OFFSETTING RISKS

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Under prevailing tort law, an injurer who is required to choose between Course of Action A, which creates a risk of 500 (e.g., probability of .1 for harm of 5000), and Course of Action B, which creates a risk of 400 (e.g., probability of .1 for harm of 4000), and negligently opts for the former will be held liable for the harm of 5000 that materializes in its entirety. This full liability forces the injurer to pay damages that are five times higher than necessary for making him internalize the risk of 100 that is actually created by his negligent choice. The argument advanced by this Article is that tort law should recognize the "Offsetting Risks Principle" ("ORP"), under which the risks decreased by the wrongdoing should be taken into account by the courts as a mitigating liability factor, with a consequent reduction in liability. The injurer in our example would, thus, be liable for only 1000, which is 20% of the harm that actually materialized. This outcome is not only different from the outcome arrived at under prevailing tort law, but also diverges from that mandated by a probabilistic recovery principle. Under the latter principle, if, in our example, the risks of both Actions A and B relate to the same victim, the injurer should be liable for 4600.

The failure of tort law to cause injurers to internalize the actual risks created by their negligence in cases illustrated by the example emanates from the law's disregard for the positive externalities generated by wrongdoings. Specifically, in our example, the injurer's negligent choice creates two

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opposite effects: one is negative (increasing risks by 500), and the other is positive (decreasing risks by 400). Since the law imposes liability for the negative effects when harm materializes but ignores the positive effects, the result is that the injurer bears liability for risks that far exceed the actual risks he or she negligently created.

The ORP is suitable mainly for those cases in which the injurer is required to balance amongst various conflicting interests of his potential victim, but efficiency considerations mandate its application also in cases when the injurer is required to balance the interests of the victim against interests relating to third parties or to society as a whole. The specific focus of the Article is the ORP's potential application in medical malpractice cases. Adopting the ORP in such cases and reducing liability in accordance with offsetting risks would result in a huge, desirable, decrease in the damages awarded in medical malpractice suits. Doctors would then pay for no more than the social harm actually generated by their negligence; defensive medicine would be reduced, and over-investment in precaution discouraged. Furthermore, the main beneficiaries would be patients, who would pay less for medical services and receive improved service in return, while the apparent problem of under-compensation for patients could, and should, be solved outside the framework of tort law. Finally, the diminished damages awards would save huge amounts of money in contingent fees currently being pocketed by attorneys.

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INTRODUCTION

Tort law mandates that injurers bear liability for the harm caused by their negligence. Under conventional law and economics, this liability threatens the potential injurer with the expected harm resulting from any negligence on his part and thereby provides him with efficient incentives to take precautions and minimize social costs related to his behavior. In contrast, liability for either less or more than the harm inflicted by the injurer results in deficient incentives to take precautions, leading to under-deterrence or over-deterrence, respectively.[1] Corrective justice theories also justify imposing liability on negligent injurers for the harm caused by their behavior, based on the notion that the wrongdoer should rectify the injustice created by his wrongdoing by way of compensation.[2] Thus, at the outcome level, prevailing tort law's goal of compensation is consistent both with efficiency and corrective justice considerations.

Negligence law is built around the paradigmatic case where the injurer's precautions reduce the expected harm to potential victims and generate no adverse effects, either for the victim or for third parties. In this case, both efficiency and corrective justice considerations advocate liability for the entire harm caused by the injurer. In many instances, however, this paradigm in fact does not apply. Occasionally, although serving to reduce expected harm of one type, taking precautions actually increases expected harm of another type, either to the victim or to someone else. In such cases, the injurer who failed to take precautions creates a net risk that is measured by the difference between the risks he negligently failed to reduce and the risks that would have been created had he taken the necessary precautions. I term the latter risks "offsetting risks." While courts take into account such offsetting risks when they set the standard of care, they ignore them when awarding damages.[3] Corrective justice principles will support this

[1] For a more elaborate explanation, see *infra* discussion Part IV.

[2] ERNEST WEINRIB, THE IDEA OF PRIVATE LAW 3-21 (1995).

[3] In other cases, courts wrongly ignore the injurer's self-risk when they set the standard of care. *See* Robert Cooter & Ariel Porat, *Does Risk to Oneself Increase the Care Owed to Others? Law and Economics in Conflict*, 29 J. LEGAL STUD. 19 (2000). In a recent draft of the RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL HARM § 3 cmt. b (Proposed Final Draft No. 1, Apr. 6, 2005), this mistake was corrected.

approach, while efficiency principles will challenge it. Example 1 below illustrates the presence of offsetting risks.

> **Example 1: Doctor and Patient**. A doctor must decide between two courses of treatment, A or B, for his patient.[4] Each treatment entails different risks but the same utility if the risks do not materialize. This utility far exceeds the risks. Treatment A entails a risk to the patient's left arm in the amount of 500 (probability of .1 for harm of 5000), and Treatment B entails a risk to her right arm in the amount of 400 (probability of .1 for harm of 4000). The risks of Treatments A and B are not correlated, in the sense that the materialization of the risk of one course of treatment has no bearing on the probability of the materialization of the risk entailed by the other course of treatment if chosen. The doctor negligently chooses Treatment A, and harm of 5000 materializes. Should liability be for 5000 or in a different amount?[5]

Under prevailing tort law, the doctor's liability in Example 1 would amount to 5000. This means that the potentially negligent doctor bears a liability risk of 500 (.1 x 5000) if he makes the wrong choice. Yet the net risk the doctor creates vis-à-vis his patient when he does make a wrong choice is only 100 (500-400), not 500! This Article thus presents the argument that, in cases illustrated by Example 1, and in sharp departure from prevailing tort law, the scope of the injurer's liability should be determined not only by the harm suffered by the victim but also in light of the risks reduced by the injurer's wrongdoing. Specifically, the damages awarded should be reduced to reflect the true social cost of the injurer's negligent behavior. I term this the Offsetting

[4] Note that one of the courses of treatment could be an omission, like not operating on the patient, not administering a certain medicine, etc. See *infra* text at the end of Part I.

[5] For actual cases illustrated by Example 1, see Hutchinson v. United States, 915 F.2d 560 (9th Cir. 1990) (a doctor chose one asthma drug over another, conservative drug with lesser side effects); Taylor v. Rajani, 2005 Mich. App. LEXIS 2607 (Mich. Ct. App. Oct. 25, 2005) (a doctor chose surgery over the less invasive procedure of biopsy).

Risks Principle ("ORP"). Accordingly, in Example 1, this principle would require that the court award only 1000, not 5000, in damages. Liability in the former amount would set a liability risk of 100 (.1 x 1,000) for the potentially negligent doctor, which would equal the net risk he would create when making a wrong choice.

The failure of prevailing tort law to cause the doctor to internalize the *net* risk created by his wrong choice emanates from its disregard for the positive externalities that are generated by the wrongdoing in cases illustrated by Example 1. In particular, in Example 1, the negligent choice of the doctor created two opposite effects: the one negative (increasing risks by 500) and the other positive (decreasing risks by 400). Since the law imposes liability for the negative effects when harm materializes but ignores the positive effects, the doctor bears liability for risks that are much higher than the actual risks he or she negligently created.

