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COMMUNITY VERSUS MARKET VALUES OF LIFE

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ABSTRACT

Individuals and communities make choices affecting the risk of accidental death. Individuals balance risk and cost in market choices, for example, by purchasing costly safety products or taking a dangerous job for higher pay. Communities balance risk and cost through social norms of precaution, which prescribe how much risk people may impose on others and on themselves. For example, social norms dictate that bicyclists should wear helmets and automobile passengers should wear seat belts. In both cases, the balance between the fatality risk and the cost of reducing it reveals an implicit value of a statistical life, or "VSL"—an individual "market VSL" in the former case, and a "community VSL" in the latter instance. This Article explores the theoretical differences between community and

market VSLs, provides average dollar values for both, and endorses the use of community VSLs in tort (as a measure of damages) and in the regulatory context (as an input to cost-benefit analyses).

Our analysis of existing empirical studies reveals an average community VSL of roughly $2-3 million—significantly smaller in value than market VSLs, which average roughly $7 million. After presenting and explaining these figures, we argue that courts and regulators should base the legal value of a life on the community value. The principal reasons for adopting community VSLs are validity and consistency. Community VSLs are a valid measure of the implicit value of life because they are derived from social norms, which embody the collective preferences and ideals of communities as refined over time. At a minimum, they are more reliable and meaningful measures of the value of life than the current legal alternatives: in tort, the unaided intuition of jurors and, in the regulatory context, individual labor-market decisions made with limited information. Community VSLs would also increase internal consistency in tort, by linking the calculation of damages to the same community-centric standards already used to determine reasonable precaution. If adopted in the regulatory context and in tort law, community VSLs would place both mechanisms of risk regulation on the same, valid foundation.

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INTRODUCTION

Individuals routinely trade off money and risk through market choices, such as when they decide to purchase costly automobile safety features or consider whether to accept risky jobs for extra pay. These choices reveal an implicit value of the "goods"—in this case, health—being protected. Communities reveal collective values of life and limb in a different way: using social norms of precaution or rules that prescribe how much time, money, or energy that people ought to sacrifice to reduce risks. For example, social norms dictate that individuals should wear seat belts, that bicyclists should use helmets, and that drivers should adhere, at least roughly, to speed limits. As with individual actions, social norms balance the cost of precaution and the reduction in the risk of harm in each case, thereby revealing an implicit community valuation of the harm at risk. When the risks in question are fatal, social norms of precaution imply "community values of a statistical life," or "community VSLs." Individual safety decisions regarding fatal risks yield what we call "market VSLs."

To date, the economic and legal literature has ignored the important distinction between community and market VSLs. By merging the economics of damages with the study of social norms, this Article compares average dollar values for community and market VSLs and explores the theoretical differences between them. Ultimately, we endorse the use of community VSLs in legal contexts in which the valuation of life is necessary, either for remedial purposes or the setting of precautionary or regulatory standards.

Our first observation is empirical. After reorganizing the existing VSL literature to account for the community/market distinction, we find a significant difference in magnitude between community and market VSLs. Based on the small pool of existing VSL studies that reflect community judgments about risk, we find that community VSLs average approximately $2-3 million. Market VSLs, by contrast, center around $7 million. In terms of magnitude, community VSLs fall between the values of life determined though tort litigation (which average under $1 million and vary widely) and

those used in the regulatory context (which are derived from market VSLs and commonly range $5-7 million).

After discussing the relative magnitudes of community and market VSLs, we make the theoretical case for using community VSLs as a measure of tort damages. In determining legal fault or "reasonable care" in tort cases, courts often rely on a community standard of care. In determining damages, however, courts do not appear to rely on the community valuation of harm. Judge Hand's famous equation $(B = P \times L)$[1] explicitly links, and balances, the costs of precaution and the expected harm associated with an activity. Though the rule is typically conceived as a way to compute the legal standard of care in the absence of an accepted community standard, the rule can also be used *to estimate appropriate damages in the presence of a clear community standard.*[2] Community VSLs are the result of applying the Hand Rule in the latter fashion, with social norms supplying the values of the "B" and "P" terms. For example, if social norms dictate that children should wear bicycle helmets, then the cost and risk reduction associated with using helmets would reveal appropriate damages for a child killed or injured by tortious activity. If the full cost of using a bicycle helmet, including both the cost and disutility of wearing it, is $100, and the helmet reduces the risk of death by 1/10,000, community damages in the case of wrongful death would be $1 million (the ratio of cost to marginal risk reduction).

If adopted in tort law as a measure of damages, community VSLs would prove useful for several reasons. First, social norms of precaution provide a more meaningful valuation of harm than the unaided intuition of juries. The type of norms considered here as a plausible basis for community VSLs are more than mere behavioral

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1. In the Hand Rule equation, "B" represents the marginal cost of precaution, "P" reflects the marginal reduction in the likelihood of injury given the investment in precaution, and "L" stands for the magnitude of harm. *See, e.g.*, United States v. Carroll Towing Co., 159 F.2d 169, 173 (2d Cir. 1947). The full equation, discussed more fully in Part II, thus conveys the notion that reasonable precaution is that which is cost-justified given the expected harm. *See id.* at 174.

2. The authors have used the term "Hand Rule Damages" to refer to these types of damages in prior, related work. Robert Cooter, *Hand Rule Damages for Incompensable Losses*, 40 SAN DIEGO L. REV. 1097, 1099 (2003); *see also* Robert Cooter & David DePianto, *Damages for Incompensable Harms*, *in* RESEARCH HANDBOOK ON THE ECONOMICS OF TORTS 439, 439 (Jennifer Arlen ed., 2013).

patterns or *average* behaviors; rather, they are collective agreements, refined over time, about what behaviors are acceptable and what behaviors warrant the imposition of informal social sanctions. Second, because community VSLs rely exclusively on risk/money tradeoffs that are backed by well-accepted social norms, they fit seamlessly within the current rules on tort. The "reasonable person" takes her cues from the community,[3] and when the community dictates certain precautions through social norms, it also provides an implicit valuation of the harm at risk. The more precaution the community requires, the greater the community's valuation of the harm at risk, and vice versa.

When courts determine both negligence and damages by reference to community standards (social norms), damages and precautionary standards align with each other, and potential injurers receive clear signals about the consequences of their activities. Rationally self-interested actors would respond to community VSLs by conforming to community standards of conduct.[4] In contrast, when legal standards and damages are misaligned, potential injurers receive contradictory signals about their activities.[5] Setting legal damages at values lower than community damages incentivizes potential injurers to violate community standards; similarly, setting legal damages at values greater than community damages incentivizes potential injurers to over-perform relative to community standards.

Incentives aside, many people think that fairness demands alignment between safety standards and damages.[6] In terms of safety

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3. *See, e.g.*, RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL AND EMOTIONAL HARM § 13 (AM. LAW INST. 2010). Though custom is not dispositive on the issue of reasonable care, we discuss in Part II why the norms that underlie community VSLs would likely be strong evidence of reasonable precaution.

4. *See infra* Part III.

5. *See* Ariel Porat, *Misalignments in Tort Law*, 121 YALE L.J. 82, 135-36 (2011). Porat analyzes misalignments between the risk of liability and the risk used to set the standard of care. He writes that misalignments occur when "the risks that are accounted for in setting the standard of care are different from the risks for which liability is imposed and damages are awarded." *Id.* at 84. We discuss the misalignment between the risks used to set the community standard of care and the damages imposed for accidents caused by its violation. In brief, we discuss the misalignment when different values are used in the Hand Rule equation to determine breach and damages.

6. *See* TOM R. TYLER, WHY PEOPLE OBEY THE LAW 172 (2006) (citing procedural fairness as a primary motivation for compliance with legal rules).

standards and liability, it seems fair for the violation to reflect the same valuations of harm. Conversely, it seems unfair for injurers to face low liability for violating serious social norms, or for injurers to face high liability for violating minor social norms. Accordingly, either damage awards must be adjusted to align with social norms or social norms must be adjusted to align with damages. Because social norms are already used in tort as guides for reasonable precaution, and because norms are more reliable than jury guesses as to the value of life, we suggest that damages should adjust to social norms.[7]

Using community VSLs in tort would have two noteworthy practical consequences for tort damages. First, by supplying a coherent rationale for estimating damages in wrongful death cases, community-based damages would make damages for fatal accidents more uniform. Second, based on our initial empirical findings, using community VSLs would increase damages for wrongful death by multipliers of two to three.[8] Implementing community damages would therefore incentivize more care, less risky activity, or both, leading to fewer fatal accidents.

The argument for community VSLs can be extended to the regulatory context, though a full defense of this point is beyond the scope of this Article. Like tort law, safety regulations impose standards of precaution on risky activities. We argue that the community's implicit valuation of fatal risks is a more meaningful measure of the value of life than the market VSLs that are currently used in determining the economic feasibility of safety regulations. Replacing market values with community values would significantly reduce the regulatory value of a statistical life, from the commonly cited average of roughly $7 million,[9] which is based on market VSL, to approximately $2-3 million.[10] After this change,

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7. Of course, if communities decide to alter social norms after observing the implicit values of life (and the damage awards) they imply, damages would be reduced accordingly. This educational aspect of community VSLs—their ability to convey publicly the implicit values of life associated with norms of precaution, and thereby refine social norms—is yet another reason to adopt community VSLs in tort.

8. *See infra* Part II.

9. *See, e.g.*, W. Kip Viscusi & Joseph E. Aldy, *The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World*, 27 J. RISK & UNCERTAINTY 5, 18, 63 (2003).

10. *See infra* Table 3.

safety regulations would tolerate more fatal accidents—the opposite effect of adopting community damages in tort. If community values were adopted in both the regulatory context and in tort, the standards of care in both areas would converge. Such a convergence would be an economically desirable result, since tort liability and regulations apply to the same type of accidents and activities (or close substitutes). Conversely, awarding damages for tortious death of less than $2 million contradicts valuing a statistical life at over $6 million when setting the applicable regulatory standard. The current regulatory practice of using market VSLs to set safety standards causes them to diverge from community standards in tort law.

The remainder of this Article is organized as follows. Part I provides background on the economic approach to tort damages. Part II gathers empirical estimates from the VSL literature and compares community VSLs with their market counterparts. This Part also gives a detailed account of community VSLs, their relationship with social norms, and their desirability as a basis for determining legal valuations of life. Part III makes the economic case for community damages in cases of wrongful death and in regulation. The Article concludes by offering some general thoughts on the source of the divergence in magnitude between community and market VSLs.

I. THE ECONOMICS OF TORT DAMAGES (AND ITS INCOHERENCE AS APPLIED TO FATAL INJURIES)

From an economic perspective, making an injured party whole for economic losses is straightforward: simply award damages that reflect the market value lost due to the injury.[11] Tortious behavior resulting in the destruction of a car, for example, would yield

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11. Compensatory damages—the most common form of damages issued in tort cases and the subject of this inquiry—are intended to restore the injured party, by way of monetary transfers, as closely as possible to their pre-loss state. There are various alternative ways to express the compensatory ideal, most of which are used interchangeably by courts, lawyers, and scholars: making the victim (or, in the case of wrongful death, the victim's estate) "whole," restoring the victim to the status quo ante, or, in economic terms, awarding an amount of money such that the victim is indifferent between no injury and injury-plus-damages. *See* ROBERT COOTER & THOMAS ULEN, LAW & ECONOMICS 253 (6th ed. 2012).

damages equal to the market value of the car. The victim can use market damages to purchase a substitute that restores his former position. Also, by forcing injurers to internalize the costs of their risky activities, compensatory damages that equal the market price of replaceable goods give injurers efficient incentives for precaution.[12] Though certain types of economic damage are more difficult to calculate than others—for example, reductions in earning capacity and destruction of unique or sentimental items—economic damages are relatively easy to calculate and relatively uncontroversial compared to noneconomic damages.

The problem is far more complex, however, when the market does not supply any clear guidance regarding the value of the injury. Tort cases, of course, frequently involve injuries that are not easily expressible in terms of market value. Serious bodily injuries and death arising from negligence are commonplace, thus necessitating a method for calculating appropriate damages across a wide spectrum of physical impairment, not to mention pain, suffering, and death.[13] Most people, however, have no idea what "compensation" means for death of a loved one or for serious bodily injury. As discussed below, although compensation for economic harms makes perfect sense, compensation for noneconomic harms makes little sense to most jurors.

As we have written before, "[e]conomics represents perfect compensation by using curves of constant utility. If two outcomes lie on the same curve, an individual is indifferent between them."[14] For example, Figure 1 represents an individual's indifference between differing, offsetting amounts of two distinct goods, in this case health (H) and wealth (W). The individual in Figure 1 would be indifferent between more health and less wealth (H_0, W_0), and less heath and more wealth (H_1, W_1), at least as those options exist on the individual's curve of constant utility. Generally, "[i]ndifference

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12. *See generally id.*

13. Noneconomic damages—which cover various types of "pain and suffering," including emotional distress, mental anguish, shock, fright, loss of consortium, loss of capability, and loss of enjoyment of life (so-called "hedonic losses")—constitute a significant portion of damage awards for physical injury and death. *See, e.g.*, Neil Vidmar et al., *Jury Awards for Medical Malpractice and Post-Verdict Adjustment of Those Awards,* 48 DEPAUL L. REV. 265, 265-66 (1998).

14. Cooter & DePianto, *supra* note 2, at 442-43.

curves are useful in representing damages because perfect compensation should, at least theoretically, make the injured party indifferent between their pre-injury state and their post-injury state."[15] Thus, Figure 1 demonstrates that an injury with a decrease in health of (H_0-H_1) would be perfectly compensated with a damage award of (W_1-W_0).

Figure 1. Indifference Curve[16]

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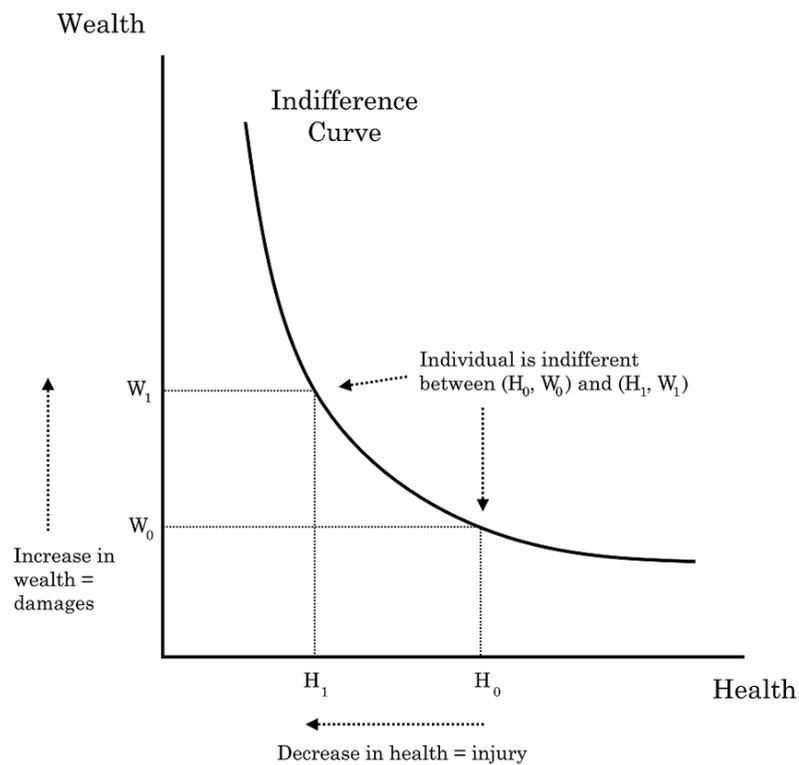
15. *Id.*
16. Excerpted from *id.* at 443.

