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LEGAL AMBIGUITY, LIABILITY INSURANCE, AND TORT REFORM

*Mark A. Geistfeld**

INTRODUCTION

In a world of uncertainty, mistaken decisions are inevitable.¹ The burden of these mistakes must be borne by someone. A liability rule that required plaintiffs to prove the prima facie case of liability with certainty, for example, would place the entire burden of uncertainty on the associated class of rightholders. A liability rule that required the defendant to negate the prima facie case with certainty, by contrast, would place the entire burden of uncertainty on the associated class of dutyholders. Rather than place the entire burden of uncertainty on either the class of plaintiff rightholders or defendant dutyholders, tort law has adopted the preponderance-of-the-evidence standard that apportions the burden of mistaken judgments equally between an innocent defendant and a deserving plaintiff.² A tort sys-

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1. See, e.g., JOHN W. PRATT ET AL., *INTRODUCTION TO STATISTICAL DECISION THEORY* 1 (1995) (“When all of the facts bearing on a decision are accurately known beforehand—when the decision is made ‘under certainty’—careless thinking or excessive computational difficulty are the only reasons why the decision should turn out, after the fact, to have been wrong. But when the relevant facts are not all known—when the decision is made ‘under uncertainty’—it is impossible to make sure that every decision will turn out to have been right.”).

2. See MARK A. GEISTFELD, *TORT LAW: THE ESSENTIALS* 110 (2008).

For example, suppose the plaintiff establishes all the required elements but one. If the evidence shows there is a 50.1 percent chance that the remaining element is satisfied, the plaintiff can recover, despite the 49.9 percent chance that the element is not actually satisfied. Conversely, if the evidence shows there is a 50.1 percent chance that the element is not satisfied, the plaintiff cannot recover, despite the 49.9 percent chance that the element actually is satisfied. As this example illustrates, the ordinary evidentiary standard expressly allows for a 49.9 percent chance that the defendant will be erroneously subjected to liability (a “false positive”) and a 49.9 percent chance that the plaintiff will be erroneously denied recovery (a “false negative”).

By giving equal treatment to false positives and false negatives, tort law has adopted a norm that gives equal weight or concern to (1) the interest of an innocent defendant in avoiding liability judgments based on limited factual information (a false positive), and (2) the interest of a deserving plaintiff who cannot establish his or her right to compensation only because of limited factual information (a false negative).

tem that ignored or shunned such uncertainty would be neither fair nor just.

In addition to factual uncertainty, other types of uncertainty affect the tort system. For example, even when the facts are not in dispute, the resolution of a tort case can still be uncertain—it is not always clear how a tort rule applies to the (undisputed) facts. This legal uncertainty can be irreducible in the sense that it necessarily exists no matter how liability rules are formulated; uncertainty may be inherent in the exercise of legal judgment. Other types of legal uncertainty, by contrast, can be controlled by the tort system. Some formulations of liability rules will be more uncertain in application than others. How should the choice of liability rules be affected by the increased uncertainty and increased burden of mistaken judgments? Regardless of how one answers this question, it is apparent that uncertainty takes different forms in tort law, and each may require different treatment as a matter of fairness or justice.

Even though different forms of uncertainty can have different normative properties, they are often lumped together for purposes of tort reform. Legal uncertainty has had disruptive effects on the market for liability insurance, creating a dynamic in which liability insurers support tort reform measures that reduce the unpredictability of the liability costs covered by the insurance policy, making it easier for them to set premiums. Tort reform can be biased towards reductions of uncertainty that enhance the predictability of liability insurance, regardless of whether the reforms address the problem of uncertainty in a fair or just manner.

The type of uncertainty targeted by the insurance industry does not pertain to probabilistic outcomes per se. When the sample of events is sufficiently large, insurers can rely on established statistical methods for determining the likelihood or probability of the event in question.³ Having quantified the probability of the event, an insurer can then rely on other statistical properties to predict with a high degree of certainty the total number of times that the event will occur within a large enough pool of independent events (the law of large numbers). The ability of the insurance industry to handle this form of uncertainty generates the profits or gains from trade in the insurance transaction.

The type of uncertainty that is problematic for insurance is instead captured by Frank Knight's renowned distinction between "risk" and "uncertainty":

Id.

3. See, e.g., PRATT ET AL., *supra* note 1, at 451–61.

Risk [is] characterized by the reliability of the estimate of its probability and therefore the possibility of treating it as an insurable cost. The reliability of the estimate [comes] from either knowledge of the theoretical law it obeyed or from stable empirical regularities

True uncertainty is to be “radically distinguished” from calculable risks: here “there is *no valid basis of any kind* for classifying instances.” Knight believed that uncertainty cannot be explicitly and exactly defined⁴

Whereas individual risky outcomes are governed by the statistical properties that enable insurers to be confident about expected aggregate outcomes, uncertain events cannot be treated in this manner. Without reliable estimates of the relevant probabilities, insurers must use subjective estimates of risk that are prone to forecasting errors about expected outcomes with the resultant swings in profits and losses. The insurance industry embraces risk and abhors uncertainty.

“This basic distinction between confident and unconfident probability judgments goes by many [other] names: risk vs. uncertainty; unambiguous vs. ambiguous probability; precise or sharp vs. vague probability; epistemic reliability, and so forth. We generally use the term ‘ambiguity,’ purely from tradition.”⁵ Consistent with this terminology, *legal ambiguity* refers to an unknown outcome regarding the requirements of a legal rule or body of law, as applied to a set of known facts, for which the probability cannot be confidently or reliably defined and must be estimated by decision makers. So defined, legal ambiguity encompasses the uncertain application of tort rules that can produce forecasting errors with their associated effects on the profitability of liability insurance.

A full evaluation of uncertainty within tort law must consider how legal ambiguity affects the market for liability insurance. As explained in Part II, the rise of mass markets has substantially increased the legal ambiguity generated by the tort system.⁶ Part III then discusses how legal ambiguity increases the cost of capital for insurers (and therefore premiums) and creates an expectations-driven pricing structure that is prone to cyclical volatility, including periods of substantial underwriting losses that disrupt the supply of liability insur-

4. George J. Stigler, *Knight*, Frank H. Hyneman, in 3 *THE NEW PALGRAVE: A DICTIONARY OF ECONOMICS* 55, 56 (John Eatwell et al. eds., 1987) (quoting FRANK KNIGHT, *RISK, UNCERTAINTY AND PROFIT* 225, 231 (1921)).

5. Colin Camerer, *Ambiguity-Aversion and Non-Additive Probability: Experimental Evidence, Models and Applications*, in *UNCERTAIN DECISIONS: BRIDGING THEORY AND EXPERIMENTS* 53, 53–54 (Luigi Luni ed., 1999) (citations omitted).

6. See *infra* notes 9–36 and accompanying text.

ance.⁷ Part IV concludes by illustrating how the insurance cycle has motivated legislative tort reforms that limit liability in order to reduce legal ambiguity, regardless of the fairness or justice of such reforms.⁸ Each of these factors has become increasingly important over the course of the twentieth century, producing an evolutionary path for the tort system that is now shaped by the interplay between legal ambiguity, liability insurance, and legislative tort reform.

II. INDIVIDUAL RIGHTS, MASS MARKETS, AND THE INCREASE IN LEGAL AMBIGUITY

As Justice Oliver Wendell Holmes famously observed, “Our law of torts comes from the old days of isolated, ungeneralized wrongs, assaults, slanders, and the like, where the damages might be taken to lie where they fell by legal judgment.”⁹ Justice Holmes made this observation at the end of the nineteenth century when courts were consolidating the highly individuated liability rules under the writ system into a general principle of negligence liability. For much of the twentieth century, the general principle of negligence liability supplied the necessary justification for eliminating numerous immunities and other limitations of liability that had been recognized by the early common law.¹⁰ The ensuing expansion of liability has made tort law the most salient and politically controversial component of the civil-justice system.

Having recognized that “[o]ur law of torts comes from the old days of isolated, ungeneralized wrongs,” Justice Holmes then observed that “the torts with which our courts are kept busy to-day are mainly the incidents of certain well known businesses. They are injuries to person or property by railroads, factories, and the like.”¹¹ As the economy expanded throughout the twentieth century, individuals became increasingly situated in a mass market of some sort. In this context,

7. See *infra* notes 37–80 and accompanying text.

8. See *infra* notes 81–101 and accompanying text.

9. O.W. Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 467 (1897).

10. See Robert L. Rabin, *The Historical Development of the Fault Principle: A Reinterpretation*, 15 GA. L. REV. 925, 959–61 (1981) (discussing the numerous limitations of liability in the writ system that were subsequently eliminated by the growth of negligence liability); Gary T. Schwartz, *The Beginning and the Possible End of the Rise of Modern American Tort Law*, 26 GA. L. REV. 601, 605–06 (1992) (concluding that judicial tort opinions, until the 1960s, “for the most part, sharpened and clarified tort doctrines that had been presented somewhat more crudely in nineteenth-century cases,” and that the “vitality of negligence” then caused an expansion of tort liability lasting until the 1980s); Stephen D. Sugarman, *A Century of Change in Personal Injury Law*, 88 CALIF. L. REV. 2403, 2407 (2000) (“The central change in personal injury law doctrine that has taken place since 1900 is the evolution of a robust law of negligence.”).

11. Holmes, *supra* note 9, at 467.

the nature of an individual-rights violation is often quite different from the isolated, ungeneralized wrongs that were redressed by the early common law. Today, tort liability routinely involves the individual redress of widespread wrongs in mass markets, the consequences of which are fully illustrated by the modern regime of strict products liability.

Like tort law more generally, the growth of products liability has been predicated on a generalized principle of negligence liability that did not require any change of the underlying tort right.¹² The emergence of mass markets created new conditions requiring new liability rules. The doctrinal development of strict products liability is well known but is worth retelling in order to emphasize how mass markets substantially amplify the effects of legal ambiguity as compared to the social context in which the early common law developed.

