

TORT ARBITRAGE

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Abstract

The economic models of bargaining and tort law have not been integrated into a coherent theory that reflects the empirical world. This Article models the interaction of settlement dynamics and the economic theory of negligence. It shows that tort claims are systematically devalued during settlement relative to the legal standard. Central to this thesis is a proper conception and accounting of cost. Cost is typically viewed as the transaction cost of litigation processing. Cost, however, encompasses more than this. Each dispute has a cost of resolution, defined as the discounting effect of risk on legal valuation. A spread between the parties' respective costs of resolution creates an arbitrage opportunity in which the bargaining process presents superior pricing to that of the public forum. In the typical tort context, this cost advantage belongs to the defendant. As long as settlement is the primary method of dispute resolution, tort law is structurally incapable of maintaining the efficient standard of care to which courts aspire. Under this analysis, the fault standard is both an instrument of valuation and a cost-shifting mechanism. The theory of negligence, then, devalues the litigation asset, thus reducing the defendant's liability, and settlement is the result. The effect is to promote a system of self-regulation of accidents in the shadow of uncertain government pricing. These functionalities connect the historical origins of negligence to its "unexpected persistence" today. Negligence maintains the essentially private nature of tort law even as it touches social policy and public conscience.

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I. INTRODUCTION

This Article advances an economic theory that links the dispute resolution process and the negligence standard. Despite the predominance of settlements, we lack an integrated economic theory.¹ This void in the literature is peculiar because scholars have explored the relationship between bargaining and other substantive fields.² Fundamental questions

1. A check of the leading works shows no cross-fertilization between the economic theories of tort law and bargaining. Some leading articles on the economics of bargaining are Robert Cooter, Stephen Marks & Robert Mnookin, *Bargaining in the Shadow of the Law: A Testable Model of Strategic Behavior*, 11 J. LEGAL STUD. 225 (1982); John P. Gould, *The Economics of Legal Conflicts*, 2 J. LEGAL STUD. 279 (1973); Richard A. Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399 (1973) [hereinafter Posner, *Legal Procedure*]; George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984). Some leading works on the economics of torts are GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* (1970); WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* (1987); STEVEN SHAVELL, *ECONOMIC ANALYSIS OF ACCIDENT LAW* (1987); Richard Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29 (1972) [hereinafter Posner, *Negligence*].

2. See, e.g., Janet Cooper Alexander, *Do the Merits Matter? A Study of Settlements in Securities Class Action*, 43 STAN. L. REV. 497 (1991); Jason Scott Johnston, *Strategic Bargaining and the Economic Theory of Contract Default Rules*, 100 YALE L.J. 615 (1990); Robert H.

have not been answered. Does settlement affect the efficiency of tort law? Do courts and private parties apply the same valualational framework? If not, can the claim of economic efficiency hold? Is there a connection between a theory of value and the historical development and persistence of the theory of negligence?

In the latter half of the twentieth century, the debate on tort theory has been rich.³ But in the pursuit of “grand theories,”⁴ scholarship on the theory of tort law has insufficiently accounted for the messy operational processes of the justice system. Theories of tort law assume that the judicial system sets the aspiration and works toward this goal, but the assumption is myopic because most cases settle.⁵ Settlement, it is said, occurs “in the shadow of the law.”⁶ Like a submerged iceberg, settlement is the unseen part of the tort process that should not be ignored. Thus, the tort system, it can be better said, exists in the shadow of bargaining. Its efficiency aspiration can be achieved only within a system that settles most disputes.

Economic theory says that courts maximize social wealth by deterring conduct that imposes net social costs. This claim rests on an unstated assumption that the dispute resolution process is irrelevant to the structure of tort law. The reason is simple: standard bargaining theory posits that

Mnookin & Lewis Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950 (1979); Robert E. Scott & William J. Stuntz, *Plea Bargaining as Contract*, 101 YALE L.J. 1909 (1992). Scholars have analyzed procedural process and transaction cost issues in the context of tort law. See Keith N. Hylton, *Litigation Costs and the Economic Theory of Tort Law*, 46 U. MIAMI L. REV. 111 (1991); Samuel Issacharoff & John Fabian Witt, *The Inevitability of Aggregate Settlement: An Institutional Account of American Tort Law*, 57 VAND. L. REV. 1571 (2004); Jonathan T. Molot, *How U.S. Procedure Skews Tort Law Incentives*, 73 IND. L.J. 59 (1997).

3. See G. EDWARD WHITE, *TORT LAW IN AMERICA: AN INTELLECTUAL HISTORY* 211–43 (expanded ed. 2003) (discussing the emergence and impact of neoconceptualism in tort scholarship of the 1970s); John C.P. Goldberg, *Twentieth-Century Tort Theory*, 91 GEO. L.J. 513 (2003) (analyzing five dominant theories of twentieth-century tort law).

4. WHITE, *supra* note 3, at 284.

5. See PRICE V. FISHBACK & SHAWN EVERETT KANTOR, *A PRELUDE TO THE WELFARE STATE: THE ORIGINS OF WORKERS' COMPENSATION* 33 (2000) (“Given that so many cases were settled out of court, the de facto operation of the negligence liability system potentially was quite different from the de jure descriptions that the law and economics and legal literatures provide.”); LAWRENCE M. FRIEDMAN, *A HISTORY OF AMERICAN LAW* 357, 363 (3d ed. 2005) (emphasizing that appellate literature, in studying tort law, “can be quite misleading” because it is “the tip of a huge iceberg of cases”); Steven Hetcher, *The Jury's Out: Social Norms' Misunderstood Role in Negligence Law*, 91 GEO. L.J. 633, 633 (2003) (explaining that tort theories “badly skew our understanding of the actual legal practices by which the negligence standard receives its content”); Issacharoff & Witt, *supra* note 2, at 1575 (“[T]he private systems of aggregation in our tort system exist in a far-flung, decentralized, and under-the-radar world that rarely come to the attention of tort jurists.”); Michael J. Saks, *Do We Really Know Anything About the Behavior of the Tort Litigation System—and Why Not?*, 140 U. PA. L. REV. 1147, 1212 (1992) (“The focus on trials is somewhat misplaced, because the great majority of cases are settled, not tried.”).

6. Mnookin & Kornhauser, *supra* note 2, at 997.

settlement is struck at the expected value of judgment net of transaction cost.⁷ The private and public valuations yield the same results on liability assignment. This tidy logic explains why law-and-economics scholars have not mined the intersection of bargaining and tort theories. The two theories are facially complementary, and thus they pose no perceived need to harmonize.

The economic story would end here, but a valuational framework focusing on expected value and transaction cost is a fallacy as a matter of positive theory.⁸ The framework fails to account for the valuational effect of risk—not just the effect of individual risk preference—but the overall risk profile.⁹ What is the variance of the expected outcome? What are the parties' attitudes toward risk? How does the prospect of a risky outcome affect the circumstance of each party? In the empirical world, risk has a price. Under asset pricing principles, uncertain cashflows are subject to a risk-adjusted discount, which determines real economic value. A risk-adjusted discount contradicts the efficiency claim, which assumes that deterrence is achieved through probabilistic allocation of cost. Under a theory of value that incorporates risk, private resolution may offer better pricing than the public forum if a party has a lower cost of resolution than the opponent's, which results in superior valuation.

Commentators have long recognized the possibility that settlement may deviate from efficient outcomes, thus imposing social cost.¹⁰ Yet the

7. Robert J. Rhee, *A Price Theory of Legal Bargaining: An Inquiry into the Selection of Settlement and Litigation Under Uncertainty*, 56 EMORY L.J. 619, 631 (2006) [hereinafter Rhee, *Price Theory*].

8. *Id.* at 620–21; Robert J. Rhee, *The Effect of Risk on Legal Valuation*, 78 U. COLO. L. REV. 193, 194–95 (2007) [hereinafter Rhee, *Effect of Risk*].

9. In this Article, “risk,” “uncertainty,” and “variance” are used interchangeably. The economic literature sometimes distinguishes risk and uncertainty in that risk consists of future outcomes that have a known distribution while uncertainty describes those that have unknown distributions. FRANK H. KNIGHT, *RISK, UNCERTAINTY AND PROFIT* 233–34 (Harper & Row 1965) (1921). This distinction is not made here because applicable probability distributions do not exist for most legal actions. See Rhee, *Price Theory*, *supra* note 7, at 638–46. The problem is one of reference class. In any given action, the probability distribution would change depending on the reference class used. Indeed, there is no objective probability as to the merits of this action, if probability truly refers to this specific action as opposed to a proposition on the class of similarly situated actions. Accordingly, probability as an objective measure is illusory.

10. See Alexander, *supra* note 2, at 505–23 (arguing that settlements in securities actions deviate from the expected outcome of trial); Bruce L. Hay & Kathryn E. Spier, *Settlement of Litigation*, in 3 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW: P–Z 442, 447 (Peter Newman ed., 1998) (noting that lower settlement values may be “socially wasteful”); Note, *Settling for Less: Applying Law and Economics to Poor People*, 107 HARV. L. REV. 442, 444–51 (1993) (arguing that the poor tend to settle for less than the expected trial outcome); John A. Siliciano, *Corporate Behavior and the Social Efficiency of Tort Law*, 85 MICH. L. REV. 1820, 1835–53 (1987) (arguing that the realities of corporate behavior undermine the efficiency goal of tort law); Kathryn E. Spier, *A Note on the Divergence Between the Private and Social Motives to*

possibility has not been analyzed through an integrated economic theory of negligence. The central thesis of this Article is that the dispute resolution process systematically undervalues claims qua the judicially prescribed valuation. The theory of negligence is structurally incapable of setting the standard of care as described by the positive economic theory of tort law. Efficiency, as defined, is impossible because the structure of the fault system creates an arbitrage opportunity for the party who has the lower cost of resolution.

This arbitrage connects the historical choice of negligence, which reduced (intended or not) the liability of a burgeoning industrial enterprise, to the current “unexpected persistence” of the fault standard,¹¹ which has resisted challenges from alternative ideas. Negligence maintains its viability today, in part at least, because it is cheaper for industry. More than any other competing idea, it creates the greatest degree of risk—uncertainty of outcome.¹² One obvious result, it is fairly observed, is a costly pricing mechanism that requires the parties to seek information about the value of the case. But there is another facet to the fault system that is seen through the prism of bargaining theory. By increasing uncertainty, the cost structure of negligence promotes settlement under terms favorable to the party who has the lower cost of resolution. In this respect, negligence persists because it balances the public ordering of tort law with the essentially private ordering of a tort dispute.

II. TORT AND BARGAINING THEORIES

A. *Tort Law in the Shadow of Settlement*

Most resolutions of disputes are invisible to academic and judicial eyes because they are settled without a lawsuit.¹³ These disputes tend to be simple and are not worth the transaction cost of litigation or the social cost of disrupting the community peace. Social norms and other factors, irrelevant to liability in the strictest sense, often influence settlements.¹⁴ In this invisible world, it is questionable whether the resolution of tort disputes resembles the claim of efficiency in tort models. No one disputes that legitimate claims go undiscovered or are not pursued for one reason

Settle Under a Negligence Rule, 26 J. LEGAL STUD. 613, 614–16 (1997) (discussing the possibility of divergence between settlement and social efficiency).

11. See WHITE, *supra* note 3, at 244–90.

12. See *infra* notes 197–99 and accompanying text.

13. See H. LAURENCE ROSS, *SETTLED OUT OF COURT: THE SOCIAL PROCESS OF INSURANCE CLAIMS ADJUSTMENTS* 141 (1970); Marc A. Franklin et al., *Accidents, Money, and the Law: A Study of the Economics of Personal Injury Litigation*, 61 COLUM. L. REV. 1, 10 (1961); see also ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* 4 (1991).

14. ELLICKSON, *supra* note 13, at 4–8; ROSS, *supra* note 13, at 113.

or another, though we may never know the extent of this phenomenon.¹⁵ Moreover, bankruptcy protection and the limited-liability shield of various types of business entities ensure that a certain portion of tort liability is judgment proof.¹⁶ Thus, there is an invisible corner of the tort system where defendants “internalize far less than the full cost of losses they inflict.”¹⁷

This Article analyzes only the visible part of the tort system—filed civil actions. Even here the degree of transparency varies. Trials and appeals are transparent through public records, but settlements within the legal system are less so. Because settlements are private, the behavioral and economic details of how settlements are struck are only partially known,¹⁸ but there are aggregate statistical data. Among filed actions, juridical resolutions play a small role. Only a small percentage of filed cases ever reach trial.¹⁹ A substantial minority of cases are dismissed through nontrial adjudication.²⁰ A substantial majority settle.²¹ Although

15. See DEBORAH R. HENSLEY ET AL., RAND, THE INST. FOR CIVIL JUSTICE, COMPENSATION FOR ACCIDENTAL INJURIES IN THE UNITED STATES 142 (1991) (“[C]laiming is a statistically *unusual* behavior: many more injured people decline to claim—or never even consider claiming—than attempt to activate the legal process.”); see also TOM BAKER, THE MEDICAL MALPRACTICE MYTH 68–69 (2005); Franklin et al., *supra* note 13, at 10; Goldberg, *supra* note 3, at 554; Saks, *supra* note 5, at 1183.

16. See Henry Hansmann & Reinier Kraakman, *Toward Unlimited Shareholder Liability for Corporate Torts*, 100 YALE L.J. 1879, 1916–23 (1991) (arguing that the corporate liability shield should be abolished for tort liability); Siliciano, *supra* note 10, at 1838–40 (noting the effects of bankruptcy protection for corporate entities); David W. Leebron, *Limited Liability, Tort Victims, and Creditors*, 91 COLUM. L. REV. 1565 (1991) (analyzing the effect of limited liability on tort victims).

17. Saks, *supra* note 5, at 1283 n.533; accord Hylton, *supra* note 2, at 113–14.

18. See FRIEDMAN, *supra* note 5, at 357 (“About the rest of the system—settlements and claims adjustment, for example—even less is known.”).

19. See Marc Galanter, *The Vanishing Trial: An Examination of Trials and Related Matters in Federal and State Courts*, 1 J. EMPIRICAL LEGAL STUD. 459, 462–63 tbl.1 (2004) (listing that from 1962 to 2002, civil trial rates in federal court declined from 11.5% to 1.8%); *id.* at 507 tbl.4 (listing that in a composite of twenty-two state courts, trials decreased from 36.1% in 1976 to 15.8% in 2002); Posner, *Negligence*, *supra* note 1, at 35 (noting that about 2% of accident claims are tried); Saks, *supra* note 5, at 1212–13 (noting that less than 10% of cases reach trial); Franklin et al., *supra* note 13, at 10 (explaining that about 3.6% of injury claims in New York City reach trial each year); see also Issacharoff & Witt, *supra* note 2, at 1582–83 (showing a historical trend of increasing settlements in the course of the nineteenth and twentieth centuries).

20. See Gillian K. Hadfield, *Where Have All the Trials Gone? Settlements, Nontrial Adjudications, and Statistical Artifacts in the Changing Disposition of Federal Civil Cases*, 1 J. EMPIRICAL LEGAL STUD. 705, 730 tbl.7 (2004) (noting that 23.3% of contested federal civil cases in 2000 were disposed through nontrial adjudication); David M. Trubek et al., *The Cost of Ordinary Litigation*, 31 UCLA L. REV. 72, 89 (1983) (noting that 22.5% of the cases in the study were dismissed or received judgment on the merits without a trial).

21. Alexander, *supra* note 2, at 525 (noting that rate of settlement is likely 60% to 70% of filed cases); Hadfield, *supra* note 20, at 730 tbl.7 (noting that 68.7% of federal civil cases in 2000 were settled).

appellate decisions are the empirical fodder of tort theory,²² they constitute a minute fraction of filed actions.

Given the predominance of settlement, one could argue that a weak form of the Coasean vision of the law's irrelevance exists.²³ That said, judicial administration of tort law cannot be marginalized on the basis of statistical infrequency. Cases settle within the legal framework of the litigation process.²⁴ Conversely, the settlement process cannot be viewed as a unidirectional law and effect. Settlements affect the law or its efficacy. Because trial is a rarity, tort theory must address the reality that even with filed cases the costs of accidents are priced and allocated in the opaque realm of private agreements.²⁵

B. *Positive Economic Theory of Negligence*

The positive economic theory of tort law is well known. In *A Theory of Negligence*, Richard Posner argued that negligence is grounded in economic efficiency and that liability assignment depends on a cost-benefit analysis.²⁶ The centerpiece of this analysis is the Hand Formula, noted as $PL > B$.²⁷

Discounting (multiplying) the cost of an accident if it occurs by the probability of occurrence yields a measure of the economic benefit to be anticipated from incurring the costs necessary to prevent the accident. The cost of prevention is what Hand meant by the burden of taking precautions against the accident. It may be the cost of installing safety equipment or eliminating the activity. If the cost of safety measures or curtailment—whichever cost is lower—exceeds the benefit in accident avoidance to be gained by incurring that cost, in economic terms society would be better off to forgo accident prevention.²⁸

22. See, e.g., Posner, *Negligence*, *supra* note 1, at 29 (analyzing a sample of 1,528 appellate cases).

23. See R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15 (1960) (arguing that the factors on which court decisions turn are irrelevant to economists and that it is always possible to modify legal rights through market transactions).

24. See Mnookin & Kornhauser, *supra* note 2, at 950; see also Franklin et al., *supra* note 13, at 13 (stating that about 84% of claimants achieved some recovery).

25. FISHBACK & KANTOR, *supra* note 5, at 22 ("A better understanding of the de facto operation of the negligence system, therefore, serves as the basis for more accurate theoretical discussions of the relative efficiency of negligence and no-fault legal systems.").

26. Posner, *Negligence*, *supra* note 1, at 34.

27. *United States v. Carroll Towing*, 159 F.2d 169, 173 (2d Cir. 1947). In Hand's formula, P equals probability, L equals injury, and B equals burden. *Id.* The Hand Formula has achieved iconic status in tort law, thanks in large part to Posner, and it has been the muse of an enormous volume of commentary. See Benjamin C. Zipursky, *Sleight of Hand*, 48 WM. & MARY L. REV. 1999, 2000–01 (2007).

28. Posner, *Negligence*, *supra* note 1, at 32.

In *The Economic Structure of Tort Law*, Posner and William Landes provided a formal economic model of tort law.²⁹ The model recognizes that uncertainty is the governing condition of a dispute. Consequence from action is uncertain: upon an accident, the liability boundary is uncertain; upon suit, the juridical outcome is uncertain. A meritorious lawsuit is neither certain to lose nor to win. According to Posner and Landes, uncertainty is accounted for through the concept of expected utility, calculated as the sum of the probability distribution of mutually exclusive states of outcome.³⁰ Because risk neutrality is assumed, risk is not a factor of value.³¹ Value is calculated as the expected value of the future juridical outcome.³²

With expected utility defined, a supply–demand model is constructed to determine the most efficient standard of care.³³ The demand curve *PL* is downward sloping and decreases at a marginal product of care. The supply curve *B* is upward sloping and increases at a marginal cost of care.³⁴ The intersection of the supply–demand curves yields the lowest total cost corresponding to the optimal standard of care.³⁵ Stated differently, the liability boundary is the point at which the marginal cost of the accident equals the marginal cost of precaution. Thus, the Hand Formula, revised as a marginal cost analysis, is the “correct economic standard of negligence.”³⁶

The Hand Formula factors, viewed in isolation, are subject to rational assessments. First, probability is subjective,³⁷ but for the purpose of

29. LANDES & POSNER, *supra* note 1.

30. *Id.* at 55.

