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Workers' Compensation at a Crossroads: Back to the Future or Back to the Drawing Board?

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1. Introduction

It is tempting to view US workers' compensation systems as self-contained state regimes whose detailed statutory and regulatory characteristics determine the efficiency and adequacy with which injured workers are compensated. To a substantial degree, this description accurately reflects reality. Most US workers' compensation systems are creatures of state law, and their provisions vary widely across jurisdictions. A vast body of empirical scholarship – to which many of those in attendance at this conference have made seminal contributions – bears out the expectation that many features of statutory or regulatory design affect the behaviors of key stakeholders. For example, cross-state differences in wage replacement ratios,[1] compensability of diseases and mental illnesses,[2] calculation of unscheduled permanent partial disabilities,[3]

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[1] *See, e.g.*, John D. Worrall & David Appel, *The Wage Replacement Rate and Benefit Utilization in Workers' Compensation Insurance*, 49 J. RISK & INS. 361 (1982); Richard J. Butler, *Economic Determinants of Workers' Compensation Trends*, 61 J. RISK & INS. 383 (1994); James R. Chelius, *Workers' Compensation and the Incentive to Prevent Injuries*, *in* SAFETY AND THE WORK FORCE: INCENTIVES AND DISINCENTIVES IN WORKERS' COMPENSATION 154 (John D. Worrall ed., 1983); Stuart Dorsey, *Employment Hazards and Fringe Benefits: Further Tests for Compensating Differentials*, *in* SAFETY AND THE WORK FORCE: INCENTIVES AND DISINCENTIVES IN WORKERS' COMPENSATION 87 (John D. Worrall ed., 1983).

[2] *See, e.g.*, J. Paul Leigh & John A. Robbins, *Occupational Disease and Workers' Compensation: Coverage, Costs, and Consequences*, 82 MILBANK Q. 689 (2004); Kenneth D. Rosenman et al., *Why Most Workers with Occupational Repetitive Trauma Do Not File for Workers' Compensation*, 42 J. OCCUPATIONAL & ENVTL. MED. 25 (2000); Lobat Hashemi et al., *Trends in Disability Duration and Cost of Workers' Compensation Low Back Pain Claims (1988-1996)*, 40 J. OCCUPATIONAL & ENVTL. MED. 1110 (1998); Sara E. Luckhaupt & Geoffrey M. Calvert, *Work-Relatedness of Selected Chronic Medical Conditions and Workers' Compensation Utilization: National Health Interview Survey Occupational Health Supplement Data*, 53 AM. J. INDUS. MED. 1252 (2010).

[3] *See, e.g.*, Terry Thomason, *The Transition from Temporary to Permanent Disability: Evidence from New York State*, *in* WORKERS' COMPENSATION INSURANCE: CLAIM COSTS, PRICES, AND REGULATION 69 (David Durbin & Philip S. Borba eds., 1993); John D. Worrall et al., T*he Transition From Temporary Total to Permanent Partial Disability: A Longitudinal Analysis*, *in* WORKERS' COMPENSATION INSURANCE: CLAIM COSTS, PRICES, AND

statutory waiting and retroactive periods,[4] insurance regulation,[5] experience rating,[6] control over the pool of providers,[7] administrative appeals processes,[8] and medical provider fee schedules[9] have been shown to affect claiming behavior, utilization, and/or systemic costs in economically consequential ways. For this reason, careful attention to variations in institutional design is vital for those who care about worker safety and health.

REGULATION 51 (David Durbin & Philip S. Borba eds., 1993); ROBERT T. REVILLE ET AL., RAND INST. FOR CIVIL JUSTICE, AN EVALUATION OF NEW MEXICO WORKERS' COMPENSATION PERMANENT PARTIAL DISABILITY AND RETURN TO WORK (2001), https://www.rand.org/content/dam/rand/pubs/monograph_reports/2009/MR1414.pdf.

[4] *See, e.g.*, Geetha M. Waehrer & Ted R. Miller, *Restricted Work, Workers' Compensation, and Days Away from Work*, 38 J. HUM. RESOURCES 964 (2003); Alan B. Krueger, *Incentive Effects of Workers' Compensation Insurance*, 41 J. PUB. ECON. 73 (1990); Barry T. Hirsch et al., *Workers' Compensation Recipiency in Union and Nonunion Workplaces*, 50 INDUS. & LAB. REL. REV. 213 (1997); Butler, *supra* note 1.

[5] *See, e.g.*, Scott E. Harrington & Patricia M. Danzon, *Rate Regulation, Safety Incentives, and Loss Growth in Workers' Compensation Insurance*, 73 J. BUS. 569 (2000); Anne Carroll & Robert Kaestner, *The Relationship Between Regulation and Prices in the Workers' Compensation Insurance Market*, 8 J. REG. ECON. 149 (1995); Timothy P. Schmidle, *The Impact of Insurance Pricing Deregulation on Workers' Compensation Costs*, 11 WORKERS' COMPENSATION MONITOR 1 (1995); Robert W. Klein et al., T*he Capital Structure of Firms Subject to Price Regulation: Evidence from the Insurance Industry*, 21 J. FIN. SERV. RES. 79 (2002).

[6] *See, e.g.*, John D. Worrall & Richard J. Butler, *Experience Rating Matters*, *in* WORKERS' COMPENSATION INSURANCE PRICING 81 (Phillip S. Borba & David Appel eds., 1998); Karen Roberts, *The Structure of and Incentives from Workers' Compensation Pricing*, *in* WORKPLACE INJURIES AND DISEASES: PREVENTION AND COMPENSATION ESSAYS IN HONOR OF TERRY THOMASON 171 (Karen Roberts ed., 2005); Douglas E. Hyatt & Boris Kralj, *The Impact of Workers' Compensation Experience Rating on Employer Appeals Activity*, 34 INDUS. REL. 95 (1995).

[7] *See, e.g.*, Leslie I. Boden & John W. Ruser, *Workers' Compensation 'Reforms,' Choice of Medical Care Provider, and Reported Workplace Injuries*, 85 REV. ECON. & STAT. 923 (2003); David Neumark et al., *The Impact of Provider Choice on Workers' Compensation Costs and Outcomes*, 61 INDUS. & LAB. REL. REV. 121 (2007); Silvana Pozzebon, *Medical Cost Containment Under Workers' Compensation*, 48 INDUS. & LAB. REL. REV. 153 (1994); LESLIE I. BODEN & CHARLES A. FLEISCHMAN, MEDICAL COSTS IN WORKERS' COMPENSATION: TRENDS AND INTERSTATE COMPARISONS (1989).

[8] *See, e.g.*, Laura Langer, *Strategic Considerations and Judicial Review: The Case of Workers' Compensation Laws in the American States*, 116 PUB. CHOICE 55 (2003); Terry Thomason & John F. Burton, *Economic Effects of Workers' Compensation in the United States: Private Insurance and the Administration of Compensation Claims*, 11 J. LAB. ECON. S1 (1993); Karen Roberts, *Predicting Disputes in Workers Compensation*, 59 J. RISK & INS. 252 (1992); Joseph A. Fields & Emilio C. Venezian, *Medical Cost Development in Workers' Compensation*, 58 J. RISK & INS. 497 (1991).

[9] *See, e.g.*, OLESYA FOMENKO & JONATHAN GRUBER, WORKERS COMP. RES. INST., DO HIGHER FEE SCHEDULES INCREASE THE NUMBER OF WORKERS' COMPENSATION CASES? (2016), http://www.wcrinet.org/studies/protected/exec_summaries/do_higher_fs_increase_wc_cases-es.html; Karen Roberts & Susan Zonia, *Workers' Compensation Cost Containment and Health Care Provider Income Maintenance Strategies*, 61 J. RISK & INS. 117 (1994); Richard J. Butler et al., *HMOs, Moral Hazard and Cost Shifting in Workers' Compensation*, 16 J. HEALTH ECON. 191 (1997); Mujahed Shraim et al., *Length of Disability and Medical Costs in Low Back Pain: Do State Workers' Compensation Policies Make a Difference?*, 57 J. OCCUPATIONAL & ENVTL. MED. 1275 (2015).

Yet the overriding focus of scholarship on the arcana of state workers' compensation laws can obscure the fact the workers' compensation is just one of a broader cluster of economic and institutional factors that jointly determine the occupational safety and health (OSH) of US workers. The impact of workers' compensation laws cannot be fully grasped without understanding the ways in which they interact, or fail to interact, with other economically consequential institutions.

Moreover, workers' compensation scholarship is limited by its almost exclusive focus on the US – an ironic intellectual insularity given that the concept of workers' compensation originated in Germany and that the institution was widely adopted in Europe decades before it was accepted by US legislatures.[10] The paucity of work comparing the US workers' compensation system with those abroad has encouraged scholars to take the basic features of the US system for granted. Thus, these scholars often fail to distinguish between deficiencies that are characteristic of all industrial economies and those that arise from unique aspects of the US system. As a result, they fail to differentiate reforms that could succeed only in a foreign jurisdiction from those that could be transplanted successfully to US soil.

The goal of this article is to compare – from an economic perspective – the legal and institutional characteristics of the US OSH regime with those of other industrialized nations, and to use those comparisons as a basis for recommending promising areas for future research and policy reform. The next section, Section 2, situates workers' compensation in a broader institutional perspective by describing it as just one of four "pillars" of the OSH regime in most modern industrialized societies. Section 3 outlines the incentives of four important stakeholders

[10] Chris Parsons, *Liability Rules, Compensation Systems and Safety at Work in Europe*, 27 GENEVA PAPERS ON RISK & INS. 358, 360-61 (2002).

in the OSH system: workers, employers, physicians, and insurers. Section 4 illustrates how the basic institutional and economic attributes of the OSH regime in the US differ from those in Canada, Europe, and Australasia. Section 5 explains how the structural differences identified in Section 4 affect the incentives of workers' compensation stakeholders in the US. Section 6 describes several mounting pressures that are jeopardizing the capacity of the US workers' compensation system to meet its intended goals. Section 7 identifies promising areas for future research. Section 8 offers incremental policy reforms. Section 9 concludes.

2. The Four-Pillared OSH Regime

Although the literature on workers' compensation is vast, potential policy reforms are often discussed in a vacuum, implicitly taking for granted the background laws and economic institutions that shape the incentives of workers' compensation stakeholders in any given society. This section takes a different approach, explicitly describing each of these laws and institutions that, along with the workers' compensation system itself, affect workers' safety and health in most industrialized nations. To simplify (and concretize) the ensuring discussion, I conceptualize workers' compensation as just one of four economic "pillars" that jointly determine the prevalence and cost distribution of occupational injuries in most industrialized societies. Understanding the OSH regime in this way will make it easier to understand the interwoven and evolving incentives of the OSH stakeholders, a topic that will be taken up in later sections.

***Free Market Pillar*.** The first pillar encompasses the underlying free market conditions that affect the pricing of occupational risk in the wage bargain. The theory of compensating differentials predicts that in high-risk industries, workers should demand higher wages, often called a "wage-risk premium," in exchange for a higher *ex ante* likelihood of death or serious

bodily harm. Firms, for their part, should invest in additional safety improvements until the marginal cost of doing so exceeds the marginal benefit of any resulting decline in wages. In a highly simplified (Coasian) world that is free of transaction costs, not only should firms and workers fully internalize (and efficiently allocate among themselves) the cost of industrial accidents, but firms should also undertake additional safety-enhancing improvements that maximize joint social surplus.

The reality, of course, is more complex. In most industrialized societies, workplace accidents impose significant economic externalities. Injured workers who are unable to work – even temporarily – lower productivity and can increase government expenditures on other social insurance programs. Labor market imperfections may also jeopardize workers' capacity to command wage premiums when accepting hazardous jobs. For example, in the absence of mechanisms to ensure accurate and consistent accident reporting, workers may not know the level of risk they will face. Even workers who are aware of occupational hazards may be unable to bargain effectively for higher wages without union representation, or in the face of borrowing constraints, monopsonistic labor markets, high unemployment, or an inability to purchase adequate insurance. In light of these real-world complexities, it is not surprising that the empirical evidence for wage-risk premiums is mixed.[11]

[11] *See, e.g.*, Robert Smith, *Compensating Wage Differentials and Public Policy: A Review*, 32 INDUS. & LAB. REL. REV. 339, 341-43 (1979) (discussing early literature on compensating wage differentials under "Empirical Studies"); Stuart Dorsey & Norman Walzer, *Workers' Compensation, Job Hazards, and Wages*, 36 INDUS. & LAB. REL. REV 642 (1983) (demonstrating the existence of wage-risk premiums for non-union workers, but not for unionized workers). *Compare* Richard Arnould & Len Nichols, *Wage-Risk Premiums and Workers' Compensation: A Refinement of Estimates of Compensating Wage Differential*, 91 J. POL. ECON. 332, 335-39 (1983) (providing evidence for wage-risk premiums and quantifying impact of workers' compensation on these premiums) *with* Peter Forman & Paul Hagstrom, *Wage Compensation for Dangerous Work Revisited*, 52 INDUS. & LAB. REL. REV. 116 (1998) (presenting evidence against the existence of compensating differentials for risk).

Inspectorate Pillar. The second pillar of an OSH regime consists of the activities of federal, regional, and local inspectorates that set minimum safety standards, conduct inspections, and penalize employers for failing to adhere to those standards. Although often uniformly associated with the "command and control" style of regulation, regulatory agencies differ widely in approach and scope of activity. Some may only conduct inspections, while others may augment these traditional responsibilities with activities designed to promote OSH improvements, such as focusing extra resources on particular industries or geographic regions or funding local prevention efforts. Some may take pains to maintain an arms-length relationship with the firms they inspect to avoid "regulatory capture," while others may play a predominantly advisory role. Still others may employ a "self-regulation" model in which unions (or even employers) conduct inspections instead of government employees. As used here, the defining characteristic of the second pillar is the capacity to specify minimum safety practices and to regularly assess adherence to these practices.

The activities of inspectorates can shape labor market behavior in significant ways. Economic theory typically differentiates between the "specific" and "general" deterrence effects of these inspectorates. The specific deterrence effect refers to the effect of actually undergoing an inspection. Meanwhile, the general deterrence effect refers to the behavioral effects of an employer's knowledge of the likelihood that she *could* undergo an inspection and/or her awareness of the fines that *would* be assessed if she were found to be out of compliance. In addition to these effects, government-orchestrated publicity surrounding levels of regulatory compliance – such as prizes or "honor rolls" to reward model employers, or press releases

describing major enforcement actions against repeat violators – can have myriad reputational effects that shape firms' incentives concerning OSH investments.[12]

Workers' Compensation Pillar. The third pillar includes the design and characteristics of the workers' compensation regime itself. The defining characteristics of every workers' compensation regime are the provision of benefits to disabled workers on a *no-fault* basis (i.e., without the necessity to prove that the employer's negligence caused the injury) and the availability of only *partial* compensation.[13] Yet as will become clear from the ensuing discussion, many basic features of workers' compensation systems vary considerably among industrialized nations. For example, systems may vary with regard to the prevalence (and type) of experience rating used to calculate insurance premiums; the share of medical costs in total costs per claim; the competitive (or monopolistic) nature of insurance markets; and the role(s) of physicians in determining a worker's eligibility for benefits. The adequacy of benefits in enabling injured workers to meet basic needs can also vary considerably across countries, and even across jurisdictions in a single country. The availability of civil remedies to workers whose injuries are caused by an employer's negligence – and to those who are fired in retaliation for reporting injuries – are other important sources of potential variation.

Social Insurance Pillar. The fourth pillar of an OSH regime encompasses the state and federal regulations that provide different forms of social insurance to individuals whose work-related disabilities prevent them from working. Most important among these are laws providing

[12] Matthew S. Johnson, Regulation by Shaming: Deterrence Effects of Publicizing Violations of Workplace Safety and Health Laws 25 (Apr. 13, 2016) (unpublished manuscript), https://drive.google.com/file/d/0Bxr2qrvtxnbrNVJMMjVVdmVLLUE/view.

[13] Parsons, *supra* note 10, at 362 (explaining that while employers' liability claims would provide full compensation, workers' compensation claims give only partial compensation).

free or low-cost medical care to all workers, regardless of whether they can prove that they were injured on the job. In countries where medical care is not an entitlement or is difficult to access, injured workers who do not file workers' compensation claims (or whose claim are denied) may be forced to shoulder a "double burden," struggling to pay for medical care at the same time that their income has been reduced by loss of work.

Another important characteristic of the social safety net is whether it provides some type of income replacement, such as sick leave or short-term disability leave, to workers who are incapacitated for relatively short periods of time. Finally, workers' access to long-term income support – such as long-term disability insurance – if they become disabled for long periods, or for the rest of their lives, is another critical feature of the social safety net that can vary widely across jurisdictions.