Under the writ system, the duty of product sellers was largely limited by the contractual relationship. This limitation of duty was finally demolished by Judge Benjamin Cardozo in the 1916 landmark opinion *MacPherson v. Buick Motor Co.*¹³ In the following years “this decision swept the country” and “was extended by degrees”¹⁴ until it became “in short, a general rule imposing negligence liability upon any supplier, for remuneration, of any chattel.”¹⁵ The widespread adoption of negligence liability for dangerous products then created a rationale for strict liability. In the highly influential case *Escola v. Coca Cola Bottling Co.*, Justice Roger Traynor of the California Supreme Court argued in a concurring opinion that the negligence rule, if properly applied, would involve insurmountable problems of proof: “An injured person . . . is not ordinarily in a position to refute [the manufacturer’s evidence of reasonable care] or identify the cause of the defect, for he can hardly be familiar with the manufacturing process as the manufacturer himself is.”¹⁶ This evidentiary problem does not exist under a rule of strict liability, and so the adoption of that rule would give product sellers the necessary incentive to distribute nondefective products. Traynor found further support for the rule of strict liability in the implied warranty of merchantability and the related ancient rule that imposed strict liability on the sellers of contaminated

12. See MARK A. GEISTFELD, *PRINCIPLES OF PRODUCTS LIABILITY* 9–33 (2006) (explaining how strict products liability can be derived from either the negligence principle or the implied warranty).

13. *MacPherson v. Buick Motor Co.*, 111 N.E. 1050, 1053 (N.Y. 1916).

14. William L. Prosser, *The Assault upon the Citadel (Strict Liability to the Consumer)*, 69 *YALE L.J.* 1099, 1100 (1960).

15. *Id.* at 1102.

16. *Escola v. Coca Cola Bottling Co.*, 150 P.2d 436, 441 (Cal. 1944) (Traynor, J., concurring).

food.¹⁷ The doctrinal and policy arguments for strict liability were compelling. In 1963, the California Supreme Court accepted Traynor's argument for strict products liability.¹⁸ The rule of strict products liability was then adopted by the *Restatement (Second) of Torts* in 1965.¹⁹ By 1971, twenty-eight states had adopted the *Restatement (Second)* rule of strict liability for product defects; by 1976, forty-one states had adopted it.²⁰

The growth of products liability has been astounding, with much of it attributable to issues that had not been extensively considered when the *Restatement (Second)* rule of strict products liability was promulgated in the 1960s. This liability rule was formulated to deal with cases in which a defect caused the product to malfunction and injure the user, such as an exploding bottle of soda.²¹ By the 1970s, the allegations of defect moved beyond malfunctioning products. Even if the product functioned according to design, plaintiffs began claiming that the design itself was defective for not containing a particular safety feature, like a guard on a machine. Plaintiffs also claimed that properly designed and manufactured products were defective for not adequately warning consumers about product risks. The claims of design and warning defects now constitute the bulk of products liability suits. Allegations of warning defects, for example, are involved in the massive number of suits involving asbestos liability.²² "From an inauspicious beginning in the late 1960s, asbestos litigation has generated over 730,000 claims, at an overall cost of at least \$70 billion."²³ The asbestos cases are an extreme example, but they illustrate how the scope of tort liability far exceeds that which was contemplated when courts first adopted the rule of strict products liability.

Tort liability could grow in this fashion because of the inherent logic of a generalized principle of negligence liability. The rule of strict products liability makes a product seller strictly liable for injuries caused by a defect in the product. When the product performs as in-

17. See *id.* at 441–42; see also GEISTFELD, *supra* note 12, at 10–19, 29–33 (showing how the implied warranty provided a sufficient doctrinal rationale for the rule of strict products liability and locating that rationale in the difficulty of proving unreasonable care).

18. See *Greenman v. Yuba Power Prods., Inc.*, 377 P.2d 897, 900–01 (Cal. 1963).

19. See RESTATEMENT (SECOND) OF TORTS § 402A (1965).

20. GEISTFELD, *supra* note 12, at 16.

21. See generally Michael D. Green, *The Unappreciated Congruity of the Second and Third Torts Restatements on Design Defects*, 74 BROOK. L. REV. 807 (2009) (showing that the rule of strict products liability was initially formulated to deal with the problem of malfunctioning products).

22. *E.g.*, *Borel v. Fibreboard Paper Prods. Corp.*, 493 F.2d 1076 (5th Cir. 1973).

23. Patrick M. Hanlon & Anne Smetak, *Asbestos Changes*, 62 N.Y.U. ANN. SURV. AM. L. 525, 526 (2007) (citing STEPHEN J. CARROLL ET AL., ASBESTOS LITIGATION 71 (2005)).

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tended, the defect cannot be defined by reference to a product malfunction such as an exploding soda bottle. Absent any malfunction, what makes a design or warning defective? In addressing this issue, most courts have concluded that a design or warning is defective if it creates an unreasonably high risk of physical harm. Under this formulation, the seller continues to be strictly liable for injuries caused by the defect, defined as the absence of a safety feature (like a protective guard or a particular safety instruction) that created an unreasonable risk of harm. The same outcome, though, is obtained under the standard of reasonable care in a negligence action, which also makes the seller liable for injuries caused by an unreasonable product risk (the defect in design or warning). The issue of defective design or warning accordingly depends on the same finding of unreasonable danger that is characteristic of negligence liability.²⁴

This extension of the negligence principle placed tort law in the center of disputes involving widespread harms. Whereas product cases initially involved singular accidents caused by an isolated product malfunction (like the exploding bottle of soda), the extension of products liability to encompass product designs and warnings implicates *all* consumers of the product because each one is exposed to the risks of the defective design or warning. Like tort law more generally, products liability no longer is limited to ungeneralized wrongs but now often redresses the widespread accidental harms that can occur in mass markets.

In addition to vastly increasing the scope of tort liability, the rise of mass markets has also made it more difficult for courts to determine the requirements of reasonable care. The resultant ambiguity in the negligence rule is then amplified by its widespread impact on the entire product line.

Under the early common law, customary safety practices largely determined the requirements of reasonable care.²⁵ During the twentieth century, judges concluded that customary safety practices are not necessarily reasonable: "Courts must in the end say what is required; there are precautions so imperative that even their universal disregard will not excuse their omission."²⁶ The decline of custom corresponds with the rise of mass markets. In any market, customs are created by the safety practices agreed upon by buyers and sellers. To employ the language of economics, custom is the market equilibrium. By rejecting custom, courts effectively concluded that the market equilib-

24. See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 (1998).

25. See, e.g., McClaren v. G.S. Robins & Co., 162 S.W.2d 856, 858 (Mo. 1942).

26. The T.J. Hooper, 60 F.2d 737, 740 (2d Cir. 1932).

rium can involve the supply of unreasonably dangerous products, an outcome characteristic of mass product markets.

The problem stems from the difficulty faced by consumers in evaluating product risk. To learn about product risk, the consumer must expend time and effort to acquire and process the information. In mass markets, these information costs prevent consumers from being adequately informed about product risk, yielding customary safety practices that can be unreasonably dangerous.

As markets have expanded, products have become increasingly complex. The consumer's purchase decision regarding a single product like an automobile can involve a large number of discrete safety decisions that are simply not worth considering. The benefit of learning about a 1-in-10,000 risk of being injured by a particular configuration of a car's steering wheel, for example, is likely to be lower than the cost that the consumer would incur to become informed of the risk. For such risks, the ordinary consumer would rationally decide to remain uninformed.²⁷

Indeed, a consumer who faces significant information costs could easily decide to forego altogether the evaluation of product risk. Suppose there are two types of consumers. One type is completely uninformed of product risk. The other type is well informed, having incurred the necessary information costs. If there are enough well-informed buyers in the market, their aggregate demand for product quality will induce sellers to supply reasonably safe products.²⁸ The information held by some consumers can benefit others who are not well informed of product risk. But since the information is costly to acquire and process, it would be rational for any consumer to "free ride" on the informed choices of others. The consumer can get the benefits of information (safe products) without incurring the information costs. Reasoning similarly, other consumers will make the same choice. "The 'free rider' problem may result in no consumer incurring the information costs necessary for making decisions about product safety."²⁹

The growth of mass markets has predictably caused consumers to be less informed about product risk. Due to this informational prob-

27. Cf. Xavier Gabaix et al., *The Allocation of Attention: Theory and Evidence* (M.I.T. Dep't of Econ., Working Paper No. 03-31, 2003), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=444840 (analyzing attention as a scarce resource allocated by cost-benefit principles and providing empirical support that individuals act in this manner).

28. See generally Alan Schwartz & Louis L. Wilde, *Imperfect Information in Markets for Contract Terms: The Examples of Warranties and Security Interests*, 69 VA. L. REV. 1387 (1983).

29. GEISTFELD, *supra* note 12, at 48.

lem, unregulated market transactions predictably produce unreasonably unsafe products, explaining why courts in the twentieth century rejected customary market practices in favor of an independent standard of tort liability. A similar social dynamic explains why other types of customary practices are often unreasonably dangerous, forcing courts to independently determine the standard of reasonable care in the typical negligence case.³⁰

The standard of reasonable care is notoriously vague.³¹ For example, strict products liability gives consumers and bystanders the right to receive compensation for their physical harms proximately caused by a defect in the product sold by the defendant. What constitutes a defect? The question is easy for cases in which the product malfunctions, but much more difficult when the defect is one of design or warning. Consequently, courts have adopted ambiguous liability rules governing product design and warnings.

