

# Tort Law as a Public Good

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DRAFT—Dec. 14, 2016

The tort system is an institution that generates information regarding the costs and benefits of safety precautions. The knowledge produced through tort litigation has the properties of a public good. It is unlikely that such information would be supplied by the free market in socially optimal quantities for the same reasons that free markets generally undersupply public goods. Tort litigation offers rewards to parties who come forward with information about accident avoidance, and thus incentivizes litigants to invest in knowledge production after an accident even though those same parties might have decided quite rationally not to invest in such knowledge before the accident. Judges and juries then sort through the evidence provided by litigants and ultimately reach verdicts reflecting determinations as to which precautions are cost-justified.

While the public good properties of tort litigation are often overlooked in the legal literature, the public good perspective on tort law has clear implications for legal doctrine. First, the public good perspective suggests a reason why courts should look beyond industry customs in setting the standard of care. An industry comprised entirely of rational actors on both the customer and seller sides may nonetheless fail to adopt a cost-justified precaution because no single individual or firm has sufficient incentive to invest in determining whether the relevant precaution is or is not cost-justified. Second, the public good perspective suggests a reason why comparative negligence may be preferable to alternative liability regimes such as simple negligence and contributory negligence: cases under comparative negligence require the court to make more determinations of fault—and thus result in the production of more information regarding accident avoidance.

The tort system is not the only public institution with the potential to generate information about the costs and benefits of precautions—indeed, some administrative agencies also do so already. However, the tort system enjoys several advantages over other institutions that might fulfill the same role: built-in adversity, symmetrical stakes, and distance from interest group politics. This article considers the ways in which the tort system produces socially valuable information about accident avoidance and concludes with suggestions as to how the tort system might better perform the function of public good provision.

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## Introduction

How should courts determine whether an actor is liable for the tort of negligence? Two of the most significant influences on the economic analysis of tort law—arguably the two most significant influences on the economic analysis of tort law—diverge on this critical question. In the landmark 1932 case of *The T.J. Hooper*, Judge Learned Hand famously said that custom is “never” the measure of negligence because “a whole calling may have unduly lagged in the adoption of new and available devices.” In Hand’s judgment, courts—and not industries—“must in the end say what is required.”<sup>2</sup> In the 1993 case *Rodi Yachts, Inc. v. National Marine, Inc.*, Judge Richard Posner—though in other respects Hand’s intellectual heir—takes a different view:

One of the best-known principles of tort law—a principle that received its canonical expression in an admiralty decision written by Learned Hand, *T.J. Hooper*—is that compliance with custom is no defense to a tort claim. The principle . . . is obviously sound when one is speaking of the duty of care to persons with whom the industry whose customary standard of care is at issue has no actual or potential contractual relation. . . . It is different when the potential victims are the customers of the potential injurers. For then the latter, even if they are not subject to any tort liability, will have to ponder the possibility that if they endanger their customers they may lose them or may have to charge a lower price in order to compensate them for bearing a risk of injury. In such a case the market itself fixes a standard of care that reflects the preferences of potential victims as well as of potential injurers . . . .<sup>3</sup>

Judge Posner goes on to suggest that “the principal function of tort law” in cases of the second sort is to ensure that firms “are complying with the standard of care customary in the industry, that is, the standard fixed by the market.”<sup>4</sup>

*Rodi Yachts* builds off an earlier analysis of the *T.J. Hooper* opinion by Posner and co-author William Landes. The issue in *The T.J. Hooper* was whether the owners of two tugboats were negligent for failing to equip their boats with radios.<sup>5</sup> The defendants argued that it was not customary in the industry for tugboats to be equipped with radios—a defense that Hand rejected. “The weakness of Hand’s analysis in *The T.J. Hooper*,” according to Landes and Posner, is “that if the cost of a safety device beneficial to the customer is much less than the benefit, it is impossible to understand why the device is not customary in the industry.”<sup>6</sup> In Landes and Posner’s view, Hand was wrong to reject the tugboat owners’ custom defense.

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<sup>2</sup> 60 F.2d 737, 740 (2d Cir.1932).

<sup>3</sup> 984 F. 2d 880, 888-89 (7th Cir. 1993) (citations omitted).

<sup>4</sup> *Id.* at 889.

<sup>5</sup> The word “negligence” is not actually used in *The T.J. Hooper*; the question in the case was phrased in terms of “unseaworthiness.” To say that a vessel is “unseaworthy” is to say that the owner of the vessel has equipped it negligently.

<sup>6</sup> William M. Landes & Richard A. Posner, *The Economic Structure of Tort Law* 135 (1987).

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Hand's opinion in *The T.J. Hooper* has not worn well in the 85 years since its issuance. As Landes and Posner observe, subsequent cases citing *The T.J. Hooper* generally have not followed Hand's outright rejection of the custom defense.<sup>7</sup> Perhaps more damningly, Landes and Posner as well as Richard Epstein have reviewed the case record and concluded that Hand was wrong on the facts. At the time of the case, at least 90% of tugs along the East Coast were equipped with radios.<sup>8</sup> According to Epstein, Hand misinterpreted the facts and ripped relevant precedents out of context in the service of "a populist manifesto for the tort law."<sup>9</sup> (Coming from Epstein, "populist manifesto" is not a compliment.)

And yet it would be a mistake, I believe, to dismiss *The T.J. Hooper* entirely. Whether or not *The T.J. Hooper* is "a populist manifesto," strong economic intuitions support Hand's conclusion that custom should not be a complete defense to negligence even when victims and injurers are connected by contract. Perhaps ironically, the strongest defense of *The T.J. Hooper* may be rooted in the writings of Landes and Posner—and, in particular, their application to tort law of the theory of public goods. "For obvious reasons," they write, "the provision of public goods by a free market is a problem," and a state that provides such goods can "thereby correct a failure of the private market." They continue: "Tort law, we suggest, is a public good."<sup>10</sup>

The suggestion is a powerful one, though its implications are not immediately obvious. A "public good," according to the standard definition, has the properties of "nonexcludability" and "nonrivalry." Nonexcludability means that nonpayers cannot be prevented from enjoying the benefits of the public good except at prohibitive cost. Nonrivalry means that additional users can enjoy the public good without reducing its value to anyone else.<sup>11</sup> As applied to the tort system as a whole, the claim that "[t]ort law . . . is a public good" is demonstrably false. Potential plaintiffs who fail to pay filing fees can be excluded quite easily from the courts that adjudicate tort cases. Likewise, judicial resources are exhaustible, such that additional users can reduce the value of the tort system to others by congesting the courts.

The characterization of tort law as a public good is accurate in a different sense: the judgments of courts as to what constitutes "reasonable care" and what constitutes negligent conduct are indeed nonexcludable and nonrival. The knowledge that the benefits of equipping tugboats with radios exceed the costs is nonexcludable in that the producer of such knowledge cannot practically prevent others from passing the knowledge along. So too, the knowledge is nonrival insofar as one tugboat owner's possession of the information does not diminish its value to others. Indeed, the idea that

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<sup>7</sup> See *id.* at 135-36.

<sup>8</sup> *Id.* at 134; see also Richard A. Epstein, *The Path to The T.J. Hooper: The Theory and History of Custom in the Law of Tort*, 21 *J. Legal Stud.* 1, 34 (1992).

<sup>9</sup> See Epstein, *supra* note \_\_, at 37.

<sup>10</sup> Landes & Posner, *supra* note \_\_, at 14-15.

<sup>11</sup> See generally Tyler Cowen, *Public Goods*, in *The Concise Encyclopedia of Economics* (2008), <http://www.econlib.org/library/Enc/PublicGoods.html>.

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knowledge is a public good can be traced at least as far back as Kenneth Arrow's work in the early 1960s<sup>12</sup>—and arguably all the way back to Adam Smith's *Wealth of Nations* in 1776.<sup>13</sup>

Notably, the knowledge that the benefits of equipping tugboats with radios exceed the costs has value independent of tort liability. Tugboat owners presumably want to know whether it will cost them more to install radios or to bear the cost of accidents that would have been avoided if radios had been installed. Or, to borrow facts from Hand's decision in *United States v. Carroll Towing Co.*,<sup>14</sup> barge owners presumably want to know whether it will cost them more to pay bargees to monitor barges moored to piers or to bear the cost of accidents that would have been prevented if a bargee had remained on board. Or to borrow from *Rodi Yachts*: Dock owners presumably want to know whether it will cost them more to conduct daily inspections of the ropes holding barges in place or to bear the cost of accidents that would not have occurred if the ropes had been inspected. Tugboat owners, barge owners, and dock owners would want to know these facts even if liability for losses lies with their customers rather than themselves, because if the cost of the precaution is less than the accident-reduction benefit, owners can make a profit by taking the precaution and raising their price.

Yet as Landes and Posner remind us, “the provision of public goods by a free market is a problem.”<sup>15</sup> The knowledge that radio installation on tugboats is or is not cost-justified may have enormous value to the shipping industry, but only a small portion of that value would be captured by any single tugboat owner who herself conducts a comprehensive cost-benefit analysis. Information about accident avoidance—as with information about so many other subjects—is costly to generate, easy to copy, and hard to control. Absent some sort of intellectual property protection or government intervention, we might expect that the quantity and quality of information about accident avoidance would be suboptimal.<sup>16</sup>

Enter the law of negligence. In a negligence case, the plaintiff claims that the defendant failed to take a precaution for which the cost was less than the resulting reduction in the probability of an accident times the loss given an accident. The defendant, at least in the typical case, argues the opposite. (In the contributory negligence context, the roles are reversed.) The stakes are high, such that both parties have incentives to collect and present evidence in support of their respective positions. The

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<sup>12</sup> Kenneth J. Arrow, *The Implications of Learning by Doing*, 29 *Rev. Econ. Stud.* 155 (1962); see Joseph E. Stiglitz, *Knowledge as a Global Public Good*, in *Global Public Goods: International Cooperation in the 21st Century* 308, 321 n.1 (1999).

<sup>13</sup> 3 Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations* 143–44 (4th ed. London, W. Strahan & T. Cadell 1786) (bk. V, ch. 1, para. 119); see Daniel J. Hemel & Lisa Larrimore Ouellette, *Knowledge Goods and Nation-States*, 101 *Minn. L. Rev.* 167, 168 & n.2 (2016).

<sup>14</sup> 159 F.2d 169 (2d Cir. 1947).

<sup>15</sup> See Landes & Posner, *supra* note \_\_\_, at 14.