3. Stakeholder Incentives in a Workers' Compensation System: An Overview

Having described the four "pillars" of the OSH systems that characterize most modern industrialized societies, the next task is to describe in broad strokes the array of economic incentives facing economic actors whose behavior jointly determines the OSH system's relative cost, efficiency and welfare effects. My focus is on four sets of stakeholders – workers, employers, doctors, and insurers – that face economically consequential choices at crucial decision points. These decision points may precede, coincide with, or follow the occurrence of an on-the-job injury. Describing the incentives of each OSH stakeholder in general terms will help lay the groundwork for the much more detailed international comparisons that are the focus of Sections 4 and 5.

Worker Incentives. To understand the economic incentives of the worker, it is helpful to imagine her at four moments in time: when she discusses the terms of a job offer with a prospective employer; when she commences work; when she is injured; and when she is deciding whether to return to work in the wake of an injury.

In theory, the worker's incentives at the first moment (before hire) are straightforward: she has strong incentives to acquire information about job hazards and to take this information into account when bargaining over wages. In practice, however, the employee's consideration of OSH-related hazards *ex ante* will likely depend on the success of regulators and unions in raising awareness of OSH issues. Furthermore, her capacity to command a wage-risk premium that accurately reflects her risk depends on what is often described as "bargaining power." Although the concept lacks conceptual rigor and is notoriously difficult to quantify, bargaining power can be understood as encompassing factors that affect the worker's capacity to negotiate effectively. Certain market imperfections – such as an inability to borrow, self-insure, or find alternative employment – reduce the worker's bargaining power. Additionally, a sizable body of empirical literature suggests that the worker's bargaining power can be affected by whether or not she is represented by a union.[14]

The second critical juncture marks the worker's acceptance of the job and commencement of work. From an economic standpoint, the main question is how much effort the worker exerts to avoid workplace injuries and illnesses – for example, by identifying and avoiding job hazards and complying with safety rules, especially those that are distasteful or burdensome. Assuming that taking safety precautions is costly, one might expect her to weigh

[14] For a review of the empirical literature, see John Burton, *The Economics of Safety*, *in* INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL & BEHAVIORAL SCIENCES 863, 864 (James D. Wright ed., 2nd ed. 2015).

this "hassle factor" against the likelihood of sustaining an injury, which itself depends on how dramatically she believes her circumstances would worsen if she were injured. That is, if the worker believes that sustaining an injury would be economically catastrophic, imperiling her ability to meet basic needs, she may exert greater care than if she knew that she could rely on robust private and social insurance systems to soften the blow. This behavioral effect – in which an increase in the generosity of disability insurance may induce the worker to take less care on the job – has been called "risk-bearing moral hazard"[15] or the "true injury effect."[16]

The third significant moment occurs after the worker is injured and must decide whether to file a claim. For severe injuries requiring emergency medical care, there may be little choice but to report the injury. For less acute injuries, however, the worker's decision will likely depend on how the expected value of reporting the injury compares to the expected value of not doing so. This calculation will depend on the generosity of workers' compensation benefits (compared to those of other forms of private/social insurance) as well as on the costs associated with filing. Filing costs may include the psychological cost of enduring a medical examination, as well as the risk of employer retaliation. Clearly, the more generous the worker's private and social insurance benefits and the greater the costs associated with filing, the less likely she will be to be report the injury in the workers' compensation system. This effect is generally knows as the "claims-reporting moral hazard effect"[17] or simply the "reporting effect."[18]

[15] *See, e.g.*, Richard J. Butler & John D. Worrall, *Claims Reporting and Risk Bearing Moral Hazard in Workers' Compensation*, 58 J. RISK & INS. 191, 192 (1991).
[16] Xuguang (Steve) Guo & John Burton, Jr., *Workers' Compensation: Recent Developments in Moral Hazard and Benefit Payments*, 63 INDUS. & LAB. REL. REV. 340, 341 (2010).
[17] Butler & Worrall, *supra* note 15.
[18] Guo & Burton, *supra* note 16, at 341.

The final economically consequential moment in time occurs when the injured worker, after spending a given amount of time not working, decides whether (and if so, how quickly) to return to work. In some cases, the worker may be so severely disabled that returning to work is out of the question. In other cases, however, she will have *de facto* discretion over the timing of her reentry. Here again, her decision about when (or whether) to resume working will likely depend on which course of action provides her with higher monetary (and non-pecuniary) benefits. The more generous the wage replacement and medical benefits she receives while out of work compared to her earnings and medical care after her return, the longer her absence from work is likely to persist – a relationship knows as the "duration effect."[19]

Employer Incentives. Theoretically, safer and healthier workplaces should experience higher productivity, lower wages, and lower turnover. Even in the absence of OSH regulation, then, the free market pillar should provide the employer with some incentives to devote attention to OSH matters. However, the strength of free market incentives depends on the level of market imperfections (such as the presence of informational asymmetries), as well as on the strength of unions and other societal institutions that increase workers' ability to bargain. Therefore, the incentives engendered by the free market pillar may be less deterministic of employer behaviors than those produced by the inspectorate and workers' compensation pillars. Specifically, the frequency and stringency of inspections factors considerably into the employer's cost of ignoring workplace hazards, and the share of injury costs that workers' compensation laws force the employer to internalize further affects the employer's incentives to reduce those costs.

[19] *Id.*

Once incentivized to cut OSH-related costs, the employer must choose how to do so. First, there are several ways to reduce the frequency of claims: by reducing the frequency of injuries (the "safety effect"[20]); by reducing the likelihood that injuries are reported (the "underreporting effect"); and by reducing the likelihood that injury claims are processed and paid (the "claim monitoring effect"). The strength of the employer's incentives to invest in *safety* depends in large part on the nature of the industry, the cost of adoption, the amount of expected benefit, and the cost of borrowing. However, these incentives can be augmented by government or insurer programs that promote the use of safety-enhancing technologies by subsidizing their costs. To encourage *underreporting*, the employer may adopt incentive programs that reward workers who do not file injury claims and/or that penalize those who do, which may have the added benefit of inducing workers to take more care on the job. If anti-retaliation protections are weak, the employer may also terminate injured workers who file costly claims. In some jurisdictions, the employer could also simply hire contingent, contract, or temporary workers outside the scope of the workers' compensation statute. The employer may reduce the likelihood that claims are accepted and paid by engaging in vigilant *claim monitoring*. The relative allure of these strategies will depend on their consistency with the underlying legal framework and their efficacy in lowering OSH costs.

Second, the employer may attempt to lower average costs per claim, including both medical and wage replacement costs. To lower medical costs, the employer may control the pool of providers that treat her workers, closely monitor treatment decisions, and specify the maximum rates at which care providers can be compensated (the "medical monitoring effect").

[20] Guo & Burton, *supra* note 16, at 342.

Notably, the extent to which the employer can utilize any of these techniques (without running afoul of OSH regulations) depends on the background legal climate. To reduce wage replacement costs, the employer may also invest in return-to-work programs and offer rehabilitated workers the opportunity to engage in restricted work (the "return-to-work effect"). The underlying legal framework and the anticipated benefits of these alternative strategies will determine which ones are ultimately employed.

Physician Incentives. To understand the economic incentives of the physician, it is helpful to focus on her two common roles within a workers' compensation system. First, the physician may be called upon to function as a "gatekeeper" by rendering an eligibility determination – an opinion regarding the work-relatedness of an injury – at the request of an employer, an employee, or a public entity. Secondly, she may decide whether or not to treat the injured worker. The physician's incentives in these roles depend primarily on the characteristics of the workers' compensation and of the social insurance pillars of the OSH regime.

The incentives of the physician asked to make an eligibility determination depend crucially on her fiduciary relationship with the requesting entity. If the entity is a public agency, then the physician has a strong incentive to respect that agency's norms. An agency that prides itself on neutrality may give her wide latitude to exercise judgment, whereas one that is under a mandate to reduce claims may pressure her to set high eligibility thresholds. If the requesting entity is a patient to whom the physician provides primary care, then she may feel pressure or obligation to accede to the request. If the physician is a repeat player paid by an employer (or insurer) to conduct independent medical examinations before litigation, then she will have powerful incentives to deem injuries as not work-related and to strengthen the employer's (or insurer's) grounds for denying claims.

After an injury or illness has been deemed work-related, the differences in the fee structures or administrative costs associated with treating occupational and non-occupational conditions will affect the physician's incentives to accept the patient. If the work-relatedness of an injury is inconsequential, the physician may not hesitate to provide care. However, in a bifurcated system in which treating workers' compensation patients is less remunerative and imposes higher administrative costs than treating other patients, the physician is incentivized to decline these patients. For she who does agree to treat these patients, regulatory changes that reduce net compensation are particularly consequential. For example, if some treatments become less remunerative, the physician may substitute alternative treatments.

***Insurer Incentives*.** The incentives of the insurer depend on the nature of the insurance market and on whether the insurer is public or private. For the private insurer in a competitive market, the overriding incentive is to maximize profits by correctly predicting workers' compensation costs. The dynamic nature of insurance markets and the difficulty of predicting long-term trends may make it difficult for the insurer in a competitive market to engage in long-term contracting with individual firms. A public insurer, especially a monopolistic one, has different incentives. Instead of its success maximizing profits, it is likely to be judged by its capacity to offer insurance on terms that effectuate public policy goals, such as overall improvements in workplace safety, at minimal expense to taxpayers. Moreover, in a monopolistic insurance market, employers cannot seek coverage elsewhere and the public insurer has access to a broader and more diversified risk pool, so this insurer may be able to consider adopting policies or engaging in contracts that require a longer time horizon.

4. How the US OSH Regime Differs from OSH Regimes in Comparator Countries

If, as the theme of this conference implies, the grand bargain struck between US industry and labor in the early Twentieth Century is on the verge of extinction, then this provides a strong rationale for considering paths not taken. Broadening the lens to compare the US to other industrialized economies will illuminate the myriad factors that affect the plight of injured workers, and will lead to suggestions as to how the economic incentives of OSH stakeholders might be reshaped to better align with the goals of the system's creators.

A cursory glance at the international landscape reveals striking differences between the economic forces that shape each pillar of the OSH regime in the US and other industrialized countries. I focus most of my comparisons on Canada, Australia, New Zealand, and countries in the European Union, which I collectively refer to collectively as the "comparator countries," due to the limited availability of English-language sources.

Before delving into more detailed comparisons, it is worth noting that two comparator countries[21] have developed particularly innovative social insurance models. In these countries, workers' compensation is subsumed by a broader social insurance system that compensate *all* disabling injuries, blurring the distinction between workers' compensation and other, typically more stigmatized and less remunerative,[22] forms of social insurance. The first is New Zealand, in which the state accident compensation system includes all injuries (but not diseases) regardless

[21] Greece and Hungary also have no specific insurance against occupational accidents and diseases, but rather cover these conditions under general insurance for sickness and disability; however, the programs in these countries have received less attention in the literature. *See* EUR. AGENCY FOR SAFETY & HEALTH AT WORK, ECONOMIC INCENTIVES TO IMPROVE OCCUPATIONAL SAFETY AND HEALTH: A REVIEW FROM THE EUROPEAN PERSPECTIVE 82 (Greece), 87 (Hungary) (Dietmar Elsler ed., 2010), https://osha.europa.eu/en/tools-and-publications/publications/reports/economic_incentives_TE3109255ENC.

[22] Katherine Lippel & Freek Lotters, *Public Insurance Systems: A Comparison of Cause-Based and Disability-Based Income Support Systems*, *in* HANDBOOK OF WORK DISABILITY: PREVENTION AND MANAGEMENT 183, 189-90 (P. Loisel & J.R. Anema eds., 2013).

of whether they are work-related.[23] The second is the Netherlands, which goes even further in providing wage replacement to people disabled by injuries *and* diseases, regardless of cause.[24]

Comparison of Free Market Pillar. As explained in Section 2, the first pillar of the OSH regime is defined by the labor market conditions that affect the pricing of occupational risk in the wage bargain, such as employees' access to information and ability to collectively bargain.

With respect to informational asymmetries, it appears that US workers are more equipped than their Canadian, Australasian, and European counterparts to acquire accurate site-level information on occupational risk. Though in Canada,[25] Australasia,[26] and most of the EU,[27] aggregated data on industry-level injury rates are collected by government agencies and made publicly available, these countries rely exclusively on workers' compensation claims to track injury rates.[28] In contrast, publicly available data from the US encompasses information from both workers' compensation claims *and* injury surveys conducted by the Bureau of Labor

[23] Parsons, *supra* note 10, at 361.
[24] *Id*. at 361-62. In recent years, both systems have come pressure to reduce their disability rolls. *See* Adam Bennett, *ACC Bonus Pay for Claimant Cull*, N.Z. HERALD, June 22, 2012, http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10814678 (last visited Aug. 30, 2016) (reporting that the compensation of case managers at New Zealand's Accident Compensation Corporation, which administers the comprehensive no-fault system, has been made contingent on their success in getting long-term claimants off the books); Joseph LaDou, *The European Influence on Workers' Compensation Reform in the United States*, 10 ENVTL. HEALTH 103, 105 (2011) (noting that legislation introduced in 2006 in the Netherlands requires employers to take steps to facilitate rapid return to work immediately after a claim is filed so as to prevent them from receiving benefits for extended periods); EUR. AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 21, at 87.
[25] *See 2014 Injury Statistics Across Canada*, ASS'N OF WORKERS' COMP. BDS. OF CAN., http://awcbc.org/?page_id=14 (last visited Aug. 30, 2016).
[26] *See Statistics*, SAFE WORK AUSTL., http://www.safeworkaustralia.gov.au/sites/swa/statistics/pages/statistics (last visited Aug. 30, 2016); *Statistics*, WORKSAFE N.Z., http://www.business.govt.nz/worksafe/research/health-and-safety-data (last visited Aug. 30, 2016).
[27] *See* EUR. STATISTICS ON ACCIDENTS AT WORK, METHODOLOGY (2001), https://www.osh.org.il/UpLoadFiles/00_eustat_methodology_accident_reporting.pdf.
[28] In Canada, Australia and New Zealand, for example, the national injury surveillance system is based exclusively on data obtained from the workers' compensation system. *See id*.; *2014 Injury Statistics Across Canada*, *supra* note 25.

Statistics.[29] Moreover, the accessibility of *establishment-level* injury data for the mining sector[30] and other high-hazard industries[31] in the US distinguish it from other industrialized nations.[32] It is worth noting, however, that public access to highly granular (establishment-level) information on injuries may be less important in settings, as in many of the comparator countries, in which workers exert more day-to-day influence over OSH matters through unions, works councils, safety and health committees, and other institutionalized practices.

Indeed, workers in the US may be at a comparative disadvantage regarding the ability to determine work safety culture and collectively bargain for adequate wage-risk premiums. In the US, union density, direct participation of workers in OSH implementation, and involvement of labor unions in the OSH policy arena are all relatively low. The Bureau of Labor Statistics estimated total trade union density in the US to be 11.1% in 2015 (with 6.7% in the private sector and 35.2% in the public sector),[33] one of the lowest rates among the Organization for Economic

[29] See *Industry Injury and Illness Data*, U.S. BUREAU OF LAB. STATISTICS, http://www.bls.gov/iif/oshsum.htm#94Summary_News_Release (last visited Aug. 30, 2016).
[30] See *Open Government Initiative Portal*, MINE SAFETY & HEALTH ADMIN., http://arlweb.msha.gov/OpenGovernmentData/OGIMSHA.asp (last visited Aug. 30, 2016).
[31] For injury and illness data from 1996-2011 from employers within certain size and industry specifications, see *Establishment Specific Injury & Illness Data (OSHA Data Initiative)*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/pls/odi/establishment_search.html (last visited Aug. 30, 2016). OSHA's new Final Rule, "Improve Tracking of Workplace Injuries and Illnesses," which takes effect on January 1, 2017, will require all establishments in high-hazard industries with more than 20 employees and all establishments with more than 250 employees to submit detailed injury-level data, which will be made available online. See *Final Rule Issued to Improve Tracking of Workplace Injuries and Illnesses*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/recordkeeping/finalrule/ (last visited Aug. 30, 2016).
[32] For example, in New Zealand, workers' compensation data is only made available in the aggregated form, and not at the establishment level, see *Statistics*, ACCIDENT COMP. CORP., http://www.acc.co.nz/about-acc/statistics/index.htm (last visited Aug. 30, 2016). The same is true for Australia, *see Statistics*, SAFE WORK AUSTL., *supra* note 26. Some provinces in Canada (such as Alberta) do provide searchable databases with employer-level information on workers' compensation claims, but this is rare, *see, e.g.*, *Employer Records: How to Use This Database*, ALTA. LABOUR, https://work.alberta.ca/occupational-health-safety/employer-records-how-to-use-database.html (last visited Aug. 30, 2016).
[33] *See* Press Release, U.S. Bureau Lab. Statistics, Union Members Summary (Jan. 28, 2016), http://www.bls.gov/news.release/union2.nr0.htm.