31. *See id.* at 56–57.

32. *See id.* at 55–56.

33. *Id.* at 59–60.

34. *Id.* at 60.

35. *See id.*

36. *Id.* at 87. Landes and Posner noted: “Hand was purporting only to make explicit what had long been the implicit meaning of negligence.” *Id.* at 85. Other economic theories of tort law are consistent in the application of cost–benefit analysis. *See, e.g.,* SHAVELL, *supra* note 1, at 19–21. However, the efficiency claim is not without its critics. Posner and Landes respond that their interest is “in explaining, rather than defending, the common law of torts.” LANDES & POSNER, *supra* note 1, at 9. This claim has been criticized as hiding a normative preference for wealth maximization. *See* J. M. Balkin, *Too Good to Be True: The Positive Economic Theory of Law*, 87 COLUM. L. REV. 1447, 1448–59 (1987) (book review). Critics and proponents agree, however, that the efficiency claim cannot be empirically verified. LANDES & POSNER, *supra* note 1, at 20; *see* FISHBACK & KANTOR, *supra* note 5, at 18 (explaining that attempts to measure the relative efficiencies “have fallen well short of expectations”); Michael D. Green, *Negligence = Economic Efficiency: Doubts >*, 75 TEX. L. REV. 1605, 1607 (1997) (“It is also exceedingly difficult to contradict or disprove this positive economic theory.”); *see also* Anita Bernstein, *Whatever Happened to Law and Economics?*, 64 MD. L. REV. 303, 319–22 (2005) (noting that law-and-economics theories suffer from a lack of predictive power and empirical confirmation).

37. LANDES & POSNER, *supra* note 1, at 55. Posner and Landes did not explore the

argument here, the assumption, unless otherwise stated, is that the parties share similar views of expected value and this view is consistent with an assumption of rational expectation.³⁸ Second, with respect to loss, courts routinely assign value to loss at trial, and thus loss value is based on the expected juridical outcome. Finally, the cost of precaution is perhaps the most assessable factor. Each discrete level of precaution is typically measurable through market pricing of materials and labor, subject to foreseeability of the harm and feasibility of the precautionary method. For example, there are commoditized prices for rescue efforts at sea,³⁹ bargees in boats,⁴⁰ radios in tugboats,⁴¹ lifeguards at hotel pools,⁴² fuel tank designs,⁴³ electric power lines serving railway cars,⁴⁴ and fences in cricket yards.⁴⁵

The problem is that value is determined relative to some governing conceptual framework held either by the parties or the broader society. Where market price is available, one's value assignment is compared against the market price to determine whether one wants to transact. But where market pricing is absent and the parties are coerced to transact, as in a lawsuit, the market benchmark is lacking and relative valuation assumes greater importance because a transaction must ultimately occur. In a legal dispute, there are three participants who determine value: plaintiffs, defendants, and courts. Absent a private agreement on value between the parties, courts are the default arbiters of value. Herein are important unsettled questions. Do the perceptions of value among these heterogeneous participants differ? If so, what is the impact on the standard of care? And, who really sets the price of deterrence? The economic model of tort law does not explicitly address these questions, but by its silence, the implied answer must be that the process of dispute resolution is irrelevant.

implication of inductive probability. See Rhee, *Price Theory*, *supra* note 7, at 642–50 (discussing the implication of the subjective nature of probability on legal analysis).

38. Most economic models assume rational expectation, which means that “expectations contain no systematic bias, that is, the subjective expectations correspond to the objective frequencies of the random event.” Robert Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1, 22 (1982).

39. See *Gardner v. Nat'l Bulk Carriers, Inc.*, 310 F.2d 284, 286 (4th Cir. 1962).

40. See *United States v. Carroll Towing*, 159 F.2d 169, 174 (2d Cir. 1947).

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

42. See *Haft v. Lone Palm Hotel*, 478 P.2d 465, 467 (Cal. 1970).

43. See *Grimshaw v. Ford Motor Co.*, 174 Cal. Rptr. 348, 377–78 (Dist. Ct. App. 1981).

44. See *Adams v. Bullock*, 125 N.E. 93, 93–94 (N.Y. 1919).

45. See *Bolton v. Stone*, [1951] A.C. 850 (H.L.) (U.K.).

C. Economic Theory of Legal Bargaining

The economic analysis of legal bargaining traces back to Ronald Coase's landmark work on transaction cost economics, *The Problem of Social Cost*.⁴⁶ Coase argued that in a world of zero transaction costs and "conditions of perfect competition," parties would privately bargain to efficiently allocate economic production, regardless of the initial assignment rights.⁴⁷ "With costless market transactions, decisions of the courts concerning liability for damage would not affect the allocation of resources."⁴⁸ The broadest lesson is that the economic efficiency in any transaction is dependent, at least in part, on its transaction cost, a concept readily portable to legal valuation and the settlement process.⁴⁹

The powerful idea of transaction cost economics became the theoretical precursor to the prevailing economic model of legal bargaining.⁵⁰ Here again Landes and Posner have been leading thinkers. Landes applied Coase's ideas to settlement behavior in criminal cases.⁵¹ The key factors driving settlement, Landes suggested, are the parties' assessments of the probability of prevailing, their risk preferences, the amount or stake in controversy, and transaction costs.⁵² Posner later refined this analysis:

The plaintiff's minimum offer is the expected value of the litigation to him plus his settlement costs, the expected value of the litigation being the present value of the judgment if he wins, multiplied by the probability (as he estimates it) of his winning, minus the present value of his litigation expenses. The defendant's maximum offer is the expected cost of the litigation to him and consists of his litigation expenses, plus the cost of an adverse judgment multiplied by the probability as he estimates it of the plaintiff's winning (which is equal to one minus the probability of *his* winning), minus his settlement costs.⁵³

46. Coase, *supra* note 23.

47. *Id.* at 6, 15; see also Guido Calabresi, *Transaction Costs, Resource Allocation and Liability Rules—A Comment*, 11 J.L. & ECON. 67, 73 (1968) (concluding that the Coasean analysis is an "admirable tool" for resource allocation decisions); Harold Demsetz, *When Does the Rule of Liability Matter?*, 1 J. LEGAL STUD. 13 (1972) (offering a critical overview of the Coase theorem).

48. Coase, *supra* note 23, at 10.

49. See Calabresi, *supra* note 47, at 68 ("[I]f one assumes rationality, no transaction costs, and no legal impediments to bargaining, *all* misallocations of resources would be fully cured in the market by bargains.").

50. Landes credits Coase with providing the theoretical precursor to legal bargaining theory. William M. Landes, *An Economic Analysis of the Courts*, 14 J.L. & ECON. 61, 102 n.61 (1971).

51. See *id.* at 61.

52. *Id.* at 101–02.

53. Posner, *Legal Procedure*, *supra* note 1, at 418; see Alan E. Friedman, Note, *An Analysis*

Settlement is conditioned on the defendant's maximum settlement value being greater than the plaintiff's minimum value.⁵⁴ The range between the defendant's maximum settlement value and the plaintiff's minimum settlement value is the "contract zone." The larger this contract zone, the greater is the possibility of settlement. Probability assessment and transaction costs are key factors.⁵⁵ This basic model comports with an intuitive understanding of a cost-benefit analysis. Let P be probability of favorable judgment, L expected liability amount, T transaction cost for each party, and B aggregate transaction cost for both parties. Assume that L and T are the same for both parties but that the parties' probability of success differs. Trial should result only if there is no contract zone.⁵⁶ This condition is expressed as the trial inequality: $P_p \times L - T > P_d \times L + T$. The difference between the parties' probability assessments can be noted as $P_\Delta = P_p - P_d$. By rearranging the trial inequality, one derives $P_\Delta L > B$. The selection of trial and settlement is a product of a cost-benefit analysis.

Cost is limited to the cash-reducible expenses of litigation processing, primarily attorney fees. Because risk neutrality is the governing framework,⁵⁷ adjustments to value are made based on individual risk preferences. A risk-averse person would accept a discount from the risk-neutral valuation up to an indifference point. A risk-seeking person would require a premium. Because preferences are matters of one's peculiar disposition, the risk-neutral framework serves as a theoretical reference point from which individual behavior may vary according to preference. This bargaining model "is so satisfying that it is only a small step to assume that it is descriptively accurate, even though neither its assumptions nor its conclusions have been empirically verified."⁵⁸ Thus, the bargaining model is both a positive prediction of actual settlement behavior and a normative prescription, if only implied, to mimic the Coasean world of private bargains, costless pricing mechanisms, and irrelevant laws.⁵⁹

of Settlement, 22 STAN. L. REV. 67 (1969) (providing an earlier economic analysis). Subsequently, courts have applied a similar economic approach. See *Evans v. Jeff D.*, 475 U.S. 717, 734 (1986).

54. Posner, *Legal Procedure*, *supra* note 1, at 417.

55. See *id.* at 418–19.

56. RICHARD A. POSNER, *ECONOMIC ANALYSIS IN LAW* 597–98 (7th ed. Aspen 2007). Because the direct cost of settlement is so small compared to litigation costs, it can be seen as "nil." See Robert D. Cooter & Daniel L. Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 27 J. ECON. LITERATURE 1067, 1075 (1989).

57. See LANDES & POSNER, *supra* note 1, at 56–57.

58. Alexander, *supra* note 2, at 504.

59. There is a clear judicial preference for settlement. See *Marek v. Chesney*, 473 U.S. 1, 10 (1985) ("In short, settlements rather than litigation will serve the interests of plaintiffs as well as defendants."); *In re Warner Commc'ns Sec. Litig.*, 618 F. Supp. 735, 740 (S.D.N.Y. 1985) ("[A] bad settlement is almost always better than a good trial."), *aff'd*, 798 F.2d 35 (2d Cir. 1986); see also Marc Galanter & Mia Cahill, "Most Cases Settle": *Judicial Promotion and Regulation of Settlement*, 46 STAN. L. REV. 1339, 1342–43 (1994). This normative preference is also held by many scholars who equate a failed settlement as error. See Cooter & Rubinfeld, *supra* note 56, at

D. *Common Intellectual Heritage*

The prevailing economic theories of tort law and bargaining are linked by a common analysis and intellectual history. Both theories came to prominence in the early 1970s with influential articles by leading law-and-economics scholars,⁶⁰ and they aspire to efficiency through cost minimization. Their interplay goes like this. Assume that a defendant injures a plaintiff, resulting in a loss of 100. The Hand Formula would determine whether the defendant was negligent,⁶¹ but juridical resolution is always subject to uncertainty. In one possible resolution, the parties agree that liability is uncertain and assess (accurately, for argument's sake) the probability of liability at 0.5. They rationally settle at the expected value of 50 without transaction cost. The total value of the transaction—defendant's payout and plaintiff's net receipt—is 100. In the other possible resolution, the parties go to trial. Trial may result in an all-or-nothing judgment of 100 or 0. The expected value is 50, except that each side incurs transaction costs of 20. The defendant's expected payout is 70, and the plaintiff's net compensation is 30. The transaction value is still 100. But compared to settlement, trial forces the defendant to pay out more and the plaintiff to receive less.⁶² This inefficiency has no effect on deterrence, however, because the standard of care yields the same liability of 50. The forum of resolution is irrelevant to the question of *tort* efficiency, and the question of *process* efficiency reduces to an accounting of the transaction cost.

These models of settlement behaviors “predict or imply that settlement outcomes will approximate trial outcomes.”⁶³ When both theories are combined, there is an elegant symmetry. Efficiency must be achieved at

1074 (finding that trials are the result of “a mistaken prediction about the outcome of a trial made by one of the parties”); Samuel R. Gross & Kent D. Syverud, *Getting to No: A Study of Settlement Negotiations and the Selection of Cases for Trial*, 90 MICH. L. REV. 319, 320 (1991) (“A trial is a failure.”); Russell Korobkin & Chris Guthrie, *Psychological Barriers to Litigation Settlement: An Experimental Approach*, 93 MICH. L. REV. 107, 107–08 (1994) (asserting that most scholars believe “trials represent mistakes”).

60. See *supra* note 1.

61. See Posner, *Negligence*, *supra* note 1, at 32.

62. See Larry Kramer, *Consent Decrees and the Rights of Third Parties*, 87 MICH. L. REV. 321, 327 (1988) (“Settlement is more efficient for the parties, giving them more of what they hoped to gain at less cost.”). But see Rhee, *Price Theory*, *supra* note 7 (arguing that litigation costs are crucial to the efficiency of pricing disputes); cf. Hay & Spier, *supra* note 10, at 447 (“Hence there is a rough *prima facie* argument for some governmental encouragement of settlement, if the correct terms can be arrived at.”).

63. Alexander, *supra* note 2, at 499. “The implicit message of the economic model is that we do not need to be concerned about the high proportion of cases that are settled because the outcomes of settled cases approximate the positions the parties would have occupied after a trial on the merits.” *Id.* at 502.

the settlement table as well as at the courthouse steps, lest the legal process be irrelevant. The worldly uncertainties of action, consequence, and liability are viewed through the common prism of probability. A court's decision depends on a probabilistic analysis of accident cost, and a private settlement depends on a probabilistic prediction of this decision. If there is no systematic difference between the two probability assessments—and importantly this Article assumes none—the manner of resolution is irrelevant, except as to the effect of transaction cost.

This logic is implied in Posner's *A Theory of Negligence*. While that article recognized that trials were “the tip-of-the-iceberg,”⁶⁴ an analysis of how the dispute resolution process influences tort theory did not follow because, it was assumed, the dispute resolution system complements the structure of tort law.⁶⁵ The dispute resolution system decentralizes and depoliticizes the process of allocating the costs of accidents by incentivizing parties to investigate accidents and pursue meritorious actions.⁶⁶ Although most cases settle, this should not affect tort law because there will be enough trials and judicial opinions to assure a sufficient volume of information such that parties are able to predict judicial decisions. Thus, the parties can reach “a reasonable settlement.”⁶⁷

Forum irrelevance is a product of a risk-neutral valuational framework.⁶⁸ An assumption of risk neutrality is not only simplifying but also fundamental to the theory.⁶⁹ According to Landes and Posner, the assumption of risk aversion “would give us too many degrees of freedom in explaining the rules of tort law and would make the efficiency theory of those rules difficult to refute (and hence to confirm),” and furthermore, courts approach rulemaking from a risk-neutral perspective.⁷⁰ This explanation is problematic. If people are generally risk averse,⁷¹ how can a positive model based on an assumption of risk neutrality reflect the empirical world? Moreover, while courts may be risk neutral in decisionmaking (after all, no court ever has a personal stake), the parties involved invariably make decisions with unique preferences and under

64. Posner, *Negligence*, *supra* note 1, at 35.

65. *See id.* at 48–49.

66. *See id.* at 48.

67. *Id.*

68. *See* POSNER, *supra* note 56, at 598–99. Risk neutrality is a common assumption in a law-and-economics analysis. *See, e.g.*, A. MITCHELL POLINSKY, *AN INTRODUCTION TO LAW AND ECONOMICS* 43 (3d ed. Aspen 2003).

69. *See* Rhee, *Price Theory*, *supra* note 7, at 635–36 (explaining that the assumption of risk neutrality is fundamental to the standard bargaining model). *Cf.* Rhee, *Effect of Risk*, *supra* note 8, at 224 (“If uncertainty is the ruling condition of a lawsuit, how can risk neutrality be the standard assumption?”).

70. LANDES & POSNER, *supra* note 1, at 57.

71. *Id.* at 56.

varying circumstances, which collectively result in systematic and predictable behavioral traits and choices.⁷²

Risk preferences aside, the *theory* of value may assume a degree of risk aversion of market participants even as preferences may vary considerably. Large risk markets exist because their price structures are based on the premise that risk-bearers should be compensated. For example, higher variance of a future cashflow requires a higher rate of return to capital providers, and higher risk of future loss in an insurance transaction requires a greater loss reserve, thus increasing premium price.⁷³ In this light, it is nonsensical to assume that parties in a legal dispute are indifferent to risk when risk is the defining condition of a dispute. If there is no variance of outcome, there would be certainty, which is to say that a lawsuit would never arise.⁷⁴ Uncertainty begets the action.

The assumption of risk neutrality in both preference and the theory of value ultimately assumes away the most difficult aspect of analyzing how the tort and dispute resolution processes work together. It maintains the consistency of valuation that is a condition of the efficiency claim. The efficiency argument fails if the standard of care floats unpredictably with the outcomes of private bargains or, more profoundly, if there is a systematic tendency that pulls value away from the intrinsic (judicial) value.⁷⁵ An absence of consistent valuations creates the possibility of exploiting price differences between forums. Thus, the unexplored intellectual territory is a model of the valuational relationship between litigation and settlement on the theory of negligence.

72. See Hylton, *supra* note 2, at 117 (“The failure to examine risk aversion and other considerations which would require specification of the preferences of actors results in a focus on ‘wealth-maximizing’ or ‘efficient,’ rather than ‘utility-maximizing’ solutions to the problem of controlling accidents through private litigation.”); Note, *supra* note 10, at 447 (“The law and economics literature analyzing the settlement decision often eliminates this very real phenomenon from consideration by assuming that the parties are risk neutral. Moreover, when scholars do consider risk aversion, their analyses generally fail to account for any systemic differences in degrees of risk aversion due to wealth disparities.” (footnote omitted)).

73. See Robert J. Rhee, *Terrorism Risk in a Post-9/11 Economy: The Convergence of Capital Markets, Insurance, and Government Action*, 37 ARIZ. ST. L.J. 435, 439 n.12 (2005) (“In 2003, worldwide insurance premium volume was about \$3 trillion . . .”) [hereinafter Rhee, *Terrorism Risk*]; Robert J. Rhee, *Catastrophic Risks and Governance after Hurricane Katrina: A Postscript to Terrorism Risk in a Post-9/11 Economy*, 38 ARIZ. ST. L.J. 581, 585 n.27 (2006) (“[A]s of December 31, 2004, the capitalization of the global financial market was \$37.3 trillion . . .”) [hereinafter Rhee, *Catastrophic Risks and Governance*].

74. Priest & Klein, *supra* note 1, at 17 (“In litigation, as in gambling, agreement over the outcome leads parties to drop out.”). On the flip side of this point, the one circumstance in which trial is a certainty is when a party has bribed the judge and jury and is certain of the outcome.

75. See Rhee, *Price Theory*, *supra* note 7, at 642–50 (explaining that probabilistic settlements based on decisional law and predictions of judicial outcomes are impossible); see also Issacharoff & Witt, *supra* note 2, at 1601 (“It is possible to question the assumption that decisional law is sufficient to guide settlement in tort suits.”).

