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Perverting Incentives When the Priceless Is Not Compensable: Victims' Subjective Value in Negligence

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**PERVERTING INCENTIVES WHEN THE PRICELESS IS NOT
COMPENSABLE: VICTIMS' SUBJECTIVE VALUE IN NEGLIGENCE**

*Yehonatan Shiman**

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I. INTRODUCTION—HOW MUCH DO WE VALUE OUR PROPERTY?

When a victim suffers harm to her property as a result of an injurer's negligence, tort law generally requires that the victim be compensated. Under tort law, there are two primary ways to evaluate harm to property: (1) as relative to the property's market value, or (2) in terms of an owner's subjective value of

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her property. In some instances, these values can be the same. At other times, however, market value and subjective value can diverge in significant ways. Most obviously, sentimental attachment can trigger subjective valuation, in which objects assume a value far exceeding their market price. Additionally, subjective value can also develop through an owner's reliance on her property for certain functions. To illustrate, consider a memory disk for an electronic camera—the memory disk can be purchased at a relatively cheap price yet may be worth a fortune to the person who has lost it. Likewise, a laptop's market value usually does not capture its high subjective value grounded in the countless pictures, music, and other important documents saved on the device. In cases such as these, an owner's subjective value will appreciate as the property's market value depreciates. Understanding how a person values her possessions is important to determine her future behaviors, which is relevant for any examination of our current tort system.

However, a fundamental hurdle exists, as information regarding an individual's increased valuation is private and only available to a small number of people, namely the owner and potentially her relatives.¹ As a result, evaluating subjective value can be hard both for the injurer and the courts.² Unlike market value, which can be measured relatively easily by an expert's survey of the market,³ subjective value requires more information and an element of speculation by the factfinder. Due to this challenge and absent any reliable way to independently determine subjective value, the primary mechanism to evaluate all harm is the market value rule.

In circumstances where the owner places a higher value on her property than the market does, the owner may invest in precautionary measures to mitigate the risk of uncompensated harm. When a victim's subjective value exceeds the objective compensable harm, then the victim may be inclined to take excessive

¹ Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027, 1035 n.30 (1995); Keith N. Hylton, *Property Rules and Liability Rules, Once Again*, 2 REV. L. & ECON. 137, 141 (2006); Louis Kaplow & Steven Shavell, *Property Rules Versus Liability Rules: An Economic Analysis*, 109 HARV. L. REV. 713, 734–38 (1996); see also Saul Levmore, *Self-Assessed Valuation Systems for Tort and Other Law*, 68 VA. L. REV. 771, 830–35 (1982) (suggesting that assessing the value of idiosyncratic harm is difficult in the realm of non-physical torts, pain and suffering, and subjective value of property).

² See Randall R. Bovbjerg, Frank A. Sloan & James F. Blumstein, *Valuing Life and Limb in Tort: Scheduling "Pain and Suffering,"* 83 NW. U. L. REV. 908, 913–15 (1989) (arguing that non-economic loss is difficult to evaluate). Note that this Article discusses subjective value rather than non-economic loss. However, the authors' arguments may also apply to non-economic loss.

³ Levmore, *supra* note 1, at 834 (“[C]onventional institutional assessment is already straightforward and does not generate great administrative costs.”).

precaution.⁴ For instance, a rational pedestrian presumably values her life and wellbeing at a superior level than a damage award for medical care or loss of life. Under this calculus, the victim is incentivized to take more precaution than that required by law because her additional precautions will lower the risk of accident. A reduction in the risk of accident will lower the total accident costs that an injurer-driver would otherwise assume if an accident had occurred. When the reduction in accident cost is significant enough, these costs will fall below the driver's precaution costs. At this point, the driver, as a potential injurer, may prefer negligent behavior instead of taking precaution. This example illustrates how excessive precautions by owners resulting from a subjective property value may incentivize injurers to intentionally behave negligently because they do not internalize the full accident costs.

The idea that potential injurers will adjust their precaution level based on their expectations of the victims' behavior is present in many cases. For example, in *Dahlin v. Lyondell Chemical Co.*,⁵ the defendant, the owner of a plant holding hazardous materials, failed to warn its employee-driver of the factory's hazardous material, arguing that he knew the risk and was expected to take adequate precautions or should not have engaged in the activity. In a similar fashion, the court in *Wright v. State Farm Mutual Automobile Insurance Co.*⁶ noted that a driver's failure to take precaution against a cyclist was the result of the driver's reliance that the pedestrian would take more precaution once he saw her headlights. In *Munn v. Hotchkiss School*,⁷ the defendant, a high school that sent its students to a program in China, argued that

even if a school provided no warnings and took no action to minimize risk, parents would have an obligation to independently investigate threats to their child's health, and their failure to make an independent investigation could be used as evidence that those parents caused their child's injuries. Hotchkiss further asserts that the act of allowing a student to participate in a school trip is itself an act of parental negligence.⁸

⁴ When transaction costs are low, the owner's best option to protect her property's subjective value is to contract with the potential injurer. A contract can capture and accurately price the potential harm to her property through imposing increased damages. However, contracting may be precluded because of high transaction costs, especially in torts.

⁵ No. 3:14-cv-00085-SMR-HCA, 2016 WL 4136769 (S.D. Iowa July 12, 2016), *vacated*, 881 F.3d 599 (8th Cir. 2018).

⁶ 57 So. 2d 767 (La. Ct. App. 1952).

⁷ 24 F. Supp. 3d 155 (D. Conn. 2014).

⁸ *Id.* at 186.

All these cases have several common factual elements. First, the victim is perceived to value the risk of harm more than the injurer. This intuitive assumption asserts that the chemical company employee and the pedestrian value their lives more than the compensation they stood to receive in the case of an accident. Similarly, the parents valued their children's lives more than the compensation for bodily injury of the child. Second, the defendants argued in these cases that failure to take precaution is justified or excused because the victim or a third-party failed⁹ to take more precaution.

In addition to case law, many behavioral studies¹⁰ have found that individuals adjust their risk-taking according to their perception of the risk. For example, bicyclists operate more safely when they do not have helmets.¹¹ This trend captures the idea of risk compensation, which is the tendency to respond to situations of increased risk by taking additional precautions and vice versa. This Article argues that—as the previous examples demonstrate—subjective valuation perverts injurers' incentives to take precautions and thereby contributes to an outcome of increased injurer negligence. The contribution of this Article is to advance the economic analysis of torts by understanding how our legal system's response to subjective value creates inefficient behavior by injurers. The existing literature shows that liability rules fail to protect subjective value. This Article will build on this premise by examining the implications of a victim's excessive precautions on injurer behavior. This Article also provides lawmakers with an understanding of why injurers will intentionally fail to take efficient precautions when encountering victims with high subjective value and what possible responses are available.

This Article proceeds in six parts. Part II examines the various types of compensation currently available under negligence law in order to discuss when subjective harm is unrecoverable. Part III reviews the classic economic analysis of negligence law and the importance of setting the legal standard efficiently in order to incentivize parties to take adequate precautions. Part IV presents the basic paradigm for subjective valuation of harm and its effect on incentives. Part V examines possible responses to realigning injurers' incentives by investigating the effects of increasing either damages or the standard of care or both. In light

⁹ In *Munn*, the parents are not the victims of the accidents; hence their precaution would be a third-party precaution. *Id.* at 189.

¹⁰ See generally Aslak Fyhri & Ross O. Phillips, *Emotional Reactions to Cycle Helmet Use*, 50 ACCIDENT ANALYSIS & PREVENTION 59 (2013); Tim Gamble & Ian Walker, *Wearing a Bicycle Helmet Can Increase Risk Taking and Sensation Seeking in Adults*, 27 PSYCHOL. SCI. 289 (2016); Ben Lewis-Evans & Talib Rothengatter, *Task Difficulty, Risk, Effort and Comfort in a Simulated Driving Task—Implications for Risk Allostasis Theory*, 41 ACCIDENT ANALYSIS & PREVENTION 1053 (2009).

¹¹ Fyhri & Phillips, *supra* note 10; Gamble & Walker, *supra* note 10.

of this analysis, Part VI concludes and suggests further implications in a digitized world.

II. COMPENSATION IN TORT LAW

In order to understand how uncompensated harm distorts party incentives, one must first examine the different types of compensation currently available to victims. The availability of damages, or lack thereof, will affect each party's incentives regarding their respective level of precaution.

Compensation for subjective value remains a riddle in tort law. The *Restatement (Second) of Torts* defines value as the “exchange value or the value to the owner if this is greater than the exchange value.”¹² Given this definition, courts can assess the value of harm by citing to a product's market value or by determining its value-to-owner (“VTO”) based on evidence provided by the plaintiff.¹³ In terms of market value, there are two approaches the court can take in attempting to make the plaintiff whole:¹⁴ (1) compensate the victim for repair costs,¹⁵ or (2) compensate for replacement costs,¹⁶ depending on which amount is less.¹⁷ Under the market value rule, courts and juries appraise the cost of repairing the property so that it may regain its pre-injury market price or calculate the cost of obtaining an equivalent property.¹⁸ When the victim values the harm at the market value, the victim enjoys full recovery of her loss. Due to the certainty and ease with which compensation can be calculated, the market value rule is the dominant mechanism courts use to determine damages.¹⁹

An exception to the market value rule exists when the harmed property has no market value or maintains a “comparatively small exchange value but

¹² RESTATEMENT (SECOND) OF TORTS § 911 (AM. LAW INST. 1979).

¹³ See PETER CANE, *TORT LAW AND ECONOMIC INTERESTS* 12–13 (2d ed. 1996).