Co-operation and Development.[34] In the European Union, by contrast, unionization rates are generally much higher, and worker organizations are considerably more involved in the formation, implementation, and enforcement of OSH policy.[35] Labor unions sometimes wield considerable influence over OSH policy even in comparator countries in which union membership rates are relatively low, such as France.[36]

Additionally, even in establishments where workers are not represented by a union, many comparator countries have taken steps to ensure that incumbent workers participate actively to shape work-safety culture. For example, in Canada, federal law mandates the formation of workplace safety and health committees in which worker representatives meet regularly with management to discuss OSH issues.[37] New Zealand and Australia impose a duty on employers to consult with employees about OSH issues, an obligation typically met through the formation of health and safety committees, and/or the appointment of a health and safety representative to promote employees' interests in OSH-related matters.[38] European works councils (which have been mandatory since 1994 for most multinational companies employing at least 1,000 people) give workers some voice over OSH issues.[39] By contrast, only a handful of US states require the

[34] *See Trade Union Density*, ORG. FOR ECON. CO-OPERATION & DEV., https://stats.oecd.org/Index.aspx?DataSetCode=UN_DEN (last visited Aug. 30, 2016).
[35] *See generally European Works Councils (EWCs) and OSH*, EUR. AGENCY FOR SAFETY & HEALTH AT WORK, https://oshwiki.eu/wiki/European_Works_councils_(EWCs)_and_OSH (last visited Aug. 30, 2016).
[36] *See Trade Unions*, EUR. TRADE UNION INST., http://www.worker-participation.eu/National-Industrial-Relations/Countries/France/Trade-Unions (follow "France" hyperlink under "Trade Unions") (last visited Aug. 30, 2016).
[37] *See Health and Safety Committees and Representatives*, LABOUR PROGRAM, http://www.travail.gc.ca/eng/health_safety/committees/index.shtml (last visited Aug. 30, 2016).
[38] WORKPLACE RELATIONS MINISTERS' COUNCIL, COMPARISON OF WORKERS' COMPENSATION ARRANGEMENTS IN AUSTRALIA AND NEW ZEALAND (2015), http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/536/ComparisonofOHS_Aus_NZ_5thEd.pdf.
[39] *See European Works Councils (EWCs)*, EUR. TRADE UNION CONFEDERATION, https://www.etuc.org/european-works-councils-ewcs (last visited Aug. 30, 2016).

formation of safety and health committees, and other institutionalized forms of worker participation are largely absent in non-unionized settings.[40]

Broadly speaking, then, the examination of the first pillar of the OSH regimes suggests that though American workers may have access to superior OSH-related information, they are probably less equipped to demand an adequate wage-risk premium than their counterparts in Canada, Australasia, and Europe due to the comparative weakness of organized labor.[41] Moreover, given the paucity of mechanisms to ensure that US workers have a voice over OSH issues, they may have a lesser capacity to shape workplace safety practices.

***Comparison of Inspectorate Pillar*.** The second pillar of the OSH regime in the US – the activities of federal, state and local inspectorates – is difficult to assess from a comparative legal standpoint. It is virtually impossible to compare the frequency[42] and stringency[43] of OSH inspections (carried out by the Occupational Safety and Health Administration (OSHA)[44] and its sister agency, the Mine Safety and Health Administration (MSHA)) to those in comparator

[40] *See Health and Safety Committees*, CTR. FOR PROGRESSIVE REFORM, http://www.progressivereform.org/WorkerHealthandSafetyComms.cfm (last visited Aug. 30, 2016).
[41] This is especially true for workers in the private sector. *See infra* discussion in *Comparison of Workers' Compensation Pillar*.
[42] The International Labour Organization (ILO) provides high-level comparisons for 22 countries, including comparisons of the number of "inspectors" and "inspection actions." *See Performance of Labour Inspection Systems, Selected Countries*, INT'L LAB. ORG., http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---lab_admin/documents/resourcelist/wcms_160321.pdf (last visited Aug. 30, 2016). In theory, one could compare the numbers in this table to the enforcement statistics provided on OSHA's website, *see Occupational Safety and Health Administration (OSHA) Enforcement*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/dep/2013_enforcement_summary.html (last visited Aug. 30, 2016). In practice, however, such comparisons would be of dubious validity. First, the ILO data encompasses all labor inspectors, not just those pertaining to safety and health. Second, the term "inspection actions" may not be used consistent across countries. Third, the data are only available for a few countries.
[43] I am unaware of any data sources that measure inspection "stringency" in ways that would be amenable to cross-national comparisons, such as the total amount of fines assessed per inspection.
[44] In some states that have adopted "state plans," inspections are actually carried out by state rather than federal officials. *See State Plans*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/dcsp/osp/ (last visited Aug. 30, 2016).

countries. US critics often characterize OSHA as under-resourced[45] and the empirical evidence on its efficacy is inconclusive.[46] Moreover, some empirical scholarship suggests that OSHA inspections had little impact on inspected firms, at least in the manufacturing sector, before the turn of the millennium.[47] Yet from a comparative perspective, a few preliminary observations can be made.

First, regulatory philosophy and standards in the US compare favorably to those in Canada. According to one comparative study of these countries, "US federal safety and health standards are somewhat higher than the standards in the majority of the Canadian provinces."[48] Additionally, compared to Canada the OSH system in the US "places a heavy emphasis on governmental monitoring and enforcement through monetary penalties."[49] Second, OSHA makes granular data on every inspection readily available at the establishment level,[50] potentially reducing informational asymmetries in the wage bargain and augmenting the general deterrence effect of inspections.[51] Similar information does not appear to be available in most comparator countries.[52] Third, alongside its traditional enforcement activities, OSHA undertakes a wide

[45] David Weil & Amanda Pyles, *United States: Why Complain? Complaints, Compliance and the Problem of Enforcement in the US Workplace*, 27 COMP. LAB. L. & POL'Y J. 59, 62 (2005) (reporting that a majority of OSHA enforcement activities, particularly inspections, are triggered by workers' complaints rather than being regularly scheduled activities due to lack of resources, particularly the small inspection force).
[46] *See* Burton, *supra* note 14 (and articles cited therein).
[47] Wayne Gray & John Mendeloff, *The Declining Effects of OSHA Inspections on Manufacturing Injuries, 1979-1998*, 58 IND. LAB. REL. REV., 571-587 (2005) (finding that no evidence for a specific deterrence effect of inspections on lost workday injuries in manufacturing firms inspected from 1992-1998).
[48] Richard N. Block & Karen Roberts, *A Comparison of Labour Standards in the United States and Canada*, 55 INDUS. REL. 273, 293-94 (2000).
[49] *Id*.
[50] *See Data & Statistics*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/oshstats/ (last visited Aug. 30, 2016) (follow "Establishment Search" hyperlink under "Inspection Data" to retrieve inspection data for a particular establishment).
[51] *See* Johnson, *supra* note 12 (finding that publicizing violations improves the compliance of inspected workplaces, as well as of peer workplaces, which the author argues is likely driven by employers seeking to avoid the shame of future publicity).
[52] Only a few comparator countries have publicly available inspections data, and these countries vary in terms of the granularity of the information they make available. For example, Sweden has publicly available inspection data for

variety of initiatives and campaigns (known as local, national, and special "emphasis programs") to promote targeted prevention efforts.[53] Although available data is limited, it does not appear that inspectorates in other comparator countries carry out a similarly broad array of prevention activities.[54]

Perhaps ironically in light of the critiques leveled at OSHA,[55] then, the activities undertaken and the information provided through the second pillar in the US seem no less robust or extensive than those provided by inspectorates in comparator countries.

Comparison of Workers' Compensation Pillar. It should be noted at the outset that the variation in the programmatic dimensions of workers' compensation systems across US states is dwarfed by the disparity between the insurance available to federal employees and to those available to the other 98%[56] of US workers. The Federal Employees' Compensation Act (FECA) program provides federal employees with full salary (with no waiting period) for the first 45

each establishment. See *Arbetsmiljöcertifierade Företag [Work Environment Certified]*, ARBETSMILJÖ VERKET [WORK ENVIRONMENT AGENCY], https://www.av.se/arbetsmiljoarbete-och-inspektioner/arbetsmiljocertifierade-foretag/ (last visited Aug. 30, 2016); *Arbetsmiljödomar [Work Environment Rulings]*, ARBETSMILJÖ VERKET [WORK ENVIRONMENT AGENCY], https://www.av.se/arbetsmiljoarbete-och-inspektioner/boter-straff-och-sanktionsavgifter/arbetsmiljodomar/ (last visited Aug. 30, 2016). In contrast, the Danish "Smiley System" only provides highly simplified data on each firm's level of compliance. *See Red, Yellow, and Green Smileys and Smiley with a Crown*, ARBEIDSTILSYNET [NORWEGIAN LABOR INSPECTION AUTHORITY], http://engelsk.arbejdstilsynet.dk/en/inspection/smiley-26-6-07 (last visited Aug. 30, 2016). In the Canadian province of Alberta, comprehensive data on regulatory outcomes is also not available at the establishment level, but it is available for companies that were convicted of criminal violations. Telephone Interview with Doug, Call Center Staff, Alberta Occupational Health and Safety (Aug. 18, 2016).

[53] *See Local Emphasis Programs*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/dep/leps/leps.html (last visited Aug. 30, 2016); *OSHA'S Active National & Special Emphasis Program Index*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/dep/neps/nep-programs.html (last visited Aug. 30, 2016).

[54] For a detailed description of OSH activities in Europe, see EUR. AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 21. The prevention activities described in this detailed overview, including the case studies, were usually undertaken by insurers, state governments, or stakeholders other than inspection agencies.

[55] *See, e.g.*, Stephen Labaton, *OSHA Leaves Worker Safety in Hands of Industry*, N.Y. TIMES, Apr. 25, 2007.

[56] Federal government employees (excluding uniformed military personnel) totaled 2,726,000 in 2014, when total employment was approximately 140,000,000. *See Employment, Hours, and Earnings from the Current Employment Statistics Survey (National)*, U.S. BUREAU LAB. STATISTICS, http://data.bls.gov/pdq/SurveyOutputServlet?request_action=wh&graph_name=CE_cesbref1 (last visited Aug. 24, 2016).

days after an injury. The program provides such high levels of wage replacement that in some cases, workers' take-home pay while on disability leave exceeds their take-home pay while working.[57] Although FECA has been described as "provid[ing] social insurance that most European countries would recognize as equal to their own,"[58] it has also been criticized for failing to incentivize prevention and return-to-work efforts,[59] making it more remunerative for employees to remain on permanent disability than to accept retirement benefits,[60] and turning a blind eye to fraud.[61] A detailed discussion of the FECA program, however, is beyond the scope of this paper.

Thus, the remainder of this article confines attention to US employees that are not covered FECA, deriving a number of general observations regarding how (non-federal) workers' compensation systems in the US compare to the systems in Canada, Australasia, and Europe.

Experience rating. Among countries that utilize experience rating, the dominant form is a classic *bonus-malus* system in which premiums are adjusted for each employer based on claim histories. (Because accidents are rare events in small companies, historical rates are less reliable proxies for underlying safety, so the practice is generally confined to large companies that do not self-insure). Although experience rating for large companies is the norm in North America and Australasia,[62] a number of European workers' compensation systems[63] – such as those in the

[57] Joseph LaDou, *Federal Employees' Compensation Act*, 15 INT'L J. OCCUPATIONAL & ENVTL. HEALTH 180, 183-185 (2009).
[58] LaDou, *supra* note 24, at 104.
[59] James R. Chelius, *Role of Workers' Compensation in Developing Safer Workplaces*, 114 MONTHLY LAB. REV. 22, 24 (1991).
[60] LaDou, *supra* note 56, at 192.
[61] *Id*. at 191-92.
[62] Mark Harcourt et al., *Impact of Workers' Compensation Experience-Rating on Discriminatory Hiring Practices*, 41 J. ECON. ISSUES 681, 681-82 (2007).
[63] EUR. AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 21, at 29-95 Annex 2.

United Kingdom, Ireland, Greece, Spain, Austria, Slovenia, Denmark, the Netherlands, and Sweden – do not experience rate insurance premiums.

There is considerable international dissensus regarding the costs and benefits of experience rating. While proponents tout the efficiency-enhancing properties of experience rating, which in theory induces firms to internalize the costs of occupational hazards,[64] skeptics have expressed the concern that experience rating incentivizes companies to underreport injuries and that the most common forms (which rely on lagged data) do not reward firms quickly enough for innovative prevention measures.[65] The fact that a number of comparator countries do not experience rate demonstrates that the critical perspective holds sway in some industrialized nations.

Medical costs. Outside of the US, medical care costs constitute a markedly small share of total workers' compensation costs;[66] thus, they have a more attenuated (if any) impact on firms'

[64] *See, e.g.*, NAT'L COUNCIL ON COMP. INS., ABCS OF EXPERIENCE RATING 2 (2015), https://www.ncci.com/Articles/Documents/UW_ABC_Exp_Rating.pdf (reporting that experience rating provides incentives for employers to minimize costs, for example, by reducing employee return-to-work time or investing in safety and health practices). Recently there has been a debate regarding the implementation of experience rating in several Scandinavian countries, and employers' organizations have largely come out in support for the practice. For example, representatives of the largest employers' organization in Sweden, Svenskt Näringsliv [Swedish Industry & Commerce] have argued that workers' compensation in Sweden should be experience rated in order to incentivize prevention effort and more efficient handling of cases. *See* SOFIA BERGSTRÖM & ALF ECKERHALL, EN NY ARBETSSOLYCKSFALLSFÖRSÄKRING [A NEW WORK ACCIDENT INSURANCE], SVENSKT NÄRINGSLIV [SWEDISH INDUSTRY & COMMERCE] 5-6 (2007), http://www.svensktnaringsliv.se/migration_catalog/Rapporter_och_opinionsmaterial/Rapporters/en-ny-arbetsolycksfallsforsakring_527908.html/BINARY/En%20ny%20arbetsolycksfallsf%C3%B6rs%C3%A4kring.

[65] *See, e.g.*, EUR. AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 21, at 28, 202; *Arbetsskadeförsäkring [Work Injury Insurance]*, LANDSORGANISATIONEN I SVERIGE [NATIONAL ORGANIZATION IN SWEDEN], www.lo.se/start/politiska_sakfragor/arbetsskadeforsakring (last visited Aug. 30, 2016) (from the largest alliance of Swedish workers' unions, stating that there is "no evidence to support the claim that experience rating would lead to a smaller number of injuries," and that "a comparison between Sweden (no experience rating) and Denmark, Norway and Finland (all experience rated) shows that the latter three all have more accidents. Experience rating can lead to more aggressive screening/selection of employees in the hiring process, and underreporting of injuries"); Alan Clayton, *The Prevention of Occupational Injuries and Illness: The Role of Economic Incentives*, (Nat'l Res. Ctr. for OHS Regulation, Working Paper No. 5, 2002), https://digitalcollections.anu.edu.au/handle/1885/41128 (arguing that experience rating can lead to claim suppression).

[66] *See, e.g.*, Press Release, National Academy of Social Insurance, Workers' Compensation Benefits for Injured Workers Continue to Decline While Employer Costs Rise (Aug. 12, 2015),

insurance premiums,[67] and companies play little (if any) role in medical cost containment.[68] This disparity arises from the fact that all comparator countries provide publicly-funded universal health insurance, which covers occupational and non-occupational impairments alike, and that overall health care expenditures are much higher in the US than in other industrialized nations.[69] In short, the US is the only country examined in which medical care is a major cost driver in the workers' compensation system.

Competitive insurance markets. Competitive insurance markets are far more common than exclusive state funds in the US, whereas the opposite is true in the comparator countries. Only four US states - North Dakota, Ohio, Washington, and Wyoming – operate monopolistic

https://www.nasi.org/press/releases/2015/08/press-release-workers%E2%80%99-compensation-benefits-injured-work (reporting that medical costs comprised $0.49 and cash benefits comprised $0.50 per $100 of covered wages in the United States in 2013); ROMAN DOLINSCHI, INST. FOR WORK & HEALTH, THE FACTS ON COMPENSATION BENEFITS PAID ACROSS CANADA (2009), https://docs.google.com/viewer?url=http%3A%2F%2Fwww.iwh.on.ca%2Fsystem%2Ffiles%2Fdocuments%2Fworkers_comp_benefits_2009_factsheet.pdf (reporting that in Canada, medical costs comprised about 24% of all compensation benefits paid in 2009); HEADS OF WORKERS COMP. AUTHS., NATIONAL COMPENDIUM OF MEDICAL COSTS IN AUSTRALIAN WORKERS COMPENSATION 13 (2000), http://www.hwca.org.au/documents/medical_comp_amended.pdf (reporting, for each Australian territory, the average percent of all claim costs that can be attributed to medical expenses for either 1997-1998 or 1998-1999; the values range from 9% in Victoria to 19.9% in Queensland); Linda Head & Mark Harcourt, *The Direct and Indirect Costs of Work Injuries and Diseases in New Zealand*, 36 ASIA PACIFIC J. HUM. RESOURCES 46, 50 (1998) (reporting that in 1995, the average medical cost per claim in New Zealand was 12.15%).