III. PRICING LEGAL DISPUTES

A. *Hedging Risk*

The intuitive understanding of expected value in bargaining has remained remarkably durable over the years.⁷⁶ But the model has recently been criticized, and some of its fundamental assumptions have been questioned.⁷⁷ The criticism starts with the point that a disputed right in a civil action is an asset to the plaintiff and a liability to the defendant.⁷⁸ This suggests that the parties are investors in a financial project.⁷⁹ Although the asset and liability are illiquid, the essential characteristic of a lawsuit for money damages reflects an anticipated future cashflow subject to uncertainty.⁸⁰ Thus, financial economics is the most appropriate economic tool to use to analyze these lawsuits.⁸¹ In financial economics, portfolio theory and asset pricing theory have direct relevance.

Portfolio theory posits that there is a valuational relationship between risk and return. The premise of the theory is simple: investors should consider “yield to be a good thing; risk, a bad thing; gambling, to be avoided.”⁸² If risk is a bad thing, the rule of investment must be that “the investor does (or should) consider expected return a desirable thing *and* variance of return an undesirable thing.”⁸³ This rule does not prescribe that risk should be avoided.⁸⁴ Rather, return should be maximized at the lowest

76. See, e.g., Priest & Klein, *supra* note 1, at 12–13 (adopting the expected-value formulation of discounting with probability); Cooter & Rubinfeld, *supra* note 56, at 1075 (discussing how the expected gains and losses of parties represent their subjective threat values in bargaining).

77. See Rhee, *Price Theory*, *supra* note 7, at 668 (“Under this framework, the selection of litigation and trial can be analyzed with greater complexity and avoids algebraic reductions that simply do not correspond to reality.”).

78. “Asset” and “liability” are used in the economic sense of those terms and not the accounting sense.

79. See Rhee, *Effect of Risk*, *supra* note 8, at 195–96.

80. See *id.* at 196.

81. See *id.* at 195. Finance theory fundamentally deals with the incorporation of risk into the theory of value. See STEPHEN A. ROSS, *NEOCCLASSICAL FINANCE* 1 (2005). Some scholars have also applied financial economic principles to the analysis of tort law. See, e.g., Richard A. Nagareda, *Autonomy, Peace, and Put Options in Mass Tort Class Actions*, 115 HARV. L. REV. 747, 796–828 (2002); Robert J. Rhee, *The Application of Finance Theory to Increased Risk Harms in Toxic Tort Litigation*, 23 VA. ENVTL. L.J. 111, 172–95 (2004).

82. Harry Markowitz, *Portfolio Selection*, 7 J. FIN. 77, 91 (1952); see also RICHARD A. BREALEY, STEWART C. MYERS & FRANKLIN ALLEN, *PRINCIPLES OF CORPORATE FINANCE* 557 (8th ed. 2006) (“[R]isk is a bad thing . . .”). Variance is a measure of dispersion about the expected return, and is the measure of risk. Markowitz, *supra*, at 89.

83. Markowitz, *supra* note 82, at 77.

84. In an efficient market—one marked by an absence of arbitrage opportunities—return cannot be enhanced without taking on additional risk. See SERGIO M. FOCARDI & FRANK J.

risk. Portfolio theory posits that for every level of expected return, a portfolio can be structured to achieve that return at the lowest risk.⁸⁵

Asset pricing theory posits that the value of a firm is the sum of the “expected cash flow discounted at a rate that reflects the riskiness of the cash flow.”⁸⁶ A firm’s cost of capital is the discount rate.⁸⁷ Before the advent of asset pricing models, this cost could not be quantified. Because it would be extraordinarily complicated to compare the risk of a particular asset against all other assets in the market, the common reference point is the market return.⁸⁸ The greater the variance of a firm’s return relative to the market benchmark, the greater is its risk. Greater risk means higher cost of capital, which discounts the firm’s value.

Portfolio theory and asset pricing theory link the concepts of risk and expected value into a generally accepted theory of value. The former says that risk is a “bad thing” and that one should be paid to bear it. The latter says that greater risk reduces asset value as a result of the greater discounting of cashflow. From these principles, several working rules of legal valuation are derived: (1) risk, defined as the rational belief in variance of outcome from expectation, decreases the plaintiff’s asset value of the lawsuit and increases the defendant’s liability value, and (2) the valual framework adjusts the expected value of a judgment based on the overall risk profile.

Simply, the dispute resolution process is an exercise in risk management wherein risk and return are traded. An example proves this important point. Assume similarly situated, risk-neutral parties and zero transaction cost. In the first hypothetical, both parties believe that the probability of liability is 0.5 with a judgment of 100. The expected value is 50. Under conventional thought, both parties would be indifferent between settlement and trial because litigation would be cost free. Assume, however, that the value of the lawsuit is governed by the theory of value wherein risk bearers are rewarded (similar to the securities or insurance markets). In other words, while a person may be risk neutral, the prevailing theory of value incorporates risk as a factor of value.⁸⁹ In this

FABOZZI, THE MATHEMATICS OF FINANCIAL MODELING AND INVESTMENT MANAGEMENT 393 (2004) (suggesting that sustainable arbitrage opportunities cannot exist in an efficient market).

85. This concept that diversification reduces risk is not new, and it is found in interesting places. *See, e.g.*, WILLIAM SHAKESPEARE, THE MERCHANT OF VENICE act 1, sc. 1 (“My ventures are not in one bottom trusted, Nor to one place; nor is my whole estate Upon the fortune of this present year. Therefore, my merchandise makes me not sad.”).

86. THOMAS E. COPELAND ET AL., VALUATION: MEASURING AND MANAGING THE VALUE OF COMPANIES 63 (3d ed. 2000).

87. *See id.* at 311.

88. *See id.* at 307–08.

89. A risk-neutral person may be indifferent to risk, but he is never indifferent to value. A sum certain and a lottery may have the same expected value, but a risk-neutral person would prefer the cashflow that has the greater value even though he is indifferent to the underlying risk. Also,

case, settlement would be the superior proposition even assuming zero transaction cost. The parties would settle at the expected value of 50, which yields the superior value proposition. This is obvious, but the underlying transactional mechanics of achieving this result are more nuanced.

This Solomonic settlement is achieved through an implied hedging transaction. Because *unnecessary* risk is a bad thing, it should be avoided. By settling, each party executes a hedging strategy that eliminates risk and extracts the expected value of trial. The hedge goes like this: if the court finds liability and awards 100, the plaintiff agrees to pay the defendant 50; in turn, if there is no liability, the defendant agrees to pay the plaintiff 50. Each party issues a put option to protect the other against the contingency of a negative outcome. This hedging strategy maximizes expected value and eliminates risk; the pre-bet uncertainty of $[0, 100]$ is reduced to a post-bet certainty of 50. Table 1 summarizes these bets.

Table 1

	<u>Outcome</u>	<u>Bet</u>	<u>Net Cash</u>
<u>Scenario 1</u>			
Plaintiff	+100	-50	+50
Defendant	-100	+50	-50
<u>Scenario 2</u>			
Plaintiff	0	+50	+50
Defendant	0	-50	-50

This betting heuristic conceptualizes how parties actually mitigate risk. Here, settlement is achieved with the assumption of zero transaction cost. The implication is that the influence of risk on settlement behavior is independent of expected value and transaction cost considerations. Consider a more complicated hypothetical. The plaintiff assesses the case outcomes as $[0, 100]$ and thus seeks to execute the above hedging strategy. On the other hand, the defendant believes that liability is certain, but the judgment is variable with expected outcomes $[25, 75]$. The expected value is 50 for both parties, but obviously the risks are different. Applying our hedging heuristic, the plaintiff would value the case lower than the defendant. Both parties would attempt to mitigate risk without, initially,

one can be risk neutral yet behave in a risk-averse manner consistent with risk aversion. For example, corporations are typically considered risk neutral, yet they are significant purchasers of insurance. See SCOTT E. HARRINGTON & GREGORY R. NIEHAUS, RISK MANAGEMENT AND INSURANCE 171–73 (2d ed. 2004) (discussing why corporations would purchase insurance). One reason that a corporation purchases insurance is that insurance reduces the volatility of cashflow and thus reduces the corporation's cost of capital. See *infra* notes 130–34 and accompanying text.

a concession in expected value. The plaintiff would offer a bet of 50, which would fix her return at 50. But this bet would have no effect on the defendant's position. From the defendant's perspective, the potential outcomes are [25, 75]. If the court awards 25, he must pay the plaintiff 50, resulting in a net cash outflow of 75. If the court awards 75, the plaintiff would pay him 50, resulting in a net cash outflow of 25. The two possibilities result in payouts of [25, 75], the same expected result if no bet had been placed at all. To hedge his risk completely, the defendant must bet 25.

The defendant's position is the constraint. At his maximum betting amount of 25, he eliminates risk and fixes his return at 50. But at this bet the plaintiff's returns from her perspective remain variable [25, 75].⁹⁰ Table 2 shows this residual risk.

Table 2

	Plaintiff's Perception			Defendant's Perception		
	Outcome	Bet	Net Cash	Outcome	Bet	Net Cash
<u>Scenario 1</u>						
Plaintiff	+100	-25	+75	+75	-25	+50
Defendant	-100	+25	-75	-75	+25	-50
<u>Scenario 2</u>						
Plaintiff	0	+25	+25	+25	+25	+50
Defendant	0	-25	-25	-25	-25	-50

This analysis simply restates the obvious starting point: the plaintiff views her case to be higher variance. The plaintiff has two choices: litigate further or "sell" the residual risk at settlement.⁹¹ A "sale" constitutes a trading of expected return for risk. Keeping with the betting heuristic, the plaintiff would offer the defendant superior betting odds. In essence, the defendant would be paid to assume the plaintiff's residual risk and thus would become a compensated risk-bearer.⁹² Here, the net risk differential between the plaintiff's and defendant's perceptions of risk reduces the settlement value below its expected value even if the parties agree on the

90. If she wins her case at 100, she would give the defendant 25 for a net return of 75. If she loses her case, she would receive 25 from the defendant for a net return of 25.

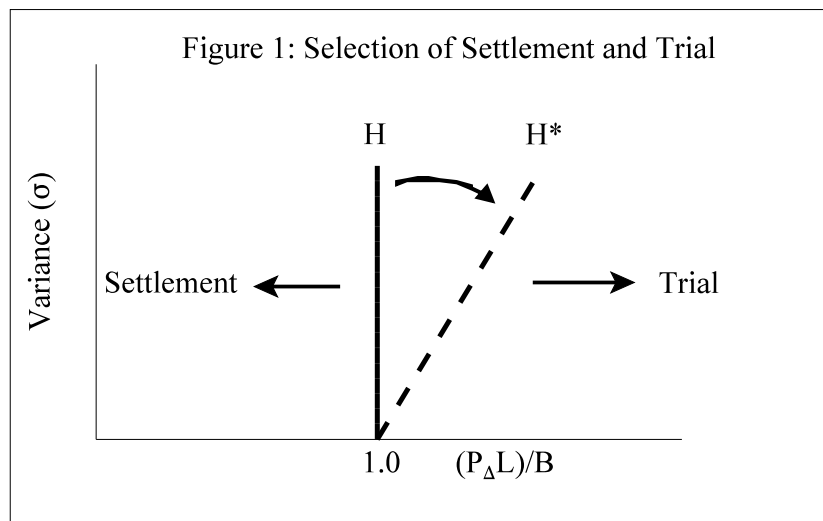
91. See Rhee, *Effect of Risk*, *supra* note 8, at 239-46 (discussing how the selection of trial and settlement is made).

92. On the extreme end, the plaintiff may offer the defendant 1:3 odds on the defendant's 25 bet, meaning that the defendant would wager 25 in return for the plaintiff's wager of 75. In this transaction, the plaintiff would eliminate risk and fix her return at the expected value of 25, and the defendant would then have a variable return [0, 50]. The defendant would agree to a variable (risky) return because he would reduce the expected value from 50 to 25.

expected value. After the hedges are executed, rational settlement is predicted to be struck somewhere in the range of 25 to 50, with an equitable midpoint of 37.5.

B. Risk-Adjusted Pricing

Expected value states the quantity of expectation but not its quality.⁹³ Various facets of risk influence the value assigned to the lawsuit as an asset or a liability. These concepts are represented in Figure 1.



The y-axis represents the variance (σ) associated with one's expectation of outcome. The x-axis represents the ratio of the probability difference between the parties multiplied by the expected judgment amount ($P_{\Delta}L$) (the measure of the parties' disagreement) over the aggregate transaction cost B . Each party has a unique selection horizon, a continuum of indifference points along the matrix of probability and variance, that delineates the division in the preference for trial and settlement. The selection horizon is the reference benchmark from which

93. Scholars have equated the calculation of expected value to asset valuation. See Bradford Cornell, *The Incentive to Sue: An Option-Pricing Approach*, 19 J. LEGAL STUD. 173, 178 (1990) (equating expected value to a discounted cashflow analysis); Joseph A. Grundfest & Peter H. Huang, *The Unexpected Value of Litigation: A Real Options Perspective*, 58 STAN. L. REV. 1267, 1273 (2006) (equating expected value to a net present value calculation). This understanding is incomplete. Asset valuation requires a two-step process: (1) project the expected cashflow, (2) discount it to calculate a true economic value. The first step considers the quantity of the return (what is the expected value of this project?), and the second step assesses its quality (what is the riskiness of this expectation?). See Rhee, *Effect of Risk*, *supra* note 8, at 202–04.

value is determined. Based on an assessment of risk and expected value, if the assessment point lies to the left of the selection horizon, meaning the person prefers settlement based on the assessment of risk and expected value, then she would offer a discount measured as the distance between the assessment point and the selection horizon.

Under the standard model, the slope of the selection horizon H is vertical, meaning that risk has no influence on the choice between settlement and trial. The sole determinant of the choice of trial or settlement is the difference in the expected value weighed against transaction cost. If the selection ratio $(P_{\Delta}L)/B$ is greater than 1.0, the parties' difference on valuation is greater than the potential cost savings and thus trial would result. Conversely, if the selection ratio is less than 1.0, rational parties would settle because their difference is smaller than the transaction cost.

This standard model is unrealistic and thus irrelevant. If risk influences the value of a lawsuit, the slope of the selection horizon must be positive to some degree (H^* in Figure 1). The most likely scenario for settlement is when P_{Δ} is low and σ is high—the upper left quadrant represents the point that is furthest from the indifference points along the selection horizon. This is intuitively obvious. If the parties agree on expected outcome and risk is very high, then they would opt out of the judicial process because it could produce a result that may significantly (possibly arbitrarily) deviate from the mutual expectation. Conversely, if the disagreement is high and each party views the risk as low (i.e., the lower right quadrant of the matrix), then they would be confident in their assessments and would opt for a public valuation. In between these extremes, there are varying degrees of probability and variance and preferences for trial and settlement. The continuum of indifference that points along this matrix governs choice and value.

Based on this simple framework, there are three questions that must be asked to determine each person's discount or premium. Where on the x-axis does the selection horizon cross (the x-intercept)? What is the slope of the selection horizon? Where is the case assessment point? These questions relate to three variables: (1) the cost of risk preference C_p ; (2) the cost of variance C_v ; and (3) the cost of risk differential C_r .

1. Cost of Risk Preference

Risk preference is an endogenous measure of one's predisposition toward risk. The cost of risk aversion is the price a party is willing to pay to avoid risk given the stake.⁹⁴ The preference may change with the stake

94. See *Steinman v. Hicks*, 352 F.3d 1101, 1104 (7th Cir. 2003) (Posner, J.) ("That discounted loss would be the actuarial value of the policy, and a risk-neutral person would pay no more. In fact he would never buy insurance, because there is always a loading charge.").

due to the diminishing marginal utility of money. For example, as I write this Article, my indifference point between a certain dollar sum and an equal chance lottery for \$2,000 is probably in the range of \$700, suggesting a cost of risk aversion of 30%, which coincidentally enough is approximately the cost of insurance.⁹⁵ Across a broad range of stakes, most people are probably risk averse in the range of 10% to 50%.⁹⁶ In litigation, individuals are generally risk averse to some degree.⁹⁷

2. Cost of Variance

The cost of variance is an exogenous measure of how a quantum of risk discounts value given the opportunity cost. In the litigation context, both the asset and liability of the ambiguous right in question are funded by capital, and the cost of variance measures its opportunity cost. For firms, a legal liability imparts a capital cost because it must be funded.⁹⁸ The cost of capital is an economic cost charged against the firm's value given the riskiness of its return. For an individual plaintiff, the cost of variance is the opportunity cost of the stake at issue. The cost differs from the time value of money (from a delay in payment), though this must be a factor. The time value of money factor suggests that in most cases the plaintiff's cost of variance, at minimum, approximates the defendant's because a plaintiff can achieve a market return. But there is more to the plaintiff's cost of variance. When capital is scarce or difficult to raise, the cost of capital becomes greater.⁹⁹ This principle applies to individuals as well. Accident

95. See *infra* note 159 and accompanying text.

96. See *infra* note 159.

97. See *infra* note 159 (10% to 50% loading charge for insurance).

98. Another way to think about this cost is to consider the price of liability transfer to a third-party buyer. If a defendant seeks to bundle its lawsuits into a pool of potential liabilities, the price the defendant must pay to a buyer of the pool is the expected value of the liabilities plus profit. The profit to a third party reflects the defendant's cost to transfer the liabilities. Similarly, by holding the liability, one expects that the firm also incurs a cost.

99. The cost of variance is driven by exogenous circumstances vis-à-vis endogenous predispositions. An example serves the point. Consider the case of an insurer with \$100 million in capital. The insurer approaches business in a risk-neutral manner (indeed, a risk-averse or risk-seeking insurer would find itself quickly out of business). Although the insurer has a risk-neutral outlook, it would never underwrite \$500 million of Florida hurricane risk even if the actuarial risk has been properly assessed (and even if regulations allow it). The insurer would act as if it was risk averse because the cost of capital would increase such that the premiums charged, to achieve the return necessitated by the increased capital cost, would be infeasible in a competitive market. The amount of investment in Florida hurricane risk has nothing to do with a predisposition toward risk; rather, it is governed by economic limitations of the valual construct at work. The risk, if undertaken, would result in a significant increase in the cost of capital, which would reduce the value of the firm. Similarly, in the case of an individual, a person may be risk averse by, say, 30%, given the stake. If, however, the circumstances were that the funds are needed to receive medical care, the opportunity cost is great and would lead to behavior that resembles greater risk aversion. Thus, given a particular risk preference, the cost of variance measures the rate of discount per

victims often confront capital-scarce situations. One can easily envision a plaintiff's inability to work, pay bills, or obtain care or services, which could lead to a steady march into the vicinity of insolvency.¹⁰⁰ These circumstances create the possibility of lost opportunity of capital, which imposes a real cost on the value of the case.¹⁰¹ This cost, reflected in a rate of discount per quantum of risk, is difficult to quantify, but one should not be blind to the fact that it exists and affects value in practice.¹⁰²

3. Cost of Risk Differential

Thus far, the discussion has assumed that the quantum of risk would be perceived similarly between the parties. In most cases, however, one expects that the parties would differ. In the typical tort action, for example, the parties value different transactions even as they are tied together in a common dispute and view the facts and laws similarly. Defendants are typically repeat players.¹⁰³ They reduce the unique risk of variance of each case by holding a portfolio of cases.¹⁰⁴ The portfolio produces a smooth stream of cash outflows. The quantum of risk is that of the portfolio. On the other hand, an individual plaintiff is subject to the unique risk of a single outcome and cannot mitigate this risk other than through the implied series of hedging transactions described in Part III.A. Thus, even though the parties may share the same view of the facts and laws such that the probability may be similarly viewed, the perception of variance cannot be the same because in reality each party assesses different risks.¹⁰⁵

quantum of risk.

