ECONOMIC INCENTIVES IN WORKERS' COMPENSATION: A HOLISTIC, INTERNATIONAL PERSPECTIVE

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TABLE OF CONTENTS

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I. INTRODUCTION

It is tempting to view each U.S. state's workers' compensation system as an autonomous legal regime whose discrete statutory and regulatory characteristics determine the efficiency and adequacy with which injured workers are compensated within its boundaries. To a substantial degree, this description is accurate. In the United States, most workers' compensation systems are creatures of state law, and their provisions vary widely across state lines. A vast body of empirical

scholarship—to which many of the authors in this volume have made seminal contributions—bears out the expectation that many differences in regulatory design affect the behavior of key stakeholders. For example, cross-state differences in wage replacement ratios,[1] compensability of disability, diseases, and mental illnesses,[2] calculation of unscheduled permanent partial disabilities,[3] statutory waiting and retroactive periods,[4] insurance regulation,[5] experience rating,[6] control

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1. *See* James R. Chelius, *The Incentive to Prevent Injuries*, *in* SAFETY AND THE WORK FORCE: INCENTIVES AND DISINCENTIVES IN WORKERS' COMPENSATION 154, 156–59 (John D. Worrall ed., 1983); Stuart Dorsey, *Employment Hazards and Fringe Benefits: Further Tests for Compensating Differentials*, *in* SAFETY AND THE WORK FORCE, *supra*, at 87, 99 tbl.4.5; Richard J. Butler, *Economic Determinants of Workers' Compensation Trends*, 61 J. RISK & INS. 383, 389–90 (1994); John D. Worrall & David Appel, *The Wage Replacement Rate and Benefit Utilization in Workers' Compensation Insurance*, 49 J. RISK & INS. 361, 362 (1982).

2. *See* 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, 1111–12 (1998); J. Paul Leigh & John A. Robbins, *Occupational Disease and Workers' Compensation: Coverage, Costs, and Consequences*, 82 MILBANK Q. 689, 689–90 (2004); Sara E. Luckhaupt & Geoffrey M. Calvert, *Work-Relatedness of Selected Chronic Medical Conditions and Workers' Compensation Utilization*, 53 AM. J. INDUS. MED. 1252, 1257–60 (2010); Kenneth D. Rosenman et al., *Why Most Workers with Occupational Repetitive Trauma Do Not File for Workers' Compensation*, 42 J. OCCUPATIONAL & ENVTL. MED. 25, 31–32 (2000).

3. *See* ROBERT T. REVILLE ET AL., AN EVALUATION OF NEW MEXICO WORKERS' COMPENSATION PERMANENT PARTIAL DISABILITY AND RETURN TO WORK 5 (2001), https://www.rand.org/content/dam/rand/pubs/monograph_reports/2009/MR1414.pdf; Terry Thomason, *The Transition from Temporary to Permanent Disability: Evidence from New York State*, *in* WORKERS' COMPENSATION INSURANCE: CLAIM COSTS, PRICES, AND REGULATION 69, 70–72 (David Durbin & Philip S. Borba eds., 1993); John D. Worrall et al., *The Transition from Temporary Total to Permanent Partial Disability: A Longitudinal Analysis*, *in* WORKERS' COMPENSATION INSURANCE, *supra*, at 51, 51–53.

4. *See* Butler, *supra* note 1, at 399; Barry T. Hirsch et al., *Workers' Compensation Recipiency in Union and Nonunion Workplaces*, 50 INDUS. & LAB. REL. REV. 213, 214, 221 (1997); Alan B. Krueger, *Incentive Effects of Workers' Compensation Insurance*, 41 J. PUB. ECON. 73, 76–77 (1990); Geetha M. Waehrer & Ted R. Miller, *Restricted Work, Workers' Compensation, and Days Away from Work*, 38 J. HUM. RESOURCES 964, 965, 967–68 (2003).

5. *See* Anne Carroll & Robert Kaestner, *The Relationship Between Regulation and Prices in the Workers' Compensation Insurance Market*, 8 J. REG. ECON. 149, 151–52 (1995); Scott E. Harrington & Patricia M. Danzon, *Rate Regulation, Safety Incentives, and Loss Growth in Workers' Compensation Insurance*, 73 J. BUS. 569, 569–70 (2000); Robert W. Klein et al., *The Capital Structure of Firms Subject to Price Regulation: Evidence from the Insurance Industry*, 21 J. FIN. SERVS. RES. 79, 81–82 (2002); Timothy P. Schmidle, *The Impact of Insurance Pricing Deregulation on Workers' Compensation Costs*, WORKERS' COMPENSATION MONITOR, Sept.–Oct. 1995, at 1, 1.

over the pool of providers,[7] litigation and 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. Careful attention to such variations in institutional design is vital for those who care about worker safety and health.

Yet an overriding scholarly focus on the arcana of state workers' compensation design can obscure the fact that workers' compensation is just one among a broad cluster of legal, economic, and social institutions that jointly determine occupational safety and health ("OSH"). The significance of workers' compensation regimes cannot be fully grasped without accounting in a holistic fashion for the ways in which they interact, or fail to interact, with other economic institutions.

English-language workers' compensation scholarship is also often limited by an almost exclusive focus on the United States. This

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6. *See* Karen Roberts, *The Structure of and Incentives from Workers' Compensation Pricing*, *in* WORKPLACE INJURIES AND DISEASES: PREVENTION AND COMPENSATION 171, 174–75 (Karen Roberts et al. eds., 2005); John D. Worrall & Richard J. Butler, *Experience Rating Matters*, *in* WORKERS' COMPENSATION INSURANCE PRICING 81, 83–85 (Phillip S. Borba & David Appel eds., 1988); Douglas E. Hyatt & Boris Kralj, *The Impact of Workers' Compensation Experience Rating on Employer Appeals Activity*, 34 INDUS. REL. 95, 96–97 (1995).

7. *See* LESLIE I. BODEN & CHARLES A. FLEISCHMAN, MEDICAL COSTS IN WORKERS' COMPENSATION: TRENDS AND INTERSTATE COMPARISONS 59 (1989); David Neumark et al., *The Impact of Provider Choice on Workers' Compensation Costs and Outcomes*, 61 INDUS. & LAB. REL. REV. 121, 139–40 (2007); Silvana Pozzebon, *Medical Cost Containment Under Workers' Compensation*, 48 INDUS. & LAB. REL. REV. 153, 164 (1994). *But see* Leslie I. Boden & John W. Ruser, *Workers' Compensation "Reforms," Choice of Medical Care Provider, and Reported Workplace Injuries*, 85 REV. ECON. & STAT. 923, 929 (2003) (finding no effect on injury frequency of laws restricting employee choice of medical provider).

8. *See* Joseph A. Fields & Emilio C. Venezian, *Medical Cost Development in Workers' Compensation*, 58 J. RISK & INS. 497, 503 (1991); Laura Langer, *Strategic Considerations and Judicial Review: The Case of Workers' Compensation Laws in the American States*, 116 PUB. CHOICE 55, 70–72 (2003); Karen Roberts, *Predicting Disputes in Workers Compensation*, 59 J. RISK & INS. 252, 260 (1992); Terry Thomason & John F. Burton, Jr., *Economic Effects of Workers' Compensation in the United States: Private Insurance and the Administration of Compensation Claims*, 11 J. LAB. ECON., 1993, at S1, S33–34.

9. *See* OLESYA FOMENKO & JONATHAN GRUBER, WORKERS COMP. RESEARCH INST., DO HIGHER FEE SCHEDULES INCREASE THE NUMBER OF WORKERS' COMPENSATION CASES? 8 (2016); Richard J. Butler et al., *HMOs, Moral Hazard and Cost Shifting in Workers' Compensation*, 16 J. HEALTH ECON. 191, 194 (1997); Karen Roberts & Susan Zonia, *Workers' Compensation Cost Containment and Health Care Provider Income Maintenance Strategies*, 61 J. RISK & INS. 117, 129 (1994); 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, 1281–82 (2015).

intellectual insularity is ironic in light of the fact that workers' compensation originated in Germany, and swept much of Europe decades before it was adopted by U.S. legislatures.[10] The paucity of work comparing the U.S. workers' compensation system with those abroad has encouraged scholars to take the basic features of the U.S. system for granted. In so doing, they often fail to distinguish between deficiencies that characterize *all* industrial economies and those that stem from idiosyncratic characteristics of the U.S. system.

The goal of this Article is to compare the features of the U.S. OSH regime with those of other industrialized nations from a legal and economic perspective, using these comparisons as the basis for identifying promising policy reforms and areas for future research. The next part, Part II, situates workers' compensation in a broader institutional perspective by describing it as just one of four "pillars" of OSH regimes in most modern industrialized societies. Part III outlines the incentives of four important stakeholders in the OSH system: workers, employers, physicians, and insurers. Part IV identifies ways in which the basic institutional and economic attributes of the OSH regime in the United States differ fundamentally from those of Canada, Europe, and Australasia. Part V explains how the differences described in Part IV influence the incentives of workers' compensation stakeholders in the United States. Part VI discusses several mounting pressures that are jeopardizing the capacity of the U.S. workers' compensation system to carry out its intended goals. Part VII identifies promising areas for future research. Part VIII recommends several areas for policy reform. Part IX concludes.

II. THE FOUR-PILLARED OSH REGIME

Although 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 OSH stakeholders in any given society.[11] This Part takes a

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

11. *See, e.g.*, MICHAEL LUCCI, ILL. POLICY INST., WORKERS' COMPENSATION REFORM MEANS JOBS, TAX SAVINGS 18–26 (2016); Am. Coll. of Occupational & Envtl. Med., *ACOEM's Eight Best Ideas for Workers' Compensation Reform*, 40 J. OCCUPATIONAL & ENVTL. MED. 207 (1998); Michael Feuerstein, *Workers' Compensation Reform in New York State: A Proposal to Address Medical, Ergonomic, and Psychological Factors Associated with Work Disability*, 3 J. OCCUPATIONAL REHABILITATION 125, 129–32 (1993); Jack E. Nicholson, *Workers' Compensation: Permanent Partial Disabilities and a Proposal for*

different approach, describing in broad strokes each of the 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 ensuing discussion, I conceptualize workers' compensation as one of four economic "pillars" that jointly determine the prevalence, social cost, and welfare effects of occupational injuries in most industrialized societies. Understanding the OSH regime in this manner will make it easier to grasp the interwoven and evolving incentives of the OSH stakeholders, a topic that will be taken up in later Parts.

A. Labor Market Pillar[12]

The first pillar encompasses the underlying labor market conditions that affect the incentives, and in turn the behavior, of OSH stakeholders before and after the wage bargain is struck. For example, it includes those factors that affect the pricing of occupational risks into the wage bargain, such as the availability of information on job risks. It also includes economic and institutional factors that affect employers' investments in lowering workplace hazards, such as the cost of abating hazards or the capacity of incumbent workers to influence safety practices. Finally, the labor market pillar includes cyclical or structural economic changes that affect the distribution of income and job skills.

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 the higher *ex ante* likelihood of death or serious bodily harm.[13] Firms, for their part, should invest in additional safety improvements until the marginal cost of doing so exceeds the marginal benefit of the anticipated decline in wages. In a highly simplified (Coasian) world without transaction costs, not only should firms and workers fully internalize—and efficiently allocate among themselves—the cost of industrial accidents, but firms should invest in safety-enhancing improvements that maximize joint social surplus.[14]

Reform, 2 BENEFITS Q. 16, 20–22 (1986); Lindsay R. Partridge, Development in the Law, *Workers' Compensation Reform: The Effect of Mandatory Arbitration on Responsibility Determination Cases*, 24 WILLAMETTE L. REV. 341, 363–71 (1988).

12. My thanks to Leslie Boden and Monica Galizzi, who suggested this framing of the first pillar. *See* Leslie I. Boden & Monica Galizzi, *Blinded by Moral Hazard*, 69 RUTGERS U. L. REV. 1213 (2017).

13. *See* Richard Thaler & Sherwin Rosen, *The Value of Saving a Life: Evidence from the Labor Market*, *in* HOUSEHOLD PRODUCTION AND CONSUMPTION 265 (Nestor E. Terleckyj ed., 1976).

14. *See id.*

The reality, of course, is far more complex. In most industrialized societies, workplace accidents impose economic externalities. Injured workers who are unable to work, even temporarily, lower productivity and can also increase the cost of other social insurance programs.[15] Labor market failures may also limit workers' capacity to command wage premiums when accepting hazardous jobs.[16] For example, without comprehensive and accurate reporting of injuries, workers may not know the true level of risk they will face on the job, and even well-informed workers may not be able to bargain effectively for higher wages without union support. Borrowing constraints, monopsonistic labor markets, high unemployment, or an inability to purchase adequate insurance may also leave workers, especially those with few assets or human capital, with little practical scope for *ex ante* bargaining. Such market failures may likewise reduce the willingness of incumbent workers to express concerns over job hazards out of a justified fear that they will be punished or terminated for speaking out. Jurisdictions that provide strong legal protection against retaliation and require firms to give employees a meaningful voice in OSH-related matters may partly offset the welfare losses associated with some of these market failures.

The labor market pillar also includes a variety of demand- and supply-side factors that affect which jobs are available in a given jurisdiction, and which workers perform them. For example, changes in equality of educational opportunity or occupational segregation may affect the job hazards typically faced by different demographic groups. In some industries, cyclical changes in demand can affect not only the pace of work but also the way in which work is performed, indirectly

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15. *See* David Weil, Valuing the Economic Consequences of Work Injury and Illness: A Comparison of Methods and Findings (Oct. 1999) (unpublished manuscript), http://dx.doi.org/10.2139/ssrn.189839 (describing multiple methods of estimating the cost of workplace injuries).

16. *See* Stuart Dorsey & Norman Walzer, *Workers' Compensation, Job Hazards, and Wages*, 36 INDUS. & LAB. REL. REV. 642, 649–50 (1983) (demonstrating the existence of wage-risk premiums for non-union workers, but not for unionized workers); 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"). *Compare* Richard J. Arnould & Len M. 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 Dorman & Paul Hagstrom, *Wage Compensation for Dangerous Work Revisited*, 52 INDUS. & LAB. REL. REV. 116, 125–29 (1998) (presenting evidence against the existence of compensating differentials for risk).

affecting the hazards that workers face on the job. Long-term shifts in the structure of the labor market—such as an increase in subcontracting, franchising, misclassification of employees as independent contractors, and other practices collectively described as workplace "fissuring"[17]—can also dramatically alter the overall level of distribution of occupational risks.

In light of these real-world complexities, the correspondence between the simplified labor market model and the actual experience of workers and other OSH stakeholders is likely to vary widely across industries, across jurisdictions, and over time.

B. 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 violating those standards. Although often associated with the "command and control" style of regulation, regulatory agencies can vary widely in their approach and scope of activity.[18] In theory, an agency could only conduct inspections, whereas others might supplement inspection activity with initiatives designed to promote improvements in OSH, such as channeling extra resources toward high-risk industries or subsidizing local prevention efforts. Some agencies might maintain an arms-length relationship with the firms they inspect to avoid regulatory capture, while others might not. Still others might endorse a "self-regulation" model in which employers or third parties, rather than government officials, carry out inspections. For purposes of the ensuing discussion, the defining feature of the second pillar is the existence of an agency that sets minimum safety standards and assesses firms' adherence to them in some systematized fashion.

The activities of OSH inspectorates can alter labor market outcomes in important ways. Economic theory typically differentiates between the "specific" and "general" deterrence effects of inspections. The specific deterrence effect denotes the behavioral effect of actually undergoing an inspection.[19] In contrast, the general deterrence effect refers to the behavioral effects of an employer's awareness of the likelihood that she

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17. DAVID WEIL, THE FISSURED WORKPLACE: WHY WORK BECAME SO BAD FOR SO MANY AND WHAT CAN BE DONE TO IMPROVE IT 7–27 (2014).

18. Darren Sinclair, *Self-Regulation Versus Command and Control? Beyond False Dichotomies*, 19 LAW & POL'Y 529, 533 (1997).

