual operation of workers’ compensation for two reasons. First, workers’ compensation clearly fails to reimburse employees for all of their accident and illness costs. Thus, unless the workers have already been compensated for the remaining costs through wage premiums, employers do not end up paying for the costs of occupational injuries and illnesses. As discussed earlier, it is unlikely that wage premiums fulfill this task in many cases. Second, economists have been unable to establish that higher workers’ compensation costs lead to a reduction in workplace injuries, and some studies find that higher costs are associated with an increase in injuries.

All states have caps on damages and other limitations that significantly restrict workers’ compensation for accidents. In most states, there is an inverse relationship between the seriousness of an injury and the amount of compensation. The compensation for fatalities is often less than the amount paid for temporary and permanent disabilities. Statutorily prescribed formulas limit compensation for temporary disabilities to less than the direct wage losses of better paid employees. Worse, compensation for permanent partial disability payments often does not equal the total wage loss of any employee. Finally, there is no compensation for the loss of fringe benefits or nonpecuniary losses to workers and their families.

Employees receive even less compensation for occupational illnesses. One estimate is that states compensate only 250 cancer cases per year as compared to the thousands of cancer fatalities that may be work related. Another is that only 2-3 percent of all workers’ compensation payments are for occupational disease. The lack of recovery is attributable to three reasons. Workers do not make claims because they and their physicians fail to recognize that an illness is work-related. Those who do seek compensation fail to obtain it because of the difficulty of proving causation and because many states have restrictive standards for recovery. If a disease victim does prevail, the claimant is subject to the same statutory limitations on compensation amounts that apply to injury victims.

These results are not surprising because workers’ compensation was never designed to serve the economic function of compensating workers for the costs of injuries and illnesses.
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The underlying policy of workers' compensation has always been to keep an employee from starving, not to compensate the worker for his or her damages.39

What is surprising is the lack of proof that workers' compensation causes firms to invest in prevention. At best, the empirical evidence is equivocal concerning whether workers' compensation induces employers to take safety precautions. Most studies, which tested for a relationship between an increase in workers' compensation costs and workplace injuries, as measured by injury statistics or workers' compensation claim rates, have concluded that injuries increased or remained unchanged when benefit levels rose.40

Two competing explanations have been offered to explain why injury rates do not decline when workers' compensation benefits increase. One side contends that workers' compensation-benefit increases encourage workers to act more recklessly and that this reaction overcomes efforts by employers to make workplaces safer. The other side argues that, despite workers' compensation, employers lack an incentive to invest in safety and health improvements because of the impact of insurance and other factors.

An increase in workers' compensation benefits may not lead to fewer accidents if workers become less vigilant and therefore suffer more (and more serious) accidents. According to this theory, workers will react in this fashion because higher benefits diminish the personal economic risks associated with such injuries. In economic terminology, higher benefits constitute a "moral hazard" because workers will not bear the costs of their own reckless behavior. If such behavior offsets the impact of safety improvements by employers, this theory would explain the positive relationship between increased workers' compensation costs and injury rates.

I am skeptical of this explanation, however, because workers have strong economic and other incentives to avoid injuries.41 As discussed earlier, workers receive less, sometimes far less, than the actual costs of their injuries and illnesses. Even if this were not true, I (and I think most people) find it contrary to our experience that the prospect of money in the future will persuade a significant number of employees to risk severe pain, hospitalization, dismemberment, and even death in the present. A more plausible, and less cynical, explanation for the test results is that higher workers' compensation only increases the number of accident reports and not the absolute number of injuries. Because workers lose less income if they miss work, they may report more injuries and stay off work longer.

The competing explanation is that workers' compensation does not create significant incentives for employers to invest in safety and health improvements. There are two theories to explain the lack of incentives. First, the price of workers' compensation insurance does not reflect, or only partially reflects, the claims experience of many employers.42 Because insurance companies group employers into classes for purposes of establishing premiums, an employer's insurance rates depend at least partially on the group experience, rather than its own. To the extent that a firm's actual claims experience will have little effect on its future premiums, it has only a weak economic incentive to take safety precautions.

