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Misalignments in Tort Law

ABSTRACT. In negligence law, the risks taken into account by courts when setting the standard of care are the same risks considered when imposing liability and awarding damages. I call this the “alignment principle.” One objective of this Article is to expose exceptions to the alignment principle, which I call “misalignments.” In cases of misalignment, 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. A second objective of this Article is to suggest modifications to the law when misalignments cannot be justified. The most important objective of this Article, however, is to offer a theory of how to evaluate and contend with misalignments.

Five cases of misalignment are identified and discussed in the Article. The first case illustrates how courts set the standard of care independently of the victim’s level of income, but award different amounts of damages to high- and low-income victims. The second case represents instances in which causation is inherently hard to prove. In such cases, courts set the standard of care according to the expected harm, but traditionally allow no compensation when the plaintiff suffers harm but cannot prove that it was caused by the defendant’s negligence. In the third case, courts account for both risks increased and decreased by the injurer when setting the standard of care, but ignore the decreased risks when awarding damages. In the fourth case, courts set the standard of care by taking into account both ordinary and unusual risks, but often refuse to impose liability for harms that materialized from the ordinary risks. Finally, in the fifth case, courts set the standard of care by considering the risks the injurer created for others, but not the risks he created for himself, even though the negligent injurer bears harms that materialized from both the risks to others and the risks to self. In all five cases, the goals of tort law would be better served by removing misalignments and equally accounting for risks both in setting the standard of care and awarding damages.

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INTRODUCTION

In negligence law, the risks taken into account by courts when setting the standard of care are the same risks considered when imposing liability and awarding damages. I call this the “alignment principle.” The subject of this Article is exceptions to the alignment principle, which I refer to as “misalignments,” and which have thus far been ignored by the legal scholarship. In cases of misalignment, 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.

To illustrate the alignment principle, consider an injurer who creates a foreseeable risk of harm to his neighbor’s property in the amount of 10 but can reduce it to zero by taking precautions that would cost him 7. Under a rule of negligence, as interpreted by the courts, failing to take these precautions would amount to negligence since the costs of these measures are lower than the expected harm ($7 < 10$).¹ Therefore, if the injurer’s failure to take precautions results in harm to his neighbor’s property, he will be liable for the ensuing harm. Here the alignment principle clearly applies: the expected harm (the risk) is taken into account by the court when it sets the standard of care, and if the injurer fails to meet that standard, he bears liability for the harm that materialized. Indeed, this is the logic of negligence law that is acknowledged by

1. This is the Learned Hand formula, first articulated in *United States v. Carroll Towing Co.*, 159 F.2d 169 (2d Cir. 1947), by Judge Learned Hand and later endorsed by courts as well as the *Restatement of Torts*. See RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 3 cmt. e (2010) (suggesting that negligence can be asserted by a “risk-benefit test,” where the benefit is the advantage that the actor gains if she refrains from taking precautions, a balancing approach that is substantially similar to the Hand formula); RICHARD EPSTEIN, TORTS 129 (1999) (“In . . . appellate discussions, the modern tendency is to resort quickly to the general cost-benefit Hand formula.”). Some scholars have argued that many courts do not apply the Hand formula, at least not explicitly. See, e.g., Ronald J. Allen & Ross M. Rosenberg, *Legal Phenomena, Knowledge, and Theory: A Cautionary Tale of Hedgehogs and Foxes*, 77 CHI.-KENT L. REV. 683, 700-19 (2002) (arguing that the Hand formula is rarely cited or applied by American courts); Richard W. Wright, *Hand, Posner, and the Myth of the “Hand Formula,”* 4 THEORETICAL INQUIRIES L. 145, 151-52 (2003) (same); Patrick J. Kelley & Laurel A. Wendt, *What Judges Tell Juries About Negligence: A Review of Pattern Jury Instructions*, 77 CHI.-KENT L. REV. 587, 618-20 (2002) (noting that pattern jury instructions in most U.S. state courts do not embody the Hand formula). But even without the formula, courts often use the idea embedded in the formula, which in the most abstract sense is conducting *some* comparison between the magnitude of the burden of taking precautions on the one side, and the magnitude of the risk expected to be reduced if the precautions are taken on the other. The arguments made in this Article will hold even if only some comparison between burden and risks is made by courts when they set the standard of care.

law and economics theorists² but is also consistent with corrective justice³: the negligent injurer faces a liability risk that is equal to the foreseeable risk he negligently created for others.

Assume now that the law imposes liability on the injurer in our example for only half of the harm that materialized, despite the lack of contributory negligence on his neighbor's part. Under such an approach, a misalignment between the standard of care and the compensable harms would arise: on the one hand, the standard of care would be set according to the full expected harm of the wrongful behavior, yet on the other hand, liability would be imposed for only half of the harm done.

One goal of this Article is to expose such misalignments in tort law. A second goal is to suggest modifications to the law when the misalignment cannot be justified. The most important objective of the Article, however, is to offer a theory of how misalignments should be evaluated and contended with. Three central arguments are made. *First*, alignment typically ensures that potential injurers have efficient incentives to take precautions toward potential victims. *Second*, when there is a misalignment, it could be (but is not necessarily) a sign that the law is inefficient. Therefore, for proponents of efficiency, minimization of social costs, or more generally the promotion of social welfare as the sole goal of tort law, misalignment should ring a warning bell that the law is probably inefficient and should be modified. *Third*, when there is a misalignment that produces inefficient outcomes, it is not necessarily an "inadvertent mistake," so to speak. This could reflect an intentional compromise that the law has made to accommodate the conflicting rationales underlying it.

The following example and ensuing discussion illustrate misalignment in the area of damages for bodily injury:

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2. See, e.g., ROBERT COOTER & THOMAS ULEN, *LAW & ECONOMICS* 389 (5th ed. 2008) (arguing that according to law and economics analysis, perfect compensation should cover all losses, thus making the victim indifferent in the choice between no accident or accident with compensation); WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* 54-77 (1987) (discussing the economic theory of negligence).
 3. In corrective justice theory this is an implication of the correlativity requirement, under which liability should be imposed for harms that are the materialization of the risks that defined the injurer's conduct as negligent. See JULES L. COLEMAN, *RISKS AND WRONGS* 346 (1992) (arguing that P's loss is D's fault if three conditions are met, one of them being "P's loss falls within the scope of the risks that make that aspect of D's conduct at fault"); ERNEST J. WEINRIB, *THE IDEA OF PRIVATE LAW* 159 (1995) ("The consequences for which the defendant is liable are restricted to those within the risks that render the act wrongful in the first place.").

Example 1: Poor and rich neighborhoods. John drives his car at a speed of 30 mph in a rich neighborhood. Unfortunately, he hits a pedestrian as she is crossing the street. Had John driven a bit more slowly, he would have succeeded in stopping his car in time and preventing the accident. A day later, John drives his car again at the same speed, but this time in a poor neighborhood. Once again, he hits a pedestrian. All driving conditions are exactly the same as they were in the rich neighborhood the day before; the second accident would have been avoided had John driven his car a bit more slowly. Is it possible that, under a rule of negligence, the same court would find John liable for the first accident but not for the second?

Here is why the answer to this question *could* be yes. When a person suffers a bodily injury on account of a wrongdoer, the amount of damages awarded to the victim by the court is significantly affected by her lost income: the higher the lost income, the larger the damages.⁴ This means that under tort law, high-income victims are awarded on average far more damages than low-income victims, implying that the law ascribes a greater value to the lives and limbs of high-income victims than to those of low-income victims. Assuming quite reasonably that in the rich neighborhood most people have a higher income than the residents of the poor neighborhood, one could argue that different standards of care should be applied in the two neighborhoods. Following this line of argument, since the expected harm in the rich neighborhood is greater than in the poor neighborhood (due to the difference in level of income), John should have taken more care in the rich neighborhood than in the poor one. It is quite possible, even reasonable, that the same court would find that: (a) John failed to take due care in the rich neighborhood and therefore should be held liable to his victim; and (b) John took due care in the poor neighborhood and therefore should be exempt from all liability.

Not surprisingly I could not find a single court decision suggesting that a different standard of care applies to driving in rich and poor neighborhoods (or that a doctor would be required under negligence law to take better care of a high-income patient than a low-income patient). If a court were required to explain the application of the same standard of care in both locales, it would rightly reason that the lives and limbs of the rich and poor have identical social value and are therefore deserving of the same level of legal protection. But as convincing as such reasoning may be, *I* would argue that it is inconsistent with

4. See DAN B. DOBBS, *THE LAW OF TORTS* 1048 (2000) (discussing compensation for lost earnings); Lloyd Cohen, *Toward an Economic Theory of the Measurement of Damages in a Wrongful Death Action*, 34 *EMORY L.J.* 295, 299-300 (1985) (“All states give great weight to the earning capacity of the decedent in calculating damages.”).

the courts' long practice of awarding higher damages to high-income victims. This practice suggests that their lives and limbs are more highly valued by the law relative to those of low-income victims. To be consistent with this practice it seems that potential injurers should take greater care toward the rich than the poor, just as they should be more careful in their interactions with high-value property.

Thus in lost-income cases a misalignment emerges: on the one hand, when courts set the standard of care they ascribe the same value to the life and limbs of high-income and low-income victims; yet on the other hand, in imposing liability they ascribe different values to those same lives and limbs. If courts want to comply with the alignment principle, they should choose to either: (a) apply *different* standards of care to high-income and low-income victims (contrary to what they actually do), coupled with *different* levels of compensation (as they actually do); or (b) apply the *same* standard of care to high-income and low-income victims (as they actually do), coupled with the *same* level of compensation (contrary to what they actually do).

Theorists who endorse non-efficiency approaches to tort law (mainly corrective justice theorists) might argue that this misalignment in lost-income cases raises no concern. The standard of care, they might assert, mandates how people should behave toward one another, and this does not and should not depend on the victims' income; compensation is and should be based on the harm done, which includes lost income. Thus under the corrective justice view, it would seem that setting the standard of care and awarding compensation are and should be independent of each other. I will argue, however, that this argument is misguided: a careful reading of the notions of corrective justice implies that the standard of care and damages should be aligned in the lost-income cases.⁵

The Article proceeds in seven parts: Part I explains the alignment principle and its traditional exceptions and rationales.

Part II elaborates on the relationship between setting the standard of care and compensating victims for bodily injury, focusing on the lost-income case illustrated in Example 1. It argues that from both efficiency and corrective justice perspectives, the misalignment cannot be justified. This Part also explores the possibility of explaining this misalignment as a compromise the law makes between efficiency and distributive justice.

While Part II analyzes misalignments where courts account for risks *differently* in setting the standard of care and awarding damages, Parts III through V mostly present misalignments where risks accounted for in setting the standard of care are ignored at the stage of awarding damages.

5. See *infra* notes 61-63 and accompanying text.

Part III deals with causation and the burden of proof in tort law, demonstrating how they could result in a misalignment. In tort suits, as in other civil suits, the plaintiff is required to prove his case by a preponderance of the evidence: for the plaintiff to win, the probability of his case against the defendant must be higher than 50%. There are cases in which the preponderance-of-the-evidence rule systematically leads to loss for plaintiffs. This is typically when causation is inherently hard to prove because of a lack of scientific knowledge. In such cases, the standard of care and compensable harms are misaligned: the standard of care is set in accordance with the expected harm of the injurers' behavior, but evidence law, through the preponderance-of-the-evidence rule, systematically exempts injurers from liability. Part III presents a few categories of cases where the misalignment is particularly acute and inefficient, and argues for allowing probabilistic recoveries in these categories of cases. This Part also suggests that corrective justice considerations could explain why so many courts apply the preponderance-of-the-evidence rule despite its inefficiency.

In Part IV, the cases of "offsetting risks" are discussed.⁶ Occasionally, injurers simultaneously increase and decrease risks. In considering whether to impose liability under a negligence rule, courts take into account both the risks increased and decreased and decide whether, given the costs of precautions, the injurer was negligent. If a court decides that the injurer was negligent it will impose liability on him for the *full* harm caused to the victim and award damages accordingly. In so doing courts create a misalignment. When setting the standard of care, they take both increased and decreased risks into account; in awarding damages they ignore the risks decreased. This disregard for decreased risk is unjustifiable from an efficiency perspective. This Part argues that alignment between standard of care and compensable harms would be achieved if courts were to reduce damages to victims in proportion to the risks decreased by the negligent injurers. This Part also shows that courts' reluctance to award partial damages in offsetting risks scenarios can be best explained in at least some of the cases as a response to corrective justice concerns.

Part V turns to the scope of liability and its relationship to the standard of care. Not all harms caused by wrongdoers are recoverable. For example, emotional harms and pure economic losses are often not compensated.⁷

6. See Ariel Porat, *Offsetting Risks*, 106 MICH. L. REV. 243 (2007) (criticizing courts for their disregard of offsetting risks when they award damages).

7. For emotional harm, see *infra* notes 25-28 and accompanying text. For pure economic loss, see RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 29 cmt. c (2010), which states that pure economic loss historically received less protection from courts than other harms; and MARK GEISTFELD, TORT LAW 161, 167 (2008), which notes

Unforeseeable harms are also not recoverable, and under a negligence rule, unforeseeable plaintiffs cannot recover for their harms.⁸ Such nonrecoverable harms are considered to fall outside the “scope of liability,” mostly for good reasons.⁹ At the same time, at least some of those harms are and should be taken into account when courts set the standard of care. This creates some odd results: injurers are required by the law to take into account certain types of harms (e.g., emotional harms) when they decide how much care to take toward their victims, but will pay no damages if they fail to take the necessary precautions and those harms occur. Part V focuses on only one important rule in this context, recently reaffirmed by the *Restatement (Third) of Torts*: harms that materialized from risks that were not included among the risks defining the injurer as negligent are not recoverable.¹⁰ At first glance, it seems that the standard of care and compensable harms are aligned under this rule, for harms that are irrelevant to the determination of wrongdoing are not compensated. Part V demonstrates, however, that courts often create misalignments in the way that they apply this rule. In particular, courts often consider only unusual risks to define an injurer as negligent, and therefore exempt the injurer from liability for harms resulting from ordinary or background risks. In fact those latter risks do define the injurer as negligent, and exempting the plaintiff produces a misalignment. This Part argues that the standard of care and compensable harms should align with one another; this alignment would be achieved were *both the unusual and ordinary* foreseeable risks increased by the injurer to count in the determination of both standard of care and compensation.

Part VI analyzes the injurer’s self-risk misalignment. When courts set the standard of care they consider the risks the injurer created toward others but not the risks he created for himself. This results in a misalignment but different in kind from the four cases discussed in the other Parts of the Article. In the previous instances of misalignment, courts consider all risks when they set the standard of care but ignore or misvalue some risks when they impose liability. In the self-risk case, the misalignment works in the opposite direction: the negligent injurer bears liability for all risks, but courts take into account only some of those risks (risks to others) when they set the standard of care. Part VI makes the claims that efficiency mandates that all risks, both to others and to

that ordinarily the injurer has no duty under negligence law to compensate victims for either emotional harm or pure economic loss.

8. See *infra* notes 19-21 and accompanying text.
9. See *infra* notes 22-25 and accompanying text.
10. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 29 cmt. d.

self, should count in setting the standard of care and that there are no persuasive non-efficiency considerations that support the opposite view.

Part VII summarizes the lessons learned from the analyzed misalignments and lays out a framework for dealing with such cases. Specifically, I explain that the misalignments manifested in these five cases create two types of inefficiencies. First, in some cases misalignment generates *severe underdeterrence* for injurers. This happens when: (a) all risks are adequately taken into account in setting the standard of care, but some are either undervalued or not compensated at all when awarding damages; or (b) all risks are borne by the negligent injurer, but some are disregarded in the setting of the standard of care. Second, in other cases the misalignment produces *moderate overdeterrence* for injurers. This happens when all risks are adequately taken into account when the court sets the standard of care, but some risks are either overcompensated or overvalued when awarding damages. Sometimes misalignment can be explained or even justified by the high administrative costs that full adherence to the alignment principle entails. But this would not explain any of the five cases discussed in the Article. This Part concludes that *some* of the misalignments can be explained by corrective and distributive justice; in those cases the misalignment reflects a compromise tort law has made to accommodate its various underlying rationales. The rationales for other misalignments remain a puzzle.

The Conclusion explains how the misalignments discussed in this Article can be eliminated and points out that the inefficiencies from those misalignments are different in nature from other inefficiencies often found in negligence law. In particular, while the latter inefficiencies are sporadic and endemic, the inefficiencies emerging from the misalignments are systemic and epidemic. This is because the misalignments discussed in this Article are embedded in the doctrines of negligence and are mostly followed by all courts. Therefore, they deserve careful analysis and special attention.