<sup>16</sup> See generally Daniel J. Hemel & Lisa Larrimore Ouellette, *Beyond the Patents-Prizes Debate*, 92 *Tex L. Rev.* 303 (2013).

state supplies judges, juries, and other court resources to adjudicate the dispute. The outcome—at least if the dispute is litigated to the end—is a judgment embodying a determination that a particular precaution is or is not cost-justified. At least in some cases, that judgment is reflected in a written opinion that enters the public domain. Where the adversarial process succeeds in uncovering true facts, the result is that new knowledge regarding accident avoidance becomes available to potential injurers and victims.

The notion that the tort system supplies knowledge with the properties of a public good provides a potential response to Landes and Posner as well as a potential defense of Hand's opinion in *The T.J. Hooper*. Recall that according to Landes and Posner, “[t]he weakness of Hand's analysis in *The T.J. Hooper*” is “that if the cost of a safety device beneficial to the customer is much less than the benefit, it is impossible to understand why the device is not customary in the industry.”<sup>17</sup> But perhaps it is not so hard to understand why a rational actor would fail to take such a safety precaution: the actor may remain rationally ignorant of the fact that the precaution is cost-justified. After all, knowledge regarding accident avoidance is a public good, and as Landes and Posner note, it is “obvious” that the free market will undersupply public goods.<sup>18</sup> Note, moreover, that underinvestment in knowledge regarding accident avoidance may lead to insufficient precautions *or* excessive precautions: further study might lead to the conclusion that currently customary precautions cost more than the benefits they bring.

A public good perspective on the law of negligence has implications beyond *The T.J. Hooper* and the courts-versus-custom debate.<sup>19</sup> More broadly, thinking about tort judgments as public goods sheds light on the negligence system writ large. The vast majority of common law jurisdictions have settled on versions of comparative negligence, notwithstanding the high administrative costs of comparative negligence regimes.<sup>20</sup> The deterrence advantages of comparative negligence are nonobvious. The general consensus in the law and economics literature is that with complete information, potential injurers and victims take efficient precautions regardless of whether the regime is contributory negligence, comparative negligence, or contributory negligence.<sup>21</sup> Oren Bar-Gil and

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<sup>17</sup> Landes & Posner, *supra* note \_\_\_, at 135.

<sup>18</sup> *Id.* at 14-15.

<sup>19</sup> Others have suggested that tort litigation may generate positive externalities due to the deterrence effects of judgments. See Steven Shavell, *The Fundamental Divergence Between the Private and Social Motive to Use the Legal System*, 26 *J. Legal Stud.* 575 (1997); Kathryn E. Spier, *A Note on the Divergence Between the Private and Social Motive to Settle Under a Negligence Rule*, 26 *J. Legal Stud.* 613 (1997). This article focuses on a positive externality distinct from the deterrent effect of tort litigation—namely, the production of knowledge regarding the costs and benefits of precautions.

<sup>20</sup> See Steve Shavell, *Economic Analysis of Accident Law* 312 (1987); Michelle J. White, *An Empirical Test of the Comparative and Contributory Negligence Rules in Accident Law*, 20 *Rand J. Econ.* 308 (1989). For a contrary view, see Jef De Mot, *Comparative Versus Contributory Negligence: A Comparison of the Litigation Expenditures*, 33 *Int'l Rev. L & Econ.* 54 (2013).

<sup>21</sup> See Louis Kaplow & Steven Shavell, *Economic Analysis of Law*, in 3 *Handbook of Public Economics* 1661, 1669-70 (A.J. Auerbach & M. Feldstein eds., 2002).

Omri Ben-Shahar show that when the assumption of complete information is relaxed, none of the three negligence regimes strictly dominates the other.<sup>22</sup> Thus the puzzle: Why have jurisdictions chosen the regime with the highest administrative costs and no obvious overriding efficiency benefits?

Bar-Gil and Ben-Shahar consider cases in which injurers and victims have information that courts do not.<sup>23</sup> The analysis here shifts the focus to cases in which potential injurers and victims also face informational deficits. Ex ante, potential injurers and victims do not know whether a particular precaution yields accident avoidance benefits in excess of costs. In the aftermath of an accident, the tort system generates incentives for parties to collect and present evidence regarding the costs and benefits of precautions, and judges and juries then sort through that evidence to arrive at a determination of due care. On this view, the fact that comparative negligence entails two determinations of due care rather than one is a feature, not a bug: insofar as such determinations are public goods, the fact that a comparative negligence regime results in more such determinations is a point in its favor. Concededly, it is doubtful that this feature of comparative negligence explains *why* so many jurisdictions have adopted that type of regime. Yet at least arguably the public good perspective places comparative negligence on a firmer normative foundation.

Importantly, one might accept the claim that negligence determinations are public goods while doubting whether the tort system is the institution best suited for producing such goods. For example, we might imagine—as an alternative to the tort system—something like a Federal Accident Avoidance Agency devoted to acquiring and disseminating knowledge regarding accident avoidance. Indeed, we can observe real-world examples along these lines: the Consumer Product Safety Commission, the National Highway Traffic Safety Administration, the Occupational Safety and Health Administration, and other federal, state, and local agencies perform functions of this sort. Any attempt to justify the tort system on the ground that negligence judgments are public goods must include a comparative institutional component. The analysis here suggests that the tort system may complement the work of these administrative agencies in useful ways, although the argument is only a tentative one.

Finally, the analysis here is not simply justificatory of the status quo. I also consider whether the public good perspective might suggest changes in tort doctrine. For instance, the public good perspective places a high value on lawsuits being litigated to judgment. A potential implication is that social welfare might be improved by policies that reduce the probability of settlement. The public good perspective also suggests that tort litigation should be structured in order to increase the probability that verdicts will reveal new information about accident avoidance. In this respect, the public good perspective weighs in favor of special verdict forms in jury trials, and has further implications for the order in which judges resolve negligence cases.

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<sup>22</sup> Oren Bar-Gil & Omri Ben-Shahar, *The Uneasy Case for Comparative Negligence*, 5 *Am. L. & Econ. Rev.* 433 (2003).

<sup>23</sup> See *id.* at 460-63.

The paper proceeds as follows. Part I presents a simple model to illustrate the intuition that judgments in negligence suits may have the properties of a public good. Part II applies the model to the debate over custom in the law of negligence. Part III analyzes various liability regimes from a public good perspective, and it explains how the public good perspective might weigh in favor of comparative negligence. Part IV adopts a comparative institutional perspective and evaluates alternatives to the tort system as suppliers of information about accident avoidance. Part V considers changes to tort doctrine that might be consistent with a public goods approach.

### **I. A Model of Negligence Judgments as Public Goods**

A simple model serves to illustrate the intuition underlying this article's argument. Imagine a precaution—say, installing a radio on a tugboat—with a cost of 7. Tugboat owners know that a radio reduces the risk that a tugboat—and the barge and cargo it is hauling—will be lost at sea. They do not, however, know by how much radios reduce the relevant risk. They know that without a radio, there is a risk of 10 in 1,000 that the tugboat (and the barge and its cargo) will be lost at sea. With a radio, the risk might decline to 1 in 1,000, or it might decline to 9 in 1,000. To keep the math straightforward, let's assign a probability of 0.5 to each of those possibilities. Let's also assume that the value of the tug, the barge, and the cargo that will be lost in the event of an accident is 1,000. Knowing nothing more, the risk-neutral tugboat owner does not install a radio because the cost (7) exceeds the expected benefits ( $0.5 \times 9 + 0.5 \times 1 = 5$ ).<sup>24</sup>

Next, assume that the tugboat owner can determine whether the radio will indeed reduce the cost of accidents by 9 or by 1. To do so, however, the tugboat owner will have to collect additional information about the probability of accidents involving tugboats with and without radios. Moreover, the tugboat owner will have to invest nontrivially in separating the causal effect of radios from potential selection effects that might muddy the analysis. Let's say that there is a cost of 2 to determine whether the radio reduces accident losses a lot (9) or only a little (1).

Will the tugboat owner invest 2 to generate knowledge about the accident avoidance effects of radios? Here, the answer is no. To see why, begin by assuming that the tugboat owner will be strictly liable for all cargo losses. Under those circumstances, the tugboat owner faces the following menu of options:

- (A) Invest zero in knowledge production; install a radio; incur a cost of 7 for the price of the radio; and bear an residual cost of accidents of  $0.5 \times (1 + 9) = 5$ , such that the total cost (radio plus accidents) is 12.

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<sup>24</sup> Of course, if installing a radio entails a one-time cost of 7 and the tugboat owner runs multiple trips, then the precaution of installing a radio may indeed be cost-justified. For the sake of arithmetic simplicity (at the cost of realism), the model here is single-period. The result can be replicated easily with a multiperiod model; simply think of 10 as the net present value of future accidents per tugboat given no radio, and think of the radio as reducing the net present value of future accidents per tugboat to 9 with probability 0.5 and to 1 with probability 0.5.

- (B) Invest zero in knowledge production; not install a radio; and incur a cost of accidents of 10.
- (C) Invest 2 in knowledge production. With probability 0.5, the tugboat owner will learn that installing a radio reduces the cost of accidents by 9, in which case the tugboat owner will install a radio. With probability 0.5, the tugboat owner will learn that installing a radio reduces the cost of accidents by only 1, in which case the tugboat owner will not install a radio. The cost to the tugboat owner is thus 2 (the cost of knowledge) + 0.5 x 7 (the expected cost of installing a radio when the tugboat owner’s research reveals that the radio is cost-justified) + 0.5 x 1 (the expected cost of accidents when the tugboat owner’s research finds that the radio is cost-justified) + 0.5 x 10 (the expected cost of accidents when the tugboat owner’s research reveals that the radio is not cost-justified and so is not installed). Thus the total cost of knowledge production plus (perhaps) a radio plus the expected residual cost of accidents is  $2 + 0.5 \times 7 + 0.5 \times 1 + 0.5 \times 10 = 11$ .

Option B (no investment in knowledge production; no radio) is the best option here because the total expected cost (10) is less than the expected cost of either Option A (12) or Option C (11).