¹⁴ For a discussion on the “making-whole” doctrine, see *id.* at 5; IZHAK ENGLAND, *THE PHILOSOPHY OF TORT LAW* 113 (1993); TSACHI KEREN-PAZ, *TORTS, EGALITARIANISM AND DISTRIBUTIVE JUSTICE* 67–70 (2007) (referring to it as *restitutio ad integrum* rather than *restitutio in integrum*); Ariel Porat, *Offsetting Risks*, 106 MICH. L. REV. 243, 247 (2007).

¹⁵ An alternative rule is the Diminished Value Rule, which compensates the victim for the difference in property value immediately before and after the harm. DAN B. DOBBS ET AL., *HORNBOOK ON TORTS* 856–57 (2d ed. 2016).

¹⁶ KENNETH S. ABRAHAM, *THE FORMS AND FUNCTIONS OF TORT LAW* 215 (3d ed. 2007); DOBBS ET AL., *supra* note 15; 1 DAN B. DOBBS, *LAW OF REMEDIES* 850–56 (2d ed. 1993).

¹⁷ The defendant has the right to pay whichever cost is less. Nevertheless, this rule provides exceptions for certain types of harm, such as pets and family photos. CANE, *supra* note 13, at 92–93; DOBBS ET AL., *supra* note 15, at 857; 1 DOBBS, *supra* note 16.

¹⁸ 1 DOBBS, *supra* note 16.

¹⁹ John C.P. Goldberg, *Two Conceptions of Tort Damages: Fair v. Full Compensation*, 55 DEPAUL L. REV. 435, 462 (2006).

ha[s] a special and greater value to the owner,"²⁰ such as pets²¹ or specialized land.²² When confronted with these scenarios, courts instruct juries to assess damages according to the VTO rule, under which the jury can evaluate the harm by estimating the perceived value of the object to the particular owner as informed by the plaintiff's evidence.²³

Although the VTO rule recognizes that an owner's value may exceed the market value, this doctrine is consistent in excluding sentimental value from recovery.²⁴ As such, sentimental value is not typically recognized as a compensable loss.²⁵ Similarly, emotional distress caused by property loss²⁶ is

²⁰ RESTATEMENT (SECOND) OF TORTS § 911 cmt. e (AM. LAW INST. 1979).

²¹ See, e.g., *Jankoski v. Preiser Animal Hosp., Ltd.*, 510 N.E.2d 1084 (Ill. App. Ct. 1987); *Petco Animal Supplies, Inc. v. Schuster*, 144 S.W.3d 554 (Tex. App. 2004).

²² See, e.g., *S. Ry. Co. v. City of Memphis*, 148 S.W. 662 (Tenn. 1912) (noting the special value of a specific land to a railroad company).

²³ For example, in *Emerson v. Empire Fire & Marine Insurance Co.*, 393 So. 2d 691 (La. 1981), the court ruled that notes of experiments have value to their owner. The court found that

[the plaintiff] lost much more than a 6-inch stack of paper contained in a portfolio and two notebooks. In effect, he lost the practical benefit of hobby material which took him over 4 years to develop. He lost the intellectual gratification that he received from the data as a part of the ongoing research project. He also lost the ability to draw from his research specific test results, which the record indicates he did when lecturing and participating in discussion groups. The data also had the potential for giving plaintiff future intellectual gratification, since the factor analysis plaintiff contemplated would have validated or invalidated his hypotheses and given plaintiff more information upon which he could have formulated new hypotheses. In order to regain the enjoyment of the hobby of which he is now deprived, plaintiff will have to assemble the information anew.

Id. at 693 (footnote omitted).

²⁴ RONALD W. EADES, *JURY INSTRUCTIONS ON DAMAGES IN TORT ACTIONS* (5th ed. 2003); 1 LOUIS R. FRUMER & MELVIN I. FREIDMAN, *PERSONAL INJURY: ACTIONS, DEFENSES, DAMAGES* (Matthew Bender & Co. 2019), LexisNexis.

²⁵ In a few jurisdictions, courts have accepted the sentimental value rule, which compensates the victim for loss of subjective sentimental value. However, this is the rare exception. Texas is an example of a jurisdiction that explicitly enables plaintiffs to recover sentimental value. The court in *Brown v. Frontier Theatres, Inc.*, 369 S.W.2d 299 (Tex. 1963), set the precedent that, for cases in which the main value of the property is sentiment, such value is recoverable. In *Bond v. A.H. Belo Corp.*, 602 S.W.2d 105 (Tex. App. 1980), the court enabled recovery for the sentimental value of family photos. Nevertheless, the court did reject some sentimental value claims in both *Strickland v. Medlen*, 397 S.W.3d 184, 189–90 (Tex. 2013), and *Petco Animal Supplies, Inc. v. Schuster*, 144 S.W.3d 554 (Tex. App. 2004). Nevada is another jurisdiction that allowed subjective value compensation in *Countrywide Home Loans, Inc. v. Thitchener*, 192 P.3d 243 (Nev. 2008). See also Alison M. Rowe, *Survey of Damages Measures Recognized in Negligence Cases Involving Animals*, 5 KY. J. EQUINE, AGRIC., & NAT. RESOURCES L. 249, 254–61 (2012) (reviewing approaches to compensating for injuries to pets).

²⁶ RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL & EMOTIONAL HARM § 47 cmt. m (AM. LAW INST. 2012).

also non-compensable unless it is the direct result of negligent behavior and accompanies a physical injury.²⁷ For example, a victim-homeowner may recover some damages for the emotional injury of seeing her generational home burn down, but will not be compensated for the loss in the sentimental value of her home.

With this background norm in operation, any harm that depreciates sentimental value will be uncompensated by common law while other harms may be compensable either by the market value rule or, in unique circumstances, under the VTO rule. Given these options, the court's classification of harm is significant because VTO may be recoverable but sentimental value is not. Due to diverging outcomes, courts have tried to differentiate between uncompensated sentimental value and the VTO doctrine.²⁸ In *King Fisher Marine Service, Inc. v. NP Sunbonnet*,²⁹ the court attempted to explain the rationale of awarding damages as

the choice between awarding mere exchange value and, on rare and appropriate occasions, “value to the owner” is one of policy—not of ineluctable accounting. Logic compels neither. But where one who has arrived at a bargain of unique value to him is deprived of it by the fault of another, and where he can convince the trial court that its value to him was real and not speculative or later devised, he should recover it. Whether or not he can do so on any given occasion is for the trial court.³⁰

As explained in this decision, the VTO rule generally activates when the victim can provide the court with convincing and concrete evidence of her property valuation. Courts exercise their power to create judicial policy when assigning

²⁷ MARK A. GEISTFELD, *TORT LAW: THE ESSENTIALS* 161–67 (2008); Kenneth S. Abraham, *The Trouble with Negligence*, 54 *VAND. L. REV.* 1187, 1212–14 (2001); Ariel Porat, *Misalignments in Tort Law*, 121 *YALE L.J.* 82, 93–94 (2011); Siewert D. Lindenbergh & Peter P.M. van Kippersluis, *Non Pecuniary Losses*, in *TORT LAW AND ECONOMICS* 215, 215–27 (Michael Faure ed., 2009).

²⁸ In *United States v. CB & I Constructors, Inc.*, 685 F.3d 827 (9th Cir. 2012), the court argued that value-to-owner can be assessed using a rational method. The court in *Kopelowitz v. BPF Associates*, No. A-1124-13T4, 2015 WL 1419497 (N.J. Super. Ct. App. Div. Mar. 31, 2015), allowed an assessment of value-to-owner for lost data but precluded any sentimental value. In determining the value of a lost pet, the court in *McMahon v. Craig*, 97 Cal. Rptr. 3d 555, 566–67 (Ct. App. 2009), contended that under value-to-owner doctrine it would take into account the “pedigree, reputation, age, health, and ability to win dog shows,” but not the loss of companionship as this is a sentimental harm. See also *Barking Hound Vill., L.L.C. v. Monyak*, 787 S.E.2d 191 (Ga. 2016). The Supreme Court in a takings case excluded “peculiar” value to the owner for recovery. See *United States v. Gen. Motors Corp.*, 323 U.S. 373, 383 (1945).

²⁹ 729 F.2d 315 (5th Cir. 1984).

³⁰ *Id.* at 316.

VTO damages because this remedy allows them to achieve a desired outcome. In other words, courts order VTO damages when the victim can prove her higher valuation and the court believes an elevated damage award will serve an appropriate public policy purpose. For example, in *Jankoski v. Preiser Animal Hospital, Ltd.*,³¹ the court found VTO damages appropriate for an injury to a pet, emphasizing that “[t]he concept of actual value to the owner may include some element of sentimental value in order to avoid limiting the plaintiff to merely nominal damages. It appears clear that damages in such cases, while not merely nominal, are severely circumscribed.”³²

The court’s concern with policy implications reveals the importance of external considerations when determining what type of harm should be compensated. To illustrate, assume that Allie owns a garden with a \$1,000 market value. Allie’s garden is generational, and she is sentimentally attached to it. Allie would only consider selling her garden for a minimum of \$3,000. Bob is a factory owner whose factory is adjacent to Allie’s garden. In the process of production, Bob’s factory emits a certain toxin that harms the plants in Allie’s garden. Under market value compensation, Bob must pay Allie \$1,000 for a new garden, and to the extent that Allie’s excess valuation is sentimental, it will not be recoverable. On the other hand, Allie’s excessive value may be compensable under the VTO rule if Allie can show a unique value to the owner which is not sentimental. In this case, Bob would pay Allie \$3,000. This wide difference in damage awards highlights the significance of the court’s classification of Allie’s subjective value because it will inform each party’s decision regarding what level of precautions to take. With efficiency as the goal, Allie and Bob will take precautions that fit the cost they may incur. If Allie will be forced to internalize \$2,000 of uncompensated loss, she will increase her precaution. Conversely, if Bob is liable for all \$3,000, he will likely increase his precaution in the face of increased accident costs.