The appropriate definition of a design defect has long vexed the courts, with most jurisdictions adopting the risk-utility test.³² The apparent consensus on this issue masks a fundamental indeterminacy. Based on a national survey, David Owen has reached the following conclusions about how courts define the risk-utility test:

First, there is no single clearly accepted view as to how the design defect balancing test should be described or formulated. A related finding is that there is considerable variation in how the balancing test is formulated among the states, among decisions within the same state, and often even within the same judicial opinion. Another finding is that courts today quite typically cobble together a variety of separate and often conflicting formulations of balancing tests borrowed, without analysis, from earlier opinions. Further, many courts acknowledge that a variety of factors should be balanced but neither discriminate between the various factors nor explain how they should be balanced or otherwise interrelate.³³

The legal ambiguity is even more severe for product warnings. After extensively studying the case law, James A. Henderson, Jr. and Aaron Twerski, the reporters of the *Restatement (Third) of Torts: Products Liability*, concluded that

30. *See id.* at 215–16 (explaining why the evolution of society from small, close-knit communities into a highly industrialized global economy means that “custom now narrows the negligence inquiry in only a few important ways”).

31. *See, e.g.,* Kenneth S. Abraham, *The Trouble with Negligence*, 54 *VAND. L. REV.* 1187 (2001).

32. *See* RESTATEMENT (THIRD), *supra* note 24, § 2 cmt. d.

33. David G. Owen, *Risk-Utility Balancing in Design Defect Cases*, 30 *U. MICH. J.L. REFORM* 239, 242 (1997).

negligence doctrine in the context of failure-to-warn litigation is little more than an empty shell. In most cases, the elements of the warnings cause of action require plaintiffs to do little more than mouth empty phrases. From the plaintiff's perspective, there is undoubtedly a certain attractiveness to a tort without a meaningful standard of care or any serious requirement of proving causation. From a broader social perspective, however, such a tort is too lawless to be fair or useful.³⁴

The ambiguity in the liability rules governing product designs and warnings has implications for the entire market, not merely the individual case. These liability rules are formulated by reference to the market as a whole, virtually eliminating any case-specific features from the safety decision. The reason, yet again, involves the character of mass markets.

Individual consumers have different preferences for product safety and other aspects of quality, making it ordinarily infeasible for product sellers in a mass market to completely satisfy the preferences of everyone. Product sellers in mass markets respond to aggregate consumer demand, and so product liability rules are formulated by reference to the safety expectations of the ordinary or average consumer, not the particular plaintiff.³⁵

Because a manufacturer's safety decision depends on the safety needs of the average or ordinary consumer, the individual tort right of each consumer in the market is necessarily interrelated. Any particular rights violation can have categorical effects for similarly situated rightholders. A single claim seeking recovery for injuries caused by a defectively designed product, for example, implicates all other identically designed products in the entire market. One claim can also influence the litigation decisions of similarly situated consumers, further influencing the manufacturer's safety decisions with respect to the entire market.³⁶ Litigation of the individual tort case does not involve an isolated instance of wrongdoing that was characteristic of the

34. James A. Henderson, Jr. & Aaron D. Twerski, *Doctrinal Collapse in Products Liability: The Empty Shell of Failure to Warn*, 65 N.Y.U. L. REV. 265, 326 (1990).

35. See, e.g., *Campbell v. Gen. Motors Corp.*, 649 P.2d 224, 233 n.6 (Cal. 1982) (holding that under the consumer-expectations test, "the jury considers the expectations of a hypothetical reasonable consumer, rather than those of the particular plaintiff in the case").

36. Mass torts routinely involve defective products. The litigation dynamic for a mass tort involves a movement from the immature to mature stages. See RICHARD A. NAGAREDA, *MASS TORTS IN A WORLD OF SETTLEMENT* 11-28 (2007).

The transition to the mature stage of litigation comes only when the threat to prevail is such that defendants face a substantial probability of loss in the event of trial. The usual way to establish the credibility of this threat, not surprisingly, is through actual plaintiff victories in some early cases.

Id. at 15.

claims adjudicated by the early common law, but can now affect other rightholders (consumers) in the mass market. The jury's imposition of liability in a single case involves conduct directed towards the market as a whole, creating categorical effects that are not present in the traditional torts context.

Legal ambiguity, which presumably has always been part of the tort system, has become increasingly important with the rise of mass markets. Due to the dynamics of a mass market, custom no longer reliably defines the requirements of reasonable care, forcing courts to determine reasonable care in more abstract terms with the attendant ambiguities in application. The resultant ambiguity then has consequences that are amplified by the widespread effects of an individual tort claim in a mass market. The protection of individual tort rights in mass markets has led to a marked increase in legal ambiguity.

III. LEGAL AMBIGUITY AND THE SUPPLY OF LIABILITY INSURANCE

The pricing of liability insurance is fraught with ambiguity. These policies cover liability risks with probability distributions that are rarely, if ever, fully known. The resultant ambiguity increases premiums above the level that would attain if the probabilities were fully known, although the impact of legal ambiguity can be even more pernicious. The market for liability insurance experiences an underwriting cycle that oscillates between "soft markets," in which premiums are low and coverage is readily available, and "hard markets," in which premiums are high and coverage is difficult to obtain. The underwriting cycle is produced by forecasting errors that cause insurers to set premiums that are either too low (soft markets) or too high (hard markets). Forecasting errors are inevitable when insurers must make pricing decisions under conditions of ambiguity. By contributing to forecasting errors, legal ambiguity helps to fuel the underwriting cycle with the concomitant disruption in the supply of liability insurance.

A. *The Pricing of Liability Insurance*

Like any other good or service, the price or premium of a liability insurance policy must cover the seller's costs while allowing for a normal profit or rate of return on the underlying investment. Administrative costs and the like pose no particular problem for the pricing of these contracts. The difficulty instead pertains to the cost of the legal liabilities covered by the insurance policy.

An unknown cost structure is . . . one of the more problematic elements in determining the price to be charged for insurance. Most businesses know the costs of goods to be sold, including the cost of raw materials, processing, selling efforts, and so forth, before they set the price for the finished product. . . . In contrast, the price for insurance is based on an assumed cost structure; that is, claims and expenses must be predicted in setting the rate. Of course, the operation of the law of large numbers generally gives an insuring organization much more stability in predicting losses than would be possible for most insureds individually.³⁷

To address the difficulties posed by the pricing of liability insurance, the industry has long relied on cooperative action. The Insurance Services Office (ISO) collects data from insurers regarding their loss experience under the standard form ISO Commercial General Liability (CGL) policy. The pooling of data substantially increases the number of data points, enabling actuaries to employ established statistical methods for establishing the likelihood or probability of the liabilities in question.³⁸ Due to antitrust concerns of price-fixing, the ISO in 1990 stopped preparing advisory premium rates; it now provides insurers with “advisory prospective loss costs” that are estimates of future loss payments for each line of insurance in each state.³⁹

The ISO estimates do not fully solve the pricing problem faced by the individual insurer.

Companies tend to use advisory rates only as a jumping off point for their own estimates, evaluating how closely the bureau’s loss experience matches their own market niches. . . .

Even when the ISO data are representative of the state as a whole, each company’s underwriting and rate rules are different and produce a book of business with its own unique risk characteristics. Thus, an ISO member company would be compelled to evaluate the relevance of ISO loss experience for its own expected book of business.⁴⁰

To determine the appropriate premium or price for its own expected book of business, a liability insurer must account for various types of risk, including

- (1) “baseline risk”, which is the existing risk of loss based on past experience, assuming no change; (2) “developments risk”, which is

37. HERBERT S. DENENBERG ET AL., *RISK AND INSURANCE* 514 (2d ed. 1974).

38. See, e.g., PRATT ET AL., *supra* note 1, at 451–61; see also Gregory Krohm, *Implications of ISO’s Change to Loss Cost Filing for Rate Regulation*, 8 J. INS. REG. 316, 318 (1990) (“The larger the sample of loss experience analyzed, the more statistically accurate the estimate of future loss experience will be.”).

39. See Krohm, *supra* note 38, at 316–20 (describing the role of the ISO in setting premiums prior to 1990 and the reasons for, and changes in, these practices thereafter).

40. *Id.* at 323–24.

the risk relating to developments that change the rate or cost of loss during the insured period; (3) “contract risk”, which is the risk relating to the drafting and interpretation of insurance policies; and (4) “financing risk”, which is the risk relating to changes in investment performance and the insurance pricing cycle.⁴¹

The type of risk that is directly affected by tort law involves “developments risk,” which is comprised of more highly individuated risks such as “*injury* developments risk, *injury cost* developments risk, *standard of care* developments risk, *legal* developments risk, and *claiming* developments risk.”⁴²

In forecasting its expected liability costs, an insurer can only draw limited lessons from its prior loss experience. “Rates based upon past experience are valid only if the conditions that prevailed in the past remain unchanged during the period of the contract. Because of economic or social changes in liability risks for example, the importance of trend factors has become very apparent.”⁴³ A trend factor essentially predicts how the insurer’s future loss experience under the policy will diverge from its past history.

To derive an accurate trend factor, the insurer must have good information about its past experience under the policy. The insurer acquires this information from claims made by policyholders. “Depending on the kind of insurance, it can take years for insurers to reach the point when paid claims constitute even half of the loss expenses for the policies sold in a given year.”⁴⁴ The insurer must determine the trend factors (to set premiums at which the policies are presently sold) on the basis of limited data concerning its most recent loss experience under the policy. More complete data are available for earlier policy years, but these losses occurred years ago and are more likely to reflect different risk conditions than those that presently exist, requiring yet another set of trend factors that account for these differences.

For these reasons, the premiums for liability insurance are not based on a known probability distribution (such as a 1-in-100 chance that the policyholder will incur legal liabilities of \$1 million), but instead depend on the insurer’s own (subjective) estimates or forecasts of the risk. The pricing of liability insurance is inherently ambiguous, requiring insurers to solve a hard predictive problem that is then made

41. Tom Baker, *Insuring Liability Risks*, 29 THE GENEVA PAPERS ON RISK AND INS. 128, 128–30 (2004).

42. *Id.* at 130–31.