19. *See* Jon G. Sutinen & K. Kuperan, *A Socio-Economic Theory of Regulatory Compliance*, 26 INT'L J. SOC. ECON. 174, 185 (1999).

could undergo an inspection and be penalized a certain amount for any resulting violations.[20] In choosing how much to invest in accident prevention, a firm's economic calculus can include not just monetary fines, but also the reputational effects of any government-orchestrated publicity regarding levels of regulatory compliance, such as prizes or "honor rolls" to reward model employers, or press releases describing major enforcement actions against repeat violators.[21]

C. Workers' Compensation Pillar

The third pillar includes the characteristics of the workers' compensation regime, defined as a system that provides benefits to injured workers on a *no-fault* basis (i.e., without the necessity to prove that the employer's negligence caused the worker's injury) and in which only *partial* compensation is typically available.[22] Yet as will become clear from the ensuing discussion, even fundamental features of workers' compensation regimes vary considerably across industrialized nations. For example, laws differ with regard to the prevalence and type of experience rating used to calculate premiums; who bears the costs of medical care and the share of total costs that medical costs comprise; the competitive—or monopolistic—nature of insurance markets; and the role(s) of physicians in determining eligibility for benefits. The adequacy of benefits also varies considerably across jurisdictions, as does the availability of civil remedies to workers who are fired in retaliation for reporting an injury or whose injuries are caused by an employer's negligence.[23]

D. Social Insurance Pillar

The fourth pillar of an OSH regime encompasses the state and federal regulations that provide various forms of social insurance to individuals whose disabilities prevent them from working. Most important among these are laws providing free or low-cost medical care to all workers, including those injured on the job. In jurisdictions

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20. *See id.*

21. *See* Matthew S. Johnson, Regulation by Shaming: Deterrence Effects of Publicizing Violations of Workplace Safety and Health Laws 22–25 (Nov. 1, 2016) (unpublished manuscript), https://drive.google.com/file/d/0Bxr2qrvtxnbrSUZMYzg4Zjh2ak0/view.

22. Parsons, *supra* note 10, at 362–63 (explaining that while employers' liability claims would provide full compensation, workers' compensation claims give only partial compensation).

23. *See infra* Section IV.C.

where medical treatment is not publicly provided, or where care is difficult to access, injured workers who do not file workers' compensation claims—or whose claims are denied—may bear a double burden, struggling to obtain treatment even as they are experiencing a loss in wage income. Another important aspect of the social safety net is whether it provides any wage replacement, such as sick leave or short-term disability leave, to workers who are temporarily incapacitated. Finally, workers' access to long-term income support if they become disabled for long periods, or for the rest of their working lives, is another key dimension of the social insurance pillar that varies widely across countries.

III. STAKEHOLDER INCENTIVES IN WORKERS' COMPENSATION: AN OVERVIEW

Our next task is to understand the economic incentives facing major actors in the OSH system whose decisions shape the cost, efficiency, and welfare effects of workers' compensation. The discussion focuses on four stakeholders—employees, employers, doctors, and insurers—that make consequential choices at crucial decision points. These are not the only important participants in the OSH system. For example, the structural incentives of labor unions, workers' compensation agencies, and plaintiffs' attorneys also have profound economic repercussions that vary widely across jurisdictions.[24] Yet in confining attention to four stakeholders, I hope to bring to light several salient characteristics of the U.S. OSH system that differentiate it from many comparator countries, building on the discussion in the prior part and laying the groundwork for the international comparisons presented in later parts.

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24. For a review of literature on the role of labor unions in OSH regulation in the United States and abroad, see Alison D. Morantz, *Unions and Regulation*, 13 ANN. REV. L. & SOC. SCI. (forthcoming 2017). For a typology of different administrative functions performed by workers' compensation agencies, and a summary of why and how their relative prominence varies across U.S. states, see John F. Burton, Jr. & Monroe Berkowitz, *Paean to an Active Workers' Compensation Agency*, WORKERS' COMPENSATION MONITOR, Sept.–Oct. 1989, at 1–7, 22. For a summary of cross-state differences in claimant attorneys' involvement, including which features of systemic design best explain the observed disparities, see RICHARD A. VICTOR & BOGDAN SAVYCH, AVOIDING LITIGATION: WHAT CAN EMPLOYERS, INSURERS, AND STATE WORKERS' COMPENSATION AGENCIES DO? 4–5 (2010); *see also* H. ALLAN HUNT & ROBERT W. KLEIN, WORKERS' COMPENSATION INSURANCE IN NORTH AMERICA: LESSONS FOR VICTORIA? II-36–II-39 (1996), http://research.upjohn.org/cgi/viewcontent.cgi?article=1013&context=up_technical reports (explaining why the frequency of litigation, and of claimant representation, is much lower in British Columbia than in the United States).

A. *Worker Incentives*

To understand the economic incentives of the worker, it is helpful to consider her position 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—pre-hire bargaining—are straightforward: she has strong incentives to acquire information about job hazards and consider this information when bargaining over wages. In practice, however, the employee's *ex ante* consideration of OSH-related hazards will depend in part on the success of regulators, unions, and other stakeholders in raising workers' awareness of OSH issues. Furthermore, her capacity to command a wage-risk premium that accurately reflects both the job's attendant risks and her risk preferences depends on what is often described as "bargaining power."[25] Although the concept lacks conceptual rigor and is inherently difficult to quantify, bargaining power can be understood as encompassing factors that affect the worker's capacity, through bargaining, to win concessions from an employer regarding wages and other benefits.[26] Market failures such as an inability to borrow, to self-insure, or to find alternative employment tend to 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.[27]

The second critical juncture starts with the worker's decision to accept a job and commence work. From an economic standpoint, the main question is how much effort the worker exerts to avoid an injury—for example, by avoiding job hazards and complying with safety rules, even those she finds distasteful or burdensome. Assuming that exerting effort is costly, one might expect the worker to weigh this "hassle factor" against her perceived likelihood of sustaining an injury and her beliefs about how dramatically her life circumstances will change if she is injured. If the worker believes that sustaining an injury would be economically catastrophic, imperiling her ability to preserve an acceptable standard of living, she may exert more care than if she

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25. *See* James W. Kuhn et al., *Neil W. Chamberlain: A Retrospective Analysis of His Scholarly Work and Influence*, 21 BRIT. J. INDUS. REL. 143, 143–45 (1983).

26. *Id.*

27. For a review of the empirical literature, see John F. Burton, Jr., *Safety, Economics of*, *in* INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL & BEHAVIORAL SCIENCES 863, 866 (James D. Wright ed., 2d ed. 2015).

knows a generous private or social insurance system would cushion the blow. This behavioral effect, in which an increase in insurance benefits theoretically could induce workers to take less care on the job, has been called "'risk bearing' moral hazard"[28] or the "true injury effect."[29]

The third consequential moment occurs in the wake of an injury, when the worker decides whether or not to report her injury and file a claim. For severe injuries requiring emergency medical care, she may have little choice but to do so. For less acute injuries, however, the worker's decision will likely depend on how the expected value of reporting compares to the expected value of not reporting. This calculation, in turn, will depend on the generosity of workers' compensation benefits compared to other forms of private/social insurance and the direct and indirect costs of filing. Filing costs may include, for example, having to undergo a medical examination[30] and a fear of possible retaliation.[31] The more generous the private and social insurance benefits would be, and the greater the costs and risks associated with reporting her injury, the less likely the worker should be to file a workers' compensation claim. Conversely, the more difficult and costly it would be to obtain medical care and income replacement through alternative systems, and the lower the perceived risks of retaliation, the more likely a worker should be to file a claim. If her economic incentives to do so are sufficiently strong, a worker may even feign an injury, or file a claim for an injury that is not work-related. This second type of behavioral effect, in which economic incentives shape a workers' decision whether or not to report an injury, is generally known as the "'claims reporting' moral hazard effect"[32] or simply the "reporting effect."[33]

The final critical period begins when an injured worker who has taken time off work decides whether—and if so, when—to return to work. Some workers may be disabled so severely that returning to work is out of the question. Others, however, will have some de facto

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28. *See, e.g.*, Richard J. Butler & John D. Worrall, *Claims Reporting and Risk Bearing Moral Hazard in Workers' Compensation*, 58 J. RISK & INS. 191, 191–92 (1991).

29. Xuguang (Steve) Guo & John F. Burton, Jr., *Workers' Compensation: Recent Developments in Moral Hazard and Benefit Payments*, 63 INDUS. & LAB. REL. REV. 340, 341 (2010).

30. Emily A. Spieler & John F. Burton Jr., *The Lack of Correspondence Between Work-Related Disability and Receipt of Workers' Compensation Benefits*, 55 AM. J. INDUS. MED. 487, 497 (2012).

31. *Id.* at 496.

32. Butler & Worrall, *supra* note 28, at 191–92.

33. Guo & Burton, *supra* note 29, at 341.

discretion over the timing of their reentry. Here again, the worker's decision about when—or whether—to resume working depends, in theory, on which course of action provides higher financial and non-pecuniary benefits. The higher the benefits a worker receives while she is out of work compared to the salary and benefits she anticipates receiving upon her return to work, the longer her absence may persist, a relationship that prior work has labeled the "duration effect."[34]

The causal mechanisms that underpin the duration effect, however, are subject to empirical debate. In the conventional framework, the positive relationship between wage replacement benefits and time out of work is a form of moral hazard, in which workers' decision to prolong work absences is often assumed, at least implicitly, to be socially inefficient.[35] However, several more recent empirical studies have cast doubt on the notion that supply-side factors are the primary determinants of return to work. For example, some U.S.-based studies have found that demand-side factors such as job characteristics and organizational culture play surprisingly important roles.[36] A handful of empirical studies that make comparisons across countries lend further credence to the revisionist view,[37] with one scholar reporting that in a country with a one hundred percent wage replacement rate, average time taken off work after an injury is no higher than in the United States.[38]

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34. *Id.*

35. *See, e.g.*, Georges Dionne & Pierre St-Michel, *Workers' Compensation and Moral Hazard*, 73 REV. ECON. & STAT. 236, 236 (1991).

36. For a summary of this literature, see Monica Galizzi et al., *Injured Workers and Their Return to Work: Beyond Individual Disability and Economic Incentives*, 4 EVIDENCE-BASED H.R.M. 2, 5–6 (2016), and references cited therein.

37. *See* 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, 419 (2009) [hereinafter Anema et al., *Can Cross Country Differences in Return-to-Work After Chronic Occupational Back Pain Be Explained?*] (finding work interventions and job characteristics were important determinants of cross-country differences in return to work after low-back injuries); J. R. Anema et al., *The Effectiveness of Ergonomic Interventions on Return-to-Work After Low Back Pain; A Prospective Two Year Cohort Study in Six Countries on Low Back Pain Patients Sicklisted for 3–4 Months*, 61 OCCUPATIONAL & ENVTL. MED. 289, 289 (2004) (finding that ergonomic interventions, which vary widely across the countries examined, are strong predictors of time to return-to-work).

38. Galizzi et al., *supra* note 36, at 22–23 (analyzing return-to-work data from Italy finding that average return to work is no slower despite one hundred percent wage replacement).

B. Employer Incentives

The often cited dictum "safety pays"[39] suggests that all things being equal from the employer's standpoint, safer and healthier workers mean higher profitability, higher productivity, lower wages, and lower turnover. Even in the absence of OSH regulation, then, the labor market pillar provides some incentives for employers to devote at least a modicum of attention to OSH-related matters. Yet the strength of these incentives in any given industry or workplace will depend on the cost to employers of improving safety and health, the extent of labor market imperfections—such as informational asymmetries, and the presence of unions and other institutions that increase workers' bargaining power. For example, a privately owned company that exclusively hires undocumented day laborers to complete short-term home construction projects may have very different incentives than a unionized establishment that belongs to a large, publicly traded retail chain. In other words, the incentives engendered by the labor market pillar may vary quite widely across employers, even within the same jurisdiction. In addition to labor market incentives, the activities of the inspectorate—in particular, the frequency and stringency of inspections—may also affect the employer's economic calculus. The share of injury costs that the employer is theoretically obliged to bear under the applicable workers' compensation regime, and the employer's de facto capacity to shift these costs onto other social insurance programs are also important factors.

An employer that wishes to reduce OSH-related costs has a variety of potential strategies at its disposal. For example, a reduction in claim frequency can be brought about by lowering the frequency of injuries (the "safety effect"); lessening the likelihood that injuries are reported (the "underreporting effect"); and/or reducing the number of injury claims are processed and paid (the "claim monitoring effect").[40] The strength of the safety effect depends on factors, such as the nature of the industry, the cost of safety improvements, the size of the expected benefit, and the cost of borrowing. Yet government—or insurer—provided subsidies that reduce the cost of safety enhancing technologies can help enlarge the safety effect. The "underreporting effect" may become especially pronounced in jurisdictions where employers are free to adopt incentive programs that reward workers who do not file injury

39. *See, e.g.*, *OSHA's $afety Pays Program*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/dcsp/smallbusiness/safetypays (last visited Nov. 8, 2017).

40. Guo & Burton, *supra* note 29, at 342.

claims and/or penalize those who do. In addition to potentially inducing workers to take more care on the job, such programs may effectively deter workers from filing claims. If anti-retaliation laws are weak or nonexistent, some employers may also consider terminating injured workers who file costly claims. Another strategy available to employers in some industries is hiring contingent, contract, or temporary workers that are outside the scope of the workers' compensation protection. Finally, in jurisdictions that give employers many tools with which to challenge workers' eligibility for benefits, the claim monitoring effect may become especially appealing. The allure of these different strategies of lowering claim frequency will depend on each approach's relative efficacy and the constraints, if any, imposed by applicable legal regimes.

In addition to lowering the frequency of claims, the employer may attempt to lower average cost per claim. To lower medical costs, the employer may seek to limit the pool of providers that provide treatment, closely review treatment decisions, and cap medical reimbursement rates (the "medical monitoring effect").[41] Employers that aspire to lower wage replacement costs may invest more in return-to-work programs or offer more workers the opportunity to engage in restricted work (the "return-to-work effect").[42] The anticipated financial benefits of a given strategy and any legal or regulatory constraints on its adoption will determine its appeal to employers in a given jurisdiction.

C. Physician Incentives

It is helpful to differentiate at the outset two roles that physicians commonly play within a workers' compensation system. First, a physician may be called upon to function as a "gatekeeper" by making an eligibility determination—such as rendering an opinion regarding the work-relatedness of an injury—at the behest of an employer, an employee, or an agency. Secondly, she may be given the option of treating an injured worker.

A physician's incentives in each of these two very different capacities are shaped by several different pillars of the OSH regime. For example, the incentives of the physician called upon to make an eligibility determination depend on which entity is requesting her services. If the requesting entity is a public agency, then the physician has a strong incentive to respect that agency's norms in order to

41. *Id.*
42. *Id.*

preserve the service relationship. An agency that prides itself on neutrality may give doctors wide latitude to exercise independent judgment, whereas one that is under a mandate to reduce claim frequency may try to enforce high eligibility thresholds. If the requesting entity is a patient to whom the physician is already providing primary care, the physician may feel strong pressure to support the claim. If the physician is a repeat player who is paid by an employer—or insurer—to conduct an independent medical exam for litigation purposes, she may have powerful incentives to deem the injury not work-related and thereby strengthen the employer's grounds for denying the claim.

Once an injury or illness has been deemed work-related, any differences in the fee structures or administrative costs associated with treating workers' compensation patients may affect a physician's decision regarding whether or not to provide care. If the work-relatedness of an injury is immaterial in these regards, the physician should be indifferent to whether the injury or illness arose on the job. However, if workers' compensation cases are less remunerative or impose higher administrative costs than other cases, physicians who are not obliged to accept them may turn them away. Fee disparities can also affect doctors' incentives indirectly, by encouraging those who *do* treat workers' compensation patients to order more medical tests than they otherwise would, or prioritize procedures with generous reimbursement rates.[43]

D. 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 accurately forecasting each employer's workers' compensation costs. The dynamic nature of insurance markets and the difficulty of accurately predicting long-term trends, however, may make it difficult for insurers in competitive markets to engage in long-term contracting. Moreover, in some jurisdictions, rating bureaus or other public entities may constrain, or even eliminate entirely, private insurers' capacity to compete on price by offering different insurance premiums.

A public insurer, especially a monopolistic one, has different incentives. As a bureaucratic agency, it may be beholden to complex and sometimes conflicting interests in an often politicized OSH system. At

43. *See infra* Section V.C.

the same time, a public insurer is more likely to be judged by its capacity to offer insurance on terms that effectuate public policy goals, such as bringing about improvements in workplace safety at minimal expense. Because in a monopolistic insurance system an employer cannot by definition obtain coverage from private insurers, exclusive state funds cover broader and more diversified risk pools. For this reason, monopolistic public insurers may be able to consider subsidizing prevention programs or policies whose benefits can only be realized over relatively long time horizons.

IV. HOW THE U.S. OSH REGIME DIFFERS FROM OSH REGIMES IN COMPARATOR COUNTRIES

If the grand bargain struck between U.S. industry and labor in the early twentieth century is on the verge of collapse, this is an especially opportune historical moment in which to examine paths not taken. Broadening the lens to compare the U.S. system to that of other industrialized economies may provide important clues as to how the incentives of OSH stakeholders could be reshaped to align more closely with the goals of the system's creators.

Even a cursory glance at the international landscape reveals striking disparities in the economic forces that shape each pillar of the OSH regime in the United States and other industrialized countries. For purposes of this study, I focus most of my comparisons on Canada, Australia, New Zealand, and European Union ("EU") member states, which I collectively refer to as the "comparator countries."

