ENFORCING WORKPLACE SAFETY REGULATIONS WITH CRIMINAL PENALTIES

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DEDICATION

This thesis is dedicated to those workers who never came home.
There was another interesting set of statistics that a person might have gathered in Packingtown--those of the various afflictions of the workers. . .each one of these lesser industries was a separate little inferno, in its way as horrible as the killing beds, the source and fountain of them all. The workers in each of them had their own peculiar diseases. . . the worker bore the evidence of them about on his own person-- generally he had only to hold out his hand.

-Upton Sinclair

*The Jungle*
ABSTRACT OF THE THESIS

Enforcing Workplace Safety Regulations with Criminal Penalties

by

Carlo Emami

Master of Arts in Political Science
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An average of thirteen American workers die on the job each day, but this important issue has largely escaped the attention of the public, academics and policymakers. In this study, I approach the question of whether these deaths can be reduced through the use of criminal penalties against employers who willfully and knowingly operate unsafe workplaces. This analysis will provide an overview of existing research on regulatory enforcement, a summary of mechanisms for enforcing workplace safety laws, and history of legal and theoretical developments in the use of criminal penalties. I conducted a quantitative regression analysis to examine whether there is a relationship between stricter criminal penalties and workplace fatalities. While no statistically significant relationship between these variables is found, most likely the number of criminal prosecutions is too small to have a measurable impact. Criminal prosecutions may still represent a meaningful way of reducing workplace fatalities, but OSHA enforcement remains relatively weak in this area.
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CHAPTER 1

INTRODUCTION

Thirteen people are killed each day in workplace accidents in the United States; however this death toll has largely escaped public attention. The daily occurrence of fatalities and serious injuries remains as background noise in American industry. Given the scope and seriousness of the problem, relatively little attention is given to solving it. The federal Occupational Safety and Health Administration (OSHA) and state occupational safety and health agencies are responsible for protecting some 130 million workers in 8 million workplaces across the country. In 2013, they had to achieve this with 2,200 inspectors and a budget of about 570 million (U. S. Department of Labor 2013a; hereafter US DOL). Contrast this with the 2.5 billion dollar budget for the FDA and 9.5 billion for the EPA (U. S. Office of Management and Budget 2010). The issue of workplace safety is also relatively neglected in academia; relatively little attention is given to policy considerations or strategies to reduce the toll of workplace injuries and illnesses.

OSHA uses a variety of different policy tools to attempt to improve workplace safety. These tools range from cooperative methods like education and consultation programs to more coercive strategies like inspections and monetary penalties. Fines are the preferred penalty mechanisms, but OSHA can also pursue criminal charges against employers who have committed a knowing and willful violation of safety standards that leads to the death of a worker. While all the tools used by occupational safety and health agencies have their relative advantages and disadvantages, there has been little systematic evaluation of which strategies are most effective and under what conditions. My analysis will focus on criminal penalties, and it examines the following questions: How do criminal penalties compare to other enforcement strategies, and what are their advantages and disadvantages? How have criminal penalties evolved historically and legally? How often are criminal penalties utilized and are they effective at deterring future violations?

This thesis will begin in chapter two with a history of the development of workplace regulatory regimes and the creation of OSHA, the Occupational Safety and Health
Administration. Chapter three will review non-governmental penalties such as civil lawsuits and explain the role unions play in increasing workplace safety. Chapter four returns the focus to government, and explains the distribution of power among federal and state occupational safety and health regulatory agencies. There are differences in the strategies used by states and in the effectiveness of their programs. Chapter five provides an overview of the different strategies used by workplace regulatory agencies and summarizes existing literature on the effectiveness of OSHA regulation. This chapter also includes a history of relevant legal cases that have established the precedents allowing criminal prosecutions of both individuals and corporations for regulatory violations. Chapter six provides a detailed analysis of criminal prosecutions via a quantitative design that examines whether states with stricter criminal penalties have fewer occupational fatalities. While there is not a statistically significant relationship between the two variables, this may be because there are too few criminal prosecutions to have a measurable impact on employer behavior. Chapter seven concludes the thesis with observations on the need for future research, and examines some of the reasons why OSHA enforcement is not more effective. Ultimately, the relatively undeveloped state of public policy research in this area suggests that far more scholarship is needed to evaluate which enforcement strategies are most effective in reducing occupational safety and health violations.
CHAPTER 2

DEVELOPMENT OF OSHA

The concept of workplace safety evolved only gradually, as increasingly serious work-related injuries and deaths gained more attention following the industrial revolution. Industrialization changed the nature of work and introduced an entirely new variety of working hazards within the factory. It was not until the late 1800s that states gradually began considering regulations to protect the safety and health of all workers. Massachusetts passed some of the first occupational safety laws, which regulated the safety of machinery and the availability of fire exits. Several states followed, creating a system to begin inspecting factories for safety violations (US DOL 2009a, 1). However, resources and enforcement authority were both limited. In addition, the lack of federal standards meant that states were frequently tempted to compromise safety regulation in exchange for attracting new business.

The US Department of Labor was created during the early part of the 20th century in part to address some of these concerns. Accounts of the horrors of industry, like Sinclair’s *The Jungle* (1906) and Hard’s “Making Steel and Killing Men” (1907), and high profile incidents like the Triangle Shirtwaist Factory fire in 1911, demonstrated the need for more regulation. With Roosevelt’s appointment of Frances Perkins as Secretary of Labor in 1933, the political mood began to change on a federal level. Perkins had significant experience in promoting occupational safety both as a worker’s advocate as well as in various government positions within the state of New York. Perkins created the Bureau of Labor Standards (BLS) which was focused on documenting and preventing occupational injuries and fatalities (US DOL 2009a, 3). However, the Department of Labor and individual states were still relying significantly on employers voluntarily complying with worker safety laws. Enforcement power was minimal, and government pressed for more authority, while business interests tended to fiercely oppose any such developments. A bill was introduced in 1968 that would give the Department of Labor the power to enter and inspect workplaces, and expand the federal government’s resources for researching occupational safety hazards and creating new legislation. Opposition from business continued, and the government was only
able to gain limited power to regulate workplace safety, often via small, incremental advances in specific industries, or via regulatory changes that often lacked enforcement mechanisms. The legislation was not passed (in a modified form, with far more concessions to business interests and weaker penalties for violations) until 1970 under President Nixon, when it came to be known as the Occupational Safety and Health (OSH) Act (MacLaury 1981, 18-24). At the same time, a new division of the Department of Labor was created to administer the act and enforce its provisions: OSHA (the Occupational Safety and Health Administration).

The individual state programs that arose in the late 1800s still existed, and after the passage of the OSH Act, the Department of Labor worked to support this regulatory federalism and created a formal framework to support state occupational safety and health plans. In the present day, OSHA operates with similar levels of decentralization. Many states are under the jurisdiction of federal OSHA, but those states that wish to develop their own independent programs are free to do so, as long as they meet federal standards and have equally effective programs. Currently, 25 states choose to run to their own job safety and health programs (US DOL 2013b).

While one of the benefits of this decentralization is that it allows for greater experimentation and innovation, all the federal and state programs rely on some common tools for promoting workplace safety. Generally speaking, OSHA activity takes the form of either education/consultation programs or investigation/enforcement activities. All state programs and federal OSHA use both these strategies to varying degrees. Education and consultation programs include a wide variety of activities oriented towards supporting both workers and employers with resources that promote safe and healthy working conditions. This can include offering training courses on safety topics for employees, offering company managers opportunities to consult with OSHA experts on safety plan development, or making grants available for nonprofits that train workers in high-hazard or underserved industries. There is an emphasis on cooperation and sharing of information.

State and federal OSH programs also have investigation and enforcement duties. Investigations as a response to complaints and accidents, or as part of targeted or random visits to jobsites result in OSHA investigators evaluating an employer’s compliance with regulations. Employers who are not compliant can be penalized. Penalties generally take the
form of fines, but occupational safety and health agencies also can and sometimes do pursue criminal charges against corporations or individuals if a serious violation has occurred.

The policy tools available to occupational safety and health agencies have their relatively strengths and weaknesses, but there has been minimal analysis of which tools are most effective and under what conditions. In addition, strategies for promoting compliance shift frequently, depending on the fiscal resources of the agency, in response to high-profile incidents, or as a result of ideological priorities among state and federal governments.

Chapter three will provide a brief discussion of non-governmental mechanisms for workplace safety, before returning in chapter four to more closely examining the differences between state and federal occupational safety programs.
CHAPTER 3

NON-GOVERNMENTAL PENALTIES

Government occupational safety and health agencies are not the only forces that promote adherence to safe workplaces. There are a variety of marginal costs for noncompliance with occupational safety and health regulations aside from those penalties levied by OSHA. There is the possibility of civil lawsuits, but there are significant legal obstacles to pursuing redress for workplace injuries or deaths in the courts. There are market consequences, such as decreased sales as a result of bad press, or, for publicly traded companies, a decline in share price. However, these informal social and market mechanisms are largely theoretical and their practical impact is not well-substantiated in the literature. Lastly, labor unions represent a nongovernmental actor that influences compliance with workplace safety regulations. This “union safety effect” is well substantiated by evidence that unionization correlates with fewer workplace fatalities. However, this effect is limited and is expected to diminish following the downward trend in workplace unionization levels. Ultimately, the government occupational safety and health agencies represent the primary means by which workplace safety is promoted.

CIVIL LAWSUITS

Private civil suits filed by injured workers or their families seem like a logical means of increasing the costs of employer noncompliance in the face of inadequate government oversight. Civil suits are a common legal recourse against a corporation responsible for the death of a person outside of the workplace, such as when a product injures or kills a consumer. However, the “exclusive remedy” provisions of the workers compensation insurance system in most states limit the ability of an injured worker to bring civil suit against an employer. Essentially, workers’ compensation benefits are the exclusive remedy for the death of an employee or for a work-related injury sustained by the employee. This provision generally applies in all but the narrowest circumstances; in most states the only significant exception is when a death or injury was caused by an intentional act or omission
of the employer or by the employer’s gross negligence. This standard is sufficiently stringent that few claims can meet it because proving intent is very difficult.

In addition, for injuries or deaths that aren’t classified as willful (most cases), payout is based on a set schedule that limits the total amount a worker or her family may recover. This set payout schedule reduces uncertainty for insurers, allowing the costs of payouts to be more broadly distributed rather than passing them on to a particular insured. In addition, the maximum compensation amounts may not be sufficient for an injured worker. For example, as of 2012, the maximum payout amount in Mississippi for a workplace injury is under $450 dollars a week (U. S. Social Security Administration 2013). This may not adequately compensate many workers for a permanent disability, or reflect the true “cost” of the disability to that person who may need to be retrained for a new type of job that accommodates their injury, or may even struggle finding a new position. These payouts do not adequately compensate for the potential emotional and psychological impact of permanent disability. The payout schedule also doesn’t account for the potential effect on non-work activities, such as a worker who loses several fingers who can no longer enjoy playing a musical instrument, or a worker with a foot crushed by a forklift who once recovered, can still perform his job duties, but can no longer go jogging or hiking as he used to.

Workers compensation systems also don’t accurately account for or compensate long-term disease hazards. Injuries are distinct events that generally have a clear causal mechanism. A worker that suffers an eye injury because her employer did not provide a protective face shield or property guarded machinery at least has a clear claim. A worker suffering from neurological damage after working with chemicals in an improperly vented area without a respirator over the course of several years has a much more difficult claim. Worker mobility from one employer to another, long latency periods and misattribution at diagnosis make it very difficult to measure, attribute and compensate for occupational disease. As Koprowicz (1986) suggests in his evaluation of workplace safety liability, the workers compensation system is a poor deterrent against unsafe work practices. Additionally, in a few states, employers are permitted to opt out of the workers compensation system completely. This exempts them from the “exclusive remedy” stipulation and exposes them to civil suits related to all workplace injuries and deaths. However, while workers may obtain a
favorable judgment in court, that judgment is worth little to an employee or her survivors if they can’t collect. For many employers, the exclusive remedy provision just presents itself as a means to distribute the costs of a potential death or injury to their insurer and others in their industry who pay premiums, even further reducing their incentive to comply with occupational safety and health regulations. As Higgins (1992) notes, the “employers, facing only the risk of increased workers compensation premiums, can ‘cost out’ decisions on safety issues in disregard of the potential human suffering” (68).