43. J. FRANÇOIS OUTREVILLE, *THEORY AND PRACTICE OF INSURANCE* 160 (1998).

44. Tom Baker, *Medical Malpractice and the Insurance Underwriting Cycle*, 54 DEPAUL L. REV. 393, 398 (2005).

even more difficult by any ambiguity generated by the tort system itself.

B. Ambiguity and the Cost of Capital

Under conditions of full information about risk, an investor knows the parameters that govern the distribution of payoffs or returns of the various assets. Under conditions of ambiguity, the investor must estimate these parameters. This parameter uncertainty or “estimation risk” has predictable implications for asset prices. “An important strand of recent research in finance contends that uncertainty, in addition to risk, should matter for asset pricing. When agents are unsure of the correct probability laws governing the market return, they demand a higher premium in order to hold the market portfolio.”⁴⁵

To see why, suppose that an insurer knows for sure that there is a 10% chance of a loss occurring for an individual policyholder. By relying on the law of large numbers, the insurer can determine (in a manner quantified by statistical analysis) that a large enough pool of such policies will, in fact, incur a 10% loss in the aggregate, plus or minus a small margin for error (say .05%). The margin of error—and therefore of the insurer’s expected returns—is low and statistically quantifiable under the law of large numbers. Now suppose that the risk is ambiguous and that the insurer estimates there is a 1/3 chance that the risk is 5%, a 1/3 chance that the risk is 10%, and a 1/3 chance that the risk is 15%. The average or expected value of these estimates is 10%—the true probability—but the insurer now faces substantial variability in the range of possible outcomes. The law of large numbers merely ensures that the actual losses will be within a defined range (assumed to be .05%) of the actual probability, but the insurer can only conclude that the actual probability has three different possible values (5%, 10%, or 15%) with equal likelihood. The range of expected outcomes now extends from 4.95% (or 5% less .05%) to 15.05% (or 15% plus .05%), a substantial increase compared to when the risk is not ambiguous (10% plus or minus .05%). An increase in the variance or dispersion of returns for an investment increases the cost of capital, all else being equal (such as the average or expected

45. Evan W. Anderson, Eric Ghysels & Jennifer L. Juergens, *The Impact of Risk and Uncertainty on Expected Returns*, 94 J. FIN. ECON. 233, 234 (2009); see also Larry G. Epstein & Martin Schneider, *Ambiguity and Asset Markets* 3–4 (Nat’l Bureau of Econ. Research, Working Paper No. 16181, 2010), available at <http://www.nber.org/papers/w16181.pdf> (generalizing different models of ambiguity and finding “[o]ne common theme . . . that ambiguity averse agents choose more conservative positions, and, in equilibrium, command additional ‘ambiguity premia’ on uncertain assets”).

value of the return).⁴⁶ Increased ambiguity of this type increases the cost of capital or rate of return required by risk-averse investors.

The problem of ambiguity is even more fundamental, however. In the prior example, the insurer converted the imprecise probability into a more general probability framework (the equally likely expected outcomes of 5%, 10%, and 15%). This approach expresses the imprecision of risk entirely in terms of risk—the decision maker merely faces a risk about estimating the risk. But what if the insurer is unsure of how to select among the three risk estimates? Suppose each estimate was derived by a different group of actuaries within the company. Are all groups equally likely to be correct, thereby justifying the equal weighting given to each estimate as in the prior example? Does the considerable spread in the risk estimates matter? The lowest estimate (5%) is half the size of the next smallest estimate (10%) and one-third the size of the largest estimate (15%). In light of the wide range of risk estimates, would the insurer be fully confident that the problem at this point can be adequately solved by the available actuarial methods? The lack of such confidence creates *model uncertainty*, which further adds to the cost of ambiguity when the decision maker is *ambiguity averse*. The insurer, for example, could counteract its lack of confidence in the estimates by adopting the worst case scenario, thereby estimating the risk at 15%. This ambiguity-averse estimate substantially exceeds the estimate in the prior example (10% with a high variance) because the insurer “is averse to both risk [as in the prior example] and model uncertainty.”⁴⁷ The cost of ambiguity can be comprised of risk aversion and aversion to ambiguity itself.

46. See, e.g., Anderson, Ghysels & Juergens, *supra* note 45, at 233 (“The risk-return trade-off . . . states that the expected excess market return should vary positively and proportionally to market volatility. This relationship is so fundamental that it could well be described as the ‘first law of finance.’”). For more extended discussion of the form of ambiguity employed in this example, including empirical study of how individuals react to changes in the range and expected value or “center” of the ambiguous decision, see generally Shawn P. Curley & J. Frank Yates, *The Center and Range of the Probability Interval as Factors Affecting Ambiguity Preferences*, 36 *ORG. BEHAV. & HUM. DECISION PROCESSES* 273 (1985).

47. H. Henry Cao et al., *Model Uncertainty, Limited Market Participation, and Asset Prices*, 18 *REV. FIN. STUD.* 1219, 1221 (2005). To be more precise, the prior example utilizes a Bayesian solution to the problem, which converts uncertainty into a type of risk that is fully accounted for by measures of risk aversion, leaving no role for model uncertainty.

In the Bayesian approach, when facing model uncertainty, the investor uses a prior distribution over a set of models. His decision is based on the expected utility evaluated with respect to the predictive distribution. As a result, the investor is neutral with respect to model uncertainty, although he can be averse to risk. In the Knightian approach, while the investor may still use von-Neumann-Morgenstern expected utility when facing risk, he no longer uses a single prior when facing uncertainty. In the multi-priors expected utility framework . . . an uncertainty-averse investor evaluates an investment strategy according to the expected utility under the worst case probability

Consistent with this reasoning, both theoretical and empirical studies have found that insurance companies increase premiums or withdraw coverage due to ambiguity or increased difficulties in predicting the probability of a given loss or the amount of loss for a given event.⁴⁸ One recent study involving seventy-eight professional actuaries, for example, found that “premiums are significantly higher for risks when there is ambiguity regarding the probability of the loss.”⁴⁹ Empirical studies have identified the existence of such an “ambiguity premium” in other contexts as well.⁵⁰ For example, a recent empirical study using differences in analyst opinions as a proxy for uncertainty showed “that assets that are correlated with uncertainty carry a substantial premium relative to assets that are uncorrelated with our uncertainty measure.”⁵¹

Hence there is at least one way in which legal ambiguity increases the cost of insurance, all else being equal. In general, increased ambiguity increases the cost of capital by increasing risk aversion and any aversion to ambiguity itself. Increased legal ambiguity accordingly increases the “ambiguity premium” that is embedded in the cost of capital, thereby increasing premiums above the amount that would occur in the absence of ambiguity. The impact of legal ambiguity on the market for liability insurance, however, is likely to be even more costly.

distribution in a set of prior distributions. As a result, the investor is averse to both risk and model uncertainty.

Id.

48. See Howard Kunreuther & Robin M. Hogarth, *How Does Ambiguity Affect Insurance Decisions?*, in *CONTRIBUTIONS TO INSURANCE ECONOMICS* 307, 321 (Georges Dionne ed., 1992) (“A principal conclusion emerging from surveys of actuaries and underwriters is that they will add an ambiguity premium in pricing a given risk whenever there is uncertainty regarding either the probability or losses.”); Howard Kunreuther et al., *Insurer Ambiguity and Market Failure*, 7 *J. RISK & UNCERTAINTY* 71 (1993) (describing studies which found that actuaries, underwriters, and reinsurers increase premiums when faced with increased ambiguity about the risk of loss); W. Kip Viscusi, *The Risky Business of Insurance Pricing*, 7 *J. RISK & UNCERTAINTY* 117, 118–20 (1993) (discussing various ways that insurance companies allow risk ambiguity to affect the rate-setting process).

49. Laure Cabantous, *Ambiguity Aversion in the Field of Insurance: Insurers’ Attitude to Imprecise and Conflicting Probability Estimates*, 62 *THEORY & DECISION* 219, 219 (2007).

50. For a survey, see generally Colin Camerer & Martin Weber, *Recent Developments in Modeling Preferences: Uncertainty and Ambiguity*, 5 *J. RISK & UNCERTAINTY* 325 (1992).

51. Anderson, Ghysels & Juergens, *supra* note 45, at 235. “A number of [other studies] find that more disagreement, as measured by the dispersion of earnings forecasts, implies higher expected returns.” *Id.* at 234 n.3 (citations omitted).

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C. The Compounding Effect of Forecast Errors

In addition to increasing the variance or range of expected returns for an insurer, ambiguity will routinely cause insurers to set premiums that are too high or too low relative to the actual risk. The prior example conveniently assumes (for expository purposes) that the insurer solved the ambiguity problem by correctly estimating the risk on average (10%), but there is no reason to assume that insurers will ordinarily solve the problem in this manner. By definition, ambiguity means that the insurer does not know the actual probability of the risk in question and must estimate the probability distribution. The insurer's estimate can easily be incorrect. The insurer will revise that estimate based on experience, but it takes liability insurers a number of years before they can learn the actual risk covered by a policy—a time lag conventionally called the “tail of a policy.” Any revisions based on incomplete information can be incorrect, resulting in a premium that is either too high or too low relative to the actual risk.

An insurer's forecasting errors will affect its capital requirements.

As a matter of prudence (and by legal requirement in most instances), the insurer must set “reserves” that are equal to the amount needed to pay future claims under any policies it sells and then must set aside assets to offset those reserves. These assets are real money, which cannot be used for any other purpose other than earning investment income. Thus, reserves have an immediate effect on profit and loss.