Failing to take into account the offsetting risks makes the injurer liable for risks that not only exceed the risks created by his *negligence* but, more importantly, are higher than the risks created by his *activity*. Thus, in Example 1, liability for 5000 would impose on the doctor a risk that is five times greater than the actual risk he created. Such excessive liability results in over-deterrence, which is especially destructive in fields where offsetting risks are a common phenomenon and legal suits frequently brought. The medical field is particularly illustrative in this respect. As this Article later will demonstrate, in this field, the failure of courts to consider offsetting risks a mitigating liability factor contributes to the flourishing practice of defensive medicine and over-investment in precautions, both of which are to the detriment of patients.[6]

[6] For the sake of simplicity, the Article does not discuss cases in which the difference between the two courses of action emanates not from their risks, but from their different expected utility. For example, let us assume that, in Example 1, the risks accompanying the two courses of action are identical, but there is a difference of 100 between their respective expected utilities. Presumably, if the doctor were to choose the course of action with the lower expected utility, he would be considered negligent and his liability would be set to reflect the difference between the two expected utilities. Specifically, under this approach, the doctor's expected liability should be 100. Similarly, Arlen and MacLeod have argued that a physician's liability should amount to the difference between the patient's expected benefit from the optimal treatment and his actual benefit from the erroneous treatment that he received. Assuming under-

The principal objective of this Article is to illuminate the significance of offsetting risks in setting tort liability and to identify the distortions produced when courts systematically ignore these risks. The Article proceeds to propose a means of correcting these distortions, suggesting that legislatures should offer courts a menu of damages from which they can choose guided by the actual harm caused to the plaintiff, the risk that materialized into harm, and the magnitude of the offsetting risks. Part I introduces the Offsetting Risks Principle and sets its parameters. Part II applies the Principle to various cases, including those in which the offsetting risks relate to third parties or society at large. Part III discusses the relationship between the ORP and the probabilistic recovery principle. Part IV then elaborates on the drawbacks of excessive liability when offsetting risks are ignored. Part V addresses some criticisms of and objections to taking offsetting risks into account, and Part VI concludes.

I. INTRODUCING THE OFFSETTING RISKS PRINCIPLE

Often, a wrongdoer's act both harms and benefits his victim. Thus, courts regularly take both these effects into account and award damages to the victim in the amount of the difference between the two. In implementing this rule, commonly known as the "offsetting benefits rule,"[7] courts are adhering to the *restitutio ad integrum* principle, under which tort liability should restore the victim to the position she would have occupied had she not been harmed by the wrongdoer. At the same time, the offsetting benefits rule makes the wrongdoer liable for the net, rather than gross, harm he created, as required under both efficiency and corrective justice theories.

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enforcement, that difference should be divided by the probability that the doctor is found liable when negligent. *See* Jennifer Arlen & W. Bentley MacLeod, *Malpractice Liability for Physicians and Managed Care Organizations*, 78 N.Y.U. L. REV. 1929, 1984-85 (2003).

[7] This rule has some exceptions, the most important of which, and prevailing in most jurisdictions, precludes the deduction of insurance benefits from damages. For the rule and its exceptions, see DAN B. DOBBS, LAW OF REMEDIES § 3.8, at 266-70 (2d ed. 1993).

Similarly, when the wrongdoer inflicts harm on someone and it can be proven that, had the wrong not been committed, the victim would have suffered some other harm, liability is imposed for the difference between the two harms and not for the entire harm that actually materialized.[8] The harm that would have been borne by the victim had the actual wrong not been committed is analogous to a benefit created by the wrongdoing and should therefore be deducted from the damages. To illustrate this last point, let us modify the above Example 1 and assume that Treatment A is expected to cause a risk of harm of 5000 and Treatment B a risk of harm of 4000, both with a probability of 1. Clearly, if the doctor chooses Treatment A, which then results in harm of 5000, he will be obliged by the court to compensate the patient for 1000 and not 5000. This outcome is arrived at through a simple application of the factual causation test, known as the "but-for test," under which a harm is causally related to an act if that harm would not have materialized but for the act in question.[9]

Yet in the original version of Example 1, the court would award damages of 5000 under prevailing tort law, which is five times higher than what would be necessary in order for the doctor to internalize the true risk produced by his wrong choice. The question to be asked is whether there is any material difference between Example 1 and its modified version, where the probability of the occurrence of the harm increases from .1 to 1. From an efficiency perspective, the two cases should be treated equally, with liability set at 1000 in both variations. The logic of prevailing tort law, however, works otherwise. In Example 1, harm in the amount of 5000 was caused by the doctor's negligence; "but for" this negligence, the doctor would have chosen Treatment B, which, in 90% of the cases, would have resulted in no harm to the patient. Therefore, by simple application of the burden of proof requirement, the court should ignore the 10% probability that Treatment B would have produced harm of 4000 and award damages for the entire harm actually suffered by the patient.

To understand the problematic nature of tort law's treatment of the Example 1 scenario, let us imagine that Example 1 is a repetitive occurrence that takes place ten times in a row. In all ten cases, the

[8] H.L.A. HART & TONY HONORE, CAUSATION IN THE LAW 230-31 (2d ed. 1985).
[9] *Id.* at 109-29.

doctor negligently chooses Treatment A over Treatment B. On average, the total harm caused by these ten wrong choices is 1000: in 1 out of the 10 cases, the doctor *inflicts* on one of his patients harm of 5000, but in 1 out of the same 10 cases, he *saves* another, unidentified patient from harm of 4000. Yet prevailing tort law will mandate imposing liability for the harm of 5000 *suffered* by the one patient and will give no credit for the harm of 4000 from which the other patient was *saved*. Thus, the law causes the doctor to internalize the negative effects of his negligence but, at the same time, externalize its positive effects; as a consequence, he would be held liable for damages in an amount that is five times higher than the actual harm negligently caused by him.

Corrective justice theories might offer a possible response to this quandary. Namely, each tort case should be assessed and considered separately as a discrete interaction, and any "grouping" together of similar cases as suggested above would be inconsistent with the fundamental notions of tort law.[10] Rather than directly address this critical argument, I will demonstrate in the next paragraphs that the courts take into account as mitigating liability factors not only harms that would have been inflicted but for the wrongdoing in question, but also some of the risks that would have been created but for that wrongdoing. These risks are not of the same type as the offsetting risks illustrated in Example 1, but it is hard to find a normatively sound argument explaining why the former risks should be considered a mitigating factor yet the latter completely ignored.

Example 2 below, although similar to Example 1, has one important variation: whereas in the latter, each course of treatment entails completely different risks ("non-overlapping risks"), in the former, the risks entailed by Treatment A include the risks of Treatment B ("overlapping risks") as well as an additional, separate risk.

> **Example 2: Doctor and Patient—Overlapping Risks**. A doctor must decide what course of treatment to pursue for his patient: Treatment A or Treatment B. Each course of treatment entails different risks but the same utility if the risks fail to materialize. This utility is much higher than the risks involved. Treatment A entails a risk to five of the patient's fingers of a

[10] *See* WEINRIB, *supra* note 2, at 63-66.