[67] For example, in New Zealand, magnitude of medical costs per claim do not factor directly into the calculation of premiums; rather, the experience rating simply takes into consideration the number of claims with medical costs greater than $500 per company. *See* ACCIDENT COMP. CORP., EXPERIENCE RATING PROGRAMME (2014), http://www.acc.co.nz/PRD_EXT_CSMP/groups/external_levies/documents/faq/wpc088785.pdf. Australia and Canada differ by state/province, but it is not atypical for a state/province to have two experience rating protocols for differently sized companies. *See, e.g.*, Telephone Interview with Greg Pittman, Customer Service Representative, WorkSafe New South Wales (Aug. 23, 2016); Telephone Interview with Jessica Zhong, Quantitative Research Analyst, Saskatchewan Workers' Compensation Board (Aug. 24, 2016) (Saskatchewan, Canada).

[68] In a majority of comparator countries, employers never pay any medical costs directly, so they have little incentive or ability to play a role in medical cost containment. There are a few minor and largely inconsequential exceptions to this rule. For example, in Victoria (Australia), if a workers' compensation claim is accepted, the employer is responsible for paying the first $682 in medical costs (as of 2016; this value is set annually), see *Employer's Liability*, WORKSAFE VICT., http://www1.worksafe.vic.gov.au/vwa/claimsmanual/Content/4EmployerObligations/2%204%201%20Employers%20liability.htm (last visited Aug. 24, 2016).

[69] ORG. FOR ECON. CO-OPERATION & DEV., HEALTH AT A GLANCE 2015: HOW DOES THE UNITED STATES COMPARE? (2016) https://www.oecd.org/unitedstates/Health-at-a-Glance-2015-Key-Findings-UNITED-STATES.pdf.

state funds.[70] By contrast, workers' compensation insurance markets in Canada,[71] many states in Australia[72], New Zealand,[73] and the vast majority of EU countries[74] are monopolistic, meaning that all employers purchase insurance from a single, quasi-public entity.

Another noteworthy difference is that insurance companies in comparator countries, particularly in the EU, are more frequently involved in prevention efforts. In particular, they are more apt to financially reward "efforts not results."[75] A study of European OSH practices provides numerous examples of insurance-based incentives and prevention programs (besides experience rating) that are frequently targeted at these firms.[76] At least nine European Union countries – Germany, France, Italy, the United Kingdom, the Netherlands, Finland, Cyprus, Romania, and the Slovak Republic– offer incentive programs in which insurance premiums are based not only on the frequency and cost of injuries in prior years, but also on employers' forward-looking prevention efforts.[77] Comparable examples are very rare in the US.

Compensability of occupational diseases. Coverage of occupational diseases is generally more extensive in comparator countries than in the US. For example, Canada,[78]Australia,[79] and

[70] *See Monopolistic State Funds*, INT'L RISK MGMT. INST., https://www.irmi.com/online/insurance-glossary/terms/m/monopolistic-state-funds.aspx (last visited Aug. 30, 2016).
[71] INST. FOR WORK & HEALTH, WORKERS' COMPENSATION IN CALIFORNIA AND CANADA (2010), https://www.iwh.on.ca/system/files/documents/iwh_briefing_workers_comp_cal_can_2010.pdf.
[72] WORKERS' COMPENSATION INSURANCE, NAT'L COMPETITION COUNCIL CMTY. INFO. 2 (2000), http://ncp.ncc.gov.au/docs/CIComWc-001.pdf.
[73] *See History of ACC in New Zealand*, ACCIDENT COMP. CORP., http://www.acc.co.nz/about-acc/overview-of-acc/introduction-to-acc/aba00004#P108_12377 (follow hyperlink "2000: ACC restored as sole provider") (last visited Aug. 30, 2016).
[74] EUR. AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 21, at 54-55.
[75] EUR. AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 21, at 22.
[76] *Id*. at 34-39, 63-65; Dietmar Elsler & Lieven Eeckelaert, *Factors Influencing the Transferability of Occupational Safety and Health Economic Incentive Schemes Between Different Countries*, 36 SCANDINAVIAN J. WORK, ENV'T., & HEALTH 325 (2010).
[77] EUR. AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 21, at 92-95 Annex 2.
[78] *See* Katherine Lippel, *Preserving Workers' Dignity in Workers' Compensation Systems: An International Perspective*, 55 AM. J. INDUS. MED. 519, 525 (2012).
[79] SAFE WORK AUSTL., DEEMED DISEASES IN AUSTRALIA (2015), http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/931/deemed-diseases.pdf.

most European countries[80] maintain a list of "scheduled" occupational diseases that are presumptively eligible for insurance benefits and that do not require claimants to establish a causal link between the disease and occupational exposure on an individualized basis. In part because of wide differences in the scope of scheduled diseases, there is enormous variation across the EU in the relative frequency of occupational disease claims.[81] US workers' compensation systems, in contrast, do not maintain lists of scheduled diseases, and often impose short statute of limitations on the filing of claims; these characteristics likely account for the low proportion of occupational diseases that result in claims.[82]

Physicians as gatekeepers. For both workers' compensation and Social Security Disability Insurance (SSDI) in the US, a doctor must deem an injury or illness to be work-related before and benefits can be provided. Although in some contexts, a worker's primary physician may provide this information,[83] in adversarial contexts, employers (or insurance companies) may hire independent medical examiners to render a second opinion.[84] Several studies indicate that injured workers can experience the medical examination process, especially in adversarial contexts that involve independent medical examiners, as stigmatizing and demeaning.[85]

[80] Parsons, *supra* note 10, at 368; LaDou, *supra* note 24, at 105.
[81] EUROGIP, COSTS AND FUNDING OF OCCUPATIONAL DISEASES IN EUROPE 6 (2004), http://www.eurogip.fr/images/publications/Eurogip_cout_financement_2004_08E.pdf.
[82] Jeffrey E. Biddle et al., *What Percentage of Workers With Work-Related Illnesses Receive Workers' Compensation Benefits?*, 40 J. OCCUPATIONAL & ENVTL. MED. 325 (1998).
[83] Timothy S. Carey & Nortin M. Hadler, *The Role of the Primary Physician in Disability Determination for Social Security and Workers' Compensation*, 104 ANNALS INTERNAL MED. 706, 709 (1986).
[84] Michael B. Lax et al., *Medical Evaluation of Work-Related Illness: Evaluations by a Treating Occupational Medicine Specialist and by Independent Medical Examiners Compared*, 10 INT'L. J. OCCUPATIONAL MED. & ENVTL. HEALTH 1, 1-2 (2004).
[85] *See, e.g.*, Lee Strunin & Leslie I. Boden, *The Workers' Compensation System: Worker Friend or Foe?*, 45 AM. J. INDUS. MED. 338, 338 (2004) (finding that many injured workers described their overall experience as "demeaning and dehumanizing"); Elizabeth Kilgour et al., *Procedural Justice and the Use of Independent Medical Evaluations in Workers' Compensation*, 8 PSYCHOL. INJ. & L. 153, 154 (2015); Barbara Beardwood et al., *Victims Twice Over: Perceptions and Experiences of Injured Workers*, 15 QUALITATIVE HEALTH RES. 30, 30 (2005).

Physicians occasionally function as "gatekeepers" in comparator countries. For example, in Germany, doctors are selected by industry-specific agencies[86] to assess each injured worker who applies for benefits.[87] In Spain, a doctor employed by the National Institute of Social Security must perform a medical assessment which is then used by benefit administrators to determine benefit eligibility.[88] In Finland, a doctor's opinion is required for payment of benefits, and insurance companies (Finland has a private competitive market) can demand that the injured worker be examined by another physician of their selection.[89] In Ireland, a doctor's opinion is required for the initial approval of a claim, and weekly doctor's certificates are required for ongoing benefits.[90]

However, in many countries, a detailed medical examination and report are not required before the claim can be filed. In the Netherlands, for example, a doctor's approval is not required until several weeks after filing the claim.[91] In New Zealand, a doctor need only submit a form attesting to the disability (without specifying whether it is work-related).[92] A few Australian states, such as Victoria and Queensland, only use doctors as gatekeepers if facts are in dispute.[93]

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[86] PERRIN THORAU & ASSOCS., GOV'T. OF B.C., COMPARATIVE REVIEW OF WORKERS' COMPENSATION SYSTEMS IN SELECT JURISDICTIONS: GERMANY 7 (1999), http://www.qp.gov.bc.ca/rcwc/research/perrin-thorau-germany.pdf.

[87] Moreover, the physicians must have training or "specific interest" in insurance medicine. *Id.*

[88] ORG. FOR ECON. CO-OPERATION & DEV., SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS – A SYNTHESIS OF FINDINGS ACROSS OECD COUNTRIES 82 (2010) http://ec.europa.eu/health/mental_health/eu_compass/reports_studies/disability_synthesis_2010_en.pdf.

[89] ARBETSSKADEKOMMISSIONEN [COMMISSION ON WORK INJURIES], ARBETSSKADEFÖRSÄKRINGEN I FINLAND [WORK INJURY INSURANCE IN FINLAND] 67 (2011) https://arbetsskadekommissionen.files.wordpress.com/2013/09/arbetsskadefc3b6rsc3a4kringen-i-finland.pdf.

[90] *See* ORG. FOR ECON. CO-OPERATION & DEV., SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS – DENMARK, FINLAND, IRELAND, AND THE NETHERLANDS 3 Table 3.1 (2008) http://www.oecd-ilibrary.org/docserver/download/8108131e.pdf?expires=1473440816&id=id&accname=ocid194777&checksum=DF40AC810D02C067E715B9D9695E2943.

[91] Lippel, *supra* note 78, at 529.

[92] ACCIDENT COMP. CORP., GETTING HELP AFTER AN INJURY 5 (2015) http://www.acc.co.nz/PRD_EXT_CSMP/groups/external_communications/documents/publications_promotion/wim2_064026.pdf.

[93] *Workers: The Claims Process*, WORKSAFE VICT., http://www.worksafe.vic.gov.au/injury-and-claims/workers-the-claims-process/making-a-claim (last visited Aug. 25, 2016) (Victoria); *Medical assessment tribunals*, WORKCOVER QUEENSL., https://www.worksafe.qld.gov.au/rehab-and-claims/medical-assessment-tribunals (last visited Aug. 25, 2016) (Queensland).

In Sweden, a doctor's opinion is required to approve a claim, but patients select the provider they visit (and typically this provider is the regional general practitioner).[94]

More broadly, throughout much of Europe and Canada, occupational physicians' primary role is to provide ongoing risk assessment and health surveillance rather than to make eligibility determinations.[95] In every country in the EU, occupational medicine specialists conduct mandatory hazard surveys of all workplaces (in some cases these specialists are paid for by the state, whereas in other countries the physicians may be employed by companies or groups of companies).[96] Some countries like France, Belgium, and Germany go even further, by employing physicians to not only conduct worksites inspections, but to also perform routine examinations of employees.[97] In the Netherlands, company doctors (who are occupational medicine specialists) are heavily involved in prevention activities and return-to-work initiatives such as designing reintegration plans for injured employees and conducting ongoing OSH monitoring.[98]

Adequacy of benefits. On its face, the replacement rate for workers' compensation in the US (about 70%[99]) is lower than that in many other comparator countries (75-90% in Canada,[100]

[94] ARBETSSKADEFÖRSKRING [WORK INJURY INSURANCE], FÖRSÄKRINGSKASSAN [STATE INSURANCE AGENCY] 1 (2015) https://www.forsakringskassan.se/wps/wcm/connect/d8c96fd3-a634-41a8-9214-2087182cba6f/sj_4056_arbetsskadeforsakring_arg.pdf?MOD=AJPERES (last visited Sep. 8, 2016).
[95] *See* LaDou, *supra* note 24, at 109 (describing the role of occupational injury physicians in many European countries as risk assessors/inspector and health surveillance). *See also* J.R. Anema et al., Can Cross Country Differences in Return-to-Work after Chronic Occupational Back Pain Be Explained? An Exploratory Analysis on Disability Policies in a Six Country Cohort Study, 19 J. OCCUPATIONAL REHABILITATION 419, 425 (2009) (describing the role of physicians in post-work injury reintegration in the Netherlands).
[96] Joseph LaDou, *The European Influence on Workers' Compensation Reform in the United States*, 103 ENVTL. HEALTH 1, 7 (2011).
[97] *Id.*
[98] ORG. FOR ECON. CO-OPERATION & DEV., *supra* note 88, at 82.
[99] *See* INT'L ASSOC. OF INDUS. ACCIDENT BDS. & COMM'NS & THE WORKERS COMP. RESEARCH INST., WORKERS' COMPENSATION LAWS – 2ND EDITION 29 Table 4 (2nd ed. 2009), http://www.wcrinet.org/wclaw2009/complete_file.pdf.
[100] ASS'N OF WORKERS' COMP. BDS. OF CAN., 2015 KEY BENEFITS INFORMATION (2015), http://awcbc.org/wp-content/uploads/2013/12/Key_Benefits_Information.pdf.

80-100% in Australia,[101] 80%[102] in New Zealand, 80% in Germany and Switzerland, 90% in Belgium, 100% in the UK, Finland and Luxembourg[103]), though the fact that benefits are excluded from taxable income in the US[104] (unlike in many comparator countries[105]) suggests that on an after-tax basis, the levels are roughly equivalent. However, all US states impose a "waiting period" (ranging from three to seven days) before the receipt of wage replacement benefits,[106] whereas seven of ten Canadian provinces,[107] Australia,[108] New Zealand,[109] and a majority of countries in the EU[110] impose none. Even though in the US, benefits from the waiting period can be recouped if the lost work spell persists beyond a "retroactive period" (typically ranging from seven days to six weeks[111]), wages lost during waiting periods may constitute a significant burden for workers who lose fewer than two weeks of work. Furthermore, the weekly maximums that all US states impose on wage replacement levels – mostly equal to or below the

[101] WORKPLACE RELATIONS MINISTERS' COUNCIL, *supra* note 38, at 86-94.
[102] SOC. SEC. ADMIN., SOCIAL SECURITY PROGRAMS THROUGHOUT THE WORLD: ASIA AND THE PACIFIC, 2014: NEW ZEALAND 166 (2014), https://www.ssa.gov/policy/docs/progdesc/ssptw/2014-2015/asia/new-zealand.pdf.
[103] EUROGIP, ACCIDENTS AT WORK AND OCCUPATIONAL DISEASES: FLAT RATE OR FULL REPARATION? (2005), http://www.eurogip.fr/images/documents/131/Eurogip%2021E.pdf (last visited Aug. 30, 2016) (Germany, Swutzerland, Belgium, Finland, Luxembourg); Telephone Interview with Iain McLeod, Business Insurance Expert, Hiscox Insrance (Aug. 25, 2016) (UK).
[104] *See Taxable or Non-Taxable Income?*, INTERNAL REVENUE SERV., https://www.irs.gov/uac/taxable-or-non-taxable-income (last visited Aug. 30, 2016).
[105] Benefits are taxable in Belgium, Denmark, Spain, Finland, Italy, Luxembourg, Switzerland, and the Netherlands. However, benefits are not taxable in the UK, Germany, France, and Portugal. EUROGIP, *supra* note 103, at 34 Appendix 1.
[106] See INT'L ASSOC. OF INDUS. ACCIDENT BDS. & COMM'NS & THE WORKERS COMP. RESEARCH INST., *supra* note 99, at 76 Table 13.
[107] ASS'N OF WORKERS' COMP. BDS. OF CAN., WAITING PERIODS - SUMMARY (2015), http://awcbc.org/wp-content/uploads/2013/12/Waiting_Periods.pdf.
[108] SOC. SEC. ADMIN., SOCIAL SECURITY PROGRAMS THROUGHOUT THE WORLD: ASIA AND THE PACIFIC, 2014: AUSTRALIA 44 (2014), https://www.ssa.gov/policy/docs/progdesc/ssptw/2014-2015/asia/australia.pdf.
[109] SOC. SEC. ADMIN., *supra* note 102, at 166.
[110] Germany, Austria, Belgium, Denmark, Spain, Finland, France, Luxembourg and Portugal do not have waiting periods. Italy technically has a three day waiting period, but employers are required by law to cover wages during this period (retroactively). Sweden has a one day waiting period, and Ireland, the UK, and Switzerland have three day waiting periods. *See* EUROGIP, *supra* note 103.
[111] See INT'L ASSOC. OF INDUS. ACCIDENT BDS. & COMM'NS & THE WORKERS COMP. RESEARCH INST., *supra* note 99, at 76 Table 13.

state's average weekly wage[112] – are markedly lower than those in comparator nations, which typically cap benefits at a percentage well over 100% of the jurisdictions' average wage (as high as 245% in Luxembourg).[113]

Civil remedies. The imposition of tort (and, in extreme cases, criminal) liability on employers who negligently or recklessly expose workers to occupational hazards can powerfully augment free market incentives for employers to anticipate and abate the worst hazards. Virtually all US workers who are covered by workers' compensation statutes forfeit their right to bring tort claims against their employers, although there are a few exceptions to this rule.[114] Although this is also generally the case in comparator countries,[115] it does not apply universally. In the United

[112] *Id*. at 43 Table 6. Only eight states have maximums above 100%: Alaska, Nevada, New Hampshire, North Carolina, Oregon, Vermont, Washington, and Iowa (an outlier at 184%). The minimum is North Dakota (33%), but most states range between 50 and 90%.