As seen through this example, subjective value compensation will impact party incentives, as both the injurer and the victim will adjust their behavior based on anticipated accident costs. However, VTO is a rare victory for the victim, and as such, courts overwhelmingly rely on market value to determine damages and only use VTO when unable to apply the market value rule.³³ As

³¹ 510 N.E.2d 1084 (Ill. App. Ct. 1987).

³² *Id.* at 1087.

³³ See generally *Trs. of the Univ. of the D.C. v. Vossoughi*, 963 A.2d 1162 (D.C. 2009); *Carye v. Boca Raton Hotel & Club, Ltd. P’ship*, 676 So.2d 1020 (Fla. Dist. Ct. App. 1996); *Burgess v. Shampooch Pet Indus., Inc.*, 131 P.3d 1248 (Kan. Ct. App. 2006); *Bernhardt v. Ingham Reg’l Med. Ctr.*, 641 N.W.2d 868 (Mich. Ct. App. 2002); *Oster v. Kribs Ford, Inc.*, 660 S.W.2d 348 (Mo. Ct. App. 1983); *Lane v. Oil Delivery, Inc.*, 524 A.2d 405 (N.J. Super. Ct. App. Div. 1987); *William F. Freeman, Inc. v. Alderman Photo Co.*, 365 S.E.2d 183 (N.C. Ct. App. 1988); *Merritt v. Nationwide Warehouse Co.*, 605 S.W.2d 250 (Tenn. Ct. App. 1980).

seen with Allie and Bob, market value will cause the former to engage in more precautions to keep her garden safe from substantial harm, leaving the latter to benefit from a reduced incident of harm. This Article will explain how market value compensation may actually incentivize rational injurers to take inefficient precaution, even when they internalize the full accident costs because they rely on the victim's excessive precautions to reduce the probability of an accident occurring. In light of this phenomenon, common law may instead reach efficiency not by prohibiting subjective value compensation, but by enabling victims to recover their subjective value.

It is important to note that this Article refers to uncompensated harm as subjective value and not as sentimental value or VTO because in many cases this distinction is vague and artificial. Employing the term "subjective value" aims to capture all uncompensated harm that exists in excess of market value or VTO, whichever is applicable.

III. AN ECONOMIC ANALYSIS OF NEGLIGENCE LAW

Cognizant that market value loss is compensable while subjective value is not, the next step is to examine the repercussions of this principle, which requires an understanding of efficient legal standards. The economic analysis of torts is grounded in the notion that parties will minimize their total costs, where costs are usually measured in monetary terms. Understanding this motivation will provide the foundation needed to discern the subjective valuation analysis contained later in Part IV.

A. *Accident Costs and Efficient Precaution*

The economic analysis of torts contends that tort law's objective is to reach social efficiency by minimizing accident costs.³⁴ The costs of accidents are calculated as the sum of the expected harm from the accident³⁵ plus any precautions taken by the parties. To achieve optimal accident costs,³⁶ the victim and the injurer should take efficient precautions. A party takes efficient

³⁴ ROBERT COOTER & THOMAS ULEN, *LAW & ECONOMICS* 189–90 (6th ed. 2012) (defining the economic essence of tort law); STEVEN SHAVELL, *ECONOMIC ANALYSIS OF ACCIDENT LAW* 7 (1987) (suggesting the social goal is "minimization of the sum of the costs of care and of expected accident losses"); Richard A. Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29 (1972) ("[T]he dominant function of the fault system is to generate rules of liability that if followed will bring about, at least approximately, the efficient—the cost-justified—level of accidents and safety." (citation omitted)).

³⁵ The expected harm of the accident equals the probability that the accident will occur multiplied by the harm the accident will inflict.

³⁶ THOMAS J. MICELLI, *THE ECONOMIC APPROACH TO LAW* 43 (2004).

precaution when his or her marginal precaution costs equal the marginal reduction in expected harm.

B. Using the Tort System to Achieve Efficiency

A negligence rule demands a certain level of care from a potential injurer toward a potential victim. When an injurer fails to comply with the standard of care, he is liable for the accident costs that result. Law aims to achieve efficiency by creating incentives for parties to take efficient precautions. Efficient precautions are taken when the law prices inefficient care at a higher price.³⁷ In other words, the law must assure that the price of inefficient care is greater than the cost for efficient precaution.

Negligence law creates efficient incentives when it aligns the standard of care with efficient precaution,³⁸ which can be attained when one reconceptualizes the Hand Formula into marginal terms. A defendant fails to satisfy the standard of care and is negligent when the marginal cost of increasing his precaution is less than the reduction in the expected harm, or when untaken precautions would be efficient.³⁹ To illustrate, assume again that Allie values her garden at the \$1,000 market value. If factory owner Bob is liable for the garden's market value, then the efficient standard of care requires Bob to take efficient precaution against a risk of \$1,000. Assume that the risk of accident is 40%, and by taking precaution worth \$150, Bob can reduce that risk by half to 20%. In taking the \$150 precaution, Bob escapes liability for all harm caused to Allie's garden.⁴⁰ Bob's payoffs are presented in Table 1.

Table 1: Injurer's Payoff Under Efficient Standard of Care

	Bob	Allie
No precaution	-\$400	\$0
Precaution	-\$150	-\$200

³⁷ ROBERT COOTER & ARIEL PORAT, GETTING INCENTIVES RIGHT: IMPROVING TORTS, CONTRACTS, AND RESTITUTION 17–25 (2014); Robert Cooter, *Prices and Sanctions*, 84 COLUM. L. REV. 1523 (1984).

³⁸ See *supra* Section III.A.

³⁹ See Mark F. Grady, *A New Positive Economic Theory of Negligence*, 92 YALE L.J. 799, 801–03 (1983); Mark F. Grady, *Untaken Precautions*, 18 J. LEGAL STUD. 139 (1989).

⁴⁰ This example assumes that Allie cannot take precautions or, alternatively, she is not required to take precautions because the precautions are not efficient.

Table 1 exemplifies how the injurer will prefer efficient precaution to negligence when the law operates seamlessly.⁴¹ The law incentivizes injurers, like Bob, to take efficient precaution by making the injurer internalize the harm he causes negligently. In theory, setting the legal standard to the efficient precaution creates a price discontinuity, which makes violations of the legal standard prohibitively expensive.⁴² Put differently, the efficient standard of care values violations at a higher price than non-compliance to create a gap between the cost of compliance versus the cost of violation. Under these conditions, a rational individual will always try to comply with the standard. For example, in Table 1, the law prices violation of the standard of care at \$400 (the accident costs), when the cost of compliance is only \$150.

When one party fails to internalize part of the negative externality associated with his or her behavior, however, then this party is less incentivized to behave efficiently.⁴³ To portray this concept, consider *State Farm Mutual Automobile Insurance Co. v. Campbell*,⁴⁴ a seminal Supreme Court case regarding punitive damages. Here, the defendant-driver negligently caused an automobile accident where one person died and another was severely injured.⁴⁵ Sued for negligent driving, the defendant was represented by his insurance company, which refused to settle the case for \$50,000—the limit of the defendant’s insurance policy—and insisted on taking the case to trial.⁴⁶ In choosing to pursue litigation, the insurance company assured the defendant that there was no danger to his assets.⁴⁷ Unfortunately, the court ruled against the defendant and awarded damages greatly exceeding \$50,000.⁴⁸ After the ruling, the insurance company refused to cover the defendant’s additional liability.⁴⁹ The court responded by sanctioning the insurance company with high punitive damages for its decision to insist on taking the case to trial even though there was a high likelihood of receiving a judgment in excess of the policy limit.⁵⁰

Examining the facts of *Campbell*, the insurer had the option of pursuing risky litigation or agreeing to a settlement. Because the offered settlement of

⁴¹ This is because Bob will only lose \$150 if he takes precaution compared to \$400 if he decides not to. Based on his cost-maximizing objective, Bob will always prefer taking precaution.

⁴² COOTER & PORAT, *supra* note 37, at 17–25; Cooter, *supra* note 37.

⁴³ COOTER & ULEN, *supra* note 34, at 189–90.

⁴⁴ 538 U.S. 408 (2003).

⁴⁵ *Id.* at 412–13.

⁴⁶ *Id.* at 413.

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.* at 419.

\$50,000 reflected the defendant's policy limit, the only benefit the insurance company stood to gain in settling was saving litigation costs. On the other hand, in taking the case to court, the insurance company could potentially escape all liability and be left to pay only the litigation costs. A problem arose because the defendant's subjective value of the lawsuit was much higher than \$50,000 because any adverse ruling would make the defendant personally liable for the damages in excess of the policy limit. And indeed, the court ruled that the defendant was liable for \$185,849.⁵¹ This case provides a revealing example where the the policyholder and the the insurer held different valuations of the harm. The policy limit enabled the insurer to externalize the cost associated with an adverse verdict by shifting this burden to the policyholder. With most of the litigation risk externalized, the rational insurer was incentivized to engage in riskier conduct by choosing litigation over settlement.⁵²

In the following Part IV, the paradigm examines the injurer's incentives when the victim's subjective value is uncompensated, with a particular focus on changes in precaution levels when the latter is the only party internalizing the subjective value. Before proceeding to this analysis, one must first examine the efficiency challenges that emerge within an imperfect legal system, which includes the current tort system. Recognizing this situation is significant because the basic paradigm will reveal how subjective valuation creates problems even when operating within a perfect legal system. The fact that subjective valuation triggers problems in a perfect legal system means that such issues are only further exaggerated in the current, imperfect system.