I. THE ALIGNMENT PRINCIPLE

There are typically two stages to a court's determination of liability in torts. In the first stage, the court decides whether the defendant behaved wrongfully and caused the harm suffered by the plaintiff; if the court decides affirmatively, it proceeds to the second stage and decides on the amount of damages to award. When negligence is alleged to be the wrongdoing, courts traditionally apply the Learned Hand formula to determine whether or not the defendant

was in fact negligent.¹¹ Under this formula, a defendant is considered negligent and therefore liable for the harm his negligence caused if, and only if, the cost of precautions that he failed to take was lower than the expected harm that would have been reduced had those precautions been taken. In algebraic terms, the injurer is considered negligent if, and only if, $B < PL$, where B stands for the burden of precaution, P for the probability of harm, and L for the loss.¹²

The economic goal of the Hand formula is easy to capture: potential injurers should take precautions when, and only when, precautions cost less than the expected harm they would reduce.¹³ The formula provides injurers with an incentive to achieve this economic goal: since the injurer realizes that if $B < PL$, not taking precautions will cost him, in expected terms, PL , he will prefer to take precautions so as to avoid liability. If, instead, $B > PL$, the injurer will not be considered negligent and therefore will not take precautions—again, consistent with the formula’s economic goal.¹⁴

One important point should be noted: to realize the economic goal, the negligent injurer should compensate the victim for the amount of the entire harm—no more, and more importantly, no less. Thus, the same PL that defines the injurer as negligent will also delineate his liability: any harm that materialized from the risk PL will trigger full liability.¹⁵ (I ignore here, for the sake of simplicity, cases where the victim is contributorily negligent, as well as some exceptions that I discuss later.¹⁶) Indeed, sometimes liability for less than

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11. See *supra* note 1 and accompanying text.
 12. *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947) (developing the Learned Hand formula); see COOTER & ULEN, *supra* note 2, at 342-44 (explaining the economic definition of negligence); RICHARD A. POSNER, *THE ECONOMIC ANALYSIS OF LAW* 167-71 (6th ed. 2003) (explaining the correct use of the negligence rule according to the Hand formula); cf. STEVEN SHAVELL, *FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW* 191 & n.22 (2004) (asserting that courts “gauge the appropriateness of behavior by a rough consideration of risk and the costs of reducing it” and that the (explicit) use of the Hand algebraic formula is the exception).
 13. COOTER & ULEN, *supra* note 2, at 349-53 (defining the legal standard of care by using the Hand Rule); see also SHAVELL, *supra* note 12, at 178-79 (arguing that the social welfare optimum is achieved when the marginal cost of care is equal to the marginal reduction in expected accident losses).
 14. COOTER & ULEN, *supra* note 2, at 351 (stating that the correct application of the Hand formula will create perfect incentives for potential wrongdoers); SHAVELL, *supra* note 12, at 185-86 (explaining that if courts set the standard of care at the socially optimal level, both injurers and victims will take optimal levels of care).
 15. SHAVELL, *supra* note 12, at 236-37 (arguing that injurers have efficient incentives when damages are equal to the actual harm suffered by the victim); Robert Cooter, *Hand Rule Damages for Incompensable Losses*, 40 *SAN DIEGO L. REV.* 1097 (2003) (arguing for awarding damages consistent with the Hand formula).
 16. See *infra* notes 19-21 and accompanying text.

the entire harm would suffice to produce efficient incentives for the injurer. Thus, if B is much lower than PL ($B \ll PL$), liability for less than the entire harm would provide the injurer with incentive to take precautions. But negligence law strives for a uniform rule that applies universally to all cases in the same manner and requires as little information as possible for its application.¹⁷ Therefore, to create efficient incentives under *all* circumstances, the rule of negligence is that as long as $B < PL$, the negligent injurer who failed to take precautions will bear liability for the entire harm. Only such a rule will, at least in theory, provide efficient incentives in *all* circumstances, regardless of B 's magnitude in any given case. *Negligence law thus aligns the standard of care with compensable harms.*

The alignment principle is also at the foundation of corrective justice theories of tort law. Under corrective justice, the victim should be compensated for any harm which is the materialization of the risks that defined the injurer as negligent, and the victim should be compensated for only those resultant harms.¹⁸ Thus, the corrective justice conception of negligence, at least on that point, converges with the economic approach.

To be sure, there are cases where injurers are exempt from liability, in full or part, even if negligent. Most of these cases do not breach the alignment principle. Unforeseeable harms are not compensated,¹⁹ and unforeseeable

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17. COOTER & ULEN, *supra* note 2, at 351-53 (illustrating problems resulting from inconsistent application of the Hand formula).
 18. See *supra* note 3; see also COLEMAN, *supra* note 3, at 346 (arguing that under corrective justice, only losses falling within the risks that made the injurer at fault should be recovered); WEINRIB, *supra* note 3, at 134 (“[T]he duty breached by the defendant must be with respect to the embodiment of the right whose infringement is the ground of the plaintiff’s cause of action.”); Ernest J. Weinrib, *Correlativity, Personality, and the Emerging Consensus on Corrective Justice*, 2 THEORETICAL INQUIRIES L. 107, 116 (2001) (“[T]he definition of the risk through proximate cause is seen in terms of the kind of effect that leads us to think of the risk as unreasonable”). But see John C.P. Goldberg, *Two Conceptions of Tort Damages: Fair v. Full Compensation*, 55 DEPAUL L. REV. 435, 437-38 (2006) (contrasting “fair compensation” with “full compensation” as two distinct conceptions of damages and explaining that “[t]he idea of fair compensation . . . requires of the fact-finder an overtly normative determination based on consideration not only of the losses suffered by the victim, but also of the character of the defendant’s conduct, mitigating circumstances that do not rise to the level of recognized defenses, and the power dynamic between the parties”). For the view that corrective justice does not necessarily require that the remedy for invasion of the victim’s right equal the actual harm done, see Avihay Dorfman, *What Is the Point of the Tort Remedy?*, 55 AM. J. JURIS. 105 (2010).
 19. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 3 cmt. g (2010) (“To establish the actor’s negligence . . . the likelihood must be foreseeable to the actor at the time of conduct.”); *id.* § 7 cmt. j (“Foreseeable risk is an element in the determination of negligence.”); GEISTFELD, *supra* note 7, at 156 (“Unforeseeable outcomes are not fairly attributable to the individual’s exercise of autonomy, preventing tort law from

plaintiffs cannot recover for their losses.²⁰ However, unforeseeable harms and plaintiffs are also not taken into account by courts when they set the standard of care,²¹ and therefore no misalignment arises.

In other cases, certain types of harms are not compensated and certain types of plaintiffs cannot recover, for reasons related to proximate cause (“scope of liability”²²) or duty of care²³ that mandate no compensation. In general, these are cases in which policy considerations exclude liability even if the harm in question was caused by wrongdoing.²⁴ In some cases, it is not clear whether the alignment principle prevails, namely, whether the uncompensable harms are counted when the court sets the standard of care. To better understand this last point, consider the courts’ reluctance to allow recovery for negligently inflicted emotional harm. While it is rather clear that they would only rarely allow compensation for such harms,²⁵ it is less clear whether courts

making the actor legally responsible.”). For a thoughtful discussion of the role of foreseeability in tort law, presenting the argument that it should not be examined as a “duty” question but rather as a “breach” question, see W. Jonathan Cardi, *Purging Foreseeability*, 58 VAND. L. REV. 739 (2005); and W. Jonathan Cardi, *Reconstructing Foreseeability*, 46 B.C. L. REV. 921 (2005).

20. See, e.g., *Palsgraf v. Long Island R.R.*, 162 N.E. 99 (N.Y. 1928) (establishing that unforeseeable plaintiffs cannot recover under negligence law); DOBBS, *supra* note 4, at 447 (explaining that even if the court were to find the defendant negligent, it would not award damages if the harm or the plaintiff were unforeseeable); EPSTEIN, *supra* note 1, at 272-73 (explaining the rule of no recovery for unforeseeable plaintiffs).
21. See EPSTEIN, *supra* note 1, at 270 (arguing that in cases of “freakish events,” the bizarre consequences could never have influenced a defendant’s primary conduct and, hence, should not generate liability for the defendant, whose “negligence is defined with reference to some standard, nonfreakish set of consequences”).
22. Section 29 of the RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM adopted the term “scope of liability” to refer to what is commonly known as “proximate cause.”
23. See *id.* § 7 (discussing the duty of care under negligence law).
24. *Id.* § 7 cmt. a (stating that “in some categories of cases, reasons of principle or policy dictate that liability should not be imposed”); DOBBS, *supra* note 4, at 448 (discussing policy considerations); W. PAGE KEETON ET AL., PROSSER AND KEETON ON TORTS 358 (5th ed. 1984) (“[D]uty’ is not sacrosanct in itself, but is only an expression of the sum total of those considerations of policy which lead the law to say that the plaintiff is entitled to protection.”); Ariel Porat, *The Many Faces of Negligence*, 4 THEORETICAL INQUIRIES L. 105, 109 (2003) (describing several kinds of policy considerations that are used by courts to limit liability for negligence); Stephen D. Sugarman, *A New Approach to Tort Doctrine: Taking the Best from the Civil Law and Common Law of Canada*, 17 SUP. CT. L. REV. 375, 388-89 (2002) (same).
25. See, e.g., RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 7 cmt. m (“Recovery for stand-alone emotional harm is more circumscribed. . . . These limitations are often reflected in no- (or limited-) duty rules that limit liability.”); DOBBS, *supra* note 4, at 835-39 (noting that courts generally place strict limitations on liability for

take them into account when setting the standard of care. To illustrate, suppose the injurer could have taken precautions of 7, thereby reducing the expected harm by 10, but failed to do so. Also assume that half of the expected harm represents emotional harm, which is not recoverable, while the other half represents tangible, recoverable harm. Should the injurer be deemed negligent and held liable for the tangible harm, since $7 < 10$, or should he be exempted from any liability since $7 > 5$? As a positive matter, I am not certain of the answer to this question. However, for our purposes, it is sufficient to understand that if the answer is that the injurer is not liable, the alignment principle prevails, and if the answer is that he bears liability, a misalignment arises. Note that this misalignment can be explained and justified, even from an economic perspective: proving emotional harms entails high administrative costs,²⁶ and there is a risk that the subjective dimensions of emotional harms could enable victims to successfully fake or exaggerate the harm and thereby receive excessive compensation.²⁷ Thus, practical considerations, more so than substantive reasoning, could explain and even justify the misalignment in these types of cases.²⁸

The special case of comparative negligence is harder to analyze.²⁹ On the one hand, misalignment seems to arise: the standards of care for both the injurer and the victim are presumably set according to the risk that harm will materialize, given that the other party could behave negligently or

negligent infliction of emotional harm in part from a concern about fraudulent or exaggerated claims); EPSTEIN, *supra* note 1, at 274-75 (noting that recovery for emotional distress without physical impact is generally denied everywhere today).

26. See DOBBS, *supra* note 4, at 836 (stating that one historical rationale for denying compensation for emotional harm in courts is that it is not cognizable in courts); EPSTEIN, *supra* note 1, at 275 (arguing that harms of emotional distress without physical impact are often “so small that the law should take no notice of them, given the extensive costs of cranking up the legal system”).
27. DOBBS, *supra* note 4, at 836 (stating that another historical rationale for denying compensation for emotional harm in courts is the fear that fraudulent or exaggerated claims might proliferate); EPSTEIN, *supra* note 1, at 276 (arguing that courts fear that the extension of liability would open the floodgates to fraudulent injuries).
28. In most jurisdictions there is no compensation in wrongful death cases for the decedent’s loss of life’s pleasures, GEISTFELD, *supra* note 7, at 357-58, with the odd result that even though injurers are expected to be most cautious when people’s lives are at stake, the compensation is deficient. In these cases, a misalignment emerges. See also *id.* (“The counterintuitive result is that often it would be ‘cheaper for the defendant to kill the plaintiff than to injure him.’” (quoting KEETON ET AL., *supra* note 24, § 127, at 945)); *infra* note 37.
29. See DOBBS, *supra* note 4, at 504-06 (stating that under the law in most states, courts will reduce damages in an amount proportional to plaintiff’s negligence, as long as plaintiff’s negligence was both cause in fact and proximate cause of the accident).

nonnegligently.³⁰ Therefore, in order to align the standard of care with compensable harms, each party should bear liability that represents that risk. This, however, would be impossible to achieve under current tort law, since it requires each party to bear the entire harm if both parties were negligent.³¹ Thus, it is hard to think of any plausible alternatives that tort law could endorse in order to implement a comparative negligence rule and still adhere to the alignment principle.³²

Finally, punitive damages seem to give rise to another special case of misalignment: punitive damages are *higher* than the actual harm caused to the plaintiff by the defendant's wrongdoing, whereas the standard of care is set solely according to the *actual* expected harm. But this misalignment is often mitigated, as punitive damages in negligence cases are typically awarded when third parties who are not expected to bring suit also suffered harms from the wrongdoing or societal interests were adversely affected.³³ Indeed, in *Philip Morris USA v. Williams*,³⁴ the U.S. Supreme Court decided that using punitive damages to punish a defendant directly for harms to victims who were not parties to the trial is unconstitutional. Instead, punitive damages should be awarded to punish the defendant because his behavior was reprehensible. But the Court also clarified that "[e]vidence of actual harm to nonparties can help to show that the conduct that harmed the plaintiff also posed a substantial risk

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30. Ideally, with no errors by the parties in anticipating the standards of care applied to them and in complying with those standards, courts should set the standards of care for both the injurer and the victim only according to the risk that harm will materialize if the other party behaves nonnegligently. If the standards of care are set in this way, a comparative negligence rule is expected to be efficient. See COOTER & ULEN, *supra* note 2, at 345-46; SHAVELL, *supra* note 12, at 187.
 31. To illustrate, assume that there is a 90% probability that the victim will not behave negligently and then be exposed to risk of 10, and a 10% probability that the victim will behave negligently and then be exposed to risk of 20. Also assume that the injurer could eliminate the risk altogether by taking cost-justified precautions. Under this assumption alignment for the injurer could be achieved if the standard of care is set according to the risk of 11 ($90\% \cdot 10 + 10\% \cdot 20$), with the injurer's expected liability being 11. Since any "liability" of the victim would detract from the expected liability of the injurer—in our example dropping it below 11—achieving alignments for both the injurer and the victim is impossible under a rule of comparative negligence. To achieve alignment the victim should bear liability for the entire harm he suffered because of his negligence, without detracting anything from the negligent injurer's liability.
 32. But with criminal or administrative sanctions supporting tort liability, full alignment can be achieved.
 33. Catherine M. Sharkey, *Punitive Damages as Societal Damages*, 113 YALE L.J. 347 (2003) (arguing that punitive damages could and should be distributed to third parties who suffered harms and that damages should be used to redress societal harms).
 34. 549 U.S. 346 (2007).

to the general public, and so was particularly reprehensible.”³⁵ Thus, even though punitive damages could not be awarded for harms to third parties, at least in some cases there is a direct relationship between those harms and the punitive damages awarded by the court. In those latter cases, the misalignment between standard of care and damages is mitigated. On the one hand, harms to third parties and to society at large affect, even if indirectly, the amount of damages awarded by courts. On the other hand, it can be expected that the standard of care will be set by courts in accordance with the total expected harm caused by the wrongdoing to the victim, to third parties, and to society as a whole.³⁶

The Article now proceeds to discuss central and important cases in tort law in which the alignment principle is breached.³⁷

35. *Id.* at 355.

36. Interestingly, punitive damages could *potentially* be a tool for handling misalignments. Thus, consider the example of emotional harm, discussed *supra* notes 25-28 and accompanying text. If in the case of emotional harm there is a misalignment, courts could award punitive damages for plaintiffs’ physical harms, thereby mitigating the misalignment. Even though punitive damages could mitigate misalignments, I believe a more direct and effective way would typically be to align the standard of care with compensatory damages, as I argue throughout the Article. For a critical account of the option of using punitive damages to compensate plaintiffs for noneconomic and other losses that would not otherwise be incorporated into compensatory damages, see A. Mitchell Polinsky & Steven Shavell, *Punitive Damages: An Economic Analysis*, 111 HARV. L. REV. 869, 939-41 (1998).

37. Mark Geistfeld, *The Principle of Misalignment: Duty, Damages, and the Nature of Tort Liability*, 121 YALE L.J. 142 (2011), partially responds to some of my claims in this Article. Professor Geistfeld argues that misalignment, rather than alignment, is the governing principle of tort law. The main instance of misalignment Professor Geistfeld identifies is wrongful death cases, since “[t]he duty encompasses risks threatening fatal injury, and yet the loss of life’s pleasure due to premature death is not a compensable harm under the common law or the vast majority of wrongful death statutes.” See *id.* at 145. I agree that this is one more instance of misalignment. See *supra* note 28. I cannot see, however, how it supports Professor Geistfeld’s positive claim, that misalignment, rather than alignment, is the governing principle of tort law. Indeed, I cannot understand how misalignment could be, even theoretically, a principle, as if there were a special value in misalignments as such. Professor Geistfeld also suggests in his essay that in cases of misalignments, punitive damages and criminal liability could bridge the gap between the duty of care and compensable harms. If he intends to argue that this solution is reflected in prevailing law, I will disagree; in none of the misalignments discussed in this Article are either punitive damages or criminal liability routinely imposed.

Although I agree with Professor Geistfeld that wrongful death cases represent a misalignment, a few comments should be made. *First*, some jurisdictions, inside and outside the United States, impose liability on the injurer toward the deceased’s estate for lost income in the “lost years,” namely, lost income for the *entire* period that the deceased would have lived and worked but for the fatal injury. See DOBBS, *supra* note 4, at 809-10. Moreover, in some jurisdictions, the survivors are entitled to nonpecuniary damages for the

II. LOST INCOME

A. *The Misalignment*

Example 1, which opened this Article, illustrates the misalignment that results from lost income being a major component in damages awards for bodily injury.³⁸ This misalignment is acute in all those cases where the injurer could know in advance that his average potential victim's income is different from the average income. Such cases are not rare. Doctors can easily learn whether their patients are high- or low-income; employers can distinguish between high- and low-income employees; occupiers of land often know the level of income of the invitees on their premises; and polluters are often aware of the income of their potential victims.³⁹

For reading convenience, Example 1 is copied below.