**Figure 1. Tugboat Owner’s Menu of Options Under Strict Liability**

	<b>Option A</b>	<b>Option B</b>	<b>Option C</b>
<b>Investment in Knowledge Production</b>	0	0	2
<b>Investment in Radio Installation</b>	7	0	$0.5 \times 7$ = 3.5
<b>Expected Cost of Accidents</b>	$0.5 \times 1 + 0.5 \times 9$ = 5	10	$0.5 \times 1 + 0.5 \times 10$ = 5.5
<b>Total Cost</b>	12	10	11

The outcome does not change if we move from a regime of strict liability to a regime of negligence. Readers may anticipate as much because of the well-known result that switching from strict liability to negligence affects only activity levels, not the amount of precautions that injurers take.<sup>25</sup> Another way to arrive at this conclusion is to consider the problem from the perspective of the tugboat owner’s customer. Assume that the customer faces the same informational constraints as the tugboat owner (i.e., the customer knows that a radio reduces the expected cost of accidents by 9 with probability 0.5 and by 1 with probability 0.5). Assume, moreover, that if the tugboat owner fails to install a radio and an accident ensues, a court will determine ex post and with perfect accuracy whether the precaution of installing a radio was cost-justified (i.e., whether the tugboat owner’s

<sup>25</sup> See, e.g., Steven Shavell, *Economic Analysis of Accident Law* \_\_ (1987).



failure to install a radio amounted to negligence<sup>26</sup>). If the tugboat owner fails to install a radio, then the customer knows that with probability 0.5 the tugboat owner will be found negligent and will be liable for the cost of the accident, and with probability 0.5 the tugboat owner will be found nonnegligent and the customer will bear the cost of the accident. The customer thus knows that if the tugboat owner fails to install a radio, then with probability 0.5 the customer will bear an accident cost of 10, for an expected cost of 5.

The customer also knows that if the tugboat owner does install a radio, then she (the customer) will bear the residual cost of accidents. With probability 0.5, the radio reduces the cost of accidents to 9, and with probability 0.5, the radio reduces the cost of accidents to 1. Thus, if the tugboat owner installs a radio, the customer's expected cost of accidents is  $0.5 \times 9 + 0.5 \times 1 = 5$ . The customer is therefore indifferent as to whether or not the tugboat owner installs a radio.

Now consider the problem from the tugboat owner's perspective under a negligence regime. The tugboat owner knows that if he fails to install a radio, then with probability 0.5 he will bear an accident cost of 10, for an expected cost of 5. The tugboat owner also knows that if he does install a radio, then he will never be liable for accidents. Still, not installing the radio (expected cost of 5) is more attractive to the tugboat owner than installing a radio (certain cost of 7).

The negligence regime also fails to incentivize the tugboat owner to invest ex ante in knowledge about the safety benefits of radios. For a cost of 2, the tugboat owner can determine whether radios reduce the cost of accidents a lot (by 9) or a little (by 1). With probability 0.5 the tugboat owner will find out that radios reduce the cost of accidents a lot (by 9), and so she will pay 7 to install a radio and avoid liability. With probability 0.5 the tugboat owner will find out that radios reduce the cost of accidents only a little (by 1), and so she will not install a radio and will not be held liable in the event of an accident. The tugboat owner's total cost, then, would be the cost of knowledge production (2) plus the cost of the radio discounted by half (3.5), for a sum of 5.5. The tugboat owner is better off not investing in knowledge and not installing a radio (expected cost of 5) rather than investing in knowledge and maybe installing a radio (expected cost of 5.5)

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<sup>26</sup> I assume here that negligence is defined according to the Hand formula. But see Richard W. Wright, Hand, Posner, and the Myth of the "Hand Formula," 4 *Theoretical Inquiries L.* 145, 151 (2003) ("Hand's formula is rarely cited and even more rarely used, explicitly or implicitly, by the courts."). The analysis in this article applies with respect to other formulations of the negligence test insofar as the application of the negligence test still reveals information with value outside the litigation context.

**Figure 2. Payoffs for Customer and Tugboat Owner Under Negligence**

	<b>No Knowledge; No Radio</b>	<b>No Knowledge; Radio</b>	<b>Knowledge; Radio with p = 0.5</b>
<b>Customer</b>			
<b>Accident Costs</b>	$0.5 \times 10 = 5$	$0.5 \times 9 + 0.5 \times 1 = 5$	$0.5 \times 10 + 0.5 \times 1 = 5.5$
<b>Tugboat Owner</b>			
<b>Accident Costs</b>	$0.5 \times 10 = 5$	0	0
<b>Radio Costs</b>	0	7	$0.5 \times 7 = 3.5$
<b>Knowledge Costs</b>	0	0	2
<b>Total Costs</b>	5	7	5.5

One might ask: Well then what’s the problem? Investing in knowledge about the accident avoidance effects of radios on tugboats is not, under these conditions, cost-justified and does not, under these conditions, occur. But now imagine that instead of there being just one tugboat owner, there are 100, each of whom faces the same informational constraints. Now, the social value of knowing whether or not installing a radio reduces the expect cost of accidents a lot (by 9) or a little (by 1) is more significant. If tugboat owners otherwise would not install radios, then learning that radios reduce the expected cost of accidents a lot (by 9) yields a net benefit of 2 per tugboat (a reduction of 9 in the expected cost of accidents minus a cost of 7 of installing the radio). Since there is a probability of 0.5 that radios reduce the expected cost of accidents a lot, the expected benefit of the knowledge is 1 per tugboat. The knowledge is nonrival (i.e., one tugboat owner’s enjoyment of it does not diminish anyone else’s), so the social value of the knowledge is 1 per tugboat times 100 tugboats equals 100, which is far greater than the cost of generating it (2).

How, then, might knowledge about the accident avoidance effects of radios on tugboats be generated? One possibility is that the 100 tugboat owners will come together to form some sort of association that makes the requisite investment in knowledge production and splits the cost among members, such that each pays 0.02 for a benefit per tugboat of 1. However, unless the tugboat owners’ association can prevent nonmembers from learning whether radios reduce the expected cost of accidents a lot or a little, then each tugboat owner would have an incentive not to join the association and to free-ride off the knowledge generation efforts of others. The same problem of nonexcludability would stand in the way of any entrepreneurial effort to produce the relevant knowledge and sell it to tugboat owners for a price. And this should come as no surprise: a good that is nonrival and nonexcludable is a public good, and as Landes and Posner remind us, “the provision of public goods by a free market is a problem.”<sup>27</sup>

The tort system provides an alternative way to produce the public good of knowledge about accident avoidance. Imagine that a tugboat owner does not install a

<sup>27</sup> Landes & Posner, supra note \_\_\_, at 14-15.

radio and an accident ensues. The customer sues the tugboat owner for negligently failing to equip the tugboat with a radio, claiming damages of 1,000. The customer, as plaintiff, bears the burden of production and persuasion, and so must convince the court that the cost of the precaution is less than the safety benefit. Let's say that the plaintiff can hire an expert who will produce a report revealing whether radios reduce the expected cost of accidents a lot (9) or a little (1). The plaintiff knows that with probability 0.5, the results of the expert's investigation will be favorable to the plaintiff's position. Now, the cost of paying an expert to produce knowledge about the safety benefits of radios (2) is a pittance in comparison to the expected benefits ( $0.5 \times 1,000 = 500$ ). (The tugboat owner, as defendant, may hire her own expert to produce a report as well so as to check the plaintiff's claims.)

By raising the stakes, the tort system encourages the parties to an accident to invest *ex post* in producing knowledge about the safety benefits of untaken precautions. If the adversarial process serves its function, then it will result in a judgment reflecting true information about whether the untaken precaution was cost-justified. That judgment then enters the public domain—accompanied, potentially, by a published opinion. The tort system thus generates knowledge that the free market fails to produce.

The claim in the previous paragraph must be accompanied by a number of caveats. First, it presumes that negligence lawsuits are litigated to judgment, but most negligence cases settle.<sup>28</sup> Indeed, one might ask why all cases do not settle. By settling, the plaintiff avoids the cost of producing knowledge about the safety effects of the relevant precaution (and assuming that the defendant would replicate the plaintiff's knowledge production efforts, the defendant avoids the same cost by settling too). Both sides, moreover, avoid the various other costs of litigation. If plaintiff and defendant share the same probabilistic expectations about the outcome, then settlement should always occur.<sup>29</sup>

Plaintiffs and defendants do not, however, always share the same expectations about the outcome of litigation. If the difference between the plaintiff's expected award and the defendant's expected payment exceeds the expected cost of litigation, then we would not expect settlement. So while the tort system does not generate a judgment after every accident, it does generate a judgment after some accidents—and those judgments potentially reflect true information about the net benefits of untaken precautions.

Second, negligence judgments are public goods in the sense described here only when those judgments reflect a court's determination (by the judge or by the jury) as to the value of untaken precautions. Yet even when negligence cases are litigated to judgment, they can be resolved on any number of grounds, not all of which would reveal new safety-related information. For example, a claim might fail because the plaintiff was unable to prove causation, and thus the judge or jury might not need to reach the

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<sup>28</sup> See Theodore Eisenberg & Charlotte Lanvers, *What Is the Settlement Rate and Why Should We Care?*, 6 *J. Empirical Legal Stud.* 111, 115 (2009).

<sup>29</sup> See generally George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 *J. Legal Stud.* 1 (1984).

question of whether the relevant untaken precaution would have been cost-justified. And even when the judge or jury does reach the question of whether the relevant untaken precaution would have been cost-justified, that determination might not be pellucid from court documents. For example, the jury might return a general verdict rather than a special verdict, and nonparties to the litigation (or even the litigants themselves) might not be able to discern from the general verdict how the jury resolved the precaution question.

Third, even when the factfinder's determination as to the precaution question can be gleaned from the verdict form or from a written opinion, there is no guarantee that the factfinder's determination is correct. To err is human, and judges and juries are human. At least some of the information about accident avoidance that the tort system generates will inevitably be false.

These caveats are important, but they are not devastating to the general thesis. The tort system produces a public good—information about the safety benefits of potential precautions—that the free market is unlikely to provide on its own. To be sure, the tort system does not produce this public good after all accidents, and the tort system—like other providers of public goods—sometimes produces a good of inferior quality (i.e., a judgment reflecting an incorrect assessment about the net benefits of a particular precaution). The argument here is simply that the tort system *can* serve a public-good-provision function even if it does not perform this function perfectly in all cases.

## II. Courts vs. Customs

How might the public good perspective outlined in Part I inform the debate about the role of custom in negligence cases? Imagine that a court is confronted with a lawsuit against a tugboat owner filed by a customer whose cargo was lost at sea. The customer argues that the tugboat owner was negligent for failing to equip the boat with a radio; the tugboat owner responds by pointing to the fact that radios are not customary in the industry. Assume, consistent with Judge Hand's rendition of the facts in *The T.J. Hooper*, that the tugboat owner's claim about custom is correct. Should the court make its own determination as to whether the safety benefits of equipping tugboats with radios exceed the costs, or should the court defer to the industry-wide custom?

Judge Hand's answer is clear: the court—not the industry—is responsible for determining what precautions are cost-justified. Landes and Posner would object: here, where injurer and victim are connected by contract, then it is “impossible” to understand why industry practice would be anything other than efficient. The public good perspective adds an argument to Hand's quiver. Perhaps the precaution of equipping tugboats with radios is indeed cost-justified, but no single tugboat owner has sufficient incentive to invest in acquiring knowledge regarding the safety benefits of radios. Tort law potentially serves as a mechanism for generating such knowledge, in which case it seems perverse for the court to say (as Landes and Posner would have it say) that equipping tugboats with radios *can't* be efficient or else radios would have become customary already.