C. *The Imperfections of an Efficient Legal Standard*

The basic paradigm will highlight how excessive victim precautions because of subjective value triggers a range of problems currently undiscussed by scholarly literature. The paradigm operates in a perfect legal system, which is not the case in reality. In our imperfect legal system tribunal mistakes, flawed standards, judgment-proofness, and excessive precautions all benefit the negligent injurer. Cognizant that such problems emerge within a perfect legal system, their impact is magnified in an imperfect system. The following discussion reviews the current factors that scholars have cited to explain

⁵¹ *Id.* at 413.

⁵² One can think about *Grimshaw v. Ford Motor Co.*, 174 Cal. Rptr. 348 (Ct. App. 1981), as an example of the public's extreme dislike of corporations that engage in a cost-benefit analysis over individuals' lives and interests. In this case, Ford allegedly failed to invest in fuel tank replacements because Ford believed the cost of this endeavor exceeded the calculated harm to human life. *Id.* at 790. However, it has been argued that this case's notoriety results merely from a misunderstanding of the facts. See Gary T. Schwartz, *The Myth of the Ford Pinto Case*, 43 RUTGERS L. REV. 1013 (1991).

suboptimal injurer behavior. This Article presents subjective valuation as an additional obstacle within this existing structure.

First, the likelihood of being found negligent can be minimal because courts often make mistakes in setting the boundaries of liability. These errors by the tribunal need to be consistent and not random in order to impact party incentives. When courts systematically set the standard of care too low, the injurer has the incentive to reduce his level of care because he confidently faces a lesser threat of liability.⁵³

Second, the court's inaccuracy in computing damages can also lead to a distortion in party incentives. When the court consistently makes a mistake by assessing harm too low, then the injurer is incentivized to lower his precautions because he will not be responsible for the total accident costs. Escaping this burden prevents injurers from internalizing the full value of the harm.⁵⁴

Third, the value of harm caused by violations to the standard of care may be inherently low, thereby causing victims to commit more resources to litigation than they are likely to recover from the injurers.⁵⁵ This in turn will incentivize victims to avoid litigating their injury and internalize the costs. The injurers, on the other hand, will enjoy the benefit of not complying with the standard of care without paying the costs of noncompliance. This rational apathy by victims generates a collective action problem, which can be partially mitigated through legal mechanisms that entitle plaintiffs to some compensation in excess of their harm.⁵⁶

Fourth, an injurer can be judgment-proof,⁵⁷ meaning he cannot practically be held accountable for his harm because he does not maintain the necessary funds to compensate the victim. In this way, the resources available to a judgment-proof defendant limit his expected costs. If the expected harm is capped by the injurer's resources and amounts to a value lower than the cost of precaution, then the injurer may engage in tortious behavior when the expected

⁵³ 1 HANDBOOK OF LAW AND ECONOMICS 158–61 (A. Mitchell Polinsky & Steven Shavell eds., 2007); COOTER & ULEN, *supra* note 34, at 220–22; A. Mitchell Polinsky & Steven Shavell, *Punitive Damages: An Economic Analysis*, 111 HARV. L. REV. 869, 892 (1998).

⁵⁴ 1 HANDBOOK OF LAW AND ECONOMICS, *supra* note 53, at 164–67; COOTER & ULEN, *supra* note 34, at 257–61; Louis Kaplow & Steven Shavell, *Accuracy in the Assessment of Damages*, 39 J.L. & ECON. 191 (1996); Porat, *supra* note 27, at 135–36.

⁵⁵ COOTER & ULEN, *supra* note 34, at 257–61; Steven Shavell, *Liability for Harm Versus Regulation of Safety*, 13 J. LEGAL STUD. 357 (1984).

⁵⁶ See generally MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* (1971); David Gilo et al., *Negligence, Strict Liability, and Collective Action*, 42 J. LEGAL STUD. 69 (2013); William B. Rubenstein, *Why Enable Litigation?: A Positive Externalities Theory of the Small Claims Class Action*, 74 UMKC L. REV. 709 (2006).

⁵⁷ Stephen G. Gilles, *The Judgment-Proof Society*, 63 WASH. & LEE L. REV. 603, 607–09 (2006).

benefit exceeds the potential costs.⁵⁸ Sometimes, loopholes within the law create judgment-proof scenarios when injurers can opportunistically exploit the law to limit their liability.⁵⁹ In other situations, the law creates judgment-proof injurers by placing caps on recovery, for example.⁶⁰

Fifth, courts ignore excessive victim precautions in their calculation of liability or damages, even though these behaviors lower an accident's probability. This scenario—which has been unexamined—provides the core framework for the paradigm developed below. As will be discussed in the following section, excessive precautions by victims can significantly impact an injurer's behavior calculus by creating more reasons for rational injurers to take inefficient precautions.⁶¹

The preceding five factors explain why injurers do not internalize the full harm they cause, which subsequently results in an underperformance of the legal standard. However, such deliberate non-compliance can also arise in a perfect legal system—where negligence is correctly detected, damages are adequately assigned, and a victim has no litigation costs—if there is a judgment-proof injurer or an unaccounted external precaution. The paradigm in Part IV presents a case where inefficiency occurs in a perfect legal system, causing injurers to deliberately take inefficient precautions. Given that the current legal system maintains imperfections, this problem is only magnified.

The following section reviews the current discussion about how failing to compensate victims for the full extent of their loss may result in inefficiency. This Article builds on this scholarship by suggesting that a larger inefficient problem exists because a lack of subjective compensation creates perverse incentives for victims and negatively impacts injurer behavior.

⁵⁸ Steven Shavell, *The Judgment Proof Problem*, 6 INT'L REV. L. & ECON. 45, 45–46 (1986).

⁵⁹ Lynn M. LoPucki, *The Death of Liability*, 106 YALE L.J. 1, 14–32 (1996).

⁶⁰ See generally Amanda Edwards, *Medical Malpractice Non-Economic Damages Caps*, 43 HARV. J. LEGIS. 213 (2006); David A. Hyman et al., *Estimating the Effect of Damages Caps in Medical Malpractice Cases: Evidence from Texas*, 1 J. LEGAL ANALYSIS 355 (2009); Greg Pogarsky & Linda Babcock, *Damage Caps, Motivated Anchoring, and Bargaining Impasse*, 30 J. LEGAL STUD. 143 (2001); Catherine M. Sharkey, *Unintended Consequences of Medical Malpractice Damages Caps*, 80 N.Y.U. L. REV. 391 (2005).

⁶¹ Scholars have examined how precaution can affect total accident costs, such as how one party's precaution costs may change other party's precaution costs, Dhammika Dharmapala & Sandra A. Hoffmann, *Bilateral Accidents with Intrinsically Interdependent Costs of Precaution*, 34 J. LEGAL STUD. 239, 240 (2005), or when the injurer fails to internalize the precaution costs of the victim, Alan J. Meese, *The Externality of Victim Care*, 68 U. CHI. L. REV. 1201, 1211–15 (2001).

D. The Trouble with Subjective Value

The discussion surrounding damages in traditional law and economic scholarship assumes that assigning recovery for harm and determining efficient precaution are synonymous activities, in the sense that the standard of care is derived from the expected compensable harm.⁶² However, Ariel Porat identified instances where the risk used to analyze the duty of care were separate and independent from the risk used to impose liability and award damages.⁶³ The particular scenario relevant to our discussion is when the expected costs used in the Hand Formula to determine the reasonable level of care differ from the actual resulting injury.

This distinction, which Porat refers to as misalignments,⁶⁴ describes various instances where the law refers to different types of risk at various stages of the tort claim.⁶⁵ For example, when courts assess the standard of care, they do so for one type of injury but then may compensate for a different type of injury in granting damages. Porat argues that “exempting the negligent injurer from

⁶² Many authors have written about the variation between damages and expected harm in the context of punitive damages. *See generally* COOTER & ULEN, *supra* note 34, at 257–261; Cooter, *supra* note 37, at 1543; Polinsky & Shavell, *supra* note 53. For other discussions concerning incommensurable harm, see generally Cass R. Sunstein, *Incommensurability and Valuation in Law*, 92 MICH. L. REV. 779 (1994), particularly in the context of tort law. *See also* Robert Cooter, *Hand Rule Damages for Incompensable Losses*, 40 SAN DIEGO L. REV. 1097 (2003). However, both of these discussions never considered the difference between the inflicted harm observed by the court, provided no mistake is made in assessing damages, and the harm realized by the victim. For more philosophical discussion on the concept of incommensurability, see Margaret Jane Radin, *Compensation and Commensurability*, 43 DUKE L.J. 56 (1993); Benjamin C. Zipursky, *Coming Down to Earth: Why Rights-Based Theories of Tort Can and Must Address Cost-Based Proposals for Damages Reform*, 55 DEPAUL L. REV. 469, 479–83 (2006).

⁶³ Porat, *supra* note 27; *see also* ENGLARD, *supra* note 14, at 39–41 (criticizing the Hand Formula for using the value of actual harm as the value for expected harm).

⁶⁴ Porat, *supra* note 27, at 84 (noting misalignments are instances where “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”).