100. See Note, *supra* note 10, at 449.

101. Indirect evidence of this increased capital cost is seen by observing a victim's borrowing costs before the accident and after. One can reasonably surmise that this capital cost would increase if underwriting were individually tailored.

102. See FISHBACK & KANTOR, *supra* note 5, at 11 ("The largest cost to injured workers probably was the cost of court delays, which could last up to five years.").

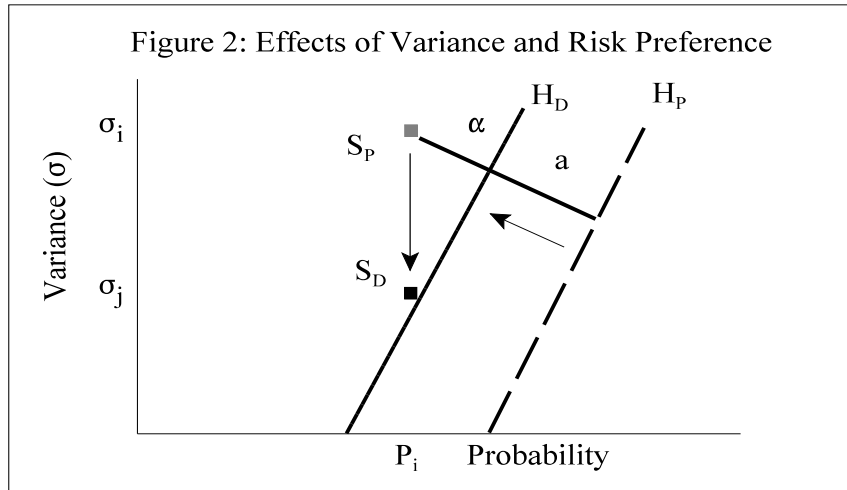
103. A number of scholars have noted the advantage of repeat play. See ROSS, *supra* note 13, at 214; Marc Galanter, *Planet of the APs: Reflections on the Scale of Law and Its Users*, 53 BUFF. L. REV. 1369, 1396 (2006); Issacharoff & Witt, *supra* note 2, at 1581–83, 1599–1602.

104. See Samuel R. Gross & Kent D. Syverud, *Don't Try: Civil Jury Verdicts in a System Geared to Settlement*, 44 UCLA L. REV. 1, 63 (1996) (noting that individual cases are "high-risk, . . . unpredictable, and sometimes bizarre").

105. This theory of litigation risk is empirically seen. I find Laurence Ross's observation, in *Settled Out of Court*, of the differences between insurance companies and claimants particularly insightful:

The claimant contemplating settlement or litigation is faced with a calculus of probabilities. Settlement offers a known award with certainty whereas litigation offers an unknown award with an unknown probability, although both the award and probability may be estimated by the experienced attorney. In other words, litigation involves not only additional processing costs from the claimant's viewpoint; it also involves a gamble that may be totally lost. *By taking many such*

With these concepts in mind, Figure 2 illustrates the effects of risk preference and case assessment on value. It shows a situation where the parties share the same probability P_i , but they have different selection horizons (H_P and H_D) and assessment points (S_P and S_D) resulting from different assessments of case risk (σ_i and σ_j).



gambles in litigating large numbers of cases, the insurance company is able to regard the choice between the certainty and the gamble with indifference. In the words of another analyst:

Generally speaking there will often be asymmetry between the parties, insofar as the suit is a regular, calculable element in business operations for one of them, and a unique event for the other. It means that the former will be . . . much less deterred by the likelihood of losing individual cases, providing he can transfer the loss to a group of customers or clients.

ROSS, *supra* note 13, at 214–15 (emphasis added) (alteration in original) (quoting Vilhelm Aubert, *Courts and Conflict Resolution*, 11 J. CONFLICT RESOL. 40, 45 (1967)). Ross goes on to observe: “Ordinarily, the parties prefer negotiation partly because of its certain recovery, and the claimant usually prefers the certain recovery even more than the insurance company, thus yielding a discount from the expected value in litigation.” *Id.* at 218 (emphasis added). These empirical observations have sound basis in financial economic theory. The differences in the costs of resolution have a significant impact on the parties’ bargaining positions. Marc Galanter observed that in accessing the justice system corporations enjoy significant advantages over individual parties. Marc Galanter, *Why the “Haves” Come Out Ahead: Speculations on the Limits of Legal Change*, 9 LAW & SOC’Y REV. 95, 97–103, 106 (1974) (discussing the various advantages of repeat players, who are likely to be organizations such as insurance and finance companies); Galanter, *supra* note 103, at 1388 (“[R]ecurrent organizational litigants . . . can adopt strategies calculated to maximize gain over a long series of cases, even where this involves the risk of maximum loss in some cases.”).

Because the plaintiff's assessment S_p lies to the left of her selection horizon H_p , she prefers settlement. She is willing to pay a discount, measured as the line $(\alpha + a)$ and noted as $\beta(\alpha, a)$, to satisfy her preference. The defendant is less risk averse as indicated by his selection horizon H_D , which is to the left of H_p . His assessment S_D lies on H_D , so he is indifferent between trial and settlement. In his independent valuation (i.e., without regard to the plaintiff's valuation), he neither pays a discount nor seeks a premium. Obviously, with transparent information and relative valuation, he would seek a discount from the plaintiff because she would settle at a discount. With expected value and transaction cost being the same for both parties, settlement is possible only if this condition holds: $P \times L - \beta(\alpha, a) - T \leq P \times L + T$. This inequality reduces to $0 \leq \beta(\alpha, a) + B$. Thus, the contract zone is the aggregate transaction cost plus the risk-adjusted discount.

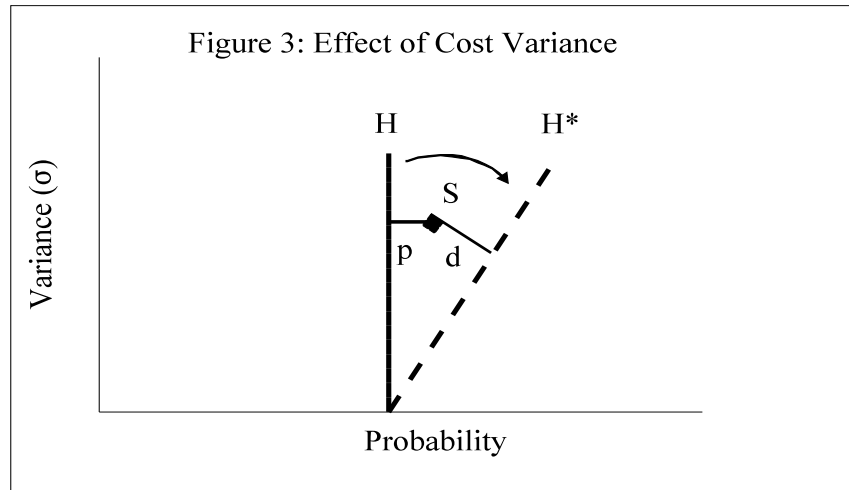
The discount $\beta(\alpha, a)$ has two components: a discount $\beta(a)$ based on the difference between the relative cost of risk aversion, and a discount $\beta(\alpha)$ based on the different perceptions of risk even when the parties share the same view of probability. Consider first the cost of risk aversion. The location of the selection horizon (the x-intercept) represents the party's risk preference given the stake. While risk aversion suggests a diminishing marginal-utility curve, and it is typically so presented, risk aversion here is presented as a fixed point given the stake. More risk aversion shifts the selection horizon to the right, decreasing the zone of preference for trial. Less risk aversion shifts it to the left. The relative cost of risk aversion is measured by the distance between the x-intercepts of the selection horizons, which is line a . Assume that the plaintiff shares the same risk preference as the defendant such that $H_p \rightarrow H_D$.¹⁰⁶ The line a reduces to zero, and the discount $\beta(a)$ becomes nil, but the discount $\beta(\alpha)$ remains.

Consider next the cost of risk differential. The plaintiff views the case as riskier than the defendant (compare σ_i and σ_j). The discount $\beta(\alpha)$ measures this risk differential. Assume that the parties retain their original selection horizons H_D and H_p but that the plaintiff's assessment merges into the defendant's such that $S_p \rightarrow S_D$.¹⁰⁷ They now share the same view of probability and variance. In this case, the line α reduces to zero, and the discount $\beta(\alpha)$ become nil, but the discount $\beta(a)$ remains.

Lastly, consider the cost of variance. The slope of the selection horizon measures the degree a given quantum of risk affects the discount. Low cost of variance results in a higher slope value and vice versa. A risk-neutral person with an infinite supply of capital would have a vertical selection horizon that rests on the selection ratio of 1.0. All other persons would have a sloping selection horizon. Figure 3 illustrates this principle.

106. See *supra* Figure 2.

107. See *supra* Figure 2.



If a party has the selection horizon H with assessment S , she prefers trial because S lies to the right of the indifference point. Accordingly, she would seek a premium p to settle. Assume that the case assessment and risk preference does not change but that the slope of the selection horizon changes. If the cost of variance becomes higher, the slope of the selection horizon is lowered to H^* . Because S now lies to the left of H^* , this precipitates a change in preference from trial to settlement. She now would offer a discount d to settle. Probability, variance, and risk preference have remained the same, except that the cost of variance increased, resulting in a lower valuation.

C. Cost of Resolution

The above examples assume that both parties hold the same view of probability and expected value. Yet three factors of one's risk profile—cost of risk aversion, cost of variance, and cost of risk differential—dramatically affect dispute resolution. The sum of these factors constitutes the “cost of resolution.” While transaction cost in litigation is understood to be the cash cost of dispute processing, the cost of resolution is a noncash item. Like the cost of capital for firms, it is realized through the valuation assigned by each party. It is difficult to model and conveniently ignored by assuming a risk-neutral, rational person. To be clear, the cost of resolution *is* a transaction cost, but given the general lack of recognition as a substantial cost in its own right, it is given a different name and analyzed separately to keep the cash and noncash costs distinct. With this cost in mind, a more robust model of valuation is possible. The trial inequality can be written as follows: $P_p \times L - T - \beta_p > P_d \times L + T + \beta_d$, where $\beta > 0$ notes a discount and $\beta < 0$ notes

a premium.¹⁰⁸

The settlement process is one in which parties seek information transparency regarding one's independent value as well as the opponent's assessment. During this discovery process, each party rationally nets out its respective costs of resolution. What remains is a net cost that is assigned to one party. Therefore, all else being equal, the net cost of resolution creates a valational divergence, yielding a bargaining advantage for the party with the lower cost of resolution. A numeric example illustrates the point. Assume that the parties share the same expected value of 100 and each would incur a transaction cost of 40 in a trial. The plaintiff's cost of resolution is 30, while the defendant's is 10, and thus the net cost of resolution in favor of the defendant is 20. The plaintiff's minimum settlement value is thus 30, and the defendant's maximum settlement value is 150. With equitable bargaining, the parties would settle at 90. This divergence from the expected value stems from the defendant's lower cost of resolution, resulting in a lower value of the liability as compared to the plaintiff's assessment of the value of her asset. Thus, the net cost of resolution must be a transaction cost to one party only, and it determines, in part, which party has the bargaining advantage.

D. Settlement Pressure

The above theory of how risk affects tort law is not simply an academic inquiry. Rather, the effect is empirically seen. The most prominent example is in Judge Posner's opinion for the Seventh Circuit in *In re Rhone-Poulenc Rorer Inc.*¹⁰⁹ There, the plaintiffs contended that they were infected with HIV from blood solids manufactured by the defendants and brought a class action, which the district court certified.¹¹⁰ The defendants filed a petition for mandamus, asking for a rescission of the order.¹¹¹ In reversing the district court, Judge Posner observed that because a class action would substantially increase "the sheer *magnitude* of the risk," the defendants would be "under intense pressure to settle."¹¹²

The magnitude of risk had several facets. A class action would increase the number of plaintiffs from several hundred without a class to thousands with a class, thus greatly increasing the potential liability.¹¹³ But of course, this reason is no reason at all. An increase in potential liability should be

108. Because the costs of variance and risk differential always result in a discount, the a person would seek a premium only if he had a risk-seeking preference that outweighs the other factors.

109. 51 F.3d 1293 (7th Cir. 1995).

110. *Id.* at 1296.

111. *Id.* at 1294.

112. *Id.* at 1297-98.

113. *Id.* at 1298. Judge Posner offered a guess that liability could increase from about \$125 million to \$25 billion. *Id.*

irrelevant. Class actions always increase the number of plaintiffs and thereby the potential liability. Unless corporate wealth protection is the policy, a potential increase in liability is an illegitimate basis to reverse class certification.¹¹⁴ More interestingly, the court observed that the total liability would depend on “the outcome of a single jury trial.”¹¹⁵ The determination of liability, the court reasoned, should instead “emerge from a decentralized process of multiple trials, involving different juries, and different standards of liability, in different jurisdictions.”¹¹⁶ The defendants, as repeat players, cannot smooth out the risk through a diversified pool of lawsuits; instead, they are subject to the variance of a single outcome.¹¹⁷ Under these circumstances, even large corporations may face substantial “settlement pressures.”¹¹⁸

The reasoning in *Rhone-Poulenc* illustrates how the district court’s procedural ruling fundamentally altered the risk profile and thus the value of the tort litigation. Based on probability and expected value alone, the defendants should have been confident in the outcome of the lawsuits irrespective of class designation; in individual actions, the defendants had won twelve out of thirteen cases.¹¹⁹ But the court observed that the defendants could not be so confident.¹²⁰

Class certification has two adverse effects on presumably risk-neutral corporate defendants. First, because the risk cannot be reduced through a pooling of cases, corporate defendants do not enjoy a net risk differential as would ordinarily be the case. A class certification reverses the diversification effect, and thus the parties are put on the same footing in terms of outcome risk. Second, such a one-shot bet can put a corporation in danger of insolvency, and thus corporate defendants “may not wish to roll these dice.”¹²¹

The logic of the *Rhone-Poulenc* decision rested on the common observation that parties pay a premium to eliminate the risk of a “small probability of an immense judgment,”¹²² which is predicted by and

114. The Second Circuit has rejected the Seventh Circuit’s settlement pressure argument, reasoning that the “effect of certification on parties’ leverage in settlement negotiations is a fact of life for class action litigants. While the sheer size of the class in this case may enhance this effect, this alone cannot defeat an otherwise proper certification.” *In re Visa Check/Mastermoney Antitrust Litig.*, 280 F.3d 124, 145 (2d Cir. 2001).

115. *In re Rhone-Poulenc*, 51 F.3d at 1299.

116. *Id.*

117. The court noted that “the result will be robust if these further trials are permitted to go forward, because the pattern that results will reflect a consensus, or at least a pooling of judgment, of many different tribunals.” *Id.* at 1299–1300.

118. *See id.* at 1299.

119. *Id.* at 1298.

120. *Id.*

121. *Id.*

122. *Id.*

consistent with financial economic principles.¹²³ A class certification has the potential of increasing the firm's cost of capital,¹²⁴ and this potential decline in market value would be fair game in the course of settlement.¹²⁵ Thus, the effect of class certification was to diminish the net cost-of-resolution advantage held by the defendants and perhaps even turn the advantage to the class plaintiffs.

Despite a premise based on economic realities of the dispute resolution process, the reasoning in *Rhone-Poulenc* is flawed in at least two key respects. First, one can be influenced by "settlement pressure" only if one is risk averse.¹²⁶ Risk aversion is an attribute of individual preference.¹²⁷ For example, a corporation, as an economic entity, is typically considered risk neutral. It is true that the agents acting within a corporation may be risk averse, and this preference may manifest in corporate decisions. However, the theory of agency cost suggests that agents do not have the same personal stake in the outcome of a corporate decision as would a shareholder.¹²⁸ Indeed, shareholders are better off when agents make investment decisions from a risk-neutral perspective. To the extent that a decision personally affects the agent, such as promotion and salary or the opportunity to shirk, the stake may induce an agent to act according to her preference,¹²⁹ but such stakes are not sufficiently prominent to suggest a

123. See generally Rhee, *Price Theory*, *supra* note 7 (applying principles of financial economics to construct a pricing theory of legal disputes); Rhee, *Effect of Risk*, *supra* note 8 (analyzing how parties account for different perceptions of risk in valuation). Insurance companies, for example, routinely provide a "danger value," an amount in excess of the expected value of a trial, to eliminate the exposure to a low probability, high severity claim. ROSS, *supra* note 13, at 202. In the front end of underwriting, a premium is based on the sum of expected value of loss, administrative expense, and risk premium. ERIC BRIYS & FRANÇOISE DE VARENNE, *INSURANCE: FROM UNDERWRITING TO DERIVATIVES* 6 (2001).

124. For an explanation of cost of capital, see *supra* notes 86–88 and accompanying text.

125. Judge Posner calls such induced settlements "blackmail settlements." *In re Rhone-Poulenc*, 51 F.3d at 1298 (quoting HENRY J. FRIENDLY, *FEDERAL JURISDICTION: A GENERAL VIEW* 120 (1973)). Commentators have differed on the legitimacy of settlement pressure as a reason to reject class certification. Compare George Priest, *Procedural Versus Substantive Controls of Mass Tort Class Actions*, 26 J. LEGAL STUD. 521 (1997) (arguing that contrary to the substantive goals of tort law, the procedural system creates mass tort claims that routinely settle), with Bruce Hay & David Rosenberg, "Sweetheart" and "Blackmail" Settlements in Class Actions: Reality and Remedy, 75 NOTRE DAME L. REV. 1377 (2000) (concluding that the risks of settlements caused by mass tort classification have been broadly overstated).

126. J.B. Heaton, *Settlement Pressure*, 25 INT'L REV. L. & ECON. 264, 270 (2005).

127. *Id.* at 272.

128. See generally MICHAEL C. JENSEN, *A THEORY OF THE FIRM: GOVERNANCE, RESIDUAL CLAIMS, AND ORGANIZATIONAL FORMS* (2000) (applying agency theory to various organizational forms); Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976) (developing a theory of the ownership structure of the firm by analyzing agency costs).

129. See Jensen, *supra* note 128, at 308–09.

basis for a general theory of risk aversion in corporate decisionmaking. Rather, corporate agents understand that shareholders can diversify fortuitous risk, and therefore, all else being equal, they would seek to maximize returns through a risk-neutral framework of decisionmaking.

The suggestion is not that corporations act in a way that reflects pure risk neutrality. They may act as if they are risk averse.¹³⁰ They buy insurance, for example. A risk-neutral person would not buy insurance.¹³¹ And, as Judge Posner suggested, corporations may very well pay a risk premium in excess of the expected value of a low-probability, high-severity lawsuit.¹³² They pay not because they are risk averse but because they hedge risk to minimize financial costs.¹³³ Some reasons to buy insurance are that it reduces the financing cost of raising new capital and the cost of financial distress.¹³⁴ The former is a cash expense of a capital raising transaction, and the latter is an economic cost that is reflected in the firm's valuation. Even for a risk-neutral entity, risk is a bad thing because it imposes an economic cost within a valuational framework where risk and return are traded. Thus, it is questionable whether settlement pressure—connoting “blackmail” or some other illicit coercion¹³⁵—is a legitimate basis to deny class certification. Rather, the predicted valuational concessions are simply a pricing matter based on the economic realities of the circumstances created by the facts and laws. Thus, *Rhone-Poulenc* expressed a value choice on the distributive nature of the class-action rule rather than on the correctness of the price implied by the circumstances, for price is always reflective of a voluntary transaction between parties who presumably maximize utility.