The reserves for new insurance policies are first posted in a category assigned to “incurred but not reported” (IBNR) claims. As claims come in, claims personnel will transfer reserves from the IBNR reserves to the “case reserves” they set up for specific claims. At any given time, the total IBNR and case reserves assigned to a given set of insurance policies is supposed to constitute the best judgment of all the future loss expenses to be paid under those policies. If the case reserves draw down the IBNR reserves more quickly than anticipated, the insurer is supposed to increase the IBNR reserves and set aside additional assets to offset those increased IBNR reserves. The assets to offset such “reserve strengthening” must come from somewhere, either from assets freed up by “releases” of reserves from other sets of policies (possibly resulting in those policies being under-reserved) or from revenue not yet assigned to other purposes.⁵²

Due to the long tail of liability insurance, any forecasting error will have a compounding effect on the insurer's capital requirements.

The key intuition is that a change in assumptions about loss expenses can affect, not only claims under policies being sold this year,

52. Baker, *supra* note 44, at 397–98 (footnotes omitted).

but also claims that are not yet paid under policies sold in the past. . . . In long tail lines of insurance, a change in assumptions has a compounding effect that can lead to a dramatic need for new reserves and, thus, additional assets to offset those reserves when the future suddenly looks more expensive than insurers had been projecting. This compounding effect can create dramatic losses (in the profit and loss sense) when the future suddenly looks more expensive than insurers had been projecting, and correspondingly dramatic profits when the future suddenly looks less expensive than insurers had been projecting.⁵³

Forecasting errors can produce substantial alterations in an insurer's need for capital. If an insurer underestimates the risk and sets premiums too low, years will pass before the insurer's claims experience reveals this mistake. Altering the estimate (via adjustment of the relevant trend factors) allows the insurer to increase premiums on new policies, but that alteration also means that the insurer must set aside new capital reserves for policies that were previously sold (at the low premium). The insurer's increased need for capital comes at a particularly costly time. The losses incurred on previously sold policies reduce the profitability of the insurer and will accordingly increase the cost of capital for this reason alone. The losses also underscore the magnitude of the ambiguity problem and could increase the "ambiguity premium" embedded in the cost of capital.⁵⁴ By compounding losses over a number of years, forecasting errors can substantially increase the cost of capital for insurance companies.

D. *The Insurance Underwriting Cycle*

Legal ambiguity complicates the forecasting problem faced by insurers and increases the likelihood that insurers will make mistakes. Due to this type of forecasting error, the insurer can set premiums too low, resulting in underwriting losses over time. These forecasting errors can also produce premiums that are too high, ultimately yielding supra-normal profits. The dynamics of market competition prevent premiums from being either systematically too low or too high for

53. *Id.* at 399–400.

54. This reasoning assumes that the ambiguity premium does not necessarily decrease over time as insurers gain experience with the estimation problem.

Learning is sometimes invoked to criticize models of ambiguity aversion. The argument is that since ambiguity is due to a lack of information and is resolved as agents learn, it is at best a short run phenomenon. Work on learning under ambiguity has shown that this criticism is misguided. First, ambiguity need not be due only to an initial lack of information. Instead, it may be generated by hard-to-interpret, ambiguous signals. Second, there are intuitive scenarios where ambiguity does not vanish in the long run.

Epstein & Schneider, *supra* note 45, at 22.

long periods, as insurers would either be driven from business (due to mounting losses) or forced to reduce premiums to compete with new entrants enticed by the supra-normal profits in the market. Instead, premiums cycle between the two types of systematic error, with the resultant swings in insurer profitability producing an underwriting cycle:

Markets for many types of property and casualty insurance exhibit soft-market periods, where premium rates are stable or falling and coverage is readily available, and subsequent hard-market periods, where premium rates and insurers' reported profits significantly increase and less coverage is available. Conventional wisdom among practitioners and other observers is that soft and hard markets occur in a regular "underwriting cycle."⁵⁵

Because the underwriting cycle stems from forecasting errors, there is widespread agreement that legal ambiguity has a disruptive effect on the market for liability insurance.⁵⁶ As Tom Baker puts it, "uncertainty about insurance costs is the fuel that drives the underwriting cycle."⁵⁷ Another study reached a similar conclusion:

A number of studies of the experience with general liability insurance in the mid-1980s argue or provide evidence that the growth in premiums and lack of availability of insurance were caused largely by rapid growth in claim cost forecasts, reductions in interest rates (which increased the present value of predicted claim costs), and increases in the uncertainty of future liability claim costs associated with changes in the tort liability system.⁵⁸

Uncertainty or legal ambiguity is somehow linked to the underwriting cycle, although the relation between the two has not been fully identified. As Baker explains,

Thus far, the explanation of "cost" makes it clear that liability insurance pricing and reserving is an uncertain business and that seemingly small changes in loss expense assumptions can lead to large changes in reserving. This uncertainty and reserve compounding alone, however, does not explain the cyclical pattern of insurance pricing and reserving. All by itself, uncertainty would be expected to produce a pattern of pricing and reserving that looks something like the array of darts around a bull's eye, not a pattern of darts clustered first to the left of the bull's eye and then to the

55. Scott E. Harrington, *Tort Liability, Insurance Rates, and the Insurance Cycle*, in *BROOKINGS-WHARTON PAPERS ON FINANCIAL SERVICES 2004*, at 97, 97 (Robert E. Litan & Richard Herring eds., 2004).

56. See Scott E. Harrington & Patricia M. Danzon, *The Economics of Liability Insurance*, in *HANDBOOK OF INSURANCE 277, 297* (Georges Dionne ed., 2000) ("Several studies argue that greater uncertainty increased prices needed to cover expected future costs including the cost of capital."); see also Baker, *supra* note 44, at 393; Harrington, *supra* note 55, at 97.

57. Baker, *supra* note 44, at 396.

58. Harrington, *supra* note 55, at 105-06 (footnotess omitted).

right. Moreover, the compounding effect that new assumptions have on reserves should not produce correspondingly compounded changes in insurance pricing, because prices in a competitive market should be set at the amount needed to cover future loss expenses, without regard to insurers' profit and loss under past policies.⁵⁹

The problem, according to another leading scholar, is that “[w]e know relatively little about whether and why insurance prices tend to fall too low during soft markets.”⁶⁰

The traditional view of underwriting cycles by practitioners and industry analysts emphasizes fluctuations in capacity to write coverage as a result of changes in surplus and insurer expectations of profitability on new business. Supply expands when expectations of profits are favorable, but competition then drives prices down, allegedly until inevitable underwriting losses deplete surplus. Supply contracts in response to unfavorable profit expectations and in an effort to avert financial collapse. Higher prices replenish surplus, leading to another round of price cutting, which ultimately becomes excessive. This explanation of supply contracting is roughly consistent with capacity constraint models [that rely on the higher cost of outside capital relative to internal capital], but the explanation of soft markets fails to explain how and why competition would cause rational insurers to cut prices to the point where premiums and anticipated investment income are insufficient to finance optimal forecasts of claim costs (and to ensure a low probability of insurer default).⁶¹

There is no widely accepted explanation of the insurance cycle, although there is widespread agreement that ambiguity is at the root of the problem. Ambiguity requires subjective evaluations of risk and necessarily means that the insurance market is driven by forecasts and expectations. Erroneous forecasts alter expectations that in turn somehow cause the market to cycle.⁶² Without ambiguity, there would be no forecast errors or changed expectations, making ambiguity the root cause of the insurance cycle.

E. Ambiguity, Consensus, and the Cycle

Under conditions of ambiguity, an insurer must estimate the risk in question. There is no identifiably correct or reliable estimate of the

59. Baker, *supra* note 44, at 401 (footnote omitted).

60. Harrington, *supra* note 55, at 126.

61. *Id.* at 119 (footnotes omitted).

62. Despite the obvious role of expectations, the literature on the insurance cycle has not adequately emphasized that. *See, e.g.*, Gene C. Lai et al., *Great (and Not So Great) Expectations: An Endogenous Economic Explication of Insurance Cycles and Liability Crises*, 67 J. RISK & INS. 617, 617–24 (2000) (surveying the literature and proposing that the “elements . . . for a consensus exist” if some previously identified factors were interpreted more generally in terms of “expectation changes”).

risk (otherwise there would be no ambiguity), nor is there a commonly employed approach for estimating ambiguous risks.⁶³ Different insurers presumably will make different estimates. Due to competitive pressures, insurers are likely to revise their initial estimates, with each converging upon a consensus estimate. The policy will then be available in the market for largely the same premium from any number of insurers. The market premium, however, is not necessarily based on the actual risk in question. (If the consensus estimate necessarily operated in this manner, then there would be no problem of ambiguity—insurers could always eliminate ambiguity by adopting the consensus estimate.) The market, therefore, can readily converge on a premium that is too high or too low relative to the actual risk.

To see why, suppose there are three insurers with each reaching a different initial estimate of the risk and associated premium for the policy, respectively denoted *low*, *medium*, and *high*. If the insurers were required to make a sealed-price bid for procuring business with the lowest bid garnering the insurance sale, then the winning bidder would predictably set premiums too low relative to the actual value (the so-called winner's curse).⁶⁴ In our example, all insurance policies

63. Cf. Epstein & Schneider, *supra* note 45, at 3 (“A confusing aspect of the literature [on ambiguity] is the plethora of seemingly different models, rarely related to one another, and often expressed in drastically different formal languages.”).

64. Experimental evidence indicates that the winner's curse is a common phenomenon. Richard H. Thaler, *Anomalies: The Winner's Curse*, 2 J. ECON. PERSP. 191, 192 (1988).