Before delving into detailed comparisons, it is worth noting that two comparator countries[44] have developed particularly innovative social insurance models. In these countries, workers' compensation is subsumed under a broader social insurance system that compensates *all* disabling injuries, thus blurring the distinction between workers' compensation and other, typically more stigmatized and less

44. 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* EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, ECONOMIC INCENTIVES TO IMPROVE OCCUPATIONAL SAFETY AND HEALTH: A REVIEW FROM THE EUROPEAN PERSPECTIVE 82, 87 (Dietmar Elsler ed., 2010), https://osha.europa.eu/en/tools-and-publications/publications/reports/economic_incentives_TE3109255ENC.

remunerative,[45] forms of social insurance. The first of these outliers is New Zealand, in which the state accident compensation system includes all injuries—but not diseases—regardless of whether they are work-related.[46] The second outlier is the Netherlands, which goes even further in providing wage replacement to people disabled by injuries *and* diseases, regardless of their cause.[47]

A. Comparison of Labor Market Pillar

As explained in Part II, the first pillar of the OSH regime encompasses labor market conditions that determine the pricing of occupational risk into the wage bargain, including workers' access to information on job hazards, employers' optimal level of investment in safety improvements, and workers' ability to influence safety practices once they are hired.

U.S. workers have relatively few tools at their disposal with which to command wage-risk premiums, bargain collectively, or make their voices heard on safety-related matters. Perhaps most important, trade union membership is relatively low. For example, the Bureau of Labor Statistics estimated total trade union density in the United States to be 11.1% in 2015 (with 6.7% in the private sector and 35.2% in the public sector),[48] a rate also among the lowest of several countries in 2014 according to the Organization for Economic Co-operation and

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45. Katherine Lippel & Freek Lötters, *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 (Patrick Loisel & Johannes R. Anema eds., 2013).

46. Parsons, *supra* note 10, at 361.

47. *Id.* at 361–62. In recent years, both systems have come under pressure to reduce their disability rolls. *See* Adam Bennett, *ACC Bonus Pay for Claimant Cull*, N.Z. HERALD (June 22, 2012, 11:24 AM), http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10814678 (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); EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 44, at 87; Joseph LaDou, *The European Influence on Workers' Compensation Reform in the United States*, 10 ENVTL. HEALTH, 2011, at 1, 2–3 [hereinafter LaDou, *European Influence*] (noting that comprehensive reforms in the Netherlands have increased employer responsibilities with emphasis on returning workers with injury and illness to acceptable jobs, while also preventing recurrence).

48. *See* Press Release, U.S. Dept. of Labor, Bureau of Labor Statistics, Union Members—2016, at 5, 7–8 (Jan. 26, 2017), https://www.bls.gov/news.release/pdf/union2.pdf.

Development.[49] In the EU, by contrast, unionization rates are typically much higher, and worker organizations are more closely involved in the formation, implementation, and enforcement of OSH policy.[50] Labor unions sometimes wield considerable influence over OSH policy, even in comparator countries such as France, in which union membership rates are relatively low.[51]

In addition to their low rates of union membership, U.S. workers also have few mechanisms at their disposal with which to influence safety culture. In many comparator countries, non-unionized workplaces must provide workers with formal outlets for monitoring and potentially affecting safety practices. 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.[52] New Zealand and Australia impose a duty on employers to consult with employees on 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.[53] European works councils—which have been mandatory since 1994 for most multinational companies employing at least one thousand people—also give workers at least some voice over OSH issues.[54] By contrast, only a handful of U.S. states require the formation of safety and health committees, and other forms of worker participation are almost entirely absent in non-unionized settings.[55]

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49. *See Trade Union Density*, ORG. FOR ECON. CO-OPERATION & DEV., https://stats.oecd.org (follow "Labour" theme; then expand "Trade Unions and Collective Bargaining" selection; then follow "Trade union membership and trade union density" hyperlink) (last updated Oct. 31, 2017).

50. *See id.*

51. *See Trade Unions*, EUR. TRADE UNION INST., http://www.worker-participation.eu/National-Industrial-Relations/Countries/France/Trade-Unions (last visited Nov. 8, 2017).

52. *See Health and Safety Committees and Representatives*, GOV'T CAN., https://www.canada.ca/en/employment-social-development/services/health-safety/committess.html (last modified June 19, 2014).

53. WORKPLACE RELATIONS MINISTERS' COUNCIL, COMPARISON OF OCCUPATIONAL HEALTH AND SAFETY ARRANGEMENTS IN AUSTRALIA AND NEW ZEALAND 13 (5th ed. 2008), https://www.safeworkaustralia.gov.au/system/files/documents/1702/comparisonofohs_aus_nz_5thed.pdf.

54. *See European Works Councils (EWCs)*, EUR. TRADE UNION CONFEDERATION (May 2008), https://www.etuc.org/european-works-councils-ewcs.

55. *See Health and Safety Committees*, CTR. FOR PROGRESSIVE REFORM, http://www.progressivereform.org/WorkerHealthandSafetyComms.cfm (last visited Nov.

The only regard in which U.S. workers appear better equipped than their Canadian, Australasian, and European counterparts to monitor safety outcomes is their access to site-level data on occupational risk. Although in Canada,[56] Australasia,[57] and most of the EU,[58] aggregated data on industry-level injury rates are collected by government agencies and made publicly available, these countries rely solely on workers' compensation claims to track injury rates.[59] In contrast, publicly available data from the United States encompasses information from both workers' compensation claims *and* separate surveys conducted by the Bureau of Labor Statistics.[60] The availability of establishment-level injury data for the mining sector[61] and other high-hazard industries[62] also appears to distinguish the United States from most other industrialized nations.[63]

8, 2017) (depicting that thirteen states have a mandatory requirement and ten states impose a voluntary or public-sector only requirement).

56. *See 2015 Injury Statistics Across Canada*, ASS'N WORKERS' COMPENSATION BOARDS CAN., http://awcbc.org/?page_id=14 (last visited Nov. 8, 2017).

57. *See Statistics*, SAFE WORK AUSTL., https://www.safeworkaustralia.gov.au/statistics-and-research/statistics/statistics (last modified June 2, 2017); *Statistics*, WORK SAFE N.Z., http://www.business.govt.nz/worksafe/research/health-and-safety-data (last visited Nov. 8, 2017).

58. *See* J.R. BIOSCA DE SAGASTUY & M. SKALIOTIS, EUROPEAN STATISTICS ON ACCIDENTS AT WORK (ESAW): METHODOLOGY 12 (2001), https://www.osh.org.il/UpLoadFiles/00_eustat_methodology_accident_reporting.pdf.

59. 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 supra* notes 56–57.

60. *See generally Industry Injury and Illness Data*, BUREAU LAB. STAT., http://www.bls.gov/iif/oshsum.htm#94Summary_News_Releas (last visited Nov. 8, 2017).

61. *See Search MSHA Data Sets*, U.S. DEP'T LAB., http://arlweb.msha.gov/OpenGovernmentData/OGIMSHA.asp (last visited Nov. 8, 2017).

62. 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 Nov. 8, 2017). OSHA's new Final Rule, "Improve Tracking of Workplace Injuries and Illnesses," which took effect on January 1, 2017, requires all establishments in high-hazard industries with more than twenty employees and all establishments with more than two hundred-fifty 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 Nov. 8, 2017).

63. For example, in New Zealand, workers' compensation data is only made available in the aggregated form, and not at the establishment level. *See Statistics on Our Claims*, ACCIDENT COMPENSATION CORP., http://www.acc.co.nz/about-acc/statistics/index.htm (last visited Nov. 8, 2017). The same is true for Australia. *See Statistics*, SAFE WORK AUSTL.,

It is an open question, however, how much benefit this formal information advantage confers on U.S. workers. Their singularly weak participation in collective bodies and institutions that serve a partly educational function—such as labor unions, works councils, and safety and health committees—may limit their access to well-informed individuals with first-hand knowledge of site-level injury records and safety practices. If most U.S. workers obtain OSH-related information through informal channels or by word of mouth, instead of by extracting this information from administrative datasets available for download on government websites, they might be at a greater informational disadvantage than their counterparts abroad, notwithstanding their technical access to more granular occupational risk measures.

Broadly speaking, then, our examination of the first pillar suggests that although U.S. workers have access to more—and more granular—public data on OSH-related outcomes, their low union membership and non-participation in site-level OSH oversight and governance place them at a significant disadvantage. Combined, these labor market factors may leave them less well equipped to command risk-wage premiums, share information, and affect day-to-day safety practices than their counterparts in Canada, Australasia, and Europe.[64]

B. Comparison of Inspectorate Pillar

The second pillar of the OSH regime in the United States—the activities of federal, state, and local inspectorates—is very difficult to assess from a comparative legal standpoint because of a paucity of detailed English-language data on how OSH inspectorates function abroad. It is virtually impossible to compare the frequency[65] and

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supra note 57. 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 the Database*, ALTA. LABOUR, https://work.alberta.ca/occupational-health-safety/employer-records-how-to-use-database.html (last modified Sept. 23, 2016).

64. This is especially true for workers in the private sector. *See* discussion *infra* Section IV.C, *Comparison of Workers' Compensation Pillar*.

65. The International Labour Organization ("ILO") provides high-level comparisons for twenty-two countries, including comparisons of the number of "inspectors" and "inspection actions." *Performance of Labour Inspection Systems, Selected Countries*, INT'L LABOUR ORG. (July 29, 2011), http://www.ilo.org/wcmsp5/groups/public/@ed_dialogue/@lab_admin/documents/resourcelist/wcms_160321.pdf. 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 Nov. 8, 2017). In practice, however, such comparisons would be of dubious

stringency[66] of OSH inspections in the United States (primarily carried out by the Occupational Safety and Health Administration ("OSHA"))[67] to those in comparator countries in a statistically rigorous fashion.

To be sure, U.S. critics often characterize OSHA as under-resourced[68] and the empirical evidence on its efficacy is inconclusive.[69] For example, some empirical scholarship suggests that OSHA inspections had little impact on the behavior of manufacturing firms in the years just before the turn of the millennium.[70] Moreover, qualitative and quantitative literature drawn from several different countries suggests that the presence of a union increases both the rigor of inspections and average levels of regulatory compliance.[71] This factor could also work to OSHA's disadvantage given the low rates of unionization in the U.S. private sector. Yet, given the absence of a sizable evidence base on the general and specific deterrent impacts of OSH inspectorates outside of the United States, let alone evidence comparing average rates of compliance across jurisdictions, rigorous empirical international comparisons cannot be drawn.

Despite these significant data limitations, a few qualitative and preliminary observations can be made. First, regulatory standards in the United States appear to compare favorably to those in Canada. According to one comparative scholar, "U.S. federal safety and health standards are somewhat higher than the standards in the majority of

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validity for three reasons. 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 consistently across countries. Third, the data are only available for a few countries.

66. 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.

67. In some states that have adopted "state plans," inspections are actually carried out by state rather than federal officials. *State Plans: Office of State Programs*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/dcsp/osp (last visited Nov. 8, 2017).

68. David Weil & Amanda Pyles, *United States: Why Complain? Complaints, Compliance, and the Problem of Enforcement in the U.S. Workplace*, 27 COMP. LAB. L. & POL'Y J. 59, 59–60, 62–63 (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).

69. *See* Burton, *supra* note 27, at 868.

70. Wayne B. Gray & John M. Mendeloff, *The Declining Effects of OSHA Inspections on Manufacturing Injuries, 1979–1998*, 58 INDUS. & LAB. REL. REV. 571, 571 (2005) (finding no evidence for a specific deterrence effect of inspections on lost workday injuries in manufacturing firms inspected from 1992–98).

71. Morantz, *supra* note 24.

the Canadian provinces."[72] Compared to Canada, the OSH system in the United States reportedly "places a heavy emphasis on governmental monitoring and enforcement through monetary penalties."[73] Second, OSHA makes granular data on every inspection readily available at the establishment level,[74] potentially mitigating informational asymmetries and augmenting the general deterrent impact of inspections.[75] Comparable information does not appear to be publicly available in most comparator countries.[76] Finally, alongside its traditional enforcement activities, OSHA undertakes a wide variety of initiatives and campaigns—known as local, national, and special "emphasis programs"—to promote targeted prevention efforts.[77] It does not appear that inspectorates in other comparator countries carry out a comparably diverse array of prevention activities.[78]

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72. Richard N. Block & Karen Roberts, *A Comparison of Labour Standards in the United States and Canada*, 55 INDUS. REL. 273, 293 (2000).

73. *Id.* at 294.

74. *Establishment Search*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/pls/imis/establishment.html (last visited Nov. 8, 2017).

75. *See* Johnson, *supra* note 21, at 16–18 (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).

76. 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 each establishment. *See Arbetsmiljöcertifierade Företag* [*Work Environment Certified*], ARBETSMILJÖ VERKET [WORK ENV'T AUTHORITY], https://www.av.se/arbetsmiljoarbete-och-inspektioner/arbetsmiljocertifierade-foretag (last visited Nov. 8, 2017); *Arbetsmiljödomar* [*Work Environment Rulings*], ARBETSMILJÖ VERKET [WORK ENV'T AUTHORITY], https://www.av.se/arbetsmiljoarbete-och-inspektioner/boter-straff-och-sanktionsavgifter/arbetsmiljodomar (last visited Nov. 8, 2017). 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 LABOUR INSPECTION AUTHORITY], http://engelsk.arbejdstilsynet.dk/en/inspection/smiley-26-6-07 (last visited Nov. 8, 2017). 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, Alta. Occupational Health & Safety (Aug. 18, 2016).

77. *See Local Emphasis Programs*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/dep/leps/leps.html (last visited Nov. 8, 2017); *OSHA's Active National & Special Emphasis Program Index*, OCCUPATIONAL SAFETY & HEALTH ADMIN., https://www.osha.gov/dep/neps/nep-programs.html (last visited Nov. 8, 2017).

78. For a detailed description of OSH activities in Europe, see EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 44. The prevention activities described in detailed overview, including the case studies, were usually undertaken by insurers, state governments, or stakeholders other than inspection agencies.

Perhaps ironically in light of the critiques leveled at OSHA,[79] then, there is no strong evidence to suggest that the second pillar of the OSH system in the United States is less robust, extensive, or transparent than that of most comparator countries. Although the preeminent OSH inspectorate in the United States is widely perceived as ineffectual—and there is some evidence to justify this belief[80]—there is no compelling reason to believe OSHA is unique in this regard. Also, the rigor and scope of OSHA's activities seem to compare favorably to those of some other OSH inspectorates. Given the difficulty of obtaining granular information on inspectorates abroad, however, these conclusions are tentative and should be regarded with caution.

C. Comparison of Workers' Compensation Pillar

It should be noted at the outset that in the United States, disparities in workers' compensation benefits across states pale in comparison to the benefit disparities between public and private sector workers. The Federal Employees' Compensation Act ("FECA") program, which covers about two percent of the non-farm U.S. workforce,[81] provides federal employees with full salary (with no waiting period) for the first forty-five days after an injury.[82] 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.[83] Although FECA has been described as "provid[ing] social insurance that most European countries would recognize as equal to their own,"[84] it has also been criticized for failing to emphasize accident

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79. *See, e.g.*, Stephen Labaton, *OSHA Leaves Worker Safety Largely in Hands of Industry*, N.Y. TIMES, Apr. 25, 2007, at A1.

80. For a review of the empirical literature with mixed results regarding the efficacy of OSHA, see Burton, *supra* note 27, at 864 (and sources cited therein); *see also* Weil & Pyles, *supra* note 68, at 62.

81. Federal government employees (excluding uniformed military personnel) totaled 2,726,000 in 2014, when total employment was approximately 140,000,000. *Employment, Hours, and Earnings from the Current Employment Statistics Survey (National)*, U.S. BUREAU LAB. STAT., http://data.bls.gov/pdq/SurveyOutputServlet?request_action=wh&graph_name=CE_cesbref1 (last visited Nov. 8, 2017).

82. *Q&A Concerning Benefits of the Federal Employees' Compensation Act*, U.S. DEP'T LAB., https://www.dol.gov/owcp/dfec/regs/compliance/feca550q.htm (reporting that "[continuation of pay] is continuation of an employee's regular salary for up to 45 calendar days of wage loss due to disability and/or medical treatment following a traumatic injury") (last visited Nov. 8, 2017).

83. Joseph LaDou, *Federal Employees' Compensation Act*, 15 INT'L J. OCCUPATIONAL & ENVTL. HEALTH 180, 184 (2009) [hereinafter LaDou, *FECA*].

84. LaDou, *European Influence*, *supra* note 47, at 2.

prevention or return-to-work efforts,[85] making it more remunerative for employees to remain on permanent disability than to accept retirement benefits,[86] and turning a blind eye to fraud.[87] The remainder of this Part, however, confines attention to the ninety-eight percent of U.S. workers who are covered by state workers' compensation systems, comparing the insurance benefits they receive to those available to workers in Canada, Australasia, and Europe.