> magnitude of 500 (a probability of .1 for harm of 5000), and Treatment B entails a risk to the first four fingers of a magnitude of 400 (a probability of .1 for harm of 4000). The risks of Treatments A and B are not correlated, in the sense that the materialization of the risk of one course of treatment has no bearing on the probability of the materialization of the risk entailed by the other course of treatment if chosen. The doctor negligently chooses Treatment A, and harm of 5000 materializes. Should liability be for 5000 or in a different amount?[11]

Were prevailing tort law logic to be applied in Example 2 and the offsetting risks ignored as in Example 1, the identical outcome should result, of liability in the amount of 5000, for the following reason: The doctor's negligence caused the patient harm of 5000. The probability of the patient suffering no harm had the doctor behaved reasonably and chosen Treatment B is .9 (recall that the risks of A and B are not correlated). Therefore, the court should presumably ignore the low probability that, but for the doctor's negligence, harm of 4000 would have materialized.

Yet tort law would in fact respond differently to Example 2. Causation principles mandate that liability be imposed only for the fifth finger that was negligently exposed to risk and not for the other four fingers that would have, in any event, been exposed to the same risk. The fact that all five fingers would very likely have been saved had the doctor chosen to administer Treatment B is considered completely irrelevant in setting liability. The reason for this is that under prevailing tort law, the fact that the wrongful act (or omission) in question was a "but-for" cause of the harm is not sufficient to establish a causal relationship between the act and the harm that actually materialized. Rather, the wrongful act must also satisfy the "causal link" condition;

[11] Similarly, in the case of *Steele v. Ft. Sanders Anesthesia Group*, 897 S.W.2d 270, 273 (Tenn. Ct. App. 1994), operating on a patient while he was seated added the risk of ischemic injury to the regular risks of anesthesia and thus the risk of quadriplegia to the normal risk of partial paralysis. As I explain in the text that follows, had the regular risks materialized, liability under prevailing law should not have been imposed.

namely, its recurrence must increase the chances that the injury will also occur.[12] One illustration of this condition is the case of a driver speeding above the reasonable limit who crosses a bridge that collapses for reasons unrelated to the speeding. A passenger in the car who is harmed in the accident brings a tort suit against the driver. It is obvious that the driver will not be found liable, irrespective of his proven negligent driving. Even though the driver's negligence is a "but-for" cause of the harm (had he been driving more slowly, he would not have reached the bridge when it collapsed and the passenger would have suffered no harm), it does not satisfy the causal link condition: speeding per se does not increase the risk of being harmed by collapsing bridges.[13]

To return to Example 2, the wrong choice of the doctor did not increase the risk to the first four fingers, but only that relating to the fifth finger. Therefore, the wrong choice can be characterized as a "cause" only with respect to the harm in the amount of 1000 related to the fifth finger. Liability for harm of 1000 makes a lot of sense, therefore: the doctor in no way created a risk of 500 when he wrongly chose Treatment A over Treatment B. He created a risk of only 100, and hence, liability of 1000 would ensure his internalization of no less but also no more than the true risk of his wrongdoing when making his negligent choice.[14]

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[12] Guido Calabresi, *Concerning Cause and the Law of Torts: An Essay for Harry Kalven, Jr,* 43 U. CHI. L. REV. 69, 71 (1975).

[13] *Cf.* HART & HONORE, *supra* note 8, at 121-22 (discussing when speeding is causally connected to an accident). See also Berry v. Sugar Notch Borough, 43 A. 240 (Pa. 1899), where the Court found, in a case where a tree fell on a car as it was speeding, that the fact that the driver's speed "brought him to the place of the accident at the moment of the accident was the merest chance, and a thing which no foresight could have predicted. The same thing might as readily have happened to a car running slowly, or it might have been that a high speed alone would have carried him beyond the tree to a place of safety."

[14] In a decision rendered by the British House of Lords, Chester v. Afshar, [2004] 4 All E.R. 587 (H.L.), the majority of the Lords decided to depart from the established causation principles discussed in the text. In that particular case, the plaintiff had undergone an operation that had failed and resulted in harm. No negligence on the doctors' part in executing the operation could be proven. It was proven, however, that the plaintiff was not fully warned of the risks of the operation by her doctors, and so her consent could not be deemed informed. In order to establish the doctors' liability for her harm, it was necessary for the plaintiff to show that, but for the lack of due warning, the

The same rationale can be applied to Example 1. Like the doctor in Example 2, the doctor in Example 1 by no means created a risk of 500 when he wrongly chose Treatment A over Treatment B. Moreover, no more than a risk of 100 can be attributed to his act, wrongful or not, since even absent any act on the part of the doctor, the patient would have been exposed to a risk of at least 400. The fact that the risks of the two courses of treatment overlap in Example 2 but do not in Example 1 should not change the outcome. In both cases, there is a risk of 400 unrelated to the doctor's negligence or even to his actions, and he should not be held responsible for the materialization of that risk.

While Examples 1 and 2 represent pure non-overlapping risks and pure overlapping risks, respectively, there are cases that fall between these two extremes to which the ORP should be applied as well. This is the case when the risks associated with the negligent and non-negligent choices relate to the same object, say, the patient's right arm, but either the magnitude of the harm if the risks materialize or the probability of its materialization varies between the two choices. To illustrate, suppose that Treatment A creates a risk of 500, which is the product of a probability of .1 that harm of 5000 to the right arm will materialize, while Treatment B creates a risk of 400, which is the product of a probability of .08 that the same harm will materialize. The ORP mandates that if the doctor negligently chose Treatment A and harm materialized, liability should be in the amount of 1000—not 5000—which is the extent of liability necessary for the doctor to internalize the net risk (of 100) that he negligently created with his wrong choice.

However, it seems that when there is no correlation between risks associated with each choice—i.e., the materialization of the risk of one course of treatment has no bearing on the probability of the materialization of the risk entailed by the other course of treatment—

harm would not have occurred. The Court held that had the plaintiff been adequately warned by her doctors, she would have asked for a second opinion, which, although it would have recommended the same operation, would have delayed the operation by a few days, at which point the plaintiff would have probably undergone the operation without suffering any harm. The majority held for the plaintiff, while the minority held for the defendants, reasoning that the lack of due warning had not increased the risks to the plaintiff, even though it had constituted a "but for" cause of the harm.

courts will impose liability for the harm sustained by the patient in its entirety. I suspect that courts will base such a decision on the fact that, but for the doctor's negligent choice, it was more likely than not that the patient would have suffered no harm whatsoever (or, more precisely, the probability that he would have suffered harm is only .08 and therefore can be ignored).[15]

To sum up, when the same wrongful act that increased the risk that eventually materialized (r1) reduced another risk (r2), liability (L) should be equal to the harm that materialized (h), multiplied by the difference between the two risks (r1-r2) and divided by the risk that materialized. This can be expressed in the following formula:

$$L = h.(r1-r2)/r1$$[16]

If we apply this formula to Example 1, the doctor would have to bear liability only in the amount of 1000 for the harm created by his negligent act:

$$L = 5000.(500-400)/500$$

Note that either r1 or r2 could be the result of omission. Also note that, when the injurer could have chosen amongst more than two options, r2 should be the risk entailed by the reasonable option amongst the various alternatives available to the injurer.