The idea is simple. Suppose many oil companies are interested in purchasing the drilling rights to a particular parcel of land. Let's assume that the rights are worth the same amount to all bidders, that is, the auction is what is called a *common value* auction. Further, suppose that each bidding firm obtains an estimate of the value of the rights from its experts. Assume that the estimates are unbiased, so the mean of the estimates is equal to the common value of the tract. What is likely to happen in the auction? Given the difficulty of estimating the amount of oil in a given location, the estimates of the experts will vary substantially, some far too high and some too low. Even if companies bid somewhat less than the estimate their expert provided, the firms whose experts provided high estimates will tend to bid more than the firms whose experts guessed lower. Indeed, it may occur that the firm that wins the auction will be the one whose experts provided the highest estimates. If this happens, the winner of the auction is likely to be a loser. The winner can be said to be “cursed” in one of two ways: (1) the winning bid exceeds the value of the tract, so the firm loses money; or (2) the value of the tract is less than the expert's estimate so the winning firm is disappointed. . . . In either version the winner is unhappy about the outcome, so both definitions seem appropriate.

Id. A number of scholars believe that the insurance cycle can be explained at least in part by the winner's curse. See, e.g., Sean M. Fitzpatrick, *Fear Is the Key: A Behavioral Guide to Underwriting Cycles*, 10 CONN. INS. L.J. 255, 260 (2003) (“[T]he insurance market—particularly in ‘long tail’ lines of business—is particularly fertile ground for instances of the Winner's Curse.”); Scott E. Harrington & Patricia M. Danzon, *Price Cutting in Liability Insurance Markets*, 67 J. BUS. 511, 529–31 (1994) (observing that “heterogeneous information” available to individual insurers

would sell for the *low* premium. The market for insurance, however, does not operate with sealed bids. The typical sale is initiated by a prospective buyer talking to a broker. These two map out a timeline and options. The broker collects data from the buyer if necessary and might perform its own analysis to determine the market. The broker advises the buyer about the different coverage options and likely prices. The buyer tentatively decides on a coverage based on the estimates. The broker then “goes to market” and tries to place the risk. Based on the feedback of the market, the price can be altered.⁶⁵ Due to the nature of the insurance transaction, the insurer that initially settled on the *low* premium will learn about the *medium* and *high* premiums from its frequent competition over similar policies. This insurer also knows the logic of the winner’s curse and would rationally adjust its risk estimate upwards to more closely approximate the consensus estimate.⁶⁶ Similarly, the insurer with the *high* premium will routinely lose business and could readily conclude that its estimate is too high, causing it to reduce premiums to more closely approximate the consensus estimate. Thus, under conditions of ambiguity, insurers with *low* premiums have incentives to increase those premiums (to avoid suffering the winner’s curse), while insurers with *high* premiums face competitive pressures to reduce premiums. The logic of the winner’s curse and price competition is likely to drive premiums towards some sort of consensus estimate, albeit one that is not necessarily equal to the actual risk for reasons given earlier.

Numerous studies have found that ambiguous decision making is conducive to conformity,⁶⁷ and the insurance market seems prone to this type of behavior. In addition to the dynamic described above, a consensus estimate is also attractive to an insurer’s actuaries, the indi-

might tend to reduce prices partially because of the winner’s curse, but finding that their empirical research does not support this hypothesis); Robert T. McGee, *The Cycle in Property/Casualty Insurance*, FED. RES. BANK N.Y. Q. REV., Autumn 1986, at 22, 22 (conjecturing that insurers with optimistic loss forecasts might cause prices to fall below the level implied by industry average forecasts); see also Baker, *supra* note 44, at 421 (concluding that the winner’s curse “may help provide an additional behavioral gloss on the explanations of industry insiders” for the underwriting cycle).

65. See, e.g., *Placing Risks*, LLOYDS, <http://www.lloyds.com/Lloyds/About-Lloyds/What-we-do/Placing-Risk> (last visited Mar. 10, 2011).

66. The effect is in the *anticipation* of this possibility by each bidder or premium setter. Each insurer will adjust its own estimates of losses upward, in a market with information heterogeneity, to account for the fact that, if it is successful in attracting substantial demand, its premium will likely be too low.

Ralph A. Winter, *Comment and Discussion*, in BROOKINGS-WHARTON PAPERS ON FINANCIAL SERVICES, *supra* note 55, at 127, 133.

67. See, e.g., Roger W. Spencer & John H. Huston, *Rational Forecasts: On Confirming Ambiguity as the Mother of Conformity*, 14 J. ECON. PSYCHOL. 697, 708 (1993).

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viduals who estimate or forecast risks and formulate rates for an insurer. A rational actuary devises her estimates based on all available information, which presumably includes the estimates (premiums) adopted by another insurer.⁶⁸ Rationality, moreover, is a broader concept:

Rationality requires the maximization of utility, but forecast accuracy is clearly only one element of the forecaster's utility function. If the researcher's forecast differs widely from that of his/her peers, the researcher may become somewhat uncomfortable. If the forecast period is lengthy [as occurs with long-tail lines of insurance], the importance of not appearing out of touch with the prevailing wisdom may rival or exceed the significance of being unbiased.

An unbiased forecast is not the same as a correct forecast, and if the forecast period is lengthy, the forecaster will have many more opportunities to be compared to his/her peers than to be proven correct. A forecaster who continually deviates from the consensus, when no actual . . . figure exists [because the actual risk has not yet been adequately identified], may be harmed from both a status and pecuniary perspective. Moreover, if unforeseen circumstances cause virtually all prognosticators to err in the same direction, each can claim to be blameless and in good company. . . .

Thus, rationality may prevail among forecasters, not in the sense of bias or efficiency, but in the context of utility maximization in meeting psychological objectives.⁶⁹

This type of behavior characterizes the manner in which economic forecasters make estimates of the inflation rate:

Informational costs and benefits might explain the use of the consensus forecast, but empirical support for that hypothesis is weak given the relatively poor predictive power of the consensus forecast. A better explanation for the use of the consensus emerges from psychological principles summarized in the aphorism "ambiguity is the mother of conformity."

Our empirical results indicate that forecasts of inflation are strongly correlated with the past forecasts of a consensus or peer group.⁷⁰

The dynamic pushing towards a consensus estimate of the insurance premium is then facilitated by the incentives faced by underwriters, the individuals who take the general premium rates established by actuaries and tailor them to the risk characteristics of an individual insured.

68. A Bayesian decision maker revises probability estimates based on newly acquired information, and so such a decision maker could rationally revise her initial estimate (or subjective prior estimate) in light of the estimates derived by other decision makers confronting the same estimation problem.

69. Spencer & Huston, *supra* note 67, at 707.

70. *Id.* at 708.

[I]nsurers typically compensate underwriters—that is, the analysts who determine which risks will be insured and (to varying extents) what rates will be charged—primarily on the basis of the premiums they generate (the “top line”), rather than on the ultimate profitability of the books of business they produce (the “bottom line”).⁷¹

This compensation scheme places undue emphasis on short-run revenue gains (generated by sales of policies) over long-term cost concerns (the ultimate liabilities incurred under the policy). The incentive to make sales, therefore, can make underwriters more willing to confront legal ambiguity by matching or slightly beating the prevailing price in the market—a price reflecting a consensus estimate of the risk. Not only does the insurance company itself have an incentive to adopt a consensus estimate of the risk, its actuaries and underwriters face similar incentives.⁷²

A market premium based on a consensus estimate then has implications for the dynamics of the market. Suppose that the consensus estimate is originally too high. Over time, insurers will profit in this market, thereby attracting new entrants and producing competitive pressures to reduce premiums. Incumbent insurers are also likely to revise their risk estimates downwards. The period will be one in which premiums are falling and coverage is readily available, the so-called soft-market part of the cycle.⁷³ How far should premiums fall? An insurer can only answer that question based on its claims experience, but the long time lag (or tail of the policy) means that errors can persist and accumulate over time. Premiums can ultimately fall below the level justified by the actual risk despite insurance laws that attempt to avoid such ruinous competition.⁷⁴ At this premium level, insurers will experience adverse losses over time, requiring widespread adjustments in the associated underwriting forecasts with associated changes in reserves and capital requirements. The additional reserves require costly capital infusions by insurers, further reducing profitability and the availability of assets required for the insurer to take on

71. Fitzpatrick, *supra* note 64, at 265.

72. See Sholom Feldblum, *Underwriting Cycles and Business Strategies*, 88 *PROC. CASUALTY ACTUARIAL SOC'Y* 175, 175–76, 203–14 (2001) (stressing the importance of underwriters, the fact that some companies follow market rates rather than make independent determinations, and the fact that companies are sensitive to competitive pressures to cut rates).

73. *Cf.* Lai et al., *supra* note 62, at 629 (providing formal model which shows that “when the insurer perceives that expected losses or risk is decreasing, then availability increases and required premiums fall”).

74. *E.g.*, N.Y. *INS. LAW* § 2303 (McKinney 2006) (“Rates shall not be excessive, inadequate, unfairly discriminatory, destructive of competition or detrimental to the solvency of insurers.”); N.Y. *INS. LAW* § 5505 (McKinney 2009) (“The premiums shall be fixed at the lowest possible rates consistent with the maintenance of solvency of the association and of reasonable reserves and surplus therefor.”).

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new business.⁷⁵ The adverse loss experience also underscores the ongoing problem of ambiguity and could trigger “model uncertainty” or a loss of confidence in the forecasting models.⁷⁶ Any increase in ambiguity will increase the cost of outside capital.⁷⁷ The supply of coverage throughout the market begins to shrink, further driving up prices (in addition to the increases attributable to higher estimates of future liability costs).⁷⁸ The reduced supply causes buyers to place primary concern on procuring coverage in the first instance, making price a secondary competitive concern for insurers.⁷⁹ Because competition no longer centers on premiums, insurers can adopt their own risk estimates that exceed the consensus estimate. The ensuing hard market of limited supply at high prices substantially increases profits for insurers, thereby offsetting prior underwriting losses and attracting new entrants into the market.⁸⁰ The conditions are now conducive to competition centered on premiums, and so the cycle begins anew.