[113] *See* ASS'N OF WORKERS' COMP. BDS. OF CAN., MAXIMUM EARNINGS COVERED AND METHODS OF ADJUSTMENT – SUMMARY – 2015 (2015), http://awcbc.org/wp-content/uploads/2013/12/Maximum_Earnings_and_Methods_of_Adjustment.pdf (Canada); WORKPLACE RELATIONS MINISTERS' COUNCIL, *supra* note 38, at 23 (reporting that a majority of Australian states have 100% wage replacement for at least the first 26 weeks, specifically: Australian Capital Territory, Northern Territory, Tasmania, South Australia Western Australia); Telephone Interview with Breann Eschenbruch, Customer Service Representative, Accident Compensation Corporation (Aug. 24, 2016) (New Zealand); EUROGIP, *supra* note 103103 (reporting permanent disability replacement rates in Spain at 188%, Denmark at 129%, France at 235%, Italy at 112%, Luxembourg at 245%, Switzerland at 162%, Netherlands at 110%, and Germany between 145% and 195% depending on sector/industry).

[114] First, employees of nonsubscribers in Texas who have opted out of workers' compensation are not covered by the workers' compensation statute, and so they retain their right to bring tort claims. For further discussion of the opt-out phenomenon in Texas and other states, see *infra Glean Insights From Recent Deregulatory Experiments*. Second, interstate railroad employees are not covered by exclusive remedy, and are covered instead by the Federal Employers Liability Act, 45 U.S.C. § 51, and are free to sue employers in state or federal court. Third, some states have additional exceptions to this rule: West Virginia and Ohio have allowed employees to sue their employer when their injury was the result of employer gross negligence or willful misconduct in a demonstrably intentional manner. In Texas, the heirs of a deceased employee (but not an employee herself, even if totally disabled) may sue the employer for damages in cases of a willful act or omission by an employer, or gross negligence. In California, an injured employee can sue her employer for injury or death caused specifically by the lack of guard on a power press. *See* Arthur J. Amchan, *"Callous Disregard" for Employee Safety: The Exclusivity of the Workers' Compensation Remedy Against Employers*, 34 LAB. L. J. 683, 684-93 (1983).

[115] *See, e.g.*, Ken Oliphant, *The Changing Landscape of Work Injury Claims: Challenges for Employers' Liability and Workers' Compensation*, *in* EMPLOYERS' LIABILITY AND WORKERS' COMPENSATION 519, 557 (Ken Oliphant & Gerhard Wagner eds., 2012) (Austria, France, Germany); INST. FOR WORK & HEALTH, NEW ZEALAND: DESCRIPTION OF THE ORGANIZATION OF THE OCCUPATIONAL HEALTH AND SAFETY SYSTEM AND THE DELIVERY OF PREVENTION SERVICES 1 (2010),

Kingdom, Ireland, Spain, and the Netherlands, for example, injured employees can bring suit directly against their employers.[116] In Germany, France, and Switzerland, employees can only bring suit directly in exceptional circumstances, but workers' compensation insurers can bring tort claims against negligent employers.[117]

The nature of employment relationships is also economically consequential. The US is the only country examined with an "employment at-will" regime, in which a worker who is fired in retaliation for filing a workers' compensation claim may have little recourse but to bring a tort claim under state law. Although terminating a worker in retaliation for filing a workers' compensation claim is against the law in all fifty US states,[118] the expense of litigation and difficulty of gathering sufficient evidence to prove causation often make anti-retaliation suits difficult for employees to win.[119] In comparator countries, by contrast, employment laws afford workers a higher degree of job security and, in practice, make it considerably more difficult for employers to retaliate with impunity against those who file claims.[120]

https://www.iwh.on.ca/system/files/documents/iwh_interjurisdictional_review_new_zealand_2010.pdf (New Zealand).

[116] *Id*. at 365-67.

[117] *Id*. at 365. In Germany, tort claims are limited to cases where employer intent can be demonstrated, while in France and Switzerland, gross negligence is typically required. In Italy, workers can also bring suit against an employer, but only in cases in which an employer has violated a safety standard or committed a criminal offense.

[118] LESLIE M. ALTMAN ET AL., LITTLER, LITTLER'S WORKERS' COMPENSATION RETALIATION SURVEY 1-21 (2012), http://www.littler.com/files/WorkersComp_RetaliationSurvey_4-3-12.pdf.

[119] NAT'L. ECON. & SOC. RIGHTS INITIATIVE, INJURED, ILL AND SILENCED: SYSTEMATIC RETALIATION AND COERCION BY EMPLOYERS AGAINST INJURED WORKERS 3 (2015), https://www.nesri.org/sites/default/files/WC%20retaliation%20policy%20brief%204%2010%2015%20FINAL.pdf (describing how a worker seeking remedies for workers' compensation retaliation must go through the arduous process of filing a claim, finding a lawyer to take the case, paying for legal representation, and waiting for months or even years for resolution; also describing how the worker must be able to "produce evidence that his or her employer had a retaliatory motive," or even more stringent standards of proof, depending on state).

[120] *See* Clyde W. Summers, *Employment at Will in The United States: The Divine Right of Employers*, 3 U. PA. J. LAB. & EMP. L. 65, 65 (2000).

Comparison of Social Insurance Pillar. A survey of the fourth pillar of the OSH regimes – the availability of broader forms of social insurance to those who cannot work because of disability – presents the sharpest contrast of all. What distinguishes the US from many comparator countries (particularly those in Western European) is the relatively low level of social welfare and insurance benefits available to private-sector workers. Although detailed country-by-country descriptions are beyond the scope of this article, comparator countries generally spend much higher fractions of their GDP on social benefits than does the US[121] and operate social insurance programs with relatively generous and comprehensive benefits.[122]

In the US, the primary form of social insurance available to disabled workers (besides workers' compensation) is the SSDI program. Only those with relatively recent and long-lasting work histories and whose medical condition is severe enough to preclude paid work for over a year are eligible for SSDI,[123] and the program has been criticized for leaving many recipients at or near the poverty line.[124] The only other federal program available to disabled US workers, Supplement Security Income (SSI), is a means-tested program that is only available to those with minimal income and assets.[125] Although some firms offer their employees short- and long-term

[121] LaDou, *supra* note 24, at 104.
[122] Lippel, *supra* note 78, at 520.
[123] SOC. SEC. ADMIN., SOCIAL SECURITY DISABILITY BENEFITS 4 (2015), https://www.ssa.gov/pubs/EN-05-10029.pdf (last visited Aug. 29, 2016). While there exists a formal list of impairments that immediately qualify an injured/ill person for SSDI, the only conditions listed are extremely severe (major fractures, burns, amputations, etc). *See Disability Evaluation Under Social Security*, SOC. SEC. ADMIN., https://www.ssa.gov/disability/professionals/bluebook/listing-impairments.htm (last visited Aug. 30, 2016).
[124] MELISSA M. FAVREAULT & JONATHAN SCHWABISH, URB. INST. INCOME & BENEFITS POL'Y CTR., UNDERSTANDING SOCIAL SECURITY DISABILITY PROGRAMS: DIVERSITY IN BENEFICIARY EXPERIENCES AND NEEDS (2016), http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000614-Understanding-Social-Security-Disability-Programs-Diversity-in-Beneficiary-Experiences-and-Needs.pdf
[125] *See* SOC. SEC. ADMIN., SUPPLEMENTAL SECURITY INCOME (SSI) (2015), https://www.ssa.gov/pubs/EN-05-11000.pdf.

private disability insurance, 51% of all US workers, and 76% of those in the service sector, had neither type of coverage in 2014.[126]

The US also lacks a federal paid sick leave program. In some comparator countries, employers are required to cover wages for sick employees (with the maximum duration of paid sick time ranging from two weeks in Denmark to 28 weeks in the UK),[127] and in a few more countries, the government covers the cost of sick pay.[128] A majority of comparator countries combine employer and government contributions to cover wages for sick employees.[129] While a handful of states and cities in the US have passed legislation mandating paid sick leave, the maximum duration specified by statute never exceeds nine days, and for most states and cities, the maximum is five days.[130] The Bureau of Labor Statistics reported that in 2016, 32% of US workers in private industry had no access to paid sick leave.[131]

Perhaps most striking of all is the absence of any law in the US guaranteeing universal health coverage, such as those that exist in all examined comparator countries.[132] Although the

[126] Kristen Monaco, *Disability Insurance Plans: Trends in Employee Access and Employer Costs*, 4 BEYOND THE NUMBERS 1, 3 (2015), http://www.bls.gov/opub/btn/volume-4/pdf/disability-insurance-plans.pdf.
[127] Specifically, Australia, New Zealand, Denmark, the Netherlands, Switzerland, and the UK. *See* JODY HEYMANN ET AL., CTR. FOR ECON. & POLICY RESEARCH, CONTAGION NATION: A COMPARISON OF PAID SICK DAY POLICIES IN 22 COUNTRIES 5-6 (2009), http://cepr.net/documents/publications/paid-sick-days-2009-05.pdf.
[128] Canada, France, Ireland, and Italy. *Id* at 5.
[129] Countries for which information could be obtained include Austria, Belgium, Denmark, Finland, Germany, Greece, Iceland, Luxembourg, Spain and Sweden. Their programs varied slightly with regard to level of benefits, caps or waiting periods (if any), and minimum employment requirements (if any). *Id* at 5.
[130] California, Hawaii, New Jersey, New York, and Rhode Island have passed such legislation, in addition to Washington D.C., Montgomery County, Maryland, and 17 cities (some of these laws have not yet taken effect as of the time of this writing). Most jurisdictions distinguish between small and large employers in their legislation, with fewer requirements for smaller employers. Eight out of the 17 cities and three of the seven states/districts/counties require only five days of paid sick leave for small employers. Ten out of 17 cities and four of the seven states/districts/counties with paid sick leave laws require only five days of paid sick leave for large employers. See NAT'L P'SHIP FOR WOMEN & FAMILIES, PAID SICK DAYS – STATE DISTRICT AND COUNTY STATUTES 1-3 & 7-9 (2016), http://www.nationalpartnership.org/research-library/work-family/psd/paid-sick-days-statutes.pdf.
[131] Press Release, U.S. Bureau Lab. Statistics, Employee Benefits in the United States (July 22, 2016), http://www.bls.gov/news.release/pdf/ebs2.pdf.
[132] *Foreign Countries with Universal Health Care*, N.Y. STATE DEPT. OF HEALTH, http://www.health.ny.gov/regulations/hcra/univ_hlth_care.htm (last visited Aug. 30, 2016).

passage of the Affordable Care Act in 2010 was intended to close the health care gap between the US and other industrialized nations, tens of millions of US workers remain uninsured, and many low-income workers with insurance struggle to pay premiums and co-pays while meeting basic needs.[133] Although Medicare provides health care to many disabled individuals who have not yet reached retirement age, it is only available after a 24-month waiting period, and Medicaid only covers workers with limited income and resources in the interim.[134]

It should be noted that the situation of federal employees is again markedly different than that of other US workers. Not only are unionization rates much higher and workers' compensation benefits far more generous in the federal sector, but federal employees also have access to an unusually wide selection of group health care plans.[135]

In short, an examination of the fourth OSH pillars suggests the general social insurance benefits available to the long-term disabled are less robust and comprehensive in the US than those of most comparator countries. The meagerness of these portions of the social safety net – especially the absence of any universal entitlement to health care – makes worker' compensation even more vital to meeting basic needs.

5. How Structural Differences Shape the Incentives of Workers' Compensation Stakeholders

[133] *Key Facts about the Uninsured Population*, HENRY J. KAISER FAMILY FOUND., http://kff.org/uninsured/fact-sheet/key-facts-about-the-uninsured-population/ (last visited Aug. 30, 2016).
[134] Joseph LaDou, *Workers' Compensation in the United States: Cost Shifting and Inequities in a Dysfunctional System*, 20 NEW SOLUTIONS 291, 295 (2010).
[135] *Healthcare*, OFF. PERSONNEL MGMT., https://www.opm.gov/healthcare-insurance/healthcare/ (last visited Aug. 30, 2016) (noting that "[f]ederal employees, retirees and their survivors enjoy the widest selection of health plans in the country").

Notwithstanding the brevity of the comparisons drawn, the preceding analysis identifies myriad ways in which the four pillars of the OSH regime in the US differ, both in degree and in kind, from those that exist in many other industrialized countries. The goal of this section is to explain why these differences matter. Building on the two prior sections, I revisit the incentives of four different groups of stakeholders – workers, employers, doctors and insurers – and point out how and why idiosyncratic features of the US OSH system affect their respective incentives and, in turn, the performance of the US workers' compensation system.

Worker Incentives. Relative to most systems in Canada, Australasia, and Europe, the US workers' compensation system leaves the worker in a singularly precarious economic position at each stage of the employment relationship.

First, relative to comparator countries, US workers are poorly equipped to command sizable wage premiums in the labor market before the wage bargain is struck, or to monitor OSH outcomes throughout their employment. Low unionization rates in the private sector make it very costly for US workers, especially those with relatively low levels of skill, to bargain with their employers over the terms of their employment or to command *ex ante* wage-risk premiums for increased occupational hazards. As noted earlier, the only characteristic of the free market pillar that cuts in the American worker's favor is the fact that, unlike in many comparator countries, site-level data on injuries and illnesses is publicly available for some US industries.[136] Yet the likelihood that the relatively unskilled and low-wage worker will locate and utilize this data before bargaining over wages seems modest at best. Meanwhile, the paucity in the US of laws requiring employers to give employees an institutionalized voice in OSH-related matters –

[136] *See supra* note 31.

such as laws mandating the formation of works councils,[137] safety and health committees and safety and health representatives[138] – makes it very costly for incumbent workers to engage in ongoing monitoring and abatement of workplace hazards. Overall, then, the weakness of legal and institutional supports designed to correct market failures makes it very costly for US workers to exert power over OSH-related matters either before hiring or during their employment in OSH-related matters.

The attributes of the second pillar, the inspectorate, affect the incentives of US workers in more complex ways. On one hand, the comparatively robust activities of OSHA and MSHA may compensate, at least in part, for the general absence of laws in the US encouraging direct worker participation.[139] Reliance on OSHA may, in effect, dampen workers' incentives to engage more directly in OSH- related matters or to agitate for unionization. Yet scholarship finding that OSHA had little impact on workplace safety and health by the 1990s suggests that this reliance, at least in recent years, may have been misplaced.[140] Moreover, empirical work finding that inspection activity is more frequent and rigorous in unionized settings[141] justifies the concern that non-unionized workers, those that are the least capable of exploiting market power to further their OSH-related interests, benefit the least from OSHA activities.

[137] *See European Works Councils (EWCs)*, *supra* note 39.
[138] *See Health and Safety Committees and Representatives*, *supra* note 37; WORKPLACE RELATIONS MINISTERS' COUNCIL, *supra* note 38.
[139] The scarcity of detailed data on inspection activities in other countries precludes definite conclusions in this regard. Compare establishment-level data on OSH inspections in the US (see *supra* note 50) with the paucity of publicly-available inspections data in comparator countries (see *supra* note 52).
[140] *See* Gray & Mendeloff, *supra* note 47.
[141] *See* David Weil, *Enforcing OSHA, The Role of Labor Unions*, 30 INDUS. REL. 20, 25–28 (1991); David Weil, *Are Mandated Health and Safety Committees Substitutes For or Supplements To Labor Unions?*, 52 INDUS. LAB. REL. REV. 339, 346 (1999); Alison Morantz, *Does Unionization Strengthen Regulatory Enforcement? An Empirical Study of the Mine Safety and Health Administration*, 14 N.Y.U. J. LEGIS. & PUB. POL'Y 697, 697-727 (2011).

Comparisons of the third and fourth pillars present the most dramatic contrasts, highlighting the singular vulnerability of US workers compared to their peers in comparator countries. The significant out-of-pocket expenditures required by group health care plans and the relative inadequacy of other forms of social insurance provide strong incentives for employees to take care on the job. In the wake of an injury, the absence of strong anti-retaliation protections in an employment-at-will setting, the often highly adversarial nature of the claims process, and the psychic cost of repeated interactions with "gatekeeping" physicians may provide sufficiently costly to some workers that they decline to file claims.