Indifference curves are inapplicable to the analysis of death and serious bodily injury, however, because these preferences are incomplete.[17] Preferences are incomplete when some points are incomparable to others.[18] When two points are incomparable, the person cannot say whether one is preferred to the other, or whether he is indifferent between them.[19] As demonstrated by Figure 1, incomplete preferences imply that holes exist in the utility curves.[20]

Incomplete preferences sometimes result from inexperience.[21] Most people have no opportunity to buy or sell non-market goods, so they do not think about the dollar value of such goods.[22] Preferences for unfamiliar things are often incomplete, but people can often complete them when circumstances demand a choice. Thus, for example, most individuals can figure out how to rank mobile phones when they need to buy one. Similarly, if required by circumstances, many people could presumably put a dollar value on suffering from the flu. Individuals might even be able to rank a life with slightly poorer vision against one with slightly poorer hearing, even though attaching dollar values to these physical impairments would be very difficult. As these bodily injuries become more serious, monetizing and comparing them becomes more difficult.

Valuing serious bodily injury or death differs from valuing minor impairments in two ways. First, one's experience is inevitably limited—no one experiences his own death twice and few people suffer severe injury multiple times. When confronted with impending death or serious injury, few people have the opportunity to buy their way out. Second, many people refuse to even engage in this line of thought. Many individuals will not contemplate having to choose whether their eldest or youngest child should die. They focus on avoiding such a choice, not figuring out how to make it. As a result, most people would be hard-pressed to find a money-equivalent for the death of a child. They focus on avoiding circumstances in which they would have to choose between money and life.

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17. *Id.* at 443-44.

18. *Id.*

19. *Id.*

20. *Id.*

21. *Id.*

22. *See* Philip J. Cook & Daniel A. Graham, *The Demand for Insurance and Protection: The Case of Irreplaceable Commodities*, 91 Q.J. ECON. 143, 144 (1977).

In such cases, individual preferences are incomplete. Many individuals cannot complete preferences over death and serious bodily injury, because completing them would violate a moral or religious taboo that prohibits such a tradeoff.[23] Whether the obstacle is inexperience, psychology,[24] religion, or ethics,[25] most people have incomplete preferences concerning death and bodily injury, meaning

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23. For more information on taboo preferences, see Philip E. Tetlock, *Social Functionalist Frameworks for Judgment and Choice: Intuitive Politicians, Theologians, and Prosecutors*, 109 PSYCHOL. REV. 451, 454 (2002).

24. According to psychologists, people erect boundaries between some categories of thought and they struggle to cross these boundaries. *Id.* at 451. Recent work in psychology, building on older traditions in sociology, suggests that different circumstances trigger different orientations toward the world. *See id.* Some circumstances trigger the "intuitive scientists" inside us, who "seek causal understanding and predictive leverage." *Id.* Other circumstances trigger our "intuitive economists," whose goal is "to maximize subjective utility." *Id.* People also act as "intuitive politicians" and "intuitive prosecutors." *Id.* at 452.
The finding most relevant to incompensable harms is that some people act as "intuitive theologians." *Id.* at 453. This orientation forbids "taboo trade-offs." *Id.* at 459. In other words:

> [O]ur commitments to other people require us to deny that we can compare certain things—in particular, things of finite value to things that our moral community insists on formally treating as possessing transcendental or infinite significance. To transgress this boundary, to attach a monetary value to one's friendships, children, or loyalty to one's country, is to disqualify oneself from the accompanying social roles. Constitutive incommensurability can thus be said to exist whenever comparing values subverts one of the values (the putatively infinitely significant value) in the trade-off calculus. Taboo trade-offs are, in this sense, morally corrosive.

Philip E. Tetlock, *The Virtues of Cognitive Humility: For Us as Well as Them*, *in* JUDGMENTS, DECISIONS, AND PUBLIC POLICY 355, 358 (Rajeev Gowda & Jeffrey C. Fox eds., 2002).
The "intuitive theologian" may often encounter incompensable harms because some people have religious objections to comparing death or bodily injury to money. *See* Tetlock, *supra* note 23, at 454. Attempts to reduce sacred values to money equivalents often cause indignation in people who assume the moralist-theologian orientation. *Id.* Asking them how much money they would need to accept death or serious injury resembles asking some Catholics how much they would charge to curse Saint Cecilia.

25. Like religion, some philosophies treat money as "incommensurable" with death or bodily injury. *See* Margaret Jane Radin, *Compensation and Commensurability*, 43 DUKE L.J. 56, 62 (1993); Cass R. Sunstein, *Incommensurability and Valuation in Law*, 92 MICH. L. REV. 779, 798 (1994). In philosophy, principles sometimes preclude prices. Philosophers have especially debated incommensurability as part of the clash between deontic and utilitarian ethics. *See* Radin, *supra*, at 65. Some philosophies object to reducing death or injury to money much like they object to reducing rights to utility. *Id.* Joseph Raz, for example, addresses the issue through the concept of "constitutive incommensurabilit[y]." JOSEPH RAZ, THE MORALITY OF FREEDOM 346 (1986). According to Raz, the monetization of values such as love leads to indignation because "incommensurability is itself a qualification for having certain relations." *Id.* at 351. In other words, the act of reducing certain relations to money precludes our participation in them. *Id.* That is why money cannot buy love.

that they do not know how to equate them with money. Consequently, the compensation principles applied in tort litigation—which require juries to estimate damages so as to make the injured party "whole" or place them in a pre-injury position—are incoherent as applied to death and serious bodily injury.

A. Damage Estimation in Court: The Current Process

Notwithstanding the above points, courts still appeal to unaided juror intuition and the concept of compensation when estimating damages for death and serious bodily injury. A small sampling of the language used to instruct juries on the issue of damages illustrates the difficulty of the task and the wide discretion afforded to juries in determining the legal value of a life. A juror faced with the challenge of assessing damages for wrongful death in California, for example, might be asked to draw upon his "common sense" to arrive at an "amount in current dollars paid at the time of judgment that will compensate" the estate for the loss, including the "reasonable value of household services" arising from the death.[26] A prefatory note to this portion of the instructions asserts that "[n]o fixed standard exists for deciding the amount of noneconomic damages."[27] Jury instructions from several other jurisdictions contain similar disclaimers.[28]

Missouri and Massachusetts fare no better in terms of clarity. Missouri charges its juries with the task of estimating "such sum as you believe will fairly and justly compensate plaintiff for any damages" sustained as a result of a wrongful death.[29] Massachusetts' instructions ask jurors to "use [their] wisdom and judgment and [their] sense of basic justice to translate into dollars and cents the

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26. CIVIL JURY INSTRUCTIONS § 3921 (ADVISORY COMM. ON CIVIL JURY INSTRUCTIONS, JUDICIAL COUNCIL OF CAL. 2014).

27. *Id.*

28. *See, e.g.*, PATTERN JURY INSTRUCTIONS (CIVIL CASES) § 15.3 (COMM. ON PATTERN JURY INSTRUCTIONS, DIST. JUDGES ASS'N, FIFTH CIRCUIT 2014); MISS. MODEL JURY INSTRUCTIONS CIVIL § 11:5 (MISS. JUDICIAL COLL. 2014); STANDARD JURY INSTRUCTIONS—CIVIL CASES § 501.2 (SUPREME COURT COMM. ON STANDARD JURY INSTRUCTIONS IN CIVIL CASES, FLA. SUPREME COURT 2008); PATTERN INSTRUCTIONS KAN. 4TH CIVIL § 171.32 (CIVIL ADVISORY COMM., KAN. JUDICIAL COUNCIL 2008).

29. MO. APPROVED JURY INSTRUCTIONS (CIVIL) § 5.01 (MO. SUPREME COURT COMM. ON CIVIL JURY INSTRUCTIONS, MO. SUPREME COURT 2014).

amount which will fully, fairly, and reasonably compensate the next of kin for the death of the decedent."[30]

New York expressly bars recovery for noneconomic damages in wrongful death cases.[31] Notwithstanding this limitation on recovery, New York jurors still face the daunting task of estimating, among other things, "the services that [the decedent] would have performed" for the survivors, "the portion of (his, her) earnings that [the decedent] would have spent in the future for the care and support" of the family, and "the intellectual, moral, and physical training, guidance and assistance that [the decedent] would have given the children had (he, she) lived."[32] How should a juror monetize moral training? As this example shows, shifting the inquiry from noneconomic terms to an expansive conception of economic terms simplifies the juror's task only modestly, if at all.

B. Consequences of Incoherent Jury Instructions on Damages

Unsurprisingly, the jury instructions excerpted above, and others like them, lead to inconsistent damage awards. While injury severity correlates positively with damage awards—meaning that, as a general matter, more serious injuries yield higher damages[33]—awards for *similar* injuries are highly variable. One study of jury awards, drawing upon data from Florida and the Kansas City metropolitan area, concludes:

> Within an individual severity level, the highest valuation can be scores of times larger than the lowest. Awards for the most serious permanent injuries ... range in value from a low of $147,000 to a high of $18,100,000. Even considering only the spread between the top and bottom quartiles, the range is great. All the awards in the top 25% of level 6 cases, for example, are at least six times larger than any of the bottom 25%.[34]

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30. MASS. SUPERIOR COURT CIVIL PRACTICE JURY INSTRUCTIONS § 3.5 (STEPHEN D. ANDERSON ET AL. 2003).

31. N.Y. PATTERN JURY INSTRUCTIONS—CIVIL § 2:320 (COMM. ON PATTERN JURY INSTRUCTIONS, ASS'N OF SUPREME COURT JUSTICES OF THE STATE OF N.Y. 2014).

32. *Id.*

33. *See, e.g.*, W. Kip Viscusi, *Pain and Suffering in Product Liability Cases: Systematic Compensation or Capricious Awards?*, 8 INT'L REV. L. & ECON. 203, 207 (1988).

34. Randall R. Bovbjerg et al., *Valuing Life and Limb in Tort: Scheduling "Pain and*

Damages for wrongful death also showed similar variability in the above study: the 75th percentile award was double the value of the median award and about six times the value of the 25th percentile award.[35] A different survey study in which respondents were asked to estimate damages for hypothetical injuries reached a similar result: "A review of the awards for general damages for each injury revealed that the highest award for some injuries was more than five times as large as the second highest award."[36] Other empirical analyses echo the above conclusions regarding the inconsistency and horizontal inequity among damage awards.[37]

The psychological literature on jury awards and decision making suggests several reasons for inconsistent and variable damage awards. First, as mentioned above, juries are not given detailed guidance on how to translate injuries into dollars.[38] Indeed, jury instructions concede that "there are no objective guidelines by which you can measure the money equivalent of this element of injury."[39] Juries "are asked to scale without a modulus," or determine appropriate compensation without any limit or predetermined range.[40] Even if jurors agree on the general level of injury severity, there is no uniform way to map the injury onto dollars.[41]

Absent a coherent guide for calculating damages, jurors appear to rely on various bits of available information—often irrelevant to the compensatory inquiry—to estimate damages. For example, damage awards are influenced, or "anchor[ed]" at "a starting point," by numbers suggested by the parties' lawyers.[42] Jurors are also influenced by whether the defendant is a corporation or an individual,

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Suffering," 83 Nw. U. L. Rev. 908, 923 (1989).

35. *See id.* at 922.

36. Roselle L. Wissler et al., *Decisionmaking About General Damages: A Comparison of Jurors, Judges, and Lawyers*, 98 Mich. L. Rev. 751, 769 (1999).

37. *See* David W. Leebron, *Final Moments: Damages for Pain and Suffering Prior to Death*, 64 N.Y.U. L. Rev. 256, 324-25 (1989); Stephen D. Sugarman, *A Comparative Law Look at Pain and Suffering Awards*, 55 DePaul L. Rev. 399, 399-400 (2006).

38. *See* Roselle L. Wissler et al., *Instructing Jurors on General Damages in Personal Injury Cases: Problems and Possibilities*, 6 Psychol. Pub. Pol'y & L. 712, 714 (2000).

39. *Id.* at 718; *see also* Ronald W. Eades, Jury Instructions on Damages in Tort Actions § 6.17 (5th ed. 2015).

40. *See* Cass R. Sunstein et al., Punitive Damages: How Juries Decide 42 (2002).

41. *See* Wissler et al., *supra* note 36, at 783-84.

42. *See, e.g.*, Shari Seidman Diamond et al., *Damage Anchors on Real Juries*, 8 J. Empirical Legal Stud. 148, 149 (2011).

the reprehensibility of the underlying act, concerns about plaintiff's attorney fees, and beliefs about the parties' insurance coverage.[43] Even the physical attractiveness, race, or gender of the parties can impact awards.[44]

At best, the process of estimating appropriate "compensation" for serious injuries and death is inconsistent; at worst, it is meaningless. Accordingly, the damage estimation process and its results have led to controversy on all sides. Jurors are frustrated at the lack of guidance provided to them.[45] Legal commentators frequently bemoan noneconomic damages as "one of the tort beast's uglier heads."[46] Victims believe that the judicial system offers little more than "jackpot" justice,[47] while injurers are unclear about their liability for risky activities.[48] State governments, too, appear to have little faith in juries' abilities to estimate damages, and have responded to these concerns with caps on general damage awards.[49]

II. COMMUNITY DAMAGES AND THE COMMUNITY VALUE OF LIFE

By asking judges or juries to find a sum of money that compensates for death or serious bodily injury, the law requires them to express preferences that most of them do not have. For these harms, "compensation" makes no sense. Besides being incoherent, asking jurors to compensate a family for the loss of a loved one may

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43. *See* Wissler et al., *supra* note 36 at 794-95; Wissler et al., *supra* note 38, at 714.

44. *See* Leslie A. Zebrowitz & Susan M. McDonald, *The Impact of Litigants' Baby-Facedness & Attractiveness on Adjudications in Small Claims Courts*, 15 LAW & HUM. BEHAV. 603, 604, 608 (1991).

45. *See* NEIL VIDMAR, MEDICAL MALPRACTICE AND THE AMERICAN JURY: CONFRONTING THE MYTHS ABOUT JURY INCOMPETENCE, DEEP POCKETS, AND OUTRAGEOUS DAMAGE AWARDS 188-89 (1995); Edith Greene & Brian Bornstein, *Precious Little Guidance*, 6 PSYCHOL. PUB. POL'Y & L. 743, 743 (2000).

46. Steven P. Croley & Jon D. Hanson, *The Nonpecuniary Costs of Accidents: Pain-and-Suffering Damages in Tort Law*, 108 HARV. L. REV. 1785, 1789 (1995).

47. Timothy D. Lytton et al., *Tort as Litigation Lottery: A Misconceived Metaphor*, 52 B.C. L. REV. 267, 276 (2011) (quoting Ted Frank, *Thoughts on the Litigation Lottery*, POINTOF LAW.COM (July 11, 2005, 6:31 PM), http://www.pointoflaw.com/archives/001307.php [https:// perma.cc/DK7A-4HF5]).

48. *See id.* at 270.

49. *See, e.g.*, ALASKA STAT. ANN. § 09.17.010 (West 2015); CAL. CIV. CODE § 3333.2 (West 2015); COLO. REV. STAT. ANN. § 13-21-102.5 (West 2015); KAN. STAT. ANN. § 60-19a02 (West 2014); MD. CODE ANN., CTS. & JUD. PROC. § 11-108 (West 2015); MICH. COMP. LAWS ANN. § 600.1483 (West 2015); MO. ANN. STAT. § 538.210 (West 2014).

seem offensive. Accordingly, courts should discard the language they currently use to instruct jurors on compensation in cases of death and serious bodily injury and tell jurors, clearly, how to determine damages. Using community VSLs to determine damage awards would accomplish both of these goals, as we explain below.[50]

Economists generally approach injury valuation by looking at the costs of mitigating risk. When people confront the tradeoff between risk and health in their everyday lives—for example, by investing in costly product safety features, or taking a risky job for higher pay—they reveal something about the value of injuries (or, perhaps more accurately, the value of injury avoidance). To illustrate: if an individual pays $20 to reduce the risk of a head injury by 1/10,000, the implicit value of entirely avoiding the injury would be, under certain assumptions, $200,000.[51]

Valuations of life implied by tradeoffs between health and wealth have at least two uses in law. In the regulatory context, VSLs are used to determine if a proposed regulatory action is cost-justified. For example, suppose that a clean water initiative would cost $100 million to implement and is expected to save 100 lives. Without some dollar value to associate with a (saved) life, determining whether the proposed regulation makes economic sense would be impossible. However, if the implicit value of life—as derived from a VSL analysis—suggests that a life is "worth" $2 million, the above regulation would be cost-justified; the regulation would effectively buy $200 million worth of lives for $100 million.