Example 1: Poor and rich neighborhoods. John drives his car at a speed of 30 mph in a rich neighborhood. Unfortunately, he hits a pedestrian as she is crossing the street. Had John driven a bit more slowly, he would have succeeded in stopping his car in time and preventing the accident. A day later, John drives his car again at the same speed, but this time in a poor neighborhood. Once again, he hits a pedestrian. All driving conditions are exactly the same as they were in the rich neighborhood the day before; the second accident would have been avoided had John

deprivation of the deceased's life. *See id.* at 811-12. Liability for the "lost years" and for the nonpecuniary losses mitigates the misalignment between the duty of care and compensable harms. *Second*, wrongful death cases are unique, because the main victim of the injury (the deceased) cannot be compensated for obvious reasons; that creates a special *institutional* problem for tort law which is based on the notion that the victim, and no one else, initiates the mechanism of tort law. *Third*, corrective justice is at least unclear as to how to rectify the injustice done to the deceased. The influence of corrective justice could be one more explanation why in many jurisdictions there is a misalignment in wrongful death cases. *Finally*, even when there is no liability toward the estate, the deceased's dependents may receive compensation that derives from the deceased's lost income. This additional compensation mitigates, even if it does not remove, the misalignment in some of the wrongful death cases.

38. *See supra* note 4 and accompanying text.
39. Analogous misalignments could also emerge in other cases where the characteristics of the potential victim could affect his potential harm. One such characteristic could be the victim's ability to reduce his own risks. For a thoughtful discussion of the relevance of that latter characteristic to efficiency when victims are heterogeneous, see Yoed Halbersberg, *Toward a New Paradigm for Multiple-Victim Torts: The Problem of Victims' Heterogeneity* (Dec. 31, 2010) (unpublished manuscript), <http://ssrn.com/abstract=1264464>.

driven his car a bit more slowly. Is it possible that, under a rule of negligence, the same court would find John liable for the first accident but not for the second?

Under current law, courts impose liability on injurers for inflicting bodily injury based on victims' lost income but simultaneously ignore the potential victims' income when setting the standard of care. The amount of damages awarded will have at least some effect on the way injurers behave. Thus, in Example 1, since courts would award, on average, a greater amount in damages to a victim from the rich neighborhood than to a victim from the poor one, drivers like John would have an incentive to be more careful in the rich neighborhood. This is because John should have realized that even though the same standard of care is applied with regard to both neighborhoods, hitting a resident in the rich neighborhood would cost him, on average, much more than running over a resident of the poor neighborhood. Thus, although the law dictates an equal level of care toward the rich and the poor, it actually creates incentives for injurers to be more cautious toward the rich.⁴⁰

To explain why, let us first assume no court errors in setting the standard of care and awarding damages, and no injurers' errors in anticipating whether or not they comply with that standard and what amount of damages will be awarded. In such an ideal world, injurers would know that if they meet the standard of care, they will not be held liable. Therefore, assuming the standard of care is set uniformly according to the average income of the residents of both rich and poor neighborhoods, injurers in the rich neighborhood will comply with the standard of care and bear no liability. They will have no reason to do more than that.⁴¹ To illustrate, if the expected harm of the high-income victim is 15 and that of the low-income victim is 5, the uniform standard of care would be set at 10; namely, injurers would be required to take precautions up to 10 in order to avoid liability. An injurer who faces high-income victims would take precautions up to 10 and stop there, knowing he would have met the standard of care and will not bear liability.

Conversely, in the poor neighborhood injurers would take a lower level of care than the standard set by the court (assuming they are risk-neutral), preferring instead to bear the risk of liability rather than the cost of additional

40. Note that I assume no other differences between the rich and poor neighborhoods, except for the average victim's potential income. In reality, there could be other factors that would also affect drivers' level of care in the two places; some of them could be related to the residents' wealth, such as density of population and traffic, precautions taken by potential victims, the risk of the driver being injured by others, and more.

41. See COOTER & ULEN, *supra* note 2, at 342-44 (analyzing the injurer's incentives under a negligence rule when damages are too high).

precautions.⁴² Thus, using the same numerical example, an injurer who faces low-income victims would not take precautions in excess of 5, since even if he were to take no precautions at all, he would bear liability of only 5.⁴³

Assuming court and injurer risk of error with respect to the standard of care, the difference between the levels of care injurers would take toward high-income victims and their low-income counterparts could be greater. In our numerical example, injurers who fear being found liable even if they believe they have complied with the standard of care would tend to take precautions in excess of 10 toward high-income victims, so as to ensure that they avoid the risk of being found liable.⁴⁴ However, the same concern would typically not induce them to take precautions greater than 5 toward low-income victims, because the limit of their liability would be 5.⁴⁵

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42. See *id.* (analyzing the injurer's incentives under a negligence rule when damages are too low).
 43. If precautions are binary, so that John in our example can either take precaution of more than 5, or not take precaution at all, he would prefer the latter option. However, precautions are often continuous: John can reduce his driving speed by 1 mph, 2 mph, etc., each reduction in speed entailing more costs of precautions (in terms of wasted time) and more corresponding reduction in the expected harm. With continuous precautions, John may find it beneficial to take some precautions even with the low compensation to low-income victims by reducing his speed even slightly (in economic terms, he would reduce his speed until the point where marginal costs of precautions equal marginal expected liability). But John would definitely not reduce his speed to the point where his costs of slowing down exceed 5.
 44. See COOTER & ULEN, *supra* note 2, at 354-55 (describing the effect of courts' and injurers' errors with respect to the standard of care); SHAVELL, *supra* note 12, at 224-29 (discussing different incentive problems when the level of care is uncertain); see also John E. Calfee & Richard Craswell, *Some Effects of Uncertainty on Compliance with Legal Standards*, 70 VA. L. REV. 965, 974-84 (1984) (arguing that if the standard of care is uncertain for the injurer, when expected damages are high, the injurer will overcomply with the standard, but if expected damages are low, the injurer will either overcomply or undercomply); Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307 (1994) (analyzing the incentive effects of courts' errors with respect to the amount of damages and the standard of care).
 45. A different argument, which I do not discuss here, is that in general a negligence rule creates overdeterrence because injurers who do not comply with the standard of care could be liable for harm that was not caused by their negligence. Under this argument, a rule of negligence creates discontinuity or a sudden jump in liability, because the expected liability of an injurer who complies with the standard of care drops to zero, whereas any deviation from that standard results in full liability for any harm that occurred. To illustrate, if a negligent injurer creates a risk of 10, only half of which is due to his negligence, under the assumption underlying the discontinuity argument he would bear liability for any harm that materializes. Thus, not taking adequate precautions to reduce risk of 5 would cost the injurer 10, rather than 5, in terms of expected liability. Therefore, if there is a risk that either the injurer or the court will err with respect to the standard of care, the injurer would take excessive precautions to avoid the risk of being found liable for harms that are not caused by

The lost-income case raises two questions. First, what does efficiency mandate in this case, and in particular could there be an efficiency justification for the misalignment? Second, is there any other consideration that could explain or justify this misalignment? The next two Sections address these two questions in turn.

B. Efficiency

To adequately respond to the efficiency question, it is necessary to first determine whether the lives and limbs of high-income victims have a greater value than the lives and limbs of low-income victims. If they are of equal value, there should be identical standards of care and damages imposed for both groups. If instead a greater value is attributed to the high-income group, then both a higher standard of care and greater damages should apply to them. Two arguments—both of which I hold to be false—could be made in support of the view that high-income victims' lives and limbs are more valuable than those of low-income victims.

The first argument is that the willingness of the rich to pay to reduce their risk of bodily injury and death (their “willingness to pay” or “WTP”) is greater than the WTP of the poor; therefore the social value of the former's lives and limbs is greater than that of the latter.⁴⁶ Here, the focus is not on the level of income but on wealth per se. But since income and wealth often correlate, this

his negligence. (With no risk of error, the injurer will accurately comply with the standard of care and not take excessive precautions.) This discontinuity and its behavioral consequences were originally explained in Robert D. Cooter, *Economic Analysis of Punitive Damages*, 56 S. CAL. L. REV. 79, 80-89 (1982). Cooter later explained that the discontinuity is due to incomplete information available to the courts or the probabilistic nature of the causal connection. Robert D. Cooter, *Punitive Damages for Deterrence: When and How Much?*, 40 ALA. L. REV. 1143, 1155 (1989). Mark Grady and Marcel Kahan have also demonstrated that the discontinuity of liability, as well as the risk of burdening the negligent injurer with liability for more than the harm he caused, completely disappear when causation rules are properly applied so that the injurer is liable only for those harms that would not have been created had he behaved reasonably. Mark F. Grady, *A New Positive Economic Theory of Negligence*, 92 YALE L.J. 799, 812-13 (1983); Marcel Kahan, *Causation and Incentives To Take Care Under the Negligence Rule*, 18 J. LEGAL STUD. 427, 427-29 (1989). I proceed with the assumption that causation rules are properly applied and therefore there is no discontinuity in liability.

46. For a discussion of WTP, see RICHARD L. REVESZ & MICHAEL A. LIVERMORE, *RETAKING RATIONALITY* 80 (2008), noting that “[i]t is well established that the willingness to pay to avoid risk is highly correlated with income”; and W. Kip Viscusi, *The Value of Life in Legal Contexts: Survey and Critique*, 2 AM. L. & ECON. REV. 195, 212-13 (2000), noting that “based on the usual benefit measures, the value of life for more affluent populations should be greater.”

argument regarding the rich and poor can easily be translated into an argument relating to high-income and low-income victims.

The question of whether WTP is an appropriate criterion for valuing people's lives and limbs is beyond the scope of this Article.⁴⁷ Suffice it to say that, as Avraham Tabbach and I have shown, the proper application of WTP for valuing lives (as opposed to limbs) ignores wealth.⁴⁸ In a nutshell, we argued that from an efficiency perspective, since wealth is transferrable (other people can enjoy it), the value people place on their ability to consume their wealth—with this value being the primary reason why the rich value their lives more than the poor—represents a private, rather than social, value. If we disregard the latter value, the rich and poor have an identical WTP, all else being equal.⁴⁹

Given the validity of this argument, from an efficiency perspective both the standard of care and damages should be set without taking into account the victim's income: if wealth is irrelevant to the value of people's lives, so is income. Recall, however, that this conclusion holds only when the risks relate to people's lives and not when they relate to other bodily injuries. Therefore, since in most cases risks could materialize into either death or other injuries, applying the WTP criterion would result in different standards of care being set in relation to high-income and low-income victims (although the difference would be greater were income the criterion used to value people's lives).

The second argument supporting the assignment of different values to the lives and limbs of high-income and low-income victims focuses on their income as such, rather than their wealth. It is a rather simple argument: income is a good proxy for productivity, and productivity is a social value.⁵⁰

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47. Cf. REVESZ & LIVERMORE, *supra* note 46, at 9-19 (discussing the pros and cons of using cost-benefit analysis when people's lives are at stake).
 48. Ariel Porat & Avraham Tabbach, *Willingness To Pay, Wealth, Death, and Damages*, 13 AM. L. ECON. REV. 45 (2011) (discussing willingness to pay as a criterion for valuing people's lives).
 49. *Id.* More specifically, we have argued in our paper that when people face risk of death they overinvest in precautions in order to reduce that risk for two reasons: first, they discount their risk-reduction costs by the probability of death following precautions; and second, they consider the consumption of their wealth when alive to be part of their benefit from risk-reduction. From a social perspective, people's wealth does not cease to exist after death; therefore, discounting costs by the probability of death and taking into account the benefit of wealth-consumption are socially inefficient. We applied these insights to the public sphere and argued that in order to derive the value of people's lives from their willingness to pay to reduce risks to their lives, the sum they are willing to pay must be discounted by the probability of death following precautions and the value of life must be determined irrespective of wealth.
 50. See also Erin A. O'Hara, Note, *Hedonic Damages for Wrongful Death: Are Tortfeasors Getting Away with Murder?*, 78 GEO. L.J. 1687, 1695 (1990) (criticizing the human capital approach,

Therefore, setting a higher standard of care as well as awarding higher damages for high-income victims is socially desirable, regardless of WTP.⁵¹

Whether or not the WTP and productivity arguments are persuasive from an efficiency perspective is hard to know. That assessment depends on the value *society* ascribes to people's lives and limbs, which in turn is a value decision.⁵² I cannot see how the efficiency goal would be frustrated if society were to ascribe identical value to the lives and limbs of all its members.⁵³ But as noted earlier, this matter is too complex to be adequately addressed in this Article.

If indeed equal value should be assigned ("the equal value conception"), both the standard of care and damages should be identical for all victims, and the misalignment between the two under prevailing law would be inefficient. To understand why, assume that (a) the standard of care is set according to the average income in society (10 in our earlier numerical example);⁵⁴ and (b)

which measures the value of an individual's life based on her lost future income discounted to present value, but agreeing that "an individual's future income may be a proxy for the value that society placed upon that individual's productive capacity"). For more criticism of the human capital approach, see Andrew Jay McClurg, *It's a Wonderful Life: The Case for Hedonic Damages in Wrongful Death Cases*, 66 NOTRE DAME L. REV. 57, 100-02 (1990), which argues that the human capital approach undervalues life as it disregards variables such as the pleasure of living and that it fails to take into account the social and cultural contribution of artists and other influential figures who do not increase the gross national product.

51. Cf. Jennifer H. Arlen, *Should Defendants' Wealth Matter?*, 21 J. LEGAL STUD. 413 (1992) (arguing that risk-averse defendants' wealth should matter in setting their standards of care).
52. See generally Porat & Tabbach, *supra* note 48.
53. It is a different question whether, *under certain circumstances*, awarding identical damages to high- and low-income victims could distort incentives. For example, one could argue that if low-income victims will get higher compensation than what their private valuation dictates, a huge moral hazard problem will arise: those victims will not only avoid taking precautions, but they may even "invite" injuries in order to get compensation that they would consider to be excessive. Similarly, high-income victims may feel that damages will not fully compensate them if they are injured, and they may take precautions that could be excessive from a social perspective. In both cases, these concerns disappear if victims' valuation of their lives and limbs does not correlate with their income or wealth, or if they cannot affect the amount of risk they face. Furthermore, often exposing a victim to a risk of undercompensation could improve, rather than distort, incentives. (This could happen, for example, when efficiency requires a victim to take some precautions, but his failure to do so cannot typically be proven before a court, and therefore a contributory or comparative fault defense is ineffective.)
54. See *supra* text accompanying notes 41 and 42.

under the equal value conception this is the efficient standard.⁵⁵ Since low-income victims receive lower than average compensation (5 in the numerical example), injurers do not comply with the standard of care and take deficient care toward them (no more than 5). Conversely, injurers comply with the standard of care and take efficient care toward high-income victims (10) (and, with risk of error, even take excessive care).⁵⁶ Thus, under the equal value conception, prevailing law causes injurers to take *deficient care toward low-income victims and efficient care toward high-income victims*.

If instead we believe that the lives and limbs of high-income victims should be valued more than those of low-income victims (“the different value conception”), both the standard of care and damages should be higher for high-income (15) than for low-income (5) victims. Current law (which sets the standard of care at 10) would still be inefficient, but in the opposite direction. Injurers take a low level of care toward low-income victims (5), which under the different value conception is efficient; the higher care they take toward high-income victims (10) is—under the different value conception—deficient (even with risk of errors). Thus, under the different value conception, prevailing law causes injurers to take *efficient care toward low-income victims and deficient care toward high-income victims*.

Are there any efficiency-based considerations that could justify this misalignment? *Administrative costs* could be one possible justification. Under negligence law, the standard of care is set according to objective criteria, ignoring injurers’ particular characteristics or capabilities (with a few exceptions).⁵⁷ The traditional economic explanation for applying objective, uniform criteria is that they avoid the prohibitively high administrative costs

55. Note that once it is assumed that lost income is not a good criterion for valuing people’s lives, there is no reason to assume that the average income in society is the right criterion for such a valuation. I use the criterion of average income to simplify the exposition of the arguments, which are equally valid as long as the standard of care is set according to an expected harm that falls between the expected damages awarded to the high- and low-income victims. For another approach, see Ronen Avraham, *Putting a Price on Pain-and-Suffering Damages: A Critique of the Current Approaches and a Preliminary Proposal for Change*, 100 NW. U. L. REV. 87 (2006), which argues that in product liability cases, when prices are uniform for all consumers, efficiency requires ignoring the subjective loss of income and awarding an objective (average) one, in order to avoid low-income consumers subsidizing high-income consumers with the adverse selection that would otherwise result.

56. See *supra* notes 41-45 and accompanying text.

57. See DOBBS, *supra* note 4, at 290 (arguing that while most features of the standard of care are objective, superior knowledge or skill is still taken into account); EPSTEIN, *supra* note 1, at 114-15 (arguing that while the standard of care for untrained individuals should remain the same, experts must act on their superior knowledge and skill).

that would result from individually tailored standards.⁵⁸ For the same reason – it could be argued – victims’ characteristics, including their income, must be ignored in setting the standard of care. True, for compensation the law does take the victim’s actual lost income, as well as other subjective variables, into account.⁵⁹ But in the case of compensation, the argument goes, perhaps other considerations play a role which could justify the prevailing practice.

The administrative costs argument could provide a rationale for the misalignment in lost-income cases if, and only if, we believe that the lives and limbs of high-income victims are worth more than those of low-income victims. If high-income and low-income victims’ lives and limbs are deemed of equal value, then the administrative costs argument becomes redundant: the standard of care and damages should be identical for high-income and low-income victims, with or without administrative costs. But are administrative costs a truly convincing justification or explanation for the misalignment that arises if we assume that high-income and low-income victims’ lives and limbs are not of equal value? I am not sure. Indeed, in most tort situations an injurer cannot anticipate whether his victim will be high-income or low-income. The question of whether lost income should be a relevant factor in setting the standard of care is thus superfluous: the standard of care should be set according to the potential harm of the average person. Moreover, sometimes even if the typical victim can be easily identified in advance, it is not realistic or practical to expect injurers who face different types of victims in different circumstances to adapt their precautions accordingly. Just as it is unrealistic to expect drivers to change their precautions from street to street even if they know that the typical victim changes, it is impractical for doctors to offer completely different care at the same public hospital to different patients according to their income, even if the doctors so desired. Precautions are sometimes “sticky,” and it is inefficient to tailor them for each and every potential victim (or group of potential victims).