I should pause here and acknowledge that the running example—radios on tugboats—might seem strained because the safety benefits of equipping radios with tugboats so obviously exceed the expense as to render a costly court-conducted inquiry unnecessary. But in other cases involving similar courts-versus-custom questions, the optimality of a particular precaution is not so clear. In *Estate of Spinosa v. International Harvester Co.*,<sup>30</sup> for example, the plaintiff alleged that a pickup truck manufacturer was negligent for making a 4 x 4 pickup truck without a dual braking system (i.e., a system with a backup that could stop the vehicle notwithstanding a loss of brake fluid); the manufacturer responded that dual braking systems were not generally employed in 4 x 4 pickup trucks at the time. Intuition alone does not tell us whether the safety benefits of a dual braking system exceeded the costs, and while General Motors, Chrysler, Ford, etc., all might have had an interest in knowing the answer, it is not clear that International Harvester would have had sufficient incentive to conduct a cost-benefit analysis on its own. Likewise, in *Wilson v. Bradlees of New England*,<sup>31</sup> the plaintiff alleged that a garment manufacturer was negligent for making a sweatshirt and t-shirt that too easily caught fire; the manufacturer responded that the sweatshirt and t-shirt complied with “Commercial Standard 191-53,” which prescribes a procedure for flammability testing and classifies as “generally acceptable” a textile for which the “time of flame spread” is four seconds or more.<sup>32</sup> Is four seconds the precise point at which the marginal cost of further fire-proofing equals the marginal safety benefit? Or is it three seconds—or five? The calculus is far from straightforward, and it’s not clear that a regional clothing manufacturer and retailer would have an incentive to undertake the requisite inquiry outside of litigation. Similar examples abound. I will continue to refer to the radio example because *The T.J. Hooper* is the landmark case on the courts-versus-customs question, but the same question arises in numerous cases with a range of fact patterns, and often the optimality of the precaution in question is far from obvious.

I should also acknowledge that the public good perspective does not lead to an unqualified endorsement of the Hand view on courts-versus-customs in negligence cases. In *The T.J. Hooper*, Judge Hand said that custom should “never” be the measure of negligence, and yet there may be circumstances in which we can place faith in the efficiency of custom. For example, if the tugboat industry is dominated by just one or a handful of firms, then free-riding might not be such a risk: the dominant firm or firms might have strong incentives to invest in knowledge acquisition on their own. (At the same time, the fact that one or a handful of firms exercise market power might cause us to question whether the status quo reflects the product of competitive forces.) So too, when the relevant defendant is the state rather than a private actor, we might also be less concerned about free-riding: even though knowledge is a public good, the state is in the business of providing public goods and so might (though might not) invest in knowledge

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<sup>30</sup> 621 F.2d 1154 (1st Cir. 1980).

<sup>31</sup> 96 F.3d 552 (1st Cir. 1996).

<sup>32</sup> See U.S. Dep’t of Commerce, Nat’l Inst. of Standards and Technology, Commercial Standard (CS) 191-53—Flammability of Clothing Textiles (Jan. 30, 1953), [http://gsi.nist.gov/global/docs/vps/csfiles/cs\\_191-53.pdf](http://gsi.nist.gov/global/docs/vps/csfiles/cs_191-53.pdf).

acquisition on its own.<sup>33</sup> The key point is that the model in Part I rests on the premise that the cost of knowledge acquisition exceeds the benefits for any one member of the relevant industry; the conclusions that follow from this premise are only as sound as the premise is.

### III. The Public Good Perspective and Comparative Negligence

Beyond the courts-versus-customs debate, the public good perspective might inform our answers to higher-level questions regarding the design of liability regimes. Most significantly, the public good perspective translates to an argument in favor of comparative negligence as against the alternatives of simple negligence and contributory negligence.

#### A. Negligence Rules Across Information Environments

In an ideal environment with complete information, injurers and victims invest optimally in precautions under simple negligence, comparative negligence, or contributory negligence. To see why, begin with simple negligence—i.e., a rule that the injurer is liable if and only if the injurer fails to take precautions for which the burden ( $B$ ) is less than the marginal reduction in the probability of an accident ( $P$ ) times the loss from an accident ( $L$ ). Assume that injurer and victim precautions are neither complements nor substitutes: injurer precautions reduce the probability of an accident times the loss in the event of accident by  $PL_i$ ; victim precautions reduce the probability of an accident times the loss in the event of accident by  $PL_v$ ;  $B_i < PL_i$  and  $B_v < PL_v$ . For ease of exposition, I will also assume here that the choice between precautions and no precautions is binary. From the injurer's perspective, the strictly dominant strategy is to take precautions for which  $B_i < PL_i$ . If the injurer takes all precautions for which  $B_i < PL_i$ , then the injurer will never be found liable, and the costs of accidents all lie with the victim. The victim then has an incentive to take all precautions for which  $B_v < PL_v$  because accident losses lie with the victim already, and thus the victim will want to make every cost-justified investment in accident avoidance.

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<sup>33</sup> Consider, for example, the quite recent case of *McDermott v. State*, 113 A.3d 419 (Conn. 2015). The plaintiff in *McDermott* alleged that the Connecticut Department of Transportation was negligent for cutting down a tree too close to pedestrian traffic; the state responded that it complied with the industry standard of establishing a protected work area two times the height of the tree. One might argue that state public works agencies—perhaps the primary actors when it comes to tree-cutting in the vicinity of sidewalks—will produce the public good of knowledge about safe tree-cutting practices even outside the litigation context. This question quickly takes us into the public interest/public choice debate in the study of regulation—a debate that I will defer until Part V.

**Figure 3. Injurer and Victim Payoffs Under Simple Negligence**

<u>Injurer</u>	<u>Victim</u>	
	No Precaution	Precaution
	No Precaution	$(-PL_i - PL_v, 0)$
Precaution	$(-B_i, -PL_v)$	$(-B_i, -B_v)$

Notes:  $PL_i$  denotes sum of accident costs that are avoided if injurer takes precautions costing  $B_i$ .  $PL_v$  denotes sum of accident costs that are avoided if victim takes precautions costing  $B_v$ . Simple negligence rule assigns liability to injurer if and only if injurer fails to take precautions for which  $B_i < PL_i$ .

Next, consider a regime of contributory negligence—i.e., the injurer is liable if and only if (1) the injurer fails to take precautions for which  $B_i < PL_i$  and (2) the victim takes all precautions for which  $B_v < PL_v$ . First, approach the problem from the victim’s perspective. If the victim fails to take precautions for which  $B_v < PL_v$ , then the cost of accidents lie with the victim regardless of what the injurer does. The victim’s strictly dominant strategy is thus to take all precautions for which  $B_v < PL_v$ . The injurer then knows that she will bear liability for accidents if she fails to take precautions for which  $B_i < PL_i$ . And if  $B_i$  is indeed less than  $PL_i$ , then the injurer is always better off taking the precaution than shouldering the liability.

**Figure 4. Injurer and Victim Payoffs Under Contributory Negligence**

<u>Injurer</u>	<u>Victim</u>	
	No Precaution	Precaution
	No Precaution	$(0, -PL_i - PL_v)$
Precaution	$(-B_i, -PL_v)$	$(-B_i, -B_v)$

Notes: See Figure 3. Contributory negligence rule assigns liability to injurer if and only if injurer fails to take precautions for which  $B_i < PL_i$  and victim takes all precautions for which  $B_v < PL_v$ .

The analysis is slightly more complicated for comparative negligence. Figure 5 illustrates the underlying intuition in simplified form. Start from the bottom right quadrant, in which injurer and victim both take all cost-justified precautions. It is clear that neither has an incentive to deviate or else she will bear all the costs of accidents. In other words, both parties are better off taking precautions if the other party takes precautions. Next, consider the fact that  $B_i < PL_i$  and  $B_v < PL_v$ ; thus,  $B_i + B_v < PL_i + PL_v$ . Let  $\alpha$  denote the share of liability allocated to the injurer in the event that both injurer and victim are found to be at fault. Thus one or both of the following propositions must be true:

- (1)  $-B_i > \alpha(-PL_i - PL_v)$ —or, equivalently,  $B_i < \alpha(PL_i + PL_v)$ ;
- (2)  $-B_v > (1 - \alpha)(-PL_i - PL_v)$ —or, equivalently,  $B_v < (1 - \alpha)(PL_i + PL_v)$ .

Otherwise,  $B_i + B_v$  would not be less than  $PL_i + PL_v$ , when we know that it is. Therefore, it must be the case that either the injurer or the victim (or both) is better off taking precautions when the other party does not take precautions. And we have already established that both parties are better off taking precautions when the other party also takes precautions. Thus for at least one of the two—injurer or victim—the strictly dominant strategy is to take all cost-justified precautions. Through iterated elimination of strictly dominated strategies, we arrive at the conclusion that the bottom-right quadrant—mutual precaution—is the unique equilibrium.<sup>34</sup>

**Figure 5. Injurer and Victim Payoffs Under Comparative Negligence**

		<u>Victim</u>	
		<b>No Precaution</b>	<b>Precaution</b>
<u>Injurer</u>	<b>No Precaution</b>	$(\alpha(-PL_i - PL_v),$ $((1 - \alpha)(-PL_i - PL_v))$	$(-PL_i, -B_v)$
	<b>Precaution</b>	$(-B_i, -PL_v)$	$(-B_i, -B_v)$

Notes: See Figure 3. When injurer fails to take precautions for which  $B_i < PL_i$  and victim fails to take precautions for which  $B_v < PL_v$ , comparative negligence assigns  $\alpha$  share of liability to injurer.

The key point from Figures 3, 4, and 5 is that comparative negligence has no obvious advantage as against simple negligence or contributory negligence in an ideal environment with complete information. In a more realistic setting with imperfect information, the analysis is not so straightforward. In a 1986 article, Robert Cooter and Thomas Ulen considered the efficiency of various liability rules when “courts are not completely certain of findings of fault.”<sup>35</sup> They concluded that in the presence of evidentiary uncertainty, “the rule of comparative negligence is more efficient than its alternatives when it is desirable to give moderate incentives for precaution to both parties rather than strong incentives to one party and weak incentives to the other.”<sup>36</sup> Shortly thereafter, Daniel Rubinfeld developed an efficiency argument for comparative

<sup>34</sup> For a fuller demonstration of this result, see Steven Shavell, *Economic Analysis of Accident Law* 39-40 (1987).