⁶⁵ *Id.* For example, when stating the efficient standard of care in a claim regarding lost income from a car accident, the court should evaluate the efficient precaution against the average harm. In other words, the court assumes that the reasonable person takes efficient precaution against harm that could likely result from an accident. However, when computing damages, the court takes the specific characteristic of the victim into account. In some cases, such as the presence of a low-income or high-income victim, the risk that actually materialized differs from the risk computed by the Hand Formula. *See* Kenneth S. Abraham, *Strict Liability in Negligence*, 61 DEPAUL L. REV. 271, 292–96 (2012) (discussing the thin-skull doctrine); Robert Cooter & Ariel Porat, *Does Risk to Oneself Increase the Care Owed to Others? Law and Economics in Conflict*, 29 J. LEGAL STUD. 19, 21–22 (2000) (discussing the exemption of risk to oneself).

liability for harms resulting from [ordinary] risks creates a misalignment.”⁶⁶ This Article demonstrates that inefficiency may occur when the injurer can foresee the risk of high subjective value injury and knows that courts will compensate victims according to the market value rule. Taken together, these factors essentially exempt the injurer *de facto* from a foreseeable risk.⁶⁷ In this way, it is actually alignment between the standard of care and the injury, which both exempt subjective value and may be responsible for causing injurers to take inefficient precautions.⁶⁸ Part V suggests how misaligning these elements, such as increasing damages to include subjective value, can potentially solve part of the inefficiency that results from a liability rule.

A different venue to examine the inefficiency of subjective value is through the long-studied principle of liability rules. Liability rules, by their nature, fail to protect a victim’s subjective value when the governing compensation rule is limited to protecting objective value.⁶⁹ When the victim’s subjective value of harm exceeds the court-awarded damages, there is an uncompensated amount of money. This uncompensated harm is internalized solely by the victim, and as a result, injurers may be less deterred from engaging in negligent behavior. On the other hand, victims aware of their vulnerabilities may respond by taking increased precautions.⁷⁰ Keith Hylton argues⁷¹ that under a liability rule, victims will be predisposed toward either taking no precaution⁷² or taking excessive precaution⁷³ to mitigate their exposure to uncompensated

⁶⁶ Porat, *supra* note 27, at 125–27.

⁶⁷ One can argue that subjective value is not foreseeable and hence uncompensated. See RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL & EMOTIONAL HARM § 47 cmt. i (AM. LAW. INST. 2012). For a discussion regarding foreseeability as a restriction on liability, see Tony Honoré, *The Morality of Tort Law – Questions and Answers*, in PHILOSOPHICAL FOUNDATIONS OF TORT LAW 72, 90–92 (David G. Owen ed., 1995).

⁶⁸ RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 223 (9th ed. 2014) (arguing that a credible tort system demands that the minimal damage award a defendant must pay is equal to the “L” in the Hand Formula).

⁶⁹ Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1108 (1972).

⁷⁰ Hylton, *supra* note 1, at 155–56; Kaplow & Shavell, *supra* note 1, at 760–62.

⁷¹ Hylton, *supra* note 1, at 158–59.

⁷² Victims will take no precaution when the cost of precaution exceeds the value of the reduction in uncompensated harm.

⁷³ Victims will take excessive precaution when the reduction in excessive harm exceeds the cost of precaution.

harm.⁷⁴ The costs of these behaviors are “demoralization”⁷⁵ or “denormalization” costs,⁷⁶ which are the costs that society internalizes as a result of uncompensated harm.⁷⁷ For example, when a burglar breaks into a house, he inflicts a cost on the victim through property theft or damage. In many criminal cases, the prosecutor does not aim to compensate the victim for her loss but rather seeks to secure punishment for the illegal conduct.⁷⁸ By being vulnerable to uncompensated harm, the victim is inclined to invest in protective measurements, such as an alarm system to reduce her exposure to the initial risk. Likewise, when a victim is compensated, but not in an amount that reflects the actual loss incurred, she is again inclined to mitigate the risk. The costs associated with reducing the risk by taking excessive precautions are part of the “denormalization” costs.

Building on Hylton’s conclusion, the failure of liability rules to protect subjective value coupled with the victim’s incentive to invest in excessive precautions—resulting in denormalization costs—significantly decreases an injurer’s accident costs and incentivizes him to behave negligently. This negligent behavior will increase the denormalization cost beyond the cost of excessive precaution. This Article examines the case of subjective value in a negligence claim and explores how the presence of subjective value distorts incentives in a different way than what has been suggested by Guido Calabresi and A. Douglas Melamed⁷⁹ or Hylton.⁸⁰ The negative externality of uncompensated subjective value is two-dimensional, contributing to both inefficient behavior by victims and injurers. The impact on injurer behavior has often been overlooked in the academic discussion; however, its examination is equally important because ultimately it is the injurers who are responsible for the harm. Only when we understand how a restriction on subjective value compensation also leads injurers to adjust their decision-making for the worse can we appreciate the full scope of this problem. Part IV subsequently presents

⁷⁴ Most previous debate focuses on the comparison between the benefit of property and liability rules to protect uncompensated harm. Hylton, *supra* note 1, at 180–82 (discussing some measures that can be taken by courts to protect subjective value using tort doctrines such as recklessness and punitive damages).

⁷⁵ Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of “Just Compensation” Law*, 80 HARV. L. REV. 1165, 1214–15 (1967).

⁷⁶ Hylton, *supra* note 1, at 158–59.

⁷⁷ *Id.*; Michelman, *supra* note 75, at 1214–15; Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719, 1774–85 (2004).

⁷⁸ Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 171–73 (1968).

⁷⁹ Calabresi & Melamed, *supra* note 69, at 1108.

⁸⁰ Hylton, *supra* note 1, at 158–59.

the basic paradigm of subjective value victims and their incentives to engage in over-precautions.

IV. PRECAUTIONS UNDER SUBJECTIVE VALUATION

A. *A Paradigm of Excessive Precautions*

Let us revisit the interaction between Allie and Bob. In Part III, we saw that when the legal standard is set efficiently, Bob will take efficient precaution at the cost of \$150 against the risk. However, even if Bob takes precaution, there is still a 20% chance that an accident will occur. If Allie values her garden subjectively at \$3,000, then her total expected accident cost is \$600. Cognizant of her sizable loss, Allie may be inclined to take more precautions to eliminate or mitigate her risk. Allie decides to invest \$300 to reduce the risk of accident to 5%. How will Bob react to Allie's additional precaution?

This question grounds the paradigm, which examines each party's incentives under a negligence legal regime where a victim's subjective value of harm is unrecoverable. The result of this scheme is a distortion of party incentives to take precautions against the harm. Assuming the legal standard of care is set efficiently, the injurer may be inclined to take fewer precautions and will behave negligently because the victim's excessive precaution lowers his expected accident costs. Specifically, a victim's additional precaution decreases the injurer's cost of non-compliance with the legal standard of care. The victim's excessive precaution as a result of subjective valuation changes the cost of accident by reducing the probability of the risk materializing. This places the injurer in a position in which his expected accident costs are lower. When the expected accident cost for the injurer falls below his precaution costs because of the victim's excessive precaution, the injurer will not take precaution and behave negligently. This outcome may be particularly problematic when the social optimum requires that both parties take precaution. In this way, subjective valuation incentivizes a worried victim to take too many precautions to protect her property, which encourages the injurer to assume less than efficient precautions because the accident costs are lowered. The following example attempts to illustrate this principle of how subjective valuation can distort both parties' incentives under a negligence rule.

The victim, Allie, now values her garden at \$1,000 even though the market value is only \$100. If an injurer, Bob, contaminates the rare flowers in Allie's garden, Allie will only be able to recover \$100, the market value of her flowers, if she brings a successful tort claim. An accident will occur with a 100% probability when both parties fail to take precaution. However, this outcome is unlikely given that both parties have a superior alternative as demonstrated below. Therefore, at a minimum, the injurer will take precaution because he will assume responsibility for the total accident costs if he does not.

Let us assume that the injurer can take precaution, at a cost of \$40, to reduce the probability of an accident by 50%. Allie can take excessive precaution⁸¹ for a cost of \$100, which will reduce the probability of an accident by an additional 70% of any remaining risk. Cumulatively, once Bob and Allie take precaution, the probability of an accident occurring drops to 15% (0.5×0.3). The legal standard requires Bob to take precaution because it is efficient to eliminate \$50 in harm by investing \$40. Therefore, when Bob does not take precaution, he is accountable for the accident costs related to the market value of the garden. Similarly, the law does not require Allie to take precaution here because it would be inefficient, so the notions of contributory negligence or comparative negligence do not arise. Table 2 presents the payoffs for each party with the letters identifying each scenario.

Table 2: The Payoffs Under Subjective Value of Harm

		Allie (Victim)			
		No Precaution		Precaution	
Bob (Injurer)	No Precaution	(A) -\$100	-\$900	(B) -\$30	-\$370
	Precaution	(C) -\$40	-\$500	(D) -\$40	-\$250

When both the victim and the injurer do not take precautions, the accident will occur. If Bob is negligent, he will pay the full market price for the garden (\$100). Allie will lose her garden (harm which she values at \$1,000) and recover damages (\$100) from Bob. The sum of these values results in a total of -\$900 for the victim and is represented by the payoffs in Scenario (A).

When the injurer takes the minimal precautionary measures to satisfy the negligent standard, he is not liable for accident costs and is only responsible for his \$40 precaution costs. Allie does not have a claim against Bob because he was not negligent, and therefore she receives no compensation. Here, there is still a 50% chance of an accident occurring, so Allie's value is -\$500 as depicted by the payoffs in Scenario (C).

Allie, however, can mitigate her losses by taking precautions to reduce the risk of an accident by 70%. If Bob does not take precautions, but Allie does,

⁸¹ Allie's precautionary measure is considered "excessive" because it is inefficient to take a \$140 precaution to prevent a harm only worth a \$100 market value. Nevertheless, as demonstrated below, Allie's "excessive precaution" may become efficient when subjective value is considered.

his payoff is -\$30, which is the probability of an accident multiplied by the damages. Under these payoffs in Scenario (B), Allie pays for her precautions (-\$100), receives damages (\$30), and then incurs expected accident costs (-\$300), for a total of -\$370.