This regulatory application of VSL figures is relatively well accepted among scholars[52] and routinely used in practice. Indeed, the Office of Information and Regulatory Affairs (OIRA) is required to perform a cost-benefit analysis of all proposed regulations and uses

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50. *See infra* Part II.A-B.

51. As noted frequently in the VSL literature, the phrase "value of a statistical life" is something of a misnomer; it is not a direct valuation of the value of a particular or identified life, but rather the sum of small, implicit valuations of fatality risks spread across a population. *See, e.g.*, Lisa Heinzerling, *The Rights of Statistical People*, 24 HARV. ENVTL. L. REV. 189, 189-90 (2000); Eric A. Posner & Cass R. Sunstein, *Dollars and Death*, 72 U. CHI. L. REV. 537, 551 (2005).

52. *But see, e.g.*, FRANK ACKERMAN & LISA HEINZERLING, PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING 56-57 (2004).

VSLs to do so as a matter of course.[53] Table 1 lists some illustrative values of life used by various regulatory agencies.

Table 1. Value of Statistical Life Used in Various Administrative Rules[54]

Subject	Regulation & Date	Agency	VSL (Millions, 2000 U.S. dollars)
Federal Motor Vehicle Safety Standards; Roof Crush Resistance	75 Fed. Reg. 17,605-01 (2010) (codified at 49 C.F.R. pt. 571)	National Highway Traffic Safety Administration	5.8 million
Prevention of Salmonella Enteritidis in Shell Eggs During Production, Storage, and Transportation	74 Fed. Reg. 33,030-01 (2009) (codified at 21 C.F.R. pts. 15, 18)	Department of Health and Human Services; Food and Drug Administration	5 million
Hazardous Materials: Improving the Safety of Railroad Tank Car Transportation of Hazardous Materials	73 Fed. Reg. 17,818-01 (2008) (codified at 49 C.F.R. pts. 171, 173, 174, 179)	Department of Transportation; Pipeline and Hazardous Materials Safety Administration	3.2-8.4 million
Use of Materials Derived from Cattle in Medical Products Intended for Use in Humans and Drugs Intended for Use in Ruminants	72 Fed. Reg. 1582-01 (2007) (codified at throughout 21 C.F.R.)	Department of Health and Human Services; Food and Drug Administration	5.8 million
National Primary Drinking Water Regulations: Ground Water Rule	71 Fed. Reg. 65,574-01 (2006) (codified at 40 C.F.R. pts. 9, 141, 142)	Environmental Protection Agency	7.4 million
Control of Communicable Diseases	70 Fed. Reg. 71,892-01 (2005) (codified at 42 C.F.R. pts. 70, 71)	Centers for Disease Control and Prevention;	6.9 million

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53. *See* Cass R. Sunstein, *The Real World of Cost-Benefit Analysis: Thirty-Six Questions (and Almost as Many Answers)*, 114 COLUM. L. REV. 167, 170, 181-82 (2014).

54. Excerpted from Cooter & DePianto, *supra* note 2, at 450.

		Department of Health and Human Services	
National Primary Drinking Water Reg-ulations: Stage 2 Dis-infectants and Disin-fection Byproducts Rule; National Pri-mary and Secondary Drinking Water Reg-ulations: Approval of Analytical Methods for Chemical Con-taminants	68 Fed. Reg. 49,548-01 (2003) (codified at 40 C.F.R. pts. 141, 142, 143)	Environmental Protection Agency	4.8 million
National Primary Drinking Water Reg-ulations: Long Term 2 Enhanced Surface Water Treatment Rule	68 Fed. Reg. 47,640-01 (2003) (codified at 40 C.F.R. pts. 141, 142)	Environmental Protection Agency	6.3 million
Financial Responsi-bility Requirements for Licensed Launch Activities	63 Fed. Reg. 45,592-01 (1998) (codified at 14 C.F.R. pt. 440)	Department of Transportation; Federal Aviation Admin-istration	3 million

Before accidents occur, regulators use VSLs to determine safety standards in the design and operation of dangerous activities. A cost-benefit analysis using VSL determines ex ante how much care is worth taking. The use of implicit values of life in the courtroom to determine damages for death and serious injury seems equally appropriate. In the judicial context, implicit values of life could be used not to decide, ex ante, whether an action is worth taking, but to provide ex post damages for individuals (or their estates) after an injury has occurred. For example, if reliable estimates of the im-plicit value of life center around $2 million, damage awards for wrongful death would be $2 million.[55] Our central argument is that

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55. Importantly, the ex ante regulatory use of VSLs and the ex post remedial use of VSLs conceptually merge once one realizes that, from the perspective of potential injurers, standards of care in tort function much like regulations once they become enshrined in tort law. This point is taken up in further detail below. *See infra* Part III.

a particular type of VSL should be used to determine reasonable compensation in tort cases—community VSLs, not market VSLs.[56] The Sections below distinguish between them and compare their magnitudes.

A. *Measuring Community and Market Values of Life—Evidence from Empirical Studies*

In this Section, we provide illustrative statistical values of life from the existing empirical literature. We did not generate these data, but we organize them in a new way, making a critical distinction between community values of life and market values of life. After reporting the two collections of VSL figures—and, importantly, showing the sharp difference in magnitude between market VSLs and community VSLs—we explain the community/market distinction in more detail and defend the use of community VSLs in tort and regulation.

Table 2 reflects a sampling of twenty-nine market VSLs, which reflect decisions or tradeoffs that are not dictated by social norms.[57]

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56. Objections to the use of implicit values of life as damage awards are discussed in Part II.A.

57. Table 2 is composed of data from Table 2 appearing in Viscusi & Aldy, *supra* note 9, at 19-21 (citing Robert Stewart Smith, The Occupational Safety and Health Act: Its Goals and Its Achievements (1976); Richard J. Butler, *Wage and Injury Rate Response to Shifting Levels of Workers' Compensation*, *in* Safety and the Work Force 61 (John D. Worrall ed., 1983); Alan E. Dillingham & Robert S. Smith, *Union Effects on the Valuation of Fatal Risk*, *in* Industrial Relations Research Association Series: Proceedings of the Thirty-Sixth Annual Meeting 270 (Barbara D. Dennis ed., 1984); V. Kerry Smith & Carol C.S. Gilbert, *The Valuation of Environmental Risks Using Hedonic Wage Models*, *in* Horizontal Equity, Uncertainty, and Economic Well-Being 359 (Martin David & Timothy Smeeding eds., 1985); Richard Thaler & Sherwin Rosen, *The Value of Saving a Life: Evidence from the Labor Market*, *in* Household Production and Consumption 265 (Nestor E. Terleckyj ed., 1975); W. Kip Viscusi, *Occupational Safety and Health Regulation: Its Impact and Policy Alternatives*, *in* Research in Public Policy Analysis and Management 281 (John P. Crecine ed., 1981); Richard J. Arnould & Len M. Nichols, *Wage-Risk Premiums and Workers' Compensation*, 91 J. Pol. Econ. 332 (1983); M.C. Berger & P.E. Gabriel, *Risk Aversion and the Earnings of US Immigrants and Natives*, 23 Applied Econ. 311 (1991); Charles Brown, *Equalizing Differences in the Labor Market*, 94 Q.J. Econ. 113 (1980); Alan E. Dillingham, *The Influence of Risk Variable Definition on Value-of-Life Estimates*, 23 Econ. Inquiry 277 (1985); Peter Dorman & Paul Hagstrom, *Wage Compensation for Dangerous Work Revisited*, 52 Indus. & Lab. Rel. Rev. 116 (1998); Stuart Dorsey & Norman Walzer, *Workers' Compensation, Job Hazards, and Wages*, 36 Indus. & Lab. Rel. Rev. 642 (1983); John Garen, *Compensating Wage Differentials and the Endogeneity of Job Riskiness*, 70 Rev. Econ. & Stat. 9 (1988); Douglas Gegax et al., *Perceived Risk and the Marginal Value of*

More specifically, the VSL numbers in Table 2 are based on trade-offs between workplace risk and wages (or wage premiums). In year-2000 dollars (inflation-adjusted), the range of estimates in Table 2 is $500,000 to $20.8 million. Some studies report a range of estimates from higher to lower, from which the reader can choose. Using the higher estimates where a range is provided, the average VSL in Table 1 is $8.48 million. Using the lowest estimate where a range is provided, the average is $6.63 million. The values represented in Table 2 align with previous estimates of average market VSLs,[58] and, because most regulatory cost-benefit analyses use

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Safety, 73 REV. ECON. & STAT. 589 (1991); Henry W. Herzog, Jr. & Alan M. Schlottmann, *Valuing Risk in the Workplace: Market Price, Willingness to Pay, and the Optimal Provision of Safety*, 72 REV. ECON. & STAT. 463 (1990); Thomas J. Kniesner & John D. Leeth, *Compensating Wage Differentials for Fatal Injury Risk in Australia, Japan, and the United States*, 4 J. RISK & UNCERTAINTY 75 (1991); J. Paul Leigh, *Compensating Wages, Value of a Statistical Life, and Inter-Industry Differentials*, 28 J. ENVTL. ECON. & MGMT. 83 (1995); J. Paul Leigh, *Gender, Firm Size, Industry, and Estimates of the Value-of-Life*, 6 J. HEALTH ECON. 255 (1987); J. Paul Leigh, *No Evidence of Compensating Wages for Occupational Fatalities*, 30 INDUS. REL. 382 (1991); J. Paul Leigh & Roger N. Folsom, *Estimates of the Value of Accident Avoidance at the Job Depend on the Concavity of the Equalizing Differences Curve*, 24 Q. REV. ECON. & BUS. 56 (1984); John R. Lott, Jr. & Richard L. Manning, *Have Changing Liability Rules Compensated Workers Twice for Occupational Hazards? Earnings Premiums and Cancer Risks*, 29 J. LEGAL STUD. 99 (2000); Stuart A. Low & Lee R. McPheters, *Wage Differentials and Risk of Death: An Empirical Analysis*, 21 ECON. INQUIRY 271 (1983); Michael J. Moore & W. Kip Viscusi, *Discounting Environmental Health Risks: New Evidence and Policy Implications*, 18 J. ENVTL. ECON. & MGMT. 51 (1990); Michael J. Moore & W. Kip Viscusi, *Doubling the Estimated Value of Life: Results Using New Occupational Fatality Data*, 7 J. POL'Y ANALYSIS & MGMT. 476 (1988); Michael J. Moore & W. Kip Viscusi, *The Quantity-Adjusted Value of Life*, 26 ECON. INQUIRY 369 (1988); Craig A. Olson, *An Analysis of Wage Differentials Received by Workers on Dangerous Jobs*, 16 J. HUM. RESOURCES 167 (1981); Robert S. Smith, *The Feasibility of an "Injury Tax" Approach to Occupational Safety*, 38 LAW & CONTEMP. PROBS. 730 (1974); V. Kerry Smith & Carol C.S. Gilbert, *The Implicit Valuation of Risks to Life*, 16 ECON. LETTERS 393 (1984); W. Kip Viscusi, *Labor Market Valuations of Life and Limb: Empirical Evidence and Policy Implications*, 26 PUB. POL'Y 359 (1978); W. Kip Viscusi & Michael J. Moore, *Rates of Time Preference and Valuations of the Duration of Life*, 38 J. PUB. ECON. 297 (1989)). As in that Article, the figures that populate the table have been converted to year-2000 U.S. dollars.

58. "Our median estimated VSL from Table 2 is about $7 million [in year-2000 dollars], which is in line with the estimates from the studies that we regard as most reliable." Viscusi & Aldy, *supra* note 9, at 18. Also: "The wage-risk studies have utilized data from the United States as well as many other countries throughout the world. The primary implication of these results is that estimates of the value of life in the U.S. are clustered in the $4 million to $10 million range, with an average value of life in the vicinity of $7 million." *Value of Life*, NEW PALGRAVE DICTIONARY OF ECONOMICS 587 (Steven N. Durlauf & Lawrence E. Blume eds., 2d ed. 2008). Also: "Controlling for measurement error, endogeneity, latent individual heterogeneity possibly correlated with regressors, state dependence, and sample composition

wage premium or labor market studies, the mean values in Tables 1 and 2 are similar.

Table 2. Market Values of Life (Tradeoffs Not Dictated by Social Norms)

Author(s) (Year)	Sample	VSL (millions, 2000 U.S. dollars)
Smith (1974)	Current Population Survey (CPS) 1967, Census of Manufactures 1963, U.S. Census 1960, Employment and Earnings 1963	9.2
Thaler & Rosen (1975)	Survey of Economic Opportunity 1967	1.0
Smith (1976)	CPS 1967, 1973	5.9
Viscusi (1978a, 1979)	Survey of Working Conditions (SWC), 1969-1970	5.3
Brown (1980)	National Longitudinal Survey of Young Men 1966-71, 1973	1.9
Viscusi (1981)	Panel Study of Income Dynamics (PSID) 1976	8.3
Olson (1981)	CPS 1978	6.7
Arnould & Nichols (1983)	U.S. Census 1970	0.5, 1.3
Butler (1983)	S.C. Workers' Compensation Data 1940-69	1.3
Low & McPheters (1983)	International City Management Association 1976 (police officer wages)	1.4
Dorsey & Walzer (1983)	CPS May 1978	11.8, 12.3
Leigh & Folsom (1984)	PSID 1974; Quality of Employment Survey (QES) 1977	10.1-13.3
Smith & Gilbert (1984, 1985)	CPS 1978	0.9
Dillingham & Smith (1984)	CPS May 1979	4.1-8.3
Dillingham (1985)	QES 1977	1.2, 3.2-6.8
Leigh (1987)	QES 1977; CPS 1977	13.3
Moore & Viscusi (1988a)	PSID 1982	3.2, 9.4

yields VSL estimates of $4 million to $10 million." Thomas J. Kniesner et al., *The Value of a Statistical Life: Evidence from Panel Data*, 94 REV. ECON. & STAT. 74, 74 (2012).

Moore & Viscusi (1988b)	QES 1977	9.7
Garen (1988)	PSID 1981-1982	17.3
Viscusi & Moore (1989)	PSID 1982	10.0
Herzog & Schlottman (1990)	U.S. Census 1970	11.7
Moore & Viscusi (1990b)	PSID 1982	20.8
Kniesner & Leeth (1991)	CPS 1978	0.7
Gegax, Gerking & Schulze (1991)	Authors' mail survey 1984	2.1
Leigh (1991)	QES 1972-3, QES 1977, PSID 1974, 1981, Longitudinal QES 1973-1977, CPS January 1977	7.1-15.3
Berger & Gabriel (1991)	U.S. Census 1980	8.6, 10.9
Leigh (1995)	PSID 1981, CPS January 1977, QES 1977	8.1-16.8
Dorman & Hagstrom (1998)	PSID 1982	8.7-20.3
Lott & Manning (2000)	CPS March 1971 and March 1985	1.5, 3.0 (2.0, 4.0)

Table 3 reports various community values of a statistical life: VSL estimates for which the underlying tradeoff is dictated by social norms. The average community VSL—using the lowest values where a range is provided without a preferred estimate, and including VSLs for children—is $1.65 million (again, in year-2000 U.S. dollars). Excluding values for children, and again using the lowest values where a range is given, yields an average community VSL of $1.92 million. The mean community VSL using the highest value where a range is given (and including VSLs for children) is $2.77 million. Finally, the mean community VSL excluding children and using the highest value from the reported ranges is $2.62 million. Importantly, whichever values one draws from the tables, market VSLs, represented in Table 2, are significantly larger—by as much as three times—relative to the community values, represented in Table 3.