Though the workers compensation system limits the ability of ill or injured workers to seek redress through the courts, it originally represented the only means by which many affected employees could generally hope to receive any compensation for harm suffered on the job. Prior to the passage of workers compensation laws, common law and rules of criminal and civil procedure made it very difficult to obtain a judgment against an employer (Larson and Larson 2008). Prosser et al. (1984) note that “for the great majority of industrial accidents there was no recovery [in court]” (59). Gorton (2000) argues that the low risk of inspection or serious penalty, considered against the cost of adequate safety protections, will result in employers choosing to save money rather than keep workers safe.

**INFORMAL MARKET SANCTIONS**

There are other non-governmental sanctions, but they are also of questionable effectiveness. Shimshack and Ward (2005) and Parker and Nielsen (2011) briefly highlight the potential for informal third party sanctions to negatively influence corporate violations of environmental or consumer protection laws. Such sanctions would include things like decline in stock share prices for publicly traded companies following a violation of standards. This would also include social embarrassment and “bad press,” which could have significant consequences for higher profile companies. Both authors are concerned with whether or not these expected penalties are acknowledged in rational choice models, and suggest they might be further leveraged to increase the marginal costs of noncompliance.

These sorts of market mechanisms are largely theoretical; the issue has not been verified empirically. Most of the research is oriented around the broader concept of corporate social responsibility, and looks for a relationship between corporate social responsibility reputation and financial benefit in specific narrow cases, such as protecting
firms from stock declines during economic crises (Schnietz and Epstein 2005) or increasing their pricing power in specific types of markets (Jarmon 2009). Generally, while the literature in this area finds a positive relationship between a good corporate social responsibility reputation and financial benefit, the determination of reputation is based on responses from a narrow group of relatively homogenous survey respondents. This suggests a promising research topic, but one that currently suffers from a lack of quantitative analysis. As Jarmon (2009) and Graham and Bansal (2007) observe, existing literature on corporate social responsibility may not provide a very accurate model of how and to what extent a company’s corporate social responsibility affects financial performance more broadly. Because corporate social responsibility reputation involves multiple public concerns aside from workplace safety, such as environmental protection or consumer rights, it is difficult to isolate the role of safety reputation specifically. Davidson, Worrell, and Cheng (1994) are the only scholars to have examined shareholder reaction to announced OSHA penalties, and find that there is a significant negative reaction to OSHA penalties, but that this effect is very short-term, and is only observed with more significant events mentioned in major newspapers.

**Organized Labor**

There are some more distinct ways in which third-parties play a role in generating workplace safety. Though workplace safety is merely one item on the organized labor tasklist, unions represent one of the few prominent groups concerned with OSH regulations. The “union safety effect” has been subject to fairly thorough analysis. Weil (2008) notes that unionized establishments are inspected more frequently, are subject to more detailed inspections, and when fines are assessed, the penalty amount is higher than in non-union workplaces. These findings hold true across a series of similar studies conducted by Weil (1992; 2001) within specific industries, as well in research by Smith (1986), Brown (1995), Gunningham (2008), and Morantz (2011). It is theorized that the correlation between unionization and safety is in part because labor unions provide third party monitoring of health and safety conditions, and greater education on worker rights and protections (including OSHA regulations). This means union employees are more likely to be able to identify workplace safety violations and report them. Unions also provide employees
protection against dismissal, in essence protecting whistleblowers from retaliation, and increasing the likelihood that a complaint will be made. However, as the influence of organized labor declines overall, so does the potential to impact the regulatory process (Estlund 2005, 321-322).

Ultimately, protecting the safety of workers is largely a task left to regulatory agencies. There are not any significant worker safety advocacy groups, nor do workplace safety issues benefit from the enthusiasm and support of multiple grassroots organizations the way environmental regulatory concerns do. While unions dedicate resources to worker safety concerns, this is merely one part of the organized labor agenda, and the effects of unions is declining overall as union membership decreases. The ability of workers or their families to seek compensation in civil courts will remain restricted absent any significant legal reform and changes to the workers compensation system. Ideally, scholars should further analyze these other means of promoting workplace safety, and those who have a vested interest in workplace safety (a class that should include all workers and their dependents) need to promote these concerns as an important social issue. However, at present, government regulatory intervention, despite its many limitations, represents the most significant means of creating safer workplaces and thus will remain the focus of this analysis.
CHAPTER 4

STATE AND FEDERAL OSHA

Of the limited literature that exists on workplace safety regulation, most of it focuses on Federal OSHA enforcement. Currently, 25 states run their own job safety and health agencies and receive much of their funding from federal OSHA. While their standards are under federal oversight and must be “at least as effective,” there are significant differences when it comes to the development of their programs, particularly when it comes to enforcement. While state-level programs are generally associated with fewer occupational deaths (Bradbury 2006), there are challenges in studying their implementation. State programs vary in their scope, and jurisdictional confusion abounds. Some state programs cover both the private and public sectors, but in these states, federal agencies or private companies working for federal agencies are still under the jurisdiction of federal OSHA (US DOL 2013b). For example, a clerk in a law office in the City of San Diego would have to comply with Cal OSHA’s ergonomics standard, but a clerk on a military base at the waterfront across the street would not be protected by any ergonomics standard, since federal OSHA does not have such a regulation. In Connecticut, Illinois, New Jersey and New York, state OSHA programs apply to public sector (state and local) employees only; private sector employees are under the jurisdiction of federal OSHA. Table 1 shows which states are under the jurisdiction of federal OSHA and which states operate their own occupational safety and health programs.

A thorough review of the literature surrounding federal and state OSHA programs is essential for developing a nuanced understanding of workplace regulatory frameworks. More importantly, the states serve as a representation of fifty different regulatory laboratories and consist of a valuable sample for quantitative analysis. State programs are often very different, and some state programs are more effective than others. For example, Cal OSHA is known for more frequent inspections, stricter penalties, and stronger regulations compared to both federal and other state programs, and claims to prosecute more criminal violations than all the other states combined (Barstow 2003a). Other states enjoy a less-favorable
Table 1. State and Federal Programs

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Note: The Connecticut, Illinois, New Jersey, and New York state plans cover public sector employees only.

reputation in terms of their impact. For example, after complaints regarding the effectiveness of programs in Hawaii (Maurer 2012) and Nevada (Mascaro and Mishak 2009), closer attention has been paid to the US Department of Labor’s oversight of state programs. The biggest challenge in attempting to learn from the successes and failures of these state programs is that OSHA doesn’t track or evaluate their effectiveness in a meaningful way.

OSHA’s 2009 Special Report to Congress decisively states that state OSHA programs are a “Congressional success story” and are “effective…users of state and federal tax dollars” (US DOL 2009b). However, the Department of Labor’s internal audit from 2011 concedes that:

OSHA has not designed a method to determine that State Plans are at least as effective as Federal OSHA in reducing injuries and illnesses. Moreover, OSHA has not evaluated the impact of its own enforcement program in order to arrive at minimum criterion to evaluate state programs. State officials generally believed their programs were effective, but there was no quantifiable data to demonstrate program effectiveness. (US DOL 2011, 2)

Federal OSHA has traditionally allocated 20% of its budget to help fund state programs (US DOL 2007), yet has no criteria by which to evaluate the effectiveness of these state programs. This is an obvious and significant shortcoming that was identified over two decades ago by the U.S. Government Accountability Office in their report “OSHA’s Monitoring and Evaluation of State Programs.” Published in 1988, this report specifically notes that “OSHA … defines the effectiveness of state programs in terms of program activities, giving little attention to determining what characteristics of state programs have contributed to the reduction (or lack of reduction) in workplace injuries and illnesses so that program improvements could be made” (US DOL 1988, 9).
Since these concerns were raised in 1988, state plan and federal OSHA representatives have met and attempted to define effectiveness and quantify the impact of state programs. However, most of the small developments that resulted were process-based measures with the same shortcomings already highlighted in the Government Accountability Office report. These process metrics speak only to what an agency does, without regard to whether the actions taken are effective. As Malveaux (2011) notes, “…process is now a primary driver for OSHA. Rather than setting its own consistent, outcome-based criteria for effectiveness, which would address the core purpose of the OSH Act in reducing or eliminating injuries, illnesses, and fatalities, OSHA uses activity-based measures to evaluate state plans and relies on states to define effectiveness in their own contexts” (329). Some state programs have taken initiative in developing outcome-based measures of program effectiveness. For example, states develop metrics that include achieving a certain percentage rate reduction in fatalities within specific targeted industries. While their results and the subsequent assessments lack the sort of robust control variables and methodological rigor that would be desirable, these sorts of metrics at least represent a shift towards evaluating results, rather than process.

It is important to maximize the benefit of having state programs as 25 individual laboratories for policy development. However, this cannot be accomplished by relying on states voluntarily assuming an emphasis on results over process. Federal outcome-based measures need to be developed; however little progress has been made in developing effective metrics for evaluating state programs. Most recently, in June 2012, OSHA hosted a stakeholder meeting to discuss “Establishing Indicators to Determine Whether State Plan Operations are At Least as Effective as Federal OSHA” (US DOL 2012a). The Department of Labor is soliciting suggestions on how to develop process and outcome based indicators of effectiveness, attempting once more to address the same concerns highlighted in the Government Accountability Office report 24 years prior.

Due to the undeveloped state of occupational safety and health compliance scholarship, a review of the relevant literature requires an approach that draws parallels to other forms of regulation and captures research from topics such as environmental regulation compliance. Certain types of research on other regulatory agencies such as the Environmental Protection Agency (EPA) may be relevant in terms of enforcement method
effectiveness or compliance strategies. However, on the issue of federalism in occupational safety and health regulation, the distribution of power is relatively unique, making the applicability of research on items like devolution of environmental regulation less relevant. In environmental regulation, devolution has generally involved one of two approaches. The first is a cooperative federalism arrangement; some administrative and enforcement responsibilities are given to the states, and others retained by the federal government. This “layered cake” federalism gives each level of government a distinct role in the regulatory process (Gibbons 2001). Rather than authority being delegated to the states, it is shared. The second form is an arrangement where regulatory responsibility is transferred to the states. This often has had the effect of creating a range of regulatory regimes, with some states choosing to more vigorously enforce environmental regulations, and other states either unwilling to engage in effective regulations, or unable to do so (Hedge and Scicchitano 1992).

In contrast, with devolution in regards to occupational safety and health regulations, the federal government has essentially transferred regulatory authority only to those states who wish to run their own occupational safety and health agencies. This arrangement is unique in the regulatory world because states are permitted to choose whether they wish to develop their own programs or not, with the vague mandate that their regulations must be “at least as effective” as comparable federal standards. This gives state occupational safety and health programs the option of adopting federal standards when they desire, while being able to enforce regulations more strictly, use different methods to promote compliance (such as education or incentive programs) and promulgate regulations on topics not covered by federal OSHA standards.

The creation of a state occupational safety and health program begins with the submission of a developmental plan to federal OSHA. This plan outlines a state’s interest in developing its own workplace regulatory agency and details the program structure and key elements. If these logistical details are in place, there are a series of more rigorous approval stages, corresponding with decreased federal enforcement as states assume responsibility. Once a state plan receives final approval, federal OSHA suspends their discretionary enforcement in most or all state plan areas (US DOL 2013b). Currently, twenty-five states run their own job safety and health agencies and receive much of their funding from federal
OSHA. While state-level programs are generally associated with fewer occupational deaths, there are some problems with quantifying reasons for that success and extrapolating from that to meaningful conclusions about occupational safety and health regulation. The biggest challenge in attempting to learn from the successes and failures of these state programs is that OSHA doesn’t track or evaluate their effectiveness very comprehensively, so there is simultaneously a lack of scholarly interest and a lack of relevant and sufficiently detailed data. While there is some discussion about the merits of transferring this regulatory authority to the states from the federal level, there has been little empirical analysis of the actual effects.

The literature on federalism and decentralization suggests potential efficiencies of this sort of regulation. Consistent with Tiebout (1956), relatively mobile firms can choose from among the different states the regulatory environment that is most ideal. A state has an incentive to regulate workplace safety efficiently (or they will lose business) but effectively (or they will lose workers). One potential problem is that states may have a political incentive to develop less stringent enforcement programs in order to attract business growth and that the exit of workers or other pressures may not be significant enough to discourage such a regulatory strategy. This “race to the bottom” is a concern in many areas of intra-state competition and can lead to the under-provision of essential government services (Schram 2000, 91).