1. 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 history.[88] Although experience rating is the norm in North America and Australasia,[89] a number of European workers' compensation systems[90]—such as those in the 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 merits of experience rating. While proponents tout the efficiency-enhancing properties of experience rating, which in theory induce firms to internalize the costs of occupational hazards,[91] skeptics have expressed

85. James R. Chelius, *Role of Workers' Compensation in Developing Safer Workplaces*, 114 MONTHLY LAB. REV., Sept. 1991, at 22, 23–24.

86. LaDou, *FECA*, *supra* note 83, at 192.

87. *Id.* at 193.

88. Because accidents are relatively rare events, historical rates are less reliable proxies for underlying safety in small companies, and jurisdictions that utilize experience rating generally confine its use to large companies that do not self-insure.

89. Mark Harcourt et al., *The Impact of Workers' Compensation Experience-Rating on Discriminatory Hiring Practices*, 41 J. ECON. ISSUES 681, 681 (2007).

90. EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 44, at 92–95.

91. *See, e.g.*, NAT'L COUNCIL ON COMP. INS., ABCS OF EXPERIENCE RATING 2 (2016), 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 efforts and more efficient handling of cases. *See* SOFIA BERGSTRÖM & ALF ECKERHALL, EN NY ARBETSOLYCKSFALLSFÖRSÄKRING [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.

the concern that experience rating incentivizes companies to underreport injuries, and that its most common forms (which rely on lagged data) do not reward firms quickly enough for innovative prevention measures.[92] The fact that a number of comparator countries do not experience rate demonstrates that the latter, more critical perspective holds some sway internationally.

2. Medical Costs

Because medical care costs constitute a markedly smaller share of total workers' compensation costs in comparator countries than they do in the United States,[93] they exert a more attenuated impact on firms' insurance premiums,[94] and firms in comparator countries play little, if

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92. *See* EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 44, at 29, 202; Alan Clayton, *The Prevention of Occupational Injuries and Illness: The Role of Economic Incentives* 14, 20 (Nat'l Research Ctr. for Occupational Health and Safety Regulation, Working Paper No. 5, 2002), https://openresearch-repository.anu.edu.au/bitstream/1885/41128/3/working_paper_5.pdf (arguing that experience rating can lead to claim suppression); *Arbetsskadeförsäkring* [*Work Injury Insurance*], LANDSORGANISATIONEN I SVERIGE [NAT'L ORG. IN SWED.] (Apr. 11, 2016), www.lo.se/start/politiska_sakfragor/arbetsskadeforsakring ("There is no evidence to support the claim that experience rating would lead to a smaller number of injuries. 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.").

93. *See* HEADS OF WORKERS COMP. AUTHS., NATIONAL COMPENDIUM OF MEDICAL COSTS IN AUSTRALIAN WORKERS COMPENSATION FOR THE FISCAL YEARS 1996–97, 1997–98, AND 1998–99, at 13 tbl.1.0 (2000), http://docplayer.net/1928502-National-compendium-of-medical-costs-in-australian-workers-compensation.html (reporting, for each Australian territory, the average percent of all claim costs that can be attributed to medical expenses for either 1997–98 or 1998–99; the values range from 9% in Victoria to 19.9% in Queensland); NAT'L COUNCIL ON COMP. INS., STATE OF THE LINE GUIDE 44 (2016), https://www.ncci.com/Articles/Documents/II_AIS-2016-SOL-Guide.pdf (noting that medical costs, which comprised forty-three percent of workers' compensation costs in 1981, now constitute fifty-eight percent of workers' compensation costs); 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 tbl.1 (1998) (reporting that in 1995, the average medical cost per claim in New Zealand was 12.15%); Roman Dolinschi, *Workers' Compensation Benefits Paid for the Year 2009*, INST. FOR WORK & HEALTH, https://www.iwh.on.ca/system/files/documents/workers_comp_benefits_2009_factsheet.pdf (reporting that in Canada, medical costs comprised about twenty-four percent of all compensation benefits paid in 2009).

94. For example, in New Zealand, the magnitude of medical costs per claim does 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 How Your Claims History Affects Your Levies*, ACC,

any, role in medical cost containment.[95] The lessened importance of medical costs outside of the United States arises from the fact that all comparator countries offer universal, publicly funded health insurance, which covers occupational and non-occupational impairments alike, and overall health care expenditures are much higher in the United States than in other industrialized nations.[96] As a consequence, the United States is the only country examined in which medical care is a major cost driver in the workers' compensation system.

3. Competitive Insurance Markets

Only four U.S. states—North Dakota, Ohio, Washington, and Wyoming—operate monopolistic state funds.[97] In the remaining U.S. states, insurance can be purchased from private carriers, although the extent to which private carriers can compete on pricing depends on how extensively, if at all, the state workers' compensation agency regulates insurance premiums.[98] By contrast, workers' compensation insurance

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https://www.acc.co.nz/for-business/how-your-claims-history-affects-your-levies/ (last updated Nov. 3, 2017). 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 Serv. Representative, WorkSafe New S. Wales (Aug. 23, 2016); Telephone Interview with Jessica Zhong, Quantitative Research Analyst, Saskatchewan Workers' Comp. Board (Aug. 24, 2016).

95. 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 $692 in medical costs (as of 2017; this value is set annually). *See Claims Manual: 2.4.1 Employer's Liability*, WORKSAFE VICT. (2005), http://www1.worksafe.vic.gov.au/vwa/claimsmanual/Content/4EmployerObligations/2%204%201%20Employers%20liability.htm.

96. ORG. FOR ECON. CO-OPERATION & DEV., HEALTH AT A GLANCE 2015: OECD INDICATORS 166–67 (2015), http://www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-2015_health_glance-2015-en (follow "Click to access: PDF").

97. *See Monopolistic State Funds*, INT'L RISK MGMT. INST., https://www.irmi.com/online/insurance-glossary/terms/m/monopolistic-state-funds.aspx (last visited Nov. 8, 2017).

98. For an explanation and empirical comparison of the three prevalent types of (non-monopolistic) insurance arrangements (pure administered pricing, partial deregulation, and comprehensive deregulation), see TERRY THOMASON ET AL., WORKERS' COMPENSATION: BENEFITS, COSTS, AND SAFETY UNDER ALTERNATIVE INSURANCE ARRANGEMENTS 38–49 (2001).

markets in Canada,[99] many states in Australia,[100] New Zealand,[101] and the vast majority of EU countries[102] are monopolistic, meaning that all employers purchase insurance from a single, (quasi-) public entity.

Another noteworthy disparity 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.[103] A study of European OSH practices provides numerous examples of comprehensive insurance-based incentive schemes and prevention programs that go beyond experience rating.[104] At least nine EU 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.[105] Although some U.S. states permit insurers to adjust premiums "based on the underwriter's appraisal of employer-specific factors, such as safety and management practices that are not otherwise reflected in the employer's experience," a practice known as schedule rating,[106] extensive insurance-led incentive programs that subsidize long-term, proactive investments in injury prevention are uncommon in the United States.

4. Compensability of Occupational Diseases

Coverage of occupational diseases is generally more extensive in comparator countries than in the United States. For example,

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99. INST. FOR WORK & HEALTH, ISSUE BRIEFING: WORKERS' COMPENSATION IN CALIFORNIA AND CANADA 4 (2010), https://www.iwh.on.ca/system/files/documents/iwh_briefing_workers_comp_cal_can_2010.pdf.

100. NAT'L COMPETITION COUNCIL, WORKERS' COMPENSATION INSURANCE 2 (2000), http://ncp.ncc.gov.au/docs/CIComWc-001.pdf.

101. *See Our History: 2000 – ACC is restored as sole provider*, ACC, https://www.acc.co.nz/about-us/who-we-are/our-history/#2000--acc-is-restored-as-sole-provider (last updated Oct. 12, 2017).

102. EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 44, at 54–55.

103. *Id.* at 22.

104. *Id.* at 35, 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, 329–30 (2010).

105. EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 44, at 92–95.

106. *See* NAT'L COUNCIL ON COMP. INS., WORKERS COMPENSATION PREMIUM (2014) (on file with *Rutgers University Law Review*).

Canada,[107] Australia,[108] and most European countries[109] maintain a list of "scheduled" occupational diseases that are presumptively eligible for insurance benefits and do not require claimants to establish an individualized causal link between the disease and occupational exposure. In part because of wide differences in the number of scheduled diseases, there is enormous variation across the EU in the relative frequency of occupational disease claims.[110] In the United States, on the other hand, not all states maintain a list of scheduled diseases, and those that do often impose restrictions on eligibility (such as short statutes of limitations) that bar many ill workers from recovery.[111] These characteristics of U.S. law may help account for the low proportion of occupational diseases in the United States that result in workers' compensation claims.[112]

5. Physicians as Gatekeepers

For both workers' compensation and Social Security Disability Insurance ("SSDI") in the United States, a doctor must deem an injury or illness to be work-related before any benefits are provided. Although in some contexts, a worker's primary physician may provide this information,[113] in adversarial contexts, employers (or insurance companies) may hire independent medical examiners to render a second

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107. *See* Katherine Lippel, *Preserving Workers' Dignity in Workers' Compensation Systems: An International Perspective*, 55 AM. J. INDUS. MED. 519, 525 (2012).

108. TIM DRISCOLL, SAFE WORK AUSTL., DEEMED DISEASES IN AUSTRALIA 10 (2015), https://www.safeworkaustralia.gov.au/system/files/documents/1702/deemed-diseases.pdf.

109. LaDou, *European Influence*, *supra* note 47, at 3; Parsons, *supra* note 10, at 368.

110. EUROGIP, COSTS AND FUNDING OF OCCUPATIONAL DISEASES IN EUROPE 6 (2004), http://www.eurogip.fr/images/publications/Eurogip_cout_financement_2004_08E.pdf.

111. *See* John F. Burton, Jr., *Is the Work-Related Test Desirable for All Diseases that Disable Workers?*, *in* STEVE ADLER: ESSAYS IN HONOR OF JUSTICE (RETIRED) STEPHEN ADLER, PRESIDENT OF THE NATIONAL LABOR COURT IN 1997–2010, at 687, 690–91 (Itzhak Eliasof et al. eds., 2016) (describing different states' reliance on lists of compensable diseases, including various statutory restrictions); Leigh & Robbins, *supra* note 2, at 716–17 (discussing cross-state variation in which states are deemed compensable, including inconsistencies in how quickly the disease must manifest).

112. *See generally* Jeffrey E. Biddle et al., *What Percentage of Workers with Work-Related Illnesses Receive Workers' Compensation Benefits?*, 40 J. OCCUPATIONAL & ENVTL. MED. 325, 325 (1998).

113. 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).

opinion.[114] Several studies indicate that many injured workers experience the medical examination process, especially in contexts that involve independent medical review, as unnecessarily adversarial, stigmatizing, and demeaning.[115]

Physicians also sometimes function as "gatekeepers" in comparator countries. For example, German doctors are selected by industry-specific agencies[116] to assess each injured worker who applies for benefits.[117] Doctors employed by Spain's National Institute of Social Security routinely perform medical assessments which are used by benefit administrators to determine benefit eligibility.[118] In Finland, which has a private competitive insurance market, a doctor's opinion is required for payment of benefits, and insurance companies can demand that the injured worker be examined by another physician of their selection.[119] A doctor's opinion is also required for the initial approval of a claim in Ireland, and weekly doctor's certificates are required for ongoing benefits.[120]

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114. 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 & ENVTL. HEALTH 1, 1–2 (2004).

115. *See* Barbara Beardwood et al., *Victims Twice Over: Perceptions and Experiences of Injured Workers*, 15 QUALITATIVE HEALTH RES. 30, 30 (2005); Elizabeth Kilgour et al., *Procedural Justice and the Use of Independent Medical Evaluations in Workers' Compensation*, 8 PSYCHOL. INJ. & L. 153, 154 (2015); Lee Strunin & Leslie I. Boden, *The Workers' Compensation System: Worker Friend or Foe?*, 45 AM. J. INDUS. MED. 338, 338 (2004) ("Many injured workers described their overall experience as demeaning and dehumanizing").

116. PERRIN THORAU & ASSOCS., COMPARATIVE REVIEW OF WORKERS' COMPENSATION SYSTEMS IN SELECT JURISDICTIONS: GERMANY 7 (1999), http://www.qp.gov.bc.ca/rcwc/research/perrin-thorau-germany.pdf.

117. Moreover, the physicians must have special training as efforts are made to direct patients to "the specialist best experienced in certain types of [occupational] injuries." *Id.*

118. ORG. FOR ECON. CO-OPERATION & DEV., SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS—A SYNTHESIS OF FINDINGS ACROSS OECD COUNTRIES 82 (2010) [hereinafter OECD, FINDINGS ACROSS OECD COUNTRIES], http://www.keepeek.com/Digital-Asset-Management/oecd/social-issues-migration-health/sickness-disability-and-work-breaking-the-barriers_9789264088856-en.

119. ARBETSSKADEKOMMISSIONEN [EMP'T INJURY COMM'N], ARBETSSKADEFÖRSÄKRINGEN I FINLAND [WORK INJURY INSURANCE IN FINLAND] 67–68 (2011), https://arbetsskadekommissionen.files.wordpress.com/2013/09/arbetsskadefc3b6rsc3a4kringen-i-finland.pdf.

120. *See* 3 ORG. FOR ECON. CO-OPERATION & DEV., SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS—DENMARK, FINLAND, IRELAND AND THE NETHERLANDS 101 tbl.3.1 (2008), http://www.keepeek.com/Digital-Asset-

Yet in some comparator 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.[121] In New Zealand, a doctor need only submit a form attesting to the disability—without specifying whether it is work-related.[122] A few Australian states, such as Victoria and Queensland, only use doctors as gatekeepers if facts are in dispute.[123] Although a doctor's opinion is technically required to approve a claim in Sweden, the injured worker can select the provider that renders the opinion (and typically the provider chosen is the regional general practitioner).[124]

More broadly, throughout much of Europe and Canada, occupational physicians' primary role is not making eligibility determinations, but providing ongoing risk assessment and health surveillance.[125] For example, 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).[126] Some countries—such as France, Belgium, and Germany—go even further in also employing physicians to perform routine examinations of employees.[127] In the Netherlands, company doctors (who are occupational medicine specialists) are heavily

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Management/oecd/social-issues-migration-health/sickness-disability-and-work-breaking-the-barriers-vol-3_9789264049826-en.

121. Lippel, *supra* note 107, at 529.

122. ACCIDENT COMP. CORP., GETTING HELP AFTER AN INJURY 2–3 (2015), https://www.acc.co.nz/assets/im-injured/acc2399-injury-help.pdf.

123. *Workers: The Claims Process*, WORKSAFE VICT., http://www.worksafe.vic.gov.au/pages/injury-and-claims/workers-the-claims-process/if-you-have-sustained-a-work-related-injury-or-illness (last visited Nov. 8, 2017) (Victoria, Australia); *Medical Assessment Tribunals*, WORKCOVER QUEENSL., https://www.worksafe.qld.gov.au/rehab-and-claims/medical-assessment-tribunals (last updated Sept. 29, 2017) (Queensland, Australia).

124. *See* FÖRSÄKRINGSKASSAN [STATE INSURANCE AGENCY], Livränta–ersättning för förlorad arbetsinkomst vid arbetsskada [Annuity – compensation for lost work income in case of occupational injury], https://www.forsakringskassan.se/privatpers/sjuk/om-du-har-skadat-dig-i-arbetet/livranta-ersattning-for-forlorad-arbetsinkomst-vid-arbetsskada.

125. *See* LaDou, *European Influence*, *supra* note 47, at 7 (describing the role of occupational injury physicians in many European countries as risk assessors/inspectors and health surveillance); Anema et al., *Can Cross Country Differences in Return-to-Work After Chronic Occupational Back Pain Be Explained?*, *supra* note 37, at 425 (describing the role of physicians in post-work injury reintegration in the Netherlands).

126. LaDou, *European Influence*, *supra* note 47, at 7.

127. *Id.*

involved in prevention activities and return-to-work programs, monitoring OSH practices and helping to design reintegration plans for injured employees.[128]

6. Adequacy of Benefits

The replacement rate for workers' compensation in the United States (about seventy percent[129]) is lower than that in many other comparator countries (seventy-five to ninety percent in Canada,[130] eighty to one hundred percent in Australia,[131] eighty percent in New Zealand,[132] eighty percent in Germany and Switzerland, ninety percent in Belgium, and one hundred percent in the UK, Finland, Luxembourg, and Italy[133]), though the fact that benefits are excluded from taxable income in the United States[134] (unlike in some comparator countries[135]) suggests that these disparities may be smaller on an after-tax basis. Importantly, however, all U.S. states impose a "waiting period" (ranging from three to seven days) before the receipt of wage replacement benefits,[136] whereas seven of ten Canadian provinces,[137]

128. *See* OECD, FINDINGS ACROSS OECD COUNTRIES, *supra* note 118, at 80–82, 130.