Table 3. Community Values of Life (Tradeoffs Dictated by Social Norms)[59]

Author(s) (Year)	Activity/Tradeoff Underlying VSL	Implicit Value of Life (millions, 2000 U.S. dollars)
Blomquist (1979)	Seat Belt Usage	1.0
Dardis (1980)	Smoke Detectors	0.77
Jondrow (1983)	Speed Limits	1.12-1.84
Garbacz (1989)	Fatality Risks Without Smoke Detectors	2.56
Carlin & Sandy (1991)	Child Car Seat Purchase	0.8
Blomquist et al. (1996)	Seat Belt Usage	2.8-4.6 (average = 3.7) 3.7-6.0 (child under 5; average = 4.85) 1.7-2.8 (motorcycle riders; average = 2.25)
Jenkins et al. (2001)	Bicycle Helmet Usage/Purchase	1.4-2.9 (age 5-9; average = 2.15) 1.2-2.8 (age 10-14; average = 2) 2.1-4.3 (age 20-59; average = 3.2)
Ashenfelter & Greenstone (2002)	Speed Limits	1.7
Hakes & Viscusi (2007)	Seat Belt Usage	2.32
van Benthem (2015)	Speed Limits	3.16-4.34 (average = 3.75)

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59. Some of the data in this table originally appeared in Viscusi & Aldy, *supra* note 9, at 25 (citing Glenn Blomquist, *Value of Life Saving: Implications of Consumption Activity*, 87 J. POL. ECON. 540 (1979); Glenn C. Blomquist et al., *Values of Risk Reduction Implied by Motorist Use of Protection Equipment*, 30 J. TRANSPORT ECON. & POL'Y 55 (1996); Paul S. Carlin & Robert Sandy, *Estimating the Implicit Value of a Young Child's Life*, 58 S. ECON. J. 186 (1991); Rachel Dardis, *The Value of a Life: New Evidence from the Marketplace*, 70 AM. ECON. REV. 1077 (1980); Christopher Garbacz, *Smoke Detector Effectiveness and the Value of Saving a Life*, 31 ECON. LETTERS 281 (1989); Robin R. Jenkins et al., *Valuing Reduced Risks to Children: The Case of Bicycle Safety Helmets*, 19 CONTEMP. ECON. POL'Y 397, 404 (2001)). The other figures are derived from Jahn K. Hakes & W. Kip Viscusi, *Automobile Seatbelt Usage and the Value of Statistical Life*, 73 S. ECON. J. 659, 671 (2007); James Jondrow et al., *The Optimal Speed Limit*, 21 ECON. INQUIRY 325 (1983); Arthur van Benthem, *What Is the Optimal Speed Limit on Freeways?*, 124 J. PUB. ECON. 44 (2015); Orley Ashenfelter & Michael Greenstone, *Using Mandated Speed Limits to Measure the Value of a Statistical Life* (Nat'l Bureau of Econ. Research, Working Paper No. 9094, 2002), http://www.nber.org/papers/w9094 [https://perma.cc/8CSL-JHL2].

B. Explaining the Community/Market Distinction

What makes the Table 2 studies *market* VSLs and the Table 3 studies *community* VSLs? And what makes community VSLs more appropriate for use in tort law and regulations? This Section addresses these questions.

Social norms are powerful, informal mechanisms that incentivize certain behaviors when formal (legal) sanctions are ineffective or entirely absent.[60] Broadly speaking, social norms can be understood as "regularities" in the way people understand and react to social situations.[61] A wide definition of community norms would include conventions (such as driving on a certain side of the road), habits (like drinking coffee in the morning), descriptive norms (such as taking off one's hat when it is hot), and injunctive norms (such as not littering in public spaces).[62] Injunctive social norms, which are the most important subcategory to legal scholars, prescribe behavior rather than merely describe it. They are more than accidental or convenient behavioral patterns. Injunctive norms direct us toward what we ought to do, and violating them leads many of us to feel guilt. Further, injunctive social norms have a moral dimension—an "oughtness"—about them, an internal dimension that is much discussed in jurisprudence.[63] Thus, the construction of a person's self-conception involves internalizing norms and taking them as guides: "Beyond affecting the content and intensity of numerous particular predispositions, social norms help form (and reform) the self, by profoundly influencing people's identities, their

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60. *See, e.g.*, Cass R. Sunstein, *Social Norms and Social Roles*, 96 COLUM. L. REV. 903, 935-37 (1996).

61. *Id.* at 936.

62. *See, e.g.*, Robert D. Cooter, *Decentralized Law for a Complex Economy*, 23 SW. U. L. REV. 443, 447 (1994) ("Taking off your hat to escape the heat is different from taking off your hat to satisfy an obligation. The former is a regularity and the latter is a norm."); Yuval Feldman & Janice Nadler, *The Law and Norms of File Sharing*, 43 SAN DIEGO L. REV. 577, 598 (2006) ("Descriptive norms are how most people would behave in comparable situations. Injunctive norms refer to the extent to which most people would approve of the target behavior.").

63. The "internal point of view" is famously discussed in H.L.A. HART, THE CONCEPT OF LAW 89-91 (3d ed. 2012). For the connection of Hart to utility theory in economics, see Robert Cooter, *The Intrinsic Value of Obeying a Law: Economic Analysis of the Internal Viewpoint*, 75 FORDHAM L. REV. 1275, 1275 (2006).

world views, their views of themselves, the projects they undertake, and thus the people they seek to become."[64]

Individuals internalize social norms to varying degrees, as indicated by their commitment to obeying them. Sometimes a person's commitment is less than the cost of observing a social norm, so the person is predisposed to violate the norm. In these circumstances, external pressures can tip the individual's balance from violation to conformity. Informal sanctions supply some of this pressure. For example, individuals who choose not to vote are subject to mild forms of harassment by their politically engaged friends. Similarly, smoking in certain contexts is met with scorn and confrontation;[65] litterbugs are chastised by passersby;[66] unethical practices tarnish valuable business reputations;[67] and motorists who drive unsafely or fail to heed traffic signals suffer horn honking and unsavory hand gestures.[68]

Some social norms concern safety and precaution. They prescribe reasonable care as it is understood in the community. Failure to wear a seat belt, for example, invites social opprobrium.[69] Choosing not to buckle a child into an appropriate car seat,[70] or not requiring them to wear a bicycle helmet,[71] also falls below social standards and subjects noncompliers to informal social sanctions. Similarly, observing speed limits (within a reasonable range) is another example of a behavior subject to social scrutiny.[72] Of course, many choices about safety are not constrained by social norms. For

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64. AMITAI ETZIONI, THE MONOCHROME SOCIETY 169 (2001).

65. *See* Robert A. Kagan & Jerome H. Skolnick, *Banning Smoking: Compliance Without Enforcement*, *in* SMOKING POLICY: LAW, POLITICS, AND CULTURE 69, 77 (Robert L. Rabin & Stephen D. Sugarman eds., 1993).

66. *See* Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2030 (1996).

67. *See* Lisa Bernstein, *Private Commercial Law in the Cotton Industry: Creating Cooperation Through Rules, Norms, and Institutions*, 99 MICH. L. REV. 1724, 1748-49 (2001).

68. *See Horn Honking Etiquette*, DRIVER'S ED GURU: THE FREE ONLINE GUIDE TO LEARNING TO DRIVE, http://www.driversedguru.com/driving-articles/drivers-ed-extras/horn-etiquette/ [https://perma.cc/SYE3-YPXK] (last visited Feb. 21, 2016).

69. *See* Maggie Wittlin, Note, *Buckling Under Pressure: An Empirical Test of the Expressive Effects of Law*, 28 YALE J. REG. 419, 431 (2011).

70. *See* Terry P. Klassen et al., *Community-Based Injury Prevention Interventions*, 10 FUTURE CHILD. 83, 83 (2000).

71. *Id.*

72. *See* Mark A. Elliott et al., *Drivers' Compliance with Speed Limits: An Application of the Theory of Planned Behavior*, 88 J. APPLIED PSYCHOL. 964, 966-67 (2003).

example, social norms do not dictate that everyone should buy automobiles with the best safety features, such as Volvos or Teslas. Further, social norms do not dictate whether to take a particularly risky job.

Community VSLs[73] use the content of social norms to infer damages for death. More specifically, community damages are generated through a variant of the famous formula used by Judge Learned Hand in *United States v. Carroll Towing*.[74] The original goal of the Hand Rule was to identify a reasonable standard of care in the absence of community norms about precaution—a process that we call "Hand Rule Negligence."[75] According to Judge Hand, a reasonable person would invest in precaution until the costs of care ("B") equal the expected harms associated with the activity in question (the likelihood of harm, "P," multiplied by its magnitude, "L").[76] Where B equals or exceeds P x L, the standard of care is met; where P x L exceeds B, the behavior is negligent.[77] *In other words, reasonable care entails all precautions that are cost-justified from a societal point of view.*

Community damages rely on the same three variables as Hand Rule Negligence, but rather than solving for a standard of care (B) in cases where the magnitude of harm and its likelihood (L and P) are known, community damages solve for L, given B and P. In algebraic terms, $L = B/P$, meaning that the community value of life is the ratio of the marginal cost of saving a life to the marginal reduction in fatal risk. In essence, community damages reduce qualitative community standards into costs and risk-reduction numbers to arrive at reasonable or community valuations of injuries.

For example, if social norms dictate that children should wear bicycle helmets, then the cost and risk reduction associated with using helmets would reveal appropriate damages for a child killed

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73. Note that the concept of community VSLs could be applied to more than fatal accidents; in such a case, the "community damages" would be generated by the cost and risk reduction associated with norms aimed to prevent nonfatal injuries. A previous paper called these "Hand Rule Damages"; we change the term to "community damages" to emphasize the distinction between decisions made by reference to communal norms and those made through an individual safety calculus.

74. 159 F.2d 169, 173 (2d Cir. 1947).

75. *See id.*

76. *Id.*

77. *Id.*

or injured by tortious activity. If the full cost of using a bicycle helmet, including both the cost and disutility of wearing it, is $100 per year, and the helmet reduces the risk of death by 1/10,000, community damages in the case of wrongful death would be $1 million.

Adopting community VSLs as a measure of tort damages would further the goal of internal consistency in tort. Where the standard of care is established by reference to community norms, damages should also be linked to norms. The Hand Rule equation makes the relationship between the (marginal) burden of precaution and the (marginal) reduction in expected harm explicit: $B = P \times L$. In cases where B and P are known and L is not, the equation can be rearranged to $L = B/P$. The rearranged equation merely says that the risk/money tradeoffs embodied by social norms imply a value of life. As discussed more fully in Part III.A, failure to use B/P—the community VSL—as a measure of damages for fatal accidents leads to "misalignments"[78] and sends potential injurers mixed messages about the costs and consequences of non-compliance.

1. Implementing Community VSLs

To be useful in computing community damages, reasonable behavior must be translated from qualitative to quantitative terms. Specifically, the reasonable precaution level must be expressed as a marginal cost of precaution and a corresponding marginal reduction in risk. In Judge Hand's notation, we need explicit values for B and P. The determination of B and P could be implemented in several ways. The court could first determine liability by deciding whether the defendant's breach of the community standard caused the plaintiff's injury. After deciding liability, the court would move to the stage of determining the damages. Legislators or regulators could employ experts to determine the values of B and P in community standards of care. Using these values, a schedule of community damages could be constructed for various types of harm. Courts could apply the schedule to award damages in trials.

Alternatively, judges and juries might find values of B and P with the aid of experts. In the latter case, the court would hear evidence on the marginal costs of precaution (B) and the associated marginal

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78. *See* Porat, *supra* note 5, at 115-16.

reductions in risk (P) associated with the community standards of care. B and P could be regarded as matters of fact that the court must determine from testimony. The court could hear expert testimony from both sides of a dispute regarding a range of community standards of care, including any specific norms applicable to the case at hand. Once B and P are proved, the court can calculate damages by dividing B by P as required by community damages. Given the centrality of community standards and norms to legal liability in the tort context, computing community damages (or community values of life) appears to present no special problems that courts do not already face in such cases.

Importantly, we are not suggesting that particular social norms should necessarily be used to calculate damages for fatal accidents on a case-by-case basis. Rather, we are suggesting that the touchstone for the damage analysis be injunctive social norms more broadly. To encourage uniformity of damages, a large number of social norms could be examined and courts could use the average community value of life as a measure of damages. However, if greater flexibility and individuation are desired, social norms could be used to determine context-specific community VSLs (for example, using speeding VSLs to determine damages from speeding; using smoke alarm VSLs to determine damages from a fire). Because norms inconsistently value human life in different contexts, the latter implementation would sacrifice uniformity in damages by being more faithful to the implicit values of life contained in particular social norms.

C. Social Norms as Ideal Behavior (and Guidepost for Damages)

The preceding Section made an important distinction between individual precautionary behavior and social norm-guided behavior. The Section also made a distinction between descriptive norms and prescriptive (or injunctive) social norms. Here, we elaborate on these distinctions and discuss why certain types of social norms—injunctive norms—are uniquely worthy of serving as the basis for tort damage calculations. In short, the deliberative, collective, and iterative process by which injunctive social norms are formed (and re-formed) makes them a desirable touchstone for damage estimation. Injunctive social norms reflect collective attitudes about public

safety that are aspirational or idealized. Contrarily, individual market behavior often reflects self-interest and idiosyncratic preferences about risk, rather than community values. Individual market behavior concerning risk is also more susceptible to bias and error than injunctive social norms.

Much of the VSL literature derives values of life by looking at wage premiums for risky jobs.[79] For example, assume job A pays $30,000 and entails a 1/100,000 risk of death, while job B pays $30,100 and entails a 1/50,000 chance of death; the jobs are otherwise identical. The market pays workers a wage premium of $100 to accept an additional 1/100,000 risk of death. In this case, the implied VSL is $10 million. In other words, accepting $100 to assume an extra 1/100,000 chance of death, or foregoing the same amount to avoid it, implies a VSL of $10 million.[80] However, such job choices are mostly matters of individual preferences and economic constraints, rather than community norms. Because one's choice of a job—at least in terms of its riskiness—is not typically governed by social norms, the VSL implied by wage premium studies is a market value rather than a community value.[81] We discuss the regulatory use of labor market studies, and their various shortcomings, in Part III.

The social norms considered in this Article, and the only type on which community VSLs should plausibly be based, are injunctive social norms. As mentioned in Part II.B, injunctive social norms prescribe actions that communities consider to be ideal, and they are behaviors that communities are willing to enforce through costly social sanctions. Such norms generally concern what people *ought to do*, not what they *actually or regularly do*. Social norms, in short, concern approved or disapproved behavior rather than average behavior. The objective signs of social approval and disapproval are, among others, praise, blame, inclusion, exclusion, partiality, esteem, and contempt.

As collective commitments, injunctive norms must be continually explained and justified in communal discourse. By shifting the

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79. *See, e.g.*, Viscusi & Aldy, *supra* note 9, at 7.

80. Of course, the actual econometric methodologies used to derive VSL estimates are far more complex; the simplified example provided is for illustrative purposes only.