However, less stringent enforcement is not the only means by which states can decrease the costs of regulation for businesses. Marlow (1981) explains that regulatory stability, which decreases uncertainty for firms, may represent a way for states to attract businesses without relying on less-stringent enforcement. Marlow examines several differences between state and federal programs using data from 1975 to 1977, and concludes that states with their own programs have a stricter regulatory environment. While average fine amounts are similar, both the probability of inspection and the number of violations per firm are significantly higher in states that run their own occupational safety and health programs compared to states under the jurisdiction of Federal OSHA (Marlow 1981, 4). Marlow also notes that there is greater variety in terms of safety parameters with states running their own occupational safety and health programs, but at the same time, greater stability once these programs are established (5-6). Federal programs tend to shift emphasis
more frequently depending on the appointment of administrators and their regulatory policies and ideological predispositions. State programs tend to develop more specialized and customized regulatory measures oriented towards their regional needs, may have more innovative programs, and ultimately offer greater long-term policy stability. This lowers uncertainty costs for businesses and provides a regulatory environment that, despite stricter enforcement than federal OSHA, represents an advantage to firms. Marlow’s research suggests that there isn’t a “race to the bottom” with state workplace safety regulation, and that states can appeal to businesses via decreased uncertainty rather than decreased enforcement. In addition, the mandate that state programs be at least as effective as federal standards establishes a minimum limit for regulatory levels.

Marlow’s work in 1981 provided the first theoretical analysis of workplace regulatory competition among states, and evaluated the differences in program activities. Bradbury’s “Regulatory Federalism and Workplace Safety” (2006) provided a study to examine the outcome of regulatory differences between state programs and federal programs. Bradbury concludes that state programs are more effective at creating safe workplaces than federal OSHA, based on state programs being associated with fewer workplace fatalities. This analysis provides a good framework for evaluating the effectiveness of state programs, at least in terms of reductions in fatal accidents.

Bradbury’s research was the only examination of regulatory devolution as it pertains to workplace safety outcomes until recently, when Morantz (2009) selected a similar question, and compared the effectiveness of state and federal OSHA programs, but specifically in the construction industry. This tested and confirmed Bradbury’s conclusion that state programs are associated with fewer fatalities. Morantz’ analysis is particularly useful because construction is a high-risk work environment; second only behind mining in number of fatal on-the-job injuries (US DOL 2012b, 3). Employees face not only higher risks of accidents, but also different sorts of accidents than are found in other industries. Also, the nature of construction projects means constantly shifting job locations, frequent staffing changes and the complexities of regulatory enforcement and establishing responsibility on a multi-employer jobsite where both a prime contractor and many sub-contractors will be working. Ultimately, both Bradbury and Morantz confirm that having a
state run its own OSHA program is associated with lower fatality rates, and they arrive at this conclusion using two different datasets and different methodologies.

One of the barriers to engaging this question further and delving into why state programs seem to be more effective is that little has been made in the research about the difference between federal and state OSHA programs. Most of the regulatory literature treats OSHA as one monolithic federal agency, either ignoring or overlooking the 25 state occupational safety and health programs. In addition, neither the Department of Labor nor any oversight agency has designed a method to determine that state plans are at least as effective as federal OSHA in reducing injuries and illnesses. Traditionally, about 20% of the federal OSHA budget has gone to help fund state programs, and until Bradbury (2006) and Morantz (2009), little could be said about whether this was an effective use of resources or not. This reflects a significant shortcoming in federal OSHA’s own performance metrics. Success tends to be defined in terms of programs or specific activities (like prominent enforcement actions) or overall reductions in fatalities or injuries, without any evaluation of which characteristics of which programs are associated with increases (or decreases) in the safety of American workers.

The body of relevant research directly applicable to occupational safety and health regulations is small, but clearly demonstrates that state programs are more effective at reducing fatalities. If analysis within academia is light, it is virtually nonexistent within OSHA, and the topic of evaluating effectiveness has been neglected since the agency’s creation in 1970. Even in spite of more recent pushes for greater regulatory accountability, such as the Government Performance and Results Act under the Clinton administration, little improvement has occurred (Frederickson and Frederickson 2006). It is possible that part of the reason there hasn’t been more emphasis on effective workplace safety policy is that there aren’t any prominent workplace safety advocacy groups.

Bradbury’s (2006) work provides a good framework for evaluating the effectiveness of state programs in reducing fatal accidents. Certainly, more sophisticated measures that also account for injuries, as well as the toll from occupational disease (as opposed to accidents) need to be developed. However, fatal accident reduction is a reasonable proxy for workplace safety, and a minimal understanding of the role different forms of OSHA enforcement play in fatal workplace accident reduction seems a prerequisite for developing
any sort of effective policy. Yet, in the decades since the Occupational Safety and Health Act of 1970 created OSHA, this question has gone unanswered. With data and analysis neglected by the agencies themselves, and most academics not recognizing the important distinctions between federal and state regulatory programs, it is fair to conclude that there exists a significant and serious deficit in scholarship.
CHAPTER 5

GOVERNMENT REGULATION

The state and federal occupational safety and health agencies create and enforce workplace safety regulations. These agencies have an educational mission to promulgate new regulations and assist employers in compliance with workplace safety laws. To this end, occupational safety and health agencies provide educational outreach programs and free consultations to employers. However, all these state and federal agencies also rely on coercion to generate employer compliance with safety regulations. Occupational safety and health agencies rely on both random and targeted inspections, as well as post-accident investigations to evaluate employer compliance with regulations, and punish noncompliant workplaces. Agencies primarily use fines, but may also use criminal prosecutions in more severe cases. This chapter will summarize the advantages and disadvantages of consultation programs, fines, and criminal prosecutions, concluding with a more detailed examination of criminal penalties as a policy tool.

CONSULTATION PROGRAMS

While OSHA is regarded by most employers as an agency engaged in regulatory law enforcement, both state and federal OSHA agencies also provide consultation services to companies who need assistance developing improved workplace health and safety programs. Occupational safety specialists employed by OSHA help employers develop written safety programs, provide training materials, answer questions, and may work closely on-site with management to identify and address workplace safety hazards.

These programs are reflective of cooperative approaches to government regulation in general, which emphasizes flexible guidelines rather than “letter of the law” enforcement, and working directly with firms on a voluntary basis rather than merely punishing them when noncompliance is detected after the fact. As a regulatory strategy, cooperative approaches are also more politically favorable, whereas regulation via penalties and stricter enforcement is seen as impeding business development and economic growth.
Ostensibly, this sort of approach also has advantages in that it can approach workplace safety issues using leading indicators, rather than lagging indicators. Federal and state occupational safety and health agencies together have 2,200 inspectors responsible for over 8 million workplaces (US DOL 2013a). This leaves significant enforcement gaps no matter how efficiently the inspections are conducted or how effectively they are targeted (US DOL 2013a, 10). As an example, the Shapiro and Rabinowitz (2000) note that in a one-year period, 75% of the workplaces in which employees suffered serious injuries had not been inspected in at least five years (11). Ultimately, enforcement and inspections are largely reactive, occurring after a reported death, serious injury, or near-miss.

One of the seeming paradoxes of workplace safety statistics is when companies that historically have had few reported injuries experience a preventable serious injury or death. It comes as a surprise when an employee is killed or maimed at work, because this is seen as inconsistent with the company’s previously low rate of injuries. However, this low rate that kept the company away from previous OSHA scrutiny may have been due to under-reporting of workplace injuries. In addition, due to the nature of the work being done or the effectiveness of some safety programs but not others, a company may not consistently experience significant workplace injuries, but may still be a dangerous place to work.

If a significant injury or even a death occurs, regulatory agencies can only look to preventing a similar tragedy from occurring again in the future. If a company concludes the year with an unacceptably high number of injury accidents, OSHA can only focus on reducing that rate the next year. However, OSHA consultation programs may help prevent accidents before they happen, by relying on leading indicators to evaluate the safety of a workplace. Leading indicators are predictive, and focus on a company’s current work environment and procedures, rather than on reports of what happened in the past; they provide warning of a potential problem and allow for the management of risks.

However, while the use of leading indicators is a popular and effective strategy for companies internally, it is unclear how these advantages translate to reduced fatalities when OSHA uses consultation as a regulatory strategy. Baggs, Silverstein, and Foley (2003) studied the effect of different OSHA regulatory activities on workers compensation claim rates (as a proxy for injury rates) and found no association between consultation activities and decreased claims rates. There is evidence to suggest that coercive regulation, rather than
consultation, is what motivates industry self-regulation efforts (Pedersen 2000). In other words, a more cooperative approach to regulation may offer some well-meaning employers additional resources for improving their own compliance programs, but ultimately does not have a significant effect on deterring violations or reducing accidents. The story regarding the effectiveness of consultation programs may be theoretically compelling, but there is little to suggest that OSHA consultation activities are correlated with safer workplaces.

**Administrative Fines**

The literature on using fines to deter occupational safety and health violations is dominated by variations on rational choice theory. In traditional cost-benefit analyses, the “optimal” level of workplace safety depends on the cost of safety improvements relative to the expected costs of an unsafe work environment. OSHA enforcement can be one “cost” factor, considered as the expected penalty and the risk of apprehension together, weighed against the cost of compliance. Gleason and Barnum (1978) were among the first scholars to suggest that because OSHA fines are so low and inspections so unlikely, a rational actor would never see compliance as an optimal decision. However, a robust cost-benefit calculation isn’t as simple as multiplying the expected fine by the likelihood of inspection and weighing it against the cost of implementing a safety improvement. Later researchers have presented a variety of improvements on the original “game.”

Lott and Roberts (1995) show that researchers exploring compliance issues often do not adequately account for costs, and they underestimate both penalties and probability of detection. For example, at current staffing levels and inspection patterns, federal OSHA might be able to inspect each workplace under its jurisdiction approximately once every 130 years. However, proxies for probability of detection that rely solely on measures of regulator resources may fall short, as they ignore the possibility that individual employees as well as third-party advocates can act as “enforcers” that raise the likelihood of detection, or affect an employer’s perception of that likelihood.

Parker and Nielsen (2011) present a fairly sophisticated operationalization of corporate cost-benefit calculations when deciding whether or not to comply with workplace safety regulations. The authors studied perceptions of risk, rather than quantitative measures like number of inspections or violations. They claim that what affects the behavior of actors
isn’t actual risk, but their perceptions of risk. Individual perceptions of calculative reasons for compliance are often not, in fact, accurate and rational. People do not necessarily know the objective likelihood or severity of being caught in noncompliance. Moreover their perceptions of risk are affected by a range of cognitive biases (Parker and Nielsen 2011, 384). Parker and Nielsen’s work shows promise, and the theoretical assumption (that it is perception of risk that motivates calculated action or deters violation) underlying their project is a good one. However, since they just studied perception, all their findings depend on a single anonymous survey mailed to executives at large companies. It is questionable whether a single survey at one point in time accurately captures the trends in risk perception, or if the 43% response rate is a representative sample, particularly when it comes to self-reporting on occupational safety issues, which traditionally are regarded as sacrosanct topics by human resources and risk management.

Gray and Scholz (1989) attempted to deviate from the expected penalty calculations of classical deterrence theory with a model inspired by Cyert and March’s *A Behavioral Theory of the Firm*. The existence of a variety of different priorities within a corporation complicates the assumption of pure profit maximization and the assumption that they are operating with an accurate and consistent understanding of costs and benefits. Cyert and March (1963) see firm behavior as an aggregation of a variety of departmental interests that are not necessarily unified, and shift in focus as companies seek to avoid uncertainty and move from handling one problem to another; priorities and resources shift as new issues in need of remediation come up. Their analysis of what motivates corporate compliance with regulations focuses on the actual effect of citations or accidents. These events would raise the profile of safety as an issue and lead to a shift in priorities, but their effect would decline over time as attention shifted to other issues. While the simple deterrence model does not accurately account for these varying response times and patterns, the behavioral theory of the firm explains why lags occur, and why safety effects are varied and may shift over time. The nature of the solution also matters. Operational and administrative changes tend to create a quicker response and change in injury rates, but the effect diminishes once firm attention shifts to other priorities. Investments in engineering controls, such as new machinery, safety equipment or facility changes, are more capital-intensive and take longer to implement, but effects are more persistent over time. By understanding and incorporating these patterns,
Gray and Scholz conclude that OSHA enforcement has a statistically significant impact on violations, and that their behavioral model is a better method for studying compliance with occupational safety and health regulations. While these findings added significantly to the understanding of deterrence in workplace safety, later research by these two authors suggests additional conceptions of the role of government in promoting safety. Rather than relying only on the deterrence model of regulatory agencies using coercion to raise the costs of noncompliance, Scholz and Gray (1997) suggest viewing workplace safety as a collective action problem, and OSHA as a facilitator of cooperation. This expands upon existing literature on collective action and regulatory issues from authors like Sandler (1992) and Cornes and Sandler (1996), but is carried to a higher level of development by Scholz and Gray (1997) who apply it to OSHA regulation. Workplace safety is jointly produced by the investment of both employers and workers, who must reach a cooperative equilibrium. Both parties must contribute for a safe workplace to result, but both have incentives to be free riders, and wish to limit their individual investment in time, money and effort. Regulatory standards facilitate the development of a cooperative outcome that is acceptable for all parties. The lawmaking process provides stakeholders an opportunity to debate on proposed legislation, and the authority of the state as regulator directs the negotiation process. OSHA’s role as a regulatory agency also helps reduce monitoring costs and provide information on compliance.