[15] The outcome under prevailing tort law would be different, however, if we were to assume, contrary to the assumption made in the text, that the risks entailed by the treatments are correlated. Ruling out the non-correlation assumption would yield the following three-fold factual argument: (a) Treatment A would harm 10 out of 100 patients exposed to this course of treatment; (b) Treatment B would harm 8 out of 100 patients exposed to the treatment; and, most importantly, (c) the same 8 people who would have suffered harm under Treatment B would have suffered the same harm under Treatment A. Under this argument, the probability that the doctor's negligent choice caused the patient's harm is only 20%. Courts applying the preponderance of evidence rule would dismiss the action against the doctor, while courts applying the probabilistic recovery principle would award damages for only 20% of the patient's harm.

[16] A different way to present the same idea is as follows: $L = h1.(p1.h1-p2.h2)/p1h1 = h1.(1-p2h2/p1h1)$, where L denotes liability, h1 denotes the harm that materialized from r1, p1 denotes the *ex ante* probability that r1 will materialize into h1, h2 denotes the harm that could have materialized from r2, and p2 denotes the *ex ante* probability that r2 would have materialized into h2.

II. THE OFFSETTING RISKS PRINCIPLE IN ACTION

As noted, in many instances, increasing one risk to the victim entails a decrease in another risk to her. Example 1 above is representative of this type of scenario. In other instances, however, an increase in the risk to the victim brings with it a decrease in risks to third parties or to society in general. It is in all these categories of cases, which will be discussed below, that the ORP is applicable: the negligent injurer who failed to decrease a risk that eventually materialized into harm should be held liable only for a fraction of that harm, which should reflect the net risk created by the wrongdoing. This amounts to the difference between the risk that was increased and the risk that was decreased by the same act or omission.[17]

The next sections will discuss the three categories of cases as they manifest in the case law. In these categories, the injurer, prior to acting, is required to balance, respectively, one set of the victim's interests against another set of her interests, the victim's interests against third-party interests, and the victim's interests against social interests.[18] In all three categories, the negligent failure to secure the victim's interests that materialized into harm is accompanied by a decrease in the risk to other interests. To the best of my knowledge, the ORP was neither adopted nor even raised in any of the relevant cases brought before the courts.

1. The Different Interests of the Victim

Example 1 is illustrative of the first category of instances, where the injurer is required to balance amongst conflicting interests of the victim. On the one hand, the patient has an interest in the bodily

[17] Compare Stephen Marks, *Discontinuities, Causation, and Grady's Uncertainty Theorem,* 23 J. LEGAL STUD. 287 (1994), who argued that "increasing the precaution level not only lowers the expected cost of accidents but also changes the types of accidents that occur and changes the identities of those at risk." Marks made this argument to criticize one of Grady's arguments with respect to the optimal negligence rule, but has not taken it further to propose the adoption of the ORP.

[18] *Cf.* Ariel Porat, *The Many Faces of Negligence*, 4 THEORETICAL INQUIRIES L. 105 (2003) (presenting the various categories of such instances and arguing that the necessity of imposing liability varies amongst the categories).

integrity of her left arm, and on the other hand, she has a similar interest in her right arm. Securing the one interest will always be at the expense of the other. At the same time, failing to secure the one interest, even if through negligence, necessarily decreases the risk to the other. The risk created by the negligent doctor who made the wrong choice is therefore the difference between the risk created to the left arm and the risk eliminated to the right arm.

This first category does not encompass only medical malpractice cases, even though offsetting risks are common in this particular field.[19] Lawyers, accountants, and other professionals are often required to balance amongst their clients' interests. Sometimes they, too, are required to choose the course of action that is the least risky for their client, and any negligent failure to properly balance amongst the conflicting interests could result in harm. Again, occasionally the same failure that increased one risk also decreased a separate risk, and both risks should be taken into account by courts in awarding damages.[20]

Another case that falls into the first category is that of a health authority that decides to vaccinate the entire population against a certain disease. Vaccinating a specific individual could be negligent if that individual's risk from the vaccination's side effects is higher than the risk of contracting the disease if not vaccinated. Still, the decision to vaccinate that specific individual, while negligently increasing one risk (side effects), decreases another risk (contracting the disease). Applying the ORP would result in lowering the damages awarded for the materialized harm of the side effects.[21]

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[19] For examples of actual cases, see *supra* note 5.

[20] *See, e.g.,* Hipwell v. Sharp, 858 P.2d 987 (Utah 1993) (an attorney negligently advised to settle a case, when it could be inferred from the facts of the case that not settling could have also created risks); McMahon v. Shea, 688 A.2d 1179 (Pa. 1997) (an attorney negligently advised his client to settle without explaining the consequences of settling). *See also* Saetz v. Braun, 116 N.W.2d 628 (N.D. 1962) (a livestock carrier who chose to cross an unsafe bridge instead of taking a steep and longer route was found negligent and full liability was imposed on him).

[21] At this stage, I ignore the third-party benefits of universal inoculation enjoyed by the majority of the inoculated population, who do not suffer from the vaccine's side-effects. These benefits are third-party offsetting risks, which are discussed in the next section, *infra*. *Cf.* Jonathan Baron & Ilana Ritov, *Intuitions about Penalties and Compensation in the Context of Tort Law*, 7 J. RISK & UNCERTAINTY 17, 18 (1993) (arguing that high liability for harms resulting from vaccine and birth-control devices

Lastly, consider a rescuer who negligently attempts a rescue and inflicts harm upon the victim being rescued. Thus, a layman who administers First Aid to the victim of a road accident leaves the latter with bodily injury that would have been prevented had she received professional medical treatment only.[22] It is possible that the rescuer will be considered negligent, because he should have waited for a medical team to arrive and refrained from providing First Aid. At the same time, it is possible that, when the rescuer provided the First Aid treatment, there was a certain risk that a medical team would not arrive on time and the victim's state would deteriorate even further. Even though the rescuer, given the different risks involved, is considered negligent, his liability should not be for the entire harm suffered by the victim but, rather, only for a fraction of that harm, which should reflect the difference between the risk created and the risk avoided by the negligent rescue attempt.

2. The Victim's Interests versus Third-Party Interests

Example 3 below illustrates the application of the ORP when the negligent infliction of harm on the victim entails a decrease in risks to others.

> **Example 3: The Ambulance Driver**. An ambulance driver hits a pedestrian with his ambulance while rushing a wounded passenger to hospital, causing the pedestrian bodily injury of 5000. Had the driver slowed down by 20 mph, the accident would have been prevented. Slowing down by 20 mph would have decreased the risk to pedestrians and other people using the road by 500. At the same time, slowing down also would have increased the risk to the

produces negative incentives to develop them, even though they are beneficial to society).

[22] *Cf.* Hebert v. Perkins, 260 So. 2d 15 (La. Ct. App. 1972). Here, a driver rushing a passenger who felt dizzy to the hospital went through a red light and collided with another car. The court imposed liability on the driver, and needless to say, no offsetting risks were taken into account in the decision.