Second, as a matter of equity and fairness, it is unclear why corporate defendants or their shareholders are entitled to judicial protection from the adverse valuational effects of risk. Modern portfolio theory suggests that shareholders are diversified,¹³⁶ and therefore the risk of a single, significant adverse judgment, while bad for the particular corporation, should be broadly spread to shareholders. The corporation, which in the law-and-economics canon is not an entity so much as a “nexus of contracts,”¹³⁷ exists to allow investors to diversify business risk and

130. Heaton, *supra* note 126, at 272.

131. See *Steinman v. Hicks*, 352 F.3d 1101, 1104 (7th Cir. 2003).

132. See *In re Rhone-Poulenc Rorer Inc.*, 51 F.3d 1293, 1298 (7th Cir. 1995).

133. Heaton, *supra* note 126, at 273.

134. HARRINGTON & NIEHAUS, *supra* note 89, at 171–74.

135. See *supra* notes 125–26 and accompanying text.

136. For a brief discussion of modern portfolio theory, see *supra* notes 82–85 and accompanying text.

137. “The ‘personhood’ of a corporation is a matter of convenience rather than reality So we often speak of the corporation as a ‘nexus of contracts’ or a set of implicit and explicit contracts.” FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF*

participate in the broader economy, which must include the activities that yield accidents.¹³⁸

Single-play parties, such as individual plaintiffs, always confront the possibility of an all-or-nothing outcome of a trial, and their settlement calculation discounts the value of the right commensurate with the risk and the cost of variance. Repeat-play defendants, such as corporations, typically reduce the risk of any single outcome through a pooling of cases,¹³⁹ and thus their perception of risk is typically lower than the plaintiff's, even if they view the facts and laws similarly. "[A]lmost without exception the primary beneficiaries of judicial concern with settlement pressure are large public corporations."¹⁴⁰ Fundamentally, the instrumental effect of *Rhone-Poulenc* is to reinstate the asymmetric risk profile between a repeat- and single-play party—a posture that without exception yields a cost advantage for the defendant in a tort action.¹⁴¹

The sensitivity to risk and value seen in *Rhone-Poulenc* suggests a direct connection between the theory of valuation and the underlying structure of accident law. Because bargaining is an essential aspect of the tort system in the aggregate, these factors of value must also affect tort theory. The question follows: are there observable systematic differences between plaintiffs and defendants such that we can sketch a general model of valuation governing tort claims?

IV. TORT ARBITRAGE

A. *Pro Forma Model Assumptions*

Each dispute has a risk profile unique to the parties. This is not to say that the profile in tort actions is indeterminate and cannot be modeled. Tort disputes have a predictable profile. In the prototypical tort action, an individual plaintiff sues a corporate or institutional defendant.¹⁴² This

CORPORATE LAW 12 (1991); accord Jenson & Meckling, *supra* note 128, at 310 ("It is important to recognize that most organizations are simply legal fictions which serve as a nexus for a set of contracting relationships among individuals.").

138. EASTERBROOK & FISCHER, *supra* note 137, at 11.

139. Hay & Rosenberg, *supra* note 125, at 1383–84.

140. Heaton, *supra* note 126, at 272.

141. Cf. Hay & Rosenberg, *supra* note 125, at 1384 (arguing that without a class action a repeat-player defendant has the benefit of economies of scale in defending common lawsuits, which creates an asymmetric cost advantage).

142. See Gross & Syverud, *supra* note 104, at 15–26 (presenting data). "[T]ort liability has become *organizational* liability in the principal categories of accidental harm (auto accidents aside): Organizations are defendants in 96% of toxic substance cases; 99% of products liability cases; 86% of premises liability cases; and 73% of medical malpractice cases." Robert L. Rabin, *Law for Law's Sake*, 105 YALE L.J. 2261, 2273 (1996) (emphasis added) (citing STEVEN K. SMITH ET AL., U.S. DEP'T OF JUSTICE, CIVIL JUSTICE SURVEY OF STATE COURTS, 1992: TORT CASES IN

posture accounts for more than half of all tort cases.¹⁴³ Even when individual defendants, such as doctors or drivers, are sued, insurance is typically involved, and thus the real party in interest is a corporate defendant.¹⁴⁴ Although these facets of tort law are well known, it is surprising that economic theories have not modeled the tort system as it really is.¹⁴⁵

Corporations treat tort liability like any other business decision.¹⁴⁶ One way to increase profit is to minimize the cost of liability and precaution. The positive economic theory of tort law, as embodied in the Hand Formula,¹⁴⁷ is an invocation of this capitalist ethos. The mundane details of asset–liability management influence corporate decisions. Given the heterogeneity of parties in the prototypical tort action, a cost–benefit analysis should not take a “one-size-fits-all” approach toward the economics of valuation, incentives, and disincentives. Risk preference, case risk, and opportunity cost are assessed in the context of predispositions, perceptions, and circumstances.

With the cost of resolution defined in the previous Part, this Part builds a simple pro forma model that illustrates the interplay between tort law and bargaining with numeric inputs and outputs. But first a rather large caveat is in order. A numeric illustration requires estimations of the factors of the cost of resolution, and this Article provides some educated guesses. The model is not predictive. Some inputs—the cost of risk aversion and a firm’s cost of capital—can be reasonably reduced to quantifiable numbers. Others are subject to the awkward process of quantifying the qualitative. For example, we do not yet have a generally accepted way to calculate the plaintiff’s opportunity cost outside of the time value of money. Perhaps some proxy may serve as an estimate, such as the cost of borrowing under distressed circumstances, or if we believe that agency is substantial, the attorney’s cost of capital could be a rough substitute. Also, economic

LARGE COUNTIES 4 (1995)) (book review).

143. Galanter, *supra* note 103, at 1377 & n.25; see Gross & Syverud, *supra* note 104, at 19 (showing that about 61% of cases involve large businesses and government); Gillian K. Hadfield, *Exploring Economic and Democratic Theories of Civil Litigation: Differences Between Individual and Organizational Litigants in the Disposition of Federal Civil Cases*, 57 STAN. L. REV. 1275, 1298 (2005) (showing that about 60% of cases involve individual plaintiffs versus organizational defendants); see also Oliver Wendell Holmes, Jr., Justice, Supreme Judicial Court of Mass., *The Path of the Law*, Address at the Dedication of the New Hall of the Boston University School of Law (Jan. 8, 1897), in 10 HARV. L. REV. 457, 467 (1897) (“[T]he torts with which our courts are kept busy to-day are mainly the incidents of certain well known businesses.”).

144. See Gross & Syverud, *supra* note 104, at 21 (noting that about 96% of individual defendants in tort have complete or partial insurance coverage).

145. See generally Siliciano, *supra* note 10 (arguing that the economic theory of tort law does not consider the realities of corporate behavior).

146. See Heaton, *supra* note 126, at 272–73.

147. See *supra* notes 27–28 and accompanying text.

analysis may shed light on the risk differential between a single case outcome and a portfolio. These unresolved concepts, if quantifiable at all, would contribute greatly to a predictive model, but the inquiries are beyond the scope here.¹⁴⁸ Rather, the following is an inferential exercise, providing an impressionistic reflection, however simple (or simplistic), of the general system of dispute resolution in the tort system. The numbers are proxies for conceptualization. In this spirit, this pro forma exercise is done.

The method of calculation is straightforward. First, parties always project the expected value of trial. The trial outcome is calculated per the standard economic model—probability multiplied by expected liability net of transaction cost.

Second, parties calculate an independent value. An independent valuation is an important baseline and is calculated as the expected value, net of transaction cost and cost of resolution. Independent valuations are the defendant's maximum value and the plaintiff's minimum value as adjusted solely by their respective costs of resolution. It is, in the professional vernacular, the "stomach turning settlement." Absent incompetence, parties do not settle at this unfavorable level because they should take away some surplus from the bargaining table.

Finally, most settlements are reached after the give and take of competent bargaining. The value of a thing does not exist in the state of nature, so to speak. Parties seek information on the other's conception of value. At its core, an exercise in valuation is one of comparison; value is relative to some other thing. With a common expected value, the contract zone is the sum of the transaction cost and net cost of resolution. After some litigation, which facilitates information acquisition and transparency, most parties are assumed to discover the equitable value. Thus, settlement is reached when the parties net their respective costs of resolution.

A few other details are noteworthy. A small percentage of cases are tried, and a far larger portion are eventually settled after some litigation. Litigation facilitates the information acquisition that is crucial for proper valuation.¹⁴⁹ The transaction cost of settlement through litigation is assumed to be less than that of trial. Also, consistent with the above examples, expected value is kept as a constant, though ex ante the parties do not have the benefit of this knowledge.

148. That said, it is debatable whether a detailed model can be constructed given that we have little empirical data on settlements. See FISHBACK & KANTOR, *supra* note 5, at 18; Rhee, *Effect of Risk*, *supra* note 8, at 214 n.95.

149. Information transparency is the most important factor in dispute resolution. See Kenneth J. Arrow, *Information Acquisition and the Resolution of Conflict*, in BARRIERS TO CONFLICT RESOLUTION 258, 259–72 (Kenneth J. Arrow et al. eds., 1995) (acknowledging that uncertainties can be resolved by acquisition of information and noting that there are acquisition costs when many individuals are involved).

Based on this method of calculation, we calculate the aggregate payouts and receipts of the tort system. The following assumptions are made on the trial and settlement split, the cost of resolution, and the transaction cost.

1. Trial and Settlement Split

The assumption is that of all cases, 72% are settled, 8% are tried, and 20% are disposed of through pretrial dismissals.¹⁵⁰ For simplicity, procedural dismissals are not considered.¹⁵¹ As a percentage of the total cases excluding dismissals, the trial and settlement rates are 10% and 90%, respectively.

2. Transaction Costs

The transaction cost for trial is assumed to be 40% of the plaintiff's gross recovery.¹⁵² One can argue that the plaintiff's transaction cost should be higher than the defendant's. Because contingent fees are riskier than hourly fees, they should incorporate a risk premium.¹⁵³ For simplicity, the costs are assumed to be the same to facilitate a like-kind comparison. Since settlement is resolved through litigation, it incurs substantial costs.

150. See *supra* note 20 and accompanying text.

151. These cases invariably favor the defendant and suggest that the underlying merits were questionable.

152. Empirical data support this figure. According to a Rand Corporation study, a dollar expended in an average auto accident litigation in 1985 was distributed as follows: \$0.52 for net compensation to plaintiff, \$0.24 for plaintiff attorney fees and costs, \$0.13 for defense attorney fees and costs, and \$0.13 for other costs. JAMES S. KAKALIK & NICHOLAS M. PACE, RAND, THE INST. FOR CIVIL JUSTICE, COSTS AND COMPENSATION PAID IN TORT LITIGATION 74 fig.7.2 (1986). With equal sharing of other costs, the plaintiff's gross recovery was about \$0.82, and the defendant's cost was \$0.20. The plaintiff's attorney fees and costs as a percentage of the recovery was 37%, and the defendant's fees and costs as a percentage of the gross payout was 24%. In non-auto tort litigation, a dollar was distributed as follows: \$0.43 for compensation to plaintiff, \$0.20 for plaintiff's attorney fees and costs, \$0.18 for defendant's attorney fees and costs, and \$0.20 for other costs. *Id.* The transaction costs for plaintiff and defendant were 41% and 38%, respectively. Blending these figures, we calculate that the plaintiff's and defendant's attorney fees and costs are 39% and 31%, respectively, of the total award. See also Franklin et al., *supra* note 13, at 33 (stating that plaintiff's attorney fees average 36% of recovery); Hylton, *supra* note 2, at 114 (stating that cost of litigation is about 30% of damage award).

153. A contingent fee presumably incorporates a risk premium charged by the attorney, whereas an hourly fee is subject only to the client's credit risk. Thus, if the market for attorney labor works in a competitive fashion, we expect the plaintiff's attorney to earn more per case than the defense attorney. See Molot, *supra* note 2, at 69 n.36 (noting that when plaintiff attorneys work on hourly rates, the fee typically exceeds 20% of recovery, lower than the typical 33% recovery on contingent fee arrangements); *supra* note 152 (suggesting that the attorney fees for plaintiffs and defendants are on average 39% and 31%, respectively, of the total award).

The transaction cost of settlement is assumed to be 30%.¹⁵⁴

3. Defendant's Cost of Resolution

A corporate defendant is considered to be risk neutral, and thus the cost of risk aversion is zero. The corporation is assumed to have a diversified basket of similarly situated legal liabilities, and no single case can put the firm in financial distress.¹⁵⁵ In any given case, the corporation's perception of the pooled risk will be lower than the plaintiff's perception of the risk of the specific case. Thus the cost of risk differential is zero. Note that the costs of risk aversion and risk differential are relative measures. Because these costs are lower than the plaintiff's, they set the baseline at zero. Legal liability is funded by the firm's capital, which is readily calculable for public companies. The size of the aggregate liability is correlated with the firm's business prospects.¹⁵⁶ To generalize, the cost of variance is assumed to be 10%, which is slightly less than the average return on equity for public companies.¹⁵⁷ Thus, the total cost of resolution is the cost of capital that finances the enterprise's activity.

4. Plaintiff's Cost of Resolution

The plaintiff's cost of resolution is assumed to be 40%, calculated as the sum of 15% cost of risk aversion, 20% cost of variance, and 5% cost of risk differential. The cost of risk aversion can be gleaned from insurance profitability data. Premiums cover actuarial loss plus expense of operation plus profit.¹⁵⁸ The cost in excess of expected actuarial loss,

154. See Alexander, *supra* note 2, at 536 n.155 (noting that contingent fees are typically in the range of 20%–30%); *id.* at 541 (noting that fees calculated under the “lodestar” method in securities litigation are typically in the range of 25%–30%).

155. The analysis would be different if the unique risk of a case were so great that it would increase the firm's overall cost of capital because of the potential for financial distress. See David M. Cutler & Lawrence H. Summers, *The Costs of Conflict Resolution and Financial Distress: Evidence from the Texaco–Pennzoil Litigation*, 19 RAND J. ECON. 157, 169–70 (1988).

156. Aswath Damodaran has commented to me that the discount rate applicable to value an expected tort liability would depend on whether the liability correlates to the risk of the firm and the economy. If one argues that the determinations of liability and amount are not correlated with the economy or the firm's operations, the discount rate would be the riskless rate. On the other hand, if the tort liability is correlated with the firm's earnings or value, a case can be made that the discount rate should be the cost of capital. Because torts are a product of a firm's activity, we can reasonably assume that the greater the activity, the greater would be the amount of liability. Thus, there would be a correlation between the level of liability and the firm's earnings. Discussion with Aswath Damodaran, Professor of Fin., Stern Sch. of Bus., N.Y. Univ. (Spring 2007).

157. See BREALEY ET AL., *supra* note 82, at 149 (noting that from 1900 to 2003, the stock market returned on average 11.7%). A weighted average cost of capital would be lower than this because debt is cheaper than equity. Thus, an estimate of 10% is not unreasonable.

158. Premium is determined by the following formula: $P = E(S) + k + R$, where $E(S)$ is the expected value of the claim, k is the operating expenses, and R is a “risk premium which allows for

including the opportunity cost of unearned premium, is the price of risk transfer and is a reasonable proxy for the cost of risk aversion.

Based on this reasoning, we imply the cost of catastrophic risk aversion as 30% of the actuarial risk.¹⁵⁹ In the tort context, if a plaintiff's injury is severe, the degree of risk aversion would be similar to that implied by the cost of insurance. The plaintiff's cost of risk aversion is assumed to be approximately half the cost of insurance. Many tort actions may not involve catastrophic loss. As the stakes decrease, the tendency for risk aversion decreases. Moreover, a plaintiff's risk aversion will be tempered by the influence of her attorney, who holds a portfolio of cases and thus is less risk averse than her client.¹⁶⁰

The cost of variance figure is an arbitrary, reasonable plug. It is arbitrary because there is no empirical support for a figure of twice the corporation's cost of capital. Unlike a firm's cost of capital, an individual's cost of variance is a concept without a method of quantification. A qualitative comparison must be the basis of derivation. There is no question that this is inelegant, but it reflects the untidy world in which not all things are reducible to a clean equation. A qualitative assessment suggests that the cost of variance is always more expensive than that of a corporation. That said, the assumption is reasonable because the cost is greater than that of a corporation. As discussed before, the opportunity cost of the stake is at minimum the market return. Accordingly, on average a firm's cost of capital approximates the plaintiff's minimum opportunity cost. Also, as discussed, the factors that determine a firm's cost of capital in the markets—riskiness of the return, access to future capital, possibility of financial distress, etc.—have

coverage of unforeseen deviations in the claims amount to be paid." See BRIYS & DE VARENNE, *supra* note 123, at 6. This formula has not changed since the days of Adam Smith and the inception of Lloyd's of London. ADAM SMITH, *AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS* 125 (Edwin Cannan ed., Modern Library 1994) (1776) ("[C]ommon premium must be sufficient to compensate the common losses, to pay the expence of management, and to afford such a profit as might have been drawn from an equal capital employed in any common trade.").

159. Rhee, *Price Theory*, *supra* note 7, at 685; see A.M. BEST CO., *AGGREGATES & AVERAGES—PROPERTY/CASUALTY* 88, 90 (2005) (finding that from 2000 to 2004, the average incurred loss and operating expense for property and casualty insurers have been 79.2% and 25.6% of premiums, and the average return on invested assets has been 5.2%); see also HARRINGTON & NIEHAUS, *supra* note 89, at 170 (finding that the typical loading charge is 10% to 50% of premium).

160. Rhee, *Effect of Risk*, *supra* note 8, at 253; see Saks, *supra* note 5, at 1191 ("An attorney's cases may be thought of as a portfolio of investments."). Attorneys, despite their fees, typically add value to the plaintiff's recovery. Franklin et al., *supra* note 13, at 33 ("There is strong evidence, however, that despite this cost, plaintiffs do better with a lawyer than they would have done had they handled the cases themselves."); see FISHBACK & KANTOR, *supra* note 5, at 50; ROSS, *supra* note 13, at 116, 193; Rhee, *Effect of Risk*, *supra* note 8, at 253–56. See generally Ronald J. Gilson, *Value Creation by Business Lawyers: Legal Skills and Asset Pricing*, 94 YALE L.J. 239 (1984) (concluding that business lawyers, as transaction cost engineers, have the potential to create value).

relevance to the individual as well. A plaintiff's lost or impaired capital may be difficult to replace.¹⁶¹ Most ordinary tort cases do not pose significant risk of financial distress for a corporate defendant because the amount of the dispute is typically small in comparison to the firm's capital. For a plaintiff, on the other hand, the impact of a negative outcome of any given case is typically much greater because of the wealth difference.¹⁶² Although the selected numeric rate is arbitrary, the conceptual assumption is reasonable.¹⁶³

As for the cost of risk differential, even if the parties view the facts and laws similarly, they perceive a different quantum of risk because the risk of a single case is always greater than the risk of a portfolio of similarly situated cases. The opinion in *Rhone-Poulenc* makes this clear.¹⁶⁴ One variable is obviously the extent to which the defendant's pool of lawsuits is large and diversified. For the purposes of modeling, the cost of risk differential is assumed to be a modest 5%.