The basic assumption of this research is that safety is mutually beneficial to employers and employees alike, but this is a controversial assumption. Collective action problems are traditionally situations in which there is a good that is mutually beneficial and mutually desirable, but underprovided because there exists an incentive to free ride. However, part of the barrier to workplace safety improvements has been the fact that employers often see safety as an objective that can only be pursued at the cost of productivity and profitability. Even employees, who should have a self-interested concern with improved safety, often do not acknowledge the benefit of safety improvements, or they see safety regulation as imposing excessive restrictions on work habits, such as requiring more elaborate production procedures or mandating the wearing of uncomfortable protective
equipment. While it is novel to conceptualize workplace safety as a collective action problem, it is also problematic, and has not caught on as an explanatory mechanism.

Most of the literature stays with the coercion model and attempts to improve on the nuances of rational choice calculations. One of the more interesting findings from their research is that the number of fines is more important than the amount of the fines. Classical rational choice theory minimizes this distinction (a high likelihood of a small penalty and a low likelihood of a large penalty work out to the same level of perceived cost), but Gray and Scholz in 1989 identify something evident in much of the later literature: likelihood of a fine is more important than severity of the fine. This is reinforced in their subsequent research (1991) which looks more closely at inspection efficiency, finding that larger fines didn’t increase deterrence more than small fines. Since imposing penalties is not costless to an agency, and larger fines take more time-intensive inspections and are more likely to be contested, this is an important distinction. Gray and Jones (1991) have a related observation that OSHA enforcement does have a deterrent effect, but that this is most pronounced on the first inspection. These studies suggest that the best strategy might be to conduct less-intensive, faster inspections at more establishments.

The conclusion that smaller fines are as effective as larger fines is a reasonable one, but it comes with some important caveats. First, these studies don’t take into account the higher profile “megapenalties” costing tens or hundreds of thousands of dollars. Gray and Jones note that these sorts of fines have a high symbolic value, and may be particularly useful for letting employers know that OSHA is serious about an enforcement priority. Second, while shorter inspections necessary to levy a small fine may be as effective as more time-intensive inspections needed for larger fines, very brief “records checks” (as opposed to health inspections or audits of a facility) are not effective, and may even be counterproductive, as they just let employers realize how much noncompliance they can get away with by merely not reporting problems or falsifying records (Gray and Jones 1991). Shimshack and Ward (2005) conclude that large improvements can follow from modest fines.

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1 These are not special penalties levied for a single violations, but rather events that were caused by multiple violations, or when many violations are found upon inspection.
because fines increase the regulator’s credibility throughout an industry, but noted that violations with no fine assessed are ineffective.

A third admonition: these conclusions tell us about the most efficient ways to utilize fines. They don’t offer any definitive conclusion about the use of criminal penalties and their effect in deterring OHS violations. Burns and Lynch (2002) say that fines are seen as the most appropriate penalty because compliance crimes are assumed to be motivated by fiscal concerns. This brings us back to a game in which raising the costs of noncompliance via fines affects a rational actor’s decision regarding safety, and the debate about the most effective way to fine people.

There are some significant problems with OSHA fines. First, while small fines might deter as effectively as larger fines, fines in general are often too low, even for serious violations, to be an ideal deterrent. David Michaels, the Department of Labor’s Assistant Secretary for Occupational Safety and Health, acknowledged this problem in a 2010 speech:

Currently, the average OSHA penalty is only around $1,000. The median initial penalty proposed for all investigations in cases where a worker was killed conducted in FY 2007 was just $5,900. Clearly, OSHA can never put a price on a worker's life and that is not the purpose of penalties — even in fatality cases. OSHA must, however, be empowered to send a stronger message in cases where a life is needlessly lost than the message that a $5,900 penalty sends … (US DOL 2010b)

However, the solution isn’t as easy as just increasing fines, even significantly so. There is also the problem of the “deterrence trap.” This was a concept first articulated by Coffee (1981) regarding the problems of corporate punishment in general. Koprowicz (1986) and Jones (1990) have both adapted this to the problem of occupational safety and health enforcement. In order to deter a rational actor, expected punishment cost (fine discounted by the risk of apprehension and conviction) must exceed expected gain. The risk of apprehension and conviction is so low because of OSHA inspection patterns and resource limitations that the fine would have to be enormous to compensate for the low risk of apprehension. Any fine big enough to deter by these calculations would be big enough to bankrupt the company or otherwise exceed its capacity to pay. Hence, such fines aren’t leveraged because they can’t be paid. There are also other pragmatic concerns such as the loss of jobs if the company is strained financially. Furthermore, there’s the problem of overspill (Jones 1990) where the burden of a fine is passed on to other less culpable persons
(consumers in the form of higher prices, employees in the form of reduced wages, shareholders in the form of reduced stock share price).

**Criminal Penalties**

Administrative fines aren’t the only enforcement mechanisms available; OSHA can pursue criminal charges by referring cases for prosecution. This section will provide an overview of the historical evolution of criminal prosecution for workplace safety violations. I will then explain how criminal prosecution can be an effective policy tool that avoids some of the shortcomings of monetary penalties. Criminal prosecution, while potentially very useful, has its own limitations and implementation challenges that will be addressed and analyzed.

Very early cases in American law built a precedent for corporate criminal liability of a corporation. In *State v. Morris & Essex R.R.* (1852), the New Jersey Supreme Court found a railway guilty of creating a public nuisance by constructing a bridge and placing equipment that obstructed a roadway. Justice Nevius, writing for the majority, traced the development of corporate liability from English common law, which influenced early American legal cases. In England, and initially, in America, corporations could be liable only for nonfeasance, or failing to act in accordance with an obligation. Justice Nevius summarized the arguments against corporate liability for positive acts, but concluded that it had been established by precedent that corporations could be civilly liable for the actions of its agents; the distinction between failure to act and harmful acts did not persist in the American civil courts:

> But it is said, that although a corporation may omit to perform acts made obligatory upon it by law, and thus be liable for nonfeasance, yet from its very nature it cannot use force, and therefore cannot commit any act involving force…This argument rests entirely upon the disability of the corporation to commit any act of trespass or positive wrong, and applies to its capacity to commit civil as well as criminal injuries…But it has been well said, that if a corporation has itself no hands with which to strike, it may employ the hands of others; and it is now perfectly well settled … (*State v. Morris & Essex R.R* 1852, 367)

The court concluded that if a corporation could be civilly liable for the deliberate actions (rather than just omissions) of its agents, it could also be responsible for criminal offenses. The majority noted “startling incongruity” in that corporations could be liable for neglecting
to perform an act, but not for committing an act in violation of law. In addition, the principle of corporate criminal liability for such offenses, rather than prosecution of individual corporate agents, was seen as also protecting the due process of the corporation. For example, the case against *Morris & Essex Railroad* involved a railroad structure that had been constructed allegedly obstructing a public right of way. A finding of guilt would result in the structure being torn down. If prosecution was limited to only charging agents of the corporation (rather than the company itself), the act of an individual would result in the seizure or destruction of a corporate asset, without allowing that corporation its day in court. The opinion notes that certain criminal offenses, by nature of the specific malicious intent (*mens rea*) or level of personhood required, could not be imputed to a corporation. This would exclude acts like murder or treason. However, in regards to crimes like creating a public nuisance, in which intent or malice was irrelevant, criminal prosecution was appropriate. Other states soon established precedents for criminal prosecution of corporations. In 1855, with the case of *Boston, Concord & Montreal Railroad v. New Hampshire*, the state supreme court found that a corporation could be charged with a criminal act for conduct of its agents. A corporation by necessity acts though its employees, and can explicitly or implicitly encourage these agents to commit illegal acts for the benefit of the corporation. Controlling illegal conduct by corporations requires some means of punishment besides merely convicting individuals, who otherwise would merely become shields for repeat corporate wrongdoing.

If the laws impose duties of a general and public character upon corporations, they must provide modes to compel their performance…Corporations necessarily transact their business by means of agents. If they are held responsible criminally, it must generally, perhaps always, be for acts or neglects of those agents … (*Boston, Concord & Montreal Railroad v. New Hampshire* 1855, 227)

While the court in *Boston, Concord & Montreal* didn’t directly address the issue of corporate misconduct in question, it sent a clear message that such charges were not unconstitutional. There have been a variety of superior court cases dealing with corporate criminal liability, and as a legal concept, it has experienced both expansions and contractions. As legal barriers to corporate criminal liability were diminished, more practical ones arose that threatened to complicate the theoretical justifications for charging a fictitious entity like a corporation with a crime. A key facet of criminal convictions is the potential for penal confinement and punishment. However, while the concept of corporate personhood allowed
companies to be tried and convicted for crimes, it could not resolve the fact that there was not any corporate “body” to imprison as there was with the conviction of an individual. In the 1904 case of *United States v. Van Shaick*, the negligent acts of a ship’s captain and board of directors resulted in 900 ship passengers drowning because there were not sufficient lifejackets aboard a vessel. They were charged with criminal manslaughter, but responsibility was also imputed to the corporation itself.

The defense’s first argument was that a corporation could not be liable for the criminal acts of its agents and was incapable of acting with criminal intent, but this line of reasoning was dismissed with reference to the precedent established by earlier cases. The majority affirmed that “It is not necessary to show intention to kill, nor malice in fact” (*United States v. Van Shaick* 1904, 26). However, a second argument made by counsel was that a corporation could not be convicted under a statute that specified the penalty for a violation was physical punishment (in this case, confinement and hard labor). A corporation could not be convicted of violating the law in question because even if found guilty, it could not be punished; the law was inapplicable. The majority of the court found this argument insufficiently compelling, noting that “It seems a more reasonable alternative that Congress inadvertently omitted to provide a suitable punishment for the offense, when committed by a corporation, than that it intended to give the owner impunity simply because it happened to be a corporation” (*United States v. Van Shaick* 1904, 28).

The principle of corporate criminal liability was again refined in the 1909 case *New York Central & Hudson River Railroad Co. v. United States*. A manager with the railroad had provided a shipping client rebates on the price they had paid for rail transport of their goods, amounting to a deviation from established tariff rates. This was a violation of federal law, and a crime of specific intent. The manager was charged and prosecuted, but because he was an agent of the railroad, his crime was imputed to the corporation as well. The railroad appealed this decision, and the central question the court faced was whether a corporation was criminally liable for the unlawful acts of employees acting within the scope of authority conferred upon them by their employer. The majority opinion concluded that:

… we see no good reason why corporations may not be held responsible for and charged with the knowledge and purposes of their agents, acting within the authority conferred upon them ... If it were not so, many offenses might go unpunished and acts be committed in violation of law…statutes against rebates
could not be effectually enforced so long as individuals only were subject to punishment for violation of the law. (*New York Central R. Co. v. United States* 1909, 15)

Criminal liability is not imputed to the corporation because it itself participated in the illegal conduct, but because the illegal conduct was done for the benefit of the corporation. The individual was “but an agent,” and if the corporation benefiting from the illegal actions could not be prosecuted, it would be able to continue violating the law with relative impunity, often with policies that implicitly encourage its agents to violate laws. The expansion of corporate criminal liability for intent crimes was seen as an important and necessary step to allow effective enforcement of regulatory laws. However, the majority did specify that “there are some crimes which, in their nature, cannot be committed by corporations.” While this was not elaborated upon, the precedents established in later cases suggests the opinion refers here to a distinction between general intent and specific intent. Legal scholars such as Helverson (1986) agree that the opinion seemed to limit corporate criminal liability to “crimes for which either no intent was required or for which general intent could be imputed to the corporation” (972).