> wounded passenger by 400. For how much should the driver be held liable?[23]

Prevailing negligence law mandates that the driver in Example 3 be held liable for 5000, which would cause him to internalize a risk of 500 when rushing his passenger to the hospital, even though the net risk he created amounted to only 100. Conversely, the ORP mandates that liability be imposed for only 1000.

Sometimes, the risks decreased by the negligent act relate to non-specific third parties. In one such case, a driver negligently drove too slowly on the highway and caused an accident. Driving faster, at a reasonable speed, would have decreased the risks of accidents of one type (relating to slow driving) but, at the same time, would have increased the risks of accidents of another type (relating to faster driving). The ORP would require that the liability reflect the difference between the risk increased and the risk decreased by negligently driving too slowly.[24] An analogical example is that of a manufacturer of a safety device for a car that, while it decreases the risk to some people who might be injured in road accidents of one type, unreasonably increases the risk to people who might be injured in road accidents of another type. Both risks are not necessarily related to the buyer of the car and could also affect third parties.[25] In this case, as

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[23] *Cf. id.* In *Herbert*, the court also imposed liability on the rescuing driver towards the driver of the colliding vehicle. No offsetting risks were considered in this context either.

[24] Von Bergen v. Kuykendall, 400 P.2d 553 (Or. 1965). Needless to say, the Court imposed liability for the full harm inflicted on the victim. An analogical example is the negligent failure of the state to maintain safety on the highway by lighting flares (Whitehouse Trucking Co. v. State of Illinois, 22 Ill. Ct. Cl. 126 (1955)), when lighting flares is known to be hazardous in itself (for the harm such flares can cause, see Ott v. Washington Gas Light Co., 205 F. Supp. 815 (D.C. 1962) (a small child was burned by the open flame of a flare pot set out in the street to warn of a barricade and excavations)).

[25] *Cf.* Caterpillar Tractor Co. v. Beck, 593 P.2d 871 (Alaska 1979) (in order to avoid liability for its defective design, a tractor manufacturer should prove by a preponderance of the evidence that, on balance, the benefits of the challenged design outweighed the risk of danger inherent in the design); Green v. Smith & Nephew AHP, Inc., 617 N.W.2d 881 (Wis. Ct. App. 2000) (a manufacturer of latex gloves was found liable for an allergic reaction triggered by exposure to cornstarch powder with which it lined its gloves, with no consideration given by the court as to the possible benefits of

well, the ORP mandates reducing the manufacturer's liability towards any victim injured due to the materialization of the unreasonable risk, in accordance with the risks reduced to others.

This second category of instances includes also cases of professionals who are required to balance between the interests of their clients and the interests of third parties. Such was the case in *Tarasoff*, which was brought before the California Supreme Court.[26] In this case, subsequent to his therapist's request, the police briefly detained a patient who had intended to murder his ex-girlfriend, but released him since he appeared to be of sound mind. After the release, neither the police nor the therapist notified the ex-girlfriend of the danger, and eventually she was murdered by the patient. The Court recognized the possibility of imposing tort liability on the therapist for failing to exercise reasonable care to protect the victim by not warning her. It further ruled that, in these circumstances, such a warning would not be considered a breach of medical confidentiality and remanded the case for further proceedings. Had the ORP been applied by the trial court, the court would have deducted from damages an amount representing the risk to the patient's mental health that could have been created had the therapist warned the deceased. Furthermore, under the ORP, the trial court could also have taken into account the social interest in medical confidentiality that would have been adversely impacted had the therapist warned the deceased and reduced damages even further. This question of whether damages should be reduced due to a diminishment of the risks to social interests by the wrongdoing will be expanded on in the next section.[27]

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the addition of cornstarch powder). Another noteworthy case in this context is that of an automobile bumper manufacturer who designs a larger bumper, which is safer for the driver of the car to which it is attached but more dangerous for other drivers on the road. *Cf.* Beatty v. Trailmaster Products, Inc., 625 A.2d 1005 (Md. 1993) (the manufacturer of an automobile device that was attached to the truck that hit the deceased's car was sued in a wrongful death suit, with the court ruling that the mere fact that the truck's bumper had been higher than that of the deceased's car did not render it defective or unreasonably dangerous).

[26] Tarasoff v. Regents of Univ. of Cal., 551 P.2d 334 (Cal. 1976).

[27] An analogical example is the negligent release of a mental patient who poses a threat to his family, *see, e.g.,* Durflinger v. Artiles, 563 F. Supp. 322 (D. Kan. 1981), *aff'd*, 727 F.2d 888 (10th Cir. 1984).

Another instance that could be classified under the second category emerged in *Cooley*.[28] In this case, a telephone company subscriber sued the telephone company for the nervous shock he had suffered due to a sudden and loud noise that had emanated from the phone cables and interrupted his phone conversation. It appeared that had the telephone company taken certain precautions to reduce the risk of this occurrence to its subscribers, the risk of electrocution to bystanders would have increased. The Court dismissed the suit, emphasizing the importance of protecting the lives of bystanders even if at the expense of protecting subscribers. Alternatively, the Court could have applied the ORP and, while still imposing liability on the telephone company, reduced damages commensurate with the decrease in the risk to bystanders.[29]

Applying the ORP to the second category of instances could be expected to meet with greater resistance than its application in the first category of cases. In fact, even when harming the victim prevented *certain* harm to a third party, courts tend to impose liability for the entire harm and not allow a deduction for the prevented harm. As demonstrated in Part I, the rationale for such a deduction is quite obvious when the harm caused and the *certain* harm prevented (or benefit obtained) attach to the same person. In such cases, the factual causation test as well as the offsetting benefit rule mandate imposing liability for the net, rather than gross, harm incurred. That rationale does not apply, however, when the certain harm was prevented for a third party. To illustrate, assume that, in Example 1, instead of increasing one risk and decreasing another risk to the same patient, the

[28] Cooley v. Pub. Serv. Co., 10 A.2d 673 (N.H. 1940).

[29] In a third case, decided by the House of Lords, the police were not held liable for omitting to hold a person in custody who, after his release, murdered the plaintiffs' relative. The Lords ruled that the police owed no duty of care in the circumstances under discussion. Hill v. Chief Constable, [1988] 2 All E.R. 238 (H.L.). Had the Court imposed liability and applied the ORP, the liability would have been reduced due to the fact that police actions had eliminated the risk of holding an innocent person in custody. In yet another case, the House of Lords ruled that a public authority that operates a liberal rehabilitation camp with less supervision than commonly practiced owed a duty of care to people who were injured by inmates who had escaped from custody. Home Office v. Dorest Yacht Co., [1970] 2 All E.R. 294 (H.L.). Here, too, application of the ORP if liability were imposed would have resulted in a reduction of damages due to the prevention of harm, or risk of harm, the inmates would have suffered had they been held in a less liberal rehabilitation camp.

doctor negligently caused certain harm of 5000 to Patient A instead of causing certain harm of 4000 to Patient B. To concretize this scenario, assume that the doctor admitted Patients A and B to the emergency room but since he was the only doctor available, he could treat only one patient at a time. Each patient would have suffered certain harm without immediate treatment. The doctor negligently chose to treat Patient B first rather than Patient A. As a result, Patient A suffered harm of 5000, but Patient B, due to the doctor's negligent choice, was saved from harm of 4000.[30]