129. *See* INT'L ASS'N. OF INDUS. ACCIDENT BDS. & COMM'NS & THE WORKERS COMP. RESEARCH INST., WORKERS' COMPENSATION LAWS, 2ND EDITION 29–32 tbl.4 (2009) [hereinafter IAIABC & WCRI], https://www.wcrinet.org/reports/workers-compensation-laws-2nd-edition.

130. ASS'N OF WORKERS' COMP. BDS. OF CAN., 2015 KEY BENEFITS INFORMATION 1 (2015), http://awcbc.org/?page_id=75 (follow "Key Benefits Information").

131. SOC. SEC. ADMIN., SOCIAL SECURITY PROGRAMS THROUGHOUT THE WORLD: ASIA AND THE PACIFIC, 2016, at 42 (2016), https://www.ssa.gov/policy/docs/progdesc/ssptw/2016-2017/asia/ssptw16asia.pdf.

132. *Id.* at 179.

133. *See* EUROGIP, ACCIDENTS AT WORK AND OCCUPATIONAL DISEASES: FLAT RATE OR FULL REPARATION? 8 (2005), http://www.eurogip.fr/images/documents/131/Eurogip%20 21E.pdf (Germany, Switzerland, Belgium, Finland, Luxembourg); Galizzi et al., *supra* note 36, at 4 (Italy); Telephone Interview with Iain McLeod, Bus. Ins. Expert, Hiscox Ins. (Aug. 25, 2016) (UK).

134. *See* INTERNAL REVENUE SERV., CAT. NO. 15047D, TAXABLE AND NONTAXABLE INCOME 18 (2017), https://www.irs.gov/pub/irs-pdf/p525.pdf.

135. Benefits are taxable in the UK, Belgium, Denmark, Spain, Finland, Italy, Luxembourg, Switzerland, Sweden, and the Netherlands. However, benefits are not taxable in Austria, Germany, France, and Portugal. EUROGIP, *supra* note 133, at 34 app. 1.

136. *See* IAIABC & WCRI, *supra* note 129, at 76–78 tbl.13.

137. ASS'N OF WORKERS' COMP. BDS. OF CAN., WAITING PERIODS—SUMMARY 1–2 (2015), http://awcbc.org/?page_id=75 (follow "Waiting Periods").

Australia,[138] New Zealand,[139] and a majority of countries in the EU[140] impose none. Although 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[141]), wages lost during waiting periods may constitute a significant burden for U.S. workers who lose fewer than two weeks of work. Furthermore, the weekly maximums that all U.S. states impose on wage replacement levels—mostly equal to or below the state's average weekly wage[142]—are markedly lower than those in comparator nations, which typically cap benefits at a percentage well over one hundred percent of the jurisdictions' average wage (and as high as two hundred forty-five percent in Luxembourg).[143]

7. 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 a firm's incentives to invest in safety. Yet nearly all U.S. workers who are covered by workers' compensation statutes forfeit their right to bring tort claims against their employers.[144] Although immunity from tort liability is also common in

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138. SOC. SEC. ADMIN., *supra* note 131, at 42.

139. *Id.* at 179.

140. 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 133, at 7–8.

141. *See* IAIABC & WCRI, *supra* note 129, at 76–78 tbl.13.

142. *Id.* at 43–47 tbl.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 (33.33%), but most states range between 50% and 90%. *See id.*

143. *See* ASS'N OF WORKERS' COMP. BDS. OF CAN., 2015 KEY BENEFITS INFORMATION, http://awcbc.org/wp-content/uploads/2017/08/Key_Benefits_Information.pdf (describing the maximum wage replacement and the methods of adjustment for Canada's provinces and territories); EUROGIP, *supra* note 133, at 6 tbl.2 (reporting permanent disability replacement rates (ceiling divided by average gross annual wage) 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); Telephone Interview with Breann Eschenbruch, Customer Serv. Representative, Accident Comp. Corp. (Aug. 24, 2016) (revealing weekly benefits in New Zealand are capped at more than twice the weekly wage across all full-time jobs).

144. Exceptions in the United States are rare. 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

comparator countries,[145] it is far from universal. In the United Kingdom, Ireland, Spain, and the Netherlands, for example, injured employees can bring suit directly against their employers.[146] In Germany, France, and Switzerland, employees can only bring suit directly in rare circumstances, but workers' compensation insurers are free to bring tort claims against negligent employers.[147]

The availability of civil remedies to injured workers also depends, indirectly, on the nature of the employment relationship. The United States 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 no recourse but to bring a wrongful discharge claim under state law.[148] Although terminating a worker in retaliation for filing a workers' compensation claim is against the law in all fifty U.S. states,[149] and therefore would qualify as "wrongful" in most jurisdictions, the expense of litigation and the difficulty of gathering

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discussion of the opt-out phenomenon in Texas and other states, see discussion *infra* Section VII.A, *Examining Recent Deregulatory Experiments*. Second, interstate railroad employees are not covered by exclusive remedy, but are covered instead by the Federal Employers Liability Act, 45 U.S.C. § 51 (2012), and are free to sue employers in state or federal court. Third, a few states have passed narrow statutory exceptions to this rule. West Virginia and Ohio have allowed employees to sue their employer when their injury was the result of the employer's gross negligence or deliberate intent. Arthur J. Amchan, *"Callous Disregard" for Employee Safety: The Exclusivity of the Workers' Compensation Remedy Against Employers*, 34 LAB. L.J. 683, 687–88 (1983). 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. *Id.* at 691. In California, an injured employee can sue her employer for injury or death caused specifically by the lack of a safety guard on a power press. *Id.* at 692–93.

145. *See, e.g.*, 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), https://www.iwh.on.ca/system/files/documents/iwh_interjurisdictional_review_new_zealand_2010.pdf (New Zealand); 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).

146. Parsons, *supra* note 10, at 365–67.

147. *Id.* at 365 nn.15–17. In Germany, tort claims are limited to cases where employer intent can be demonstrated, while in France and Switzerland, gross negligence is typically required. *Id.* In Italy, workers can also bring suit against an employer, but only in cases in which an employer has violated a safety standard and committed a criminal offense. *Id.* at 367.

148. *See* David H. Autor et al., *The Costs of Wrongful-Discharge Laws*, 88 REV. ECON. & STAT. 211, 211 (2006).

149. 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.

enough evidence to establish causation often make anti-retaliation suits difficult for employees to win.[150] The receipt of workers' compensation benefits may be a pyrrhic victory for an injured worker who is fired in retaliation for filing a claim, yet cannot muster a strong enough civil suit to reverse her dismissal. In comparator countries, by contrast, employment laws afford workers a higher degree of job security and, in practice, make it far more difficult for employers to retaliate with impunity against workers' compensation claimants.[151]

D. Comparison of Social Insurance Pillar

International comparisons of the fourth pillar of the OSH regime—the availability of social insurance to those who cannot work because of disability—present the sharpest contrast of all. What distinguishes the United States from many comparator countries (particularly those in Western Europe) 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 the United States does,[152] and operate social insurance programs with more generous and comprehensive benefits.[153]

In the United States, the primary form of social insurance available to disabled employees (besides workers' compensation) is the SSDI program. Only workers with relatively recent and long-lasting work histories whose medical conditions are severe enough to preclude paid work for over a year are eligible for SSDI.[154] The program has been

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150. 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 his or her state).

151. *See* Boden & Galizzi, *supra* note 12, at 1230; Clyde W. Summers, *Employment at Will in the United States: The Divine Right of Employers*, 3 U. PA. J. LAB. & EMP. L. 65, 65–66 (2000).

152. LaDou, *European Influence*, *supra* note 47, at 2.

153. Lippel, *supra* note 107, at 520.

154. SOC. SEC. ADMIN., SOCIAL SECURITY DISABILITY BENEFITS 9–10 (2017), https://www.ssa.gov/pubs/EN-05-10029.pdf. While there exists a formal list of impairments that immediately qualify an injured/ill person for SSDI, the only conditions

criticized for leaving many recipients at or near the poverty line.[155] The only other federal program available to disabled U.S. workers, Supplement Security Income (SSI), is a means-tested program that is available only to those with minimal income and assets.[156] Although some firms offer short- and long-term private disability insurance, fifty-one percent of all U.S. workers, and seventy-six percent of those in the service sector, had neither form of coverage in 2014.[157]

The United States 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 twenty-eight weeks in the United Kingdom[158]—and in a few more countries, the government covers the cost of sick pay.[159] A majority of comparator countries combine employer and government contributions to cover wages for sick employees.[160] While a handful of states and cities in the United States have passed legislation mandating paid sick leave, the maximum duration specified by statute has never exceeded nine days, and for most states and cities, it is five days.[161] The Bureau of Labor Statistics

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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 Nov. 8, 2017).

155. MELISSA M. FAVREAULT & JONATHAN SCHWABISH, UNDERSTANDING SOCIAL SECURITY DISABILITY PROGRAMS: DIVERSITY IN BENEFICIARY EXPERIENCES AND NEEDS 8–9 (2016), http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000614-Understanding-Social-Security-Disability-Programs-Diversity-in-Beneficiary-Experiences-and-Needs.pdf.

156. *See* SOC. SEC. ADMIN., SUPPLEMENTAL SECURITY INCOME (SSI) 4–5 (2017), https://www.ssa.gov/pubs/EN-05-11000.pdf.

157. Kristen Monaco, *Disability Insurance Plans: Trends in Employee Access and Employer Costs*, 4 BEYOND THE NUMBERS, Feb. 2015, at 1, 3, http://www.bls.gov/opub/btn/volume-4/pdf/disability-insurance-plans.pdf.

158. Specifically, Australia, New Zealand, Denmark, the Netherlands, Switzerland, and the United Kingdom are required to cover wages for sick employees. *See* JODY HEYMANN ET AL., CONTAGION NATION: A COMPARISON OF PAID SICK DAY POLICIES IN 22 COUNTRIES 7 (2009), http://cepr.net/documents/publications/paid-sick-days-2009-05.pdf.

159. For example, the governments in Canada, France, Ireland, Italy, and Japan cover the cost of sick pay. *Id.* at 5.

160. 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 5–6.

161. *See* NAT'L P'SHIP FOR WOMEN & FAMILIES, PAID SICK DAYS—STATE, DISTRICT AND COUNTY STATUTES 1, 11 (2016), http://www.nationalpartnership.org/research-library/work-family/psd/paid-sick-days-statutes.pdf. California and New Jersey have passed such legislation, in addition to Washington D.C., Montgomery County, Maryland,

reported that in 2016, thirty-two percent of U.S. workers in private industry had no access to paid sick leave.[162]

Perhaps most striking of all is the absence of any system in the United States guaranteeing universal health coverage, even though such coverage is universally provided by comparator countries.[163] Although Medicare provides health care to many disabled U.S. workers who have not yet reached retirement age, it is only available after a twenty-four month waiting period, and interim benefits through Medicaid are only available to U.S. workers with limited resources.[164] Although the passage of the Affordable Care Act ("ACA") in 2010 was intended to close the health care gap between the United States and other industrialized nations, several years after its passage, tens of millions of U.S. workers remained uninsured and many low-income workers with insurance struggled to pay premiums and co-pays while meeting basic needs.[165] Moreover, as of this writing, President Trump has expressed a continued desire to "repeal and replace" the ACA,[166] despite several prior failed attempts by the Republican-controlled Congress to do so.[167]

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and seventeen cities (some of these laws have not yet taken effect as of the time of this writing). *Id.* Most jurisdictions distinguish between small and large employers in their legislation, with fewer requirements for smaller employers. *Id.* at 4–5, 12. Eight out of the seventeen cities and three of the seven states/districts/counties require only five days of paid sick leave for small employers. *Id.* Ten out of seventeen 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. *Id.*

162. Press Release, U.S. Dep't of Labor, Bureau of Labor Statistics, Employee Benefits in the United States—March 2016, at 15 tbl.6 (July 22, 2016), http://www.bls.gov/news.release/pdf/ebs2.pdf.

163. *Foreign Countries with Universal Health Care*, N.Y. ST. DEP'T HEALTH, http://www.health.ny.gov/regulations/hcra/univ_hlth_care.htm (last updated Apr. 2011).

164. Joseph LaDou, *Workers' Compensation in the United States: Cost Shifting and Inequities in a Dysfunctional System*, 20 NEW SOLUTIONS 291, 295 (2010) [hereinafter LaDou, *Cost Shifting and Inequities*].

165. THE KAISER COMM'N ON MEDICAID AND THE UNINSURED, KEY FACTS ABOUT THE UNINSURED POPULATION 1 (2016), http://files.kff.org/attachment/Fact-Sheet-Key-Facts-about-the-Uninsured-Population.

166. *Excerpts From The Times's Interview With Trump*, N.Y. TIMES (July 12, 2017), https://www.nytimes.com/2017/07/19/us/politics/trump-interview-transcript.html.

167. *See, e.g.*, Thomas Kaplan, *Health Care Overhaul Collapses as Two Republican Senators Defect*, N.Y. TIMES (Jul. 17, 2017), https://www.nytimes.com/2017/07/17/us/politics/health-care-overhaul-collapses-as-two-republican-senators-defect.html; Robert Pear et al., *In Major Defeat for Trump, Push to Repeal Health Law Fails*, N.Y. TIMES (Mar. 24, 2017), https://www.nytimes.com/2017/03/24/us/politics/health-care-affordable-care-act.html; Sabrina Siddiqui, *Repeal Now, Replace Later? GOP's Last-ditch Healthcare*

In short, an examination of the fourth OSH pillar suggests the social insurance benefits available in the United States to private-sector workers suffering from long-term disabilities are less robust and comprehensive than the benefits available to similarly-situated workers in most comparator countries. The relative meagerness of these sections of the U.S. social safety net makes workers' compensation particularly vital in meeting injured workers' basic needs.

V. HOW STRUCTURAL DIFFERENCES SHAPE THE INCENTIVES OF WORKERS' COMPENSATION STAKEHOLDERS

The comparisons drawn in Part IV, although cursory, highlight myriad ways in which the four pillars of the OSH regime in the United States differ—in degree and in kind—from those that exist in many other industrialized nations. The goal of this part is to explain why these differences matter. Building on the two prior parts, I revisit the incentives of four different OSH stakeholders—workers, employers, doctors and insurers—and point out how and why idiosyncratic features of the U.S. system affect each stakeholder's respective incentives and, in turn, the performance of the U.S. workers' compensation system as a whole.

A. Worker Incentives

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

First, relative to comparator countries, U.S. 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 more costly for U.S. 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.[168] As noted earlier, the only characteristic of the labor market pillar that cuts in the American worker's favor is the fact that, unlike in many comparator countries,

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Effort Thwarted, GUARDIAN (July 18, 2017, 11:30 EDT), https://www.theguardian.com/us-news/2017/jul/18/republicans-senate-healthcare-vote-repeal-obamacare.

168. *See* discussion *supra* Section III.A.

site-level data on injuries and illnesses is publicly available for some industries.[169] Yet the likelihood that the relatively unskilled and low-wage worker will locate and utilize this data before bargaining over wages seems slim at best. Meanwhile, the paucity of laws in the United States requiring employers to provide employees an institutionalized voice in OSH-related matters—such as laws mandating the formation of works councils,[170] safety and health committees, and safety and health representatives[171]—makes it very costly for incumbent workers to engage in ongoing monitoring and abatement of workplace hazards. Overall, then, the absence of robust legal and institutional mechanisms to correct market failure makes it very costly for U.S. workers to exert power over OSH-related matters, both before hiring and throughout their employment.

The attributes of the second pillar, comprising the OSH inspectorate, affect worker incentives in more complex ways. On one hand, OSHA's comparatively robust and diverse activities may compensate, at least in part, for the virtual absence of laws in the United States mandating direct worker participation.[172] On the other hand, reliance on OSHA may dampen workers' incentives to engage directly in OSH-related matters or to agitate for unionization. Moreover, scholarship finding that OSHA had little impact by the 1990s suggests that any such reliance, at least in recent years, was misplaced.[173] Recent empirical work also justifies the concern that non-unionized workers—those least capable of exploiting market power to further their OSH-related interests—benefit the least from OSHA's activities.[174]

Comparisons of the third and fourth pillars present the most dramatic contrasts of all, highlighting the unique vulnerability of U.S.

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169. *See supra* note 62.

170. *See European Works Councils (EWCs)*, *supra* note 54.

171. *See* WORKPLACE RELATIONS MINISTERS' COUNCIL, *supra* note 53, at 13; *Health and Safety Committees and Representatives*, *supra* note 52.

172. 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 United States with the paucity of publicly-available inspections data in comparator countries. *See supra* notes 74, 76.

173. *See* Gray & Mendeloff, *supra* note 70, at 571.