This distinction between general intent and specific intent is best understood by returning to the case of *State v. Morris & Essex R.R.* In this decision, mens rea\(^2\) was irrelevant. It only mattered that a violation of the law occurred; the defendant’s intent was not a consideration. While this is common in civil cases where one need only show that one party caused another damage, it is relatively uncommon in criminal cases, and reserved for relatively minor infraction and misdemeanor offenses (in this case, creating a public nuisance and obstructing a right of way). Over 50 years later, *New York Central & Hudson River Railroad Co. v. United States* reopened the question by confronting general (sometimes referred to as “basic”) intent versus specific intent in corporate crime. General intent crimes require only a showing that the defendant intended to do the act prohibited by law (intended the conduct). Specific intent crimes require that the defendant intended a specific outcome beyond the act itself (intended the conduct and the result). For example, an intoxicated person that knowingly and willfully gets behind the wheel of a car but unintentionally kills a

\(^2\) Latin “guilty mind”. an intention to commit a crime.
pedestrian would likely be charged with manslaughter, a general intent crime. Someone who gets behind the wheel of a car and runs over a pedestrian deliberately, intending to kill them, would be charged with murder, a specific intent crime. Consider *United States v. Van Shaick*, in which both a corporation and its agents were found guilty in the deaths of over 900 passengers who drowned because no lifejackets were available on a ship. The charge was manslaughter (a crime of general intent) rather than murder (a crime of specific intent) because they willfully and knowingly violated a law that led to the deaths, but it could not be established (probably reasonably so) that they did so with the intent of causing the deaths of the passengers.

This is an important distinction, because it demonstrates why, even as corporate criminal prosecution developed as a legal concept, it was difficult to prosecute corporations. A manslaughter conviction requires demonstrating a willful and knowing violation of a workplace safety law, and a conviction for a crime of specific intent with stricter penalties would require demonstrating that there was an intention to injure the employee. Existing criminal law jurisprudence was not well-suited to meeting out strict penalties for workplace safety violations. In the second half of the 19th century, workplace safety violations were regulated almost exclusively by criminal statutes, following the developments in the previously mentioned legal cases. Only in the later part of the 20th century did civil and administrative penalties substitute for criminal prosecution. Briefly tracing the reasons for this historical shift demonstrates some of the challenges in pursuing criminal charges for workplace safety violations.

Frank (1983) charts the evolution of criminal to civil penalties for health and safety violations. There are a variety of hypotheses as to why this shift occurred. It’s not surprising (or unreasonable) that some scholars suggest the corporate elite have used their influence to shape things this way, relegating the more serious and stigmatizing criminal penalties for those of lower socioeconomic status. Frank disagrees, explaining that the shift from criminal penalties rested on a belief that effective and efficient enforcement of occupational safety and health laws required strict liability. Strict liability is a legal concept where

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intention or negligence is irrelevant to legal responsibility. Strict liability allowed accidental or unintentional (or allegedly so) violations to be punished, making prosecution easier and enforcement much more efficient. The option of combining strict liability and criminal prosecution seemed to violate a central premise of criminal law, where mens rea is one of the key elements of criminal liability. Some of the highest profile workplace safety violations resulted in violators being acquitted due to the higher evidentiary standards required in a criminal trial. Shifting to administrative fines and enabling strict liability made punishment less severe, but more likely. As Burns and Lynch (2002) note, the high costs and strict legal requirements of criminal law make administrative penalties preferable to regulators.

Consider as an example the 1911 fire at the Triangle Shirtwaist Factory which killed 146 workers. It still ranks as one of the deadliest industrial accidents in American history. Overcrowding, improper storage of flammables, locked exit doors, defective fire escapes and a litany of other workplace safety and health violations created an inescapable inferno. Criminal prosecution for such an incident was customary at this time. Owners Max Blanck and Isaac Harris were indicted for second degree manslaughter, but the burden of proof for a criminal conviction was too high. The defense for Blanck and Harris claimed that since they were owners, but not supervisors, and because hiring was outsourced to an employment agency, they were unaware of the conditions in the factory, and therefore not responsible. They were acquitted of all charges. Family members of the deceased saw a civil court as their only recourse. Eight years later, following a series of civil suits, Blanck and Harris settled. The settlement amount was trivial; adjusting for inflation, they paid approximately $1,700 for each life lost (Cornell University 2011).

The Triangle Shirtwaist Factory is illustrative of the reasoning behind the shift to civil and administrative fines. The criminal trial that followed demonstrates the difficulty in establishing “beyond a reasonable doubt” that an act or omission was knowing and willful on the part of owners or managers. Furthermore, this case demonstrates that the financial penalty was ineffective to deter further violations. After the fire, work continued almost immediately at a new factory, which also lacked fire escapes and adequate exits. Two years later, Blanck would be cited for having a locked exit door (fined $20), and later served a “stern warning” for having flammable fabric scraps piled six-feet high in wicker baskets on the factory floor (Cornell University 2011).
The paradox of workplace safety regulation enforcement is well-illustrated; it became impossible to prove in criminal court that factory owners had knowingly and willfully operated an unsafe business. The standards for a criminal conviction are strict; while these high barriers to conviction are rightfully designed to protect the fairness of our justice process, they are also particularly advantageous to well-represented employers. In addition, criminal prosecution is a very high-cost strategy for regulators to pursue. Successfully obtaining a civil judgment or administrative penalty is more likely, and imposes lower costs on regulatory agencies. However, these monetary penalties may not effectively deter future violations. A regulatory agency like OSHA has to find effective ways to deter future violations, while making best use of limited resources and respecting legal due-process. The general shift away from criminal remedies doesn’t exclude such measures from being used, and the last few decades have seen an increased willingness to use criminal prosecution as a tool for generating regulatory compliance. While the cases previously discussed provide an essential background to the development of corporate criminal liability, it was not until late in the 20th century that the concept was tested in cases specifically involving workplace safety violations.

In the 1974 case *People v. Ebasco Services, Inc.* the New York State Supreme Court ruled on criminal manslaughter charges against corporations. The defendants (including a corporation) were accused of willful negligence in the construction and supervision of a work structure on a construction site which later collapsed and killed two employees. The court dismissed the indictments on the grounds that they lacked sufficient factual allegations, but simultaneously affirmed that a corporation could be convicted of criminal manslaughter under the alleged circumstances.

Several cases in the 1980s and 1990s established criminal prosecution as a means of enforcing workplace safety violations. These cases are meaningful as early examples of criminal prosecutions for workplace safety violations; generally they don’t advance significant new jurisprudential arguments, but merely engage the precedents already established in earlier corporate criminal indictments to workplace safety violations leading to employee deaths. However, they very clearly show the nuances of criminal prosecution, and the challenge of meeting the higher evidentiary burdens required for criminal trials as opposed to civil suits.
In *People v. Warner-Lambert Co.* (1980), the New York Supreme Court reversed the convictions of both a corporation and several of its managers. Six employees were killed in an explosion in a factory when combustible dust in the atmosphere exploded. The court focused on two elements it felt were necessary to uphold a criminal conviction: foreseeability and causation. The burden was on the prosecution to demonstrate the defendants foresaw the triggering cause of the explosion (which was still unknown) and that they failed to act to abate that triggering cause. Since there was insufficient evidence to prove these two elements required for a criminal manslaughter or negligent homicide conviction, the indictments against the company and its agents were dismissed. This failure of a criminal prosecution reflects the challenges of criminal prosecution, and one of the reasons for a historical evolution towards administrative fines rather than criminal penalties for workplace safety violations. For the purposes of an administrative law hearing or a civil tort, it would be sufficient that a hazard existed and an accident occurred. However, in pursuing a criminal conviction, the state had to meet significantly higher evidentiary standards and was unable to do so. However, in a similar case three years later, there would be a different outcome. In 1983, the Supreme Court of New York evaluated *People v. Deitsch.* This was a case in which both a corporation and its individual agents were charged with manslaughter, criminally negligent homicide and recklessly causing the death of another, nearly identical charges to what the defendants in *People v. Warner-Lambert Co.* faced. However, the Court very clearly and directly contrasted the two cases, noting that while in *Warner-Lambert Co.* the defendants were aware of some general risk of explosion due to the production processes in the factory, the specific cause of the explosion was not clearly established, and therefore “neither forseen nor forseeable” (*People v. Deitsch* 1983, 164).

In *Deitsch*, an employee died in a fire at a textile factory. Employees were not informed about emergency evacuation procedures or locations of emergency exits, and exits that did exist were partially blocked by product, or, in one case, sealed and locked from the outside. There was insufficient emergency signage; fire doors were propped open, and the managers had failed to correct previous safety violations that had been noted on fire inspections. The indictments were reinstated by the court because it was demonstrated that the managers in the company had created dangerous conditions in the warehouse, had been aware of these hazards, and failed to abate them. In other words, it could have been
reasonably foreseen that the hazards they created could lead to the death of an employee in a fire. The prosecution had established a sufficiently direct connection between a willful and negligent act by the defendants, and the subsequent death of an employee, to justify criminal charges.

There are other workplace death cases in which prosecutors have pursued criminal charges, sometimes successfully and sometimes unsuccessfully. However, the contrast between *People v. Deitsch* and *People v. Warner-Lambert Co.* provides a sufficient explanation of the key issues in criminal prosecutions for workplace safety violations, and the challenges in obtaining a conviction. In addition to the challenges inherent in demonstrating that a defendant knowingly and willfully contributed to an unsafe working condition resulting in a fatality, OSHA specifically faces challenges in pursuing criminal prosecution. OSHA compliance officers are familiar with investigating events from the perspective of having violations corrected, or pursuing an administrative law judgment resulting in a fine. They have less experience dealing with fatality investigations as acts of manslaughter or negligent homicide and gathering the evidence required for criminal prosecution. In 2004, the director of OSHA’s enforcement program noted that “Currently our inspectors are trained to do only civil investigations …” (Nash 2004). A series of articles in the New York Times (Barstow 2003a; 2003b) on workplace deaths revealed that OSHA sought prosecution in only 7% of cases in which a worker’s death had resulted from a “willful” safety violation. While more criminal investigators have been trained, OSHA still suffers from a lack of resources when it comes to pursuing criminal violations. When they do decide to seek prosecution, they face reluctance from prosecutors who don’t want to dedicate resources to what is ultimately only a misdemeanor.

In addition to these concerns over logistics and resources, there remains the fact that OSHA can only pursue criminal charges in cases where an employee dies. In 1996, Allan Elias, the owner of fertilizer company Evergreen Resources, sent his 20-year-old employee Scott Dominguez into a storage tank, and ordered him to clean out the sludge accumulated at the bottom. The tank had originally been used to hold cyanide, and later held phosphoric acid. Combined, this formed hydrogen-cyanide, the same “active ingredient” in the Zyklon-B used by Nazi extermination camps. Elias violated dozens of OSHA regulations: he did not provide a safety plan for working in the confined space of the storage tank, did not have a
trained rescue team on site, and did not conduct any testing of the air or the material inside the tank. He denied Dominguez’ request for protective equipment, and ordered his employee, wearing jeans and a t-shirt, to enter the tank, and told him to continue working even after Dominguez complained about dizziness and difficulty breathing. Dominguez collapsed inside the tank. Coworkers who attempted to rescue him were overwhelmed by the fumes and had to retreat. When professional rescuers arrived, it took an additional 45 minutes before they could retrieve the unresponsive man because of the safety precautions they themselves had to take. Elias lied to rescuers about the presence of cyanide inside the tank, lied to emergency room physicians who asked specifically about cyanide poisoning, lied to investigators and later falsified and backdated a safety procedure document. He denied responsibility, blaming the “stupidity” of his employees and calling it a “freak accident.” Doctors were able to save Dominguez’ life, but he suffers permanent brain damage and is under conservatorship, cared for by his mother (Uhlmann 2008).

Allan Elias is in prison, serving a 17-year sentence. But that sentence is for violations of Environmental Protection Agency’s environmental conservation regulations and for later falsifying documents. Elias did not and will not ever face criminal charges for the harm he knowingly and willfully subjected his employees to, because Dominguez, though permanently debilitated, did not die. Even if he had, Elias would have only potentially faced a misdemeanor charge and a maximum of six months in prison. Department of Justice attorney David M. Uhlmann, who prosecuted the EPA’s criminal case against Elias for the environmental violations was surprised that there could not be any criminal charges filed for workplace safety violations:

My colleagues and I were shocked to learn that an employer who breaks the nation’s worker-safety laws can be charged with a crime only if a worker dies. Even then, the crime is a lowly Class B misdemeanor, with a maximum sentence of six months in prison. Employers who maim their workers face, at worst, a maximum civil penalty of $70,000 for each violation. (Uhlmann 2008)

From a policy tools perspective, criminal prosecution represents a potentially promising strategy for deterring willful safety violations. However, as examples like Evergreen Resources show, it is a strategy that can be pursued only in a small number of cases, and its effect may be limited due to the maximum six month penalty.

There is a lack of scholarship examining whether criminal prosecution is a policy tool that is effective at reducing workplace injuries and deaths. From a public policy perspective,
this is an important question about where agencies like OSHA should allocate resources, and which enforcement measures are the most effective. Given the limitations discussed, it is clearly both resource-intensive and difficult to prosecute criminal occupational safety and health violations. However, all of OSHA’s regulatory tools face significant limitations, and criminal prosecution has some comparative advantages compared to monetary penalties.