Even though the negligent doctor created a net harm of only 1000, under prevailing tort law, he would be obliged to compensate Patient A for 5000 and would not receive any credit for the harm he prevented to Patient B. Since this is the tort law approach to deducting *certain* harm that is prevented, it follows that prevented *risks* do not affect injurers' scope of liability. The two reasons for tort law's disregard for harm, and risks, prevented to third parties are rooted in the principle of compensation, on the one hand, and the law's approach towards positive externalities, on the other. These rationales are what cut the sharp divide between the first and second categories of instances in relation to the ORP. The principle of compensation, which is strongly supported by corrective justice, is the central explanation for why injurers should pay damages to their victims and not to the state or, in other words, why we need tort law in addition to criminal law.[31] Allowing harms or risks prevented to third parties to affect the amount of damages awarded to victims would undermine the goal of compensation. Conversely, reducing damages due to the prevention of *certain* harm to the *victim* is a natural reaction on the part of the court, which is required to award damages for the actual harm suffered by the victim. Admittedly, the justification for reducing damages due to

[30] An analogical example is that of a dam operator who fails to balance the interests of landowners along the lake and landowners below the dam. See, for example, Trout Brook Co. v. Willow River Power Co., 267 N.W. 302, 306 (Wis. 1936), Hackstack v. Keshena Impr. Co., 29 N.W. 240 (Wis. 1886), and Boyington v. Squires, 37 N.W. 227 (Wis. 1888), where, in all three cases, liability was not imposed.

[31] Another explanation is that recognizing the entitlement of victims, rather than of the state, to compensation provides the former with incentive to bring actions and enforce the law on transgressors. Absent such entitlement, victims would lack incentive to report the harms they suffer. *See* RICHARD POSNER, ECONOMIC ANALYSIS OF LAW § 6.10, at 192 (6th ed. 2003).

risks—rather than certain harm—is less obvious, but, as explained in Part I, a rather compelling analogy can be made between harms and risks.

The second reason tort law ignores harms or risks prevented to third parties is its approach to positive externalities. In general and subject to a few recognized exceptions, when a person confers uninvited benefits on another person, she is not entitled to any payment for those benefits. An efficiency-oriented justification for this general rule is that it encourages consensual, as opposed to coerced, transactions amongst parties.[32] Analogically, a wrongdoer who creates benefits for a third party by reducing the latter's risk of harm should not expect to reap anything from anyone for those conferred benefits—not from the third party (who is typically unidentified) and certainly not from the victim who received no benefits whatsoever. Arguably, from a moral perspective as well, it makes no sense that the victim of the wrongdoing would have to pay—in the form of damages-reduction—for benefits to third parties that were obtained due to unreasonably exposing *the victim* to risk of harm. How could one convincingly argue that Patient A in the last variation of Example 1, who suffered harm of 5000, be awarded damages only in the amount of 1000, simply because Patient B benefited from the doctor's wrongdoing towards Patient A?

To be sure, the reason for reducing damages to victims in the first category of cases due to offsetting risks is also rooted in the positive externalities created by the wrongdoing. The reason the patient in (the original) Example 1 should receive damages of 1000 is not that she received a benefit of 4000, which should be deducted from her harm of 5000. In fact, in Example 1, the reason for applying the ORP is the understanding that the doctor's wrongdoing sometimes culminates in saving unidentified patients from harm of 4000. Thus, as explained earlier, in ten similar cases, one patient suffers harm of 5000, but another patient, who is *probably* not the victim who suffered the harm of 5000, is saved a harm of 4000. This latter saving is the reason for applying the ORP to Example 1 and for reducing the victim's damages from 5000 to 1000. Still, there is a very pronounced distinction between the first category of cases and the second category, which makes the application of the ORP much more appealing in the former. In the first

[32] Saul Levmore, *Explaining Restitution*, 71 VA. L. REV. 65, 68-82 (1985).

category of cases, and in Example 1 in particular, the *same* person—our victim—who was exposed to an *ex ante* unreasonable risk of 500 is also the person who received an *ex ante* benefit from the same wrongdoing, in terms of reducing another risk to her by 400. The victim does not enjoy such a benefit in the second category of cases, since the *ex ante* as well as the *ex post* beneficiary of the wrongdoing is a third party. For this reason, it can be convincingly argued that 80% of the risk *to the victim* that materializes in Example 1 (400 out of 500) is not the result of the doctor's wrongdoing, and his liability for the materialized harm should be set accordingly. Such an argument cannot be made with respect to the second category of cases, where 100% of the risk *to the victim* materializes into the ultimate harm.

A possible response to the efficiency-oriented argument against applying the ORP to the second category of cases is that the concern that consensual transactions between injurers and third parties will be discouraged is irrelevant for the cases in that category. As long as the goal is efficiency and not compensation (so the response would go), the wrongdoer should be charged in the exact amount of the social costs of his wrongdoing, and those costs are comprised of both harms and benefits, or harms done and harms prevented, either to the victim or to third parties.[33]

A related argument against applying the ORP to the second category is based on the transaction costs of dealing with third-party effects in general, whether negative or positive. Following this argument, third-party effects are commonly ignored by tort law. It is often the case that a wrongdoer creates harms for which no one can sue him and creates benefits for which he cannot sue. The law imposes liability for the major harms created and ignores the rest, since the transaction costs of dealing with the latter harms are prohibitively high. A possible response to this argument is that the third-party effects that

[33] *Cf.* Abraham Bell & Gideon Parchomovsky, *Givings*, 111 YALE L.J. 547, 554 (2001) ("[T]he efficiency rationale for taking compensation also dictates that the state properly measure the benefits of its action. Just as the state's failure to internalize the cost of taking creates fiscal illusion and inefficiency, the state's failure to internalize the benefit of givings creates fiscal illusion and inefficiency."). *See* also Robert Cooter & Ariel Porat, *Should Courts Deduct Nonlegal Sanctions from Damages?*, 30 J. LEGAL STUD. 401 (2001) (arguing that, when a breach of contract or a wrongdoing triggers nonlegal sanctions that confer benefits to third parties, efficiency requires deducting those nonlegal sanctions from damages).

are typically ignored by tort law are minimal and random, whereas in the context under discussion, the prevented harms or risks are typically substantial and systemic and central to defining the true social cost of the wrongdoing.

In sum, tort law does not recognize harms or risks prevented to third parties as a mitigating factor in awarding damages. This approach is strongly supported by the goal of compensation, which is associated with corrective justice, but violates the principle believed by many to be the foundation of tort law and associated with the goal of efficiency, namely, that the wrongdoer should internalize the *true* social costs of his wrongdoing.

3. The Victim's Interests versus Social Interests

The ORP holds also with regard to cases where the injurer is required to balance between the victim's interests and social interests, even when the latter can not be assigned to any specific individual. Example 4, below, is illustrative of such a case.