161. For example, the rate for uncollateralized credit, such as credit cards, is typically in the mid-teens, higher than the cost of capital of corporations. Add to this a cost of financial distress, and we can easily see that the cost of capital for an injured individual can be high.

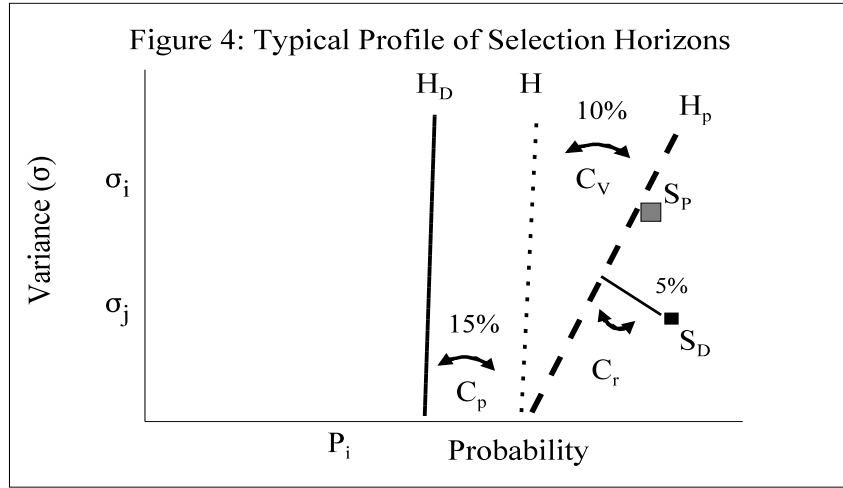
162. We see evidence of this in insurance pricing behavior. See generally HARRINGTON & NIEHAUS, *supra* note 89, at 149 (describing a circumstance where premiums "increase by more than the discounted value of expected claim costs"); Rhee, *Terrorism Risk*, *supra* note 73 (describing the effect of reduced capital on premium pricing in the wake of the 9/11 terrorist attacks).

163. Even in the field of finance, whose theories can be judged against vast amounts of empirical data, there are concepts that simply elude empirical confirmation. In analyzing the degree that the price of a stock may deviate from its intrinsic value, Fischer Black speculated that stocks may vary by a factor of two. Fischer Black, *Noise*, 41 J. FIN. 529, 533 (1986). He suggested that this factor of two is "arbitrary" but intuitively "reasonable" in light of the impossibility of empirical testing. *Id.*

164. See *In re Rhone-Poulenc Rorer Inc.*, 51 F.3d 1293, 1298–1300 (7th Cir. 1995).

5. Summary of Relative Costs of Resolution

Figure 4 illustrates the systematic difference between parties in the prototypical tort case.



The selection horizon H serves as a useful reference. If the defendant's selection horizon has the same degree of risk preference as the plaintiff's, then it would be H (both parties have the same cost of risk aversion because the x-intercept of the selection horizons would be the same). But a corporate defendant is less risk averse than a plaintiff, and thus the actual selection horizon is H_D . The difference between the risk preferences, measured as C_p , represents the plaintiff's 15% cost of risk aversion. The reference H has the same slope as H_D , which is steeper than H_p . The defendant's cost of variance (capital) is 10%, whereas the plaintiff's cost of variance is 20%. The difference measured as C_v is 10%. The parties differ on the perception of risk, resulting in different case assessments: $S_p = [P_i, \sigma_i]$ and $S_D = [P_i, \sigma_j]$, where $\sigma_i > \sigma_j$. The risk differential C_r is assumed to be a modest 5%.

B. *Pro Forma Model Outputs*

Based on the assumptions and above methodology for calculation, Table 3 shows the outputs.

Table 3

	% Class	Expected Value	Discount Rate	Liability	Trans. Cost Rate	Trans. Cost	Total Payment
<u>Trial</u>							
Defendant	10%	100	0%	100	40%	40	140
Plaintiff	10%	100	0%	100	40%	40	60
<u>Independent Settlement</u>							
Defendant	90%	100	10%	110	30%	33	143
Plaintiff	90%	100	40%	60	30%	18	42
<u>Equitable Settlement</u>							
Defendant	90%	100	15%	85	30%	26	111
Plaintiff	90%	100	15%	85	30%	26	60
<u>Weighted Avg. Outcomes</u>							
Defendant	100%	100	14%	87	31%	27	113
Plaintiff	100%	100	14%	87	31%	27	60

As suggested above, there are four valuational constructs at work in the resolution of a tort dispute: trial valuation, independent settlement valuation, equitable settlement, and weighted average of outcomes. These valuations are considered separately.

1. Trial Valuation

Under the conventional view, if the parties agree on the expected value of a case and there is no strategic behavior, the contract zone is determined by the aggregate transaction cost. This is the precise result in Table 3. It indicates that the defendant's payout and the plaintiff's net receipt are 140 and 60, respectively. The contract zone is 80, representing the combined transaction cost.

2. Independent Settlement Valuations

The defendant's independent valuation is its assessment of the tort liability, net of transaction cost and cost of resolution. With a cost of resolution of 10% and transaction cost of 30%, the maximum settlement value is 143. This suggests that, consistent with an empirical study of settlement practices of insurance companies,¹⁶⁵ the defendant is near the indifference point between trial and settlement. For the plaintiff, the circumstance is different. The cost of resolution is 40%. Net of transaction cost and cost of resolution, the plaintiff's minimum settlement value is 42. Trial is a far superior option to the independent settlement value.

165. See *supra* note 105 and accompanying text.

3. Equitable Settlement

The net cost of resolution is 30%, suggesting an equitable discount of 15% and a settlement value of 85. Once again, this level of discount has empirical support, and, on an intuitive and anecdotal level, the proposition that individual plaintiffs systematically give a discount to corporate defendants is reasonable.¹⁶⁶ With transaction cost, the defendant's total payout is 111, and the plaintiff's net receipt is 60. Relative to trial, settlement represents a far superior outcome to the defendant while the plaintiff is near the indifference point.

4. Weighted Average of Outcomes

Considering that settlements constitute the vast majority of resolutions, we calculate the weighted average costs and payments of all outcomes to get an overview of the entire system. (Obviously, with a litigation system heavily skewed toward settlement, the average closely resembles the settlement figures.) The average discount is 14%, and transaction cost is 31% of recovery. The defendant's total payout is 113, representing 87 in liability and 27 in transaction cost. (Discrepancy in addition is due to rounding.) Net of transaction cost, the plaintiff's compensation is 60.

Although these outputs are not meant to be predictive, they are roughly consistent with empirical studies. On average, settlements produce better or no worse outcomes than trials.¹⁶⁷ This is particularly so for defendants, who have a greater disparity in the values achieved between trial and

166. There is substantial empirical and anecdotal evidence of a systematic discount. See ROSS, *supra* note 13, at 215 (quoting an attorney who recommends "a settlement of 75 to 80 percent of the probable recovery should be accepted"); Patricia Danzon, *The Medical Malpractice System: Facts and Reforms*, in *THE EFFECTS OF LITIGATION ON HEALTH CARE COSTS* 28, 30 (Mary Ann Baily & Warren I. Calkins eds., 1985) (noting that average claims settled for approximately 74% of the potential verdict); see also BAKER, *supra* note 15, at 110–11 (stating that settlements in medical malpractice actions undercompensate victims); FISHBACK & KANTOR, *supra* note 5, at 28–51 (presenting historical empirical evidence that workers typically recovered little for workplace accidents); FRIEDMAN, *supra* note 5, at 363 (stating that most worker claims at the turn of the twentieth century "received little or no compensation"); Deborah R. Hensler, *The Real World of Tort Litigation*, in *2 EVERYDAY PRACTICES AND TROUBLE CASES* 155, 155 (Austin Sarat et al. eds., 1998) ("The real world of tort litigation, as revealed by quantitative empirical analyses of tort litigation over the past several decades, by qualitative case studies of tort suits, and by autobiographical narratives by tort plaintiffs, falls far short of these aspirations."). Recently, economic models based on finance theory predicted the inevitability of these discounts. See Rhee, *Price Theory*, *supra* note 7, at 674–84; Rhee, *Effect of Risk*, *supra* note 8, at 201–04, 235–39.

167. See Gross & Syverud, *supra* note 104, at 7 (noting that plaintiffs "do less well at trial than they would have by settling"). This does not suggest that settlements are normatively superior. See Rhee, *Price Theory*, *supra* note 7, at 625. Even if the average recovery in settlement is higher, trial should not be construed as irrational. An average value, such as aggregate jury verdict data, will have relevance that is subservient to the facts and laws applicable to any given case.

settlement. The difference in value constitutes potential surplus. The defendant can manage the dispute resolution process and avoid trial (a most expensive endeavor) by offering an amount from this surplus that is sufficient to incentivize the plaintiff to settle. This explains in large part why settlements are so prominent in tort actions. The tort system is not the “all-or-nothing proposition that its rules envision and its critics decry,” but it instead provides “part-recovery-most-of-the-time.”¹⁶⁸ Deductions from compensation are a structural feature of the tort system.¹⁶⁹ The most obvious factor is the American rule of attorney fees. But a less obvious structural feature—the subject of this Article—is the risk-adjusted discount in settlement value. The going assumption has been that settlements in the aggregate reflect the probabilistic outcome. This is wrong.

Another way to analyze these outputs is to consider the plaintiff’s net compensation to *transaction cost*, and to compare the results to the cost structure of insurance. Table 4 shows the breakdown.

Table 4

	Net Payments	Percent of Receipt & Cost	Trans. Cost / Net Receipt
<u>Trial</u>			
Plaintiff’s Net Receipt	60	43%	
Total Transaction Cost	80	57%	1.33x
<u>Equitable Settlement</u>			
Plaintiff’s Net Receipt	60	54%	
Total Transaction Cost	51	46%	0.86x
<u>Wt. Avg. Outcomes</u>			
Plaintiff’s Net Receipt	60	52%	
Total Transaction Cost	54	48%	0.91x
<u>Insurance</u>			
Insured’s Net Receipt	79	77%	
Total Cost	23	23%	0.30x

These outputs are also consistent with the empirical understanding of the tort system. For trials, it takes \$1.33 in transaction cost to deliver one dollar of net compensation.¹⁷⁰ For the litigation-facilitated system of

168. Franklin et al., *supra* note 13, at 35.

169. See Hylton, *supra* note 2, at 113–14 (arguing that litigation cost deductions result in partial compensation).

170. See *supra* note 152; see also John J. Donahue III, *The Law and Economics of Tort Law: The Profound Revolution*, 102 HARV. L. REV. 1047, 1047 (1989) (noting that the overhead cost of the tort system is \$16 to \$19 billion while delivering \$15 billion in net compensation); Rabin, *supra* note 142, at 2280 (noting that in 1985 costs ranged from 43% to 52% of the plaintiff’s total

dispute resolution as a whole, the cost ratio is reduced to approximately 0.91x. This still compares unfavorably to the cost ratio of insurance of 0.30x.¹⁷¹ The litigation system is very expensive compared to insurance, at least when the definition of cost is limited to transaction cost.

C. Cost Accounting

The pro forma model provides a simple, impressionistic picture of the tort system. On first glance, the results are not particularly interesting. Nothing is remarkable about the propositions that the tort system is costly and that it provides only partial compensation. This is yesterday's news. Although the broad conclusions of the model are uncontroversial, the "internals" provide new and important insights. The model shows that the tort system expends \$0.91 for every dollar of compensation, three times the cost structure of insurance. An important distinction, however, between the tort system and an insurance scheme is the allocation of cost. In an insurance scheme, the policyholder bears the primary accident cost as well as the administrative cost, subject to pass through. In a litigation system, the tortfeasor bears the loss upon a finding of liability, but the costs associated with resolving the dispute are perceived to be shared under the American rule of attorney fees. This perception is misleading, or at least incomplete. The nature of this cost-sharing aspect deserves a closer look.

Transaction cost and cost of resolution have thus far been distinguished. The *total cost* reflects their sum. Table 5 provides this debit-credit accounting for equitable settlements and weighted average of all outcomes.

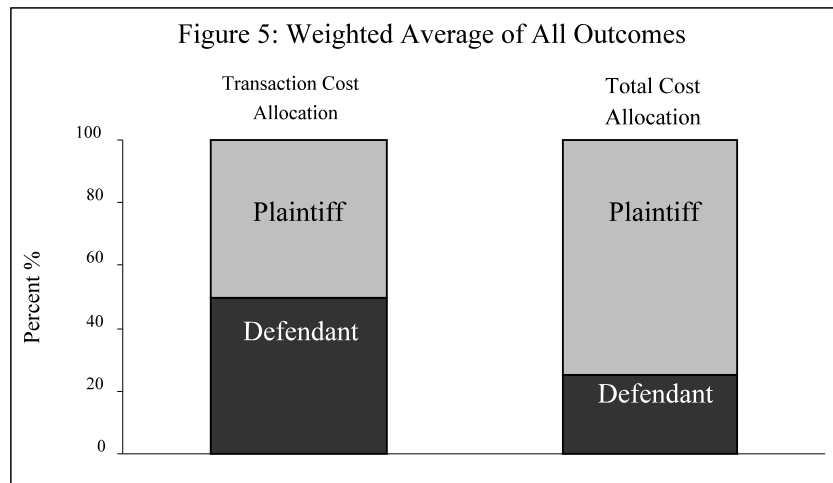
recovery, and that defendant's costs average 28% to slightly over 50% of payment (citing KAKALIK & PACE, *supra* note 152, at 68)); Barber Lines A/S v. M/V Donau Maru, 764 F.2d 50, 54 (1st Cir. 1985) (Breyer, J.) ("Indeed, the legal time, the legal resources, the delay appurtenant to the tort action apparently mean that on average the victim recovers only between 28 and 44 cents of every dollar paid by actual or potential defendants, while victims who insure themselves directly recover at least between 55 and 66 cents of each premium dollar earned by insurance companies and between 85 and 90 cents of every dollar actually paid out to investigate and satisfy claims.").

171. See *supra* text accompanying notes 159–60.

Table 5

	Payment & Receipt	Transaction Cost	Cost of Resolution	Total Cost	Percent Split (Trans. Cost)	Percent Split (Total Cost)
<u>Equitable Settlement</u>						
Defendant	111	26	(15)	11	50%	21%
Plaintiff	85	26	15	41	50%	79%
Total		51	0	51	100%	100%
<u>Wt. Avg. Outcomes</u>						
Defendant	113	27	(14)	13	50%	25%
Plaintiff	87	27	14	40	50%	75%
Total		54	0	54	100%	100%

The assignment of cost is striking. The percent split of transaction cost is assumed to be equal. When total cost is considered, however, the cost split is lopsided in favor of defendants: 21% to 79% for settlements, and 25% to 75% for the weighted average of all outcomes. Figure 5 illustrates this difference.



Another perspective on this cost allocation is gained by looking at the defendant's total cost ratio. As a percentage of the payout calculated under the legal (judicial) standard, the defendant's cost ratio is only 13% (13/100),¹⁷² a superior cost ratio to that of insurance. Thus, as compared to insurance, negligence provides superior returns to the defendants because the plaintiffs subsidize some of the cost.

172. See *supra* Table 5 (discrepancies in addition are due to rounding).

Transaction cost underestimates the true cost associated with resolving a dispute. The cost of resolution is commonly ignored in modeling because, one suspects, it is difficult to measure empirically and to conceptualize on the foundation of the rational person. After all, the rational person is risk neutral and has infinite capital. While this is the standard reference point, it is inaccurate. Settlement cannot be a cost-free endeavor; it is a risky transaction because a party must evaluate the price of uncertainty and thus can err in valuation. The risk is not recognized as a cash expense. Settlement can be a process where one cost is simply swapped for another without apparent advantage, but, managed properly, settlement can achieve better pricing of the assets and liabilities. “Thus viewed, transaction cost economics is an incomplete answer to the question of settlement.”¹⁷³ The cost of resolution is an economic cost that is “imbedded in the valuation of the dispute through a discount to value,” and “it may not be readily apparent but is equally consequential.”¹⁷⁴ When the total costs are debited and credited to the parties’ cost accounts, an entirely different picture of cost allocation emerges.

There is another important distinction between transaction cost and the cost of resolution. The allocation of transaction cost between the parties is not zero sum. They can manage a transaction efficiently so that payments to third-party attorneys are minimized. But a risk-adjusted discount stemming from the net cost of resolution is a valuational adjustment between the parties. Like the assignment of liability, its allocation is always zero sum. Unless the net cost of resolution is zero (a highly unlikely situation) plaintiffs always give a discount at settlement, and this discount substantially funds the defendant’s transaction cost.

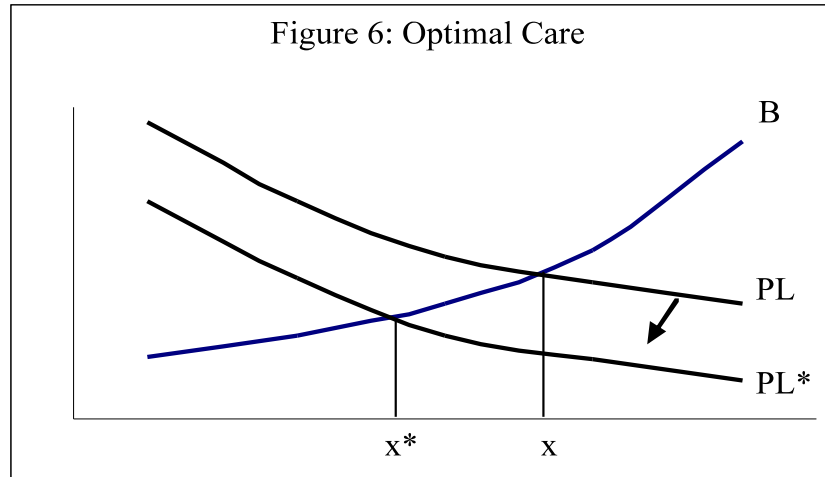
Because the discount is zero sum, the tort system as administered through settlement is still consistent with the Kaldor–Hicks criterion: “A change is wealth maximizing if the dollar value of the gains to the winners is greater than the dollar cost of the losses to the losers.”¹⁷⁵ The cost of resolution has no effect on overall wealth; its effect is simply distributive. Therefore, if the cost of precaution is a single function of the market price of labor and materials,¹⁷⁶ there must be different standards of care. Figure 6 shows this effect.

173. Rhee, *Effect of Risk*, *supra* note 8, at 228.

174. *Id.* at 199.

175. LANDES & POSNER, *supra* note 1, at 16.

176. *See supra* notes 38–45 and accompanying text.