<sup>35</sup> Robert D. Cooter & Thomas S. Ulen, *An Economic Case for Comparative Negligence*, 61 *N.Y.U. L. Rev.* 1067, 1070 (1986).

<sup>36</sup> *Id.* at 1070-71. Cooter and Ulen’s conclusion echoes a suggestion by David Haddock and Christopher Curran in an article published the prior year. See David Haddock & Christopher Curran, *An Economic Theory of Comparative Negligence*, 14 *J. Legal Stud.* 49, 66 (1985) (“Perhaps as the world around us becomes more complex, or as jurors’ opportunity costs become higher, accurate and careful estimates of caretaking become more unlikely, so judgment errors grow, tilting the scale toward comparative negligence.”); see also Cooter & Ulen, *supra* note \_\_, at 1083-84 (discussing relationship between their conclusions and Haddock and Curran’s suggestion).



negligence based on its screening properties.<sup>37</sup> More recently, however, the pro-comparative negligence consensus has come undone.<sup>38</sup> Most notably, Bar-Gil and Ben-Shahar show that for different levels of information asymmetry between parties and courts, different liability rules minimize the social cost of accidents, and that neither comparative negligence nor any other rule is uniformly superior.<sup>39</sup> Bar-Gil and Ben-Shahar go on to show that comparative negligence is not necessary to achieve the screening benefits that Rubinfeld posits, and that “self-selection is *not* uniquely effected by comparative negligence” but “can occur under any liability apportionment regime.”<sup>40</sup> The bottom line is that the law and economics literature no longer favors comparative negligence over alternative liability regimes on the ground that comparative negligence induces parties to take more efficient precautions.

One thing that can be said *against* comparative negligence is that, relative to simple negligence and contributory negligence, a rule of comparative negligence is considerably more complicated to apply. A rule of simple negligence requires the court to make only one negligence determination: Did the injurer fail to take due care? Or in Hand formula terms, did the injurer fail to take precautions for which  $B < PL$ ? (The court, of course, still must determine whether the injurer’s failure to take due care was the cause—but-for and proximate—of the victim’s injury, and if so, then the court must assess damages.) A rule of contributory negligence requires the court to make only one negligence determination in some cases and two in others. The court always must determine whether the victim failed to take due care (at least in all cases in which a contributory negligence defense has been raised). If the answer is “yes,” then the court need not determine whether the injurer also failed to take due care—the victim cannot recover in any event. Comparative negligence, by contrast, always requires the court to make two negligence determinations (at least, again, in cases in which both parties’ negligence is in dispute). In this respect, comparative negligence potentially increases the administrative costs of resolving tort cases.

From the public good perspective, however, this aspect of comparative negligence is a cardinal virtue. The public good perspective posits that a desideratum of a well-functioning tort system is that it generates judgments reflecting true information regarding the costs and benefits of precautions. Potential victims, like potential injurers, likely suffer from a free-rider problem when it comes to producing knowledge regarding the relative costs and benefits of particular precautions, and so potential victims benefit from information regarding victim-side precautions too. Whereas a simple negligence regime would generate information only about the costs and benefits of injurer-side precautions, and whereas a contributory negligence regime would generate information

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<sup>37</sup> See Daniel L. Rubinfeld, *The Efficiency of Comparative Negligence*, 16 *J. Legal Stud.* 375 (1987).

<sup>38</sup> Compare Daniel Orr, *The Superiority of Comparative Negligence: Another Vote*, 20 *J. Legal Stud.* 119 (1991), with Tai-Yeong Chung, *Efficiency of Comparative Negligence: A Game Theoretic Analysis*, 22 *J. Legal Stud.* 395 (1993) (questioning Orr’s conclusions).

<sup>39</sup> See Oren Bar-Gil & Omri Ben-Shahar, *The Uneasy Case for Comparative Negligence*, 5 *Am. L. & Econ. Rev.* 433, 450-54 (2003).

<sup>40</sup> See *id.* at 461-62.

only about the costs and benefits of victim-side precautions in at least some cases, a comparative negligence regime generates information about the costs and benefits both of injurer-side and victim-side precautions as a matter of course.

The same argument might be made for comparative negligence as against the alternative of strict liability with contributory negligence (what Guido Calabresi and Jon Hirschoff labeled “reverse Learned Hand”<sup>41</sup>). Reverse Learned Hand, like simple negligence, entails one negligence determination per case—here, did the victim fail to take precautions for which  $B < PL$ ? In a reverse Learned Hand world, the case ends once that question is answered (and any issues of causation and damages are resolved): if the victim did not fail to take due care, then the court shifts the loss to the injurer. As a result, courts applying a reverse Learned Hand rule will not produce as many negligence determinations—and, thus, will not produce as much socially valuable information about accident avoidance—as courts laboring under a comparative negligence regime.<sup>42</sup>

The public good perspective also yields an argument against the “best cost evaluator” rule suggested by Guido Calabresi and coauthors.<sup>43</sup> The idea behind the best cost evaluator approach is that the loss should lie with the party who “is in a better position to decide whether avoidance of the accident would be cheaper than the cost of the accident.”<sup>44</sup> If the best cost evaluator approach were implemented, the court would not determine whether a particular precaution really is one for which  $B < PL$ ; the court would decide only that a particular party (injurer or victim) enjoys an epistemic advantage in determining which accident avoidance measures are worth the cost.

The problem with the best cost evaluator rule, at least from the public good perspective, is that neither injurer nor victim has an incentive to make the socially optimal investment in determining whether a particular precaution yields accident avoidance benefits in excess of the cost. If a goal of the tort system is to generate information about

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<sup>41</sup> See Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 *Yale L.J.* 1055, 1059 (1972).

<sup>42</sup> Strict liability with comparative negligence looks slightly better than reverse Learned Hand from a public good perspective. Under strict liability with comparative negligence, the court determines whether the victim failed to take due care and, if so, then asks whether the injurer also failed to take due care. The court then compares the negligence of the victim to the negligence of the injurer in apportioning liability. Unlike reverse Learned Hand, strict liability with comparative negligence leads to two negligence determinations in cases in which the court finds the victim to be negligent, whereas the reverse Learned Hand inquiry ends after a positive victim-side negligence determination. A standard comparative negligence regime, however, asks whether the injurer was negligent regardless of whether the victim was negligent, whereas strict liability with comparative negligence asks whether the injurer was negligent only after a finding that the victim was negligent. A standard comparative negligence regime thus leads to more negligence determinations than strict liability with comparative negligence.

<sup>43</sup> See Calabresi & Hirschoff, *supra* note \_\_, at \_\_; Guido Calabresi & Alvin K. Klevorick, *Four Tests for Liability in Torts*, 14 *J. Legal Stud.* 585, 588-89 & n.12 (1985).

<sup>44</sup> Calabresi & Klevorick, *supra* note \_\_, at 588 (*italics omitted*).

the relative costs and benefits of particular precautions, then the best cost evaluator approach is positively perverse: it kicks back to the parties a question that the parties are not likely to have an incentive to answer. From a public good perspective, any iteration of a negligence regime that results in a court determining whether a precaution is cost-justified fares better than the best cost evaluator rule because the best cost evaluator fails to advance the knowledge generation goal entirely.

### **B. Pure Comparative Negligence, Modified Comparative Negligence, and the “Equal Division” Rule**

While the public good perspective favors liability regimes that require more negligence determinations per case, the public good perspective does not necessarily militate in favor of pure comparative negligence as a loss-splitting rule. Another loss-splitting rule might maximize the number of negligence determinations per case and thus the sum of knowledge generated via tort litigation. Under certain conditions, the “equal division” rule of admiralty law—applied in *The T.J. Hooper*—plausibly outperforms other versions of comparative negligence from the public good perspective.

The two versions of comparative negligence most frequently seen in common law jurisdictions are pure comparative negligence and modified comparative negligence. Under a pure comparative negligence regime, the plaintiff’s negligence reduces his recovery in proportion to his fault. If the court adjudges the plaintiff to be 75% at fault and the defendant to be 25% at fault, then the plaintiff recovers one quarter of his damages from the defendant. A modified comparative negligence regime operates identically to a pure comparative negligence regime when the plaintiff is found to be less than 50% at fault; if the plaintiff is adjudged to be more than 50% at fault, however, he recovers nothing under modified comparative negligence.<sup>45</sup>

From a public good perspective, the downside of a modified comparative negligence regime is that it discourages plaintiffs from suing when they anticipate that they will be found more than 50% at fault (since then they will recover nothing). Pure comparative negligence fares better on this front, although a plaintiff who anticipates that he will be found, say, 90% at fault may still decide not to sue because the litigation costs do not justify the paltry recovery.

At the same time, a modified comparative negligence regime may lead to more litigation than pure comparative negligence because it reduces the probability of settlement. Consider the case of a victim who anticipates that the court will find him to be 49% at fault and an injurer who anticipates that the court will find the victim to be 51% at fault. Let  $T_i$  and  $T_v$  be the cost of trial for the injurer and victim, respectively, and let  $D$

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<sup>45</sup> In some modified comparative negligence states, a plaintiff who is found to be exactly 50% at fault recovers half his damages; in other modified comparative negligence states, a plaintiff who is found to be exactly 50% at fault recovers nothing. In all modified comparative negligence states, a plaintiff who is found to be 49% at fault recovers 51% of his damages, and a plaintiff who is found to be 51% at fault recovers nothing. See Victor E. Schwartz & Evelyn F. Rowe, *Comparative Negligence* § 2.01[b][3] (LexisNexis 2010).

represent the victim's damages. Under pure comparative negligence, the victim will settle for  $0.51D - T_v$ , and the injurer will settle for  $0.49D + T_i$ . Settlement occurs if  $0.49D + T_i > 0.51D - T_v$ , or if  $T_i + T_v > 0.02D$ . Under modified comparative negligence, the same victim anticipates recovery of  $0.49D$ , while the same injurer anticipates liability of 0. The parties will settle if  $T_i > 0.51D - T_v$ , or if  $T_i + T_v > 0.51D$ .<sup>46</sup>

More generally, if a goal of the tort system is to generate judgments reflecting information regarding the costs and benefits of potential precautions, then pure comparative negligence outperforms modified comparative negligence in situations where the parties anticipate that the court will allocate a majority of fault to the plaintiff, because in those cases, the plaintiff has little incentive to sue and so a final judgment is unlikely. At the same time, modified comparative negligence outperforms pure comparative negligence in situations where the parties anticipate that the court will allocate roughly 50% of fault to the plaintiff, because in those cases, slight differences in the parties' expectations regarding the court's fault allocation will lead to dramatic differences in their estimates of the likely damages award.