> **Example 4: The Hike.** A tour guide leads a group of people on a hike through the Judean Desert and, at a certain stage, is required to choose one of two paths: Path A, which crosses territory where hikers are likely to cause harm to the landscape and nature, and Path B, which passes through territory where such harm is not a real risk but is a more dangerous path for hikers. The risk entailed by Path A is 400, whereas the risk entailed by Path B is 500. The guide chooses Path B. One of the hikers falls from a cliff while walking along the path chosen by the guide and suffers bodily injury of 5000. Should the guide bear liability for 5000 or in some other amount?

The determination of whether the guide was negligent or not rests on whether he properly balanced between the social value of preserving the landscape and nature and the risk that this created for the

hikers.[34] If, in this case, the court were to apply a test based on a cost-benefit analysis, it would conclude that the guide had been negligent and impose liability on him in the amount of 5000. In contrast, applying the ORP would yield liability in the amount of 1000, causing the guide to internalize the net risk he negligently created.

Potential injurers, including public authorities, are often required to balance social interests against individual interests. Thus a publisher might have to balance the social interest in free speech against the individual's interest in privacy and reputation.[35] Imposing liability on the publisher for libel or infringement of privacy would have the result of damages being awarded for the harm suffered by the victim. Conversely, applying the ORP would mandate reducing damages for the preservation of the social interest in free speech, which was promoted at the expense of the individual interest. Similarly, a police officer who hit an innocent bystander while negligently shooting at robbers in a fleeing car should have balanced the public interest in capturing the robbers against bystanders' individual interest in their personal security.[36] The ORP, if applied, would, again, yield a reduction in liability for the harm suffered by the bystander.

In practice, when courts award damages, they do not take into account risks that would have been posed to social interests had the injurer behaved reasonably. Like third-party effect, the effect on social interests is treated as irrelevant to the matter of damages. Moreover, the argument for reducing damages awarded to individuals because the infringement of their rights enabled the promotion of social interests could seem untenable not only from a corrective justice perspective but also from the standpoint of distributive justice, particularly when asserted by a wrongdoing public authority.[37] The ORP gains force,

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[34] One could argue that preserving the landscape is a goal that the tour guide should totally ignore, since his only task is to ensure the hikers' safety. Under this argument, others (like the Environmental Protection Agency) should take care of preserving the landscape. Obviously, my stance on this issue is different.

[35] Daily Times Democrat v. Graham, 162 So. 2d 474 (Ala. 1964); Barber v. Time, Inc., 159 S.W.2d 291 (Mo. 1942) (a newspaper published a picture of the plaintiff without her consent, and liability was imposed for invasion of privacy).

[36] Heidbreder v. Northampton Township Tr., 411 N.E.2d 825 (Ohio Ct. App. 1979) (full liability was imposed on the police officer).

[37] Tsachi Keren-Paz, The Limits of Private Law: Tort Law and Distributive Justice 356 (2000) (unpublished D. Jur. dissertation, York University) ("The public benefits

however, if we are serious about the goal of ensuring that the injurer internalizes the social costs of his negligence. The injurer who increased risks for the victim but at the same time reduced the risk to social interests created a net risk that amounts to the difference between the two sets of risks. His liability should be set accordingly.

III. OFFSETTING RISKS AND PROBABILISTIC RECOVERIES

The Offsetting Risks Principle as applied to the first category of instances (where the different interests of the victim must be balanced) bears a superficial resemblance to the probabilistic recovery principle ("PRP"), which is applied by some courts in some medical malpractice cases. The PRP mandates imposing liability on a defendant for the harm suffered by the plaintiff multiplied by the probability that the harm was caused by the defendant's wrongdoing.[38] Some courts apply the Principle in medical malpractice cases where the doctor's negligence diminished the plaintiff's chances of recovery. To illustrate, consider the case of a patient who arrives at the hospital with 30% odds of recovery, but because her condition is not diagnosed by the doctor in time, her chances drop to zero. The patient brings a suit against the doctor. Instead of applying the preponderance of evidence standard, under which the patient would lose because the probability that the doctor caused her harm is less than 50%, the court might apply the PRP,[39] which would result in the doctor bearing liability for 30% of the

from the activities of the public authority, and therefore the public should bear the costs of this activity. When the public authority harms the plaintiff, liability should be imposed, and the public would ultimately bear the costs of the activity that benefited it and harmed the plaintiff."); Heidi M. Hurd, *The Deontology of Negligence*, 76 B.U. L. Rev. 249, 258-59 (1996) (examining the notion of negligence as engaging in an activity in which those who bear the risk of being harmed are not those who stand a chance of reaping the benefits); Gregory Keating, *Distributive and Corrective Justice in the Tort Law of Accidents*, 74 S. Cal. L. Rev. 193, 196 (2000).

[38] ARIEL PORAT & ALEX STEIN, TORT LIABILITY UNDER UNCERTAINTY 116-29 (2001).

[39] In this context, the principle is known as the "lost chances of recovery principle." *See* Herskovits v. Group Health Coop. of Puget Sound, 664 P.2d 474 (Wash. 1983); Perez v. Las Vegas Med. Ctr., 805 P.2d 589, 592 (Nev. 1991); Falcon v. Mem'l Hosp., 462 N.W.2d 44, 56-57 (Mich. 1990) (the lost chances principle was later

patient's harm. The main argument in favor of the PRP is that it typically prevents under-deterrence. Specifically, in cases where the likelihood of proving a causal relationship between the harm and the wrongdoing is systematically *low*, adhering to preponderance of evidence will produce *under*-deterrence, whereas the PRP will prevent this.[40] Occasionally, however, where the likelihood of proving a causal relationship between the harm and the wrongdoing is systematically *high*, the application of the PRP will prevent *over*-deterrence.

Thus, a common rationale exists for the PRP and ORP: both aim at making the injurer internalize the exact magnitude of the risks he wrongfully creates, no less (typically the PRP) and no more (the ORP). This is necessary to provide the injurer with efficient incentives to take precautions and minimize social costs. However, when offsetting risks are present, as will be explained shortly, the PRP fails to achieve this goal, whereas the ORP succeeds.

The divergence between the ORP and the PRP relates to the different efficiency flaws that both principles aim at correcting and, consequently, to the different results of their application. While the PRP seeks to overcome the uncertainty of the specific case at hand so that liability is set according to the probability that the harm was caused by the wrongdoing, the ORP is motivated by the presence of positive externalities and by the need to credit the wrongdoer for creating them.

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abolished by the Michigan legislature, MCL 600.2912a(2); MSA.2912(1)(2)); Delaney v. Cade, 873 P.2d 175 (Kan. 1994) (holding 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; in *Perez v. Las Vegas Medical Center*, *supra*, the Court held that a 10% probability constitutes a substantial diminished degree of recovery). Some courts have adopted the lost chances principle only in cases of the victim's demise, rejecting it in other cases. For the application of the lost chances principle in a case of the victim's demise, see Falcon v. Mem'l Hosp., *supra.* For the rejection of the doctrine in a non-demise case, see Weymer v. Khera, 563 N.W.2d 647, 653 (Mich. 1997). *See also* D.B. Dobbs, Law of Remedies 238 (2d ed. 1993). In support of this solution, see J.H. King, *Causation, Valuation, and Chance in Personal Injury Torts Involving Pre-existing Conditions and Future Consequences*, 90 YALE L.J. 1353 (1981); Doll v. Brown, 75 F.3d 1200 (7th Cir. 1996). In *Doll*, Judge Posner of the Federal Court of Appeals supported extending the lost chances principle to areas beyond 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.