But when the typical potential victim can be clearly identified in advance by the injurer, and adapting the level of care toward him by the injurer is practical, the administrative costs of setting different standards of care for high-income

58. See, e.g., GUIDO CALABRESI, *THE COSTS OF ACCIDENTS* 144-60 (1970) (arguing that the standard of care should be specified as long as the cost of specification is lower than the resulting reduction in primary accident costs); POSNER, *supra* note 12, at 171 (arguing that the reasonable person standard is an estimation of average accident avoidance cost and that this approach is justified because of the potential costs of individualized measurement of precaution by the court).

59. See, e.g., DOBBS, *supra* note 4, at 1048-49 (explaining that lost earnings before and after the accident are recoverable); EPSTEIN, *supra* note 1, at 443 (arguing that lost earnings are always recoverable as economic losses and should be estimated based on wages or salary).

victims and low-income victims are not prohibitively high. In these cases, efficiency gains could be significant if we assume that different values are attributed to the lives and limbs of high-income and low-income victims.⁶⁰

In sum, efficiency-based considerations do not offer a satisfactory reason for the misalignment in the lost-income case. This brings us to the second question, to be addressed in the following Section: are there any non-efficiency considerations that could explain the misalignment in lost-income cases?

C. Non-Efficiency Considerations

Two types of non-efficiency considerations could be relevant in our context: corrective justice and distributive justice. Corrective justice mandates that the negligent injurer compensate the victim for the harm done.⁶¹ Lost income is often a major part of that harm and, therefore, should be a central factor in awarding damages.⁶² Under corrective justice, the magnitude of the harm should not, however, necessarily factor into the standard of care, and therefore the misalignment raises no concerns.

This argument does not adequately capture corrective justice, for two reasons. First, corrective justice requires a rectification of the injustice done by the injurer to the victim. When two individuals have identical *physical* injuries, measuring harms mostly by lost income does not necessarily realize corrective justice. Second, and more importantly, under corrective justice the only recoverable harms are those that are the materialization of the risks that define the injurer as negligent. This is the correlativity requirement, which lies at the foundation of corrective justice.⁶³ From this requirement it can be inferred that the criteria the courts use for measuring the harms in setting the standard of care should be used in setting the damages awarded for those harms. In other words, under corrective justice the law should not use different measurement criteria for setting the standard of care and for awarding damages.

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60. When victims cannot be identified in advance, a question arises as to whether *ex post* or *ex ante* information should be used for both setting the standard of care and awarding damages. For an efficiency analysis of these questions, see Calfee & Craswell, *supra* note 44. See also Omri Ben-Shahar, *Should Products Liability Be Based on Hindsight?*, 14 J.L. ECON. & ORG. 325 (1998) (discussing these questions mainly in the context of products liability).
 61. See COLEMAN, *supra* note 3, at 367-69 (justifying liability for negligence by corrective justice); WEINRIB, *supra* note 3, at 145-70 (discussing negligence law under a corrective justice theory).
 62. Arthur Ripstein, *As If It Had Never Happened*, 48 WM. & MARY L. REV. 1957, 1983 (2007) (claiming that under the corrective justice approach, if the injurer deprived the victim of the use of her body, he should compensate her for her lost income).
 63. See *supra* notes 3 and 18 and accompanying text.

This understanding of corrective justice can trigger a straightforward objection: the wrongfulness of an act depends on whether it has interfered with a right that the victim has,⁶⁴ and the answer to that question does not depend upon the value of the object or the right.⁶⁵ Thus, the core of the objection is that while the determination of the right and the correlative duty under corrective justice (“setting the standard of care” in tort law terminology) do not depend on the value of the right, the losses suffered by the victim whose right was infringed should be measured by that same value. Therefore, the lost-income misalignment could be consistent with corrective justice.

In order to be persuaded by this objection, one must accept the view that the right of the victim under corrective justice does not depend on the value of the interest that the right was designed to protect. I do not think that the practice of tort law—which corrective justice theorists tend to describe as manifestation of corrective justice⁶⁶—supports that view. On the contrary, in assigning rights (or in setting the standard of care) tort law, and negligence law in particular, are not blind to the value of the interests that the rights protect. But more importantly, I cannot see why the principles of corrective justice could not be reconciled with a theory of rights that gives weight to the value of the victim’s interests. Thus the victim, for example, could have a right that his bodily integrity not be infringed, and that right could extend only to severe bodily impacts on the victim, but not to minor ones. Similarly, the victim’s property or economic interests could be protected by a right only if they reach a certain value. Under such a view, which I believe to be a plausible interpretation of corrective justice, the answer to the question of whether the injurer should be liable for the harm suffered by the victim depends on the magnitude of the risk, which in turn correlates with the harm that is the risk’s materialization. Thus, in my view, corrective justice can hardly justify the lost-income misalignment, although I can see that an interpretation of corrective justice different from the one I propose could provide such justification.

64. See WEINRIB, *supra* note 3, at 122-23, 134 (developing the theory of rights and correlative duties under corrective justice); Ernest Weinrib, *The Disintegration of Duty*, in *EXPLORING TORT LAW* 143, 154-57, 164 (M. Stuart Madden ed., 2005) (same). Note that under Coleman’s theory of corrective justice, an individual may be entitled to compensation even if he or she does not hold a right that has been invaded; a legitimate interest could suffice. See COLEMAN, *supra* note 3, at 344-47. Accordingly, under Coleman’s theory, victims are entitled to recover under corrective justice if they suffer *wrongful losses*, and that could occur in two different ways. First, victims’ legitimate interests could be wrongfully harmed; second, their rights could be invaded. Thus, to qualify as *wrongful losses*, the losses suffered by the victim must be either the result of wrongdoing to a legitimate interest of the victim or of an invasion—wrongful or not—of his rights.

65. I am grateful to an anonymous referee for raising this concern.

66. See COLEMAN, *supra* note 3, at 373-75; WEINRIB, *supra* note 3, at 20.

Therefore, I believe that distributive rather than corrective justice considerations are the reason for the misalignment in the lost-income case. Distributive justice would likely require that high-income and low-income victims be equally protected under the law.⁶⁷ To achieve this goal, tort law should apply the same standard of care and the same criteria for awarding damages vis-à-vis high-income and low-income victims. Any disparity with respect to either the standard of care or damages in favor of high-income victims would result in better protection for them, as explained above.

But tort law is only partially affected by distributive justice. Efficiency plays a strong and central role in shaping tort law.⁶⁸ It is plausible, therefore, that under the prevalent efficiency theory of tort law, the lives and limbs of high-income victims are more valuable than those of the poor.⁶⁹ Therefore, tort law has made a compromise to allow better protection to high-income victims but, owing to distributive justice concerns, to do this only halfway. Thus, while the standard of care is the same for all victims, the higher compensation awarded to high-income victims leads injurers to be more cautious toward this group after all.⁷⁰

67. For a distributive justice approach on the matter, see Tsachi Keren-Paz, *An Inquiry into the Merits of Redistribution Through Tort Law: Rejecting the Claim of Randomness*, 16 CAN. J.L. & JURISPRUDENCE 91 (2003).

Of course, the courts do not explicitly admit that the rich deserve greater protection, but perhaps they do not do so consciously. However, to the extent that courts intuitively follow the Learned Hand formula, a finding of negligence is more likely to be found where potential defendants are rich, given constant prevention costs. Moreover, if it could be proven, empirically, that courts do not apply the Hand formula in a way that affords better protection to the rich, this would be a deviation from the economic model of negligence, due to distributive considerations.

Id. at 95 n.20; see also Gregory C. Keating, *Reasonableness and Rationality in Negligence Theory*, 48 STAN. L. REV. 311, 349 (1996) (“[S]ocial contract theory requires actors to take precautions commensurate with the gravity and probability of the risks they create. The enhanced freedom of action injurers gain from imposing risks must be balanced against the loss of security those risks impose on victims.”).

68. DOBBS, *supra* note 4, at 19 (“Courts and writers almost always recognize that another aim of tort law is to deter certain kinds of conduct by imposing liability when that conduct causes harm.”).
69. I think this is a wrong conception, even from a pure efficiency perspective. See generally Porat & Tabbach, *supra* note 48 (questioning the argument that high-income earners’ lives and limbs have greater value than low-income earners’ lives and limbs).
70. Note that in the numerical example discussed in the text, injurers would not take precautions toward the low-income victims in excess of 5, as long as damages for low-income victims are set at 5. Thus, by setting the standard of care at 10 for all victims instead of 5 for the low-income victims and 15 for the high-income victims, the low-income victims are equally protected, whereas the high-income victims are less protected.

III. PROVING CAUSATION

A. *The Misalignment*

This Part discusses cases where causation is *inherently* hard to prove, mainly because of lack of scientific knowledge.⁷¹ The following example illustrates how the difficulty in proving causation could create a misalignment.

Example 2: Patients with low chances of recovery. In a particular hospital, there is a unit that treats very ill patients whose average chances of recovery are 30%. The doctors are sometimes negligent toward these patients, many of whom do not recover in the end. Since in most of the latter cases, it is more probable than not that the patients would not have recovered even if the doctors had treated them reasonably, those patients (or their families, in the event of death) are very rarely compensated for their harms.

In cases represented by Example 2, traditional tort law creates a misalignment. On the one hand, when courts set the standard of care in such cases, they take into account all risks created by the doctor's negligence.⁷² Yet on the other hand, when courts decide whether to impose liability on the doctor, they apply the preponderance-of-the-evidence rule (PER), and if the probability of causation is 50% or less, they award no damages.⁷³ Thus, if all

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71. See, e.g., ARIEL PORAT & ALEX STEIN, TORT LIABILITY UNDER UNCERTAINTY 57-83 (2001) (discussing various types of indeterminate causation); Mark A. Geistfeld, *The Doctrinal Unity of Alternative Liability and Market-Share Liability*, 155 U. PA. L. REV. 447, 471-72 (2007) (arguing that courts adopted the evidential grouping concept for cases where "all defendants might escape liability and the plaintiff be left remediless" (quoting *Rutherford v. Owens-Ill., Inc.*, 941 P.2d 1203, 1220 (Cal. 1997) (some internal quotations omitted))); James A. Henderson, Jr. & Aaron D. Twerski, *Intuition and Technology in Product Design Litigation: An Essay on Proximate Causation*, 88 GEO. L.J. 659, 659 (2000) (asserting that courts developed the market share liability doctrine to allow victims to overcome difficulties in showing causation); Aaron D. Twerski, *Market Share—A Tale of Two Centuries*, 55 BROOK. L. REV. 869, 871-72 (1989) (same).
72. See, e.g., *Dumas v. Cooney*, 1 Cal. Rptr. 2d 584 (1991) (finding defendant's late diagnosis and treatment of lung cancer to be negligent, but denying recovery because causation was not proved).
73. See, e.g., *Grant v. Am. Nat'l Red Cross*, 745 A.2d 316 (D.C. 2000) (rejecting liability since there was only a 30% to 40% probability that defendant's negligence caused the harm); *Weymers v. Khera*, 563 N.W.2d 647, 655 (Mich. 1997) (rejecting liability since plaintiff failed to show that it is more likely than not that defendant's negligence caused the harm); *Jones v. Owings*, 456 S.E.2d 371, 374 (S.C. 1995) (denying liability on the basis of plaintiff's failure to prove causation at a probability of more than 50%); *Kilpatrick v. Bryant*, 868

the patients in Example 2 have a 50% or less chance of recovery, the doctors will never pay damages to the patients but, at the same time, tort law will require doctors to take precaution toward those patients in accordance with the risk that the doctors create.⁷⁴

An opposite situation would arise if, in Example 2, the average chances of recovery were greater than 50%, say 70%. Here, under the PER, liability would be imposed by the courts too often for harms suffered by patients.⁷⁵ In the extreme situation, when all patients have a greater-than-50% chance of recovery, liability for the entire harm will always be imposed on negligent doctors. At the same time, when courts set the standard of care in cases where the probability of recovery is greater than 50%, they will require doctors to take precautions in accordance with the risk they create for their patients.

Note that tort law would not violate the alignment principle in applying the PER if there were symmetry between cases with a less-than-50% probability and cases where the probability is greater than 50%.⁷⁶ Assume that, in Example 2, for each case of a 30% chance of recovery, there is a parallel case of a 70% chance of recovery; for each 40% probability case, there is a parallel case with a 60% probability; and so on. Under such circumstances, the alignment principle will be upheld: in half of the cases resulting in harm, doctors will pay damages for 100% of the harm, and in the other half of the cases, they will pay zero damages. Consequently, a doctor's expected liability in each case will be *half* of the ultimate harm multiplied by the probability of its occurrence, which is the expected harm of the doctor's negligence. Since the courts would set the standard of care according to that expected harm, the standard of care and expected liability would align.⁷⁷

S.W.2d 594, 603-04 (Tenn. 1993) (denying recovery since plaintiff failed to show that the probability of survival or recovery absent defendant's negligence was greater than 50%).

74. See Saul Levmore, *Probabilistic Recoveries, Restitution, and Recurring Wrongs*, 19 J. LEGAL STUD. 691 (1990) (discussing various ways to deal with cases in which the typical probability of causation is lower than 50%).
75. See, e.g., *Graphia v. United States*, No. 91-2604, 1993 U.S. Dist. LEXIS 2994, at *14-19 (E.D. La. Mar. 5, 1993) (ruling that where a doctor's negligence reduced chances of survival by 63%, the harm caused by the negligent act was the loss of chance of survival, and granting *full* recovery for wrongful death). *But see* *Boody v. United States*, 706 F. Supp. 1458, 1465 (D. Kan. 1989) (ruling that where a doctor's negligence reduced a patient's five-year survival chance by 51%, "[t]he most logical approach is to compensate plaintiffs for what they lost: the approximate percentage chance of living or surviving for a fixed period of time").
76. PORAT & STEIN, *supra* note 71, at 117-19 (discussing symmetrical and nonsymmetrical cases).
77. Note that it is hard to predefine the symmetric cases. As a practical matter, as long as there is no reason to believe that there is systematic bias, either downward or upward, it is plausible to proceed with an assumption of symmetry.

The lesson thus far is that a misalignment will emerge for cases in which there is a systematic bias (downward or upward) in proving causation, and where the PER applies. Such cases are by no means a rarity. Many cases characterized by legal scholars as “indeterminate defendants” cases or “indeterminate plaintiffs” cases⁷⁸ are systematically biased downward, and in applying the PER to them, the law creates a misalignment. For example, in the notorious DES cases, numerous manufacturers produced the same generic drug for preventing miscarriage that many years later was proven to be defective and harmful to the daughters of the women who had taken the drug.⁷⁹ Plaintiffs, however, found it impossible to prove the identity of the specific manufacturer that had produced the specific drug taken by their mothers many years earlier.⁸⁰ For some time courts refused to impose liability on manufacturers since the probability that a specific manufacturer had actually caused the litigated harm in any given case was much less than 50%.⁸¹ This created a misalignment: while the courts found that all the manufacturers had behaved wrongfully by creating unreasonable risks for consumers, they refrained from imposing any liability for harms that had materialized from those risks. In 1980, in *Sindell v. Abbott Laboratories*, the California Supreme Court established the market share liability doctrine, whereby all manufacturers are liable toward plaintiffs in accordance with their market share.⁸² Market share liability thus eliminates the misalignment.⁸³

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78. See PORAT & STEIN, *supra* note 71, at 57-83 (discussing various categories of cases where the identity of either the wrongdoer or the victim cannot be established by the preponderance of the evidence and offering solutions); Richard Delgado, *Beyond Sindell: Relaxation of Cause-in-Fact Rules for Indeterminate Plaintiffs*, 70 CALIF. L. REV. 881 (1982) (suggesting that the burden of proof for the cause-in-fact should be reduced in cases of indeterminate defendants and indeterminate plaintiffs); Glen O. Robinson, *Probabilistic Causation and Compensation for Tortious Risk*, 14 J. LEGAL. STUD. 779, 779-80 (1985) (arguing that in many tort cases, and especially in “mass torts,” causation is inherently hard to prove because of the problem of isolating one responsible cause where the injury is the result of a combination of several causes); David Rosenberg, *The Causal Connection in Mass Exposure Cases: A “Public Law” Vision of the Tort System*, 97 HARV. L. REV. 849, 855-59 (1984) (arguing that in cases of mass exposure to hazardous substances, the tort system is ineffective when insisting on the regular burden of proof of causation).
79. *Sindell v. Abbott Labs.*, 607 P.2d 924, 925-26 (Cal. 1980) (establishing the market share liability doctrine and elaborating on its advantages).
80. *Id.* at 927-28.
81. See, e.g., *McCreery v. Eli Lilly & Co.*, 150 Cal. Rptr. 730, 733-35 (Ct. App. 1978) (denying liability of DES producers and ruling that recovery for injuries resulting from a defective product requires that the plaintiff identify the manufacturer and establish the causal relation between the injury and the product).
82. *Sindell*, 607 P.2d at 937-38.