81. We address the regulatory application of labor market studies—and propose an alternative—in Part III.B.

terms of the discussion from individual strategy to public welfare and morality, social norms protect communities against the folly of irresponsible people (or responsible people who lapse into irresponsibility). They also protect communities from rules that benefit one community subgroup at the expense of others:

> Social norms evolve through a process of discussion, which often exposes evolutionary traps. Evolutionary traps often occur because the best strategy for each individual benefits him less than it harms other players.... [A] community will not develop social norms supporting strategies that harm its members. Once exposed, a strategy leading to an evolutionary trap may be censured by a community, or tolerated, but not encouraged. In other words, a consensus will not arise in the community that its member *ought* to follow a strategy leading to an evolutionary trap.[82]

The collective nature of norms has other benefits as well. Because norms require some level of collective agreement, individual errors in reasoning will often impact the resulting rule less than individual decision making.[83] Even if the community is not especially intelligent or technically sophisticated, the mere fact *that they are a group* can make their collective wisdom more dependable. This information dynamic resembles the price-setting abilities of a market: partial information from many people results in a better rule than any individual could make, just as efficient markets combine the costs and benefits of many individuals into a better price than any individual could set. Reinforcing this process—and also the market metaphor—is the fact that norms constantly compete with each other for people's allegiance. When a superior alternative presents itself, the community can revise or abandon existing norms.[84]

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82. *See* Robert D. Cooter, *Structural Adjudication and the New Law Merchant: A Model of Decentralized Law*, 14 INT'L REV. L. & ECON. 215, 224-25 (1994).

83. *See, e.g.*, David Austen-Smith & Jeffrey S. Banks, *Information Aggregation, Rationality, and the Condorcet Jury Theorem*, 90 AM. POL. SCI. REV. 34, 34 (1996) (discussing the Condorcet Jury Theorem). *But see* THOMAS SPENCE SMITH, STRONG INTERACTION 121-22 (1992) (discussing the polarization of crowds).

84. *See* ERIC A. POSNER, LAW AND SOCIAL NORMS 44-46 (2000); Robert D. Cooter, *Punitive Damages, Social Norms, and Economic Analysis*, 60 LAW & CONTEMP. PROBS. 73, 82 (1997); Robert C. Ellickson, *The Market for Social Norms*, 3 AM. L. & ECON. REV. 1, 22-29 (2001).

Much of our argument relies on the notion that injunctive social norms—as collective agreements about ideal behavior—are meaningful measures of the values that communities implicitly place on life and limb. Although we believe that social norms of precaution often reflect considered judgments about safety, social norms are not perfect: they may be outdated, based on incorrect information, or tainted by self-interested community subgroups. Fortunately, norms can—and do—improve: most notably through the competitive process noted above. Interestingly, the use of community VSLs in tort may also aid in the refinement of norms. Relying on norms in court can serve to change them by exposing the public to the implicit values of life contained in the norms. Most people do not know the implicit values of life and limb associated with their behavior, or with social norms. Using norms as a basis for damages would publicize these implicit values, or "revealed" collective preferences about safety. If damages seem too high, communities may decide that more risk is acceptable, either generally or in specific contexts. This adjustment process may also make social norms of precaution more consistent in the way that they value life and limb.

To illustrate the distinction between injunctive norms and descriptive behavioral norms, consider the case of driving speeds. Most people drive over the speed limit on some occasions, and many may flagrantly violate the limit on rare occasions. In a sense, then, driving the speed limit *is not the average behavior*; the average would include the flagrant speeding. Communities, however, would not likely enforce a norm that allowed flagrant speeding. Though individuals may sometimes "free ride" on the speeding norm—capturing the benefits of others' reduced speeds and avoiding the costs of driving slowly themselves—norm-violators' individual actions cannot change an injunctive norm.

Because nontrivial or flagrant violations of speed limits invite social scorn, "roughly obey the speed limit" counts as an injunctive community norm. The health/wealth tradeoffs reflected in this norm therefore generate community VSLs. Three of the studies represented in Table 3 thus rely on VSLs derived from speed limits.[85]

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85. Driving speed studies reflect the ratio of cost to reduced death risk, where the cost is the extra time spent on the road due to reduced speed. For example, Ashenfelter and Greenstone exploit a change in speed limits in various states to estimate an implied value of life. *See* Ashenfelter & Greenstone, *supra* note 59, at 1. In 1987, many states chose to

Another three of the community VSL studies in Table 3 rely on social norms governing seat belt use.[86] The seat belt studies yield

increase the speed limit on rural interstate roads from 55 mph to 65 mph. *Id.* Individuals were free to drive faster than they were previously, and their change in average driving speeds indicates the way they trade off health and wealth. In this study, as well as the other driving speed studies, the cost of driving faster is the increase in the chance of fatality. *Id.* at 4. Examination of data from the Fatal Accident Reporting System, which collects data on all fatal car crashes in the United States, allowed Ashenfelter and Greenstone to estimate the chance of fatality. *Id.* at 11. The benefit of driving faster is the decreased driving time, which is valued at the average wage rate. *Id.* at 4. The authors obtained data on actual driving speeds from various departments of transportation and estimated average total miles driven from Federal Highway Administration data. *Id.* at 10-11. From this, the authors derived an upper bound community VSL of $1.7 million. *See supra* Table 3.

Van Benthem's analysis is similar to Ashenfelter and Greenstone's study but analyzes changes in speed limits from two points of view: that of a social planner and that of an individual. *See* van Benthem, *supra* note 59, at 66. Like Ashenfelter and Greenstone's analysis, the study revolves around the tradeoff between health and wealth, and the way this tradeoff manifests itself in driving speed decisions. *See id.* However, van Benthem's analysis also accounts for nonfatal accidents, fuel costs, and the climate effects of driving speed. *Id.* at 65. Van Benthem's study yields a number of VSL figures ranging from $870,000 to $6.02 million. *Id.* at 59. However, for our purposes, the most plausible range from the study is $870,000-$3.16 million. *Id.* The $870,000 estimate accounts for fatal and nonfatal accidents, fuel costs, climate damage associated with driving speed, and respiratory health of adults and infants. *Id.* at 59-60. The $3.7 million estimate accounts only for fatal and nonfatal accidents. *Id.* The latter estimate is higher than the former because the implied tradeoff is spread across fewer variables; if one drives slowly only to avoid the risk of collision, the implied value of life will be higher than if one drives slowly for additional reasons, such as climate damage.

The appropriate estimate for our purposes is the one that most closely captures the motivation behind the social norm for driving at (or near) the speed limit. If the social norm for driving speeds is based on only the community's concern over fatal and nonfatal accidents, the best estimate from van Benthem is $3.16 million. If the social norm is based on other concerns, such as respiratory health or climate damage due to speeding, the most appropriate estimate is $735,000. Either seems plausible.

Jondrow et al.'s study estimates the private and social optima for speed limits by observing how fast individuals drive without speed limits. *See* Jondrow et al., *supra* note 59, at 325. The optimum speed limit is derived by setting the private benefits of speeding to the social costs. *Id.* The estimate presented in Table 3 is based on Ted Miller's adjustments to Jondrow's analysis. *See* Ted R. Miller, *The Plausible Range for the Value of Life—Red Herrings Among the Mackerel*, 3 J. FORENSIC ECON. 17, 29 (1990). Miller adjusts the numbers to account for fatal and nonfatal injuries, and also updates a number of variables (such as average speed, fuel cost, and injury statistics) to arrive at a VSL range of $1.12-$1.84 million. *Id.*

  86. Three of the ten studies included in Table 3 derive the value of life implied by the use of seat belts. The analyses in this category share a similar structure to the speed limit studies: the values of life are essentially the ratio of the cost of using seat belts, divided by the reduction in risk associated with their use. In algebraic terms:

community values of life because the use of seat belts is governed by social norms. Though seat belt use has not always been prevalent,[87] most people now bristle at the sight of a beltless driver, and many would be moved to say something to pressure the person to "buckle up"—especially in the case of children. Further, there are numerous awareness campaigns about the dangers of driving without seat belts, some of which portray seat belt use as "normal" or "cool," and others which suggest that failure to use a seat belt is "stupid."[88] The essence of social norms is the willingness of community members to exert (costly) informal pressure on potential violators. The fact that people who have no financial interest in the use or sale of seat belts will expend effort to enforce their use implies the presence of an injunctive social norm. For similar reasons, the other studies represented in Table 3—which infer VSLs from the cost and risk reduction associated with the use of bicycle helmets, child car seats, and smoke alarms[89]—count as community VSLs.[90]

$$\text{Implied Value of Life} = \frac{\text{(Total Cost of Seat Belt Use)}}{\text{(Reduction in Risk of Death)}}$$

For the seat belt studies, the cost side of the equation comprises the discomfort of using a seatbelt and the time it takes to buckle up—time that could otherwise be spent earning money. Using information on the average number of car trips taken over a year, average wages, and the effectiveness of seat belts (in terms of reducing death), the authors of each study are able to determine the implied value of life associated with seat belt use.

87. *See* TIMOTHY M. PICKRELL & EUN-HA CHOI, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN. [NHTSA], U.S. DEP'T OF TRANSP., RES. NOTE NO. DOT HS 812 113, SEAT BELT USE IN 2014—OVERALL RESULTS 1, http://www-nrd.nhtsa.dot.gov/Pubs/812113.pdf [https://perma.cc/ YR88-FR4C].

88. *See, e.g.*, JENNIFER WALKER ET AL., NHTSA, REPORT NO. DOT HS 811 894, CREATING A CAMPAIGN FOR PARENTS OF PRE-DRIVERS TO ENCOURAGE SEAT BELT USE BY 13- TO 15-YEAR OLDS 33 (2014), http://www.nhtsa.gov/staticfiles/nti/pdf/811894-Campaign_for_Parents_of_ Pre-Drivers_to_Encourage_Seat_Belt_Use.pdf [https://perma.cc/2XVS-6RFF]; *Sleepy Not Stupid*, TRAFFIC SAFETY MARKETING, http://www.trafficsafetymarketing.gov/CAMPAIGNS/ Seat+Belts/Buckle+Up+America/Thanksgiving+Weekend/Sleepy+Not+Stupid [https://perma. cc/H2Y3-TAW3]. *See generally Seat Belts Save Lives*, TRAFFIC SAFETY MARKETING, http:// www.trafficsafetymarketing.gov/BUA [https://perma.cc/AD75-F5C9].

89. The remaining studies in Table 3 cover various safety-related consumption activities that are bound up with social norms. Jenkins et al.'s study estimates the implied value of life from the purchase and use of bicycle helmets for adults and children. *See* Robin R. Jenkins et al., *Valuing Reduced Risk to Children: The Case of Bicycle Safety Helmets*, 19 CONTEMP. ECON. POL'Y 397, 397 (2001). The value of life implied by the purchase and use of bicycle helmets is the ratio of the annualized cost of the helmet to the risk reduction it provides to users. *Id.* at 399-400. To estimate the costs and the useful life of a bicycle helmet, the authors use data from *Consumer Reports* magazine. *Id.* at 401. To estimate the risk reduction

As the above examples demonstrate, community norms and legal rules often govern the same activities. When these norms and rules overlap, individuals are doubly pressured to conform. In the case of seat belts, for example, drivers face an expected fine when they choose not to buckle up, and they also face the possibility of social sanctions and guilt. Double enforcement raises the compliance rate, especially in cases of imperfect legal enforcement.[91] It is worthwhile to note that, in such cases, the existence of the law does not undermine the value of the related social norm as a guide to the value of life. Though legal rules arise from legislative bargains rather than communal deliberation, communities make the choice in certain cases to "adopt" a law and engage in costly enforcement measures to ensure compliance. That communities are willing to enforce certain legal rules, and not others, suggests that social norms embody some approval of the underlying risk/health tradeoffs in the laws.[92] In short, social norms that piggyback on, or overlap

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associated with helmet use, the authors use a combination of census data, telephone surveys on bicycle and helmet use, and data on bicycle deaths from the U.S. Centers for Disease Control and Prevention. *Id.* at 402. Since bicycle helmets prevent both injury and death, the authors present two estimates: one assuming that the full cost of the bicycle helmet is aimed at preventing death, and another (more realistic) estimate attributing half of the helmet cost to injury risk reduction and the other half to death risk reduction. *Id.* at 405.

   The key feature of the Jenkins et al. study is that it captures the risk/money tradeoff inherent in a social norm: the social norm that encourages bicycle riders to use helmets. This encouragement comes in the form of social sanctions for violators of the norm, and costly efforts to raise awareness and promote the use of bicycle helmets. As mentioned above, the fact that social norms are a collective, community judgment about safety and the value of life means that the valuation of life inherent in the norm is a community value of life.

   Carlin and Sandy's article is similar in structure to Jenkins et al.'s article. *See* Paul S. Carlin & Robert Sandy, *Estimating the Implicit Value of a Young Child's Life*, 58 S. ECON. J. 186, 186 (1991). Carlin and Sandy derive the implied value of a child's life from the purchase and use of child car safety seats by their parents. *Id.* The data sources for the study come from The Program for Children's Automobile Safety at Riley Children's Hospital, which collected data on car seat usage in the state of Indiana. *Id.* at 188. Follow-up surveys were also performed to gather specific details on car seat usage. *Id.* Data on the reduction in fatality risk associated with child car safety seats were obtained from previous scholarly studies. *Id.* at 195-96. Average wage rates in the state of Indiana in 1985 were used as the value of time. *Id.* at 196. Using these data, the authors estimate the value of a child's life to be $800,000 in year-2000 dollars. Because a parent must use child safety seats for children to conform with social expectations, the tradeoff between risk and money in this context is a community value of the life of a child.

   90. *See* Carlin & Sandy, *supra* note 89, at 188.
   91. *See, e.g.*, Sunstein, *supra* note 66, at 2032-33.
   92. For example, jaywalkers and those who fail to completely stop at stop signs are

substantively with, legal rules appear to be more than generic inducements to follow the law, regardless of its content.

1. Community Norms, Social Welfare, and Norm-Efficiency

The preceding Section discussed reasons why prescriptive community norms might plausibly increase social welfare: the collective wisdom of groups, the deliberative aspect of norm creation, the competition from alternative norms, and the educational aspect inherent in the use of community VSLs.[93] A related, and much debated, question is whether social norms are efficient. More specifically: do social norms encourage economically efficient behavior, and does the answer to the efficiency question determine their appropriateness as a guidepost for damage awards?

From a strict economic perspective, the latter question is uniformly answered in the affirmative: social norms are desirable rules of social conduct only insofar as they are efficient, or at least tend towards efficiency vis-à-vis some relevant alternative (usually formal, legal rules). Accordingly, the question of norm efficiency has generated a rich and varied literature that can be broken into two broad camps: the norm "optimists" and norm "pessimists." The optimistic view holds that social norms often evolve towards efficiency for many of the reasons supplied above: the collective wisdom of groups, the deliberative aspect of norm creation, and competition from alternative norms.[94] The pessimists, on the other hand, claim that informational problems, externalities, and enforcement problems associated with social norms will often translate into inefficiency.[95] Some pessimists contend that even when social norms do move toward efficiency over time, the pace of social

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arguably subject to less social sanctioning than flagrant speeders and those who fail to wear seat belts.

93. *See, e.g.*, Cooter, *supra* note 84, at 82.

94. *See, e.g.*, *id.*

95. *See, e.g.*, Eric A. Posner, *Law, Economics, and Inefficient Norms*, 144 U. PA. L. REV. 1697, 1711-25 (1996) (detailing the causes of inefficient norms in society).

change is glacial.[96] The answer to the first of the two questions presented above, then, is mixed.

A full account of the question of norm efficiency is beyond the scope of this Article and, in any event, largely beside the point of our claims. First, and most importantly, we are not concerned with norm efficiency per se. Our proposed use of social norms is to *define* the value of certain outcomes rather than to inquire whether a given norm would lead to efficiency *given some range of outcomes whose value is already known*. It makes little sense to inquire, simultaneously, whether a given norm of precaution maximizes utility—or satisfies some other efficiency criterion—while using the content of the norm at issue to infer the value of life and limb. This is particularly the case when, as in tort, social norms are often used to determine the standard of care, irrespective of their efficiency.[97] On pain of circularity, therefore, we cannot engage in the debate over the efficiency of norms.[98]

Put another way, damage awards are logically prior to judgments of efficiency in tort law, just as consumer valuations are logically prior to efficiency in markets. The demand curve ideally depicts how much people are willing to pay for a good.[99] The supply curve ideally depicts the cost of producing a good.[100] The intersection between the supply curve and the demand curve achieves efficiency in markets.[101] Similarly, the damage awards ideally determine the harm of accidents to their victims,[102] and the standard of care determines the legal burden of care on injurers.[103] The equality between damage awards and the standard of care achieves efficiency

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96. *See, e.g.*, Steven Hetcher, *Creating Safe Social Norms in a Dangerous World*, 73 S. CAL. L. REV. 1, 70 (1999); Paul G. Mahoney & Chris W. Sanchirico, *Competing Norms and Social Evolution: Is the Fittest Norm Efficient?*, 149 U. PA. L. REV. 2027, 2058 (2001); Posner, *supra* note 95, at 1738-39.