Finally, when both Bob and Allie take precaution, Bob's payoff is -\$40, which reflects his precaution cost. On the other hand, Allie's payoff is the cost of precaution (-\$100) plus the accident cost ($0.5 \times 0.3 \times \$1000 = -\150), which equals -\$250 as shown in Scenario (D).

This scenario reveals two important insights for circumstances where a victim maintains subjective value. First, the victim will always take precaution because her payoff is consistently superior to her payoff under "no precaution." Presumably, the injurer is aware of this fact and therefore will fail to take precautions because his "no precaution" payoffs exceed his "precaution" payoffs (for the injurer $B > D$). Second, when incorporating the subjective value into the total cost calculus,⁸² mutual precaution is preferable to unilateral precaution because total accident costs are lower when both parties take precautions (because $D < B$). However, the equilibrium occurs when the injurer does not take precaution, but the victim does, as is captured by Scenario (B). Given these two outcomes, a regime that fails to compensate for subjective value has the potential to create inefficiency even assuming a perfect legal system.

It is important to note that this garden example does not imply that a social optimum is always present in situations like Scenario (D), where optimal precaution is bilateral. Rather, in some cases, like Scenario (B), the victim's excessive precaution because of subjective valuation actually makes additional injurer precautions inefficient. In such circumstances, the equilibrium overlaps with the social optimum. These situations arise when the risk of an accident with bilateral precaution and the cost of the injurer's precautions are less than the accident cost when the victim takes unilateral precaution.⁸³ Interestingly, these

⁸² The argument for incorporating subjective value into the calculus is, according to the economic analysis of law, that the goal of tort law is to maximize social welfare. This is done, in most cases, by minimizing social monetary costs. However, in some distinct cases, the welfare cannot be conceptualized solely by the monetary value of things, but rather by our valuation of these things. See Richard Posner, *Wealth Maximization and Tort Law: A Philosophical Inquiry*, in *PHILOSOPHICAL FOUNDATIONS OF TORT LAW* 99, 99–100 (David G. Owen ed., 1995) (arguing that the efficiency theory is based on wealth maximization rather than simply objective monetary values); Richard A. Posner, *Wealth Maximization Revisited*, 2 *NOTRE DAME J.L. ETHICS & PUB. POL'Y* 85, 87–88 (1985) (suggesting that individuals' wealth can be derived from value other than the monetary value of property or salary); Cass R. Sunstein, *Willingness to Pay vs. Welfare*, 1 *HARV. L. & POL'Y REV.* 303 (2007) (arguing that willingness to pay for goods is a measure to determine welfare one derives from it); see also Levmore, *supra* note 1, at 833–35 (suggesting that self-assessment is a vehicle to determine the value of the property to the owner).

⁸³ An intuitive example can be drawn from the garden owner example. There, the victim's excessive precaution motivated by subjective value does not just mitigate the risk but eliminates it

scenarios suggest that when the court imposes market value liability on an injurer who efficiently fails to take precaution, the effect is purely distributional. Put differently, whether court finds the injurer liable under (B)-like scenarios, when this scenario is socially optimal, does not affect the total accident costs but only impacts how much cost the victim internalizes. In this way, when bilateral precautions are efficient or when an injurer's unilateral precaution is efficient, barring subjective value from recovery may encourage the injurer to take inefficient precautions. Conversely, when a victim's unilateral precaution is efficient, barring subjective value from recovery does not affect efficiency but only distribution.

A different outcome emerges when the victim realizes she may incur all the costs of her subjective value but now the injurer's unilateral precautions are superior to the victim's unilateral precautions. In other words, the victim prefers Scenario (C) over Scenario (B). Revisiting our basic premises, Allie still values her garden at \$1,000 (with a \$100 market value), but her precaution costs have increased from \$100 to \$300. Bob's precaution cost is still \$40, meaning that any time he wants to operate his factory he must take \$40 in precaution to avoid liability. The payoffs of the parties with these adjusted numbers are illustrated in Table 3.

Table 3: Subjective Value Computed—Higher Victim Precaution Cost

		Allie (Victim)			
		No Precaution		Precaution	
Bob (Injurer)	No Precaution	(A)		(B)	
		-\$100	-\$900	-\$30	-\$570
	Precaution	(C)		(D)	
		-\$40	-\$500	-\$40	-\$450

entirely. When this happens, the payoffs under Scenario (B) would be the lowest (-\$100) that comport with the equilibrium.

In this case, Allie's preferences are ranked accordingly: (1) Scenario (D)—bilateral precaution; (2) Scenario (C)—unilateral precaution by Bob; and (3) Scenario (B)—her own unilateral precaution. Note that even though Allie's precaution costs have increased from our first calculation, her expected behavior remains unchanged in that her best position is always to take precaution. This is also true in Table 3, where even if Bob fails to take precaution (Scenario (A) or (B)), Allie is still better off taking precaution (Scenario (B)) because she prefers losing \$570 to \$900 ($B < A$). On the other hand, when Bob takes precaution (Scenarios (C) and (D)), Allie is better off taking precaution (Scenario (D)) because she will only lose \$450 instead of \$500 ($D < C$). Even though Allie's preference to take precaution does not change in this calculation, Scenario (B) is now demoted to the third best outcome when compared with our initial calculation in Table 2. Taken together, the results generated by the paradigm in Table 2 and Table 3 suggest that when a victim's preferred outcome is bilateral precaution and her least preferred outcome is no precaution, regardless of her payoffs under either unilateral precaution option, she will always take precautions because these payoffs are consistently superior.

This conclusion leads to a few important extensions. First, the injurer does not have to be aware of the victim's payoff under each scenario. So long as the injurer knows his own payoffs and the victims' precaution preferences, the injurer may choose to behave negligently when the accident costs are sufficiently low. Second, the standard of care—when set according to the Hand Formula—guarantees that the injurer will engage in an activity only when the benefits to him outweigh the associated accidents costs.

To explore this second proposition, when the standard of care is set efficiently under a market value rule, Bob is better off taking precaution at a cost of \$40 rather than paying \$100 in damages. In this case, Bob's factory will engage in pollution only if the activity will generate more than \$40 in revenue. Assume that Bob stands to gain \$35 from operating his factory and polluting. Now, the net value of the activity is -\$5 and Bob will not take the risk. However, consider the circumstance where a victim takes excessive precaution because of her subjective value. In this case, the net value of polluting is positive because the excessive precautions by Allie reduce the accident costs to \$30. With the benefit from polluting at \$35, Bob stands to gain \$5.

As seen in this example, excessive victim precaution may encourage injurers to engage in an activity that they may not have otherwise engaged in because of reduced accident costs.⁸⁴ Excessive victim precautions not only

⁸⁴ The basic paradigm implicitly assumes that a victim's excessive precaution decreases the risk of an accident; however, this claim may not always hold true. In some cases, subjective value and market value are distinguishable, which means precaution can be tailored to prevent the

increase an injurer's incentives to partake in potentially harmful activity, but they also increase the number of injurers participating in any given activity. Instead of Bob being the only polluting factory, now Cory, David, and Emily will also operate their factories. As a result, when bilateral precaution (Scenario (D)) is socially desired, inefficiency may result both on the micro level, between a specific victim and an injurer, as well as on a macro level, when more injurers will engage in the activity.

With a more frequent propensity for negligent behavior and an increased number of negligent players, the result is a higher possibility of accidents. Whereas a victim's increased precautions may have protected her property against the occasional negligent injurer, a more pervasive threat multiplies the potential for harm. This outcome ignites a cyclical trend where victims may take even more precautions to drive down the accident cost. In response, injurers will act in the opposite direction and continue to take fewer precautions. The increased accident costs resulting from victims' subjective value are "denormalization" costs incurred by the legal system.

Given this impact, the basic paradigm builds on the existing literature in two ways. First, the paradigm shows that the negative externality of excessive precaution impacts injurers' payoffs, and second, it creates additional costs. Furthermore, a review of the paradigm's calculations also suggests that a potential injurer possesses sufficient information to decide whether or not to take precautions, provided he knows his own payoffs and the victim's precaution preferences. The following section shows why the insurance industry is unable to sufficiently address this problem because of industry policy restrictions. As such, the market cannot adequately mitigate the problems linked with subjective valuation and will require judicial intervention, later discussed in Part V.

specific harm the victim seeks to avoid. To illustrate, many people value their electronic device at prices above its market value. This significant subjective value is tied to the important and sentimental data stored on these devices, such as documents, pictures, emails, music, contact information, etc. In response to a high subjective value, rational victims will pursue precautionary measures to secure their property, such as purchasing a protective case or backing up data on a virtual storage facility. The first safeguard is aimed at securing the electronic device and reducing the risk of an accident, which can be an excessive or efficient precaution depending on the costs. The second action does not lessen the possibility of an accident but reduces the risk of suffering subjective harm if an accident should occur. The type of precaution a victim chooses will have implications on injurer incentives. When the victim's precaution only reduces the risk of suffering the subjective harm, as in data backups, the probability of an accident will not be affected. These kinds of precautions will not distort the injurer's incentive, thus leaving the injurer to take efficient precautions under a perfect legal system and act as if the victim is a market value victim. Conversely, when the victim's precaution affects the probability of an accident occurring, the problem that is discussed in this Part can potentially arise.