In lost-chances-of-recovery cases of the type illustrated by Example 2, many courts have deviated from the traditional PER approach, applying instead a probabilistic recovery rule (PRR). Under this rule, liability is imposed and damages are awarded in the amount of the harm done multiplied by the probability that it was caused by the defendant's wrongdoing.⁸⁴ The PRR could restore alignment but only if applied both when probability of causation is less than 50% and when it is greater. In practice, however, the courts apply the rule almost only to cases with a less-than-50% probability of recovery.⁸⁵

The misalignment emerges under the PER even in cases in which the probability of causation is not biased, *but the injurer can know in advance whether his case is going to have a lower or higher than 50% probability*. In such cases, the standard of care correlates with the risk created and, accordingly, also with the probability of causation. But liability will be imposed for the entire harm

83. But the market share liability doctrine has not been accepted by all jurisdictions, and has rarely been applied beyond the DES context. See PORAT & STEIN, *supra* note 71, at 59-67 (reviewing courts' attitudes toward market share liability); Geistfeld, *supra* note 71, at 451 (same); Allen Rostron, *Beyond Market Share Liability: A Theory of Proportional Share Liability for Nonfungible Products*, 52 UCLA L. REV. 151, 153 (2004) ("[M]arket share liability has effectively been treated by most courts as a solution to a unique dilemma posed by that one particular product [DES], rather than a principle applicable to any set of facts within defined limits.").
84. Many courts have applied variants of the PRR. See, e.g., *Delaney v. Cade*, 873 P.2d 175, 185-86 (Kan. 1994) (holding also that in order to recover damages for the loss of chances for a better recovery, the diminished degree of recovery must be a substantial one); *Perez v. Las Vegas Med. Ctr.*, 805 P.2d 589, 592 (Nev. 1991) (same); *Herskovits v. Group Health Coop. of Puget Sound*, 664 P.2d 474, 476-77 (Wash. 1983) (holding that a 14% reduction, from 39% to 25%, in the decedent's chance for survival was sufficient evidence to allow the case to go to the jury); see also *Falcon v. Mem'l Hosp.*, 462 N.W.2d 44 (Mich. 1990) (allowing compensation for lost chances of recovery), *superseded by statute*, MICH. COMP. LAWS § 600.2912a(2) (1993). Some courts have adopted the lost chance doctrine in cases of the victim's demise only, rejecting it in other cases. See *Falcon*, 462 N.W.2d at 57-58 (Boyle, J., concurring) ("[T]he Court today is called upon to decide the viability of a claim for 'lost opportunity' only where the ultimate harm to the victim is death. Thus, any language in the lead opinion suggesting that a similar cause of action might lie for a lost opportunity of avoiding lesser physical harm is dicta."). For straightforward support of applying a probabilistic rule to lost chance of recovery cases, see Joseph H. King, Jr., *Causation, Valuation, and Chance in Personal Injury Torts Involving Preexisting Conditions and Future Consequences*, 90 YALE L.J. 1353 (1981). See also *Doll v. Brown*, 75 F.3d 1200, 1206-07 (7th Cir. 1996). In *Doll*, Judge Posner supported extending the lost chance principle to areas beyond medical malpractice. Specifically, he instructed the court of first instance to consider the possibility of awarding the plaintiff in an employment discrimination suit damages calculated according to the chances that his not being promoted was due to illegal discrimination.
85. With a few exceptions. See, e.g., *Boody v. United States*, 706 F. Supp. 1458, 1465 (D. Kan. 1989).

whenever the probability of causation is greater than 50%, and no liability will be imposed when the probability is 50% or less, thereby creating a misalignment.

B. Efficiency

In all cases where the probability of causation is biased *downward*, efficiency requires applying the PRR rather than the PER.⁸⁶ When the probability of causation is biased *upward*, the justification for applying the PRR is less compelling but still holds. In all cases where the injurer can identify his case in advance as falling into either the less than or greater-than-50% category, regardless of whether the probability of causation is biased, efficiency warrants applying the PRR. Again, as explained below, this application is stronger when the probability of causation is less than 50%.

First, take cases in which the injurer either can determine in advance that the probability of causation is less than 50% or else presumes it to be such based on the probability in the average case. It is easy to see how the PER would provide the injurer with inefficient incentives. In cases in which the injurer could identify in advance a less-than-50% probability of causation, he would take no precautions, knowing that he would bear no liability for any harm caused by his negligence. In those cases in which the injurer could not determine in advance whether the case has a greater or less-than-50% probability, but knows that in the average case it is less than 50% (and assuming the same average harm for greater- and less-than-50% cases), he would take insufficient precautions. On the one hand, the injurer would know that in some cases, he would bear no liability for harms caused by him (when the probability of causation is proven *ex post* to be 50% or less); on the other hand, he knows that in other cases he would bear liability for harms *not* caused by him. Since the latter type of case is rarer than the former (a less-than-50% probability in the average case), the injurer will often find it beneficial to take less-than-optimal precautions. Applying the PRR would remedy the inefficiencies in all less-than-50% cases, since the rule would align the injurer's expected liability with the expected harm caused by his negligent behavior.

Things become more complicated when the injurer either identifies in advance the probability of causation in his specific case as being greater than 50% or presumes it based on the average case. Presuming no court or injurer error, the injurer will take no more than optimal precautions.⁸⁷ A variation of

86. *But see* Levmore, *supra* note 74, at 699-704 (discussing other solutions to cases where the probability of causation is biased downward).

87. *Cf. supra* notes 41-45 and accompanying text.

Example 2 can explain why: assume a typical probability of causation of 70% and ultimate expected harm of 10. In these conditions, a doctor knows that if he fails to take precautions and is found negligent, he will bear an expected liability of 10, even though the expected harm is only 7. Will the doctor overinvest in precautions (spend more than 7) because he faces an expected liability risk of 10? The answer is no. If the standard of care is set by the court at the efficient level, the doctor will not spend more than 7 in precautions: he will meet the standard of care by taking precautions of 7 and will bear no liability for any harm that materializes. Any investment in precaution beyond that point will be a waste of resources from both the social perspective and the doctor's private perspective.

Removing the no-errors assumption will change this analysis: the doctor will tend to invest more than 7 in precautions because he knows that even if he invests 7, he could still be found negligent and be held liable for harm that occurs.⁸⁸ Therefore, in cases with a greater-than-50% probability of causation, there would be an efficiency advantage to applying the PRR rather than the PER, which would reduce the incentive for the doctor to overinvest in precautions.

Applying the PRR seems to be decidedly more efficient than the PER in cases in which causation is inherently difficult to prove. There is one clear advantage to the PER over the PRR, however: its lower implementation costs. While the PER requires that the court determine only the likelihood of the plaintiff's allegations being more probable than not, the PRR requires that it determine the precise probability of the validity of the plaintiff's allegations.⁸⁹ This could be one reason, from an efficiency point of view, why courts often refrain from employing the PRR; when they do, it is mainly in those cases where the typical probability is *much* less than 50%. In contrast, one could imagine a less accurate (and less costly) implementation of the PRR. For example, courts could be given the authority to choose from among five alternatives—no liability, 25%, 50%, 75%, or full liability—rather than calculating exact probabilities.⁹⁰ This impure version of the PRR would reduce implementation costs as compared to a pure application of the PRR as well as improve deterrence relative to the PER. An analogous practice in fact exists in the comparative fault defense. When courts apply this defense, they usually do

88. See *supra* note 44 and accompanying text.

89. EPSTEIN, *supra* note 1, at 211 (making a similar observation as to the inefficiency that may occur due to high administrative costs when courts apply comparative negligence instead of the "all-or-nothing" contributory negligence defense).

90. Cf. Porat, *supra* note 6, at 272-73 (suggesting using rough grading of liability also in other contexts).

not try to *precisely* estimate the relative fault of the parties or their contribution to the ultimate harm; instead they use rough estimates based on the evidence.⁹¹

C. Non-Efficiency Considerations

Are there any non-efficiency considerations that could justify applying the PER rather than the clearly efficiency-preferred PRR?

It seems difficult to reconcile corrective justice with the PRR, especially in the context of cases with a less-than-50% probability.⁹² Corrective justice mandates that the wrongdoer rectify the injustice he caused to the victim. But in less-than-50% cases, it is more probable than not that the wrongdoer caused no injustice to the victim, and therefore it is more probable than not that there is nothing to be rectified.⁹³ The appeal of the PRR emerges only in the framework of the broader picture, not just the immediate case at hand, with the understanding that there is a problem of wrongdoers who are not at sufficient risk of paying damages. Corrective justice refuses to look at this broader picture: the essence of corrective justice is to look at the specific interaction between the specific parties—the wrongdoer and victim—and derive solutions only from that interaction.⁹⁴

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91. EPSTEIN, *supra* note 1, at 215 (“The selection of percentages of fault does not admit precise mathematical precision . . .”).
92. See Stephen R. Perry, *Risk, Harm, and Responsibility*, in *PHILOSOPHICAL FOUNDATIONS OF TORT LAW* 321, 330-39 (David G. Owen ed., 1995) (arguing against liability for lost chances of recovery in the absence of reliance or lost opportunities for alternative treatment). A related but different question is whether risk per se should be a compensable harm. For a negative answer, see PORAT & STEIN, *supra* note 71, at 101-20; and WEINRIB, *supra* note 3, at 156-58. For a positive answer, see Claire Finkelstein, *Is Risk a Harm?*, 151 U. PA. L. REV. 963 (2003).
93. See Perry, *supra* note 92.
94. COLEMAN, *supra* note 3, at 380-85 (discussing the focus of corrective justice on the relationship between the injurer and the victim); WEINRIB, *supra* note 3, at 63-66 (same). Some would argue that market share liability, which aligns the duty of care with damages, is justified under a certain distributive justice conception preferring to allocate losses to deep-pocket defendants over less wealthy plaintiffs. Cf. Chris William Sanchirico, *Deconstructing the New Efficiency Rationale*, 86 CORNELL L. REV. 1003 (2001) (attacking the argument that legal rules should play no role in redistribution of wealth); Chris William Sanchirico, *Taxes Versus Legal Rules as Instruments for Equity: A More Equitable View*, 29 J. LEGAL STUD. 797 (2000) (arguing that legal rules should be used to complement taxes as a redistributive tool).

Courts are significantly influenced by considerations of corrective justice,⁹⁵ which could be the reason why the PRR is rarely applied. Courts that apply the PRR are probably more impressed by the strong efficiency arguments for adopting the rule than by the corrective justice resistance to it.⁹⁶ But at least in some cases, employing the PRR can be reconciled with corrective justice, or at least with a version thereof.

Elsewhere, Alex Stein and I argued that the DES cases can be reconciled with corrective justice.⁹⁷ We maintained that corrective justice will support probabilistic recovery when three cumulative conditions are met: (1) the wrongdoers pay for the harm caused by their wrongdoings; (2) the victims are compensated for the harm wrongfully caused to them; and (3) the wrongdoers make payments to or participate in the mechanism that facilitates the compensation of their victims. These three conditions are satisfied in the DES cases, as well as in other cases of recurring wrongs: a group of wrongdoers inflicts harm numerous times on a group of victims; the harm caused by each wrongdoer and the harm caused to each victim is verifiable; but it is impossible for each victim to prove the identity of the specific wrongdoer, from the group of wrongdoers, who caused her harm.⁹⁸

IV. OFFSETTING RISKS

A. *The Misalignment*

Injurers sometimes simultaneously increase risks and decrease risks. In determining whether the injurer was negligent, courts should consider all risks, both increased and decreased.⁹⁹ If the risks increased are *lower* than the risks decreased, the injurer will not be considered negligent. If, instead, the risks increased are *higher* than the risks decreased, the injurer will be considered negligent if he could have reduced the difference between the two sets of risks

95. DOBBS, *supra* note 4, at 13 (“Tort law is at least partly rights-based. That is, it is at least partly based on ideals of corrective justice”); EPSTEIN *supra* note 1, at 85-88 (noting that corrective justice plays a major role in the debate over strict liability versus negligence).

96. See *Sindell v. Abbott Labs.*, 607 P.2d 924 (Cal. 1980) (relying primarily on efficiency considerations to support adoption of market share liability).

97. PORAT & STEIN, *supra* note 71, at 132-33 (discussing market share liability under a corrective justice theory); see also Geistfeld, *supra* note 71 (suggesting “evidential grouping” as the basis for imposing liability in some categories of indeterminate causation).

98. PORAT & STEIN, *supra* note 71, at 132-33 (explaining the conditions for liability that should satisfy corrective justice).

99. This is a simple application of the Hand formula previously discussed. See *supra* notes 1, 11-14 and accompanying text.

(or eliminated it altogether) at a cost that is lower than the expected reduction in the difference.¹⁰⁰ However, once the injurer is deemed negligent he will be found liable for the entire harm that resulted, without being credited for the risks he decreased, which I refer to as “the offsetting risks.”¹⁰¹ Courts’ failure to reduce damages by the offsetting risks creates a misalignment. The next example and discussion that follows illustrate this misalignment.

Example 3: Choosing between two medical treatments. A doctor must decide between Treatment A and Treatment B for his patient.¹⁰² Each treatment creates different risks but produces the same utility if the risks do not materialize. This utility is much greater than the respective risks of each treatment. The costs of administering the treatments are the same, and the costs of choosing between them are low. Treatment A entails a risk of 500 to the patient’s left arm (there is a probability of .01 that the treatment will produce harm of 50,000), and Treatment B entails a risk of 400 to the patient’s right arm (there is a probability of .01 that the treatment will produce a harm of 40,000). The risks of Treatments A and B are not correlated: the realization of the risk from one treatment has no bearing on the probability of the realization of the risk from the other treatment. The doctor negligently chooses Treatment A, and a harm of 50,000 materializes. Should the doctor be held liable? If yes, what should be the amount of his liability?¹⁰³

Under prevailing tort law, the doctor in this example would be found liable because he was negligent: he could have reduced the net risk by 100 (500-400) at a low cost but failed to do so. The negligent doctor’s liability under prevailing tort law would amount to the entire harm, which is 50,000, since that is the harm caused by his negligence. Here is how the misalignment arises:

100. For a case in which balancing one set of risks against another set was necessary for determining liability, see *Cooley v. Public Service Co.*, 10 A.2d 673, 676-77 (N.H. 1940), in which the court held that the nervous shock suffered by a telephone company’s subscriber due to a loud, sudden noise that had emanated from her phone cables was not the result of the telephone company’s negligence, because reducing the risk to subscribers would have increased the risk of electrocution to bystanders.

101. Porat, *supra* note 6 (terming such cases “offsetting risks” cases).

102. Note that one of the treatments could be an omission, such as not operating on the patient or not administering a certain medicine.

103. For actual cases illustrated by Example 3, see *Hutchinson v. United States*, 915 F.2d 560 (9th Cir. 1990), discussing a situation where a doctor chose one asthma drug over another more conservative drug with weaker side effects; and *Taylor v. Rajani*, No. 256058, 2005 Mich. App. LEXIS 2607 (Mich. Ct. App. Oct. 25, 2005), discussing a doctor who chose surgery over the less invasive procedure of biopsy.

on the one hand, the standard of care for the doctor is set according to the difference between the risks increased and decreased (100), but on the other hand, liability is determined only on the basis of the risks increased. Therefore, when the doctor makes the wrong choice, he faces an expected liability of 500 (a probability of .01 of paying damages of 50,000), even though his negligence increases risks (expected harm) by only 100! To restore alignment, the doctor's liability should equal 10,000 in damages, which would mean an expected liability of 100 (a probability of .01 of paying damages of 10,000).

Ignoring the offsetting risks when awarding damages in cases similar to Example 3 makes doctors pay, in the long run, much more than the social harm caused by their negligence. To see why, imagine that the doctor in Example 3 was negligent in the same way 100 times by administering the more risky treatment to 100 different patients. On average, 1 out of the 100 patients who were exposed to the doctor's negligence suffered harm of 50,000 due to his negligence. Additionally, 1 out of the 100 patients (likely not the patient who suffered harm of 50,000), was *saved* from harm of 40,000 (this would be the patient who would have suffered harm of 40,000 had the doctor reasonably chosen the less risky treatment). Thus, in the 100 incidents of negligence, the doctor caused a total harm of 10,000 (50,000-40,000), but since the courts disregard offsetting risks when they award damages, the doctor will pay 50,000, which is 5 times the social cost of his negligence—indeed, 5 times the social cost of his *medical activity*, negligent or not!

The misalignment caused by ignoring offsetting risks emerges also in cases when one set of risks is negligently increased toward one person (or group of people) and another set of risks is decreased toward *another* person (or group of people).¹⁰⁴ For example, imagine that a driver rushes a wounded person to the hospital in his car and on the way hits a pedestrian. Assume that had he driven his car a bit more slowly, the driver would have avoided the accident. The court determining whether the driver was negligent would take into account both risks increased (to pedestrians) and risks decreased (to the wounded person), and decide whether given both sets of risks the driver had behaved reasonably.¹⁰⁵ A negative answer would yield liability for the entire harm, without giving due allowance for the decreased risks to the wounded person. Thus, if fast driving increased risks to pedestrians by 500 but at the same time decreased risks to the wounded person by 400, the driver would be

104. See, e.g., *Cooley*, 10 A.2d at 676-77.

105. E.g., *Hebert v. Perkins*, 260 So. 2d 15 (La. Ct. App. 1972) (finding a rescuing driver liable for injuries sustained by his passenger when the driver drove through a red light and collided with another car while rushing the passenger to the hospital, as well as for injuries sustained by the driver of the other vehicle).

considered negligent and found liable for the entire harm. This liability for the entire harm creates a misalignment: again, the offsetting risks are taken into account only at the stage when the court sets the standard of care and disregarded when it awards damages. In contrast, the alignment principle would dictate liability for only one-fifth of the harm done.

The restoration of alignment in offsetting risks scenarios could be achieved either by taking those risks into account when awarding damages¹⁰⁶ or, alternatively, by ignoring them in setting the standard of care. Specifically, following the latter approach, courts could determine the standard of care solely on the basis of increased risks, disregarding any decreased risks. Both the standard of care and damages award would then be consistent with one another. While this rule is hard to imagine, as it would clash with the basic notions underlying negligence law, it might be endorsed by some corrective justice theorists.¹⁰⁷

B. Efficiency

Ignoring offsetting risks when awarding damages is inefficient because it results in the injurer's expected liability being higher than the social risk created by his wrongdoing.¹⁰⁸ In an ideal world, absent court and injurer error, this would not present any efficiency concerns: as long as the injurer's expected liability is *at least* the amount of the expected harm of his negligent behavior,

106. One way to do that is by analogizing from RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 30 (2010), which reads: "An actor is not liable for harm when the tortious aspect of the actor's conduct was of a type that does not generally increase the risk of that harm." A thorough analysis of this principle is found in Guido Calabresi, *Concerning Cause and the Law of Torts: An Essay for Harry Kalven, Jr.*, 43 U. CHI. L. REV. 69 (1975). For a discussion of the analogy, and the distinction, between the principle embedded now in section 30 of the *Restatement* and the offsetting risks argument, see Porat, *supra* note 6, at 248-50.