Due to differences between civil and administrative compared to criminal court procedures, criminal prosecutors have greater resources and a broader scope of powers than plaintiffs in a civil proceeding. A criminal trial arguably more readily facilitates investigation of wrongdoing and investigations can be broader in scope, though this must be weighed against the higher burden of proof required of the state, which must prove the defendant is culpable “beyond a reasonable doubt” rather than by a “preponderance of the evidence.”

As discussed in the previous section, there are some significant problems with OSHA fines. Fines are often too low, even for serious violations, to be an ideal deterrent; companies can accept fines that are issued as a cost of doing business. Employers acting rationally can also gamble that the odds of a violation being detected are low enough to risk noncompliance. Merely raising the monetary amount of fines may not be a meaningful deterrent if probability of detection remains low, and higher fines have problems with the “deterrence trap” (Coffee 1980, Koprowicz 1986, Jones 1990), overspill (Jones 1990) and even more basic concerns such as a company’s willingness or ability to actually pay.

Criminal prosecution of a corporation is an alternative, but a very challenging one. The crime of an employee can be imputed to the corporation, but the individual had to be acting within the scope and nature of his employment and to benefit the corporation (Fisher 2004). The criminal justice system is centered on the idea of individual accountability for crimes rather than assigning criminal blame to an entity like a corporation that is merely a legal construct. Returning to the legal history, the 1909 New York Central case provided the earliest legal precedent for criminal prosecution of a corporation. Following existing law that permitted corporations to be held civilly liable for the actions of employees, it was determined that criminal charges could be similarly levied against a corporation if employees acting within the scope of their employment committed a crime. Justice Day, writing for the majority, concluded that “Congress can impute to a corporation the commission of certain
criminal offenses and subject it to criminal prosecution therefor” (*New York Central R. Co. v. United States* 1909, 212). The decision was intended in part to prevent corporations from engaging in illegal conduct while shifting the burden of risk to individual employees. Furthermore, if an individual employee were punished for criminal activity committed on behalf of a corporation, the illegal conduct could continue, just carried on by a different individual within the company.

Though the 1909 decision made criminal prosecution of a corporation legally feasible, practical barriers remained. Since a corporation can’t be imprisoned, aside from the symbolic stigma attached to a criminal prosecution, the outcome of the case may not be significantly different than what would have occurred in a civil proceeding. Hence, the preference towards fines, and why even criminal cases lean towards enforcing monetary penalties (Burns and Lynch 2002). Though the legal framework exists, “corporate manslaughter” or “corporate homicide” convictions are rare enough to be considered something of a legal novelty in workplace cases.

Criminal prosecution of individual corporate employees, despite its higher costs to the regulator, has some distinct advantages: It avoids the problem of not having a body to imprison. It prevents the corporation from becoming a shield for individuals violating the law. It affects an individual actor’s cost-benefit calculus since the risks and consequences won’t be distributed across an organization. It generally avoids the deterrence trap and the problem of overspill. Furthermore, while monetary penalties might be accepted as a cost of doing business, individuals are unlikely to accept that rationale when they potentially face imprisonment.

There are still significant barriers to prosecuting individual employees. First, it must be established that they acted willfully. Legal distinctions of deliberate act versus accident are critical here, and establishing exactly which individuals in the corporation are responsible can be difficult. Furthermore, OSHA refers cases for prosecution, but the prosecutor decides which cases to take, based on how worthwhile and obtainable a conviction would be. A worker death resulting from a repeated, willful act is just a misdemeanor; prosecutors understandably choose to devote scarce resources to more serious felony offenses.

While there are remedies to many of these obstacles, they would involve significant legal and political reform, and criminal prosecution would still remain a relatively high-cost
strategy to pursue. While a criminal trial and conviction sends a particularly strong message, policy scholars can only speculate as to the deterrent effect and influence on workplace safety.

The existing literature related to criminal prosecution for occupational safety and health violations is growing, but remains almost exclusively descriptive, such as articles in law reviews outlining history and relevant legal principles. Some of the useful contributions come from authors studying other areas of regulatory compliance, in particular environmental violations. This research on environmental crimes is not only potentially relevant in its general conclusions, it also highlights a significant difference in the power granted to the Environmental Protection Agency (EPA) versus OSHA. The EPA routinely issues stiff fines, while OSHA penalties have not even been increased to keep pace with inflation. Nearly half of all penalties for workplace fatalities go unpaid; from 2004 to 2007, OSHA had over 27 million dollars in delinquent penalties that weren’t paid (U. S. Congress 2008b, 5). Barker (2002) notes that most knowing violations of environmental law are criminally enforceable, and while the Department of Justice exercises great discretion in which referred cases they accept for prosecution, the lower standard of proof to be considered a “knowing violation” and the ability of regulators to escalate and deescalate between more or less serious types of charges for the same act significantly increases their ability to negotiate, and results in many “plea bargain” convictions without trial. Rhinehart (2008) observes that unlike the EPA, OSHA has no criminal penalties for knowing endangerment. An employee has to die first; it is not enough that they are willfully exposed to a life-threatening condition. Protections for employees facing retaliation for reporting safety violations are also weak compared to those afforded environmental crimes whistleblowers. Rhinehart (2008) alludes to the difference in the severity of consequences for environmental compared to occupational crimes by pointing out that under Federal law “maliciously or negligently injuring or harassing a wild horse or burro” carries a maximum one year prison sentence, while a willful occupational safety and health violation leading to the death of a worker has a maximum penalty of six months (Rhinehart 2008, 4).

Further research is needed to determine whether such penalties can serve as an effective deterrent or consequence for violations. However, as the research thus far presented suggests, occupational safety is not a top priority for state or federal governments
or most employers. With the exception of high profile disasters like the Deepwater Horizon oil platform explosion, or the Triangle Shirt Waist Factory fire studied in history classes, occupational disease, injuries and deaths largely escape the public interest. Even those more prominent catastrophes are usually recognized primarily for their impact on the environment or on people in neighboring communities; the injuries and deaths to workers are often overlooked. The more pressing question underlying this epidemic of workers deaths is why occupational safety doesn’t register as a concern for many shareholders, elected officials and members of the general public.

Under federal OSHA laws, the death of an employee resulting from a willful, repeated and knowing violation of safety standards results in a maximum fine of 70,000 and a maximum six month prison sentence. Contrast the maximum prison sentence with penalties under other federal statutes, such as a two year maximum sentence for illegally importing exotic wild birds, a twenty year maximum sentence for counterfeiting money, or a thirty year maximum jail sentence for mail fraud involving a financial institution. Or, consider the contrast in penalty amounts as compared to the $130,000 penalty for violation of the Fluid Milk Promotion Act, $270,000 fine for violations of Clean Air Act, or $325,000 fine for violation of the South Pacific Tuna Act (U. S. Congress 2008a).

As some of the examples above suggest, the relative weakness of OSHA enforcement can be contrasted with the strength of EPA enforcement. Federal OSHA operates with a budget of 590 million (U. S. Office of Management and Budget 2010). Contrast this with the approximately 10 billion dollar budget for the EPA (nearly 17 times greater), and the magnitude of difference in enforcement power and resources is obvious. While business dominance is common in regulatory rulemaking processes, with environmental law compliance, this influence is at least tempered by the prominence of environmental advocacy groups operating at the local, state and federal levels. In contrast, while occupational safety concerns may be incorporated into the broader labor law agenda, there are virtually no advocacy groups specifically concerned with workplace safety regulation (Shapiro and Steinzor 2008, 1753-1755). Workplace safety is just not a particularly prominent political concern, leaving a void of interest and attention that can be exploited by those opposed to government regulation. This is predicted by Levine and Forrence (1990), who note that
regulatory issues that are of low political salience and high technological complexity become dominated by the influence of the regulated industries.

Chapter five has provided a review of the policy tools used by federal OSHA and state occupational safety and health agencies to regulate workplace safety. Consultation programs represent a cooperative approach that tries to proactively assist employers with the development of effective health and safety programs. However, these are voluntary programs that don’t affect the behavior of employers who knowingly and willfully disregard the safety of their employees. For these cases, regulatory agencies must rely on more coercive mechanisms and traditionally have used fines to punish workplace safety violations and deter future noncompliance. To address some of the shortcomings of OSHA fines, criminal penalties have also been used to punish willful and knowing workplace safety violations that lead to the death of an employee. However, criminal prosecution has been given a very light treatment in the literature, and its effectiveness as a policy tool has not been evaluated.
CHAPTER 6

EVALUATING PROSECUTION

I have explained how criminal penalties compare to other enforcement strategies, and outlined some of the potential advantages and challenges of deterring workplace safety violations with criminal prosecution. However, thus far the discussion has been largely theoretical. No federal or state occupational safety and health agency has assessed the effectiveness of criminal prosecution. The existing literature from scholars and policy analysts consists largely of jurisprudential histories or theoretical speculations as to the potential effectiveness of criminal prosecution as a policy tool. This chapter presents the first study to empirically evaluate the effectiveness of criminal penalties for workplace safety violations. The results are inconclusive as to the effectiveness of criminal penalties for reducing workplace deaths; ultimately, there may be too few criminal prosecutions to produce a measurable effect. However, the results provide a valuable roadmap for future analysis, and the quantitative analysis presents some additional support for the role of unions in promoting workplace safety, as well as evidence that consultation programs do not reduce fatalities.

BACKGROUND

The high cost of prosecuting criminal violations and the relatively low penalties even if a conviction is obtained have made criminal prosecution an infrequently utilized option for enforcement of health and safety laws. It’s clear that OSHA enforcement needs to be made more effective, but the unanswered question is whether criminal prosecution can give OSHA the credibility it needs, and whether it is necessary to increase the frequency of criminal prosecutions, the severity of sentences, or both. One might expect that, as with the range of OSHA fines, it’s the likelihood of penalty, not severity that motivates people, and that the significantly higher costs an agency must bear for prosecuting criminal charges aren’t worthwhile. However, it’s not unreasonable to think that the type of penalty might make a difference. In other words, the difference between a $300 penalty and a $3,000 dollar
penalty, or even a $30,000 dollar penalty might not make a difference, particularly with the 
likelihood of detection as low as it is. However, the difference between any of those amounts 
and a prison sentence might be a meaningful factor. Criminal prosecution should not be used 
to compensate for a lack of civic education; government’s role is in part to assist employers 
in understanding how to comply with occupational safety and health obligations. However, 
for severe violations, criminal law is unique in its ability to condemn and shame, and also 
give force and representation to the norms and values society wishes to promote (Hedman; 
1990; Jamieson et al., 2010).

There has been much study by political scientists and criminologists on the deterrent 
effect of stronger punitive criminal sanctions. However, most of the literature is focused on 
questions like whether or not the death penalty deters violent criminals, or whether more 
severe sanctions reduce problems like theft or drunk driving. Only more recently has the 
focus shifted to white collar crime, and workplace safety violations remain an especially 
underdeveloped area of inquiry. Study of occupational safety enforcement in general is 
minimal, and the study of the effectiveness of criminal penalties is a completely undeveloped 
field.

This research is hindered by the difficulty in obtaining statistics on the number of 
cases prosecuted and the outcome of these cases. The Federal Bureau of Justice Statistics 
(BJS) does not track workplace safety violation prosecutions as a distinct category, probably 
because the death of a worker is just a misdemeanor under US law. Federal OSHA is 
allegedly responsible for evaluating the effectiveness of State occupational safety programs. 
However, as discussed earlier, they have not developed any means of doing so, nor do they 
aggregate statistics on prosecutions from state OSHA programs. Federal OSHA does collect 
statistics on criminal referrals from their jurisdiction, which includes federal jobsites, federal 
agencies, the 25 states that don’t operate their own OSH plans, as well as private employers 
in those states that run their own OSH programs for only the public sector. Their latest 
enforcement data from 2010 reveals a grand total of fourteen cases referred for prosecution 
(US DOL 2010a). OSHA’s enforcement division was unable to provide any information on 
the disposition of these cases, and whether a conviction was secured. Trying to find federal 
criminal enforcement data from previous years is equally challenging.
To obtain enforcement data from the 25 states that operate their own OSHA programs, it is necessary to contact these individual states, none of which appear to have standardized means of tracking prosecutions and convictions. For example, California is known for having the strictest occupational safety programs, but Cal OSHA’s Division of Investigation maintains that it does not have statistics on criminal referrals. Attempts at contacting other state programs were equally unsuccessful; most relied on the historical recollection of administrators to provide a summary of referred cases.