Courts determine the cost of accident PL . With a burden of precaution B fixed by market prices, the judicial standard of care is set at x . Settlement, however, devalues the cost of accident to PL^* . This devaluation reduces the standard of care from x to x^* . Tort law is not efficient, as efficiency has been defined by the economic model, because courts are largely irrelevant in the instrumental function of determining value.¹⁷⁷ Parties settle only when each party determines that settlement is better than the application of the legal standard at trial. From the standpoint of determining the law, a comparison of interpersonal utilities may indeed be “arbitrary,”¹⁷⁸ but from the perspective of private resolution, the parties necessarily engage in such comparisons to achieve the best result.¹⁷⁹ Thus, courts may fix the standard of care as a matter of aspiration, allowing the disputants to bargain “in the shadow of the law,” but in practice the standard of care is a variable that floats freely in the tort

177. See Gary T. Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*, 42 UCLAL. REV. 377, 387, 423 (1994) (noting that tort law provides a meaningful but imperfect deterrence). Schwartz concluded that one who seeks an explanation of the empirical world “would be largely warranted in ignoring” the standard law-and-economics analysis. *Id.* at 426; cf. Alexander, *supra* note 2, at 505 (concluding that the merits of a case are irrelevant in the settlement of securities actions). Indeed, courts are happy to be marginalized players given their normative preference for settlement.

178. See LANDES & POSNER, *supra* note 1, at 54–58; see also KENNETH ARROW, *SOCIAL CHOICE AND INDIVIDUAL VALUES* 9 (2d ed. 1963). But see Richard A. Epstein, *Rights and “Rights Talk,”* 105 HARV. L. REV. 1106, 1118 (1992) (“Only some professional economists talk as if there is an impenetrable barrier preventing interpersonal comparisons of utility. Most of us are quite happy to make such comparisons, and do so with confidence, every day of our lives.”).

179. See Richard A. Epstein, *A Theory of Strict Liability*, 2 J. LEGAL STUD. 151, 202 (1973) (“In economic terms, the resolution of every dispute requires a trade-off between the parties, for no one has yet found a way in which both parties could win a lawsuit.”).

marketplace.¹⁸⁰

Tort law in the shadow of the civil litigation system presents an arbitrage opportunity for the tort defendant. Arbitrage exists when an imperfection in the market creates a riskless profit opportunity.¹⁸¹ A classic example occurs when the same assets are priced differently in different forums. A similar situation exists in the tort system because the public and private forums offer different prices for the cost of accident. The “imperfection” in the tort system is the reality that plaintiffs and defendants are not similarly situated. Heterogeneity in parties and circumstances results in different costs of resolution and therefore different valuations. The defendant’s lower cost of resolution—in essence a lower cost of transacting to fund the accident—allows the defendant to exploit this price disparity, thus externalizing transaction cost to plaintiffs.¹⁸²

180. The conclusion that uncertainty leads to a reduction in the standard of care apparently differs in some respect from the conclusion reached by other scholars. Notably, Richard Craswell and John Calfee argued that uncertainty can lead to overcompliance. See Richard Craswell & John E. Calfee, *Deterrence and Uncertain Legal Standards*, 2 J.L. ECON. & ORG. 279, 280 (1986) [hereinafter Craswell & Calfee, *Deterrence and Uncertain Legal Standards*]; see also John E. Calfee & Richard Craswell, *Some Effects of Uncertainty on Compliance with Legal Standards*, 70 VA. L. REV. 965, 965 (1984). Their basic argument is that if uncertainty is distributed normally around the optimal standard of care, and if the uncertainty is not too great, the legal rule will have an overdeterrence effect. Craswell & Calfee, *Deterrence and Uncertain Legal Standards*, *supra*, at 299; see Tom Baker et al., *The Virtues of Uncertainty in Law: An Experimental Approach*, 89 IOWA L. REV. 443 (2004) (arguing that uncertainty of sanction may lead to greater deterrence). The intuition is that because the legal application of the rule is uncertain, it may be cost beneficial to incur the additional cost of taking more precaution if the cost is outweighed by the potential for liability due to error. The degree of overdeterrence depends on the range of error. As long as the range of error is small, overdeterrence may result even for risk-neutral parties. The difference in conclusions is more apparent than real. Assuming that a defendant would confront an uncertain application of an optimal standard of care, a cost-benefit analysis may lead to overprecaution. However, the argument in this Article is that the settlements are struck at valuations below the optimal standard of care defined by the legal rule. The question here is the effect of uncertainty on the *location* of the standard of care, and not its effect on incentives in the vicinity of the standard of care once it is ascertained. To the extent that private parties set the standard of care, uncertainty of enforcement may lead to overdeterrence from this baseline, which is consistent with Craswell and Calfee’s argument.

181. See FOCARDI & FABOZZI, *supra* note 84, at 393.

182. To be clear, the argument here is not that this inequity is illegitimate. Without too much of a foray into a normative argument, I suggest that this inequity is legitimate in the limited sense that it is not gotten illicitly or unethically, nor presumably applied in an unconscionable manner, but it stems instead from circumstantial differences. Ordinarily, the reflexive instinct is to delve into the policy considerations of this inequity. But because this Article advances a positive theory, a normative analysis is not within its scope, in part because I do not yet know what the normative response, if any, should be. An analysis must address whether one participant’s value assignment should be seen as “better” or “more accurate.” If so, by what criteria? One presumes that parties who settle believe that they maximized their utility because settlement is by definition bilateral. The question raises an issue of whether, in the context of dispute resolution, a comparison of interpersonal utilities can be a measure of efficiency, for, as Richard Epstein observed, one has yet

The above exercise shows that, while the litigation system is costly, the assignment of cost is substantially disproportionate in spite of mutual cost bearing under the American rule. In short, the tort system is expensive and seems unfair. This leads to the question posed by Edward White: What accounts for the “unexpected persistence” of the fault standard in the face of many challenges to its supremacy within the tort and compensation systems?¹⁸³ One answer, I believe, is suggested in the historical development of negligence.

V. NEGLIGENCE IN THE HISTORICAL CONTEXT

As tort law has continued to evolve through history, speculation on the demise of negligence has been frequent.¹⁸⁴ In the twentieth century, a number of doctrines and theories emerged to challenge the primacy of negligence, including legislation, strict liability, product liability, enterprise liability, and no-fault insurance schemes. These doctrines and theories, broadly termed “enterprise liability,” sought to assign the costs of accidents to the activity that created them.¹⁸⁵ Mirroring the dynamic nature of tort law, scholarship advanced numerous theories and analytic methods to give tort law an intellectual structure. These theories asked, among other things, whether tort law creates the appropriate incentives to reduce the costs of accidents, whether it efficiently allocates the costs between parties, whether it provides appropriate compensation to victims, and whether it promotes corrective justice. The changes in doctrine and competition of ideas have created dynamic uncertainty in the development of tort law.¹⁸⁶ Considering this environment, Edward White speculated, in

to find a way in which both parties can win a verdict at trial. See Epstein, *supra* note 179, at 202; see also *supra* notes 178–79 and accompanying text. The normative implications, if any, are better left for another day.

183. See G. Edward White, *The Unexpected Persistence of Negligence, 1980–2000*, 54 VAND. L. REV. 1337, 1341 (2001).

184. In 1967, the *Virginia Law Review* held a symposium on precisely this question, which was considered by prominent tort scholars of the day. *A Symposium in Honor of Charles O. Gregory*, 53 VA. L. REV. 774 (1967). The thoughts then were as diverse as they are now. Fleming James opined that negligence may continue, but the standard of care may be watered down to where it is “negligence without fault.” Fleming James, Jr., *The Future of Negligence in Accident Law*, 53 VA. L. REV. 911, 917 (1967). John Fleming argued that tort law may “shrink to ever more modest proportions” with the advent of risk-distribution measures such as social security and insurance. John G. Fleming, *The Role of Negligence in Modern Tort Law*, 53 VA. L. REV. 815, 815 (1967). Robert Keeton observed that negligence will continue to have a role because tort law is an unending process of political and economic accommodations of the time. Robert E. Keeton, *Is There a Place for Negligence in Modern Tort Law?*, 53 VA. L. REV. 886, 897–98 (1967).

185. WHITE, *supra* note 3, at 245.

186. In the current state of tort theory, there are two predominant theories, the economic and moral theories of tort law. These theories have spun off into variations of multiple flavors. See generally Goldberg, *supra* note 3 (describing the variations in theory).

Tort Law in America, what a hypothetical group of tort scholars in the 1970s might have predicted in the future development of tort doctrine and scholarship.¹⁸⁷ He concluded that trends in doctrine and scholarship “would have led most predictors to anticipate that the forthcoming decades would witness the growing prominence of enterprise-based theories of tort liability.”¹⁸⁸ Yet tort law subsequently experienced a retrenchment of the fault standard.¹⁸⁹ Since *Brown v. Kendall*¹⁹⁰ was announced in 1850, negligence has remained the dominant theory of accident law. Despite the academic interest in competing theories, such as strict liability,¹⁹¹ it is noteworthy that negligence is the primary standard of care in all jurisdictions.¹⁹² There are probably many reasons—historical, cultural, political, economic, and philosophical—for the negligence standard’s monolithic vitality. This Article focuses on one aspect of the economic explanation—the influence of negligence on value and its connection to the overall philosophy of the American civil litigation system.

As seen, the central problem in the dispute resolution process, within and without the judicial system, is the management of uncertainty.¹⁹³ In this context, the standard of care is not value neutral. The fault standard creates a significant degree of uncertainty. Despite the efforts of many generations of judges and scholars to define the crucial element of negligence, the standard of care is difficult to fix or predict. In *The*

187. WHITE, *supra* note 3, at 244.

188. *Id.* at 245–46. This prediction is consistent with some of the thoughts expressed in the 1967 *Virginia Law Review* symposium. See *supra* note 184.

189. See WHITE, *supra* note 3, at 246–48.

190. 60 Mass. (6 Cush.) 292 (1850). There, Chief Justice Lemuel Shaw opined that a plaintiff suing in trespass must “show either that the *intention* was lawful, or that the defendant was *in fault*.” *Id.* at 295–96. Although *Brown* was not the first American case that applied the fault standard, its “significance lay in Shaw’s recognition of the capacity of ‘fault’ to serve as a comprehensive standard.” WHITE, *supra* note 3, at 15.

191. See, e.g., Epstein, *supra* note 179. Scholars have argued that the deterrence effect between negligence and strict liability is theoretically the same under certain conditions. POLINSKY, *supra* note 68, at 46.

192. The most significant deviation is workers’ compensation. The view that workers’ compensation was a social triumph over industry during the Progressive Era is inaccurate. See FISHBACK & KANTOR, *supra* note 5, at 12, 198. Workers’ compensation schemes and their rapid adoption throughout the states occurred because the economic interests of the major interest groups converged. *Id.* at 17–18, 198–99. The key that unlocked the benefit for all three interest groups—workers, employers, and insurers—was the reduction of “the uncertainty surrounding their accident costs.” *Id.* at 13–14. Insurers could underwrite lower premium levels as a result of larger participation and mitigation of adverse selection. *Id.* at 55. Workers benefited from lower insurance levels and increased certainty of payouts upon an accident, even if this meant less wages. *Id.* at 23. Employers gained from the predictability of liability even if this meant greater liability payouts and administrative costs. *Id.* at 11–13. Thus, the principles of financial economics explain the movement toward universal workers’ compensation.

193. See *supra* notes 29–31 and accompanying text.

Common Law, Oliver Wendell Holmes observed that the negligence standard is a “vague test.”¹⁹⁴ Like most people, Holmes valued predictability and order and disliked uncertainty. The “coarseness” of the standard, he said, must be redressed: “[T]he tendency of the law must always be to narrow the field of uncertainty.”¹⁹⁵ The law of negligence could, after years of experience, be subject to the precision of a “mathematical line.”¹⁹⁶ Thus, the determination of negligence could eventually become a question of law.¹⁹⁷

The error in Holmes’s vision is not the misguided view that negligence is capable of judicial codification; after all, the theory of negligence was still a relatively new doctrine at the time Holmes wrote *The Common Law*. Rather, he failed to see that uncertainty is the vital element of negligence. Certainty of outcome, such as strict liability, can be brought about only by government mandate. The governing condition of meritorious civil action is the uncertainty of outcome.¹⁹⁸ The fault standard enhances the unpredictability of liability and damage determinations. Factfinding always involves “a measure of speculation and conjecture.”¹⁹⁹ In the case of negligence, the standard is known and thus not arbitrary, but its application is uncertain and thus unpredictable to a degree.²⁰⁰

194. OLIVER WENDELL HOLMES, *THE COMMON LAW* 88–89 (Mark DeWolfe Howe ed., The Belknap Press of Harvard Univ. Press 1963) (1881); see *Sisler v. Gannett Co.*, 516 A.2d 1083, 1094 (N.J. 1986) (finding that the negligence standard is characterized by “vagueness and unpredictable jury applications”); FRIEDMAN, *supra* note 5, at 351 (noting that negligence employs “the vague, subtle standard of the ‘reasonable man’”).

195. HOLMES, *supra* note 194, at 90, 101.

196. *See id.* at 99–103.

197. *See id.* at 99 (“A judge who has long sat at *nisi prius* ought gradually to acquire a fund of experience which enables him to represent the common sense of the community in ordinary instances far better than an average jury.”). The debate was had in conflicting opinions by Holmes and Cardozo in railway cases. Compare *Baltimore & Ohio R.R. v. Goodman*, 275 U.S. 66, 70 (1927) (Holmes, J.) (finding that when dealing with a standard of conduct, it should be laid down by the courts), with *Pokora v. Wabash Ry.*, 292 U.S. 98, 106 (1934) (Cardozo, J.) (finding that standard-of-care determinations should be left to the jury). Later experience showed that Holmes’s instinct was misplaced, for negligence cannot be set forth in a series of predictable rules. See *Mars Steel Corp. v. Cont’l Bank N.A.*, 880 F.2d 928, 936 (7th Cir. 1989) (Easterbrook, J.) (“Justice Holmes believed that courts would (at least, should) slowly reduce all of tort law to objective, readily applied rules. This is not viewed today as one of his more astute predictions.” (citations omitted)).

198. Hay & Spier, *supra* note 10, at 446 (“In nearly all cases, the outcome of trial is uncertain; the uncertainty may be over whether the plaintiff will win, how much he will recover in the event he wins, or both.”).

199. *Lavender v. Kurn*, 327 U.S. 645, 653 (1946).

200. There is rich literature on the jurisprudential implications of rules versus standards. See Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557 (1990); Russell B. Korbin, *Behavior Analysis and Legal Form: Rules vs. Standards Revisited*, 79 OR. L. REV. 23 (2000); Kathleen M. Sullivan, *The Justices of Rules and Standards*, 106 HARV. L. REV. 22 (1992).

It is well settled that, where there is uncertainty as to the existence of either negligence or contributory negligence, the question is not one of law, but of fact, and to be settled by a jury; and this whether the uncertainty arises from a conflict in the testimony, or because, the facts being undisputed, fair-minded men will honestly draw different conclusions from them.²⁰¹

Uncertainty has a profound valuations consequence. Uncertainty either diminishes or increases the value of a lawsuit, and the direction is a function of the net cost of resolution between parties. In tort law, the defendant enjoys this advantage. The systematic devaluation of tort claims has several effects. It magnifies the importance of transaction cost savings because this cost becomes more important in the calculus of dispute resolution as the stake decreases. On a related point, devaluation functionally increases the contract zone from which a settlement can be struck. Thus, the negligence standard promotes private pricing of the costs of accident.²⁰²

Negligence requires the least governmental intervention in the pricing of the costs of accident. Its persistence today is attributable to a normative preference by courts for private resolution. Again, we see evidence of this preference in Holmes's thoughts. He argued that tort law should be administered without excessive state interference:

The state might conceivably make itself a mutual insurance company against accidents, and distribute the burden of its citizens' mishaps among all its members. There might be a pension for paralytics, and state aid for those who suffered in person or estate from tempest or wild beasts. As between individuals it might adopt the mutual insurance principle *pro tanto*, and divide damages when both were in fault, as in the *rusticum judicium* of the admiralty, or it might throw all loss upon the actor irrespective of fault. The state does none of these things, however, and the prevailing view

201. *Richmond & Danville R.R. v. Powers*, 149 U.S. 43, 45 (1893). The uncertainty of the negligence standard is frequently recognized in defamation cases. *See Time, Inc. v. Hill*, 385 U.S. 374, 389 (1967) (noting that the reasonable standard of care is "elusive"); *Sisler v. Gannett Co.*, 516 A.2d 1083, 1093 (N.J. 1986) ("One problem inherent in the negligence standard is the great uncertainty engendered in its application."); *Nist v. Tudor*, 407 P.2d 798, 802 (Wash. 1965) ("[C]ase law shows the same uncertainty in applying the gross negligence standard to given facts and demonstrates that the profession at large has undertaken the impossible task of defining the indefinable.").

202. Settlement becomes more likely when trial costs are greater relative to the stake at issue. *See Hay & Spier, supra* note 10, at 444. Thus, most small instances of injury do not result in a filed action, much less a trial. *See supra* notes 13–15 and accompanying text.

is that its cumbrous and expensive machinery ought not to be set in motion unless some clear benefit is to be derived from disturbing the *status quo*. State interference is an evil, where it cannot be shown to be a good. Universal insurance, if desired, can be better and more cheaply accomplished by private enterprise. The undertaking to redistribute losses simply on the ground that they resulted from the defendant's act would not only be open to these objections, but, as it is hoped the preceding discussion has shown, to the still graver one of offending the sense of justice. Unless my act is of a nature to threaten others, unless under the circumstances a prudent man would have foreseen the possibility of harm, it is no more justifiable to make me indemnify my neighbor against the consequences, than to make me do the same thing if I had fallen upon him in a fit, or to compel me to insure him against lightning.²⁰³

Holmes's original analysis is confirmed by the historical developments of academic theories and judicial doctrines in the latter half of the twentieth century. Enterprise liability requires the government to assess liability in broad strokes. As doctrines in support of enterprise liability were gaining prominence from the 1940s to the 1970s,²⁰⁴ the theory of negligence, surprisingly, retrenched in both doctrine and scholarship. White noted this phenomenon:

Thus the underlying cause of the parallel developments in academic theory and tort doctrine I have identified, and the central reason why a negligence-based model of tort liability has unexpectedly persisted since the 1980s, is the widespread loss of faith in government-run distributive solutions to social problems. Traditional negligence theory has continued to flourish because it is far less distributive, and requires far less participation from governmental units, than enterprise liability alternatives.²⁰⁵

203. HOLMES, *supra* note 194, at 77–78.

204. This period gave rise to significant developments in enterprise and product liability. *See, e.g., Sindell v. Abbott Labs.*, 607 P.2d 924 (Cal. 1980) (discussing enterprise liability and adopting a market share theory of liability); *Greenman v. Yuba Power Prods., Inc.*, 377 P.2d 897 (Cal. 1963) (imposing strict liability on a manufacturer); RESTATEMENT (SECOND) OF TORTS § 402A (1965) (imposing strict liability for physical harm on sellers of unreasonably dangerous defective products).

205. WHITE, *supra* note 3, at 289; *see* Jay M. Feinman, *Un-Making Law: The Classical Revival in the Common Law*, 28 SEATTLE UNIV. L. REV. 1, 29–39 (2004) (discussing the classical revival of the negligence concept and the move of product liability from strict liability to a negligence-based theory).