107. This could be inferred from corrective justice theorists' view that only the risks of harm to the *victim* (or to the group that includes him) should matter in determining whether the injurer was negligent. See Ernest J. Weinrib, *Correlativity, Personality, and the Emerging Consensus on Corrective Justice*, 2 THEORETICAL INQUIRIES L. 107, 116 (2001) (arguing that the correlativity requirement mandates that "the duty not to create the risk is seen in terms of its foreseeable effect on a group that includes the plaintiff"). For criticism of Weinrib's view, see Ariel Porat, *Questioning the Idea of Correlativity in Weinrib's Theory of Corrective Justice*, 2 THEORETICAL INQUIRIES L. 161 (2001), which argues that focusing only on the victim's risks is inconsistent with the common understanding of the notion of negligence.

108. The offsetting risks are, in fact, benefits created by the injurer. A broader argument than the offsetting risk argument would be that ideally, from an efficiency perspective, actors should internalize both the harms and the benefits that they create. See Ariel Porat, *Private Production of Public Goods: Liability for Unrequested Benefits*, 108 MICH. L. REV. 189 (2009).

he will always take cost-justified precautions and avoid liability.¹⁰⁹ But in the real world, with court and injurer risk of error, the outcome is completely different. When the actual liability leads to the expected liability exceeding the social risks, the injurer will take excessive precautions.¹¹⁰ In the medical setting, this means that doctors will practice more defensive medicine, which along with excessive precautions is detrimental to both patients and society at large.

This argument can be illustrated by reference to Example 3. Since a wrong choice between the two treatments would cost the doctor 500 in expected value, he might prefer the less risky treatment even when administering it is costlier than the risky treatment by more than 100. The reason is clear: while for the patient (and society) the difference between the two treatments is only 100 (risk of 400 or risk of 500), for the doctor, the difference could amount to 500 (liability risk of zero or liability risk of 500). The doctor, realizing that the difference in cost between the two treatments is, say, 150, might prefer the *less* risky treatment (400), which would be the *more* costly one in total (400 + 150). For the doctor, choosing the less risky treatment would yield expected liability of zero, while the riskier treatment would yield an expected liability of 500 multiplied by the probability of court or his own error (with no court error, the court would not impose liability because the doctor would not be negligent (since 150 > 100)). This could convince the doctor to choose the less risky, but less efficient treatment.¹¹¹ The chances of him doing so are high if the doctor can shift the extra 150 in treatment costs to the patient, by persuading her that the difference between the two treatments amounts to much more than 150 and charging her accordingly.

But the inefficiency will arise even if the doctor (or her employer) bears the entire cost. This inefficiency would be most obvious when the difference in risk between the two treatments is negligible, say 5 rather than 100. In such circumstances, from the patient's perspective, there would be almost no difference between the treatments (only 5)—but for the doctor, the difference would still be huge (500). It is likely then that the doctor would greatly prefer the less risky treatment: even if the treatment costs much more than 5 to administer, it would be the less costly option for him. Furthermore, when it is costly for the doctor to verify which treatment is less risky, he will be willing to incur verification costs, even if they are much greater than 5. Doctors'

109. See, e.g., *supra* notes 41-45 and accompanying text.

110. See *supra* note 44 and accompanying text.

111. See, e.g., A. Dale Tussing & Martha A. Wojtowycz, *Malpractice, Defensive Medicine, and Obstetric Behavior*, 35 MED. CARE 172 (1997) (suggesting that obstetricians' fear of liability has resulted in both the increased use of cesarean section surgery as well as the use of the electronic fetal monitor, a major diagnostic tool, during labor).

incentives to incur excessive costs for administering treatments and for verifying which of the treatments are less risky for their patients are especially strong under the assumption that they are better off at trial when they show that those costs were indeed high.

These inefficient behaviors would be diminished were doctors' liability reduced by offsetting risks. Thus, if in Example 3 the negligent doctor's expected liability is 100, then he would not prefer (assuming he does not shift the extra costs to the patient) the less risky treatment when the cost of administering it is more than 100 greater than the cost of the riskier treatment. Similarly, where the difference in risk between the two treatments is only 5, the negligent doctor would not spend more than 5 (in fact, would spend no more than 2.5^{112}) to verify which treatment is less risky if his expected liability were 5 rather than 500.

So far, I have discussed cases in which excessive precautions do not increase patients' risks but are simply too costly. A similar analysis would show that under an offsetting risks rule, doctors would have less incentive to practice defensive medicine, which increases patients' risks while reducing doctors' expected liability.¹¹³ The problem of defensive medicine commonly arises when the riskier treatment's harms are mostly nonverifiable—i.e., cannot be proven in court—and the less risky treatment's harms are mostly verifiable.

Accordingly, suppose the two alternative treatments in Example 3 are vaginal delivery and cesarean delivery of a baby. Assume that the less risky procedure is vaginal delivery; but the doctor knows that if something goes wrong, he will likely be sued and the chances of his being found liable for negligently choosing vaginal delivery will be significant (because of either his or the court's error). Further assume that the doctor knows that if he chooses cesarean delivery, his chances of being sued will be very low even if it is the worse procedure for his patient. This procedure could be detrimental for the patient because it often results in small harms, and sometimes in significant harms such as reducing the patient's prospects of having a baby in the future. But those risks of harm do not necessarily reflect the doctor's liability risk, even if he negligently chooses the cesarean procedure. This is so because patients do

112. Because the doctor could choose one of the two treatments at random, and the probability that he would have selected the less risky treatment would be 50%.

113. See Alec Shelby Bayer, *Looking Beyond the Easy Fix and Delving into the Roots of the Real Medical Malpractice Crisis*, 5 HOUS. J. HEALTH L. & POL'Y 111, 119 (2005) (arguing that due to defensive medicine practices, patients feel abandoned by doctors who now refuse to perform high-risk procedures); Chandler Gregg, Comment, *The Medical Malpractice Crisis: A Problem with No Answer?*, 70 MO. L. REV. 307, 328 (2005) (arguing that specialists, especially surgeons and obstetricians, are driven into general practice, leaving high-risk, injured, and sick patients with less care).

not ordinarily sue for the (many) small harms caused by cesarean delivery and will find it hard to prove even the significant harms in court because they are latent and difficult to trace back to the doctor's negligence with the passage of time. Consequently, the doctor in our example might prefer cesarean over vaginal delivery, even though it is not in his patient's best interests.¹¹⁴ This inclination to practice defensive medicine by choosing cesarean delivery would be reduced if the doctor's expected liability for negligently choosing the wrong procedure were to amount to the difference between the risks entailed by the two procedures, rather than to the entire risk created by the procedure actually chosen. Under an offsetting risks rule, doctors would gain less from practicing defensive medicine.

C. Non-Efficiency Considerations

The offsetting risks rule could be expected to draw criticism from corrective justice theorists.¹¹⁵ Corrective justice requires that the wrongdoer rectify the injustice he caused to the victim. In Example 3, the injustice done is the harm of 50,000, not 10,000, and therefore liability for the full 50,000 should be imposed. Both corrective justice and distributive justice theorists can be expected to be even more hostile to applying an offsetting risks rule in the context of risk reduction directed at third parties rather than the victim. In third party cases, the offsetting risks rule would reduce the damages awarded

114. In response to the growing concerns in the 1980s about the rising cesarean rate, the U.S. Department of Health and Human Services declared decreasing the cesarean rate as one of the Healthy People Year 2000 objectives. PUB. HEALTH SERV., U.S. DEP'T OF HEALTH & HUMAN SERVS., HEALTHY PEOPLE 2000: NATIONAL HEALTH PROMOTION AND DISEASE PREVENTION OBJECTIVES 111 (1990). Fear of being sued if complications arise in a vaginal delivery has contributed to the rising number of cesarean sections. See Elizabeth Swire Falker, *The Medical Malpractice Crisis in Obstetrics: A Gestalt Approach to Reform*, 4 CARDOZO WOMEN'S L.J. 1, 15 (1997). One study examined the impact of malpractice risk on cesarean deliveries and found a systematic relationship between the rate of cesarean surgical procedures and malpractice claim frequency. See Michael Daly, *Attacking Defensive Medicine Through the Utilization of Practice Parameters*, 16 J. LEGAL MED. 101, 105 (1995). For an argument that reducing damages could have opposite effects, because when liability is lower doctors tend to perform more unnecessary procedures that are more profitable to them, see Janet Currie & Bentley MacLeod, *First Do No Harm? Tort Reform and Birth Outcomes*, 123 Q.J. ECON. 795 (2008).

115. See Benjamin Shmueli, *Offsetting Risks in Tort Law: Theoretical and Practical Difficulties*, 37 FLA. ST. U. L. REV. 137 (2009) (criticizing the concept of offsetting risks, mainly for implementation difficulties).

to the victim simply because a third party benefited from the behavior that harmed her.¹¹⁶

It can also be argued that even in Example 3, under an offsetting risks rule, the victim would be deprived of full recovery only because of benefits conferred to third parties. After all, in Example 3, it is most likely that the patient suffered harm amounting to no less than 50,000. There is only a 1% probability that had the doctor chosen the less risky treatment, the specific patient would have suffered harm of 40,000! It is almost certain (99%) that had the doctor not been negligent, the patient would have suffered no harm at all.

This is the reason why corrective justice theorists would be resistant to an offsetting risks rule, even if applied only in Example 3 types of cases. However, a distributive justice theorist (contractarian, maybe) could be expected to be much more receptive to such a rule in the context of Example 3. For it is in the best interest of the patient (from an ex ante perspective) that the doctor in Example 3 have efficient incentives to treat her, since if the doctor takes excessive precautions (or even more so practices defensive medicine), the patient will be the primary bearer of the costs. The offsetting risks rule would provide the doctor with more efficient incentives than the prevailing rule, and therefore will be (ex ante) preferred by the patient.¹¹⁷ In contrast, in the third-party context it is in the best interests of the potential victim that the injurer be as cautious as possible toward her, even if excessive from a social perspective, and therefore she would prefer (both ex post and ex ante) the prevailing rule to the offsetting risks rule.

Corrective justice considerations can therefore likely explain why tort law has not (yet?) endorsed the offsetting risks rule even for cases represented by Example 3. A possible compromise that tort law could make is to adopt the rule for cases in which both the risks increased and decreased are directed at the same person (as in Example 3) and reject it for other situations. In this way, the misalignment would be diminished.

116. See WEINRIB, *supra* note 3, at 63-65 (explaining that corrective justice focuses only on the relationship between the injurer and the victim).

117. It could therefore be expected that the parties would opt out of the current rule and instead adopt the offsetting risks rule. However, this would probably be considered illegal. See, e.g., *Tunkl v. Regents of Univ. of Cal.*, 383 P.2d 441 (Cal. 1963) (holding that the exculpatory provision in the contract between patient and hospital is invalid under the civil code); *Health Net of Cal., Inc. v. Dep't of Health Servs.*, 6 Cal. Rptr. 3d 235 (Ct. App. 2003) (holding that a contractual prohibition against recovery of damages for an act that is prohibited by statute is invalid). But see Richard A. Epstein, *Contractual Principle Versus Legislative Fixes: Coming to Closure on the Unending Travails of Medical Malpractice*, 54 DEPAUL L. REV. 503, 505-06 (2005) (arguing that patient and doctor are better at determining the level of care, ex ante, than the legislator or the court, and therefore malpractice suits should be based on contract rather than tort law).

V. THE WRONGFUL RISKS LIMITATION

A. *The Misalignment*

Under the *Restatement (Third) of Torts: Liability for Physical and Emotional Harm*, “An actor’s liability is limited to those harms that result from the risks that made the actor’s conduct tortious.”¹¹⁸ I refer to this limitation on liability as “the wrongful risks limitation.” The concepts “duty of care” and “proximate cause” are often used by courts to apply the wrongful risk limitation.¹¹⁹ The *Restatement (Third)* adopted the term “scope of liability” instead of “proximate cause” and classified the wrongful risks limitation as a scope of liability issue.¹²⁰ Example 4 illustrates this limitation.

Example 4: The stairway railings. In a certain factory, two employees, one disabled and the other able-bodied, fall down the stairs and are injured. Both employees sue the employer for his alleged negligent failure to install railings along the stairway, arguing that their injuries would have been prevented had he done so. Of the 100 employees who work at the factory, 5 of them are disabled. In similar cases, *where there were no disabled employees at the workplace*, courts have ruled that failure to install railings does not amount to negligence. In the case at hand, the court is convinced that given the presence of five disabled employees at the workplace, the employer’s failure to install railings constitutes negligent behavior. Therefore, the court finds the employer liable toward the disabled employee. Assuming that causation between the absence of railings and the injuries suffered by the able-bodied employee who fell down the stairs can be established, should the employer be found liable toward him?¹²¹

118. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 29 (2010); *see also* DOBBS, *supra* note 4, at 463 (stating the principle that liability is imposed for risks that made the actor’s behavior wrongful); KEETON ET AL., *supra* note 24, at 273 (suggesting the same proposition).

119. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 29, cmts. b, f (discussing how “proximate cause” and “duty of care” have been used to refer to what I call “the wrongful risk limitation”).

120. Other limitations on tort liability under negligence law, which are also applied by way of proximate cause and duty of care, exist for practical reasons. *See supra* notes 22–28 and accompanying text.

121. I assume for simplicity’s sake that workers’ compensation statutes do not apply.

Applying the wrongful risks limitation, courts would likely not impose liability on the employer toward the able-bodied employee in this example.¹²² The *Restatement (Third)* clearly takes the same approach.¹²³ The apparent reason for rejecting liability would be that only the risks to disabled employees make the employer negligent, and thus an able-bodied employee is not entitled to recover for her injury.

At first glance, Example 4 seems unrelated to misalignment. Indeed, it is *because* of the alignment principle and *because* risks to able-bodied employees do not count when the court sets the standard of care that the harms that materialize from those risks should not trigger any tort liability.

But I want to argue that the wrongful risks limitation, or at least the way it is often applied by courts, is yet another manifestation of misalignment. My argument is twofold: (a) absent special policy considerations, all foreseeable risks created by the injurer should be and are considered by courts when they set the standard of care; (b) therefore, exempting the negligent injurer from liability for harms materializing from foreseeable risks creates misalignment.

It is hard to accept the assumption that, when setting the standard of care, courts will ignore some of the *foreseeable* risks created by the wrongdoer (absent any relevant policy considerations), particularly when they are risks to people's bodily integrity.¹²⁴ Indeed it is quite possible that certain risks, in themselves,

122. See *Carman v. Dunaway Timber Co.*, 949 S.W.2d 569 (Ky. 1997) (refusing to define appellee's violation of the safety act as negligence per se because the purpose of the act was to protect employees only, and appellant did not belong to this group). *But see Anderson v. Turton Dev., Inc.*, 483 S.E.2d 597 (Ga. Ct. App. 1997) (rejecting appellant's claim that the negligent design of the handicap ramp, which was the cause of appellant's fall, constituted a violation of the Georgia Handicap Act because appellant was not handicapped or elderly, but finding appellee liable for appellant's damages on grounds of common-law negligence).

123. A similar example is discussed in the RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 14 cmt. g, under the doctrine of negligence per se: "[I]f a statute designed to prevent falls by persons with disabilities requires elaborate railings on the side of stairways, and if a person who is able-bodied is then injured in a fall that such a railing, if present, would have prevented, this fall can be seen as not the type of accident the statute is considering." With negligence per se, a limitation on liability analogous to the wrongful risks limitation applies: in order to recover his losses, the victim must be a member of the class of persons protected by the statute in question and his injury must be of the type that the statute was intended to prevent. *Id.* For a critical discussion of the *Restatement* example and the limitation on liability under the doctrine of negligence per se, see Ariel Porat, *Expanding Liability for Negligence Per Se*, 44 WAKE FOREST L. REV. 979 (2009). See also *infra* note 127 for further discussion of the *Restatement* approach regarding the wrongful risk limitation.

124. Sometimes practical considerations could preclude taking certain risks into account when setting the standard of care. See *supra* notes 22-28 and accompanying text. But such considerations are not applicable to the present case. See, for example, a well-known case decided by the House of Lords in England, *Home Office v. Dorset Yacht Co.*, [1970] A.C.

would not warrant taking precautions, but when those risks combine with other risks, the sum of *all* the risks would mandate taking precautions. Thus, in Example 4, it is possible that the risk to able-bodied employees alone does not justify the cost of installing railings. If, however, five disabled employees are present on the premises, the *total* risk to both able-bodied and disabled employees is high enough to require railings. Thus, there is no reason to infer from the fact that the risks to able-bodied employees *in and of themselves* do not require precautions that, when they are combined with other risks, they are not taken into account by the court when it sets the standard of care.¹²⁵

To better understand this point, let us assign some numbers to the facts in Example 4. Assume that the cost of installing railings is 80, and this reduces the risk to able-bodied employees by 30. Under these conditions, in the absence of disabled employees at the workplace, installing railings is not cost-justified ($30 < 80$). Assume, however, that railings reduce the risk by 60 for the 5 disabled employees present at the workplace. Under these conditions, installing railings is cost-justified ($30 + 60 > 80$). Note, however, that while the lack of disabled employees makes installing railings not cost-justified, it is the presence of *both* able-bodied and disabled employees that makes this precaution cost-justified: were it not for the disabled employees *as well as* the able-bodied employees, railings would not be cost-justified.