If a US worker does file a claim, a great deal may hinge on whether her employer deems the claim to be compensable. If so, she will at least be entitled to full coverage of medical expenses and partial replacement of lost wages. Relative to comparator countries, however, a smaller proportion of her lost wages will be replaced, especially during the first week of lost work and if her income exceeds the state average. *Ceteris paribus*, then, a successful US claimant's incentive to return to work would seem at least as strong as those of workers in comparator countries. If the employee's claim is denied, however, her economic situation is likely to deteriorate far more rapidly than would that of a similarly-situated worker in a comparator country, who can rely on publicly-provided health insurance and more robust forms of government-provided income support.[142] Although many US workers do have access to group health insurance, the sizable out-of-pocket expenses that most plans require may constitute a significant economic hardship. Unless the employee is insured by a private long-term disability plan or can draw on family support, she may have few alternatives but to apply to SSDI (which

[142] For discussion of other sources of income support in comparator countries that are unavailable in the US (such as paid sick leave), see *infra Comparison of Social Insurance Pillar*.

imposes stringent eligibility requirements[143]), Medicare, and means-tested programs such as SSI or Medicaid.

In short, compared to their peers abroad, US workers' engagement with the OSH regime leaves them in an economically vulnerable position, and may compromise their capacity to protect their long-term interests in the wake of an injury. Low rates of unionization leave them poorly equipped to demand risk-wage premiums or exert influence over OSH-related practices. Their typically weak job protection in an employment-at-will environment may deter them from filing claims, although such disincentives could be offset by the higher out-of-pocket costs that typify group health care plans. Although US workers' incentives to exert caution on the job and to return to work following an injury seem relatively strong given the meagerness of wage replacement (and social insurance) benefits, their choices at critical junctures – such as whether to file a claim, whether to appeal an adverse decision, and whether to return to work – often are best understood not as full optimization decisions, but rather as responses to short-term exigencies that jeopardize their capacity to obtain medical treatment and meet basic needs.

Employer Incentives. The US is the only country with a "two-track system," in which the work-relatedness of an impairment determines treatment costs. General health care expenditures are far higher in the US than in other OECD countries, and the workers' compensation sector surpasses even group health in the average cost of care.[144] Because experience rating is almost universal in the US, and because firms bear the cost of medical care in addition to wage replacement, US employers have much stronger incentives than their Canadian, European an

[143] For discussion of eligibility requirements, see *infra Comparison of Social Insurance Pillar*.

Australasian counterparts to use aggressive claim management techniques to lower their insurance premiums.

Recent trends suggest that US firms are responding strongly to these incentives. For example, "behavior-based" incentive programs that reward workers for reporting no injuries or that penalize workers who do report them are commonplace in the US.[145] Although they are typically justified as a means to reduce risk-bearing moral hazard, these programs have been repeatedly criticized by OSHA – although not, to date, categorically banned – on the grounds that "[a]n incentive program that focuses on injury and illness numbers often has the effect of discouraging workers from reporting an injury or illness."[146] Deterring workers from reporting injuries in the first place is perhaps the least costly way of reducing workers' compensation costs.

The misclassification of employees as independent contractors, who are (by definition) outside the purview of workers' compensation laws and for whom the employer need not purchase any insurance, is also increasingly common. One study of US trends reported that misclassification "has been on the rise since at least the late 1990s, and . . . is worse in industries where workers' compensation insurance costs are comparatively high and rising (construction being a prime example). . . ."[147]

[145] Jennifer Busick, Do*es Your Incentive Program Meet OSHA's Safety and Health Program Management Guidelines?*, EHS DAILY ADVISOR, Apr. 19, 2016, http://ehsdailyadvisor.blr.com/2016/04/does-your-incentive-program-meet-oshas-draft-safety-and-health-program-management-guidelines/.
[146] Memorandum from David Michaels to the Regional Administrators, Directorates, and Free Standing Offices, Revised VPP Policy Memorandum #5 – Further Improvements to the Voluntary Protection Programs (VPP), (Aug. 14, 2014), https://www.osha.gov/dcsp/vpp/policy_memo5.html.
[147] FRANCOISE CARRE, ECON. POL'Y INST., (IN)DEPENDENT CONTRACTOR MISCLASSIFICATION (2015), http://www.epi.org/publication/independent-contractor-misclassification/.

The use of aggressive claim management practices to screen out costly claims and limit benefits has likewise increased in recent decades.[148] Shortly before the turn of the millennium, a series of amendments to workers' compensation laws made it increasingly difficult for claimants to prove causation, show impairment or disability, and comply with procedural hurdles, which facilitated employer efforts to deny claims and limit benefits.[149] One study found that the combined effect of benefit allowance stringency, compensability rules, and the relative frequency of permanent partial disability cases explained 30% of the decline in incurred benefits during the 1990s.[150]

Finally, the proliferation (and ongoing reform of) fee schedules specifying maximum reimbursement rates for health care providers that treat injured workers is another ubiquitous cost-containment strategy in the US. As of April of 2016, forty-three states had adopted such schedules.[151] In a parallel trend, many states have also passed laws allowing employers to control the pool of providers available for such treatment.[152]

In short, a variety of statutory reforms and risk management practices that coalesced in the US around the turn of the millennium – such as behavior-based incentive programs, the growing prevalence of worker misclassification, aggressive claim management practices, and the proliferation of strict fee schedules and employer-directed health care – can be seen as stemming from the singularly powerful incentives of large companies to reduce workers' compensation

[148] Emily A. Spieler & John F. Burton, *The Lack of Correspondence Between Work-Related Disability and Receipt of Workers' Compensation Benefits*, 55 AM. J. INDUS. MED. 487, 498 (2012).
[149] *Id*. at 495-503.
[150] Guo & Burton, *supra* note 16, at 352.
[151] Fomenko & Gruber, *supra* note 9, at 8.
[152] PUB. POLICY INST. OF CAL., WHO CHOOSES THE PROVIDER AFFECTS WORKERS' COMPENSATION COSTS AND OUTCOMES (2015) http://www.ppic.org/content/pubs/rb/RB_1105RVRB.pdf.

costs, of which US employers bear an unusually large share relative to their peers in comparator countries.

Physician incentives. As discussed above, the fact that physicians often function as "gatekeepers" in the US OSH system is not unique. However, the US is the only system in which the decision to recognize an injury as work-related can impose substantial financial and non-pecuniary costs on the doctor. If the physician who determines work-relatedness also provides treatment, the time and paperwork burden associated with seeking payment through the workers' compensation is typically far more onerous than that of group health.[153] If the physician resides in one of the forty-three states that have adopted fee schedules, then she is also subject to maximum payment amounts specified for medical services. These systemic disparities provide treating physicians with strong disincentives to classify injuries as work-related. One recent study, for example, found that when fee schedules are relatively low, doctors are less likely to classify hard-to-attribute injuries (those whose cause is not straightforward) as work-related.[154]

Independent medical examiners (IMEs) have even stronger incentives to classify injuries as non-work-related, since they are generally repeat players paid by employers (or insurance companies) contesting the claim compensability. A study that had physicians and IMEs render diagnoses on the same twenty-three patients found that "[d]isagreement was unidirectional:

[153] *See, e.g.*, THOMAS WICKIZER ET AL., U. OF WASH. SCH. OF PUB. HEALTH, ACCESS, QUALITY, AND OUTCOMES IN HEALTH CARE IN THE CALIFORNIA WORKERS' COMPENSATION SYSTEM, 2008: A REPORT TO THE CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS, DIVISION OF WORKERS' COMPENSATION, MANDATED BY LABOR CODE SECTION 5307.2 82 Exhibit 3.3 (2009) http://www.dwc.ca.gov/dwc/MedicalTreatmentCA2008/2008_CA_WC_Access_Study_UW_report.pdf (reflecting that past providers' top three reasons stated for no longer treating workers' compensation patients were, respectively: "Administrative burden/paperwork-reporting requirements," "Administrative burden/paperwork-billing," and "Administrative burden/paperwork-utilization review").

[154] Fomenko & Gruber, *supra* note 9, at 13.

IMEs made fewer diagnoses, deemed fewer injuries work-related, made fewer treatment recommendations, and assessed lower levels of disability" than the treating physicians.[155]

Physicians that treat workers' compensation patients have strong incentives to offset lower scheduled fees by substituting more expensive services or by increasing utilization, and recent work suggests they often do.[156] However, one study found that a small group of cost-intensive physicians in the workers' compensation system accounted for a disproportionately large fraction of systemic costs, suggesting that the ways in which providers respond to incentives are highly skewed.[157]

These structural incentives differ sharply from those of many comparator countries. In most countries that have monopolistic insurers, including New Zealand, Canada, most states in Australia, and a majority of the EU, a physician's compensation does not depend on whether the injury is deemed to be work-related. Moreover, outside of the US, physicians are typically hired not by employers but by state-run insurers or local or state governments, lessening their incentives to contest claim eligibility.[158]

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[155] *See* Lax et al., *supra* note 84, at 1.

[156] *See, e.g.*, William Johnson et al., *Why Does Workers' Compensation Pay More for Health Care?*, 9 BENEFITS Q. 22, 30 (1993) (finding that average total costs of health care for workers' compensation claims in Minnesota were dramatically higher than costs incurred by patients who were insured by a private insurer); William Johnson et al., *Why is the Treatment of Work-Related Injuries So Costly? New Evidence from California*, 33 INQUIRY 53, 63-64 (1996) (finding that in California, costs for the four most prevalent types of occupational injuries were uniformly higher in the workers' compensation system than the group health system).

[157] Edward J. Bernacki et al., *The Impact of Cost Intensive Physicians on Workers' Compensation*, 52 J. OCCUPATIONAL & ENVTL. MED. 22, 25-28 (2010).

[158] However, the example of Sweden illustrates that there are various small exceptions. In Sweden, insurance administrators can contest the declaration of the primary physician and demand a claim review by a "försäkringsmedicinsk rådgivare" (FMR) (an "insurance medicine advisor"), who does not meet the patient before making a determination. FMRs are employed by the insurer and are compensated more generously for work in occupational medicine than for general practice. FÖRSÄKRINGSKASSAN [THE SWEDISH SOCIAL INSURANCE AGENCY], SJUKPENNING OCH SAMORDNAD REHABILITERING [SICK FUNDS AND COORDINATED REHABILITATION] 308-309 (2014) https://www.forsakringskassan.se/wps/wcm/connect/d9c92dee-96e1-4193-be98-cf0dae99ad83/vagledning-2004-02.pdf?MOD=AJPERES (last visited Sep. 8, 2016).There is an open question as to whether or not the FMRs are more stringent in assessing benefit eligibility then general practitioners, as they are employed by the state insurance agency and may be incentivized to deny claims if there is pressure from the agency to reduce costs. Research has shown that statements from FMRs are included in 78% of declined cases, but only 36% of accepted cases. However, claims that go before FMRs are more questionable by definition, and so it is difficult to assess whether or not these cases were truly compensable. RIKSREVISIONEN [SWEDISH NATIONAL AUDIT OFFICE], BESLUT

This is not to imply that incentivizing doctors to collaborate in OSH surveillance is straightforward in comparator countries. In Sweden, for example, the difficulty of getting doctors to comply with a law requiring them to report all occupational injuries and illnesses to the Occupational Health and Safety Administration has led some to suggest that they be provided with a financial reward for consistent reporting.[159] Nevertheless, incentivizing doctors to report work-related injuries and illnesses to a regulatory entity is a considerably less daunting policy challenge than counteracting the powerful systemic incentives that dissuade US doctors from classifying injuries and illnesses as work-related or providing ongoing treatment.

Insurer Incentives. As discussed earlier, what distinguishes workers' compensation insurance markets in the US from the others examined is that they are almost exclusively competitive, whereas most comparator countries require employers to purchase insurance from an exclusive public fund. Another distinguishing feature of European OSH regimes, as compared to that of the US, is their commonplace reliance on insurance-related incentives besides experience rating to promote OSH improvements.

One European study has suggested that these two phenomena are related. The authors point out that in a competitive insurance market, there is no incentive for insurers "to offer rewards for specific prevention activities, such as training, investment in OSH-friendly equipment or the certification of OSH management systems" because "enterprises are able to

OM SJUKPENNING + HAR FÖRSÄKRINGSKASSAN TILLRÄCKLIGA UNDERLAG? [DOES FÖRSÄKRINGSKASSAN HAVE ENOUGH SUPPORTING MATERIALS?] 40 (2009) http://www.riksrevisionen.se/pagefiles/1483/rir_%202009_7.pdf (last visited Sep. 8, 2016).

[159] ARBETSSKADEKOMMISSIONEN [COMMISSION ON WORK INJURIES], FÖRSLAG TILL EN REFORMERAD ARBETSSKADEFÖRSÄKRING - EN RAPPORT FRÅN ARBETSSKADEKOMMISSIONEN [PROPOSAL FOR A REFORMED WORK INJURY INSURANCE - A REPORT FROM THE COMMISSION ON WORK INJURIES] 67 (2012), https://arbetsskadekommissionen.files.wordpress.com/2013/09/arbetsskadekommissionen_slutrapport.pdf (last visited Sep. 8, 2016).

change their insurance providers at short notice and an insurance company runs the risk that a subsidized client may change to another, possibly cheaper, competitor, after having enjoyed the incentives and consultancy provided by the original insurer."[160] In short, the scarcity of innovative insurance-related prevention programs in the US could be, at least in part, a result of the fact that insurers have few incentives to subsidize proactive, long-term prevention programs in competitive insurance markets.

6. Mounting Pressures on the US OSH System

The discussion so far has shown that in numerous regards, the economic incentives confronting workers' compensation stakeholders in the US differ from those facing their counterparts in comparator countries – whether in kind, degree, or simply in overall complexity. The combined effects of these structural incentives on the US economy, and on the welfare of workers, are profound. This section briefly identifies four recent trends that are currently placing pressure on the US workers' compensation system, and more broadly on the entire OSH regime. The first three of these trends – inadequacy of benefits, underreporting, and cost shifting – illustrate the aggregate effects of several pathologies discussed in prior sections, whereby perverse incentives of key stakeholders cumulatively produce vast systemic inefficiencies. The fourth trend, although intended to lower the proportion of citizens with no health insurance coverage, is likely to have spillover effects on the workers' compensation regime. Any credible reform proposal must consider whether, and to what extent, each of these challenges can be addressed; I discuss each in turn.

[160] *Id*. at 204.

Inadequacy of benefits. US worker's compensation wage replacement benefits are generally less generous than those of comparator countries.[161] A sizable body of empirical scholarship has tried to measure the adequacy of wage replacement, i.e., the extent to which cash benefits in the US compensate injured workers for their true economic losses, using varied methodological approaches.[162] Despite the wide range of approaches, the bottom lines of nearly all such studies are remarkably similar: when *all* economic costs associated with loss of work are considered, and the time period examined is long to capture long-term employment effects, the effective wage replacement rate is well below the gross two-thirds rate (capped by the average weekly wage) reflected in most state statutes. For example, one large study analyzed outcomes in five states and reported that ten years after the date of injury, the (pre-tax) wage replacement rate for PPD claims ranged from 29-46 percent.[163] Another study concluded that from an efficiency standpoint, benefit levels provided in the year examined (1976) were "suboptimal, provided that one abstracts from moral hazard considerations." In short, the general scholarly consensus is that benefit levels are inadequate on equitable grounds, efficiency grounds, or both.

[161] This not the case for the 2% of US workers that are federal employees, as noted earlier. *See* LaDou, *supra* note 57; *supra Comparison of Workers' Compensation Pillar*.

[162] A first approach compares states' statutory wage replacement rates against each other or some benchmark such as the federal poverty line. *See, e.g.*, Allan H. Hunt, *Benefit Adequacy in State Workers' Compensation Programs*, 67 SOC. SECURITY BULL. 24, 25-26 (2004) (reporting the different methods used evaluate adequacy of wage replacement benefits in the US). A second approach compares state benefit levels with those of the Model Act endorsed by the Council of State Governments in 1974. *See, e.g., Id*. at 26-27. A third approach uses economic modeling and data on job risk premiums (i.e., compensating differentials) to determine if benefits levels are high enough from a standpoint of economic efficiency. *See, e.g.*, Kip W. Viscusi & Michael J. Moore, *Workers' Compensation: Wage Effects, Benefit Inadequacies, and the Value of Health Losses*, 69 REV. ECON. & STAT. 249, 260 (1987). The most commonplace approach, however, is to use administrative data to compare the actual wage losses of injured workers with the amount of benefits they receive. *See, e.g.*, Seth A. Seabury et al., *Using Linked Federal and State Data to Study the Adequacy of Workers' Compensation Benefits*, 57 AM. J. INDUS. MED. 1165, 1165 (2014); Leslie I. Boden et al., *The Adequacy of Workers' Compensation Cash Benefits*, *in* WORKPLACE INJURIES AND DISEASE: PREVENTION AND COMPENSATION 37-68 (John F. Burton et al. eds., 2005).

[163] ROBERT. T. REVILLE ET AL., *supra* note 3, at 50 Table 6-3.