The instinct against government risk-distribution schemes is rooted not only in the historical ambivalence toward the institution of government in the American political psyche but also in empirical experience: “one of the most evident lessons from history is that political systems have an inherent tendency to produce inefficient property rights which result in stagnation or decline.”²⁰⁶ This country has a “political tradition that is mistrustful of bureaucratic authority—preferring to fragment authority and to hold it legally accountable through individually activated rights and adversarial litigation.”²⁰⁷ Tort law is not above the tension created by the ebb and flow of competing ideas on the role of government in the allocation of risk and cost. It is not surprising that theories of enterprise liability found a sympathetic ear during the middle of the twentieth century because this was a period when the government’s ability to solve social problems was viewed optimistically. In opposition to these tendencies, then, is the theory of negligence. Under the fault standard, all factors of valuation are variable and subject to a private contractual agreement on price.

With this in mind, we can broadly organize compensation schemes—negligence, strict liability, and managed compensation—around several themes: the level of litigation activity, the public or private nature of pricing, and the degree of uncertainty in resolution. Obviously, managed compensation, followed by strict liability, would require the greatest government involvement. In terms of litigation activity, managed compensation would generate none because litigation would be foregone in favor of a no-fault insurance or pooled compensation, but it would produce the greatest number of claims because the claimants would bear little administrative cost in asserting a claim. Strict liability in comparison to negligence would generate the larger volume of litigation.²⁰⁸ These schemes can be arranged according to their essential characteristics. As a way of providing a reference point, we also throw into the mix an imaginary scheme that resolves tort disputes in an entirely unpredictable manner. No party in a disputed action would subject themselves to a seemingly arbitrary outcome, and they would settle instead.²⁰⁹ If these

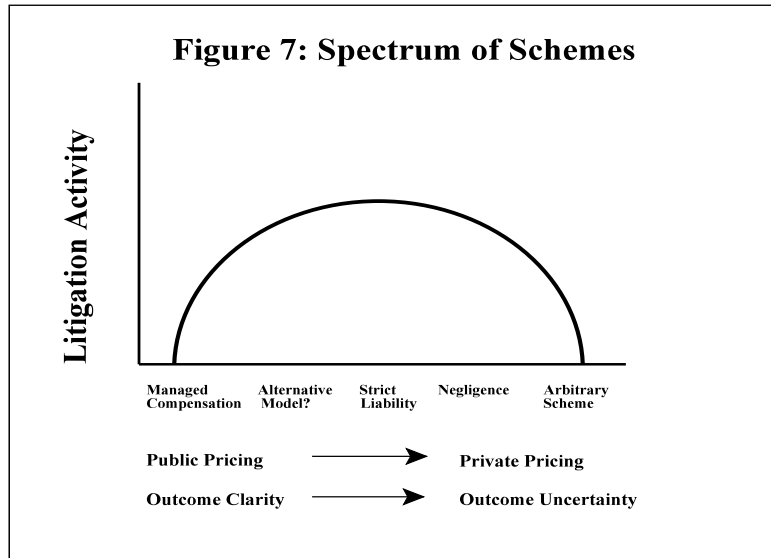
206. Douglass C. North, *Institutions, Transaction Costs and Economic Growth*, 25 *ECON. INQUIRY* 419, 422 (1987). Government insurance programs are perhaps the largest and most explicit risk-distribution schemes, and they have had mixed results. See Rhee, *Catastrophic Risks and Governance*, *supra* note 73, at 599–600, 609–11 (discussing the failures of national flood insurance); Rhee, *Terrorism Risk*, *supra* note 73, at 485–96 (discussing the problems with government-sponsored insurance programs).

207. ROBERT A. KAGAN, *ADVERSARIAL LEGALISM: THE AMERICAN WAY OF LAW* 125 (2001).

208. See LANDES & POSNER, *supra* note 1, at 65 (explaining that strict liability generates more lawsuits); POLINSKY, *supra* note 68, at 54–55 (explaining why the negligence rule generates less litigation than the strict-liability rule).

209. We assume that all lawsuits are meritorious. Otherwise, an arbitrary scheme would attract frivolous suits. See Gould, *supra* note 1, at 296 (“If the courts acted arbitrarily and without precedent, an enormous number of property right disputes would have to be resolved in court, and

schemes are compared, one sees that negligence occupies a certain “space.” Figure 7 illustrates this. In short, negligence is the legal standard that is most consistent with the prevailing normative preference for private ordering of disputes.²¹⁰



In some abstract notion, one supposes that the elimination of lawsuits is a good thing, though the thought that reduced litigation is good is an odd one without context. Litigation can be dramatically reduced in relation to negligence only with a managed compensation system or an arbitrary system of wholly unpredictable outcomes. In between these extremes, strict liability and negligence occupy their respective spaces. Negligence requires the lowest level of government action, and managed compensation requires the greatest level. Greater outcome uncertainty facilitates private pricing.²¹¹ Negligence, then, is the compromise standard. It balances the role of government with private choice; it promotes dispute resolution at a lower level of litigation activity; and it is difficult to predict in application without being arbitrary. In short, negligence is the legal standard that is most consistent with the normative preference for private ordering of disputes.

this would be a costly and serious impediment to the efficient organization of economic activity.”).

210. See *supra* note 59.

211. See Rhee, *Price Theory*, *supra* note 7, at 679–80 (arguing that cases go to trial when parties are confident of their case assessments and thus there is the perception of outcome clarity); Saks, *supra* note 5, at 1215 (“[A]mbiguity facilitates settlement.”). But see Priest & Klein, *supra* note 1, at 16 (arguing that cases go to trial when the outcome is uncertain).

As for litigation activity, negligence has no peer. In his highly influential *The Costs of Accidents*, Guido Calabresi searched for an alternative model.²¹² There, he dismissed the fault system as “absurd” and “ineffective”²¹³ and prescribed that a goal of an effective tort or compensation system should be the reduction in the social costs of accidents.²¹⁴ He also prescribed that an effective compensation system should provide a proper mix of market-based and government-initiated incentives to reduce accidents to an optimal level.²¹⁵ Despite the depth and rigor of Calabresi’s insights, the fruition of these ambitious goals and methods has been elusive.²¹⁶ Instead, over the years negligence has retrenched. In retrospect, it is easy to see why. An alternative system must achieve a broad political consensus to fundamentally change the system, as was the case for workers’ compensation, and this requires a better balancing of the competing political, philosophical, and economic interests. Until this alternative model is found, the fault standard will continue to reign in the tort system.

More than any other legal standard or compensation system contemplated, negligence is the legal standard that most reduces the number of claims and their values. Strict liability would result in more lawsuits and greater payouts. While an insurance system would reduce the per case transaction cost, the aggregate administrative and liability costs are unknown. As Saks notes:

A system that requires victims to initiate claims and puts them through a complex process before compensation can be paid will have far fewer claims filed than a system that reduces these barriers. Consequently, defendant groups who would like to experiment with no-fault or other types of administrative systems fear that a major cost of administrative expediency will be an increase in claims filed. They worry that the number of currently litigated cases constitutes only the tip of the injury iceberg and that in exchange for whatever they are trying to avoid, they almost certainly will see many more cases than they have experienced in the past. For some areas of litigation, a quintupling of cases would not be unexpected.²¹⁷

212. CALABRESI, *supra* note 1. Calabresi’s book was the subject of a symposium held by the *Maryland Law Review*. Symposium, *Calabresi’s The Cost of Accidents: A Generation of Impact on Law and Scholarship*, 64 MD. L. REV. 1 (2005).

213. CALABRESI, *supra* note 1, at 276, 316.

214. *Id.* at 24.

215. *Id.* at 27.

216. See Robert L. Rabin, *The Renaissance of Accident Law Plans Revisited*, 64 MD. L. REV. 699, 733 (2005).

217. Saks, *supra* note 5, at 1189 (footnote omitted); see BAKER, *supra* note 15, at 26 (“[A] no-

Strict liability and managed compensation result in far more claims against defendants as the barriers and costs to recovery are lowered. Under the fault standard, corporate defendants are allowed to impose a certain degree of externalities from their activities onto the public.²¹⁸ Whether these externalities manifest into lawsuits depends on the calculus of harm versus the total cost of dispute resolution. The fault standard increases this cost and thereby reduces the number of claims and their values.

From the perspective of functionality, then, it is easy to see how negligence is resistant to a coherent synthesis within the framework of the current debate. Compensation will always be partial. Even in the fanciful world of risk neutrality, the American rule of attorney fees assures this. In the real world, efficiency, as defined by some, is impossible because the standard of care envisioned by courts and economists cannot be achieved. Corrective justice, as defined by others, is always incomplete when victims cannot be made whole as envisioned by the legal standard. These functionalities suggest that negligence is not the instrument of a theoretically pure purpose but carries with it the attributes of practical compromise within the larger political economy.²¹⁹

The functionalities of negligence trace back to its historical origins. Negligence did not begin to coalesce into a recognizable form until the mid-nineteenth century.²²⁰ Accident law was then amorphous at best.²²¹

fault approach [in the medical malpractice area] was almost guaranteed to be more expensive.”).

218. KENT GREENFIELD, *THE FAILURE OF CORPORATE LAW: FUNDAMENTAL FLAWS AND PROGRESSIVE POSSIBILITIES* 16 (2006) (stating that a corporation is “an entity that is guaranteed to throw off as many costs and risks onto others as it can”). The doctrine governing recovery in cases of increased risk of harm from toxic exposure perfectly illustrates the administrative problem of uncompensated negative externalities. *See generally* Rhee, *supra* note 81 (arguing that recovery should be allowed to compensate for increased risk of harm).

219. *See* E.F. Roberts, *Negligence: Blackstone to Shaw to ? An Intellectual Escapade in a Tory Vein*, 50 CORNELL L.Q. 191, 216 (1965) (“American negligence is ambivalent because it seeks to perform two functions. One, it is designed to regulate human conduct by enforcing the reasonable man standard. Two, it is becoming an insurance scheme . . .”).

220. Gary T. Schwartz, *Tort Law and the Economy in Nineteenth-Century America: A Reinterpretation*, 90 YALE L.J. 1717, 1730–32 (1981).

221. There is significant scholarly disagreement on the state of the law before the rise of negligence. *See* FRIEDMAN, *supra* note 5, at 351 (“Absolute liability was rejected; more accurately, it was never considered.”); MORTON J. HORWITZ, *THE TRANSFORMATION OF AMERICAN LAW*, 60 Mass. (6 Cush.) 292 (1850) 1780–1860, at 85–90 (1977) (explaining that strict liability was the rule before *Brown v. Kendall*); WHITE, *supra* note 3, at 14 (“[N]o comprehensive standard of liability then existed for tort actions. . . . [Brown v. Kendall] was merely articulating the common sense of earlier cases”); Robert L. Rabin, *The Historical Development of the Fault Principle: A Reinterpretation*, 15 GA. L. REV. 925, 960 (1981) (“[N]o-liability attitudes dominated many of the status relationships that were to ripen into injury categories in the industrial era.”); Roberts, *supra* note 219, at 204 (“In fact, *Brown v. Kendall* did not remove strict liability from the law: it was not then there.”).

The significance of *Brown v. Kendall* lies in its clear articulation of negligence as a theory of liability.²²² This theory was born into an era of rapid industrialization and manufacturing,²²³ whose new activities dramatically increased the number of personal injuries.²²⁴ The birth of negligence as a coherent standard invites the question, why negligence? In retrospect, American tort law could have adopted strict liability in the vein of *Rylands v. Fletcher*,²²⁵ or, as Holmes suggested, a government-sponsored insurance program.²²⁶ Yet it was negligence that emerged naturally, without significant opposition, debate, or experimentation. Is there a connection between the birth of negligence and the rise of the American industrial age? Charles Gregory answered that negligence was a judicial “subsidy” to a burgeoning industrial enterprise:

While it is pure speculation, one of Chief Justice Shaw’s motives underlying his opinion [in *Brown v. Kendall*] appears to have been a desire to make risk-creating enterprise less hazardous to investors and entrepreneurs than it had been previously at common law. Certainly that interpretation is consistent with his having furthered the establishment of the fellow servant doctrine and the expansion of the assumption-of-risk defense in actions arising out of industrial injuries. Judicial subsidies of this sort to youthful enterprise removed pressure from the pocket-books of investors and gave incipient industry a chance to experiment on low-cost operations without the risk of losing its reserve in actions by injured employees. Such a policy no doubt seems ruthless; but in a small way it probably helped to establish industry, which in turn was essential to the good society as Shaw envisaged it. And, of course, he also had in mind the obvious advantages of consistency in legal theory.²²⁷

222. See *Brown*, 60 Mass. (6 Cush.) at 296–97.

223. DOUGLASS C. NORTH, *THE ECONOMIC GROWTH OF THE UNITED STATES 1790–1860*, at 204 (1961) (“But it was during the 1840’s and early 1850’s that the pace of industrialization accelerated to the degree that the Northeast could unequivocally be called a manufacturing region.”).

224. See Issacharoff & Witt, *supra* note 2, at 1579; see also FRIEDMAN, *supra* note 5, at 350 (“The Industrial Revolution added an appalling increase in dimension. The new machines had a marvelous, unprecedented capacity for smashing the human body.”).

225. (1866) 1 L.R. Exch. 265 (U.K.), *aff’d*, (1868) 3 L.R.H.L. 330 (U.K.); see FRIEDMAN, *supra* note 5, at 365 (noting American judicial hostility to the strict-liability doctrine of *Rylands v. Fletcher*).

226. See *supra* note 203 and accompanying quote; see also *supra* note 192 (describing the reasons for the rise of workers’ compensation).

227. Charles O. Gregory, *Trespass to Negligence to Absolute Liability*, 37 VA. L. REV. 359, 368 (1951).

Since Gregory's speculation, the "subsidy" argument has been vigorously debated by an impressive array of leading scholars. Legal historians Morton Horwitz and Lawrence Friedman argued that the development of the fault standard resulted in a wealth transfer from injured plaintiffs to industry.²²⁸ Economists Posner and Landes argued that negligence emerged as an effort to achieve economic efficiency.²²⁹ Tort scholars are just as divergent in their views. Gary Schwartz took a more generous view than the historians, arguing that negligence was applied with "impressive sternness to major industries and that tort law exhibited a keen concern for victim welfare."²³⁰ Robert Rabin, on the other hand, posited that the historical development of the negligence standard must be viewed in the historical context, that is, that "if there was protectionism, it was a natural consequence of deeply conservative, preexisting sentiments toward loss allocation, rather than a retreat from a more liberal compensation principle."²³¹

Regardless of these different opinions on the reason for the embrace of negligence, there is little doubt that the effect has been the creation of structural barriers to recovery. In early common law, the defenses of contributory negligence, assumption of risk, and the fellow servant rule placed a significant onus of cost on plaintiffs. The early harsh rules lived a short brilliant life, and the energy required to maintain them brought about their eventual demise.²³² They soon gave way to more equitable standards. Statutory remedies were given to workers in occupations of special risk. Comparative negligence took hold and eliminated the preclusive effects of contributory negligence and assumption of risk defenses. Workers' compensation quickly replaced the tort system during

228. See FRIEDMAN, *supra* note 5, at 350–66; HORWITZ, *supra* note 221, at 63–108. Early Supreme Court cases interpreting the Federal Employers' Liability Act support the historians' perspective. See, e.g., *Tiller v. Atl. Coast Line R.R.*, 318 U.S. 54, 58–59 (1943) ("[T]he general impulse of common law courts at the beginning of this period [was] to insulate the employer as much as possible from bearing the 'human overhead' which is an inevitable part of the cost—to someone—of the doing of industrialized business.").

229. LANDES & POSNER, *supra* note 1, at 8. See generally Herbert Hovenkamp, *The Economics of Legal History*, 67 MINN. L. REV. 645 (1983) (analyzing and comparing Posner's and Horwitz's arguments on the historical development of tort law).

230. Schwartz, *supra* note 220, at 1720. See generally Gary T. Schwartz, *The Character of Early American Tort Law*, 36 UCLA L. REV. 641 (1989) (arguing that nineteenth-century tort law was generous to workers). Schwartz's view of early tort law is not irreconcilable with those of Horwitz and Friedman. The historians have portrayed the early tort system as a harsh machine of economic oppression. See FRIEDMAN, *supra* note 5, at 356; HORWITZ, *supra* note 221, at 99–101. But Friedman also noted that courts were not above the tug and pull of sympathy and fairness. Early dispute resolution process, similar to today's process, eliminated most claims even before reaching trial. See FRIEDMAN, *supra* note 5, at 357. When cases reached the courts, however, judges "were never entirely heartless," and this sentiment "seemed to grow stronger with time." *Id.* at 356.

231. Rabin, *supra* note 221, at 960.

232. *Id.* at 356, 366.

the first half of the twentieth century. Free from its earlier draconian tradition, the negligence system today is not so maligned as the Trojan horse of industry. It is thought of in terms of fairness, moral blameworthiness, and efficiency, which despite their tensions comport with the humane sentiment of judging conduct through the prism of the reasonable person. Yet the functionality of the negligence standard belies the purity of this expression. The economics of negligence does not stand in the perfect equipoise of the reasonably prudent person, and even without the harshness of the old common law, the reason for the “unexpected persistence” of negligence may still reside, in part at least, in the original impetus behind its creation and adoption.

VI. CONCLUSION

The tort system operates under the large shadow of bargaining. Law-and-economics scholarship has assumed without exploration that courts set the standard of care. It is true that they set the aspiration, but like much of life the purity of ideal often confronts the messiness of reality. In fact, the standard of care is set by the collective influence of private ordering among victims and tortfeasors. These groups are not similarly situated, and reasonable generalizations about their risk profiles naturally follow. There are three different components to this profile: victims are more risk averse, have greater opportunity cost, and are less diversified than tortfeasors. This profile influences the economics of the bargaining process. Defendants receive a discount to value that substantially funds the cost of accessing the pricing mechanism. The effect of this cost arbitrage is a lower standard of care than that predicted by the positive economic theory of tort law.

The theory of negligence is consistent with private contract theory and the spirit of the American dispute resolution system. While a private resolution can be seen as a good thing, at least in the abstract, it does not equate to some idealized notion of fairness or equity. Basic economic principles assure inequity. Corporate defendants have a lower cost of resolution and extract a greater benefit in the contract process. Thus, they are the primary beneficiaries of the negligence system, as was the case when negligence was first conceived. Historically, negligence developed in an era when the courts felt a need to shelter industry from a sudden surge of injuries arising from America’s industrial transformation. As this need subsided over time, negligence evolved into a more generous standard, and most of its jagged edges have been smoothed over in time with more humane sentiments. Today, negligence is cemented as the predominant standard of accident law. One reason for this is that the fault system, including its much-maligned cost structure, is the standard that most preserves enterprise capital. Despite this disproportionate advantage, one created by worldly circumstances on which the rule of law imparts an effect, the fault system may have a redeeming feature. It is a compromise

within the broader political economy. It maintains the essentially private nature of tort law even as tort law must touch social policy and public conscience. In its essence, the theory of negligence is deemed to better promote a system of self-regulation of accidents in the shadow of government pricing.