97. *See, e.g.*, Melvin A. Eisenberg, *Corporate Law and Social Norms*, 99 COLUM. L. REV. 1253, 1271 (1999).

98. In Part III, we do argue that community VSLs give efficient incentives *given that social norms define reasonable care*.

99. *See* JAMES GWARTNEY ET AL., MACROECONOMICS: PRIVATE AND PUBLIC CHOICE 45 (15th ed. 2014).

100. *Id.* at 60.

101. *Id.*

102. *See* MARTIN L. NEWELL, A TREATISE OF THE LAW OF MALICIOUS PROSECUTION, FALSE IMPRISONMENT, AND THE ABUSE OF LEGAL PROCESS 491 (1892).

103. *See* RESTATEMENT (SECOND) OF TORTS § 4 (AM. LAW INST. 1965).

in tort law.[104] Thus, community damages come first and critiques of tort law based on efficiency come second.

Instead of looking at efficiency, we consider whether the process of norm creation carries certain indicia of reliability. More specifically, we ask whether injunctive social norms are, as a general matter, more reliable than the relevant legal alternative to damage estimation. In torts, the alternative method of estimating damages for death is the unaided intuition of jurors.[105] For reasons discussed earlier, asking juries to provide "reasonable compensation" is incoherent at best, and offensive at worst.[106] The wide variability of damages for similar injuries is evidence that such instructions are profoundly flawed. Our modest claim is that, in light of the collective, deliberative, and iterative process by which social norms are created, the implicit values of life contained in such community judgments are superior to jury guesses about the value of a life.[107]

Even if the conclusions of the norm pessimists can be recast as statements about the general reliability of social norms,[108] rather than about the efficiency of norms per se, the pessimists' arguments often proceed from a conception of norms that we reject. Specifically, for legal purposes, we reject defining a social norm as a "behavioral regularity" rather than a "community ideal." A close examination of the literature on norm efficiency reveals that the norm pessimists often use a definition of norms that more closely resembles "behavioral regularity"[109] than "community ideal." As useful as the norm pessimists' analyses are in explaining how collective behavioral patterns emerge in various contexts, they are often irrelevant to our central claims.

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104. *See* Jennifer H. Arlen, Note, *An Economic Analysis of Tort Damages for Wrongful Death*, 60 N.Y.U. L. REV. 1113, 1116 (1985).

105. *See* Paul H. Robinson, *Are Criminal Codes Irrelevant?*, 68 S. CAL. L. REV. 159, 170 (1994).

106. *See supra* Part I.B.

107. In Part III we discuss the (relative) desirability of social norms vis-à-vis the regulatory alternative: individual market VSLs.

108. For a brief explanation of norm pessimist and norm optimist ideology, see Robert C. Ellickson, *The Evolution of Social Norms: A Perspective from the Legal Academy*, *in* SOCIAL NORMS 35, 54, 57-58 (Michael Hechter & Karl-Dieter Opp eds., 2001).

109. *See* Edward Rock & Michael Wachter, *Meeting by Signals, Playing by Norms: Complementary Accounts of Nonlegal Cooperation in Institutions*, 36 U. RICH. L. REV. 423, 429-30 (2002).

Stephen Hetcher's analysis of social norms and the use of custom in tort law is illustrative.[110] Among other things, Hetcher claims that courts do not (and should not) rely on custom as a matter of course in light of efficiency concerns.[111] However, many of Hetcher's examples reveal that, by "social norm," he often refers to judicial notions of custom or "average" conduct.[112]

"When conformity is used defensively, the injurer in effect asks: 'How could I have done wrong, as I was simply doing what others do in similar situations? How could all the conformers to this widespread social custom be negligent?'"[113] According to Hetcher's reading of a judicial "per se rule, 'ordinary usage' amounts to a basically statistical notion, the 'average.' Average people are by definition doing what most others are doing; that is, conforming to widespread customs."[114] With respect to speeding, Hetcher observes:

> In the example of speeding in automobiles ... failure to solve the collective action problem leads to a dangerous situation be-cause—as public service ads are fond of saying—speed kills. The world we live in is one in which this collective action problem goes largely unsolved; people speed with frequency and others are injured or die because of it.[115]

In our view, social norms often attempt to solve a collective action problem.[116] Thus, the social norm of safe driving distinguishes between reckless and safe drivers, rather than averaging them. If one car goes 25 mph and another car goes 55 mph on the same residential street, the community approves of the former and dis-approves of the latter. Honking horns, rude gestures, anger, gossip, and so forth indicate disapproval. In this two-car example, the average behavior of 40 mph is an accurate statistic about driving, but it is not accurate about the community's approval and disap-proval that indicates the existence of an injunctive norm. As stated

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110. *See* Hetcher, *supra* note 96.
111. *See id.* at 67.
112. *Id.* at 11.
113. *Id.* at 5.
114. *Id.* at 11.
115. *Id.* at 40.
116. *See* Cass Sunstein, *supra* note 60, at 918 ("[S]ocial norms solve collective action problems by encouraging people to do useful things.").

above, community VSLs concern injunctive social norms—ideal behaviors and attitudes rather than averages or patterns.

Paul Mahoney and Chris Sanchirico's game-theoretic analysis of norm efficiency is similar to Hetcher's insofar as it appears to characterize norms as behavioral patterns that *emerge from individual rationality* rather than deliberative, communal commitments that *respond to and correct for irrationality*.[117] Accordingly, their analysis of precaution in tort—as represented in a "Stag Hunt" economic game[118]—amounts to a statement that people will not take efficient levels of precaution because it is costly.[119] The game-theoretic solution presented in the speeding car example, though, does not appear to take into account the informal costs that might be imposed on drivers through social sanctions, nor does the example acknowledge that norms are more than behavioral patterns. In this sense, the game-theoretic models used in Mahoney and Sanchirico's article describe the problems that social norms are meant to solve rather than describing how norms might, in fact, solve those problems.

Another analysis by Eric Posner applies a broader definition of norms than the above authors[120] but reaches a similar conclusion: "[U]nder a variety of plausible conditions ... norms are likely to be inefficient, in the sense of failing to enable group members to exploit the full surplus of collective action."[121] The cited reasons for norm inefficiency include informational problems,[122] intergroup externalities,[123] and strategic behavior by norm producers and en-

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117. *See* Mahoney & Sanchirico, *supra* note 96, at 2030. Though they appreciate that norms are more than behavioral regularities—"rules of conduct that constrain self-interested behavior and that are adopted and enforced in an informal, decentralized setting"—they model norms as the product of individual strategy. *Id.*

118. *Id.* at 2041 (providing an explanation of the "Stag Hunt" economic game).

119. *See id.* at 2054 ("[T]he efficient action entails an expenditure or opportunity cost while the inefficient action does not.").

120. *See* Posner, *supra* note 95, at 1699. Importantly, Posner avoids defining norms as behavioral patterns that emerge from individual rationality: "A norm can be understood as a rule that distinguishes desirable and undesirable behavior and gives a third party the authority to punish a person who engages in the undesirable behavior. Thus, a norm constrains attempts by people to satisfy their preferences." *Id.*

121. *Id.* at 1698.

122. *Id.* at 1711-13.

123. *Id.* at 1722-23.

forcers.[124] Although many of these problems could conceivably plague the evolution and enforcement of social norms in certain contexts, the problems Posner observed are not fatal to our argument.

First, Posner's notion of efficiency is relative; his task is to compare social norms and legal rules on efficiency terms.[125] Again, the purpose of Posner's article differs fundamentally from the goal of our project, which is to compare collective judgments about safety to individual judgments (or jury guesses) about the value of life. Secondly, most of the norms that form the basis for community VSLs are coterminous with—indeed, explicitly dependent on—the content of legal rules.[126] For example, the norm encouraging the use of seat belts is backed by a legal sanction, as is the norm commanding drivers to, at least roughly, follow speed limits.[127] The same can be said of the norms that dictate the use of child car seats, smoke alarms, and bicycle helmets.[128] Accordingly, Posner's concern that legal rules are more responsive to changes in culture and technology[129] than to social norms loses much of its force in the context of this argument. In these cases, norms piggyback directly on substantive legal rules.[130] What makes them social norms, though, and what makes them a reliable guide to damages, is the fact that people are willing to engage in costly enforcement of these particular legal rules.[131] Moreover, as discussed earlier, social norms may

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124. *Id.* at 1713-19.

125. *See id.* at 1698.

126. *See* Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 MICH. L. REV. 338, 347 (1997).

127. Table 3 also includes norms that encourage the use of bicycle helmets.

128. *See, e.g.*, *State-By-State Residential Smoke Alarm Requirements*, U.S. FIRE ADMIN., FEMA, http://www.ajfire.org/uploads/smoke_alarm_requirements.pdf [https://perma.cc/NP H9-EPCF] (detailing a fifty-state survey of laws regarding residential fire alarm requirements); *Child Passenger Safety Laws*, GOVERNORS HIGHWAY SAFETY ASSOCIATION [GHSA] (Jan. 2016), http://www.ghsa.org/html/stateinfo/laws/childsafety_laws.html [https://perma.cc/ VLZ9-XEV4] (detailing a fifty-state survey of laws regarding child passenger restraints); *Helmet Laws*, GHSA (Jan. 2016), http://www.ghsa.org/html/stateinfo/laws/helmet_laws.html [https://perma.cc/EZB6-593X] (detailing a fifty-state survey of laws regarding helmet use).

129. *See* Posner, *supra* note 95, at 1713 ("Information lag is a simple reason why judges and legislators may produce better rules than groups. No doubt it takes time for information to reach legislators and judges, just as it takes time for information to reach members of a group. Nonetheless, legislators and judges are specialists at obtaining and processing information; further, they have the means and the motive to establish institutions that obtain and process information.").

130. *See* Sunstein, *supra* note 60, at 915-17, 923, 958-59.

131. Of course, not all injunctive social norms bear this type of relationship with legal

evolve more rapidly when the implicit values of life embodied in them are publicized via damage awards.

Posner also observes that social norms can be inefficient "when they support activities that injure third parties."[132] Here, Posner has in mind norms that arise in smaller, more insular communities and redound to the benefit of that group while imposing negative externalities on the larger community.[133] An example of this—the only example in Posner's article that specifically addresses tort law—revolves around medical industry norms:

> A useful example comes from the problem of assigning liability to medical practitioners after an operation that tortiously injures the patient. As is well known, powerful norms dictate that none of those present at the operation disclose the identity of the tortfeasor. The norms benefit all members of the group, even the innocent members, as long as there is a chance that anyone could commit a tort in any given operation.[134]

As this type of problem makes clear, an important condition for efficiency is symmetry among people with respect to benefits and costs. With symmetry, the same people expect to absorb the benefits and the costs of an activity, whereas with asymmetry, the people who expect to receive the benefits are different from the people who expect to incur the costs. When discussing a norm regarding speeding, for example, people can easily imagine being in the position of someone who wants to speed or being in the position of someone endangered by a speeder. Each of us who drives bears the collective risks of speeding. A similar argument can be made for many of the social norms reflected in Table 3.

We agree with Posner, and others, who argue that courts should review asymmetrical norms skeptically. We should, for example, be critical of the norms of manufacturers of swimming pools because manufacturers sell many and buy few for themselves. With asymmetry, a community norm—if it can be properly called that—should be viewed critically. Inclusive norms merit more deference than

rules. When social norms do not rely on the content of legal rules, though, community judgments about precaution are still more reliable than jury guesses.

132. Posner, *supra* note 95, at 1722.

133. *See id.* at 1722-23.

134. *Id.* at 1732.

partial norms. Ordinary morality can justify this deference principle on its own, and an efficiency analysis can buttress the moral arguments. Thus, courts should defer to inclusive community standards when they exist, but courts should apply "Hand Rule Negligence" to decide whether to enforce partial community standards.

III. THE ECONOMIC CASE FOR USING COMMUNITY VSLS AS DAMAGES

According to the above analysis, using social norms to calculate damage awards leads to more meaningful valuations of life than available alternatives, including jury guesses about the value of a life. This Part addresses other reasons to adopt community VSLs in tort: internal consistency and optimal deterrence. Damage awards optimally deter when they force potential injurers to internalize all of the expected social costs caused by their risky activities.[135] Using community VSLs to determine damage awards would create efficient incentives for potential injurers because community standards for liability are linked to community valuations of the underlying harms. Note that by "efficiency" we refer not to the content of the social norms themselves, but to the incentives associated with using community VSLs *in a legal context that already channels community standards in the determination of reasonable care.*

For example, suppose a social norm requires individuals to install smoke alarms in their houses. If the total cost of the smoke alarms is $50 and their use reduces the risk of fatalities by 1/40,000, the community value of life—and the appropriate amount of damages—would be $2 million. If courts adopted community VSLs as damages for wrongful death, homeowners would face the following choice: either install the smoke alarm for $50, or face an expected liability of $2 million divided by 40,000, which equals $50.[136] Thus, using community VSLs as damages for wrongful death leads potential injurers to internalize the accident risk from violating a community standard of safety.[137] The potential injurers can internalize

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135. *See* 1 TORT LAW AND ECONOMICS § 9.3 (Michael Faure ed., 2009).

136. Because the costs of litigation and risk aversion are not included in this example, rational homeowners will choose to install smoke alarms.

137. The injurer's expected gain from violating the community standard equals the actual gain ($50) multiplied by the reciprocal of the probability of liability ($40,000/1). Cooter and

the risk in two ways: follow the applicable norm of precaution or pay damages calculated from the norm.

Note that social norms can be used to calculate community damages even when the injurer is not strictly required to follow them. For example, a norm (or set of norms) might pertain to the victim's, rather than the injurer's, behavior; the tradeoff embodied within the norm nonetheless implies the value that the community places on the victim's life. To illustrate, consider the social norm requiring the use of bicycle helmets. Using the same risk and cost numbers from the above smoke alarm example, we arrive, again, at a community VSL of $2 million. In this case, though, the social norm requiring helmet use does not apply directly to potential injurers (many of whom are presumably car drivers). Here, it makes no sense to require the *injurer* to wear a helmet. The helmet norm and associated community VSL nonetheless signal the community value of life by specifying the amount of precaution the injurer ought to take. In light of the social norm—or the universe of precautionary social norms in a community—drivers and other potential injurers of bicyclists need to take precaution that reflects the $2 million valuation of life. If the tradeoff embodied in reduced speeds or the purchase of antilock brakes, for example, is given a value of life equal to $2 million, such precaution would be appropriate.[138] The point here is that community damages do not always lead injurers to follow existing norms; however, community damages do incentivize injurers to follow courses of action that value human life in ways that are consistent with social norms of precaution.

Porat call damage awards equal to the expected gain from omitted care the "disgorgement damages for accidents," which they advocate making available as a remedy in specified types of tort cases. *See* Robert Cooter & Ariel Porat, *Disgorgement Damages for Accidents*, 44 J. LEGAL STUD. (forthcoming 2016) (manuscript 3-4), http://ssrn.com/abstract=2439986 [https://perma.cc/56QH-RCEA].