174. *See* 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, 700 (2011); David Weil, *Are Mandated Health and Safety Committees Substitutes for or Supplements to Labor Unions?*, 52 INDUS. & LAB. REL. REV. 339, 347 (1999); David Weil, *Enforcing OSHA, The Role of Labor Unions*, 30 INDUS. REL. 20, 25–28 (1991).

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. The fact that workers' compensation, unlike group health, does not require any out-of-pocket copayments should also, all things being equal, encourage workers to file claims. It could even motivate some workers to file claims who were not injured on the job. However, the absence of strong job protections in an employment-at-will setting is likely to offset this effect, not only deterring workers from filing claims but also potentially inducing claimants with disabling injuries to return to work before they have fully recuperated.[175] The often highly adversarial nature of the claims process and the psychic cost of repeated interactions with "gatekeeping" physicians may also discourage workers from filing claims.

If a U.S. worker does file a claim, a great deal hinges on whether her employer deems the claim to be compensable. If so, she should receive 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 is above the state average. *Ceteris paribus*, then, a successful U.S. claimant's incentive to return to work would seem stronger than those of workers in most comparator countries.[176] In fact, some scholars have voiced concern that U.S. workers may be incentivized to return to work too soon following an injury (i.e., before they are fully healed).[177] Boden and Galizzi suggest that credit and liquidity constraints limit their capacity to smooth consumption over time and meet their families' basis needs—adding force to this concern.[178]

If the employee's claim is denied, her economic situation is liable to deteriorate far more rapidly than 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

175. *See* Galizzi et al., *supra* note 36, at 3–4, 22.

176. *See, e.g.*, HUNT & KLEIN, *supra* note 24, at II-37–II-38 (demonstrating that return-to-work incentives are stronger in United States than in British Columbia).

177. *See* Boden & Galizzi, *supra* note 12, at 1225; Galizzi et al., *supra* note 36, at 7; Ellen MacEachen et al., *A Deliberation on "Hurt Versus Harm" Logic in Early-Return-to-Work Policy*, 5 POL'Y & PRAC. HEALTH & SAFETY, Nov. 2007, at 41, 41–62.

178. *See* Boden & Galizzi, *supra* note 12, at 1224.

support.[179] Although many U.S. workers have access to private health insurance, the sizable out-of-pocket expenses that most plans entail may constitute a significant economic hardship. Unless the employee is insured by a private long-term disability plan or can access family support, she may have few alternatives but to apply to SSDI (which imposes stringent eligibility requirements[180]), Medicare, or means-tested programs such as SSI or Medicaid.

In short, the U.S. OSH regime leaves injured workers in an exceptionally vulnerable position and may compromise their capacity to advance their long-term interests. Low rates of unionization leave workers poorly equipped to demand risk-wage premiums or exert influence over OSH-related practices. The lack of job security that characterizes employment-at-will may deter some workers from filing claims even if they will incur greater out-of-pocket costs by seeking care under group health care plans. U.S. 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. Yet, particularly for low-wage workers who are injured on the job, choices at critical decision points are probably best understood not as full optimization decisions, but rather as responses to short-term exigencies that could jeopardize their capacity to obtain medical treatment while meeting basic needs.

B. Employer Incentives

The United States is the only country with a two-track system, in which the work-relatedness of an impairment determines the cost of treating it. General health care expenditures are far higher in the United States than in other OECD countries,[181] and the workers' compensation sector surpasses even group health in average cost of care.[182] Because experience rating is almost universal, and because

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179. For discussion of other sources of income support in comparator countries that are unavailable in the United States (e.g., paid sick leave), see *supra* Section IV.D, *Comparison of Social Insurance Pillar*.

180. For discussion of eligibility requirements, see *supra* Section IV.D, *Comparison of Social Insurance Pillar*.

181. *Health Expenditure and Financing*, ORG. ECON. CO-OPERATION & DEV., http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT (last visited Nov. 8, 2017).

182. *See* Fields & Venezian, *supra* note 8, at 497; Roberts & Zonia, *supra* note 9, at 117; Laurence C. Baker & Alan B. Krueger, *Twenty-Four-Hour Coverage and Workers' Compensation Insurance*, 12 HEALTH AFF. 271, 271 (1993); David L. Durbin et al., *Workers' Compensation Medical Expenditures: Price vs. Quantity*, 63 J. RISK INS. 13, 13 (1996).

employers bear the cost of medical care as well as wage replacement, U.S. firms have much stronger incentives than their Canadian, European, and Australasian counterparts to use claim management techniques to reduce insurance premiums.

Recent trends suggest that U.S. firms are responding strongly to these economic 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 United States.[183] Although they are often defended as a legitimate means to reduce risk-bearing moral hazard, these programs have been repeatedly criticized by OSHA—although, to date, not categorically banned—on the grounds that such incentive programs "ha[ve] the negative effect of discouraging workers from reporting an injury or illness."[184] From an employer's perspective, deterring workers from sustaining injuries, and also from reporting them when they occur, is a particularly appealing way to reduce 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 at all, is also increasingly common. One study of U.S. 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)."[185]

The use of aggressive claim management practices to screen out costly claims and limit benefits has likewise escalated in recent decades.[186] 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

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183. *See* Jennifer Busick, *Does 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.

184. Memorandum from Thomas Galassi, Acting Deputy Assistant Secretary, Occupational Safety and Health Administration, to Reg'l Adm'rs, Revised VPP Policy Memorandum #5: Further Improvements to the Voluntary Protection Programs (VPP) (Aug. 18, 2017), https://www.osha.gov/dcsp/vpp/policy_memo5.html.

185. FRANÇOISE CARRÉ, (IN)DEPENDENT CONTRACTOR MISCLASSIFICATION 8 (2015), http://www.epi.org/files/pdf/87595.pdf.

186. Spieler & Burton, *supra* note 30, at 498.

employer efforts to deny claims and limit benefits.[187] One study found that the combined effect of benefit allowance stringency, compensability rules, and the relative frequency of permanent partial disability cases explained thirty percent of the decline in incurred benefits during the 1990s.[188]

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 United States. As of April of 2016, forty-three states had adopted such schedules.[189] In a parallel trend, many states have also passed laws allowing employers to control the pool of available providers.[190]

In short, a variety of statutory reforms and risk management practices that coalesced 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 U.S. employers to reduce workers' compensation costs, of which they bear a larger share than employers in comparator countries.

C. Physician Incentives

As discussed above, the fact that physicians often function as gatekeepers in the U.S. OSH system is not unique. However, the United States 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 administrative burden associated with seeking payment through the workers' compensation insurance is typically far more onerous than it is under group health.[191] If the physician resides

187. *Id.* at 498–503.

188. Guo & Burton, *supra* note 29, at 352.

189. FOMENKO & GRUBER, *supra* note 9, at 8.

190. *See Who Chooses the Provider Affects Workers' Compensation Costs and Outcomes*, PUB. POL'Y INST. CAL., Nov. 2005, at 1, 2 http://www.ppic.org/content/pubs/rb/RB_1105RVRB.pdf.

191. *See, e.g.*, THOMAS WICKIZER ET AL., 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, at 82 (2009), https://www.dir.ca.gov/dwc/MedicalTreatmentCA2008/2008_CA_WC_Access_Study_UW_report.pdf (reflecting that past providers' top three reasons stated for no longer treating

in one of the forty-three states that have adopted fee schedules,[192] then she cannot charge more than the maximum amount allowed for any medical service. These institutional constraints give treating physicians strong disincentives to classify injuries as work-related. One study, for example, found that when fee schedules are relatively low, doctors are less likely to classify hard-to-attribute injuries (i.e., those whose cause is not straightforward) as work-related.[193]

Independent medical examiners ("IMEs") have even stronger incentives to classify injuries as non-work-related, since they are typically repeat players paid by employers (or insurance companies) to challenge the compensability of claims. A study in which physicians and IMEs rendered diagnoses on the same twenty-three patients found that "[d]isagreement was unidirectional: the IMEs made fewer diagnoses, deemed fewer injuries work-related, made fewer treatment recommendations, and assessed lower levels of disability" than the treating physicians.[194]

Physicians who treat workers' compensation patients have strong incentives to offset lower scheduled fees by substituting more expensive services or increasing utilization, and recent work suggests they often do so.[195] Interestingly, however, one study found that a small group of cost-intensive physicians accounted for a disproportionately large fraction of costs in the U.S. workers' compensation system, suggesting that the degree to which medical providers respond to financial incentives is highly skewed.[196]

These incentives, however, differ sharply from the incentives of care providers in many comparator countries. Outside of the United States, physicians are typically hired not by employers but by state-run

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workers' compensation patients were (1) administrative burden/paperwork-reporting requirements; (2) administrative burden/paperwork-billing; and (3) administrative burden/paperwork-utilization review).

192. FOMENKO & GRUBER, *supra* note 9, at 8.

193. *Id.* at 13.

194. *See* Lax et al., *supra* note 114, at 1.

195. *See, e.g.*, William G. Johnson et al., *Why Does Workers' Compensation Pay More for Health Care?*, 9 BENEFITS Q., Fourth Quarter 1993, at 22, 30 (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 G. Johnson et al., *Why is the Treatment of Work-Related Injuries So Costly? New Evidence from California*, 33 INQUIRY 53, 62–64 (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).

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

insurers, or local or state governments, lessening their incentives to deem claims non-compensable.[197] This does not mean that incentivizing doctors to assist agencies in monitoring OSH outcomes 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 observers to suggest that they be provided with a financial reward for consistent reporting.[198] Nevertheless, incentivizing doctors to report occupational injuries and illnesses to a regulatory entity is a less daunting policy challenge than counteracting the powerful economic incentives that dissuade many U.S. doctors from classifying injuries and illnesses as work-related, or agreeing to treat workers' compensation patients.

D. Insurer Incentives

As discussed earlier, what distinguishes workers' compensation insurance markets in the United States from most others examined is that they are almost exclusively competitive, whereas most comparator

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197. *See* FÖRSÄKRINGSKASSAN [THE SWEDISH SOC. INS. AGENCY], SJUKPENNING OCH SAMORDNAD REHABILITERING [SICK FUNDS AND COORDINATED REHABILITATION] 308–09 (21st ed. 2014), https://www.forsakringskassan.se/wps/wcm/connect/d9c92dee-96e1-4193-be98-cf0dae99ad83/vagledning-2004-02.pdf?MOD=AJPERES. However, the case 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. RIKSREVISIONEN [SWEDISH NAT'L AUDIT OFFICE], BESLUT OM SJUKPENNING—HAR FÖRSÄKRINGSKASSAN TILLRÄCKLIGA UNDERLAG? [DOES FÖRSÄKRINGSKASSAN HAVE ENOUGH SUPPORTING MATERIALS?] 9 (2009), http://www.riksrevisionen.se/pagefiles/1483/rir_%202009_7.pdf. FMRs are employed by the insurer and are compensated more generously for work in occupational medicine than for general practice. There is an open question as to whether or not the FMRs are more stringent in assessing benefit eligibility than 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 seventy-eight percent of declined cases, but only thirty-six percent of accepted cases. *Id.* at 43. 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. *Id.* at 46.

198. ARBETSSKADEKOMMISSIONEN [COMM'N ON WORK INJS.], FÖRSLAG TILL EN REFORMERAD ARBETSSKADEFÖRSÄKRING—EN RAPPORT FRÅN ARBETSSKADEKOMMISSIONEN [PROPOSAL FOR A REFORMED WORK INJURY INSURANCE—A REPORT FROM THE COMMISSION ON WORK INJURIES] 11, 67 (2012), https://arbetsskadekommissionen.files.wordpress.com/2013/09/arbetsskadekommissionen_slutrapport.pdf.

countries require employers to purchase insurance from an exclusive public fund. Another characteristic of many European workers' compensation systems that distinguishes them from the United States is their commonplace reliance on insurance-related incentives, besides experience rating, to promote prevention efforts.

One European study suggests that there is a causal relationship between these two phenomena.[199] In competitive insurance markets, there is little 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 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."[200]

This characterization of "competitive" insurance markets does not fully capture the complexity and diversity of the U.S. workers' compensation system. In many U.S. states, private insurers must adhere strictly to the rates approved by the insurance commissioner, or at least seek approval from the commissioner before deviating from them.[201] Moreover, as noted earlier, some private insurance carriers in some states offer discounts for prevention activities through the mechanism of schedule rating.[202] Nevertheless, the relative scarcity of innovative insurance-related prevention programs in the United States could arise, at least in part, from the fact that private insurers in non-monopolistic markets (which exist in all but four states[203]) have relatively weak incentives to subsidize long-term prevention programs.

VI. MOUNTING PRESSURES ON THE U.S. OSH SYSTEM

The discussion so far has made clear that whether in kind or in degree, the economic incentives confronting workers' compensation stakeholders in the United States differ in many regards from those facing stakeholders in comparator countries. The combined effects of these unusual structural incentives on the U.S. economy, and on the welfare of U.S. workers, are profound. This part briefly describes four recent trends that are placing pressure on the U.S. workers'

199. Elsler & Eeckelaert, *supra* note 104, at 325.

200. *Id.* at 329.

201. *See* THOMASON ET AL., *supra* note 98, at 40.

202. *See* NAT'L COUNCIL ON COMP. INS., *supra* note 106.

203. See *infra* note 268.

compensation system and on the OSH regime as a whole. The first three of these trends—inadequacy of benefits, underreporting, and cost shifting—can be viewed as inevitable consequences of several pathologies discussed in prior parts. The fourth trend, the passage and seemingly imminent repeal of the Affordable Care Act, is also likely to have spillover effects on workers' compensation regimes. Any credible reform proposal must consider whether, and to what extent, each of these challenges can be addressed. I discuss each in turn.

A. Inadequacy of Benefits

As noted earlier, the social insurance benefits available to injured workers in the U.S. private sector are paltry by international standards, giving the workers' compensation an outsized role to play in helping injured workers obtain medical treatment while meeting basic needs.

A sizable body of empirical scholarship, employing a variety of methodological approaches, has measured the extent to which cash benefits in the United States compensate injured workers for their true economic losses.[204] Nearly all such studies report that when the time period examined is sufficiently lengthy to include 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 Permanent Partial Disability claims ranged from twenty-nine to forty-six

204. A first approach compares states' statutory wage replacement rates against each other or some benchmark such as the federal poverty line. 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.*, H. Allan Hunt, *Benefit Adequacy in State Workers' Compensation Programs*, 65 SOC. SECURITY BULL., no. 4, 2003–2004, at 24, 25–27 (reporting the different methods used to evaluate adequacy of wage replacement benefits in the United States). A third approach uses economic modeling and data on job risk premiums (i.e., compensating differentials) to determine if benefit levels are high enough from a standpoint of economic efficiency. *See, e.g.*, W. Kip 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, 1165–66 (2014); *see also* Leslie I. Boden et al., *The Adequacy of Worker' Compensation Cash Benefits*, *in* WORKPLACE INJURIES AND DISEASES, *supra* note 6, at 37, 37–68.

percent.[205] A more recent study, analyzing administrative data from New Mexico, found that workers' compensation cash benefits replaced only sixteen percent of earnings lost over a ten-year time frame.[206] Focusing on the wage replacement rates from an efficiency standpoint, one scholar concluded that benefit levels provided in the year examined (1976) were "suboptimal, provided that one abstracts from moral hazard considerations."[207]

Although nearly all studies on benefit adequacy examine the effect of injury-related work absences on wage income, a study by Galizzi and Zagorsky on wealth effects suggests that the economic impact of lost work spells on U.S. workers has been, if anything, understated by prior scholarship.[208] Their empirical estimates imply that controlling for unobserved heterogeneity, "injuries which lead to wage losses or to spells off work are associated with a wealth reduction of almost 20%"[209] and "food spending fell by more than two hundred dollars [per year] when a worker was injured sometime in the previous years."[210]

In short, empirical research on U.S. labor market outcomes suggests that private-sector employees whose work-related injuries or illnesses necessitate that they take time off from work experience sizable and long-lasting economic hardships despite the existence of workers' compensation and other forms of social insurance. Although experts have expressed concerns about the adequacy of benefits, at least since the 1970s,[211] the declines in recipiency[212] and benefit levels[213] that have taken place since the 1990s lend a growing urgency to such critiques.

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205. REVILLE ET AL., *supra* note 3, at 50 tbl.6-3.

206. Seabury et al., *supra* note 204, at 1165.

207. MICHAEL J. MOORE & W. KIP VISCUSI, COMPENSATION MECHANISMS FOR JOB RISKS: WAGES, WORKERS' COMPENSATION, AND PRODUCT LIABILITY 52 (1990).

208. Monica Galizzi & Jay L. Zagorsky, *How Do On-the-job Injuries and Illnesses Impact Wealth?*, 16 LAB. ECON. 26, 32 (2009).

209. *Id.*

210. *Id.* at 34.

211. JOHN F. BURTON, JR., THE REPORT OF THE NATIONAL COMMISSION ON STATE WORKMEN'S COMPENSATION LAWS 18 (1972), http://workerscompresources.com/wp-content/uploads/2012/11/Introduction-Summary.pdf.