This is not a fully specified explanation of the insurance cycle, but it does show how legal ambiguity has different effects on liability insurance that are somehow linked to the insurance cycle. Legal ambiguity increases the cost of capital and premiums by increasing the variance of outcomes that an insurer expects to experience under the policy. Legal ambiguity can further increase the cost of capital by contributing to model uncertainty and ambiguity aversion. Finally, legal ambiguity can pose the type of forecasting problem that is conducive to conformity or convergence to a consensus estimate under the appro-

75. Cf. Harrington, *supra* note 55, at 113–17 (explaining why costly external finance and capacity constraints can explain the onset of hard markets, whereas these models “are somewhat opaque about price levels in soft markets”); see also INSURANCE INFORMATION INSTITUTE, BASIC CONCEPTS OF ACCOUNTING AND TAXATION OF PROPERTY/CASUALTY INSURANCE COMPANIES 48 (rev. 2d ed. 1987) (describing the legal and practical reasons for why the amount of insurance that a company can sell—its “capacity”—is a multiple of its capital surplus).

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76. See *supra* notes 45–47 and accompanying text (describing model uncertainty and ambiguity aversion).

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77. See *supra* notes 45–51 and accompanying text (explaining why increased ambiguity can increase the cost of capital).

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78. Cf. Lai et al., *supra* note 62, at 629 (providing formal model which shows “that when the insurer experiences events that cause it to change its *ex ante* expectation of future losses or risk upward, it will respond by limiting the number of policies written and increasing the premiums for those it does write”).

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79. The changing market conditions can alter the buyer’s estimation of risk in addition to the insurer’s estimation, thereby shifting the demand curve in a manner that “amplifie[s] rather than dampen[s] the premium changes.” *Id.* at 634. See also Fitzpatrick, *supra* note 64, at 270 n.49 (quoting a representative of a major international broker who observed during the recent hard market in directors and officers (D&O) insurance that “[t]here’s no intense competition in terms of price. We’re having difficulty filling out capacity.” (alteration in original)).

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80. Cf. Winter, *supra* note 66, at 130 (“In all hard markets, revenues have increased as prices have risen.”).

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priate conditions. When the market as a whole is profitable, following the crowd has its obvious benefits. Competition inevitably places downward pressure on premiums and can produce a consensus estimate that is too low. Losses will ultimately mount, and following the crowd is no longer appealing or necessary. Prices rise and supply is disrupted. Regardless of its exact dynamics, this cycle is driven by forecasting errors. The pricing of insurance is an inherently subjective exercise under conditions of ambiguity, creating a role for expectations that can cause cyclical swings in the market's performance—a phenomenon that is hardly surprising in light of the recent performance of global financial markets.

IV. TORT REFORM AND THE DECREASE OF SYSTEMIC LEGAL AMBIGUITY

“Broad evidence indicates that the modern expansion of tort liability has produced . . . substantial uncertainty about the frequency and severity of claims.”⁸¹ An increase in legal ambiguity will increase the likelihood that an insurer makes a forecasting error, which can then be systematized across the market by competitive pressures and produce the dramatic swings in premiums that define the underwriting cycle.

The underwriting cycle produced a severe hard market in the mid-1980s. From 1984 to 1986, premiums for general liability insurance nearly tripled.⁸² Such insurance became unaffordable or unavailable for some, leading to the so-called liability crisis that appeared in myriad forms such as the closing of day-care centers and municipal swimming pools for reasons related to concerns about uninsured exposure to tort liability.⁸³ Many factors explain the problem, but as Kenneth Abraham has concluded, “The most plausible explanation for the size and suddenness of the premium increases is a decline in the property/casualty insurance industry's confidence that it could predict the scope of liabilities it would face under the policies it sold after 1985.”⁸⁴

By the turn of the century, medical liability insurance was experiencing a hard market. According to the U.S. General Accounting Office, “the greatest contributor to increased premium rates” for

81. Harrington, *supra* note 55, at 99.

82. General liability premiums rose “from \$6.5 billion in 1984 to \$19.4 billion in 1986.” W. Kip Viscusi, *Product and Occupational Liability*, 5 J. ECON. PERSP. 71, 71 (1991).

83. See George J. Church, *Sorry, Your Policy Is Cancelled*, TIME, Mar. 24, 1986, at 16 (describing the lack of available insurance and the tremendous increases in premiums).

84. Kenneth S. Abraham, *Making Sense of the Liability Insurance Crisis*, 48 OHIO ST. L.J. 399, 405 (1987).

medical malpractice insurance in the period from 1998 to 2001 involved increasing claim costs and the difficulty faced by insurers in predicting ultimate losses.⁸⁵

Not surprisingly, the onset of hard markets has precipitated calls for tort reform:

What is the solution to this mess? The insurance industry and its institutional insureds urge *tort reform*, which, for them, means new laws that curtail what they perceive as the excesses of the tort system. Specifically, they propose “reforms” that either (1) pay injured parties less, or (2) make it harder for them to be paid, if at all.⁸⁶

Tort reform received its greatest impetus from the hard market of the 1980s. “Of the forty-six states holding legislative sessions [in 1986], forty-one enacted laws intended to slow the increase in insurance rates and costs.”⁸⁷

This tort reform movement largely completes the story of how tort law has evolved over the past century. The rise of mass markets has increased the scope of any legal ambiguity involved in the protection of the individual tort right. The increased legal ambiguity fuels the insurance cycle, yielding particular hard markets with substantial increases in premiums and reductions in the availability of coverage. The occurrence of these hard markets has in turn motivated legislative tort reform that seeks to limit liability in order to control insurance costs.

As suggested by this dynamic, the “insurance companies are major players [within the tort reform movement]. They run advertisements and public relations campaigns, lobby editorial boards and legislatures, fund judicial and political candidates, and initiate or fight referenda on issues ranging from workers’ compensation to limitations on damages.”⁸⁸

But why would liability insurers want to limit tort liability? In the extreme, if there were no tort liability, there would be no need for liability insurance.

85. U.S. GEN. ACCOUNTING OFFICE, *MEDICAL MALPRACTICE INSURANCE: MULTIPLE FACTORS HAVE CONTRIBUTED TO INCREASED PREMIUM RATES* 4 (2003), available at <http://www.gao.gov/new.items/d03702.pdf>.

86. Jeffrey O’Connell, *Balanced Proposals for Product Liability Reform*, 48 OHIO ST. L.J. 317, 318 (1987).

87. Glenn Blackmon & Richard Zeckhauser, *State Tort Reform Legislation: Assessing Our Control of Risks*, in *TORT LAW AND THE PUBLIC INTEREST* 272, 273 (Peter H. Schuck ed., 1991); see also Joseph Sanders & Craig Joyce, “Off to the Races”: *The 1980s Tort Crisis and the Law Reform Process*, 27 Hous. L. Rev. 207, 218–23 (1990) (summarizing tort reform provisions adopted in forty-eight jurisdictions between 1985 and 1988).

88. JOEL LEVIN, *TORT WARS* 119 (2008).

Malpractice insurers supported tort reforms of all sorts, but they put the most muscle behind the enactment of ceilings on the recovery of damages, especially for pain and suffering. The insurers' motive in supporting such ceilings is worth exploring, because this position may seem contrary to their own interest. After all, limiting the amount of damages a plaintiff can recover in a lawsuit reduces demand for a liability insurer's product. Why then did insurers support reforms whose effect would be to reduce their revenue?⁸⁹

The problem becomes more vexing in light of the substantial reductions in revenue that presumably follow from the limitation of damages. Empirical study shows that "the enactment of ceilings on pain and suffering damages probably had the effect of depressing settlements and judgments to between 15 and 20 percent below the levels they would otherwise have reached."⁹⁰ In the long run, the ceilings would reduce premiums by a somewhat lower amount, a substantial reduction of expected revenue that makes it difficult to understand why the insurance industry lobbied for these tort reform measures.⁹¹

As I have previously argued, the reforms furthered the self-interest of the insurance industry by (1) substantially reducing their costs for liability policies covering prior years for which the premiums had been collected but the liability costs not fully incurred and (2) by substantially reducing legal ambiguity in order to reduce the ambiguity costs inherent in the premium.⁹² A similar conclusion has been reached by Kenneth Abraham: "Liability insurers may have viewed the loss of revenue resulting from placing a ceiling on pain and suffering damages to be a price worth paying in order to enhance the predictability of their costs."⁹³

The insurance industry's motivation to reduce legal ambiguity via the reduction of liability is most evident in its support of caps on pain and suffering damages, which may be the most vague component of tort liability.

Jurors have reported that they "find the guidance that is given to them on how to compute [pain and suffering] damages to be mini-

89. KENNETH S. ABRAHAM, *THE LIABILITY CENTURY: INSURANCE AND TORT LAW FROM THE PROGRESSIVE ERA TO 9/11*, at 129 (2008).

90. *Id.* at 128–29 (footnote omitted).

91. "The basic theory of insurance prices implies that 'fair' premiums equal the discounted value of all expected costs associated with writing coverage including the expected cost of claim payments, underwriting expenses, income taxes, and capital." Harrington & Danzon, *supra* note 56, at 291–92. A damage cap, therefore, would substantially reduce the fair premium through the 15–20% reduction in expected claim costs.

92. See Mark Geistfeld, *The Political Economy of Neocontractual Proposals for Products Liability Reform*, 72 *TEX. L. REV.* 803, 838–40 (1993) (also discussing regulatory constraints that may have made it difficult for insurers to keep raising premiums to cover rising costs).

93. ABRAHAM, *supra* note 89, at 129.

mal. . . .” In one products liability case, jurors said they used a process of “guesstimation” to determine pain-and-suffering damages. Another study found that jurors “used different methods of calculating the awards.”