138. Strictly speaking, community VSLs could still apply when there is no established norm of behavior *for the injurer or the victim*. In such cases, courts would look at precautionary social norms generally to see what the norms imply, on average, about the value of life. The goal, in other words, is not to set context-dependent community values of life; rather, it is to look at the range of social norms, see what they collectively imply about the value of life, and apply it to courts. Approaching community damages this way—as a way to reduce the universe of norms into a sort of average community VSL—would have two important effects: it would make damages more uniform, and it would also push social norms that are far away from the mean (in terms of their implied VSL) closer to the average, thus making precautionary norms more uniform.

A corollary of the above analysis is that failure to use community VSLs for damage awards misaligns the community standard of care and the level of damages.[139] When courts use community standards to establish liability, as they often do,[140] failure to back up such liability with community VSL awards sends mixed signals to potential injurers. It tells potential injurers that the community's standard of care is higher than that justified by the damages imposed for harm caused by omitted care. Equivalently, liability for accidents is lower than the community's valuation of the harm caused by omitted care.

A high standard coupled with low liability leads to underdeterrence.[141] Expected damages are cheaper than norm-compliance, so rational injurers would choose to violate the norm. This is especially true if injurers can buy liability insurance with premiums only slightly higher than their expected claims. For example, if social norms suggest that people should drive the speed limit (or approximately the speed limit), and doing so implies a value of life at $2 million, failure to back up this precautionary standard with $2 million damages would not encourage compliance with the community norm. Specifically, failure to use community VSLs for damages makes liability insurance too cheap. Drivers in this case would be too willing to take risks of accidents, and insurance companies would be too willing to insure them.

Besides being inefficient, misalignments also imply a lack of proportionality between the standard of care and the sanction for its violation.[142] Stringent standards backed by mild liability, or lax standards backed by harsh liability, will seem unfair to many people.[143] In contrast, standards aligned with liability will seem fair, which increases the willingness of people to obey the law.[144] The use of community VSLs as damages encourages individuals to obey the law from perceived fairness, not just from self-interest.

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139. *See* Cooter & Porat, *supra* note 137 (manuscript at 15-17).
140. *See, e.g.*, Hamling v. United States, 418 U.S. 87, 104-05 (1974); Miller v. California, 413 U.S. 15, 24, 30 (1973).
141. *See* Porat, *supra* note 5, at 135-36.
142. *See id.* at 84.
143. *See* TYLER, *supra* note 6, at 6.
144. *See id.*

Table 4 illustrates how damages are currently misaligned with standards of precaution. Included in the table are the results of three recent studies of wrongful death awards. For purposes of comparison to community and market VSLs, Table 4 also includes information on maximum wrongful death awards in four states, as established by damage caps. Based on the three studies included in the table, the median wrongful death award is under $1 million. Further, the damage caps for wrongful death are in the range of $250,000-$1 million.

Recall that community VSLs—those that reflect existing social norms of precaution—center around $2-3 million. The damage awards reflected in this table are much smaller. The Table 4 values therefore suggest that existing norms of precaution are wildly conservative. Put another way, if wrongful death awards of $1 million—and sometimes far less—accurately gauged community attitudes towards risk, then flagrant speeding, no seat belt use, and other risky behaviors would be tolerated and even encouraged. We contend that social norms of precaution, although not always perfect, are far better reflections of reasonable precaution and risk tolerance than the damage awards and caps reflected in Table 4.

Table 4. Wrongful Death Awards, Damage Caps, and
Corresponding Speed Norms[145]

Author/State	Data Source	Mean Award (Millions, U.S. Dollars)	Median Award (Millions, U.S. Dollars)	Comments
Posner & Sunstein	JVS	3.1	1.1	Cases range in date from 1999-2003
Posner & Sunstein	CJS	3.8	0.961	2001 dollars
Vidmar et al. (NY)	-	2.2 (award) 1.7 (actual recovery)	1.1 (award) 0.6 (actual recovery)	1995 dollars
Vidmar et al. (Fla.)	-	1.2 (award) 1.14 (actual recovery)	0.774 (award) 0.731 (actual recovery)	1995 dollars
Vidmar et al. (Cal.)	-	0.68 (award) 0.584 (actual recovery)	0.391 (award) 0.332 (actual recovery)	1995 dollars
Cross & Silver	-	0.413	0.2	Settlement values as reported from insurance database; 1988 dollars
Wisconsin	§ 895.04 (4)	Damage Cap: 0.35 (adult) 0.5 (minor)	-	-
Alaska	§ 09.17.010	Damage Cap: 0.4	-	Limits noneconomic damages
Colorado	§ 13-21-203(1)(a)	Damage Cap: 0.25	-	Limits noneconomic damages
Kansas	§ 60-1903(a)	Damage Cap: 0.25	-	Limits noneconomic damages

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145. *See* ALASKA STAT. ANN. § 09.17.010 (West 2015); COLO. REV. STAT. ANN. § 13-21-203(1)(a) (West 2015); KAN. STAT. ANN. § 60-1903(a) (West 2015); WIS. STAT. § 895.04(4) (2015); Frank Cross & Charles Silver, *In Texas, Life Is Cheap*, 59 VAND. L. REV. 1875, 1901 (2006); Posner & Sunstein, *supra* note 51, at 548; Vidmar et al., *supra* note 13, at 284, 287, 291, 293-95.

A. *Theoretical Challenges to the Use of VSL Estimates as Damages*

The use of VSL figures to determine damage awards has been proposed by Eric Posner and Cass Sunstein, but remains more controversial than the regulatory use of VSLs.[146] Some of the arguments against using VSL figures as wrongful death awards are broad and theoretical, whereas others are more focused on whether the judicial use of VSLs satisfies the traditional economic criteria for optimal damages: deterrence and risk spreading. We address each argument in turn.

It is useful to note from the outset of this Section that the discussion surrounding the use of VSLs in court has not, to date, distinguished between market and community VSLs.[147] To the extent that the existing arguments against using VSLs as damages rely on the sheer size of *market* VSLs—and their tendency to inflate damage awards to excessive levels—such arguments are misguided as applied to *community* VSLs. We agree with commentators who claim that market VSLs, if used in court to determine damage awards, would lead to overdeterrence and overinsurance.[148] The arguments below concern the use of *community* VSLs as damages in wrongful death cases, which we endorse.

1. The "Mismatch" Argument: Small Risks Versus Entire Lives

One general argument against using values of a statistical life in court—whether such values are community values or market values—revolves around the magnitude of the risks implicated by VSL studies.[149] According to the "mismatch" argument, VSL estimates are inappropriate for compensation purposes because they are not ex post measures of the value of an entire life; rather, they reflect the value that individuals place on reducing small fatality

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146. *See* Posner & Sunstein, *supra* note 51, at 557.

147. *See, e.g.*, *id.* at 543-44 (discussing the "highly arbitrary" ways in which courts determine damages in wrongful death cases).

148. *See, e.g.*, W. Kip Viscusi, *Misuses and Proper Uses of Hedonic Values of Life in Legal Contexts*, 13 J. FORENSIC ECON. 111, 117 (2000).

149. *See* W. Kip Viscusi, *The Flawed Hedonic Damages Measure of Compensation for Wrongful Death and Personal Injury*, 20 J. FORENSIC ECON. 113, 127, 129 (2007).

risks.[150] This argument doubles as a justification for the use of VSLs in the regulatory context, in which the small risks valued by the VSL are spread across the entire population.[151] In short, VSLs measure the way people trade off small risks, and, in the context of regulation, the use of VSLs determines *whether they will be exposed to small risks*.[152] Because valuation of small risks bears little relation to the valuation of an entire life (or certain death), there is allegedly a "fundamental mismatch" between the theory underlying VSLs and the compensatory aim of tort awards.[153]

This argument, however, ignores the fact that damage awards act in precisely the same fashion as regulations from the point of view of *potential* (as opposed to *actual*) injurers. When a victim successfully sues an injurer, the damage award sends a deterrence signal to other, similarly situated, potential injurers: obey the standard of care or be subject to damages.[154] The standard of care and the damage awards, of course, jointly determine the level of risk that the law will allow potential injurers to impose on potential victims.[155] This is the essence of ex ante regulation—to specify the appropriate levels of risk that the law will tolerate.[156] Though tort litigation forces small numbers of *actual* injurers to pay damages, its more important role is to send a deterrence message to the larger class of *potential* injurers and effectively regulate their behavior.[157] Because a central role of tort law is the management of risks, it makes perfect sense to use VSLs—a measure of community approaches to risk—as a measure of damages.

The arguments against using VSLs in court take the notion of compensation too seriously in a context in which it is incoherent. As explained in Part I, no amount of money can make a dead person "whole," and the same may be true of serious bodily injury. Some commentators have interpreted this fact to suggest that full compensatory damages for death would be infinite.[158] Conversely, some

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150. *See id.* at 117, 130-31.

151. *See id.* at 117.

152. *See id.* at 114.

153. *Id.* at 117.

154. *See* Posner & Sunstein, *supra* note 51, at 553-56.

155. *See id.*

156. *See id.*

157. *See id.*

158. *See id.* at 556 ("How should we think about valuing the loss of life? One thought is

courts respond to this problem by refusing to award damages for a life at all, opting instead to limit wrongful death awards to economic damages.[159] The better approach is to discard the idea of compensation in the context of serious injury and death. Because damages cannot, in principle, compensate for some injuries, it makes sense to analyze the incentive effects that VSL damages would provide. The standard economic framework for damages revolves around the twin goals of deterrence and risk spreading, discussed below.

2. Deterrence

The principal reasons for adopting community VSLs as damage awards in cases of death are optimal deterrence and fairness. Community VSLs set liability equal to the social cost of risky behavior, as inferred from social norms of precaution.[160] In doing so, community VSLs provide incentives for rational injurers to follow social norms of precaution or, in some cases, their quantitative equivalent.[161] In the preceding Section, we provided a pair of examples showing that, by linking the community standard of care with damage awards, community VSLs lead to optimal deterrence and avoid misalignments.

Kip Viscusi—a prolific scholar in the area of risk regulation and empirical VSL studies—is, perhaps, the most vocal critic of the use of VSL estimates in court.[162] One of his principal arguments is that the use of VSL estimates in tort cases would lead to overdeterrence because damages are not the only source of accident deterrence:

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that the loss of life should be valued at infinity because most people would not accept any amount of money in exchange for their lives.").

159. *See, e.g.*, N.Y. EST. POWERS & TRUSTS LAW § 5-4.3 cmt. (McKinney 2015) (noting that courts have held that wrongful death "losses must be pecuniary" and "may include loss of support and services such as cooking, cleaning, driving, etc., measured by the cost of hiring people to replace those services," but also that "[n]o damages are awardable for the grief or suffering of the distributee or the lost companionship, comfort or assistance the decedent would have provided" (citing Protzman v. State, 458 N.Y.S.2d 408 (N.Y. App. Div. 1982), and Bumpurs v. N.Y.C. Hous. Auth., 527 N.Y.S.2d 217 (N.Y. App. Div. 1988))).

160. *See* Posner & Sunstein, *supra* note 51, at 554-55.

161. *See id.*

162. *See, e.g.*, Viscusi, *supra* note 148; W. Kip Viscusi, *The Value of Life in Legal Contexts: Survey and Critique*, 2 AM. L. & ECON. REV. 195 (2000).

> For risks involving a market exchange these [additional sources of deterrence] will be effects of accidents on people's willingness to buy dangerous products or work on risky jobs. Accidents involving strangers, such as most auto accidents, may lead to revision of a driver's insurance rates after an accident. For accidents involving strangers as well as those involving market exchanges, there are often incentives provided by government regulations, ranging from traffic tickets to regulatory sanctions.[163]

Accordingly, the view that VSLs would provide optimal deterrence is unduly tort-centric and incomplete.

Ultimately, though, the argument that insurance rate adjustments, regulatory sanctions, and price effects in the case of products liability are reliable sources of deterrence is unpersuasive for several reasons. First, and most important, all of the intermediate institutions Viscusi cites as sources of deterrence *presuppose damages that adequately capture the relevant losses.* It is unclear how, for example, insurance rates could properly adjust if the rates do not reflect the underlying losses. The same can be said of prices in the context of strict liability: markets for potentially dangerous products will properly price risk only when, among other things, the value of the underlying losses is internalized by the producer/injurer. As with insurance rates, if the valuation of harm arising from risky products is inadequate, the deterrence signal will be similarly inadequate; as a result, uninformed consumers will continue buying the (improperly priced) product to an inefficient extent.

Relying on regulations as a consistent deterrence mechanism is also misguided for several reasons, chiefly because regulatory sanctions are largely unavailable in many contexts covered by tort law. Car accidents, for example, are among the largest source of tortious injuries,[164] and individual drivers are not subject to regulatory sanctions. Further, even when regulatory sanctions are available, they bear no necessary relation to the harm caused. Rather, regulatory sanctions often come in the form of fines or injunctions.

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163. Viscusi, *supra* note 149, at 121.

164. STEVEN K. SMITH ET AL., BUREAU OF JUSTICE STATISTICS, DOJ, NO. NCJ-153177, TORT CASES IN LARGE COUNTIES: CIVIL JUSTICE SURVEY OF STATE COURTS, 1992, at 2 tbl.1 (1995), http://www.bjs.gov/content/pub/pdf/TCILC.pdf [https://perma.cc/UT9L-9W3G].

In Viscusi's words, the appropriateness of VSL figures in the regulatory context flows precisely from their ability to establish efficient levels of risk based on community attitudes toward bearing such risks.[165] In fact, Viscusi endorses the use of VSL numbers in the judicial context to determine precautionary standards (but not damages) for this very reason.[166] In our view, the standard of care cannot be separated from the level of damages without causing misalignments and giving mixed signals to potential injurers. Thus, the appropriateness of community VSLs in the tort context flows from precisely the same considerations cited by Viscusi—their ability to "establish efficient levels of health and safety risks based on one's own attitude toward bearing these risks."[167]

3. Insurance and Optimal Risk Spreading

Viscusi also claims that the use of VSL numbers in court would provide excessive insurance to accident victims.[168] He argues that because people would never purchase a level of insurance that would yield a post-injury payout similar to the prevailing VSL estimates, the tort system should not make such insurance compulsory.[169] In large part, Viscusi's argument about excessive insurance centers on the economic role of insurance and the marginal utility of wealth in pre- and post-injury states:

> [I]t would not be rational for an individual to buy an insurance policy in which he or she in effect transferred income from the healthy state to the injured state because doing so would transfer income from the state in which the marginal utility of income was high to the state where the marginal utility of income was low. Thus, if the object is insurance *and this is the*

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165. Viscusi, *supra* note 148, at 113.

166. *See id.* at 121.

167. *Id.* at 113.

168. *See id.* at 119-20. ("From an economic standpoint, compensating people according to the value-of-life estimates will provide too much insurance and this will be inefficient generally. Moreover, in situations in which there are market transactions for hazardous products or risky jobs, this high level of compensation will also generate burdens on consumers and workers who will be in effect purchasing too much insurance through the higher prices they pay and the lower wages they receive because of these excessive damages levels.").

169. *See id.*

>   *only concern*, then there is no rationale for pain and suffering whatsoever.[170]

In light of the above, Viscusi concludes that although VSL numbers are appropriate for regulatory use, they are undesirable as a measure of damages for wrongful death.[171]

For a number of reasons, however, the arguments against using implied values of life in court are unconvincing. First, it bears repeating that the arguments about excessive insurance challenge the use of *market* VSLs rather than *community* VSLs. As discussed above, market values of a statistical life are significantly larger than community values of life: as much as three times larger.[172] This fact alone takes much of the force out of the excessive insurance argument.

Second, it is not entirely clear that the level of insurance associated with VSL damages would be irrational—particularly with respect to community VSLs. Responding to similar "excessive insurance" arguments in the context of noneconomic damages, a number of commentators have noted that individuals might, in fact, desire higher levels of insurance for pain and suffering if the market were well equipped to provide it.[173] Individuals' inability to fully envision a post-injury life,[174] along with the informational problems that would likely be associated with pain and suffering insurance,[175] may better explain its absence in the marketplace than a lack of desire on the part of potential consumers. Moreover, the lack of demand for pain and suffering insurance may be attributable to the availability of such damages in tort: "From the potential buyers' perspective, informed consumers know that pain and suffering is compensable in tort cases .... Given that they thus have a limited need for such coverage, its absence is not proof of its lack of value."[176]

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170. *Id.* at 120 (emphasis added).