In light of this analysis, a misalignment arises. As I explained, there is no reason *from a normative point of view* why in most cases the standard of care should not be set in accordance with all foreseeable risks. Moreover, there is no reason *from a positive point of view* to assume that in most cases courts do not set the standard of care in light of all foreseeable risks.¹²⁶ The opposite may seem to be true, since ordinary or background risks are often not high enough *by themselves* to require precautions, whereas unusual risks often require precaution either by themselves or when combined with ordinary risks. But once it is understood that those ordinary risks *should and do* play a role in

(H.L.) 1004 (appeal taken from Eng.). The House of Lords ruled that a public authority, which was operating a rehabilitation camp with less supervision than commonly practiced, owed a duty of care to people injured by escaped inmates in the course of their escape. The judges, however, were of the opinion that such a duty is not owed to everyone who could foreseeably be injured by the escaped inmates, but only to those who are in the vicinity of the risk. *Id.* at 1070-71. The policy consideration that could justify no duty of care to victims who are not in the camp's vicinity is the avoidance of crushing liability on the government, where such liability is likely to burden future inmates in custody with too burdensome restrictions on their freedom.

125. For an analogous argument for negligence per se, see Porat, *supra* note 123.

126. If they set the standard of care only according to the unusual risks, and impose liability only for those latter risks, there would be an alignment, but an inefficient one. See *infra* Part VII, Table 1 (box A), and the text following it.

setting the standard of care, exempting the *negligent* injurer from liability for harms resulting from those risks creates a misalignment.

Indeed if courts do set the standard of care based on all foreseeable risks (including the ordinary ones), then the wrongful risks limitation should not apply, and liability should be imposed for all foreseeable harms. If that were to happen, there would be no misalignment. But it seems that courts are often confused about the application of the wrongful risks limitation and in many cases assume that the presence of unusual risks alone made the injurer's behavior negligent (even though a thorough analysis would reveal this assumption to be ill-founded).¹²⁷ This assumption may be the result of a cognitive bias that some people—judges and jurors included—share, whereby focus is placed on unusual circumstances (in our context, the unusual risks) to explain causal relations.¹²⁸

127. Take the example, appearing in the RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 29 cmt. d, illus. 3, at 496-97, of a hunter handing his loaded gun to a child, who drops the gun on her toe and breaks it. Under the *Restatement*, the hunter, though negligent, should not bear liability for the broken toe, because “the risk that makes [the hunter] negligent is that [the child] might shoot someone with the gun, not that she would drop it and hurt herself (the gun was neither especially heavy nor unwieldy).” I see no reason why the risk of the gun falling on the child's leg (assuming it is a foreseeable risk) should not be taken into account by the court when it sets the standard of care, and why liability should not be imposed on the hunter in the *Restatement* example. In my view, even if that latter risk, *standing alone*, is not high enough to make the hunter negligent, it is part of the cluster of risks which made him negligent. (If the gun was heavier, and the child very young, the risk to the child's leg might be enough *by itself* to make the hunter negligent, regardless of whether the gun was loaded or not.)

128. It may relate to the salience bias identified by the cognitive psychology literature and summarized by David Dana:

[A]s regards either personal experience or secondhand information, vivid, dramatic, and “showy” events (sudden death from explosions, hurricanes) are more psychologically available than more subtle, less-easily visualized, less dramatic information events (long-term risks from poor diet, global warming). And, for that reason, at least on some accounts, people respond to (and get politicians to respond to) dramatic threats to well-being aggressively, while essentially ignoring long-term, sometimes much more serious but less vivid threats.

David A Dana, *Rethinking the Puzzle of Escalating Penalties for Repeat Offenders*, 110 YALE L.J. 733, 760 (2001) (footnote omitted); see also Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630, 654-72 (1999) (discussing salience and other biases).

B. Efficiency

If able-bodied employees are not entitled to recover for their injuries in Example 4, social welfare will be impaired and, more importantly, disabled employees will not be adequately protected against the risk of falling. The explanation is straightforward. In Example 4, absent liability towards able-bodied employees, a self-interested, rational, wealth-maximizing employer might prefer not to spend 80 on railings and instead to shoulder liability of 60 towards disabled plaintiffs. This would clearly be socially inefficient and impair social welfare. No less significantly, it would prevent the full protection of disabled employees, for without railings their risk of falling will not be reduced. Although disabled employees will be compensated if injured, it is commonly accepted that compensation for bodily injury is rarely equivalent to the original state of being uninjured.

Of course under a different numerical scenario the employer's lack of liability toward able-bodied employees in Example 4 would lead to neither inefficiency nor diminished protection for disabled employees. If the risk to disabled employees were 100 rather than 60, the employer would have sufficient incentive to install a railing even without bearing liability towards his able-bodied employees (since $100 > 80$). But we (or the courts) do not really know what the numbers are, and there is always the possibility that they could work out similarly to the original assumptions given for Example 4. Furthermore, there are definite advantages to a doctrine of negligence that can be applied uniformly to all cases. This is precisely how the doctrine of negligence works: the injurer bears liability for risks he could have reasonably prevented, even if lower liability would be sufficient to incentivize him to take adequate precautions.¹²⁹

Thus, in order to align negligence law with efficiency, and absent special policy considerations to the contrary, all foreseeable risks should count in setting the standard of care and all harms that materialized from those risks should be recoverable. Although in certain cases administrative costs would justify not imposing liability for foreseeable harms (as may be the case for emotional harm¹³⁰), the exception should not be confused with the rule.

129. Thus, any liability threat greater than the costs of precaution would be sufficient to create efficient incentives. Accordingly, if costs of precaution are 2 and expected harm is 100, a liability threat greater than 2% of harm would be sufficient to incentivize the injurer to take the precautions.

130. See *supra* notes 25-28 and accompanying text.

C. Non-Efficiency Considerations

Why did tort law in fact adopt the wrongful risks limitation? I am not sure I have an answer. Indeed, the wrongful risk limitation was not included in the *Restatement (Second) of Torts*, and its inclusion in the *Restatement (Third)* is one of the latter's novelties. As its reporter acknowledged, "Liability for *all* risks posed by an actor's conduct is consistent with the Restatement Second of Torts § 281, comment e."¹³¹

One could speculate that the wrongful risks limitation is aimed at precluding liability for unforeseeable risks. Unforeseeable risks do not and should not define the injurer as negligent, and the harms materializing from them do not and should not trigger liability.¹³² But foreseeability is a distinct conception that is independent of the wrongful risks limitation and can hardly justify the latter's adoption. The same can be said with respect to risks that are and should be precluded from consideration for policy reasons.¹³³ There, too, a different conception applies that is independent of the wrongful risks limitation.

Corrective justice theorists seem to take the view that there are foreseeable risks that do not make the actor negligent and therefore should not trigger liability.¹³⁴ Their influence on tort law probably can explain the adoption of the wrongful risks limitation. Yet I am doubtful as to whether this is the correct way to apply the notions of corrective justice to tort law. Why should we assume that, in Example 4, the risks to the 95 able-bodied employees are irrelevant to the determination of whether the employer was negligent? Imagine that instead of 100 employees, there were 500 employees at the workplace, all able-bodied. Suppose a court decides that with 500 employees, even though all are able-bodied, not installing railings is negligent, whereas failure to install railings with only 100 able-bodied employees is not negligent. Would anyone ever think to claim that liability should be imposed on the employer for harms caused to only some of his employees and not to others? Such an argument would not make any sense even if the employer were to expand his workforce from 100 to 500 employees and fail to install railings as mandated by negligence law. No serious argument could be made that only the

131. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 29 cmt. d, at 522.

132. See *supra* notes 19-21 and accompanying text.

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

134. WEINRIB, *supra* note 3, at 158-64 (justifying no liability for unforeseeable risks on corrective justice grounds).

new 400 employees are entitled to damages if injured due to the employer's failure to install railings.

The same argument applies to other cases represented by Example 4.

VI. THE INJURER'S SELF-RISK

A. *The Misalignment*

When courts set the standard of care, they consider the risks the injurer created toward others but not the risks he created for himself. This results in a misalignment, but one different in kind from the four cases discussed previously. The following example illustrates this fifth type of misalignment.

Example 5: Speeding. Driving at 30 mph, John's car skids and hits Tony's parked car. Had John driven 25 mph, he would have avoided hitting Tony's car. If we consider the risk John created for others and himself, the reasonable speed was 25 mph. But if we consider only John's risk to other people, the reasonable speed was 30 mph. The rule of law is negligence. Should the court find John liable in a suit for damages brought by Tony?¹³⁵

In cases like this, most courts will find the defendant not liable. Courts will arrive at this decision by looking at the risk the injurer created for others and ignoring his self-risk. The intuition behind such a decision is that the duties one person owes to another person depend on the risk posed to the latter and not to the former.¹³⁶ As explained in the next sections, this intuition is wrong, from both efficiency and non-efficiency perspectives. But before explaining

135. This example is adapted from Robert Cooter & Ariel Porat, *Does Risk to Oneself Increase the Care Owed to Others? Law and Economics in Conflict*, 29 J. LEGAL STUD. 19, 19-20 (2000).

136. Quite amazingly, I cannot point to any court decision where the injurer's self-risk argument was even raised, not to mention deliberated or accepted. For apparent disregard of the injurer's self-risk, see *Conway v. O'Brien*, 111 F.2d 611 (2d Cir. 1940), where the court considered only risks to passengers in the car and not to the driver in determining whether the latter was grossly negligent. This case was decided by Judge Hand seven years before he set forth his famous algebraic formula. No less interesting, Judge Posner also ignored the injurer's self-risk in *Brotherhood Shipping Co. v. St. Paul Fire & Marine Ins. Co.*, 985 F.2d 323 (7th Cir. 1993). There, Judge Posner considered only the risks to ships that were at risk of collision with a slip due to the failure of the defendant, its owner, to better maintain and design the slip, while ignoring the (high) risk to the slip from collisions with the ships. Later, however, in his book, Judge Posner acknowledged that all risks should count in setting the standard of care. POSNER, *supra* note 12, at 170. For a discussion of those cases and others, see Cooter & Porat, *supra* note 135, at 25-28.

why, let us consider first why ignoring the risk to John—or, more generally, the injurer’s self-risk—creates a misalignment.

At a first glance, it seems that when courts set the standard of care by taking into account only risks to others, there is no violation of the alignment principle. For the risks that the courts consider when setting the standard of care (risks to others) are the same risks for which liability is imposed when they materialize into harm. But closer examination reveals that disregarding the injurer’s self-risk in setting the standard of care creates a misalignment. The reason is that the injurer is also “liable” for harm to himself that materialized from his negligence. Strictly speaking, this is not genuine liability, because one cannot be “liable” to oneself. What is important here is that the injurer, if found negligent, bears the costs of both the risks he created toward others and those he created for himself (indeed, he bears the latter risks even if not found negligent). Thus, although the negligent injurer bears all risks created by his negligence, the standard of care is set only according to the risks he created for others.

It should be apparent that this misalignment differs from the other misalignments discussed in this Article. In the other misalignments, courts consider all risks when they set the standard of care but ignore or misvalue some risks when determining liability. In cases involving self-risk, the misalignment works in the opposite direction: the injurer bears liability for all risks, but only some of those risks (risks to others) are taken into account in setting the standard of care.

The new *Restatement (Third) of Torts: Liability for Physical and Emotional Harm* acknowledges that all risks should be considered in setting the standard of care, both risks to others and risks to oneself, and refers to the argument Robert Cooter and I have made on this matter.¹³⁷ It is too early to predict whether courts will follow the *Restatement’s* rule.¹³⁸

137. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 3 cmt. b (2010); *id.* § 3 cmt. b, reporter’s note. The *Restatement* also refers in this context to Kenneth W. Simons, *The Puzzling Doctrine of Contributory Negligence*, 16 CARDOZO L. REV. 1693, 1725-28 (1995) (arguing that all risks should count in determining whether the victim was contributorily negligent).

138. The injurer’s self-risk argument was adopted by the Israel Supreme Court in *Valas v. Egged*, 55 (5) P.D. 826, 844 (2001), where the Court ruled that when determining the negligence of the defendant bus company in failing to protect passengers from criminals, the risk to the bus company’s property should also be considered.

B. Efficiency

Why is it inefficient for courts to disregard the injurer's self-risk? Let us assign numbers to Example 5. Assume that slowing down from 30 mph to 25 mph costs John 10 in lost time but reduces his self-risk by 7 and the risk to others by 8. Thus, the costs of precaution (10) are less than its social benefit (15) and efficiency requires that John slow down. If the court deciding the case ignores John's self-risk when setting the standard of care, it would conclude that John was not negligent and therefore should bear no liability: the costs of precaution (10) were higher than the expected harm (8) (or in Hand formula algebraic terms: $B > PL$). Such an application of the Hand formula would be inefficient. John would realize, when considering whether to slow down, that he would bear no liability in the event of an accident. Thus, even though he would also realize that he would have to bear his own losses, he would not be persuaded to take precautions since the costs of precaution (10) are higher than his expected harm (7).

Efficiency would be achieved if the court, when setting the standard of care, were to take into account all risks that would have been reduced had precautions been taken and to impose liability on John (since in our example the costs of precaution (10) are lower than the combined risks (15)). This would not only correct the misalignment, but more importantly it would provide injurers with efficient incentives to take precautions. If John knew that the court would impose liability on him, he would consider all risks, both to others (8) and to himself (7). He would realize that he would be better off taking precautions of 10 rather than bearing risks of 15, and he would slow down from 30 mph to 25 mph.¹³⁹

The inefficiency that derives from disregarding the injurer's self-risk could be huge: when self-risk is equal to the risk created for others, the courts, by ignoring the former risk, set the standard of care 50% lower than what efficiency mandates. (In our example, the courts would require that John take precautions of up to 8 instead of up to 15.) This inefficiency would arise whenever all of the following conditions are met: (1) precautions taken by the injurer would reduce risk to both others and to himself; (2) the self-risk is lower than the cost of precaution; (3) the risk to others is lower than the cost of

139. Interestingly, if courts take the injurer's self-risk into account in setting the standard of care, they will have to evaluate it. If they do so, the standard of care will be lower for a driver with air bags in his car (low self-risk) than for a driver with no airbags (high self-risk), assuming everything else is equal. Courts may refuse to do so for high administrative costs or other non-efficiency concerns.

precaution; and (4) the sum of the self-risk and the risk to others is greater than the cost of precaution. These conditions are often met.¹⁴⁰

Note that the self-risk argument can be formulated differently, using the “net burden” idea. In this version, which is mathematically equivalent to the original version, the injurer’s self-risk should not be *added* to the risks he created toward others; rather, the injurer’s self-risk should be *deducted* from the (gross) cost of precautions. Under this formulation, the risk John created was just 8 (risk to others), but the *net* cost of precautions (the net burden) was 3, not 10. Therefore he should be considered negligent (since $3 < 8$) and found liable. The net cost of precaution amounts to 3 because, by taking precautions of 10 (slowing down and thereby wasting time), John would have benefited by 7, which is the reduction of his risk of being injured in an accident. The net cost of precaution, or the net burden—and not the gross cost of precaution—should count in determining whether John was negligent.¹⁴¹

C. Non-Efficiency Considerations

Can the misalignment that results when courts disregard the injurer’s self-risk be justified on non-efficiency grounds? I don’t believe so.

It could be argued that including self-risk in setting the standard of care would be paternalistic, in that it pushes people to reduce self-risk by threatening them with liability. But the rationale for taking self-risk into account is not the notion that people should reduce their risks to themselves; rather, they should reduce risks to others when mandated by efficiency. Efficiency requires that an injurer reduce risks to others when the risk exceeds the injurer’s *net* burden rather than gross burden (in the terms of the net

140. Instead of being binary, precaution often takes several different values or changes continuously, as with driving speed. Given continuous precaution, ignoring injurers’ self-risk inevitably results in setting the standard of care too low, since the marginal cost of a little more precaution, which should be balanced against the marginal benefit to oneself and others, is only balanced against the latter. With continuous variables, setting the standard of care too low typically yields insufficient precaution by potential injurers. Thus, the conditions for the failure of the traditional application of the Hand Rule, which ignores injurers’ self-risk, are simpler and more general when precaution is continuous rather than binary. As in the latter case, if the injurer’s self-risk is taken into account, efficiency is achieved.

141. Note that the self-risk argument can be countered by the argument that we can never be certain whether any given injurer really cares about his self-risk. Yet this hardly justifies abandoning the self-risk argument: first, there is no reason to assume that most injurers ascribe no value to their self-risks; second, courts generally apply negligence law according to objective criteria, and there is no reason to deviate from this convention with respect to injurers’ self-risk.

burden version of the argument). While taking the injurer's self-risk into account would indeed boost injurers' incentive to reduce risks to themselves, this is not the justification for doing so.

Similarly, it might be argued that considering self-risk in setting the standard of care is anti-liberal because it results in sanctioning the injurer for assuming a risk and thereby restricts his available choices and the scope of his autonomy. However, taking self-risk into consideration in the application of the Hand formula yields no greater a qualitative infringement on injurers' autonomy than does the traditional application of the formula. Negligence law—by all accounts, efficiency and corrective justice alike—is based on the idea that people's autonomy should be restricted only when they create *unreasonable* risk for others. The reasonableness of a risk is determined by the magnitude of the risk, on the one hand, and the magnitude of the burden of reducing it, on the other.¹⁴² The greater the burden, the more adverse the impact on the actor's autonomy if liability is imposed, and vice versa.¹⁴³ Since the magnitude of the burden is indicative of the effect of liability on the actor's autonomy, it is crucial to define it accurately. The injurer's self-risk does precisely that: the greater the self-risk, the lesser the (net) burden on the injurer in taking precautions, and the smaller the infringement on the injurer's autonomy.