State and federal OSHA divisions, the occupational safety community, and academia have failed to provide an analysis of whether criminal prosecution is effective in making workplaces safer. An investigation by the New York Times created the first comprehensive collection of statistics on criminal prosecutions. As they researched, journalists found a fragmented, disorganized collection of insular agencies that rarely cooperated effectively, sometimes even being specifically directed not to initiate contact with each other. For the period from 1982 to 2002, researchers attempted to identify every criminal prosecution for workplace safety deaths, and tracked each case through conviction and sentencing:

The deaths were the subject of 1,798 investigations, 1,242 of them by OSHA. The rest were done by the 21 states and one territory with their own versions of OSHA. But with a handful of exceptions these state agencies have been just as hesitant to seek prosecution as the federal OSHA. (Barstow 2003b)

In all, The Times found 196 cases that were referred to state or federal prosecutors, resulting in 81 convictions and 16 jail sentences (Barstow 2003b). To get a relative sense of how few prosecutions this is, the EPA referred more criminal violations each year than OSHA has in its entire history. For example, in 2011, the EPA referred 371 criminal cases to the Department of Justice, with 249 of them prosecuted (U. S. Environmental Protection Agency 2011).

While the New York Times article is remarkable for finally addressing this neglected topic, the conventions of publishing in the popular press means that methods and data are not made available. An email conversation with one of the authors of the study revealed that OSHA does not publish data on willful violations leading to criminal prosecutions, so the New York Times team had to rely on inferences between statistics on fatalities, and reports of criminal prosecutions, to estimate the number of referrals and convictions. While allegedly OSHA was able to confirm that the New York Times data came close to the
agency’s own unpublished statistics, there was no way to verify that independently for this analysis, nor did the New York Times data offer statistics broken down by individual states.

In order to promote and encourage further empirical analysis of this issue, it is important to develop a preliminary quantitative analysis of the effect of criminal sanctions on workplace safety compliance. For this analysis, I evaluated the hypothesis that states with stronger criminal penalties have fewer occupational deaths.

**Quantitative Design**

A quantitative research design and corresponding dataset were created as a means to test the effect of criminal penalties (independent variable) on workplace deaths (dependent variable). The dataset includes controls for level of unionization, as well as controls for other types of OSHA enforcement activities, such as number of inspections, consultation programs and fine amounts.

**Independent Variable**

The independent variable will be the strength of criminal penalties for workplace safety violations. Specifically, the length of jail or prison sentence that could be issued for a violation was used as a proxy for strength of criminal prosecution. Federal OSHA has adopted a maximum penalty of six months for a willful violation leading to a fatality, and a maximum penalty of one year for a recurring violation leading to a fatality. Of the 25 states that have adopted their own occupational health and safety programs, most mirror the federal penalty structure, while others have developed stronger penalties (for example Michigan’s maximum penalty of three years, or California’s maximum penalty of four years).

The most obvious and significant limitation of specifying the independent variable in this manner is that it reflects law on the books, rather than penalties in practice. However, without state-level data on criminal referrals and successful convictions, this represents the most reasonable proxy for measuring criminal penalties. There is no pre-existing database of criminal penalties by state. I created a list of the 50 US states, and created distinct categories for states under the jurisdiction of federal OSHA, states with their own OSHA program, and states with their own OSHA program only for public sector employees. I reviewed sections of relevant criminal code, civil code and labor laws to determine maximum sentences for workplace safety violations, including any enhancement to sentencing for repeat violations.
Five states did not specify specific criminal penalties for workplace safety violations, but noted that violations could be referred in cases of potential criminal violations. In these instances, since state programs are required to be “at least as effective as” federal OSHA standards, the states were matched to the federal OSHA guidelines of maximum one year penalties for a repeat, willful offense resulting in a death.

**Dependent Variable**

Number of workplace deaths was chosen as the dependent variable representing “workplace safety.” Some studies of workplace safety rely on other measures of safety, most often percentage change in lost-time injuries and fatalities from OSHA enforcement statistics. This is commonly derived from OSHA’s TCR (Total Case Rate) incidence rate, computed from the number of injuries and illnesses per employee hours worked.

While the TCR incidence rate is popular, it has significant limitations due to underreporting. The TCR’s injury and illness count is from cases recorded on OSHA Form 300 (Deaths + Days Away from Work + Job Transfer or Restriction + Other Recordable Case). OSHA Form 300 reports are completed by the employer. There are inconsistencies from workplace to workplace due to misunderstanding of which sorts of accidents qualify as a recordable case, as well as deliberate omission of certain incidents. Many smaller employers do not even complete or submit OSHA Form 300.

There are several advantages to using fatalities alone as the proxy for workplace safety. Aside from employer errors or deliberate falsification, there is inconsistent or incomplete documentation of injury rates by OSHA, particularly in state-level programs. Mortality data allows the use of data from a single source that uses consistent collection methods over a long period of time. Bradbury (2006) explains other considerations influencing the choice to limit analysis to mortality figures:

- Mortality is a discrete, [easily quantifiable] and easily definable characteristic across all states and worksites. Also… mortality statistics [are obtained] from the cause of death listed on death certificates. Statistics on occupational accidents compiled by self-interested regulatory authorities may be less reliable due to the incentives to underreport or overreport deaths. (217)

Fatal injury rate statistics were obtained from the Bureau of Labor statistics. The fatality rate represents the number of fatal occupational injuries per 100,000 full-time equivalent workers.
Control Variables

Control variables for other OSHA activities, such as number of inspections, frequency of consultation visits and average fine amounts were introduced to isolate the effect of criminal penalty strength. A control variable for level of unionization was also implemented.

OSHA Consultation Activity

All state and federal occupational safety and health programs offer consultation services. This is a cooperative approach to generating workplace safety, and consultation departments work independently from enforcement and investigation staff. OSHA consultations programs offer advice on how to comply with safety regulations, answer questions regarding compliance, help employers identify and abate hazards, and provide assistance with training and the development of safety programs. The number of consultation visits was calculated per state from data provided by OSHA’s Directorate of State Programs. These figures were standardized by the number of workers employed in each state, based on data from the Bureau of Labor Statistics.

OSHA Inspections

It is important to control for the number of or frequency of inspections. First, inspections affect an employer’s calculations of risk of detection. In addition, it is important to isolate the effect of increased inspections because that in itself is more likely to yield evidence of increased wrongdoing. The number of inspections conducted in each state was calculated from data from the Bureau of Labor statistics. These figures were standardized by the number of workers employed in each state.

OSHA Fines

Another important variable would be the amount of any fines issued by OSHA, to control for the effect of increased monetary penalties. The total fines levied each year against employers by each state was included from Bureau of Labor Statistics reports. These figures were standardized by the number of workers employed in each state.
**Union Membership**

A final control variable would be union membership, as unions may both encourage employers to develop safer workplaces, but also encourage members and employees to adopt safer work habits. Union affiliation data was obtained from the Bureau of Labor Statistics, representing the percentage of employees in a state that are either members of a union or represented by a union.

**Analysis**

This relationship between criminal penalty strength and workplace fatalities will be tested. The null hypothesis would be that stricter penalties for violations don’t lead to fewer workplace safety deaths. As mentioned, within the literature on occupational safety and health violation deterrence, there is something of a consensus that likelihood of getting caught makes a bigger difference than severity of the penalty. This conclusion applies to civil and administrative fine amounts only, and doesn’t consider whether the severity of criminal prosecution is a strong deterrent even if the likelihood of detection is small. This proposed study assumes that an actor might be perfectly willing to play the odds knowing tens of thousands of dollars of a corporation’s funds could be at stake, but be significantly more risk averse under the same probability of detection, but with the possibility of a criminal trial and imprisonment. However, if the odds of detection are low, it’s not unreasonable to think that regardless of the severity or type of penalty, the more effective deterrent might be increasing the likelihood of apprehension.

The goal is to study whether states that have stricter penalties experience fewer fatalities. State program penalty strength has remained constant (most state plans have been approved since the 1970s and 1980s). This has some advantages in that it is not necessary to calculate an appropriate time-lag for safety improvements to occur as a result of regulatory action, as it involves a generalized comparison among different states. However, it is still important to create a dataset with enough observations to provide a sufficiently broad representation of a state’s program activity in general, rather than merely comparing states across a single year.

Data was collected from the years 2008, 2009 and 2010. Selecting data from 2008 onward also allows the use of more accurate fatality rate statistics provided by the
Department of Labor’s Bureau of Labor statistics. In previous years, different methodologies were used by the Department of Labor to report fatalities; the new method is more accurate, but does not directly compare to data pre-2007. Data from all three years across all states (initially 150 total observations) was consolidated to form a data set with 50 observations.

Results

A linear regression was conducted using SPSS to determine the effect of criminal penalty strength on occupational fatalities, controlling for OSHA consultations, union representation, number of OSHA inspections and penalty amounts.

Table 2 shows the results of the linear regression, and the effects of the independent variables on the dependent variable of fatality rate. The independent variable of interest, severity of criminal penalty, is not statistically correlated with workplace fatalities. However, there were relevant findings in regard to two of the control variables. Level of unionization was negatively correlated with workplace fatalities; the greater the level of unionization, the lower the fatality rate. Number of consultations was also correlated with fatality rate, but positively; the greater the number of consultations, the higher the fatality rate.

Table 2. Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Relationship</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Inspections</td>
<td>Negative (beta -.098)</td>
<td>No (.503)</td>
</tr>
<tr>
<td>Dollar Amount of Fines Issued</td>
<td>Negative (beta -.088)</td>
<td>No (.512)</td>
</tr>
<tr>
<td>Number of Consultations</td>
<td>Positive (beta .494)</td>
<td>Yes (.001)</td>
</tr>
<tr>
<td>Level of Unionization</td>
<td>Negative (beta -.043)</td>
<td>Yes (.044)</td>
</tr>
<tr>
<td>Severity of Criminal Penalty</td>
<td>Negative (beta -.293)</td>
<td>No (.748)</td>
</tr>
</tbody>
</table>

Note: Unionization is standardized as percentage of workforce; inspections, fine amount and consultation are standardized across states by number of full time workers.

While there was not a statistically significant relationship between criminal penalty strength and occupational fatalities, there are several important considerations that suggest how future examinations of this topic might be refined. The first step towards a deeper analysis of the effect of criminal prosecutions would be to specify the independent variable as the number of actual prosecutions or convictions, rather than the strength of laws on the
books. However, the lack of aggregated data about criminal cases referred for prosecution, and the disposition of these cases makes such a study impossible at this time. While few cases are ever referred for prosecution, of these, even fewer are accepted by prosecutors. From there, only a portion of these may result in convictions. Regardless of how the prosecution variable is operationalized, there may be too few prosecutions in general for them to have a statistically significant effect. While aggregated data from OSHA on number of prosecutions doesn’t exist, the New York Times found that from 1982 to 1992, there were a grand total of 81 criminal convictions in the whole US (federal and state programs) for workplace deaths due to willful safety violations (Barstow 2003b). Even with an allegedly increased emphasis on criminal penalties in recent years, recent OSHA enforcement activity reports very few referred cases: 10 in 2007, 14 in 2008, 11 in 2009 and 14 in 2010 (US DOL 2010a). Even with an extremely high potential penalty, the likelihood of punishment may be so remote that criminal prosecution is not an effective deterrent for a rational actor.

This is a challenge faced by previous scholars who have attempted to evaluate criminal prosecutions empirically, and a potential issue raised during preliminary research and investigation of this topic. During a conversation with Dr. Hinze4, who has studied negligent homicides in the construction industry and directs the graduate program for construction safety at the University of Florida, I discussed the problem of insufficient data on prosecutions, and Dr. Hinze suggested that perhaps there would also be insufficient prosecution cases to provide meaningful analysis. However, discussion that followed with Dr. Hinze and members of my thesis committee confirmed that the issue was worth exploring with a preliminary analysis, which would be the first of its type in the literature.

Of the independent variables tested, it was also expected that the number of inspections conducted by OSHA would have a statistically significant negative effect on workplace fatalities, given previously discussed research demonstrating that likelihood of a penalty is more important than severity of a penalty when it comes to deterring workplace safety violations, at least as far as fines are concerned (Gray and Scholz 1989, 1991; Gray and Jones 1991). However, these same researchers noted that brief inspections or record checks were not effective, because they did not provide a sufficiently rigorous inspection of

4 Jimmie Wayne Hinze, email correspondence, April 24, 2012
workplace conditions. Therefore, the lack of a relationship between inspections and fatalities may be due to the fact that the inspections being conducted were not rigorous enough. Further research would be needed to examine the types of inspections being conducted, and the role of other intervening variables (such as the severity of the penalty resulting from a violation found during an inspection) before making a definitive conclusion about the effectiveness of inspections in workplace safety regulation compliance.