The vague jury instructions predictably result in highly variable damage awards. Plaintiffs who suffer more severe injuries tend to receive higher awards (indicating some degree of “vertical equity”), but those with similar pain-and-suffering injuries often are awarded significantly different amounts of damages (indicating a lack of “horizontal equity”). The jury instructions produce highly variable damage awards by permitting jurors to rely upon a variety of methods for calculating pain-and-suffering damages. Different methods predictably yield different results. One method can easily produce a damages award twice as great as the amount produced by a different method.⁹⁴

Reducing the size of pain and suffering awards considerably reduces the extent to which these uncertain awards can have unpredictable impacts on the cost structure of liability insurance. The resultant reduction of legal ambiguity explains why this reform was favored by liability insurers.

This conclusion finds further support in the other types of tort reforms that have been enacted in the past few decades. “About half the states now have in force ‘statutes of repose’ applicable to products liability,” which place specified time limits on the product seller’s tort liability.⁹⁵ These reforms reduce the length of the “tail” covered by liability insurance and accordingly make it easier for insurers to predict their liability costs under these policies.

Another popular reform involves elimination of joint and several liability, which also simplifies the pricing problem for insurers:

Predicting the magnitude of a particular insured’s potential joint and several liability is particularly difficult for two reasons: whether an insured will be liable at all and how much damage will occur hinge partly on the behavior of other parties, and the portion of any judgment an insured must pay depends on the assets available from the other defendants. Yet these other parties often will be unidentifiable at the time an insurance pricing decision is made.⁹⁶

A number of states have also codified existing liability rules, a reform that does not reduce liability but nevertheless reduces legal am-

94. Mark A. Geistfeld, *Due Process and the Determination of Pain and Suffering Tort Damages*, 55 DEPAUL L. REV. 331, 341–42 (2006) (second alteration in original) (footnotes omitted).

95. ABRAHAM, *supra* note 89, at 165.

96. Abraham, *supra* note 84, at 407.

biguity by preventing courts from further expanding liability through the exercise of their common law authority.⁹⁷

The desire to reduce systemic legal ambiguity within the tort system clearly motivates the tort reform agenda of the insurance industry, but reforms that exclusively focus on this objective can easily turn out to be unfair or unjust. Most notably, the inequity of flat damage caps is both logically apparent and reflected in the empirical data:

A products liability cap . . . will have very targeted impacts. Victims suffering brain damage, para/quadruplegia, and cancer will be most affected, while some classes of accidents, such as dermatitis and poisonings, will be largely unconstrained. To argue that caps will improve the products liability system is to argue that the very severe injuries involve the most excessive awards. There is no evidence that this is the case. . . .

Capping awards might increase the degree of inequity in the manner in which pain and suffering awards are set, because victims with major injuries would be limited in making their claims while those with minor injuries would be unaffected.⁹⁸

Based on the inequities produced by flat caps on pain and suffering damages, some state courts have found them to be in violation of their state constitutional guarantees.⁹⁹

“[T]he justification for eliminating joint and several liability is more difficult to fathom.”¹⁰⁰ After all, a defendant subject to joint and several liability must have tortiously caused the entirety of the plaintiff’s harm. Why should that defendant’s liability be limited at the expense of the plaintiff? “The substitution of several liability for joint and several liability disserves the ends of the tort system: compensation is inappropriately circumscribed, and deterrence of culpable behavior is blunted.”¹⁰¹

97. *E.g.*, IND. CODE §§ 34-6-2-29 to 34-20-9-1 (2010) (specifying the rules governing all actions brought by a user or consumer against a manufacturer or seller for physical harm caused by a product); LA. REV. STAT. ANN. § 9:2800.51–.59 (2009) (same); OHIO REV. CODE ANN. § 2307.71–.80 (LexisNexis 2010) (same); TEX. CIV. PRAC. & REM. CODE ANN. §§ 82.001–.008, 90.001–.012 (Vernon 2005) (largely the same); WASH. REV. CODE § 7.72.010–.070 (2007) (same).

98. W. KIP VISCUSI, *REFORMING PRODUCTS LIABILITY* 107 (1991).

99. *See, e.g.*, *Best v. Taylor Mach. Works*, 689 N.E.2d 1057, 1067, 1070–71, 1077 (Ill. 1997) (concluding that a legislative cap on pain and suffering damages, which was enacted in part to reduce the “systemic costs” of tort liability and to “ensure the affordability of insurance,” violated the state constitution’s prohibition on “special legislation,” where “[a] special legislation challenge generally is judged under the same standards applicable to an equal protection challenge”).

100. William K. Jones, *Tort Triad: Slumbering Sentinels, Vicious Assailants, and Victims Variously Vigilant*, 30 HOFSTRA L. REV. 253, 258 (2001).

101. *Id.* at 259.

The interplay between legal ambiguity, the underwriting cycle, and tort reform now takes on a new dimension. Increased legal ambiguity has exacerbated the underwriting cycle that in turn has spawned a tort reform movement primarily concerned about the reduction of legal ambiguity, regardless of the justice or fairness of those reforms.

V. CONCLUSION

The problem of an uncertain cost structure is not unique to the insurance industry. Volatile input prices, like those produced by the recent oil market, create pricing problems for numerous industries. To ameliorate the resultant uncertainty, manufacturers simultaneously use different technologies to produce a homogenous good, which in turn “reduces the transmission of factor price volatility, like oil-price shocks, to consumer prices.”¹⁰²

The uncertain cost structure faced by liability insurers cannot be addressed by a substitution strategy or one based on the hedging of risks. The uncertainty is inherent in the insurance contract—the liability judgments covered by the policy. As the magnitude of that uncertainty increased in the latter half of the twentieth century, insurers adopted a different strategy for reducing their inherently uncertain cost structure: they became major players in the tort reform movement that has sought to limit tort liability through legislative action. The movement has been successful, and the vast majority of states by now have legislatively curbed tort liability, with common reforms involving damage caps and the elimination of joint and several liability. Although different in substance, each reform shares the trait of significantly reducing systemic legal ambiguity, which in turn makes it easier for liability insurers to forecast their expected liabilities under a policy.

Writing at the height of the insurance crisis in the mid-1980s, Jeffrey O’Connell identified the problematic nature of the resultant tort reform movement:

[A] “solution” that merely further limits the amount of availability of compensation to injured persons is a questionable solution indeed. The *least* appealing way to reform the tort system is to make it even harder for injured parties to be paid.

That is not to deny the evils of the present system. . . .

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102. Frank C. Krysiak, *Technological Diversity and Cost Uncertainty*, 9 B.E. J. ECON. ANALYSIS & POLY 60, 60 (2009), available at <http://www.bepress.com/bejeap/vol9/iss1/art53/?sending=10966>.

Seeing how wildly complex the tort-liability insurance system is in being required to determine not only who or what was at fault, but also the monetary value of nonmonetary losses, we can more appreciate why that system is so unmanageable and why compared with life, health, or fire insurance, it is so uniquely plagued by delay, uncertainty, and costly lawsuits. Although high costs and unavailability of insurance currently highlight the need for change, the system's demand for fundamental change exists quite apart from whether, say, product liability insurance happens to be readily available at a reasonable price at any given time.¹⁰³

The insurance crises sparked by the underwriting cycle are attributable to the legal ambiguity in the tort system, but reforms that simply fixate on the reduction of legal ambiguity are not the answer. Uncertainty per se is not an evil that must be avoided at all costs by the tort system. Liability rules that do not accommodate the factual uncertainty inherent in a world of limited information, for example, are unlikely to be fair or just.¹⁰⁴ At least some uncertainty is also inherent in the exercise of legal judgment, including the jury's determination of reasonable care for important classes of cases.¹⁰⁵ These forms of ambiguity can be justified, but that makes little difference when the reduction of legal ambiguity is the sole objective of tort reform. Consequently, some reforms that have reduced legal ambiguity are unfair or unjust, as illustrated by the widely enacted caps on damages and the elimination of joint and several liability.

This conclusion does not imply that reform is unnecessary. In product cases, for example, the jury's application of the liability rule (the risk-utility test) is an exercise of cost-benefit analysis that does not turn on the identification of safety norms in the community. The ambiguity inherent in a single jury's determination of defective design can have widespread implications for other cases involving the same product with the same design, and such ambiguity can have further adverse effects on both consumer rightholders and manufacturer dutyholders via its disruptive impact on the market for liability insurance. The ambiguity in these product cases differs from that which is

103. O'Connell, *supra* note 86, at 318–20.

104. See *supra* note 2 and accompanying text.

105. Compare Seana Valentine Shiffrin, *Inducing Moral Deliberation: On the Occasional Virtues of Fog*, 123 HARV. L. REV. 1214, 1214 (2010) (arguing that the opaque features of liability standards can have a “salutary impact . . . on citizens’ moral deliberation and on robust democratic engagement with law”), with Catharine Pierce Wells, *Tort Law as Corrective Justice: A Pragmatic Justification for Jury Adjudication*, 88 MICH. L. REV. 2348, 2411 (1990) (arguing “that tort law enforces community standards of financial responsibility and just compensation” and defensibly makes the associated “*ad hoc*, intuitive judgments . . . by allowing the jury to evaluate a wide range of issues and by requiring that it operate in a decisional context that produces locally objective judgments”).

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inherent in a tort case of isolated wrongdoing. The ambiguity inherent in the jury system accordingly has different characteristics across different types of tort cases, but the tort system so far has paid little attention to the issue. In the same manner that the tort reform movement can be criticized for ignoring the important differences among the different forms of legal ambiguity, the same criticism can be leveled at the tort system.

The interplay between legal ambiguity, the underwriting cycle, and tort reform does not have to produce reforms simply motivated by the objective of ambiguity reduction. If there is greater sensitivity about the different types of legal ambiguity, perhaps the tort system will evolve in a manner that more equitably distributes the burden of uncertainty between dutyholders and rightholders.