B. Insurance and Subjective Value

The basic paradigm suggests that when victims value the harm to their property more than its market value, then the injurer may be incentivized to take inefficient precautions. This results because the victim is inclined to take precautions against harm that is not compensable. Harm can be compensable in one of two ways: (1) harm can be recovered from the defendant through damages or (2) harm can be contractually recovered in an insurance mechanism.⁸⁵ An insurance mechanism is impractical for protecting non-compensable subjective value due to the inherent nature of the insurance industry. Because of an underlying moral hazard problem, insurance companies do not protect property above its market value and therefore subjective value becomes uninsurable.⁸⁶ This structure leads to the reality that when a victim faces a non-compensable harm to property, she cannot rely on insurance for protection.⁸⁷

For this reason, a victim's subjective value that is not recognized by the VTO rule is neither insurable nor compensable under the torts system. This limitation means that victims are constrained to personally mitigate future harm because they cannot recover perfect compensation. Yet, victims cannot always take sufficient precautions on their own because sometimes the cost of these precautions is too high. For example, assume that Allie, who is risk neutral, can take even more precaution that will completely eliminate the risk of accident for an additional \$600. As shown in Table 2, Allie's accident costs equal \$400 (Scenario (B)). It would be inefficient for Allie to engage in \$600 precautions when the risk is substantially lower. Under this circumstance, victims will increase their precaution up until the marginal cost of their precaution equals the marginal decrease in the expected subjective harm. This victim behavior results

⁸⁵ This is unlike non-pecuniary losses, such as pain and suffering, which may sometimes be insured. See Lindenbergh & Kippersluis, *supra* note 27; Steven P. Croley & Jon D. Hanson, *The Nonpecuniary Costs of Accidents: Pain-and-Suffering Damages in Tort Law*, 108 HARV. L. REV. 1785 (1995). Note that the insurance for non-pecuniary loss such as pain and suffering is based on an underlying assumption by insurers that individuals are never willing to risk their well-being for compensation.

⁸⁶ POSNER, *supra* note 68, at 116; SHAVELL, *supra* note 34, at 228–31. One can think of replacement costs insurance for a house as an exception to this general rule. Because instead of repaying the insured the market value of the house, the insurer compensates the insured for replacing the exact house even when such repair exceeds the value of the house. This exception may be applicable to repairable things, such as houses or providing medical treatment to pets. However, this would not enable insurance for irreparable objects.

⁸⁷ Theoretically, the victim can invest in proving his subjective value to the insurer. When an insurer can know the subjective value the victim places on the property, then the insurer may be willing to insure it. Yet, any uncertainty in assessing the sincerity of the victim's subjective value will likely result in an insurance denial or in an exorbitant policy premium.

because of the unavailability of subjective value compensation or insurance for these harms.

V. INCREASED COMPENSATION VERSUS INCREASED STANDARD OF CARE

Given this undesirable outcome in distorting party incentives, we turn to examine why increasing compensation is the proper solution when compared to changing the standard of care. Negligence law is usually a liability rule, in the sense that it prices violations of the legal standard but does not eliminate them.

This paradigm suggests that negligence law as a liability rule follows Hylton's⁸⁸ assertion and can potentially create inefficiencies, which are magnified by excessive victim precautions. To combat this problem, the court can impose harsher sanctions against the injurer,⁸⁹ which can materialize as either an increase in damages or an increased standard of care bundled with higher damages. The decision regarding which outcome is superior will be determined by which option best aligns the injurer's incentives with the socially desirable outcome.

A. *Increased Damages—Compensating for Subjective Value*

Regarding the first course of action, negligence law can create incentives by changing one of three components: breach of duty, causation, or damages.⁹⁰ Damages can efficiently solve the problem of subjective valuation when the average victim values her property at the market price and only a few victims value their property subjectively higher. If the court computes the standard of care based on the market price but modifies the damages to cover the subjective value of the harm, the injurer's precautions will be efficient. The injurer will take efficient precaution to avoid excessive liability, and the victim will take efficient or excessive precaution to mitigate her exposure to uncompensated risk.⁹¹ By adjusting the damage calculation to include subjective value, the courts will force injurers to internalize the additional cost of the victim's subjective value. In other words, increasing damages can address the possibility of injurers taking advantage of the victim's excessive precaution, while leaving the decision of whether or not to take excessive precaution to the victim.

Table 4 illustrates how increasing damages affects Allie and Bob's payoffs under this adjusted compensation calculus. As presented in Table 4, Bob stands to internalize the cost of Allie's subjective value of -\$1,000. As a result, Bob minimizes his accident costs by complying with the standard of care and pays \$40 in precaution costs. Note that the standard of care is set according to the garden's \$100 market value and not Allie's subjective value at \$1,000. Put otherwise, the standard of care and the damages are misaligned because they use different values.

Table 4: Subjective Value Damages⁹²

⁸⁸ Hylton, *supra* note 1, at 158–59.

⁹² Table 4 portrays a situation where damages include Allie's subjective value. Note that the victim is better off when both parties do not take precaution as shown in Scenario (A). Yet, this scenario will never occur because the injurer's "no precaution" payoffs are always inferior to his "precaution" payoffs. The equilibrium for both parties is captured in Scenario (D). As mentioned earlier, sometimes (B)-like scenarios are socially optimal when the victim can take unilateral precautions. In these cases, any change to the standard of care or the damages awarded can potentially distort efficient incentives. For example, subjective value damages can potentially

		Allie (Victim)			
		No Precaution		Precaution	
Bob (Injurer)	No Precaution	(A) -\$1000 \$0		(B) -\$300 -\$100	
	Precaution	(C) -\$40 -\$500		(D) -\$40 -\$250	

However, misaligning damages to cover subjective value is not a perfect solution. First, it does not require injurers to increase their precaution levels beyond what is desirable against a victim who values her harm at the market value (“MV victim”). When most victims value their property at a high subjective value (“SV victim”) and only a few are MV victims, then the rule is inefficient if the injurer is the cheapest cost avoider.⁹³ For example, assume that a computer repair shop takes efficient precaution when fixing customers’

cause the injurer to take precaution when it is not socially desirable to do so. When Scenario (C) is socially optimal, the injurer will always take precautions under increased damages, and the victim will not. From the injurer’s perspective, the cost of Scenarios (B) and (D) are always superior under increased damages than Scenarios (A) and (C). In these latter scenarios, when the precaution costs are higher than the uncompensated harm, the victim will choose no precaution, which will cause the equilibrium to overlap with the social optimum.

⁹⁰ Causation is not part of this discussion because we are assuming that there are no mistakes in the court’s causation determination. Each time a breach of duty results in injury, the defendant is found liable and pays the market value of the harm.

⁹¹ When the expected accident costs are lower than the precaution cost plus the reduction in harm, the victim will take precaution.

⁹² Table 4 portrays a situation where damages include Allie’s subjective value. Note that the victim is better off when both parties do not take precaution as shown in Scenario (A). Yet, this scenario will never occur because the injurer’s “no precaution” payoffs are always inferior to his “precaution” payoffs. The equilibrium for both parties is captured in Scenario (D). As mentioned earlier, sometimes (B)-like scenarios are socially optimal when the victim can take unilateral precautions. In these cases, any change to the standard of care or the damages awarded can potentially distort efficient incentives. For example, subjective value damages can potentially cause the injurer to take precaution when it is not socially desirable to do so. When Scenario (C) is socially optimal, the injurer will always take precautions under increased damages, and the victim will not. From the injurer’s perspective, the cost of Scenarios (B) and (D) are always superior under increased damages than Scenarios (A) and (C). In these latter scenarios, when the precaution costs are higher than the uncompensated harm, the victim will choose no precaution, which will cause the equilibrium to overlap with the social optimum.

⁹³ The injurer is the cheapest cost avoider when the injurer can take more efficient precaution.

computers according to its market value, which may be low for used computers. Such precautions, however, do not take into account the customers' subjective value of their device, which contains photos, documents, data, and other valuable information.

Second, misaligning damages can incentivize victims to deliberately fail to protect their own subjective value, when they know they will receive full subjective value compensation. As Table 4 underscores, Allie's best outcome occurs when neither party takes precautions (Scenario (A)). Her payoff under this circumstance is zero, which is the highest possible payoff from her encounter with Bob. If the courts applied a rule of increased damages, then Allie will not be incentivized to take excessive precautions whenever she can predict Bob's failure to comply with the standard of care. While inaction may maximize Allie's payoff, this outcome is the least desirable scenario because now the victim exploits the injurer's position. In order to eliminate opportunistic behavior by victims that can potentially result in higher social accident costs, a rule of increased damages for subjective value must incorporate some comparative negligence element. For example, supporting evidence for subjective value would be derived from the victim's level of care. Alternatively, in the context of comparative negligence, the victim's standard of care would be derived from her subjective value and not the property's market value. In practice, the victim and the injurer would be required to comply with different standards—namely with a different "L" in their Hand Formula. For the injurer, L represents the market value of the harm, while for the victim it encompasses the subjective value.

B. Adjusting the Standard of Care—Protecting Subjective Value

An alternative solution to only increasing damages is to also adjust the legal standard to incorporate the victim's subjective valuation. While increasing the standard of care for the victim may offset opportunistic victim behavior that arises from subjective valuation. This approach creates problems when the injurers' standard of care is also increased because it is derived from the subjective value of the harm and not the market value of the potential harm.