A liability rule that performs even better on this score than pure comparative negligence or modified comparative negligence—at least over certain domains—is the “equal division” rule applied in admiralty cases (including *The T.J. Hooper*) before 1975.<sup>47</sup> Under the equal division rule, even the plaintiff who anticipates that he will be found 99% at fault may still decide to sue because if he convinces the court that both he and the defendant were negligent, he recovers 50% (rather than 1%) of his damages.

The effects of equal division on the probability of settlement are context-dependent. On the one hand, an equal division rule increases the probability of settlement (i.e., reduces the probability of judgment) when both parties anticipate that the court will find them both to be at fault. Consider the case in which the injurer anticipates that the court will find the victim to be 55% at fault and the victim anticipates that the court will find him to be 45% at fault. Under pure comparative negligence, this case would settle if  $0.45D + T_i > 0.55D - T_v$ , which is to say, if  $T_i + T_v > 0.1D$ . Under modified comparative negligence, the victim anticipates that she will recover 55% of her damages while the injurer anticipates that she will pay nothing; thus the case will settle if  $T_i > 0.55D - T_v$ , which is to say, if  $T_i + T_v > 0.55D$ . Under an equal division rule, both parties anticipate that the injurer will have to pay the victim  $0.5D$ , and so the case will settle if  $0.5D + T_i > 0.5D - T_v$ , or if  $T_i + T_v > 0$ . Here, modified comparative negligence leads to the lowest probability of settlement (highest probability of judgment), followed by pure comparative negligence, followed by equal division.

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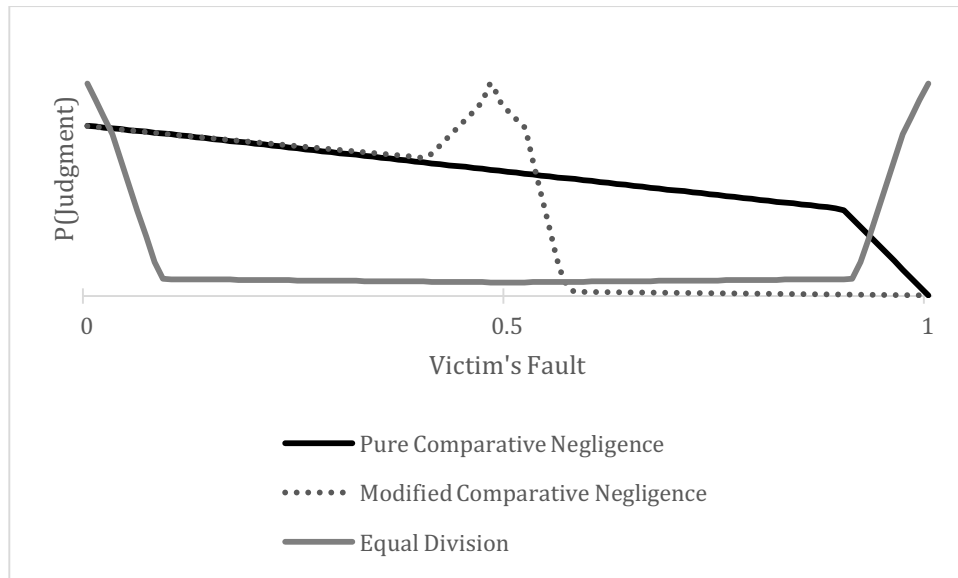
<sup>46</sup> The model here accords with standard models of settlement in which “[t]rial results when the plaintiff's expected judgment exceeds the defendant's by more than the sum of litigation costs.” Steven Shavell, Any Frequency of Plaintiff Victory at Trial Is Possible, 25 J. Legal Stud. 493, 498-99 & n.18 (1996).

<sup>47</sup> On the “equal division” rule, see generally Allan M. Feldman & Jeonghyun Kim, The Hand Rule and *United States v. Carroll Towing Co.* Reconsidered, 7 Am. L. & Econ. Rev. 523 (2005).

On the other hand, equal division reduces the probability of settlement (i.e., increases the probability of judgment) when the injurer anticipates that the court will find her to be faultless and the victim anticipates that the court will find the injurer to be 1% at fault. Under pure comparative negligence, the parties will settle if  $T_i > 0.01D - T_v$ , or if  $T_i + T_v > 0.01D$ . Under modified comparative negligence, the victim recovers nothing even if the court finds the injurer to be 1% at fault, and so it is even less likely that the case will be litigated to judgment. With an equal division rule, the parties will settle if  $T_i > 0.5D - T_v$ , or if  $T_i + T_v > 0.5D$ . Under these circumstances, equal division leads to more litigation and thus more knowledge production.

Figure 6 provides an (impressionistic) illustration of these intuitions. For very low and very high levels of victim fault, an equal division rule leads to the highest probability of judgment (lowest probability of settlement) because a small deviation in the parties' estimates of the victim fault allocation can lead to a large deviation in the parties' estimates of the damages award. For intermediate levels of victim fault, an equal division rule leads to the lowest probability of judgment (highest probability of settlement) because the parties anticipate that the victim will recover 50% of damages in any event. Where victim fault is in the 0.5 range, a modified comparative negligence rule leads to the highest probability of judgment (lowest probability of settlement) because of the knife's-edge effect at the 0.5 mark: a victim who anticipates that the court will find him to be just less than 50% at fault and an injurer who anticipates that the court will find the victim to be just more than 50% at fault will have very different estimates of the likely damages award.

**Figure 6. Probability of Judgment as a Function of Victim's Fault**



Note that the equal division rule can be applied in such a way that mutual precaution continues to be the only equilibrium outcome. Imagine again that the injurer can take a precaution costing  $B_i$  that reduces the expected cost of accidents by  $PL_i$ , and

the victim can take a precaution costing  $B_v$  that reduces the expected cost of accidents by  $PL_v$ . Assume again that  $B_i$  and  $B_v$  are neither complements nor substitutes; the magnitude of the safety benefits that the injurer (victim) generates by taking precautions does not depend on whether the victim (injurer) takes precautions as well. Mutual precaution-taking is the socially optimal outcome when  $B_i < PL_i$  and  $B_v < PL_v$ . In that case,  $B_i + B_v < PL_i + PL_v$ . For that to be true, it must also be the case that  $B_i < 0.5(PL_i + PL_v)$  and/or  $B_v < 0.5(PL_i + PL_v)$ .

The foregoing implies that either or both of the following is true:

- (a) Precaution is a strictly dominant strategy for injurers because  $B_i < 0.5(PL_i + PL_v)$  and  $B_i < PL_i$ ;
- (b) Precaution is a strictly dominant strategy for victims because  $B_v < 0.5(PL_i + PL_v)$  and  $B_v < PL_v$ .

Through iterated elimination of strictly dominated strategies, we arrive at mutual precaution-taking as the single Nash equilibrium.

**Figure 7. Injurer and Victim Payoffs Under Equal Division Rule**

		<u>Victim</u>	
		<b>No Precaution</b>	<b>Precaution</b>
<u>Injurer</u>	<b>No Precaution</b>	0.5(- $PL_i - PL_v$ ), 0.5(- $PL_i - PL_v$ )	(- $PL_i$ , - $B_v$ )
	<b>Precaution</b>	(- $B_i$ , - $PL_v$ )	(- $B_i$ , - $B_v$ )

Notes: See Figure 3. When injurer fails to take precautions for which  $B_i < PL_i$  and victim fails to take precautions for which  $B_v < PL_v$ , equal division rule holds injurer liable for 50% of damages.

To summarize: An advantage of comparative negligence as against simple and contributory negligence is that it requires the court to make two negligence determinations in every case in which both the injurer’s and victim’s fault is at issue. As among pure comparative negligence, modified comparative negligence, and the equal division rule formerly applied in admiralty cases, it is not immediately obvious which regime will result in the most information about the costs and benefits of precautions. An equal division rule leads to the highest probability of litigation and judgment when the victim’s proportion of fault is close to 0 or close to 1, because small deviations in the parties’ fault estimates lead to large deviations in their damages estimates. For the same reason, a modified comparative negligence rule leads to the highest probability of litigation and judgment when the victim’s proportion of fault is close to 0.5. Pure comparative negligence potentially leads to the highest probability of litigation and judgment when the victim’s proportion of fault is above 0.5 but below 1. In that range, small deviations in the parties’ fault estimates have no effect on their damages expectations under modified comparative negligence (both parties expect the victim to recover nothing) or equal division (both parties expect the victim to recover 50%); only

under pure comparative negligence will a divergence in fault estimates potentially lead to litigation and judgment.

#### **IV. Comparative Negligence and Comparative Institutionalism**

Even if tort law serves to produce knowledge with public good properties regarding optimal precautions, it is not obvious that the tort system is the optimal mechanism for producing knowledge regarding optimal precautions. We might imagine a nonjudicial body—say, an administrative agency—that could be tasked with generating and disseminating safety-related information to the public, perhaps at lower cost and with greater efficacy than the tort system accomplishes the same objective.

To some extent, this possibility is not entirely imaginary. In the United States, several federal agencies are responsible for setting safety standards: the Consumer Product Safety Commission, the National Highway Traffic Safety Administration, the Mine Safety and Health Administration, the Occupational Safety and Health Administration, and so on. These agencies perform regulatory as well as information-generating functions, although those two endeavors obviously overlap. Meanwhile, the National Center for Injury Prevention and Control—a branch of the Centers for Disease Control and Prevention—focuses entirely on generating and disseminating information about accident avoidance, with a budget of \$236 million in fiscal year 2016.<sup>48</sup>

The choice between agencies and courts as information-generating institutions is not necessarily either/or (and, indeed, the current information ecosystem involves agencies and courts operating side by side). But what, if anything, might courts add to the mix? Public choice theory supplies a possible answer. Imagine that instead of courts adjudicating negligence disputes, we had a Federal Accident Avoidance Agency tasked with researching possible precautions and producing reports recommending potential safety improvements. We might expect that such an agency would be the target of intensive lobbying activity by well-organized interest groups with a stake in the contents of the agency's reports. Tugboat owners might press the agency to say that radios on tugboats are unnecessary. Manufacturers of 4 x 4 pickup trucks might lobby the agency to say that dual braking systems are superfluous. Garment makers might urge the agency to say that a four-second flame spread is more than enough to protect sweatshirt wearers from fire hazards. And so on.