Second, employers will not invest in safety
or health improvements if there are lower cost methods to avoid compensation payments. One such method is to discourage employees from filing claims, or if claims are filed, from prevailing. Employers can pressure employees not to file claims, delay the completion of necessary paperwork, aggressively contest claims, and persuade employees who file claims to return to work prematurely. Another method is to engage in political activity to reduce future payments to workers. States have been responsible to such employer efforts and have instituted significant benefit reductions and restrictions.43 At the same time, however, states have also adopted various types of injury prevention and safety incentives or requirements. It is not clear whether the net effect of these two types of actions has been to reduce or increase the incentive of employers to take safety precautions. The result may vary from state to state depending, among other factors, on the relative political strength of employers and organized labor.

Neither of the theories blaming employees or employers have been proven as an empirical manner.44 This does not prevent a conclusion, however, that workers’ compensation has failed to cause employers to internalize the cost of occupational injuries and diseases. The damage limits and other restrictions prevent this result. In addition, depending on which theory is correct, workers’ compensation benefit increases do not even cause employers to invest in safety and health protections.

IV. Conclusion
An employer will undertake safety and health precautions until their cost is more than the expense of paying risk compensation and workers’ compensation. Although economic theory predicts that such ex ante and ex post compensation should produce “efficient” markets, the reality is different. While economic incentives do promote safety and health protection, the extent of such improvement is difficult to verify and appears to be limited in numerous situations. There are various explanations for this lack of efficacy, some of which conflict, but all of which suggest that labor markets and workers’ compensation are subject to significant constraints.

Congress created OSHA because of the failure of labor markets and workers’ compensation to promote sufficient protection of workers. After twenty years, workers still do not receive even the level of protection consistent with economic theory, let alone the level of protection established as a legislative goal for OSHA.

Notes


5.  See Thomas O. McGarity & Sidney A. Shapiro, Workers At Risk: The Failed Promise of the Occupational Safety and Health Administration ch. 18 (1993) [hereinafter Workers At Risk]; Thomas O. McGarity & Sidney A. Shapiro, OSHA’s Critics &
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6. See Viscusi, supra note 1, at 40-41 (showing results of Viscusi's research); 61-63 (showing a table of results of other studies).
8. See id.
9. OSHA's Critics, supra note 5, at 606.
10. See generally Peter Dorman, Markets & Mortality: Economics, Dangerous Work, and the Value of Human Life (1996) (discussing why labor markets are likely to be subject to one or more market imperfections that would limit risk compensation).
11. See OSHA's Critics, supra note 5, at 591-92 (citing studies finding that existing statistics underestimate workplace risks).
12. See Workers at Risk, supra note 5, at 271.
14. Id. at 133.
15. Id.; see also id. at 121 (explaining why this measure lacks plausibility).
16. Id. at 133.
17. Id.
19. Id. at 94.
20. See id. at 97.
21. Workers at Risk, supra note 5, at 332.
23. See Workers at Risk, supra note 5, at 334-340.
28. See Olson, supra note 24, at 46.
29. 144 F.3d 500 (7th Cir. 1998).
30. See id. at 503.
31. See id. at 503-5.
32. See Workers at Risk, supra note 5, at 340.
37. See Schroeder & Shapiro, supra note 35, at 1235 (citing government studies).
38. See id.; Peter S. Barth, a Proposal for Dealing with Compensation for Occupational Diseases, 13 J. Legal Studies 569, 570-73 (1980).
39. See Workers at Risk, supra note 5, at 22.
40. See Boden, supra note 35, at 573 (describing the results of 16 studies); Richard J. Butler & John D. Worrall, Claims Reporting and Risk Bearing Moral Hazard in Workers Compensation, 63 J. Risk & Insurance 191, 192 (1991) (concluding that "virtually" all studies of claim usage in workers' compensation find that an increase in indemnity benefits increases workers' compensation claims frequency); but see Michael J. Moore and W. Kip Viscusi, Promoting Safety Through Workers' Compensation: The Efficacy and New Wage Costs of Injurious Insurance, 20 Rand J. Econ. 499, 511 (1989) (concluding average fatality rate would have been 22 percent higher if there had been no workers compensation).
41. See OSHA's Critics, supra note 5, at 625 (elaborating why there is no moral hazard).
42. See Spieler, supra note 35, at 152-3, 233.
43. See id. at 246-59 (documenting how states have reduced benefits and otherwise restricted compensation); Martha T. McCluskey, The Illusion of Efficiency in Workers' Compensation "Reform", 50 Rutgers L. Rev. 657, 715 (1998) (same).
44. See OSHA's Critics, supra note 5, at 596-98, 626 (describing and discussing the empirical evidence).