171. *See id.* at 124.

172. *See supra* text accompanying note 8.

173. *See, e.g.*, Croley & Hanson, *supra* note 46, at 1801-03; Ellen Smith Pryor, *The Tort Law Debate, Efficiency, and the Kingdom of the Ill: A Critique of the Insurance Theory of Compensation*, 79 VA. L. REV. 91, 100 (1993).

174. *See* Pryor, *supra* note 173, at 100.

175. *See* Croley & Hanson, *supra* note 46, at 1801-03.

176. Bovbjerg et al., *supra* note 34, at 933.

Finally, and most important, Viscusi's view that damages for death and serious injury should be calculated with insurance concerns at the forefront is debatable. As he and others have noted, it is likely impossible to award damages for death and serious bodily injury that are optimal from both an insurance and deterrence point of view.[177] Viscusi chooses to focus on the insurance function of damages because "courts focus in a retrospective manner and, in the setting of damages, also have a compensation orientation."[178] In doing so, Viscusi equates insurance and damages: "[I]f the question being posed by the court is how much should the survivors be compensated for the death of the person, that is a question pertaining to insurance."[179] As mentioned above, however, the concept of compensation is virtually useless in the case of death and serious bodily injury.

B. Regulatory Use of Community VSLs

Above, we made a case for the use of community VSLs in the tort context. The arguments revolve around two broad themes: validity and internal consistency. Community VSLs are valid—as a measure of the implicit value of life—because they are derived from social norms, which embody the collective preferences and ideals of communities over time. Community VSLs offer internal consistency in tort because they are inherently linked with the standards already used by courts to determine reasonable precaution. At a minimum, they are better guides to the value of life and limb than the unaided intuitions of jurors.

In this Section, we extend the argument for community VSLs to the regulatory context. This Section is brief, as many of the arguments mirror those made in previous Sections. As in tort, the reasons for using community VSLs as inputs to regulatory cost-benefit analyses are validity and consistency. With respect to validity, community VSLs are more reliable guides to the implicit value of life than the market VSLs currently used in the regulatory context. Further, the implicit values of life used in the regulatory context

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177. *See, e.g.*, Viscusi, *supra* note 148, at 116-17.

178. *Id.* at 113.

179. *Id.* at 116.

should be consistent with the values used in other areas of law that regulate risks, such as tort. We address the validity and consistency issues in turn.

1. Validity

The regulatory use of VSLs appears, on its face, to be quite different than the role we envision for VSLs in tort. In the regulatory context, VSLs serve as ex ante inputs to a regulatory cost-benefit analysis; in tort, they serve as ex post guides to compensation. However, both applications of VSLs advance a common purpose: establishing prospective safety standards for potential injurers engaging in risky activities. Put another way, tort litigation and regulation, despite their various differences, are both commonly understood as deterrence mechanisms.[180]

These two areas of law share a deterrence goal that requires a method of valuing life. Regulators already use VSLs as a matter of course, but they appear to rely chiefly on market VSLs rather than community VSLs. In particular, regulatory agencies commonly use results from labor market or "wage premium" studies to establish the operational VSLs for their rules. For example, the Environmental Protection Agency (EPA) has relied on a series of studies by Viscusi[181]—and more recently, meta-analyses by Mrozek and Taylor, Kochi et al., and Viscusi and Aldy[182]—to inform its analyses. All of these empirical analyses focus on labor market studies, meaning that the underlying figures are what we call market VSLs rather than community VSLs. Based on these studies, the EPA recommends using a VSL of $6.3 million in year-2000 dollars.[183] Similarly,

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180. *See, e.g.*, Richard A. Posner, *Regulation (Agencies) Versus Litigation (Courts): An Analytical Framework*, *in* REGULATION VERSUS LITIGATION: PERSPECTIVES FROM ECONOMICS AND LAW 11, 11 (Daniel P. Kessler ed., 2010).

181. *See, e.g.*, Lisa A. Robinson, *How US Government Agencies Value Mortality Risk Reductions*, 1 REV. ENVTL. ECON. & POL'Y 283, 288 (2007).

182. *See, e.g.*, CHRIS DOCKINS ET AL., EPA, VALUE OF STATISTICAL LIFE AND ENVIRONMENTAL POLICY: A WHITE PAPER 11 (2004), http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0483-01.pdf/$file/EE-0483-01.pdf [https://perma.cc/4BLE-3S2T].

183. *See* Robinson, *supra* note 181, at 288 (reporting a VSL of $7.2 million in year-2005 dollars). The VSL has been adjusted to year-2000 dollars for ease of comparison. The EPA used twenty-six value-of-life studies to recommend a VSL of $4.8 million in year-1990 dollars in its retrospective analyses of the Clean Water Act in 1997. *See* EPA, NO. EPA-410-R-97-002, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT: 1970 TO 1990, at 44 (1997). Robinson's

the Federal Aviation Administration recommends a VSL of $5.8 million in year-2000 dollars, using the same studies cited by the EPA.[184] The range of VSLs used by the Food and Drug Administration (FDA) appears to center around $5 million,[185] without specifying a dollar year, though recent cost-benefit analyses have used VSLs that are significantly higher—$7.9 million[186] and $6.4 million.[187]

For a variety of reasons, community VSLs are superior to market VSLs as a measure of the value that we place on life. As discussed in Part II, community values are derived from injunctive social norms: rules of social conduct that are refined over time by communities rather than individuals. Social norms are also aspirational in nature, meaning that individual lapses in behavior do not change them. In short, social norms are ideal behaviors rather than average behaviors. The collective and deliberative nature of social norms therefore provides a check against extreme, imprudent, uninformed, or unduly selfish behaviors.

By contrast, market VSLs are imperfect expressions of individual preferences in imperfect markets. As catalogued by the behavioral economics literature, individuals have finite cognitive capacities, exhibit inconsistent preferences, and suffer from various biases that undermine the reliability of individual market behavior.[188] For example, in the context of labor market VSL studies, individuals facing the health/wealth tradeoff may not understand the risks they face:

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work continues to form the basis of current EPA-recommended VSLs. Robinson, *supra* note 181, at 288.

184. *See* FED. AVIATION ADMIN., REVISED DEPARTMENTAL GUIDANCE: TREATMENT OF THE VALUE OF PREVENTING FATALITIES AND INJURIES IN PREPARING ECONOMIC ANALYSES 4 (2008).

185. *See* Robinson, *supra* note 181, at 293.

186. *See* FDA, Docket No. FDA-2011-F-0172, FOOD LABELING: NUTRITION LABELING OF STANDARD MENU ITEMS IN RESTAURANTS AND SIMILAR RETAIL FOOD ESTABLISHMENTS NOTICE OF PROPOSED RULEMAKING: PRELIMINARY REGULATORY IMPACT ANALYSIS 48 (2011).

187. *See* FDA, DOCKET NO.FDA-2011-F-0172, FOOD LABELING: NUTRITION LABELING OF STANDARD MENU ITEMS IN RESTAURANTS AND SIMILAR RETAIL FOOD ESTABLISHMENTS FINAL REGULATORY IMPACT ANALYSIS 121 (2014).

188. *See, e.g.*, Colin Camerer et al., *Regulation for Conservatives: Behavioral Economics and the Case for "Asymmetric Paternalism,"* 151 U. PA. L. REV. 1211, 1215-18 (2003); Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1545 (1998); Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1051, 1059 (2000).

> [T]he relevant [VSL] numbers deserve respect only if they do not result from bounded rationality or an absence of information on the part of the people whose choices generate them. Suppose, for example, that workers do not know the risks that they face or that their decisions are products of the availability heuristic or optimistic bias. In either case, regulators should not use, for purposes of policy, a finding that workers are paid $60 to run a risk of 1/100,000; by hypothesis, that number does not reflect a rational tradeoff by informed workers.[189]

Just as individuals depart from perfect rationality, markets depart from the ideal of perfect competition.[190] For example, segmentation in labor markets limits the mobility of workers, or their ability to effectively choose a job with their preferred risk profile. Such restrictions render their precaution choices, or risk/money tradeoffs, less meaningful.[191]

Empirical scholars from within the VSL literature have voiced concerns about the reliability of commonly reported market VSL estimates. Interestingly, when statistical best practices are used—including better accounting for the source of risk and for variables that account for individual risk perceptions—the value of market VSLs are significantly lower. A meta-analysis by Janusz Mrozek and Laura Taylor, for example, analyzes forty VSL studies and finds a plausible VSL range of $1.58-$2.64 million in year-2000 dollars when best practice assumptions are applied.[192] A similar analysis by Ted Miller finds a range of $2.98-$3.13 million, again in year-2000 dollars.[193] Another recent study finds that the range of

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189. Cass R. Sunstein, *Valuing Life: A Plea for Disaggregation*, 54 DUKE L.J. 385, 403 (2004) (footnote omitted).

190. *See* CASS R. SUNSTEIN, LAWS OF FEAR: BEYOND THE PRECAUTIONARY PRINCIPLE 137 (2005) ("Current practice is based on the assumption, not that all or even most workers make informed choices, but that market processes ensure the right 'price' for various degrees of safety.").

191. *See* Joni Hersch & W. Kip Viscusi, *Immigrant Status and the Value of Statistical Life*, 45 J. HUM. RESOURCES 749, 770 (2010) (finding evidence of labor market segmentation due to differences in language skills).

192. Janusz R. Mrozek & Laura O. Taylor, *What Determines the Value of Life? A Meta-Analysis*, 21 J. POL'Y ANALYSIS & MGMT. 253, 268-69 (2002) (reporting a VSL range of $1.3-$2.5 million in year-1998 dollars when best practices are applied). The VSL range has been adjusted to year-2000 dollars for ease of comparison.

193. Miller, *supra* note 85, at 32 (reporting a range of $1.8-$2.2 million in year-1988

market VSLs used in the regulatory context is inflated insofar as they do not take into account publication bias.[194] When all VSL studies are analyzed, the authors of that study find an average market VSL of $2.74 million in year-2000 dollars.[195]

All of the above estimates resemble the average community VSL, as reflected in Table 3, and provide some support for the notion that community VSLs merge with market VSLs when the decisions underlying individual market choices are well informed. Practically speaking, then, the adoption of community VSLs in the regulatory context would have the same effect as adopting what many believe are the most reliable market VSL estimates.

2. Consistency

In our arguments concerning the use of community VSLs in tort, the meaning of "consistency" was internal: precautionary standards should match, or align with, damages. Because norms are already often used as guideposts for reasonable precaution, we argue, damages should be measured by the implicit values of life contained in norms. Doing so would prevent misalignments and send clear deterrence signals to potential injurers.

In this context, we use the concept of "consistency" in a different way. Specifically, we are concerned with consistency across areas of law that engage in risk regulation. Because tort law and regulation are both aimed at establishing tolerable behaviors and levels of risk, tort and regulation should value life consistently.[196] Failure to value life consistently across tort and regulation can cause two types of distortion. One type of distortion occurs when actors are subject to both regulations and tort litigation, and another type of distortion occurs when "two activities that are partial (or full) substitutes are regulated by different systems that rely on different valuations."[197]

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dollars). The VSL range has been adjusted to year-2000 dollars for ease of comparison.

194. Chris Doucouliagos et al., *Are Estimates of the Value of a Statistical Life Exaggerated?*, 31 J. HEALTH ECON. 197, 204 (2012).

195. *Id.*

196. *See* Posner & Sunstein, *supra* note 51, at 561 ("According to standard wisdom in law and economics, tort law and regulatory law have redundant functions: both deter cost-unjustified behavior.").

197. *Id.* at 562.

In the former case, actors subject to both systems will be confused as to the required behavior and may ultimately end up conforming to the more stringent—but not necessarily more desirable—requirements. For example, suppose regulations require an actor to take specific ex ante precautions based on a market VSL of $5 million. Suppose further that tort law values life erratically, and the upper end of the distribution of tort awards for wrongful death reaches well above $5 million. Uncertain of whether regulatory compliance will shield him from tort liability, the actor, in addition to spending money to clarify this preemption issue, might choose to engage in extra precaution. In this case, the (upper) "tail" of the tort damage distribution "wags the dog" of precaution. Unless we assume that the high end of the distribution of tort awards is optimal, the actor in this case will be spending too many resources on precaution.

In the latter situation, the inconsistent valuations of life across tort and regulation will distort the market for various activities. Posner and Sunstein provide an illustration:

> Consider, for example, automobile travel, which is mainly but not entirely regulated by the tort system (regulations affect the design of cars and highways, too) and short-haul air travel, which is mainly but not entirely regulated by agencies (tort law also matters, of course). Suppose that agencies and tort law use reasonable but different life valuations.... If tort law values victims less than regulatory law, then—all else equal—driving will be cheaper than flying. So some people who would otherwise prefer to fly will drive instead.... [It] would be better if they both use the same valuation.[198]

The case for consistent valuation of life across tort and regulation, importantly, avoids the larger debate about the relative merits of the two systems in addressing certain types of problems. To be sure, the two areas of law have certain comparative advantages in the regulation of risky activities. We make no claims about the range of activities that should—or should not—be subject to regulation or tort, nor do we make any claims about preemption.

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198. *Id.* (emphasis omitted).

Our narrow contention is that, wherever each of these two areas of law applies, they should value life in a consistent manner.

CONCLUSION

In the regulatory context and in tort, placing a dollar value on life is necessary. Currently, the tort system relies on the intuitions of jurors to determine the effective value of life, while the regulatory system relies on individual judgments made in the labor market. We contend that community judgments about safety—as reflected in precautionary social norms—are superior guides to the implicit value that we place on life. This conclusion is based on a particular conception of norms: one that is more about idealized community commitments than behavioral patterns or average conduct.

Adopting community VSLs in tort would make damages more uniform and also align damages with standards of precaution— which, themselves, are often derived from social norms. If adopted in tort, community VSLs should also be used in determining the regulatory value of life; doing so would send clear, rather than confusing, deterrence signals to potential injurers whose activities are governed by both areas of law.

Based on the limited pool of empirical estimates that would count as community VSLs under our definition, adopting community VSLs in tort would approximately double current damage awards. Adopting community VSLs in the regulatory context would reduce regulatory values of life by about two-thirds. The community VSL magnitudes reported here are, of course, tentative. Social norms of precaution are constantly shifting, so the community VSLs derived from them are something of a moving target. Future empirical studies that focus on the community/market could also yield different results than our initial (and limited) analysis.

If our empirical findings concerning the relative magnitude of community and market VSLs do hold up in future research, this counterintuitive result presents avenues for future research.[199]

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199. One potential explanation for why community VSLs are smaller than their market counterparts is that social norms carve out minimum (rather than maximum) standards of civility. Thus, it makes sense that community values of life implied by social norms are smaller than average values in some cases. Everyone can agree that certain precautions need to be taken, but as the cost increases, there is more disagreement and a social norm may be

Intuitively, one might expect communities to be more cautious than individuals, making market VSLs smaller than community VSLs. We find the opposite, though, and comprehending this result advances our understanding of each of the measures and their appropriate uses. However the magnitudes of community and market VSLs ultimately stack up, the theory behind our claims—that communities are better suited to make such judgments than individuals or jury members—makes sense in terms of fairness, efficiency, and consistency.

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hard to form. Another explanation involves the willingness-to-accept/willingness-to-pay (or "WTA/WTP") gap. People ask more to part with a good than they are willing to pay for it, so WTP values are consistently less than WTA values. Market VSLs are largely WTA amounts, whereas the community VSLs we identify in this Article are mostly WTP amounts; this technical difference could explain the difference in magnitudes between the two measures. Finally, differences in the mean risk levels used in the market and community VSL studies may also be partially responsible for the divergence.