Incentives to lobby the Federal Accident Avoidance Agency might stem from two sources. First, even if the recommendations of the Federal Accident Avoidance Agency had no effect on liability, sellers might care about their potential customers' perceptions of safety. That is, sellers might want customers to think that products are safer than they are, and thus might want the Federal Accident Avoidance Agency to downplay potential risks. Second, if the recommendations of the Federal Accident Avoidance Agency translate into standards enforceable in court, then incentives to lobby the agency would grow that much stronger. By downplaying the relevant risk and reducing the standard of care, the

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<sup>48</sup> Ctrs. for Disease Control & Prevention, FY 2017 CDC Injury Prevention and Control Fact Sheet (Feb. 2016), <https://www.cdc.gov/injury/pdfs/budget/ncipc-fact-sheet.pdf>.

Federal Accident Avoidance Agency could confer two benefits on an industry: (1) making products appear safer than they are (and thus more attractive to buyers); and (2) limiting liability costs for sellers.

In some cases, to be sure, we might not expect much in the way of lobbying activity from industry, because sellers are themselves a diffuse group facing high costs of collective action. In other cases, we might expect to see countervailing efforts (e.g., by consumer advocates) that would push the agency in a pro-safety direction. In still others, we might see that public-spirited bureaucrats resist interest group pressure and prove immune from lobbying.

We might also expect well-organized interest groups to enjoy an advantage in tort litigation. In product liability litigation, for example, a seller is probably more likely than a buyer to be a repeat player. As Marc Galanter has famously observed, repeat players enjoy advantages such as greater experience, superior access to specialists, and more opportunities to establish relationships with judges. Whereas “one-shotters” may be risk-averse, repeat players may be closer to risk-neutral and thus more likely to adopt strategies that maximize absolute gains. So too, repeat players may have a stronger incentive to invest in shaping the rules of the legal system in their favor.<sup>49</sup>

Nonetheless, we might have reason to believe that, relative to bureaucratic politics, tort litigation will generate more balanced assessments of the costs and benefits of various precautions. First, within the confines of any given case, the stakes are even: the defendant’s payment is equal to the plaintiff’s recovery. The efficiency of this “coupling” rule has been analyzed at length by others;<sup>50</sup> the public good perspective suggests one reason why coupling might be a virtue. Coupling leads to an adversarial process in which the two sides have symmetrical stakes. Insofar as we trust genuine adversity to be truth-revealing, a system of tort litigation with coupled liability would seem to advance the goal of knowledge production.

Concededly, Galanter’s observations regarding repeat players and one-shotters still apply to regimes in which the repeat player’s liability and the one-shotter’s recovery are coupled in the context of any single case. The tort system, however, enjoys a second advantage in this regard: tort litigation generates its own set of repeat players with an interest in raising the standard of care—namely, plaintiffs’ lawyers. There is no obvious analogue to the plaintiffs’ bar in the regulatory context—i.e., no well-organized constituency with pecuniary interests opposite to the interests of potential injurers.

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<sup>49</sup> See Marc Galanter, *Why the “Haves” Come Out Ahead: Speculations on the Limits of Legal Change*, 9 *Law & Soc’y Rev.* 95, 98-103 (1974).

<sup>50</sup> Compare A. Mitchell Polinsky & Yeon-Koo Che, *Decoupling Liability: Optimal Incentives for Care and Litigation*, 22 *RAND J. Econ.* 562 (1991) (concluding that a move from coupled to decoupled liability can reduce litigation costs without weakening the incentives for injurers and victims to take optimal precautions), with Satish J. Jain, *Decoupled Liability and Efficiency: An Impossibility Theorem*, 8 *Rev. L. & Econ.* 697, 699 (2011) (concluding that “in the context of the standard tort model, decoupled liability is inconsistent with efficiency”).



Third, the factfinders in tort cases—judges and jurors—are arguably less vulnerable to interest group influence than officials of a Federal Accident Avoidance Agency might be. In the federal system, judges enjoy life tenure, and even at the state level where most judges are elected, judges are often shielded from the hurly-burly of interest group politics by lengthy terms or by retention elections that result in retention rates of approximately 99%.<sup>51</sup> Meanwhile, jurors are relatively difficult to influence except through the litigation process or through advertising to the public at large: for obvious reasons, interest groups cannot hope to meet with jurors (or lure them with post-service sinecures) in the same way they might try to do with respect to bureaucrats.

Admittedly, there are significant drawbacks in using the tort system to generate information about the costs and benefits of precautions. For one, litigation is expensive—and much of the expense is tangentially related to the production of information about accident avoidance. In a tort case, much attention (and much expense) is devoted to determining whether a particular accident would have been averted by a particular precaution, or to calculating the exact amount of damages that the plaintiff suffered. These case-specific matters are not irrelevant to the general question of whether a particular precaution is cost-justified in the aggregate, but the resources allocated to determinations of causation and damages might be excessive if the only goal were to generate information about the costs and benefits of particular precautions. Second, and perhaps more damningly, tort litigation is always retrospective. The question is how the last accident could have been averted rather than how the next accident might be. An administrative agency might have the ability to anticipate future accidents and their avoidance rather than only to react to past events. Nonetheless, it seems plausible to suggest that the tort system has a productive role to play—perhaps alongside administrative agencies—in generating knowledge about the costs and benefits of precautions. The principal advantages of the tort system are its built-in adversity, the symmetry of stakes, and the fact that the courts are one step removed from interest group politics.

## V. Implications for the Tort System

The public good perspective provides a potential justification for the tort system—not an independent justification, but one that supplements the more traditional justifications of deterrence, corrective justice,<sup>52</sup> and loss spreading.<sup>53</sup> Certain core features of the tort system—including its built-in adversity, coupling of liability, and distance from interest group politics—seem to be consistent with the goal of generating new and true information about the costs and benefits of precautions. And yet it would be a gross

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<sup>51</sup> See B. Michael Dann & Randall M. Hansen, *Judicial Retention Elections*, 34 *Loy. L.A. L. Rev.* 1429, 1430 (2001).

<sup>52</sup> See Gary T. Schwartz, *Mixed Theories of Tort Law: Affirming Both Deterrence and Corrective Justice*, 75 *Tex. L. Rev.* 1801 (1997).

<sup>53</sup> But see *id.* at 1818 n.128 (agreeing with corrective justice theorists that “the structure of tort law essentially rules out loss distribution as a coherent tort objective”).

exaggeration to claim that the tort system is perfectly suited for this task. A public good perspective would suggest several changes to the litigation process.

### **A. Discouraging (or Not Encouraging) Settlement**

For judgments in tort cases to reveal new and true information about the costs and benefits of precautions, tort cases need to be litigated to judgment. From this vantage point, settlement is an undesirable event rather than an outcome to be encouraged. The public good perspective thus might favor rules and practices that discourage settlement of tort cases.

An extreme way to accomplish that goal (and not a solution advocated here) might be to ban settlements entirely. While such a prohibition might be difficult to enforce, it would be easy to implement a rule that settlement agreements are themselves unenforceable. If an injurer and a victim sign an agreement whereby the injurer pays the victim \$X in exchange for the victim's promise not to sue the injurer, a court could simply refuse to honor the agreement, in which case the credibility of the victim's promise would be doubtful and the likelihood of an agreement would decline dramatically.

Yet there are reasons why, even from the public good perspective, the enforcement of settlement agreements might be desirable. The public good perspective suggests that tort litigation is socially valuable when there is uncertainty as to whether a particular precaution is cost-justified. If the parties both agree that an untaken precaution would have been cost-justified and thus that the party that failed to take the precaution was negligent, then the parties are likely to settle (and so too when they agree that an untaken precaution would not have been cost-justified and thus that the party that failed to take the precaution was faultless). In such cases, the social value of litigation is low because the relevant information about accident avoidance is already known.

To be sure, there will also be cases in which the parties settle even though they do not know with certainty whether a particular untaken precaution would have been cost-justified. In standard models of the selection of disputes for litigation, the parties settle when the plaintiff's expected recovery exceeds the defendant's expected payout by more than the sum of litigation costs (see Section III.B). That condition may be satisfied even though both the plaintiff and the defendant (and third parties as well) face considerable uncertainty as to whether a particular precaution is cost-justified.

Ultimately, we do not know whether the deadweight loss from the socially wasteful litigation avoided through settlement of tort cases exceeds the social value of the additional information that would be generated if all tort cases were litigated to judgment. (My hunch is that settlement on the whole is welfare-increasing, but that is only a hunch.) At the very least, though, the public good perspective gives us reason to rethink the emphasis placed on mediation by U.S. courts. More than two-thirds of U.S. federal district courts have implemented mediation programs—and in some districts mediation is

mandatory.<sup>54</sup> Moreover, there is some evidence to suggest that tort cases are the disputes most likely to be settled in district court.<sup>55</sup> We do not know whether mediation is weeding out cases in which further litigation would generate valuable information about the costs and benefits of precautions, but the analysis above suggests a reason why we might pause before embracing mediation with open arms.

## **B. Liability Waivers and Arbitration Clauses**

While settlement offers a way for parties to opt out of litigation *ex post* (after an accident), liability waivers and arbitration clauses provide ways for parties to opt out of litigation *ex ante* (prior to an accident). For the same reasons that the public good perspective casts doubt on the desirability of settlement, so too does it call into question the social value of liability waivers and arbitration clauses.

The leading U.S. case on the enforcement of liability waivers in the tort context is *Tunkl v. Regents of the University of California*,<sup>56</sup> in which the California Supreme Court set out a six-factor test for determining whether liability waiver is consistent with the “public interest.” According to the *Tunkl* court, an invalid liability waiver “involves a transaction which exhibits some or all of the following characteristics”:

- (1) “It concerns a business of a type generally thought suitable for public regulation”;
- (2) “The party seeking exculpation is engaged in performing a service of great importance to the public which is often a matter of practical necessity for some members of the public”;
- (3) “The party holds himself out as willing to perform this service for any member of the public who seeks it, or at least for any member coming within certain established standards”;
- (4) “[T]he party invoking exculpation possesses a decisive advantage of bargaining strength against any member of the public who seeks his services”;
- (5) “In exercising a superior bargaining power the party confronts the public with a standardized adhesion contract of exculpation, and makes no provision whereby a purchaser may pay additional reasonable fees and obtain protection against negligence”;

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<sup>54</sup> See Donna Stienstra, Fed. Judicial Ctr., ADR in the Federal Courts: An Initial Report 7 tbl.2, 9 tbl.3 (Nov. 16, 2011)

<sup>55</sup> See Eisenberg & Lanvers, *supra* note \_\_\_, at 115.

<sup>56</sup> 383 P.2d 441 (Cal. 1963); see Glen O. Robinson, Rethinking the Allocation of Medical Malpractice Risks Between Patients and Providers, 49 Law & Contemp. Probs. 173, 184 (1986).