212. *See* Spieler & Burton, *supra* note 30, at 502 (describing findings that restrictions in the availability of workers' compensation benefits reduced claims by 12–28% compared to what they would have been without legal restrictions).

213. NAT'L ACAD. OF SOC. INS., WORKERS' COMPENSATION: BENEFITS, COVERAGE, AND COSTS, 2013, at 3 fig.1 (2015), https://www.nasi.org/sites/default/files/research/NASI_Work_Comp_Year_2015.pdf.

Another noteworthy finding discussed in the prior part is that the United States is the only country examined in which private-sector employers bear the full cost of medical care—and in which medical care is extraordinarily expensive—giving firms uniquely powerful incentives to lower workers' compensation costs. Many popular cost-cutting trends described in Part V—such as behavior-based incentive programs,[214] misclassification of employees as independent contractors,[215] aggressive claim screening,[216] and statutory tightening of eligibility rules[217]—proliferated in the 1990s even though systemic costs continued to rise in the early part of the following decade.[218] Before the turn of the millennium, the net effect of these trends was to substantially lower the level of incurred cash benefits claimants were expected to receive.[219]

These trends coalesced in creating a situation in which, paradoxically, *both* employees and employers justifiably believed that the U.S. workers' compensation system was increasingly inimical to their economic interests. For example, 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, while the growing workforce simultaneously "translated into rising workers' compensation costs for employers."[220]

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214. *See* James Frederick & Nancy Lessin, *Blame the Worker: The Rise of Behavioral-Based Safety Programs*, 21 MULTINATIONAL MONITOR 10, 10 (2000); Spieler & Burton, *supra* note 30, at 497.

215. *See* ELAINE BERNARD & ROBERT HERRICK, CONSTRUCTION POL'Y RES. CTR., HARV. L. SCHOOL LAB. AND WORKLIFE PROGRAM, HARV. SCHOOL OF PUBLIC HEALTH, THE SOCIAL AND ECONOMIC COSTS OF EMPLOYEE MISCLASSIFICATION IN CONSTRUCTION 12 (2004), http://uc.umb.edu/editor_uploads/images/centers_institutes/center_social_policy/The%20Social%20and%20Economic%20Costs%20of%20Employee%20Misclassification%20in%20Construction%20-%20the%20Massachusetts%20Report.pdf; Spieler & Burton, *supra* note 30, at 495.

216. *See* Jeff Biddle, *Do High Claim-Denial Rates Discourage Claiming? Evidence from Workers Compensation*, 68 J. RISK & INS. 631, 635 (2001).

217. *See* Spieler & Burton, *supra* note 30, at 503.

218. NAT'L ACAD. OF SOC. INS., *supra* note 213, at 3 fig.1; Thomas Bodenheimer, *High and Rising Health Care Costs. Part 1: Seeking an Explanation*, 142 ANNALS INTERNAL MED. 847, 847 (2005).

219. Guo & Burton, *supra* note 29, at 340.

220. Press Release, Nat'l Acad. of Soc. Ins., Workers' Compensation Benefits for Injured Workers Continue to Decline While Employer Costs Rise (Aug. 12, 2015), https://www.nasi.org/press/releases/2015/08/press-release-workers%E2%80%99-compensation-benefits-injured-work; *see also* NAT'L ACAD. OF SOC. INS., *supra* note 213.

B. Under-reporting and Under-claiming

One of the most striking findings to emerge from Part V is that U.S. 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 to obtain treatment from providers available through group health or private disability insurance. Such factors likely deter many workers from filing claims despite the fact that all fifty U.S. states formally provide some form of anti-retaliation protection to workers' compensation claimants.[221] For employers, ensuring that most injuries are deemed non-compensable, or never reported in the first place, is a promising way to cut costs and increase profits. For a physician considering whether to provide care, declining to classify an injury or illness as work-related tends to increase compensation rates and lower the administrative burden associated with providing care. For a physician hired by an employer to conduct an independent medical exam, reaching a contrary conclusion would be an act of professional self-sabotage.[222]

Given these extraordinarily powerful incentives, it is not surprising that a growing body of empirical literature suggests that the underreporting of workplace injuries is widespread. Much of this scholarship has focused on the underreporting of injuries to federal and state regulatory bodies.[223] However, a substantial evidence base also supports the view that many compensable workers' compensation claims are never filed.[224] The percentage of all workplace injuries that

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221. *See* ALTMAN ET AL., *supra* note 149, at 1–21.

222. *See* discussion *supra* Section III.C.

223. *See* COMM. ON EDUC. & LABOR, HIDDEN TRAGEDY: UNDERREPORTING OF WORKPLACE INJURIES AND ILLNESSES 6 (2008), http://www.bls.gov/iif/laborcommreport061908.pdf; J. Paul Leigh et al., *An Estimate of the U.S. Government's Undercount of Nonfatal Occupational Injuries*, 46 J. OCCUPATIONAL & ENVTL. MED. 10, 11 (2004); Stephen A. McCurdy et al., *Reporting of Occupational Injury and Illness in the Semiconductor Manufacturing Industry*, 81 AM. J. PUB. HEALTH 85, 87–88 (1991); Alison D. Morantz, *Coal Mine Safety: Do Unions Make a Difference?*, 66 INDUS. & LAB. REL. REV. 88, 91 (2013); 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. 357, 365 (2006); John W. Ruser, *Examining Evidence on Whether BLS Undercounts Workplace Injuries and Illnesses*, MONTHLY LAB. REV., Aug. 2008, at 20, 23.

224. *See* Jeff Biddle & Karen Roberts, *Claiming Behavior in Workers' Compensation*, 70 J. RISK & INS. 759, 760 (2003); Leslie I. Boden & Al Ozonoff, *Capture-Recapture Estimates*

do not result in workers' compensation claims has been consistently estimated as exceeding thirty-five percent with some scholars putting the figure as high as forty-four to forty-five percent.[225]

C. *Cost Shifting*

As noted earlier, U.S. private-sector employees whose workers' compensation claims are improperly denied, or who do not file claims in the first place because they are misclassified as independent contractors, are left in a uniquely precarious economic position. Particularly for low-income workers with minimal assets, the cost of medical care and income support is likely to be transferred from employers onto the private health care system and/or social insurance programs. Cost shifting (also referred to as "case shifting" or "claim migration") may not only impact federal and state budgets, but may also weaken employers' economic incentives to invest in accident prevention. From a public policy standpoint, it is critical to understand the ways in which costs are shifted from workers' compensation onto other forms of social insurance.

Empirical scholarship suggests that a very high fraction of workers' compensation costs are shifted onto SSDI, Medicaid, and Medicare. One study drawing upon two nationally representative surveys found that

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of Nonfatal Workplace Injuries and Illnesses, 18 ANNALS EPIDEMIOLOGY 500, 502 (2008); Xiuwen S. Dong et al., *Injury Underreporting Among Small Establishments in the Construction Industry*, 54 AM. J. INDUS. MED. 339, 340 (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, 39 (2010); Harry S. Shannon & Graham S. Lowe, *How Many Injured Workers Do Not File Claims for Workers' Compensation Benefits?*, 42 AM. J. INDUS. MED. 467, 468 (2002); Sangwoo Tak et al., *Impact of Differential Injury Reporting on the Estimation of the Total Number of Work-Related Amputations*, 57 AM. J. INDUS. MED. 1144, 1144 (2014); William J. Wiatrowski, *Examining the Completeness of Occupational Injury and Illness Data: An Update on Current Research*, MONTHLY LAB. REV., June 2014, at 1, 5.

225. *Compare* Boden & Ozonoff, *supra* note 224, at 503 (presenting the lowest estimate, about 20%, which is based on very conservative assumptions and could reasonably be construed as a lower bound), *with* Biddle & Roberts, *supra* note 224, at 765 (presenting one of the highest estimates of 44.9%), *and* Monica Galizzi, *On the Recurrence of Occupational Injuries and Workers' Compensation Claims*, 22 HEALTH ECON. 582, 582 (2012) (reporting that 44% of all occupational injuries and illnesses did not result in workers' compensation claims). *See also* Galizzi & Zagorsky, *supra* note 208, at 30 (finding that 39% of injured workers who lost work time never filed workers' compensation claims); Darius N. Lakdawalla et al., *How Does Health Insurance Affect Workers' Compensation Filing?*, 45 ECON. INQUIRY 286, 287 (2007) (presenting a lower-bound estimate of 38%); Shannon & Lowe, *supra* note 224, at 471 (reporting another estimate of 40%).

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.[226] The authors concluded that "Social Security Disability Insurance is serving as a major if not primary source for insurance for workplace disabilities."[227] Although it is more difficult to quantify the proportion of medical costs that are shifted onto Medicare and Medicaid, respectively, the fact that medical costs constitute about half of all workers' compensation costs suggests that the effects might be similar in magnitude.[228] In short, because of the strong structural incentives that discourage the reporting and processing of workers' compensation claims in the United States, workplace injuries are likely to impose a substantial economic burden on other social insurance systems.

D. The Affordable Care Act

The passage of the Patient Protection and Affordable Care Act ("ACA") in 2010 brought about sweeping changes to the U.S. health care system, reducing the number of uninsured through individual and employer mandates, expanding Medicaid coverage, and imposing new regulations on insurers.[229] Shortly after the law's passage, commentators pointed out direct and indirect ways in which it could affect the workers' compensation system. For example, some observers 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 through group health, even for work-related conditions.[230] Others speculated that the ACA's cost-containment provisions could indirectly affect workers' compensation utilization by decreasing doctors' incentives to treat workers' compensation patients in states that peg medical fee schedules to (lower) Medicaid

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226. Robert T. Reville & Robert F. Schoeni, *The Fraction of Disability Caused at Work*, 65 SOC. SECURITY BULL., no. 4, 2003–2004, at 31, 36.

227. *Id.* at 37.

228. NAT'L ACAD. OF SOC. INS., *supra* note 213, at 5 fig.3.

229. *See* Patient Protection and Affordable Care Act, Pub. L. 111-148, 124 Stat. 119 (2010) (codified as amended in scattered sections of 26 and 42 U.S.C.).

230. PAUL HEATON, RAND INST. FOR CIVIL JUSTICE, THE IMPACT OF HEALTH CARE REFORM ON WORKERS' COMPENSATION MEDICAL CARE: EVIDENCE FROM MASSACHUSETTS, at xi–xii, 2, 9 (2012), http://www.rand.org/content/dam/rand/pubs/technical_reports/2012/RAND_TR1216.pdf; Marcus Dillender, *Potential Effects of the Affordable Care Act on Workers' Compensation*, 23 EMP. RES., no. 2, Apr. 2016, at 1, 2.

reimbursement rates.[231] Moreover, these observers predicted that the increase in insurance beneficiaries would create a shortage of primary care physicians and delay medical treatment for injured workers,[232] although a study of early claim filing patterns in states with and without Medicaid expansions did not bear out this prediction.[233]

In January of 2017, the Republican-controlled U.S. Congress began taking steps to "repeal and replace" the ACA.[234] Although no attempt has been successful as of this writing,[235] the President has expressed a continued desire to deliver on this campaign promise,[236] leaving the ACA's future highly uncertain. Whether the law is repealed, and whether any alternative health care reform takes its place, will affect the social insurance pillar of the OSH system—and, in turn, the incentives of workers' compensation stakeholders—in ways that are difficult to predict as of this writing.

VII. RESEARCH PRIORITIES

Although there is a wealth of empirical literature on the U.S. workers' compensation system, existing scholarship rarely accounts for the complex ways in which workers' compensation interacts with other pillars of the OSH system, and insights about workers' compensation design gleaned from other countries only infrequently inform U.S. policy debates. Drawing inferences about cause and effect from cross-country comparisons is a risky business, particularly when the social and economic institutions of the countries being compared, as Parts IV and V make plain, differ in fundamental ways. Because of the idiosyncratic features of the U.S. OSH regime, applying insights or

231. *See, e.g.*, HELMSMAN MGMT. SERVS., HOW WILL THE AFFORDABLE CARE ACT IMPACT WORKERS COMPENSATION? 3 (2014), https://www.helmsmantpa.com/Documents/HMS_ACA+WC_White+Paper.pdf (predicting that "primary care providers may not want to devote resources to cases in which the patients' care is tied to the workers compensation fee schedule, particularly in states where fee schedule reimbursements are low compared with other payers").

232. *See, e.g., id.* (predicting that the ACA "will increase the competition for access to physician care").

233. LEONARD F. HERK, NAT'L COUNCIL ON COMP. INS., THE AFFORDABLE CARE ACT AND WORKERS COMPENSATION 9 (2016), https://www.ncci.com/Articles/Documents/II_AIS-2016-Affordable-Care-Act.pdf.

234. *See, e.g.*, Thomas Kaplan & Robert Pear, *Senate Takes Major Step Toward Repealing Health Care Law*, N.Y. TIMES (Jan. 12, 2017), https://www.nytimes.com/2017/01/12/us/politics/health-care-congress-vote-a-rama.html.

235. *See, e.g., supra* note 167.

236. *Excerpts From The Times's Interview With Trump, supra* note 166.

replicating innovations from abroad must be attempted with caution, humility, and a careful attention to detail. Yet at a time when the legitimacy of the U.S. workers' compensation system is being called into question, conceptualizing it as just one facet of the broader OSH system, and taking into account the experience of other industrialized countries, can help bring deficiencies in current scholarship to light. Building on the analysis in the preceding parts, promising areas for future research include the following:

A. Examining Recent Deregulatory Experiments

Although an employer's duty to adhere to the provisions of the statutory workers' compensation system is mandatory and almost universal in the United States, 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 product of collective bargaining between a union and an employer, usually in the construction sector.[237] Carve-outs typically substitute alternative dispute resolution for conventional claim adjudication, ban attorney representation at early stages of a dispute, and limit the pool of medical providers.[238] Yet they do not allow for any diminution of statutory rights such as benefit levels or waiting periods.[239] Although carve-out agreements exist in six states,[240] there is a dearth of current,

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237. *See* David I. Levine et al., *"Carve-Outs" from the Workers' Compensation System*, 21 J. POL'Y ANALYSIS & MGMT. 467, 467–69, 480 (2002) (finding that carve-outs in California did not negatively impact workers in the construction industry, but that worker representation—specifically union representation—was an essential component for protecting workers' rights within a carve-out system).

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

239. John Stahl, *Union Carve-Outs: Labor-Management's Alternative to Workers' Compensation in Minnesota*, LEXISNEXIS 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 (describing a recent Webinar on carve-outs that detailed components of the Minnesota program, including alternative dispute resolution and utilization of independent medical exams).

240. *Id.*

methodologically rigorous scholarship analyzing their effects on key policy outcomes, such as frequency of disputes, workplace safety, and workers' compensation costs.[241] These forms of union-led innovation merit further scrutiny.

The second deregulatory experiment in the United States 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.[242] 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 drops in claim frequency and costs.[243] Yet the mechanisms underlying these cost savings remain poorly understood.[244] It is clear that private plans leave some injured workers—for example, those

241. 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 2377, at 470, 474–75. 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 46 (2001), http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1004&context=icrpubs.

242. *A Study of Nonsubscription to the Texas Workers' Compensation System Executive Summary*, TEX. DEP'T INS. (Sept. 6, 2014) (on file with WCResearch@tdi.texas.gov) (noting that "of [large employers] who have dropped out of the [Texas workers' compensation] system, 28 percent left before 1990, 36 percent left in 1990, and fewer left in subsequent years").

243. 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 and 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, 231–32 (Daniel P. Kessler ed., 2010) [hereinafter Morantz, *Opting Out*] (finding that ninety-eight percent of surveyed nonsubscribing 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? 29 (Jan. 17, 2017) (unpublished manuscript) (on file with author) [hereinafter Morantz, Rejecting the Grand Bargain] (finding a dramatic forty-four percent decline in cost per worker hour for large nonsubscribing firms in Texas).

244. Morantz, Rejecting the Grand Bargain, *supra* note 243, at 35.

whose injuries are excluded entirely from the scope of coverage, or whose benefits are terminated prematurely—worse off the than they would be under workers' compensation.[245] Yet further study is needed to assess opt-out's net impact on worker welfare, and to determine whether the use of private plans has any effect on real workplace safety.

From an economic standpoint, the question is whether carve-outs, opt-outs, or other alternatives to traditional workers' compensation that theoretically lessen the need for regulatory scrutiny can ever be a "win-win" for workers and employers. If so, perhaps a new deregulated structure could be designed that combines insights from both carve-outs and opt-outs, lowering costs for employers without reducing the adequacy of workers' benefits.