Other scholarship has shown that benefit inadequacy became particularly acute in the 1990s, when many states imposed onerous procedural hurdles and restrictive compensability requirements on workers' compensation claimants.[164] Largely as a result, incurred cash benefits declined substantially around the turn of the millennium.[165]Additionally, some scholarship suggests that prior work likely *overstated* benefit adequacy. An analysis of administrative data from New Mexico found that workers' compensation wage replacement benefits replaced only 16% of earnings lost over a ten-year time frame.[166] Summing up recent trends, a press release issued by the National Academy of Social Insurance in August of 2015 bore the headline, "Workers' Compensation Benefits for Injured Workers Continue to Decline While Employer Costs Rise," noting that benefits as a share of payroll were approaching the lowest level in three decades.[167]

Underreporting and under-claiming. US workers, employers, and physicians *all* have strong incentives to underreport workplace injuries. In the workers' case, the reluctance to report is likely to be driven by a fear of reprisal, an aversion to the highly adversarial and stigmatizing process of filing a claim, a desire not to lose a reward (or incur a penalty) imposed by an incentive program, and in some cases, a preference for the medical care available through group health and/or private disability insurance. For employers, taking steps to ensure that injuries are deemed non-compensable – or are never reported in the first place – is the best way to maximize profits. For most physicians (all except for those who specialize in treating workers'

[164] *See* Guo & Burton, *supra* note 16; Spieler & Burton, *supra* note 148.
[165] Guo & Burton, *supra* note 16, at 340.
[166] Seabury et al., *supra* note 162, at 1165.
[167] Press Release, Workers' Compensation Benefits for Injured Workers Continue to Decline While Employer Costs Rise, *supra* note 66.

compensation patients), deeming an injury to be work-related is less lucrative, more administratively burdensome, and in the case of independent medical examiners conducting evaluations at the behest of employers, an act of professional self-sabotage.

In light of these extraordinarily powerful incentives, it is not surprising that one of the most consequential and cross-cutting contributions to OSH scholarship in recent decades has been the growing body of empirical literature that documents the underreporting of workplace injuries. Much of this scholarship has focused on injury underreporting to federal and state regulatory agencies.[168] However, a sizable body of literature also supports the view that many compensable workers' compensation claims are never filed by workers.[169] The percentage of all workplace injuries that do not result in claims has virtually always been estimated to exceed 35%, and sometimes has been projected at 45% or more.[170] The prevalence of under-claiming is

[168] *See, e.g.*, S.A. McCurdy et al., *Reporting of Occupational Injury and Illness in the Semiconductor Manufacturing Industry*, 81 AM. J. PUB. HEALTH 85 (1991); John W. Ruser, *Examining Evidence on Whether BLS Undercounts Workplace Injuries and Illnesses*, 131 MONTHLY LAB. REV. 20 (2008); Alison Morantz, *Coal Mine Safety: Do Unions Make a Difference?*, 66 INDUS. & LAB. REL. REV. 88 (2013); J. Paul Leigh et al., *An Estimate of the US Government's Undercount of Nonfatal Occupational Injuries*, 46 J. OCCUPATIONAL & ENVTL. MED. 10 (2004); Kenneth D. Rosenman et al., *How Much Work-Related Injury and Illness Is Missed By the Current National Surveillance System?*, 48 J. OCCUPATIONAL & ENVTL. MED. 37 (2006); COMM. ON EDUC. & LABOR, HIDDEN TRAGEDY: UNDERREPORTING OF WORKPLACE INJURY AND ILLNESSES (2008), http://www.bls.gov/iif/laborcommreport061908.pdf.

[169] *See, e.g.*, William J. Wiatrowski, *Examining the Completeness of Occupational Injury and Illness Data: An Update on Current Research*, MONTHLY LAB. REV. 1 (2014); Xiuwen S. Dong et al., *Injury Underreporting Among Small Establishments in the Construction Industry*, 54 AM. J. INDUS. MED. 339 (2011); Monica Galizzi et al., *Injured Workers' Underreporting in the Health Care Industry: An Analysis Using Quantitative, Qualitative, and Observational Data*, 49 INDUS. REL. 22 (2010); Leslie I. Boden & Alexander Ozonoff, *Capture-Recapture Estimates of Nonfatal Workplace Injuries and Illnesses*, 18 ANNALS EPIDEMIOLOGY 500 (2008); Harry S. Shannon & Graham S. Lower, *How Many Injured Workers Do Not File Claims for Workers' Compensation Benefits?*, 42 AM. J. INDUS. MED. 467 (2002); Jeffrey E. Biddle & Karen Roberts, *Claiming Behavior in Workers' Compensation*, 70 J. RISK & INS. 759 (2003); Sangwoo Tak et al., *The Impact of Differential Injury Reporting on the Estimation of the Total Number of Work-Related Amputations*, 57 AM. J. INDUS. MED. 1144 (2014).

[170] *Compare* Boden & Ozonoff, *supra* note 169 (presenting the lowest estimate, 20%, which is based on very conservative assumptions and could reasonably be construed as a lower bound) *with* Biddle & Roberts, *supra* note 169 (presenting one of the highest estimates, 45%). *See also* Darius N. Lakdawalla et al., *How Does Health Insurance Affect Workers' Compensation Filing*, 45 ECON. INQUIRY 286 (2007) (presenting an estimate between the two extremes, >=38%); Shannon & Lowe, *supra* note 169 (reporting another estimate in the middle of the spectrum, 40%).

particularly noteworthy when taking into account the fact that all fifty U.S. states, whether through statute or common law, provide anti-retaliation protection for filing a workers' compensation claim.[171] Although the underlying reasons for underreporting are multifaceted, several studies suggest that corporate safety culture can play an important causal role.[172]

Cost shifting. As noted earlier, US employees whose workers' compensation claims are denied are left in a more precarious economic position than their peers in comparator countries because the backup forms of social insurance are relatively scarce and meager. This vulnerability affects not only employees whose claims are deemed non-compensable, but also those who do not file a claim in the first place because they have been misclassified as independent contractors. Employers that use aggressive cost containment strategies, making it difficult for injured workers to obtain workers' compensation benefits or curtailing the scope of their benefits externalize a significant share of workplace injury costs onto social insurance programs.

From a public policy standpoint, it is critical to understand the extent of cost shifting (also known as "case shifting" or "claim migration") from workers' compensation onto other forms of social insurance. Understanding the magnitude of cost-shifting is important because of its effect on federal and state budgets, and also because the more that employers are able to externalize the costs of workplace injuries onto the government (and taxpayers), the weaker their incentives to invest in prevention become.

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[171] *See* ALTMAN ET AL., *supra* note 118, at 1-21.

[172] *See, e.g.*, Tahira M. Probst et al., *Organizational Injury Rate Underreporting: The Moderating Effect of Organizational Safety Climate*, 93 J. APPLIED PSYCHOL. 1147, 1152 (2008) (finding that companies with poor safety culture underreported over 80% of OSHA-recordable injuries, as compared to 47% in companies with more positive safety culture); Joyce Z. Fan et al, *Underreporting of Work-Related Injury or Illness to Workers' Compensation: Individual and Industry Factors*, 48 J. OCCUPATIONAL & ENVTL. MED. 914, 919 (2006) (finding significant differences in injury reporting behavior across occupation groups, but not across industry groups); Lakdawalla et al., *supra* note 170, at 24-25 (finding that workplace culture and employer characteristics are determinants of injury reporting behavior, perhaps even more so than employee characteristics).

Empirical scholarship suggests that a remarkably high fraction of workers' compensation costs are shifted onto SSDI, Medicaid and Medicare. One study that drawing upon two nationally representative surveys found that about 29% of disabled respondents with work-related conditions were enrolled in SSDI, yet only 12.3% of this group ever received workers' compensation benefits.[173] The fraction of SSDI recipients whose injuries or illnesses were work-related was 36.5%.[174] The authors concluded that "Social Security Disability Insurance is serving as a major if not primary source for insurance for workplace disabilities." Although it is more difficult to quantify the proportion of medical costs that are shifted onto Medicare and Medicaid, the fact that medical costs constitute about 50% of workers' compensation claim costs suggests that there might be a comparable cost-shifting effect. In short, because of the strong structural incentives that discourage the reporting and processing of workers' compensation claims, occupational injuries and illnesses are imposing substantial economic externalities onto the US public insurance system.

The Affordable Care Act. The passage of the Patient Protection and Affordable Care Act (commonly called the ACA) in 2010 brought about sweeping changes to the US health care system, reducing the number of uninsured through individual and employer mandates, expanding Medicaid coverage, and expanding insurance company regulation. As of this writing, some provisions of the law have been in effect for less than a year, and its likely influence on insurance markets and the health care landscape remains the subject of ongoing debate.

[173] Robert T. Reville & Robert E. Schoeni, *The Fraction of Disability Caused by Work*, 65 SOC. SECURITY BULL. 31, 36 (2003-2004).
[174] *Id*. at 35.

Although a detailed discussion of the provisions of the ACA is beyond the scope of this article, several studies have pointed out both direct and indirect ways in which it could exert pressure on the workers' compensation system. First, a 2012 study predicted that the national reduction in the number of uninsured (largely a result of increased Medicaid enrollment) would likely decrease workers' compensation medical spending by encouraging more employees to file claims (regardless of their work-relatedness) through group health.[175] A 2016 study contained the same prediction.[176] Secondly, the cost-containment provision of the ACA that, in effect, lowers Medicare reimbursement rates, may indirectly affect workers' compensation utilization by decreasing doctor's incentives to treat workers' compensation patients in states that peg medical fee schedules to Medicaid reimbursement rates. Third, some industry analysts have predicted that the increase in insurance beneficiaries will create a shortage of primary care physicians and delay medical treatment for injured workers.[177] However, a study of early claim filing patterns in states with and without Medicaid expansions seemed to mitigate the latter concern, finding "no evidence that the ACA has 'crowded out' [workers' compensation recipients'] access to primary care."[178]

[175] PAUL HEATON, RAND INST. FOR CIVIL JUSTICE, THE IMPACT OF HEALTH CARE REFORM ON WORKERS' COMPENSATION MEDICAL CARE: EVIDENCE FROM MASSACHUSETTS xi-xii (2012), http://www.rand.org/content/dam/rand/pubs/technical_reports/2012/RAND_TR1216.pdf.
[176] Marcus Dillender, *Potential Effects of the Affordable Care Act on Workers' Compensation*, 23 EMP. RES. NEWSL. 1, 2 (2016).
[177] *See, e.g.*, HELMSMAN MGMT. SERVS., HOW WILL THE AFFORDABLE CARE ACT IMPACT WORKERS' COMPENSATION? 3 (2012), https://www.helmsmantpa.com/Documents/HMS_ACA+WC_White+Paper.pdf (predicting that the ACA "will increase the competition for access to physician care").
[178] Leonard F. Herk, Senior Economist, Nat'l Counsel on Comp. Ins., Research Workshop at the NCCI Annual Issues Symposium: The Affordable Care Act and Workers Compensation (May 2016) (available from https://www.ncci.com/Articles/Documents/II_AIS-2016-Affordable-Care-Act.pdf).

7. Research Priorities

Although there is a wealth of empirical research on the US workers' compensation system, existing scholarship often lacks a recognition of the ways that workers' compensation interacts with the other pillars of the OSH system. Moreover, there is a pronounced absence of consideration as to how insights gleaned from other countries about workers' compensation design might inform domestic policy debates. Drawing inferences about cause and effect when making comparisons across countries is fraught with methodological pitfalls, particularly when the social and economic institutions of the countries being compared, as Sections 4 and 5 make plain, differ in so many fundamental ways. Given the unique features of the US OSH regime, any attempts to apply insights or replicate innovations from abroad must be undertaken with caution, humility, and a rigorous attention to detail. Nevertheless, at a time when the survival of the US workers' compensation system is being called into question, it is appropriate to identify areas in which additional research could inform ongoing policy debates.

Recent deregulatory experiments. Although an employer's duty to adhere to the provisions of the statutory workers' compensation is mandatory and almost universal in the US, there are two noteworthy and intriguing exceptions to this rule.

First, a handful of states have permitted stakeholders to devise their own occupational injury insurance compensation plans that deviate from the statutory regime. The defining feature of these systems, generally called "carve-outs" or "collectively bargained workers' compensation," is that they are the result of collective bargaining between a union and an employer, usually in the construction sector.[179] They typically substitute alternative dispute

[179] *See* David I. Levine et al., *Carve-Outs' from the Workers' Compensation System*, 21 J.POL'Y ANALYSIS & MGMT. 467, 467-69 (2002) (finding that carve-outs in California did not negatively impact workers in the

resolution for claim adjudication, ban attorney representation at early stages of a dispute, and limit the pool of medical providers.[180] However, they do not allow for any diminution of statutory rights such as benefit levels or waiting periods. Although, to date, carve-out agreements exist in six states,[181] there is a dearth of recent, methodologically rigorous scholarship analyzing their effects on key policy outcomes, such as frequency of disputes, workplace safety, and workers' compensation costs.[182] These forms of union-led innovation merit further scrutiny.

The second deregulatory experiment in the US that warrants further study is the "opt-out" movement, whereby a number of large firms in Texas have exited the workers' compensation regime entirely. Although Texas never made participation in its workers' compensation system compulsory, it was not until the 1990s that a significant number of large employers began to leave the statutory regime, forfeiting the benefit of tort immunity but also offering their own, customized forms of occupational injury insurance. Although there is little scholarship on the opt-out phenomenon, the few empirical studies that use Texas data suggest that for most large firms, offering private insurance plans in lieu of workers' compensation can result in dramatic

construction industry, but that worker representation – specifically union representation – was an essential component for protecting workers rights within a carve-out system).

[180] *See generally* Ellyn Moskowitz & Victor J. Van Bourg, *Carve-Outs and the Privatization of Workers' Compensation in Collective Bargaining Agreements*, 46 SYRACUSE L. REV. 1 (1995-1996).

[181] John Stahl, *Carve-Outs: Labor-Management's Alternative to Workers' Compensation in Minnesota*, LEXIS-NEXIS LEGAL NEWSROOM (May 28, 2013) https://www.lexisnexis.com/legalnewsroom/workers-compensation/b/recent-cases-news-trends-developments/archive/2013/06/28/union-carve-outs-labor-management-s-alternative-to-workers-compensation-in-minnesota.aspx?Redirected=true (describing a recent Webinar on carve-outs that detailed components of the Minnesota program, including alternative dispute resolution and utilization of independent medical exams).

[182] To the best of my knowledge, only two studies to date have used statistical techniques to analyze data on key outcomes. The first is a study of two California carve-outs using data from the mid-to-late 1990s (Levine et al., *supra* note 179). The other evaluates a similar pilot program in New York State (RONALD L. SEEBER ET AL., AN EVALUATION OF THE NEW YORK STATE WORKERS' COMPENSATION PILOT PROGRAM FOR ALTERNATIVE DISPUTE RESOLUTION (2001), http://digitalcommons.ilr.cornell.edu/icrpubs/5/).

drops in claim frequency and costs.[183] Yet the mechanisms underlying these cost savings remain mysterious because several salient characteristics of private plans – such as the elimination of permanent partial disabilities, the non-compensability of many non-traumatic injuries and most diseases, the exclusion of chiropractic care, and the imposition of benefit caps – have surprisingly little explanatory power.[184] It is obvious from private plans that some injured workers (for example, those whose injuries are excluded entirely from the scope of coverage, or whose benefits are terminated prematurely) are worse off under opt-out than they would be under workers' compensation.[185] Yet further study is needed to assess opt-out's impact on overall worker welfare, and to determine whether it has any effect on real workplace safety.

From an economic standpoint, the overarching question is whether any of these alternatives to traditional workers' compensation have touched on policies or practices that could be a "win-win" for workers and employers. If so, perhaps new deregulatory experiments could be attempted that combine insights from carve-outs and opt-outs, lowering costs for employers without reducing the adequacy of workers' benefits.

Behavioral law and economics perspective. The discussion of economic incentives in Section 5 presumed that profit maximization is the sole objective of employers in the workers' compensation system, and that they are thus incentivized to undertake any actions (except

[183] Richard J. Butler, *Lost Injury Days: Moral Hazard Differences between Tort and Workers' Compensation*, 63 J. RISK & INS. 405, 430 (1996) (finding that claims are less frequent are of shorter duration under nonsubscription, likely due to waiting periods, control over medical providers, and a lack of guaranteed coverage for long-term conditions); Alison Morantz, *Opting Out of Workers' Compensation in Texas: A Survey of Large, Multistate Nonsubscribers*, *in* REGULATION VS. LITIGATION: PERSPECTIVES FROM ECONOMICS AND LAW 197, 232 (Daniel Kessler ed., 2011) (finding that 98% of surveyed non-subscribing firms reported cost savings under opt-out, and that private plans offered by nonsubscribing firms are remarkably homogenous); Alison Morantz, Rejecting the Grand Bargain: What Happens When Large Companies Opt out of Workers' Compensation? 33 (Aug. 23, 2016) (unpublished manuscript) (on file with author) (finding a dramatic 44% decline in cost per worker hour for large nonsubscribing firms in Texas).
[184] Morantz (2016), *supra* note 183, at 39.
[185] *Id*. at 6-7.

perhaps those that are legally proscribed) that maximize shareholder value. Also implicit are the assumptions that firms are rational agents who understand the applicable enforcement regime. These assumptions are in accordance with the standard economic model of enforcement, in which risk-neutral firms weigh the expected value of a given regulatory action (its likelihood and severity) when making compliance decisions.