— (6) “Finally, as a result of the transaction, the person or property of the purchaser is placed under the control of the seller, subject to the risk of carelessness by the seller or his agents.”<sup>57</sup>

Several aspects of the *Tunkl* test are perplexing. For example, the first factor would seem to suggest that courts should be less willing to enforce waivers with respect to transactions in regulated markets. Yet one might easily argue that the same factor should tilt in the other direction: the fact that an industry is already regulated might mean that the tort system has less of a role to play in accident avoidance (because regulators are addressing the matter already). As for (2) and (3), the fact that a defendant is performing a service of great importance to the public on a nondiscriminatory basis might suggest that courts should be more willing to enforce liability waivers rather than less so, on the view that tort liability leads to a risk of driving those defendants out of the market.

Whatever the merits of the existing six *Tunkl* factors, the public good perspective might suggest a seventh: whether the party invoking the waiver seeks to excuse herself from failing to take a precaution with uncertain costs or benefits. Where this factor is present, enforcement of the liability waiver deprives society of an opportunity to gain valuable safety-related information. In such cases, courts should be particularly reluctant to honor waivers.

One might make a similar argument for refusing to enforce arbitration clauses in cases where the relevant untaken precaution is one with uncertain costs or benefits. The problem is not that arbitration fails to generate a judgment reflecting the arbitrator’s assessment of costs and benefits, but that such awards are rarely made public.<sup>58</sup> But whereas U.S. state courts have the option of not enforcing liability waivers, their hands are effectively tied when it comes to arbitration clauses by U.S. Supreme Court decisions interpreting the Federal Arbitration Act.<sup>59</sup> As a practical matter, U.S. state courts adjudicating tort claims (and U.S. federal courts applying state law to tort claims) rarely have any choice except to enforce arbitration clauses, regardless of the persuasiveness of public good arguments.

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<sup>57</sup> 383 P.2d at 444-46.

<sup>58</sup> See, e.g., Am. Arbitration Ass’n, Consumer Arbitration Rules R-30 (effective Sept. 1, 2014) (“The arbitrator and the AAA will keep information about the arbitration private except to the extent that a law provides that such information shall be shared or made public.”).

<sup>59</sup> See Margaret L. Moses, *Statutory Misconstruction: How the Supreme Court Created a Federal Arbitration Law Never Enacted by Congress*, 34 Fla. St. U. L. Rev. 99 (2006); David S. Schwartz, *Correcting Federalism Mistakes in Statutory Interpretation: The Supreme Court and the Federal Arbitration Act*, 67 Law & Contemp. Probs. 5 (2004).

### C. Judges, Juries, and Public Goods

One area in which U.S. trial courts do have considerable discretion is with respect to the verdict forms used in tort cases.<sup>60</sup> To use the *T.J. Hooper* fact pattern, the trial judge could ask the jury: “Do you find that the tugboat owners were negligent in failing to equip their boats with radios and that their negligence was a proximate cause of the loss of their customers’ cargo?” Or the trial judge could divide the inquiry into two questions: (1) “Do you find that the tugboat owners were negligent in failing to equip their boats with radios”? (2) “If yes, do you find that the tugboat owners’ negligence was a proximate cause of the loss of their customers’ cargo”? Dividing the inquiry this way ensures that litigants do not misinterpret a negative answer to the proximate cause question as a negative answer to the negligence question.

As students of American tort law will know, there were in fact no jury instructions in *The T.J. Hooper* because there was no jury: *The T.J. Hooper* was an admiralty case, and admiralty cases are generally tried by judges.<sup>61</sup> Bench trials account for about 29% of tort trials in the federal system and 10% of tort trials in U.S. state courts.<sup>62</sup> In such cases, the public good perspective suggests that judges should clearly state their conclusions as to the adequacy of the parties’ precautions, especially where the costs and benefits of such precautions are uncertain *ex ante*.

The public good perspective arguably also counsels in favor of judicial interventions to crystallize rules of conduct following successive jury determinations of negligence. Consider the famous—or perhaps infamous—case of *Baltimore & Ohio Railroad v. Goodman*.<sup>63</sup> Nathan Goodman was a truck driver who was run down and killed by a Baltimore & Ohio Railroad train at a grade crossing. His widow sued the railroad, which raised a contributory negligence defense. The jury found for the widow, and the Supreme Court unanimously reversed. As Justice Oliver Wendell Holmes wrote:

[I]t appears to us plain that nothing is suggested by the evidence to relieve Goodman from responsibility for his own death. When a man goes upon a railroad track he knows that he goes to a place where he will be killed if a train comes upon him before he is clear of the track. He knows that he must stop for the train, not the train stop for him. In such circumstances it seems to us that if a driver cannot be sure otherwise whether a train is dangerously near he must stop and get out of his vehicle, although obviously he will not often be required to do more than to stop and look. It seems to us that if he relies upon not hearing the

<sup>60</sup> See, e.g., *Howes v. Deere & Co.*, 238 N.W.2d 76, 79 (Wis. 1976) (stating that format of verdict form is a “decision [that] must be on a case-by-case basis and at the time of trial”).

<sup>61</sup> See *Luera v. M/V Alberta*, 635 F.3d 181, 188 (5th Cir. 2011) (“One of the historical procedures unique to admiralty is that a suit in admiralty does not carry with it the right to a jury trial.”).

<sup>62</sup> See Bureau of Justice Statistics, *Tort, Contract, and Real Property Trials*, <http://www.bjs.gov/index.cfm?ty=tp&tid=451> (last updated Dec. 2016) (based on 2005 state court data and 2002-2003 federal court data).

<sup>63</sup> 275 U.S. 66 (1927).

train or any signal and takes no further precaution he does so at his own risk. . . . It is true . . . that the question of due care very generally is left to the jury. But we are dealing with a standard of conduct, and when the standard is clear it should be laid down once for all by the Courts.<sup>64</sup>

History has not been kind to Justice Holmes’s opinion in *Goodman*, or to the “stop, get out, and look” rule he laid down. Biographer Edward White describes Holmes’s rule as “absurd.”<sup>65</sup> For one thing, by the time that the driver got back into his truck, whatever information he gleaned from his foray would be stale; a train that had been out of the driver’s sight might now be speeding down the tracks. Moreover, as White notes, “[g]etting out of cars might be more dangerous to motorists than not stopping, given two-way automobile traffic around grade crossings.”<sup>66</sup> Perhaps unsurprisingly, Holmes was not himself an experienced driver at the time of the *Goodman* decision.<sup>67</sup> Within seven years, the Court—in an opinion by Holmes’s successor Justice Benjamin Cardozo—effectively limited *Goodman* to its facts.<sup>68</sup>

Setting aside the particulars of *Goodman*, however, there is something to be said for the last line in Justice Holmes’s opinion: “when the standard is clear it should be laid down once for all by the Courts.” When successive juries conclude that a particular precaution is cost-justified—and thus that a party who fails to take that precaution is negligent—then a strong argument can be made for judicial intervention along the lines that Holmes contemplates. This is so for two reasons. First, a judicial opinion crystallizing a rule of conduct can serve to draw attention to the information revealed by the successive jury verdicts—and can thus serve to disseminate the public good (i.e., safety-related knowledge) that those jury verdicts generate. Second, a judge-made rule that a particular precaution is cost-justified can save litigants from having to reinvent the wheel in future cases.

Yet judge-made rules have their downsides as well. For one, the reinvention of the wheel that inevitably occurs when successive juries analyze the costs and benefits of the same precaution can be thought of as a form of replication (i.e., of checking the earlier jury’s work).<sup>69</sup> And once it has been established that a particular precaution is cost-justified and that the failure to take such precaution amounts to negligence, then we might expect to see fewer cases in which the prudence of that precaution is at issue—(a)

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<sup>64</sup> *Id.* at 69-70.

<sup>65</sup> G. Edmund White, *Justice Oliver Wendell Holmes: Law and the Inner Self* 385 (1995).

<sup>66</sup> *Id.*

<sup>67</sup> See *id.* at 568 n.20.

<sup>68</sup> See *Pokora v. Wabash R. Co.*, 292 U.S. 98, 106 (1934) (“The opinion in *Goodman*’s case has been a source of confusion in the federal courts to the extent that it imposes a standard for application by the judge, and has had only wavering support in the courts of the states. We limit it accordingly.”). On *Goodman* and *Pokora* as illustrations of the rules-vs.-standards debate, see Pierre Schlag, *Rules and Standards*, 33 *UCLA L. Rev.* 379, 379-80 (1985).

<sup>69</sup> On the merits of replication in the social sciences, see generally Gary King, *Replication, Replication*, 28 *PS: Political Science & Politics* 541 (1995).

because rational actors will take the precaution in equilibrium, and (b) because even when one party fails to take the clearly cost-justified precaution, that party's negligence will be so clear as to make settlement more likely than litigation. Second, there is always the risk that judges will get the bright-line rule wrong—a risk that *Goodman* illustrates well.

In sum, the public good perspective clearly counsels in favor of special verdict forms that require juries to separately address the question of whether the injurer (or, in the contributory and comparative negligence context, the victim) took all precautions for which  $B < PL$ . When tort cases are instead resolved by judges via bench trials, then judges should make their determinations regarding the net benefits of particular precautions crystal clear in their written decisions. Less clear is whether judges should at some point intervene to lay down a bright-line rule of conduct gleaned from successive jury determinations. Better, perhaps, to trust that once the prudence of a particular precaution becomes obvious, the precaution will become widespread and the few cases involving omission of the precaution will be settled rather than litigated.

### **Conclusion**

The central thesis of this article is that even when potential injurers and victims are connected by contract, we cannot necessarily trust the market to fix the socially optimal standard of care. This is because knowledge about the costs and benefits of precautions has the properties of a public good likely to be undersupplied by the free market. Accordingly, there is a strong argument for government intervention to produce information about accident avoidance. Tort law is one way to accomplish this goal: by raising the stakes ex post, tort law incentivizes litigants to make investments in knowledge production that they rationally declined to make ex ante. Other public institutions such as administrative agencies might perform this function as well, though there are reasons to believe that the tort system—with its built-in adversity, symmetrical stakes, and remove from interest group politics—is more likely to generate unbiased information about the costs and benefits of precautions.

The potential implications of this argument extend beyond the courts-vs.-custom debate. As noted above, the public good perspective gives us a reason to favor some version of comparative negligence over the alternatives of simple negligence and contributory negligence, despite the fact (or rather, *because* of the fact) that comparative negligence requires the court to make two fault determinations per case rather than one. The public good perspective also sheds light on the desirability of settlement, the enforcement of liability waivers, and the format of jury verdicts. More generally, the public good perspective provides an additional lens through which to view the successes and failures of the tort system, supplementing the deterrence, corrective justice, and loss-spreading theories that have dominated tort scholarship for decades.