B. Considering the OSH System from a Behavioral Law and Economics Perspective

The discussion of economic incentives in Part V presumes that profit maximization is the sole objective of employers in the workers' compensation system, and that firms are thus incentivized to undertake any actions (except, arguably, those that are legally prohibited) that maximize shareholder value. Also implicit are the assumptions that firms are rational actors who understand the nuances of 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, it is important to know if employers sometimes behave in ways that are *not* predicted by the standard model. A small but growing body of empirical literature suggests 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,[246] and a recent study in the environmental regulation arena found that personal characteristics of managers, such

245. *Id.* at 6.

246. 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 fifty percent more effective at deterring accidents than increasing the average cost of penalties. *Id.*

as their intrinsic desire to cooperate with regulators, are important determinants of firm behavior, particularly when enforcement is weak.[247]

The question is whether these findings apply across a wide range of settings, and if so, whether they can be deployed to improve the efficacy or welfare effects of the workers' compensation system. For example, in a classic *bonus-malus* experience rating system, are firms' responses to financial bonuses and penalties symmetrical? Which types of economic incentives are the most effective in changing the behavior of small firms that cannot be experience rated? A handful of creative OSH initiatives in comparator countries, including unusual forms of experience rating[248] and insurance-related incentive schemes,[249] could help point the way toward promising reforms.

C. *Understanding Behavioral Mechanisms that Perpetuate Under-claiming*

As discussed in Part VI, a sizable proportion of workplace injuries and illnesses in the United States are not reported to the workers' compensation system. The fact that several primary stakeholders—workers, employers, and doctors—have strong incentives not to characterize injuries and illnesses as work-related is a significant barrier to reform. To address this problem, it is critical to understand how, and how much, the behavior of different stakeholders contributes

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247. Dietrich Earnhart & Lana Friesen, Certainty of Punishment Versus Severity of Punishment: Deterrence and the Crowding out of Intrinsic Motivation 4 (Sep. 24, 2014) (unpublished manuscript), http://corporate-sustainability.org/wp-content/uploads/Certainty-of-Punishment.pdf.

248. *See* EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 44, at 92–93, (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 twenty percent, are used in calculating premiums and also describing the asymmetric experience rating system used in Belgium, in which companies can get up to a fifteen percent discount or pay up to a thirty percent penalty depending on their injury statistics); ASS'N OF WORKERS' COMP. BDS. OF CAN., SUMMARY OF EXPERIENCE RATING PROGRAMS IN CANADA (2016), http://awcbc.org/?page_id=73 (follow "Experience Rating") (describing considerable variation across Canadian provinces in the characteristics of experience rating systems, with surcharges ranging from forty to two hundred percent and rebates varying from ten to fifty percent).

249. *See, e.g.*, BERGSTRÖM & ECKERHALL, *supra* note 91, at 5–6 (noting that during the first two years with an insurer, Italian companies can receive a fifteen percent 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).

to under-claiming. Is it primarily workers that are declining to report injuries to their employers (the underreporting effect), or is it mostly employers that are rejecting meritorious claims (the claim monitoring effect)? What share of the responsibility do doctors bear for failing to direct occupational injuries and illnesses toward the workers' compensation system? How much do these patterns vary across industries or jurisdictions? Obtaining a more granular understanding of how different actors in the OSH system promote underreporting is an important first step toward designing targeted policy interventions to dampen or reverse this disturbing trend.

D. Considering Return-to-work Policies from a Broader, More International Perspective

It is not uncommon for economists and disability scholars to consider the success of U.S. social insurance programs from a cross-national and interdisciplinary perspective, focusing on programmatic features that are likely to encourage returning to work. For example, drawing on detailed analyses of disability program reforms undertaken in Australia, the United Kingdom, the Netherlands, and Sweden, one study derived a number of concrete insights to guide policymakers contemplating reforms to the SSDI system in the United States.[250] 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."[251] Other studies have undertaken even more detailed analyses of discrete disability reforms in individual countries, such as the United Kingdom[252] and the Netherlands,[253] in the hopes of deriving insights for SSDI reform.

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250. Richard V. Burkhauser et al., *Disability Benefit Growth and Disability Reform in the U.S.: Lessons from Other OECD Nations* 2–3 (Fed. Reserve Bank of S.F., Working Paper No. 2013-40, 2013), http://www.frbsf.org/economic-research/files/wp2013-40.pdf.

251. *Id.* at 3.

252. *See generally* Zachary A. Morris, *Disability Benefit Reform in Great Britain from the Perspective of the United States*, 68 INT'L SOC. SECURITY REV. 47 (2015).

253. *See generally* Richard V. Burkhauser et al., *Curing the Dutch Disease: Lessons for United States Disability Policy* (Univ. of 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.

Yet most of this scholarship focuses on federally administered programs; comparative studies of programs led by state (or provincial) governments are rare. The reasons for this scholarly compartmentalization are unclear because the same goals and principles that apply to federal return-to-work programs apply to workers' compensation programs operated by U.S. states. Indeed, as discussed earlier,[254] many recipients of SSDI benefits filed, or at least could have filed, workers' compensation claims.

Meanwhile, as noted earlier, more recent empirical work on the determinants of return-to-work among workers' compensation claimants casts doubt on the conventional assumption that moral hazard on the part of employees (caused by disparities in benefit levels) is the primary factor explaining inter-jurisdictional variations in the duration of lost work spells. A growing body of U.S. scholarship suggests that differences in organizational culture and in job characteristics play important roles, and international comparisons of lost-work spells following an injury— although scarce—likewise confirm the importance of demand-side factors.[255]

A more thoroughgoing synthesis of lessons gleaned from research on both federal and state disability programs, as well as more extensive efforts to compare return-to-work outcomes observed in the United States with those implemented abroad, could help state policymakers design better policies to minimize the social cost of workplace injuries.

E. Examining Efficiency and Distributional Effects of FECA

The inner workings, costs, and programmatic outcomes of the U.S. FECA program, which insures all federal employees (about two percent of the workforce), are exceedingly opaque. As one researcher has observed,

> The FECA program produces little in the way of information that would allow direct comparison 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.[256]

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254. *See* discussion *supra* Section VI.C.

255. *See supra* notes 36–38 and accompanying text.

256. LaDou, *FECA*, *supra* note 83, at 180.

The scarcity of publicly available information has virtually precluded scholarly inquiry into the everyday functioning and outcomes of the program.

Although persuading the U.S. government to make data from the FECA program publicly available may pose daunting political challenges, it could be of great value to workers' compensation scholars and policymakers. Detailed outcome data on how stakeholders behave in a regime that poses vastly different economic incentives than the private-sector systems overseen by state governments could help point the way toward promising reforms.

F. Examining Incentives of Other Stakeholders from a Broader, More Internationally Informed Perspective

The analysis in the prior Parts reveals that the economic incentives of four principal stakeholders in the workers' compensation system—employees, employers, doctors, and insurers—set them apart in consequential ways from their counterparts in comparator countries. Yet detailed examination of the incentives of other important players in the OSH system—such as labor unions, workers' compensation agencies, and claimants' attorneys—is outside the scope of this Article. Even a cursory review of existing literature suggests that the latter groups also have large impacts on the workers' compensation system, and that their structure and channels of influence vary across different U.S. states and/or different countries.[257] Examining the respective roles and economic incentives of additional stakeholders from a more holistic, internationally-informed perspective could add further complexity and nuance to the findings presented here.

VIII. SUGGESTED POLICY REFORMS

The analysis in the preceding parts suggests that any systematic effort to reform workers' compensation cannot be attempted in a vacuum, but must account for the ways in which other pillars of the OSH system affect U.S. stakeholders' incentives. Many inefficiencies and inequities in the status quo arise from the fact that medical conditions that are deemed work-related are treated by a different medical system with different regulatory demands, different reimbursement rates, and different providers than the identical medical conditions whose work-relatedness has not been established.

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257. *See supra* note 24 and accompanying text.

Several commentators have called for this two-tier 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.[258] The American Public Health Association ("APHA"), 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."[259] The APHA's recommendations also include the elimination of state exemptions and exclusions, improved adequacy of wage replacement benefits, "seamless" integration of workers' compensation with SSDI, retention of tort and criminal liability for employers whose knowing or reckless behavior causes an injury or illness, and the creation of a national medical database to track OSH outcomes.[260]

Although such a sweeping overhaul of the U.S. health care system has a great deal of supporters as of this writing, it seems very unlikely to be adopted in the foreseeable future. A handful of more modest changes, although unlikely to correct the core deficiencies of the U.S. OSH system identified in prior parts, are probably more feasible to implement in the current political climate, and could help bring about some incremental improvements in the care provided to ill and injured workers. These reforms include the following.

A. Offsetting Stakeholder Incentives to Under-report Injuries and Illnesses

Unless methods can be found to counteract stakeholders' incentives *not* to treat occupational injuries and illnesses as work-related, underreporting and cost shifting will likely continue unabated. Devising new strategies to induce higher participation in the workers' compensation system is thus an important policy goal.

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258. *See* Am. Pub. Health Ass'n, *Workers' Compensation Reform Policy*, 20 NEW SOLUTIONS 397, 401 (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, *Cost Shifting and Inequities*, *supra* note 164, at 299; Michael B. Lax, *Workers' Compensation Reform Requires an Agenda . . . and a Strategy*, 20 NEW SOLUTIONS 303, 308 (2010).

259. Am. Pub. Health Ass'n, *supra* note 258, at 401.

260. *Id.* at 401–02.

For workers, strengthening anti-retaliation laws to include a presumptive award of costs, attorney's fees, basic compensatory damages, and treble or punitive damages—and categorically banning incentive programs that reward employees for not reporting injuries and/or penalize them for doing so—would be a good place to start. Strategies to counteract employers' incentives to improperly deny claims might include assessing employers (or their agents) a sizable financial penalty for any claim that was initially denied yet held compensable upon appeal, or defining intentional and knowing acts by an employer to prevent an injured employee from claiming workers' compensation benefits as a form of criminal fraud. Overcoming the incentive effects that can distort physicians' eligibility determinations is more challenging, but a model reminiscent of the approach used in some comparator countries—for example, one in which a regulatory agency employs a panel of occupational medicine doctors to render independent determinations regarding eligibility after consulting with each claimant's primary care physician—might be worthy of consideration.

B. Maintaining a List of Presumptively Compensable Diseases

A salient feature of the U.S. workers' compensation system, which distinguishes it from many comparator nations, is the absence of any national list of "scheduled" diseases that are presumptively (and universally) deemed compensable.[261] The National Institute of Occupational Safety and Health ("NIOSH") should create and periodically update a list of such diseases which could be incorporated by reference into state workers' compensation laws or considered persuasive evidence of compensability in the context of administrative adjudication. The inclusion of a particular disease on such a list could, at the very least, shift the burden of proof to the employer to prove that the disease was *not* the result of a workplace exposure.

C. Using Evidence on Cost Shifting to Justify an Enhanced Focus on Benefit Adequacy

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

261. *See* Leigh & Robbins, *supra* note 2, at 716–17; *supra* note 111 and accompanying text.

are inadequate."[262] More than forty years later, benefits remain low and adequacy continues to decline.[263] Unlike in the early 1970s, however, there is now a sizable body of evidence substantiating that the bulk of costs for treating and compensating workplace injuries and illnesses are shifted onto SSDI, SSI, Medicare, and Medicaid.[264] Increasing public awareness of the fact that taxpayers are shouldering many of the costs that state law requires employers to bear might help persuade legislators that increasing workers' compensation benefits is not only equitable, but also economically efficient, in that employers currently internalize only a fraction of the costs that workplace injuries and illnesses impose on workers and on society.

D. Encouraging More Extensive Insurance-based Incentive Programs (Besides Experience Rating and Schedule Rating) in Monopolistic Insurance Markets

A noteworthy trend discussed above is the prevalence, especially in Europe, of creative insurance-related incentive schemes in monopolistic insurance markets. The possibility of long-term contracting in this setting makes it possible for the insurer to recoup its investments gradually over time through lower loss ratios. Unlike in the United States, some of these schemes transcend schedule rating (and experience rating) by encouraging innovation and rewarding more proactive, long-term strategies for accident and injury prevention. Many of them also target a particular industry or small and medium-sized enterprises.[265] U.S. policymakers should learn more about insurance-related programs that have been implemented in comparator countries and assess whether they could be piloted in U.S. states with monopolistic insurance markets. If the benefits are sufficiently large, states with competitive insurance markets might consider creating exclusive state funds.

E. Increasing Collaboration Between Workers' Compensation and the OSH Inspectorate

Although OSHA and state workers' compensation agencies share a common goal of keeping workers safe on the job, there is remarkably

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262. *See* BURTON, *supra* note 211, at 18.

263. *See* discussion *supra* Section VI.A.

264. Reville & Schoeni, *supra* note 226, at 31, 36.

265. EUROPEAN AGENCY FOR SAFETY & HEALTH AT WORK, *supra* note 44, at 35, 63–65.

little collaboration between them. This is typically the case even among the twenty-two U.S. states that operate "state plans," which enable state officials to enforce OSHA regulations instead of federal inspectors.[266] The widespread lack of cooperation and collaboration between these two central pillars of the OSH system represents a missed opportunity. The only U.S. state in which OSH agency officials and the workers' compensation board routinely share data and undertake joint enforcement initiatives—for example, using workers' compensation claim rates to determine which establishments should be targeted for inspections—is Washington.[267] This could be due, in part, to the fact that Washington is one of just four states that operates exclusive state funds.[268] Better integration of the activities of state workers' compensation boards and state and federal OSH inspectorates could generate new enforcement synergies that strengthen the functioning of the OSH regime as a whole.

IX. CONCLUSIONS

The U.S. workers' compensation system is at a historic crossroads. The "grand bargain" that was struck by labor and industry 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. This confluence of urgent pressure raises the question of what truly ails the U.S. workers' compensation system and whether improved public policy can offer any cures.

This Article departs from most U.S. scholarship in two ways. First, I characterize workers' compensation as just one "pillar" of a broader occupational safety and health system that encompasses labor market forces, the regulatory inspectorate, and other forms of social insurance. After considering how the incentives of each workers' compensation stakeholder relate to structural features of the four-pillared OSH system, I point out ways in which the U.S. OSH system differs from those of other Western industrialized countries.

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266. *See State Plans*, *supra* note 67 (noting that twenty-two states operate state plans).

267. *See* WASH. STATE DEP'T OF LABOR AND INDUS., DOSH COMPLIANCE MANUAL § B.1.c., at 1–6 (2016), http://www.lni.wa.gov/Safety/Rules/Policies/DOSHmanuals/DOSHComplianceManual.pdf; *About Labor and Industries (L&I)*, WASH. ST. DEP'T. LAB. & INDUSTRIES, http://www.lni.wa.gov/Main/AboutLNI (last visited Nov. 8, 2017).

268. *See* IAIABC & WCRI, *supra* note 129, at 11–12 tbl.1 (noting North Dakota, Ohio, and Wyoming also operate exclusive state funds).

These structural disparities shape the incentives of stakeholders in ways that make the U.S. system unusual and, in some respects, unique. For example, the strong incentives of employees, employers, and physicians to underreport occupational injuries and illnesses distorts the accuracy of public health surveillance systems, and encourages the shifting of costs from employers onto social insurance systems and, ultimately, taxpayers.

The final two parts consider research questions ripe for further empirical investigation and potential policy reforms. Research priorities include closer examination of carve-outs and opt-outs, more extensive exploration of the relevance of behavioral law and economics for OSH regulation, quantification of different drivers of under-claiming, a more interdisciplinary approach to understanding return-to-work incentives, closer scrutiny of the inner workings of FECA, and examination of the incentives of additional OSH stakeholders. I suggest that correcting the core deficiencies of the U.S. workers' compensation system would require a sweeping overhaul not just of workers' compensation laws, but of several different pillars of the OSH system. Since such an approach seems politically infeasible as of this writing, I consider several more circumscribed changes that could bring about incremental improvements. These include offsetting stakeholders' incentives to underreport workplace accidents and illnesses; maintaining a national list of diseases that are presumptively work-related; publicizing the mounting evidence of substantial cost shifting to strengthen the case for improved benefit adequacy; devising creative insurance-related strategies (besides experience rating) to induce greater prevention efforts, especially among small companies; and promoting greater collaboration between workers' compensation agencies and OSH inspectorates.

In some regards, the widespread dissatisfaction with the U.S. workers' compensation system resembles the political climate that characterized the OSH system at the dawn of the twentieth century. In an era when workers and employers alike felt the status quo was failing to protect their economic interests, policymakers drew heavily upon European experiences in replacing the tort system with a sweeping and transformative new structure for compensating workplace injuries.[269] A century later, when it is an open question whether labor and industry can forge a new "grand bargain" that will better effectuate public policy goals, policymakers should follow the

269. *See, e.g.*, Gregory P. Guyton, *A Brief History of Workers' Compensation*, 19 IOWA ORTHOPEDIC J. 106, 107–08 (1999).

example of their twentieth-century forebears in considering the problem of industrial accidents from a broader, more holistic perspective and taking into account lessons learned from abroad.