There are relevant conclusions to be drawn from the other independent variables as well. For example, both strength of criminal penalty and number of OSHA consultation visits failed to correlate with a decrease in fatalities. However, the former had sufficiently few observations it is difficult to imagine the convictions being prominent enough to influence corporate behavior. On the other hand, during the three-year period studied, there were over 82,000 OSHA consultation visits, which did not decrease workplace fatalities. On the contrary, more consultation visits were associated with an increased number of workplace fatalities.

There are a number of potential explanations for this relationship. First, states with more fatalities may put more resources towards OSHA program activities, including consultation. However, given the statistically significant negative relationship between inspections and fatalities, the idea that states with more fatalities have more OSHA enforcement in general doesn’t seem to have merit. There is also no statistically significant correlation between consultations and other regulatory activities related to enforcement (stricter fines, more prosecutions). Another possible explanation is that a state having more consultations is indicative of a more permissive regulatory environment and less stringent enforcement. These states may have a regulatory approach that emphasizes voluntary compliance rather than inspection and coercion; this is a policy strategy which is less effective for reducing fatalities. In addition, participation in consultation programs is voluntary, and generally is indicative of well-meaning employers who reach out for assistance in developing a safer work environment. This may not affect the most egregious offenders who don’t prioritize workplace safety and don’t utilize consultation resources. The finding that consultation positively correlates with fatalities is not unexpected. It reinforces previous research from Baggs, Silverstein, and Foley (2003) which studied the effect of different OSHA regulatory activities on workers compensation claim rates (as a proxy for
injury rates) and found no association between consultation activities and decreased claims rates.

Analyzing the correlations among the independent variables also produced some relevant findings. There was a positive and significant correlation between inspections and consultations. However, since neither was associated with stricter penalties, this may fit with the theory that certain states may engage in greater number of program activities (inspections and consultations) but still be lax on enforcement (no significant and positive correlation with fine amount), hence high fatality rates persist. In other words, a third variable such as a more active OSHA causes more inspections and consultations, but program activity isn’t necessary indicative of stricter enforcement.

There is also a correlation between unionization and inspections. This relationship is expected based on existing research about the effect unionization has on workplace safety. Unions help educate employees about safety regulations, and they are in a better position to detect violations and file complaints with OSHA, leading to more inspections. Unions also provide a heightened level of protection for employees against retaliation for acting as “whistleblowers” which further increases the chances that complaints will be made.

Though criminal prosecutions show theoretical promise as a policy tool, the quantitative study did not demonstrate that they are associated with fewer occupational deaths. However, the number of criminal prosecutions are very low, perhaps too low to have any measurable effect. Perhaps the most relevant finding that emerged somewhat unexpectedly from the analysis is the positive relationship between consultation activities and fatality rates. Consultation activities have not been subject to extensive empirical evaluation in the literature, but the findings from my study suggests their effectiveness as a policy tool for reducing fatalities is questionable.
CHAPTER 7

CONCLUSIONS

Ultimately, the study found that there was not a statistically significant relationship between criminal prosecution and workplace fatalities. However, as discussed, this may be because there are not enough criminal prosecutions to have a significant effect on employer behavior. Even with an extremely high potential penalty, the likelihood of punishment may be so remote that criminal prosecution is not an effective deterrent for a rational actor.

Criminal penalties may still be a meaningful and effective enforcement mechanism for OSHA to utilize. Shapiro and Rabinowitz (2000) note that “the limited availability of criminal penalties under the OSH act robs the agency of a potentially powerful enforcement tool” (14). One of the largest barriers to meaningful analysis of the potential effectiveness of criminal penalties is a lack of in-depth data on the number of prosecutions and the outcome of these cases. OSHA needs to maintain a database that aggregates prosecution data from the 25 states that run their own occupational safety and health programs as well as from the 25 states under federal OSHA jurisdiction. Such a database would need to track all violations referred for prosecution, and whether or not they were accepted by state or federal prosecutions. For those cases accepted, it would be necessary to have information on the outcome of each event, such as whether or not a conviction was obtained and what the penalty or sentence was. A comprehensive database of criminal prosecution information would allow a more detailed regression analysis of criminal prosecutions, and, even if the total number of prosecutions remained too low to produce a statistically measurable general deterrent effect, such a database would allow researchers to study the specific deterrent effect of prosecutions within a particular industry, regional area, or company.

The positive relationship between consultation activity and fatalities is an important finding. Aside from a study by Baggs, Silverstein, and Foley (2003), there has not been any research analyzing the effect of consultation activity on safety outcomes. Consultation activities certainly may have their value. Given the complexity of workplace safety regulations, it would be irresponsible for the government to merely promulgate laws without
educating employers as to the meaning of those regulations and clarifying how employers can voluntarily comply. OSHA consultation programs may also represent a valuable resource for well-intentioned workplaces that wish to improve their safety programs, but lack the resources to make these improvements internally on their own. However, the data strongly suggest that consultation programs do not reduce fatalities. While they may be an important part of a state’s overall regulatory programs, consultations programs should be seen as an adjunct to enforcement and penalties, rather than an alternative.

Despite improvements in safety, and some meaningful accomplishments by regulators, workers continue to die by the thousands each year. Internally, OSHA has struggled to produce meaningful measures of program effectiveness despite shortcomings identified decades ago. There is a lack of outcome-based measures and insufficient statistics gathered about criminal prosecutions, which could represent an extremely effective tool for reducing deaths in the workplace. Ultimately, the failure of state and federal occupational safety and health programs to reduce fatalities to an acceptable level reflects a broader failure of government to adequately fund workplace regulatory agencies and to take a firm position on responding to willful and knowing violations of regulations that lead to fatalities.

This analysis raises some interesting concerns that go beyond questions about specific policy tools. Every day, 13 Americans leave for work and never return, yet this death toll is generally not a salient political or social problem. These deaths seem to be background noise, accepted as a fixed condition, rather than a solvable policy problem, in the same way Americans tolerate tens of thousands of highway deaths every year. Occasional attempts that arise to strengthen OSHA are effectively blocked by opponents of regulation that successfully invoke rhetoric about safety and health regulations curtailing economic growth and harming productivity in American industry. However, an accurate accounting of the true costs and benefits of safety regulation requires a far more effective system of quantifying the monetary benefit of proactive activities that prevent accidents. In addition, the true cost of disabilities and fatalities resulting from occupational disease (rather than injury accidents) is not adequately accounted for, and is further complicated by worker mobility from one employer to another, long latency periods from exposure to appearance of illness, and misattribution at diagnosis. The claim that there is a tradeoff between safety regulation and efficiency and growth merits further empirical evaluation. Regardless of the outcome of such
investigations, opponents of regulation have still managed to frame the debate about workplace safety regulation firmly within the context of fiscal costs and benefits, rather than in a more appropriate broader context that also incorporates concerns about public health and safety. Debate about regulation should also consider a worker’s life as more than a unit of economic production with a dollar value that can be weighed against the cost of implementing a safety improvement.

The comparison between OSHA and the EPA is made several times in the thesis, and becomes particularly important now when considering implementation and agendas. Environmental regulation has traditionally faced much of the same rhetoric and opposition as workplace safety regulation. Protecting the environment does require balancing clean air and water or plant and animal life against profit maximization. Environmental conservation regulations are alleged to reduce efficiency, stifle economic growth, kill jobs and reduce American competitiveness in the global economy. Regulated industries have significant political influence and can appeal to American liberal values of free enterprise and self-regulation. Nonetheless, environmental conservation has come to be framed as a prominent political issue. There are a variety of groups at all levels of government that advocate for stricter or more effective regulation. Most political actors have to acknowledge these environmental concerns (to varying degrees across the political spectrum) and public awareness campaigns and conservation programs are in every community. The EPA has a budget 17 times that of OSHA and the power to prosecute violations that result in decades of prison time. When a significant industrial accident occurs, OSHA will likely only issue a fine that will be settled for a fraction of its original amount. The EPA will bring handcuffs.

Perhaps in the mind of the public there is a sense of stewardship when it comes to the environment, whereas for workplace safety, there is a narrative of individual assumption of risk. This may rely on the further assumption that workers in more dangerous but “higher-skill” occupations (for example electricians and ironworkers) are paid more for the risks they voluntarily assume in their chosen line of work.⁵ However, many who work some of the most dangerous jobs in America don’t receive significant wage premiums and only “choose” their occupations under conditions of duress, needing to provide basic necessities for

⁵ The term “compensating wage premiums” is often used here.
themselves or their families. Workers in logging, commercial fishing or roofing face some of
the highest industry fatality rates while earning relatively low annual wages, and many
laborers in construction or agriculture are some of the lowest earners while performing
dangerous and demanding work. There are also boundaries of race and class that may
segregate these workers in the mind of politicians and members of the general public.
When woven into the individualistic narrative about voluntary assumption of risk, workplace
deaths become something that happen to “other” people.

A culture of liberal individualism also makes it difficult to think of stewardship for
workers in the same way as thinking of natural habitats and animals, which represent “pure”
victims worthy of protection. The neglect of worker safety may reflect not only liberal
individualism, but more complex notions of worthiness based on demographics. Even within
the field of wildlife conservation, there is a lack of research interest, money and public
support when it comes to protecting “ugly” animals like reptiles, amphibians and
invertebrates as compared to more aesthetically pleasing or “cute” animals (Trimble and
Aarde 2010). The vast majority (92%) of those who die at work are male; the “typical”
workplace fatality is a white man in his late 40s to early 50s (US DOL 2012b). Notions of
“worthy” versus “unworthy” victims utilize a variety of characteristics besides age and
gender (Herman and Chomsky 2002, 37-86) and gendered conceptions of value influence
policy in many areas to the detriment of both men and women. However, specifically when
it comes to eliciting sentiments of concern, stewardship or protection, men are often not
considered “worthy” nor “pure” victims. Particularly from the perspective of media framing,
they are statistics, not relevant human interest stories about victimization. These notions of
victim worthiness and unworthiness are further complicated by the fact that these men may
not be inclined to view themselves as “victims” in need of sympathy, protection or regulatory
intervention.

In addition, individuals, whether they work in a traditionally high-risk industry or not,
tend to have a poor perception of the potential for serious workplace accidents and usually
have not internalized safety as an important value. Among conscientious employers who are
looking to improve safety in their facilities, building a “safety culture” is one of the most
important and most challenging objectives; it requires getting workers to change the way
they see the world in which they work, through a lens that prioritizes safety and recognizes,
then corrects, potential hazards. As a workplace safety consultant, I sometimes work with companies who have implemented improved safety programs, but struggle to get all employees to comply with safety procedures or wear supplied protective equipment. The ultimate challenge in these situations isn’t designing procedures, providing technical training or purchasing equipment, but making safety a priority in the minds of everyone in the company. Perhaps what is needed is a national culture change that makes safety a value, in the same way that over the decades, Americans have internalized environmental conservation norms like recycling or not littering.

The need for a culture change is a more optimistic interpretation, and future analysis may reveal it to be naïve as implementation of safety programs continue to be blocked by interests that maximize profit over worker lives. Safety regulation is in many ways a challenge to the economic status quo, because it forces the population to examine the costs of industrial production. Perhaps environmental regulation is more palatable because compromise can be acceptable. Americans can value the environment but reach a compromise in terms of loss of habitat versus growth of a particular industry, or can generally try to prevent the unnecessary deaths of animals via some regulations, but not when the costs to the economy are too high. Bound in the concept of stewardship and caretaking of the environment is a nation of control and superiority: we have to take care of it because it belongs to us. However, that same ownership and control is what enables compromises to be made, such as building a new highway through a forest but setting aside a portion of it as a nature preserve, or allowing the construction of a chemical plant but regulating the extent of water contamination that can occur. We value the environment, but can do so without prioritizing it over production. Most importantly, individuals can comfortably recognize the fact that this is what they are doing.

Thinking seriously about workplace safety requires confronting the uncomfortable fact that we sacrifice a certain number of human lives in exchange for a certain amount of industrial output, all in order to sustain a particular way of life. For most people, this is too difficult to confront; it is easier to ignore. This allows those in power who profit most directly from the exploitation of workers relatively free reign to set the policy agenda. Research about effective policy tools is very valuable, but such efforts are generally bound to an assumption that solutions, once discovered, will be implemented. This thesis set out a
very important question: does criminal prosecution work to reduce fatalities? However, the path of my research led to broader questions, and the realization that the study of effective policy tools is part of a much larger question about culture, agenda control and power.
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