Developing a uniform level of care from the victim's subjective value can be highly impractical. For example, while many people may find their personal computers, tablets, and cell phones to be highly valuable, it is unlikely that all potential victims' value their electronic devices similarly. Thus, any possibility of establishing a uniform standard would require either depending on crude averages when compensating victims or engaging in an elaborate procedure to determine each individual's respective subjective value. Regarding the latter approach, this would require different injurers to comply with different

standards in the same circumstances where the only difference is the victim's identity.⁹⁴

Such an intricate and discretionary strategy will likely lead to efficient outcomes only when the majority of victims are SV victims and when injurers are the cheapest cost avoiders.⁹⁵ If the court uses a marginal Hand Formula that incorporates subjective value, then the standard of care will rise. This calculus will demand that the injurer increase his precaution levels compared to those he would otherwise commit under a calculation based on market value. Additionally, the opposite dilemma can occur when a victim's subjective value is equivalent to the market value.⁹⁶ Here, the victim may exploit the injurer's⁹⁷ increased precaution and fail to take the required precautions demanded by a bilateral regime.⁹⁸

⁹⁴ This theoretically would be similar to the eggshell plaintiff doctrine where different injurers in the same circumstances would pay different damages because of plaintiff's subjective vulnerability. Abraham, *supra* note 65, at 292–96.

⁹⁵ The practical assumption, according to the current tort system, is that the standard of care is objective and, thus, any change to the standard of care will cover most injurers in similar circumstances. However, theoretically, the standard of care can be derived individually for every injurer. Recently, it has been argued that personalizing the standard of care is more plausible as a result of large databases. See Omri Ben-Shahar & Ariel Porat, *Personalizing Negligence Law*, 91 N.Y.U. L. REV. 627 (2016). Ben-Shahar and Porat argue that it is possible and desirable to personalize the standard of care in accordance with the injurer's personal traits. Personalizing the standard of care can work well in subjective value cases when courts can acquire information about subjective value and injurer's intent cheaply. Warren F. Schwartz, *Objective and Subjective Standards of Negligence: Defining the Reasonable Person to Induce Optimal Care and Optimal Populations of Injurers and Victims*, 78 GEO. L.J. 241 (1989).

⁹⁶ This analysis assumes that victims do not hold property that is worth less than its market value. When a property's subjective value is lower than its market value, it is likely that the property will be transferred to someone who values it more. As such, for the purpose of this analysis, there cannot be a subjective value lower than market value. Once incorporating the transaction costs into our assessment of subjective value, this assumption seems feasible and follows Ronald Coase's famous theorem in R. H. Coase's *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960). I must concede, however, to the argument that victims may stand to gain a net benefit when they do value their property below market value and only transaction costs preclude them from selling it. In this case, market value compensation provides victims with a net gain of the difference between their subjective assessment and the market value. With that being said, there is no reason to believe that in some sort of system that adopts a bilateral negligence system this would distort victims' incentives.

⁹⁷ Courts should ensure that victims do not engage in opportunistic precautions. Ehud Guttel, *The (Hidden) Risk of Opportunistic Precautions*, 93 VA. L. REV. 1389 (2007). These precautions are precautions taken by the victim in order to cast liability upon an injurer that he would not otherwise incur.

⁹⁸ This can be eliminated by comparative and contributory negligence regimes. For economic analysis of comparative negligence, see Robert D. Cooter & Thomas S. Ulen, *An Economic Case for Comparative Negligence*, 61 N.Y.U. L. REV. 1067 (1986); David Haddock & Christopher

This understanding leads to a novel conclusion about negligence law: protecting a victim's subjective value through compensation rules is an efficient vehicle to incentivize injurers to take precautions against market value harm but not against subjective value. The reason is that the standard of care is still derived from the market value of the injury and not from the subjective value. Compensation rules increase the costs of noncompliance but do not increase the costs of compliance with the level of care. To the extent that damages include subjective value, it seems to lead to some desirable results. However, it will not encourage injurers to protect victims' subjective value but will instead motivate them to comply with the standard of care as though they were only to encounter MV victims. Thus, to effectively increase the standard of care, it must be coupled with increased damages. Regardless of the efficiency of each mechanism, one should accept that any viable solution must, at a minimum, increase damages. As we have seen so far, efficiency justifies increasing damages, and sometimes, in cases where the majority of the potential victims are SV victims, the standard of care must also be heightened.

VI. CONCLUSION AND FINAL THOUGHTS—BRINGING NEGLIGENCE TO THE 21ST CENTURY

When the victim places a higher subjective value on harm, she might be inclined to take excessive precaution. When this precaution reduces the probability of an accident beyond a certain point, the injurer may be better off facing liability and paying damages than taking precautions since he will not internalize the subjective value of the harm. Increasing damages to cover subjective value can incentivize injurers to take efficient precaution when bilateral precaution is efficient.

Understanding the effects of subjective valuation on the parties' incentives may not provide us with all the normative answers in every case, but it offers a partial understanding⁹⁹ of incentives, which can enhance the discourse around other contemporary questions. Such discussion is particularly important given the shift in the nature of property as we progress into an increasingly technological century. First, the risk of harm to property with high subjective value has changed as valuable virtual property and keepsakes are increasingly

Curran, *An Economic Theory of Comparative Negligence*, 14 J. LEGAL STUD. 49 (1985). Under a comparative negligence regime, when the costs of precaution are greater than the cost of the victim's liability for harm, the victim will opportunistically fail to take precaution. Under a contributory negligence regime, when the costs of precaution are lower than internalizing the entire accident costs, then the victim will fail to take precaution. When the injurer takes excessive precaution, this latter outcome is likely to occur.

⁹⁹ SHAVELL, *supra* note 34, at 291–97; Richard Craswell, *In that Case, What Is the Question? Economics and the Demands of Contract Theory*, 112 YALE L.J. 903 (2003).

fused into one digitalized source. The loss of such data can translate into substantial harm for the person who has lost it, whether because such data was never backed-up or because it resulted from a larger technical malfunction. This change in the way we own and appreciate our property supports changing the compensation mechanism for losses in a digitized world.

Second, more and more of our personal information is digitized and stored in clouds, external servers, or databases by service providers. In an environment of increasing cyber-attacks, we may “incur” certain harm when our information is compromised by a data breach. However, in various jurisdictions, courts have found that compromised information does not account as a compensable harm but rather constitutes a pure economic loss,¹⁰⁰ even though victims may price danger to private information differently.¹⁰¹ In addition, victims are unlikely to receive damages for emotional distress for cyber torts as in most cases these damages are very limited.¹⁰²

Victims may be incentivized to invest more in protecting their digitalized property by using various preventative measures.¹⁰³ Such measures may include anti-virus software, cloud back-ups, firewalls, etc.¹⁰⁴ Similarly, victims may be inclined to invest in protecting their personal information *ex-post*. For example, one whose credit card information has been comprised in the course of a cyber-attack may invest in credit monitoring service, which is a service that tracks one

¹⁰⁰ For further discussion of data breach and data breach litigation, see David W. Opperbeck, *Cybersecurity, Data Breaches, and the Economic Loss Doctrine in the Payment Card Industry*, 75 MD. L. REV. 935, 943–50 (2016); Sasha Romanosky & Alessandro Acquisti, *Privacy Costs and Personal Data Protection: Economic and Legal Perspectives*, 24 BERKELEY TECH. L.J. 1061 (2009); Paul M. Schwartz & Edward J. Janger, *Notification of Data Security Breaches*, 105 MICH. L. REV. 913 (2007). For empirical analysis of data breach litigation, see Sasha Romanosky, David Hoffman & Alessandro Acquisti, *Empirical Analysis of Data Breach Litigation*, 11 J. EMPIRICAL LEGAL STUD. 74 (2014).

¹⁰¹ Although compensable harm is zero, subjective harm may still exist. In this way, victims may be inclined to take precautions against subjective harm whereas the database owners may be less inclined to do so.

¹⁰² See Vincent R. Johnson, *Cybersecurity, Identity Theft, and the Limits of Tort Liability*, 57 S.C. L. REV. 255, 303–05 (2005).

¹⁰³ See Bernhard A. Koch, *Cyber Torts: Something Virtually New?*, 5 J. EUR. TORT L. 133 (2014).

¹⁰⁴ Another venue that we may see developing as a result of the recent trends is a legal requirement for the victim to back up his personal data. Cloud storage enterprises offer individuals different services to back up their personal data using a third-party storing server. If courts would recognize that VTO applies to digitized data and property, it is very likely that this kind of precaution by victims would become the standard, either as a vehicle to prove that the victim indeed placed subjective value on the digitized data or, alternatively, when the issue of subjective value will be trivialized, even as a part of a comparative negligence examination. In other words, backing up one’s data will be elementary precautions taken by victims, and lack of back up may diminish the compensation.

credit card activity and identifies suspicious transactions.¹⁰⁵ In other cases, where the personal information compromised is of an intimate nature, such as personal pictures, victims may not have a plausible mechanism to increase their precautions *ex-post*.

Our digitized era generates more and more scenarios like Allie and Bob, where the perception of the risk is asymmetrical. Unlike previous rulings on subjective value, which focused primarily on physical belongings, such as heirlooms and pets, future subjective value litigation may shift to revolve around data, digital property, electronic files, records, etc. In this new environment, reliance on the market value may generate the inefficiencies discussed in this Article. Additionally, implementing a VTO rule without proper understanding of victim and injurer incentives may result in random compensation that fails to efficiently mitigate risks.

Although our current tort system restricts subjective value compensation, this Article argues that such an approach promotes inefficient behavior both in terms of injurers and victims. While relevant scholarship has concentrated on victim behavior, the paradigm presented herein shows how the scope of the problem is much broader because excessive victim precautions drive down accident costs and encourage injurers to behave negligently more frequently and with less apprehension. Although this Article presents a solution by increasing damage awards to incorporate subjective value, this solution is not perfect and has its own implications. Nevertheless, this paradigm illuminates a problem that future scholarship will need to grapple with in order to better align party incentives to take efficient precaution, which benefits society at large.

¹⁰⁵ For further discussion, see Vincent R. Johnson, *Credit-Monitoring Damages in Cybersecurity Tort Litigation*, 19 GEO. MASON L. REV. 113 (2011); Johnson, *supra* note 102, at 305–11.