Thus, if self-risk is taken into account at the standard of care stage, greater precaution will be required of the injurer than when self-risk is disregarded. In this respect, the inclusion of self-risk seems to allow for more severe infringement on the injurer's autonomy. But upon closer scrutiny, the presence of self-risk simply indicates that the burden of taking precautions, as well as the infringement on the injurer's autonomy, is less than what would be expected if we were to look at the gross burden borne by the injurer—i.e., ignoring self-risk—rather than the net burden.

142. For the view that only risks, and not burdens, should count in defining “unreasonable risks,” see WEINRIB, *supra* note 3, at 147-52, who argues that negligence should be determined only according to the risks created by the injurer, without consideration of the burden imposed upon him to reduce those risks.

143. Keating's social contract theory of negligence law draws a related point. See Keating, *supra* note 67, at 349 (“The enhanced freedom of action injurers gain from imposing risks must be balanced against the loss of security those risks impose on victims. Conversely, the lost freedom of action that injurers suffer when they are forced to take precautions must be balanced against the benefits those precautions afford the property and physical integrity of victims.”).

VII. CONTENDING WITH MISALIGNMENTS

What can we learn from the five misalignments discussed in this Article? Do they really share something in common? Are there any common reasons that can be identified to explain the misalignment in these particular cases but not in others?

At first glance, the five cases are completely different from one another. The lost-income case is about quantifying damages; difficulties in proving causation relate to deficient enforcement of the law; the offsetting risks are about a certain aspect of causation and positive externalities emerging from wrongdoings; the wrongful risks limitation relates to the scope of liability (or proximate cause); and the injurer's self-risk is about the effect of the injurer's exposure to risk on the care he owes to others.

Yet these five cases have one shared feature: in all five, there is an inconsistency in how the standard of care is set versus how damages are awarded. It is as though one theory of tort law applies to the former and another to the latter. Generally speaking, in all of the cases except the injurer's self-risk cases, the courts set the standard of care efficiently, but liability is not efficiently imposed. When setting the standard of care, the court takes into account all foreseeable risks, but at the imposition of liability stage, it ignores some of those risks or else assigns them incorrect values. Thus, in the lost-income case, the standard of care is set uniformly, regardless of the potential victim's lost income, but damages vary according to the particular victim's lost income. In the proving causation case, the standard of care is set according to the expected harm, but when there is a downward or upward bias in the probability of causation, damages (in the extreme case) are set at zero or at the amount of the full harm, respectively. With offsetting risks, both risks increased and risks decreased are considered when courts set the standard of care, but damages are awarded for risks increased without due allowance for risks decreased. Finally, in the wrongful risks limitation case, while the standard of care is set according to both ordinary and unusual risks, liability is not always imposed for ordinary risks. The only instance where the misalignment goes in the opposite direction is the injurer's self-risk case: while the negligent injurer bears all risks created by his negligence, the standard of care is set only according to the risks he imposed on others.

Table 1 below summarizes the inefficiencies that could result when either the standard of care or damages are not set at the efficient level. The efficient level of care is achieved when standard of care and damages align with the expected harm. If they are set below or above the expected harm, then the level of care is either too low (underdeterrence) or too high (overdeterrence), respectively (but under certain conditions could be efficient). *The Table assumes*

no court or injurer error. The discussion that follows explains the Table, relates it to the five misalignments discussed in the Article, and removes the assumption of no court and injurer error with respect to the standard of care.¹⁴⁴

Table 1.
STANDARD OF CARE AND DAMAGES (NO ERROR)

	TOO-LOW DAMAGES	EFFICIENT DAMAGES	TOO-HIGH DAMAGES
Too-Low Standard	A - Underdeterrence	B - Underdeterrence	C - Underdeterrence
Efficient Standard	D - Underdeterrence	E - Optimal	F - Optimal
Too-High Standard	G - Underdeterrence	H - Optimal	I - Overdeterrence

When the standard of care is set too low, injurers will be underdeterred regardless of the level of damages (boxes A, B, C). Thus, if the expected harm is 15, but the standard of care requires precautions of only 10, the injurer will not take precautions of more than 10, because if he takes precautions of 10, he will bear no liability.

The standard of care is set *too low* in the injurer’s self-risk case, since when courts set the standard of care they ignore the injurer’s self-risk and consider only risks to others. Even though the level of damages is efficient in this case since the negligent injurer bears all of the risks created by his negligence, he will be underdeterred.

In none of the other cases discussed in this Article is the standard of care set *too low*. However, under the view that the standard of care for high-income victims should be *higher* than for low-income victims, the lost-income case (Example 1) represents, in part, an instance of a too-low standard of care with efficient damages (box B) and, therefore, suffers from *underdeterrence*. Thus, if the potential victims are high-income, and if the standard of care is set by courts at 10 (according to the average victim’s potential harm), even though the expected harm of high-income victims is 15, injurers will not take precautions of more than 10. Under the described view, these precautions would be inefficiently low.¹⁴⁵

When the standard of care is set *too high*, injurers’ incentives depend on the level of damages. With efficient damages, injurers will be optimally deterred (box H); with too-low or too-high damages, they will be underdeterred or

144. For the purpose of simplicity, I do not remove the assumption of no court or injurer error in awarding and predicting damages, respectively.

145. See *supra* notes 41-43 and accompanying text, and text between notes 56-57.

overdeterred, respectively (boxes G, I). Accordingly, if the expected harm is 10 but the standard of care set by courts requires precautions of 15, only if the injurer's liability will be 10 (efficient damages) will he take precautions of up to 10. If, instead, liability will be 5 (too-low damages) or 15 (too-high damages), he will take precautions of up to 5 or 15, respectively.¹⁴⁶

In none of the cases discussed in the Article is the standard of care set *too high*. However, under the view that the standard for low-income victims should be *lower* than for high-income victims, the lost-income case represents, in part, an instance of a too-high standard of care with efficient damages (box H) and therefore *optimal deterrence*. If the potential victim is low-income and if the standard of care is set by courts at 10 (according to the average victim's potential harm), since the expected harm of low-income victims is 5 (efficient damages), injurers will not take precautions of more than 5, which, under the described view, would be efficient.¹⁴⁷

When the standard of care is set at the efficient level, injurers will be underdeterred with too-low damages (box D) and optimally deterred with efficient and too-high damages (boxes E, F). If the expected harm is 10 and the standard of care set by courts requires precautions of 10, with liability of 5 (too-low damages), the injurer will not take precautions of more than 5; this would be inefficient. With liability of 10 (efficient damages) or 15 (too-high damages), however, he will take precautions of up to 10, which would be efficient.

Thus, under the assumption of no court or injurer error, when the standard of care is set at the efficient level, only the case of too-low damages (box D) should raise efficiency concerns. But if we remove the assumption of no injurer or court error with respect to the standard of care,¹⁴⁸ the case of too-high damages (box F) could give rise to efficiency concerns as well. Accordingly, if the expected harm is 10, the standard of care set by courts requires precautions of 10, and liability is 15 (too-high damages), an injurer will be overdeterred because of the high damages and may take precautions exceeding 10.¹⁴⁹ Therefore, we could roughly assume that in this case, the injurer would be *moderately overdeterred*.

Let us now see how these conclusions relate to the first four misalignments analyzed in the Article. As explained, in all cases except the injurer's self-risk case, the standard of care is set efficiently, but the damages do not align with the expected harm. Thus all four represent cases of an efficient standard of care

146. See *supra* notes 41-43 and accompanying text, and text between notes 56-57.

147. See *supra* notes 41-43 and accompanying text, and text between notes 56-57.

148. I proceed here, as I did throughout the Article, with the assumption that causation rules are properly applied and therefore, there is no discontinuity in liability. See *supra* note 45.

149. See *supra* notes 44-45, 56 and accompanying text.

with too-low (box D) or too-high (box F) damages. Cases of too-low damages are especially problematic from an efficiency perspective, because inefficiency will result even absent court or injurer error; cases of too-high damages might result in moderate inefficiency given court or injurer risk of error.

In the *lost-income case*, the most problematic situation is when victims are known to be low-income victims. Under the view I prefer, the value of people's lives and limbs is not contingent on their income; therefore a uniform standard of care set by courts, presumably based on the average income,¹⁵⁰ would be considered efficient. But since damages are too low in low-income victim cases (because they are based on the low lost income), injurers are underdeterred and take deficient precautions toward the victims (box D). When the victims are known to be high-income victims, however, damages are too high (because they are based on the victim's high lost income) and injurers will be moderately overdeterred because of risk of error (box F). Finally, when victims cannot be identified in advance as either low-income or high-income victims, there is no efficiency concern: both the standard of care and damages will be efficient (box E).

A similar analysis applies to the *proving causation case*. In this context, the most problematic situations are where the probability of causation is systematically less than 50% or where the injurer can identify in advance a less-than-50% probability in the specific case at hand. Under the PER, injurers will bear too-low liability and be underdeterred (box D). If, instead, the probability of causation is systematically greater than 50% or the injurer can identify in advance a greater-than-50% probability in the case at hand, the PER would lead to excessive liability for injurers, who would thus be moderately overdeterred because of risk of error (box F). Finally, when there is symmetry between cases with a less-than- and greater-than-50% probability, and injurers cannot identify in advance the probability of causation, liability under the PER will be efficient¹⁵¹ and injurers will have efficient incentives (box E).

In the *offsetting risks case*, absent court and injurer error, no efficiency concern arises since while damages are set too high, the standard of care is set at the efficient level (box F). This conclusion would change with the introduction of risk of error into the analysis: courts' disregard of offsetting risks would then result in moderate overdeterrence (which, in the medical context, could also encourage defensive medicine).¹⁵²

150 See *supra* note 55.

151. In such cases, the injurer would face liability for 50% of the ultimate harm, which correlates with the expected harm of his negligence. See *supra* Section III.B.

152. See *supra* Section IV.B.

In the *wrongful risks limitation case*, excluding liability for ordinary or background risks results in too-low damages, leading to underdeterrence (box D). The efficiency argument seems to be especially strong in this case. In the previous three cases, the strength of the argument depends on either the type of case (for example, low-income or high-income victim, or less-than-50% or greater-than-50% probability of causation on average) or the impact of court and injurer risk of error on the standard of care.

Table 2 summarizes the efficiency analysis of the five misalignments, allowing for court or injurer risk of error.

Table 2.
EFFICIENCY CONCERNS RAISED BY THE FIVE MISALIGNMENTS
(WITH RISK OF ERROR)

	STANDARD OF CARE	DAMAGES	EFFICIENCY
Lost Income: Low-income victims	Efficient	Too low	Underdeterrence
Lost Income: High-income victims	Efficient	Too high	Moderate overdeterrence
Proving Causation: Lower than 50%	Efficient	Too low	Underdeterrence
Proving Causation: Higher than 50%	Efficient	Too high	Moderate overdeterrence
Offsetting Risks	Efficient	Too high	Moderate overdeterrence
Wrongful Risks Limitation	Efficient	Too low	Underdeterrence
Injurer's Self-Risk	Too low	Efficient	Underdeterrence

In all five cases, efficiency will be best achieved if all foreseeable risks created by the negligent injurer are taken into account when courts set the standard of care and damages align with those risks. Policy considerations, such as administrative costs,¹⁵³ could occasionally justify exceptions. If, for example, imposing liability for certain types of harm could trigger numerous

153. See *supra* notes 26, 57-59 and accompanying text.

frivolous claims, efficiency could warrant no liability (even if in an ideal world it would support liability).¹⁵⁴ Similarly, if in a certain area there is overdeterrence, lowering overall liability by releasing injurers from liability for certain types of harms materializing from foreseeable risks could serve efficiency.¹⁵⁵ Lastly, it is also possible that underdeterrence in a certain area could be mitigated if damages are set higher than the litigated harms caused by the wrongdoing.¹⁵⁶ All of these are special considerations, however, and do not have *general* application in any of the five cases discussed in this Article. Therefore, as long as efficiency is considered the only goal of tort law, these special considerations can hardly explain the misalignments in our five cases.

Non-efficiency considerations seem to offer the only, albeit partial, explanations for these five misalignments. Corrective justice can *explain* some of the misalignments discussed in this Article, but not all of them. Although it can explain the lost-income cases, it is at the very least unclear why, under corrective justice, lost income should be a central factor in evaluating bodily injuries.¹⁵⁷ Corrective justice can also explain the proving causation cases but not the refusal to allow the application of the PRR in all recurring wrongs cases.¹⁵⁸ Corrective justice is probably the reason why courts disregard offsetting risks,¹⁵⁹ but it can hardly provide a rationale for the way in which courts apply the wrongful risks limitation or their disregard of the injurer's self risk.¹⁶⁰ Moreover, while distributive justice may underlie the misalignment in the lost income cases,¹⁶¹ it cannot explain any of the other misalignments discussed.

In sum, misalignments are generally inefficient, and in most cases cannot be justified on either corrective or distributive justice grounds. When a misalignment is detected, it is most reasonable that it be eliminated. This could typically be achieved if courts take all foreseeable risks into account when they set the standard of care and impose liability for all harms that materialized

154. See *supra* notes 25-28 and accompanying text.

155. See Robert D. Cooter & Ariel Porat, *Liability Externalities and Mandatory Choices: Should Doctors Pay Less?*, 1 J. TORT L., no. 1, art. 2 (2006), <http://www.bepress.com/jtl/vol1/iss1/art2> (arguing for reducing liability of doctors because of the positive externalities they create).

156. See *id.* (suggesting increasing liability for drivers because of the negative externalities they create beyond what they pay under negligence law).

157. See *supra* Section II.C.

158. See *supra* Section III.C.

159. See *supra* Section IV.C.

160. See *supra* Sections V.C., VI.C.

161. See *supra* Section II.C.

from those risks, with due allowance made for offsetting risks. Such an approach would promote efficiency and, in the majority of the cases, be consistent with other rationales of tort law.

The initiative to remove most of the misalignments could come from courts but could also be supported by legislatures. Thus, for cases where *causation is inherently hard to prove*, some courts have already adopted probabilistic recovery rules in certain areas,¹⁶² and that approach could be extended to some other areas. In the *offsetting risks* case, causation principles could be reinterpreted to allow reducing damages when offsetting risks are present (though one could argue that such a significant change in the law should come from legislatures). Eliminating the misalignment in the *wrongful risk limitation* is obviously courts' territory, and as was indicated above, the *Restatement (Second) of Torts* refused to adopt this limitation in the first place.¹⁶³ The *injurer's self-risk* misalignment has already been removed by the *Restatement (Third) of Torts: Liability for Physical and Emotional Harm*,¹⁶⁴ and hopefully courts will follow the new *Restatement* in this matter. Finally, the *lost-income* misalignment is the hardest to eliminate. It is unimaginable that courts would set different standards of care for rich and poor victims, and in my view they should not do this. Instead, aligning the standard of care and damages in this area requires a major change in the criteria for awarding damages for bodily injury by narrowing the gap between damages awarded to high-income and low-income victims. Such a change should probably come from legislatures, not courts.

CONCLUSION

The alignment principle is a major feature of negligence law. This Article exposes exceptions to this principle. Interestingly, all but one exception go in the same direction: when courts set the standard of care, they generally take into account all foreseeable risks, but when they award damages for the harms that materialized, some risks are not counted or are misvalued. It is hard to tell why courts do better with setting standards of care than with awarding damages. Maybe when courts set standards of care they are attentive to community standards that take all risks into account, while with awarding of damages there are no community standards.

In most cases, misalignment results in underdeterrence, but in other cases overdeterrence results. Efficiency mandates upholding the alignment principle

162. See *supra* notes 82-85 and accompanying text.

163. See *supra* note 131 and accompanying text.

164. See *supra* notes 137-138 and accompanying text.

in all the cases discussed in this Article. Corrective justice, while explaining some of the misalignments, cannot explain them all. I argue, therefore, that all five of the misalignments discussed in this Article should be eliminated, at least if efficiency or promoting social welfare is the main goal of tort law. Accordingly, victims' income should not be a central factor either in setting the standard of care or awarding damages. Second, when causation is inherently difficult to prove in a particular type of case, the courts should apply a probabilistic recovery rule instead of the preponderance-of-the-evidence rule. Third, damages should be reduced for offsetting risks. Fourth, applying the wrongful risks limitation should result in liability being imposed not only for unusual risks but also for ordinary risks. Finally, all risks created by the injurer, both to others and to himself, should count in setting the standard of care. The five misalignments analyzed in this Article do not necessarily exhaust all the exceptions to the alignment principle in negligence law. Other misalignments may exist, and one of this Article's goals is to set a general framework for contending with any misalignment once it is identified.

Misalignments are not the only source for inefficiency in negligence law. Courts often make errors in evaluating losses and setting the standard of care. Those errors certainly create all kinds of inefficiencies. But what characterizes the misalignments discussed in this Article, as opposed to the other sources of inefficiency, is that they are embedded in the doctrines of negligence and are mostly followed by all courts: the misalignments are systemic and epidemic, rather than sporadic and endemic, and therefore deserve special attention.

About forty years ago, Richard Posner wrote one of his seminal articles, *A Theory of Negligence*.¹⁶⁵ There, he argued that judges developed the law of negligence to be efficient, often without being aware of what they were actually doing. In contrast, this Article shows that there is much inefficiency in negligence law. Law and economics scholars reading the Article would probably agree that the misalignments identified in the Article should be eliminated, so as to make the law economically efficient. Others, particularly corrective justice scholars, could have a different reaction. Indeed, they might claim that in this Article it is proven, yet again, that tort law is not just about efficiency.

165. Richard A. Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29 (1972).