Although the standard model has helped guide regulatory policy for generations and may reasonably approximate firm behavior, one may ask whether employers sometimes behave in ways that are *not* predicted by the standard model, and if so, whether these behavioral patterns could be used to improve regulatory policy. There is a small but growing body of empirical literature suggesting that in some contexts, firms behave in ways that deviate from the predictions of standard theory. For example, one study found that OSHA inspections only have specific deterrent effects if they result in penalties,[186] and a recent study in the environmental regulation arena found that personal characteristics of managers, such as an intrinsic desire to cooperate with regulators, are important determinants of firm behavior, particularly when enforcement is weak.[187]

From a policy standpoint, the question is whether there are any findings from this literature that could be deployed to improve the efficiency of workers' compensation and its success in reducing workplace hazards. For example, are firm's responses to financial bonuses and penalties in a *bonus-malus* experience rating symmetrical? Which types of economic

[186] Wayne Gray & John Scholz, *A Behavioral Approach to Compliance: OSHA Enforcement's Impact on Workplace Accidents* 23-24 (Nat'l Bureau of Econ. Research, Working Paper No. 2813, 1989) (moreover, the authors find that increasing the number of penalties is 50% more effective at deterring accidents than increasing the average cost of penalties).

[187] Dietrich Earnhart & Lana Friesen, Certainly of Punishment versus Severity of Punishment: Deterrence and the Crowding out of Intrinsic Motivation 14 (Sep. 24, 2014) (unpublished manuscript), http://corporate-sustainability.org/wp-content/uploads/Certainty-of-Punishment.pdf.

incentives are most effective in changing the behavior of small firms that generally cannot be experience rated? Some creative OSH initiatives in comparator countries, including unusual forms of experience rating[188] and insurance-related incentive schemes,[189] might point the way toward promising reforms.

Behavioral mechanisms contributing to under-claiming. As discussed in Section 6, it is clear that a sizable proportion of workplace injuries and illnesses in the US are never reported to the workers' compensation system. The crux of the problem is that three primary stakeholders – workers, employers, and doctors – have strong incentives not to characterize injuries and illnesses as work-related. To begin to address this problem, it is critical to understand more precisely how much the behavior of different stakeholders is contributing to under-claiming. Is it primarily workers that are declining to report injuries to their employers (the underreporting effect), or is it employers that are rejecting meritorious claims (the claim monitoring effect)? What share of the responsibility do doctors bear for failing to direct many injuries toward the workers' compensation system? Do these patterns vary across industries or jurisdictions? Obtaining a more granular understanding of how (and how often) different actors in the OSH

[188] *See, e.g.*, EUR. AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 21, at 93 (describing the experience rating system for the German leather industry in which only negative incentives, based on injury rates exceeding industry average by more than 20%, are used in calculating premiums), 134 (describing asymmetric experience rating system used in Belgium, in which companies can get up to a 15% discount or pay up to a 30% surcharge depending on their injury statistics); ASS'N OF WORKERS' COMP. BDS. OF CAN., SUMMARY OF EXPERIENCE RATING PROGRAMS IN CANADA (2016), http://awcbc.org/wp-content/uploads/2013/12/Experience_Rating.pdf (describing considerable variation across Canadian provinces in the characteristics of experience rating systems, with surcharges ranging from 40%-200% and rebates varying from 10%-50%).

[189] *See, e.g.*, SOFIA BERGSTRÖM & ALF ECKERHALL, SVENSKT NÄRINGSLIV [SWEDISH INDUSTRY & COMMERCE], EN NY ARBETSSOLYCKSFALLSFÖRSÄKRING [A NEW WORK ACCIDENT INSURANCE] 5-6 (2007) http://www.svensktnaringsliv.se/migration_catalog/Rapporter_och_opinionsmaterial/Rapporters/en-ny-arbetsolycksfallsforsakring_527908.html/BINARY/En%20ny%20arbetsolycksfallsf%C3%B6rs%C3%A4kring (noting that during the first two years with an insurer, Italian companies can receive a 15% rebate provided that they adhere to commonly established OSH standards; if they stop adhering to said standards, the insurer can demand the rebates back, as well as impose an extra surcharge).

system are contributing to underreporting is an important first step toward designing targeted policy interventions to dampen or reverse these perverse incentives.

Return to work incentives from a transnational perspective. A number of economists and disability scholars have examined the success of various social insurance policies from a cross-national and interdisciplinary perspective, focusing specifically on programmatic features that are likely to encourage return to work. For example, drawing on detailed analyses of disability program reforms undertaken in Australia, the UK, the Netherlands, and Sweden, one study derived a number of concrete insights to guide policymakers contemplating reforms to the SSDI system in the US.[190] For example, the authors concluded that because "incentivizing individuals with impairments to stay in the labor market is far easier than incentivizing existing disability beneficiaries to return to work….gaining control of disability rolls is best done by stemming the flow of new beneficiaries rather than trying to reduce existing DI caseloads."[191] Other studies have undertaken even more detailed analyses of discrete disability reforms in individual countries, such as the UK[192] and the Netherlands,[193] in the hopes of deriving insights for SSDI reform. However, noticeably absent from this scholarship is a consideration of state-led return-to-work programs in the US and abroad; the only social insurance programs typically discussed are those overseen by the federal government.

[190] Richard V. Burkhauser et al, *Disability Benefit Growth and Disability Reform in the U.S.: Lessons from Other OECD Nations* (Fed. Reserve Bank of S.F., Working Paper No. 40, 2013), http://www.frbsf.org/economic-research/files/wp2013-40.pdf.
[191] Id. at 3.
[192] Zachary A. Morris, *Disability Benefit Reform in Great Britain from the Perspective of the United States*, 68 INT'L SOC. SECURITY REV. 47 (2015).
[193] Richard V. Burkhauser et al., *Curing the Dutch Disease: Lessons for United States Disability Policy* (U. Mich. Ret. Research Ctr., Working Paper No. 2008-188, 2008), https://deepblue.lib.umich.edu/bitstream/handle/2027.42/61813/wp188.pdf?sequence=1&isAllowed=y.

The reasons for this scholarly compartmentalization are unclear because the same goal and principles that apply to federal return-to-work programs apply to the statutory workers' compensation programs operated by US states. Indeed, as discussed earlier, many individuals who end up receiving SSDI benefits filed, or were entitled to file, claims through their state's workers' compensation system. A synthesis of lessons learned from analyses of federal and state disability programs in the US and abroad could help workers' compensation policymakers improve return-to-work incentives.

FECA as testing ground for innovation. The inner workings, costs, and programmatic outcomes of the US FECA program, which insures federal employees and covers about 2% of US workers, are notoriously opaque. As one researcher has observed, "The FECA program produces little in the way of information that would allow direct comparisons of the program with state workers' compensation or measurements of its efficiency. The actual costs of the FECA program are not presented with clarity, and for many facets of the program they are impossible to locate."[194] The scarcity of publicly available information on the program, which seems to conflict with the Obama Administration's stated policy on government transparency,[195] has hampered empirical investigation of the program.

Although persuading the US government to make data from the FECA program publicly available poses political challenges that could prove insurmountable, gaining access to data on programmatic outcomes in the federal compensation regime could be of enormous value to workers' compensation scholars. These data might clarify how stakeholders behave in a regime

[194] Ladou, *supra* note 57, at 180.
[195] *See* Memorandum from Barack Obama to Heads of Exec. Dep'ts & Agencies, Transparency and Open Government, https://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment.

that poses vastly different economic incentives, and might also point the way toward reforms that could be piloted among non-federal employees.

8. Suggested Policy Reforms

It should be evident from the discussion thus far that comprehensive reform of workers' compensation cannot be accomplished in a vacuum; the system is deeply intertwined with the other three pillars of the OSH system. The roots of the problems described in Section 6 run very deep, and altering the incentives of key stakeholders would require sweeping reform.

For these reasons, some commentators have called for the fragmented system to be abolished entirely and replaced with a national compensation system in which all injuries and illnesses, regardless of their work-relatedness, would be treated in a publicly-funded health care system.[196] The American Public Health Association, for example, has called for the establishment of a "national program with uniform coverage...[in which] [h]ealth care for injured workers [w]ould be provided by a national health care system…[and] health care providers [w]ould be removed from the responsibility of determining eligibility for benefits."[197] The APHA's recommendations also included the elimination of state exemptions and exclusions, universal adequacy of wage replacement benefits, "seamless" integration of workers' compensation with SSDI, retention of tort and criminal liability for employers whose knowing or

[196] *See, e.g.*, Am. Pub. Health Assoc., Workers' Compensation Reform Policy, 20 NEW SOLUTIONS 397, 401 (2010); Michael B. Lax, *Workers' Compensation Reform Requires an Agenda … and a Strategy*, 20 NEW SOLUTIONS 303, 307-8 (2010); Joseph LaDou, *Occupational and Environmental Medicine in the United States: A Proposal to Abolish Workers' Compensation and Reestablish the Public Health Model*, 12 INT'L J. OCCUPATIONAL & ENVTL. HEALTH 154, 154 (2006); LaDou, *supra* note 134, at 299.
[197] Am. Pub. Health Assoc., *supra* note 196, at 401.

reckless behavior causes the injury or illness; and the creation of a national medical database to track OSH outcomes.[198]

Despite the strong economic policy arguments to recommend them, the sweeping reforms envisioned by the APHA are unlikely to be adopted in the foreseeable future. This final section considers a handful of modest reforms that, while unlikely to address the core systemic deficiencies identified earlier, build on insights developed in prior sections and could help bring about incremental improvements that are more feasible in the current political climate.

Offset stakeholder incentives to underreport injuries and illnesses. Unless creative ways can be found to counteract stakeholders' incentives *not* to channel occupational injuries and illnesses toward the workers' compensation system, underreporting and cost shifting will continue unabated. Therefore, a top priority should be to devise creative strategies for counteracting these incentives and inducing workers, employers, and doctors to play their part in ensuring that compensable injuries are, in fact, compensated through workers' compensation, so that their costs are not shifted onto other forms of social insurance.

For workers, the two best ways to accomplish this goal are strengthening anti-retaliation protections for workers who report injuries (with a presumptive award of costs, attorney's fees, treble damages, as well as punitive damages) and banning incentive programs that reward workers for not reporting injuries or penalize them for doing so. Counteracting the incentives of employers is more challenging, but one possible route is to charge employers (or their agents) a sizable financial penalty for any claim that was initially denied yet ultimately, after an appeal, found to be compensable. Overcoming the incentive effects that affect physician eligibility

[198] *Id*.

determinations is also challenging, but establishing a panel of neutral physicians with specialized expertise, paid through an independent fund, who are obliged to consult with an injured employee's primary care physician before rendering a decision is worth consideration.

Adopt a "list" of presumptively compensable diseases. One of the most striking differences uncovered between the US and many comparator nations is the absence of a list of "scheduled" diseases in the US that are presumptively eligible for compensation. The National Institute of Occupational Safety and Health (NIOSH) should create and periodically update such a list that should in turn be adopted by state workers' compensation boards. The inclusion of particular disease on such a list would shift the burden of proof to the employer to prove that the disease was *not* the result of workplace exposure.

Relate benefit adequacy to cost shifting. In 1972, the National Commission on State Workmen's Compensation Laws concluded in its final report to Congress that "[i]n general, workmen's compensation programs provide cash benefits which are inadequate."[199] More than four decades later, benefits remain so and adequacy is continuing to decline. Unlike in the early 1970s, however, there is now a sizable evidence that the bulk of costs for treating and compensating workplace injuries and illnesses are shifted from employers onto public insurance systems, including SSDI, SSI, Medicare and Medicaid. Drawing explicit connections between these two trends, and drawing attention to the fact that taxpayers are shouldering the burden of injured workers, might persuade legislators that increasing benefits is not only equitable, but also economically efficient, in that employers are only internalizing a fraction of the costs that workplace injuries and illnesses impose on workers and society.

[199] NAT'L COMM'N ON STATE WORKMEN'S COMP. LAWS, THE REPORT OF THE NATIONAL COMMISSION ON STATE WORKMEN'S COMPENSATION LAWS 18 (1972), http://workerscompresources.com/?page_id=28.

Encourage insurance-based incentives (besides experience rating) in monopolistic insurance markets. One of the noteworthy trends discussed above is the prevalence, especially in Europe, of creative insurance-related incentive schemes in monopolistic insurance markets. Unlike in the US, some of these schemes go beyond conventional experience rating and reward proactive, long-term strategies for accident and injury prevention. Many of these programs target a particular industry or small and medium-sized enterprises. The relationship between the insurer and the insured endures indefinitely in a monopolistic market (unless the firm goes out of business), so the insurer can reasonably expect to recoup its investments through lower loss ratios. US policymakers should learn more about insurance-related programs that have been implemented in comparator countries and assess whether they merit piloting in the U.S. states with monopolistic insurance markets. If the benefits are significant, then states with competitive insurance markets could consider mandating exclusive state funds.

Promote collaboration between workers' compensation and OSH inspectorate. In most US states, there is little integration between the workers' compensation system and the OSH inspectorate, even though they share a common goal. This is so even in most of the 22 US states that operate "state plans," which obligate state officials to enforce safety and health laws instead of federal OSHA.[200] The lack of cooperation between OSHA (or state plan officials) and the authorities that oversee workers' compensation programs represents a missed opportunity. The only US state in which these agencies have undertaken cooperative enforcement initiatives – for example, using workers' compensation claims data to determine which establishments should be targeted for inspections[201] – is Washington. This could be due in part to the fact that Washington

[200] *See State Plans*, *supra* note 44 (noting that 22 states operate state plans).
[201] CITE CONVERSATION WITH OFFICIAL IN WISHA.

is one of just five states[202] that operate exclusive state funds. Finding ways to integrate the activities of the workers' compensation insurers, engaging in ongoing data sharing, and developing joint OSH initiatives, could create potential synergies in enforcement.

9. Conclusions

The US workers' compensation system is at a crossroads. The "grand bargain" that was struck by industry and labor about a century ago appears to be unraveling, with widespread dissatisfaction among workers, physicians and employers alike. Benefits, already inadequate in the early 1970s, continue to decline even as employer costs increase. Many injuries and illness go unreported, shifting costs of workplaces injuries and illnesses from employers and insurers onto taxpayers via public insurance systems. The confluence of systemic pressures raises urgent questions about what truly ails the US workers' compensation system and whether meaningful reform is possible.

This article departs from most US scholarship in two ways. First, I characterize workers' compensation as just one "pillar" in a broader occupational safety and health system that encompasses free market forces, the regulatory inspectorate, and social insurance systems. After describing how the incentives of each workers' compensation stakeholder depend on the structural features of the four-pillared OSH system, I point out many ways in which the US OSH system differs from those of other Western industrialized countries. These structural disparities shape the incentives of stakeholders in ways that set the US system apart. The incentives of institutional stakeholders to underreport occupational injuries and illnesses distorts

[202] *See* INT'L ASSOC. OF INDUS. ACCIDENT BDS. & COMM'NS & THE WORKERS COMP. RESEARCH INST., *supra* note 99, at 11 Table 1 (North Dakota, Ohio, Washington, and Wyoming also operate exclusive state funds).

the accuracy of public information regarding the safety and health of US workers, and contributes to a situation whereby the cost of industrial accidents is shifted onto taxpayers. I conclude that because of the singular complexities of the US OSH system, correcting chronic deficiencies of the workers' compensation system is unlike to be accomplished in piecemeal fashion, and requires a sweeping overhaul of several components of the OSH system.

I point out several promising directions for future investigation that could help pave the way for long-term reform. These research priorities include a closer examination of carve-outs and opt-outs; consideration of the relevance of behavioral law and economics for OSH regulation; empirically distinguishing between the impact of different stakeholders' on under-reporting; an examination of return-to-work issues that includes insights gleaned from other social insurance programs and countries; and more detailed studies of the impact of FECA on federal employees.

After acknowledging the political difficulty of enacting a systemic overhaul, I recommend several more circumscribed reforms that could bring about incremental change. These include finding ways to offset stakeholders' incentives to underreport workplace accidents and illnesses; promoting collaboration between workers' compensation agencies and OSH inspectorates; publicizing the mounting evidence of cost shifting to strengthen the case for improving benefit adequacy; maintaining a list of diseases that should be presumed to be work-related; and devising creative insurance-related strategies (besides experience rating) to induce greater injury and illness prevention efforts, especially among smaller companies.