[40] *See* PORAT & STEIN, *supra* note 38, at 126-29.

To illustrate the different results obtaining under the two principles, consider their application to Example 1. Recall that the doctor chose Treatment A, which entailed a risk of 500, over Treatment B, which entailed a risk of 400. Harm of 5000 in fact materialized, but there is a probability of .1 that had the doctor chosen Treatment B, a different harm of 4000 would have materialized. As explained earlier, under the ORP, liability should be set in the amount of 1000. Conversely, under the PRP, liability should be in the amount of 4600. The reason is that there is a probability of .9 that harm of 5000 was caused by the defendant, whereas there is only a .1 probability that he caused harm of 1000 (5000-4000). Liability should therefore be calculated as L = .9 x 5000 + .1 x 1000 = 4600.[41]

The ORP has a much more ambitious objective than just treating the uncertainty of the case, which is the aim of the PRP. The ORP, as applied to the first category of cases, seeks to credit the injurer for any *potential* benefit of his wrongdoing that the victim *could have gained* due to the wrongdoing *regardless of whether she actually gained it or not.*[42] The ORP aims at correcting an efficiency distortion created by prevailing tort law, under which the injurer internalizes the negative effects of his wrongdoing but externalizes its positive effects. Thus, in Example 1, that potential benefit is the possibility that the wrongdoing saved the victim from harm of 4000. It is most probable that, in the case at hand, the victim has not gained this benefit at all. In fact, even if it could have been proven that the probability that the doctor's wrongdoing saved the victim from alternative harm of 4000 is zero, the doctor's liability under the ORP should still have been 1000.

Summarizing the differences amongst the ORP, the PRP, and the preponderance of evidence principle traditionally applied in tort cases, the table below compares the outcomes reached by applying the principles to four cases, when an injurer is required to choose between two risky acts, each adversely affecting a potential victim.

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[41] Another way to put it is as follows: the expected harm that would have been caused had the doctor acted reasonably should be deducted from the harm of 5000: .1 x 4000 = 400.

[42] *Cf.* Claire Finkelstein, *Is Risk a Harm?*, 151 U. PA. L. REV. 963, 967-74 (2003) (claiming that the chance of benefit is in itself a benefit).

Case	A	B	Preponderance of Evidence	Probabilistic Recovery	Offsetting Risks
1.Risk-Risk	5000 (.1)	4000 (.1)	5000	4600	1000
2. Harm-Harm	500 (1)	400 (1)	100	100	100
3. Risk-Harm	5000 (.1)	400 (1)	4600	4600	1000
4. Harm-Risk	500 (1)	4000 (.1)	500	100	100

In all four cases, the injurer is required to choose Act B, whose expected harm is 400, over Act A, whose expected harm is 500, but negligently makes the wrong choice. Case 1 is typical of the offsetting-risk case discussed throughout the Article and illustrated by Example 1. As has been explained, the three principles under discussion yield different outcomes, while the outcome that makes the injurer internalize the true social costs of his wrongdoing is achieved only by applying the ORP. Case 2 is about certain harms, not risks. In this case, all three principles yield the same outcome, which leads the injurer to internalize the costs of his wrongdoing. The third and fourth cases are hybrids—certain harm, on the one hand, and risk of harm, on the other. In Case 3, the injurer is required to choose between creating certain harm of 400 and risk of harm of 5000 with probability .1. He negligently chooses the latter, and harm of 5000 materializes. Both the PRP and the preponderance of the evidence principle mandate liability of 4600, while only the ORP yields liability of 1000. Only the latter liability will make the injurer internalize the actual risk created by his wrongdoing. Case 4 is the reverse scenario of Case 3: the negligent injurer chooses to create certain harm of 500 instead of a risk of harm of 4000 with probability .1. In this case, both the ORP and the PRP yield liability of 100, which is the liability necessary for the injurer to internalize the exact social costs of his wrongdoing. The traditional preponderance of the evidence principle, however, yields liability of 500.

In sum, the only rule that consistently achieves accurate internalization of social costs by the wrongdoer in all four cases depicted in the table is the ORP.

IV. THE COSTS OF REFUSING TO APPLY THE OFFSETTING RISKS PRINCIPLE

Prevailing tort law does not recognize the Offsetting Risks Principle. As a direct consequence, injurers are required to pay damages for more than the harms they negligently create. Moreover, injurers are occasionally required to pay damages for more than the harms created by their activity, negligent or not. Example 1 is illustrative of this reality. The doctor created a risk of 100, not of 500, in choosing Treatment A, but tort law currently imposes liability that is five times higher than what is necessary to make him internalize the *true* risks of his activity. But is this necessarily a bad thing? Does excessive liability generate undesirable outcomes?

In fact, in an ideal world, absent court error in setting the standard of care and injurer error in complying with that standard, a negligence rule leading to liability for more than the actual harm caused would provide efficient incentives for precautions. In that ideal world, injurers threatened by the expected harm of their negligence or more would never behave negligently and would always escape liability were harm to occur. In our non-ideal world, however, courts and injurers often make mistakes. In this world, threatening the potential injurer with liability that is greater than the harm actually produced by his negligence provides him with incentive to take greater precautions than what is efficiently justified. To illustrate, imagine an injurer who creates a risk of 2X and is subject to a liability regime where, when harm occurs due to his negligence, awards damages that are five times the amount of the actual harm inflicted. Under the economic interpretation of the negligence rule, the injurer is considered negligent when his marginal costs of precautions fall short of the marginal reduction in expected damages.[43] Taking precautions beyond that point would be inefficient. Assume that, under this criterion, the injurer is required to invest X in precautions and reduce the expected harm from 2X to X. In the ideal world, the injurer would satisfy the standard of care by investing X in precautions and would escape liability if harm were to occur. The fact that he would be subject to a legal regime where

[43] ROBERT COOTER & THOMAS ULEN, LAW & ECONOMICS 334-35 (4th ed. 2003). Or, in more popular terms, he must invest in precautions so long as one additional dollar in precautions will reduce the expected harm by more than one dollar.

liability for negligence is five times greater than the actual harm caused by his negligence would not affect his behavior. In contrast, in the non-ideal world, given court and injurer error, after investing X in precautions, the injurer would be well aware of the risk that if harm does occur, he could bear liability five times greater than the actual harm that materialized. To avoid that risk—which could be quite high—he will tend to invest excessively in precautions, far beyond what is justified by efficiency.[44]

The problem of excessive liability is exacerbated when the injurer's expected liability exceeds the expected harm of his activity. For if an injurer is required to pay more in damages than the harm he created through his activity, he might refrain from engaging in that activity even when its benefits are greater than its costs. This problem is partially solved when the injurer is able to shift the extra costs of the tort liability to his potential victims through the price mechanism, but as we will see shortly, this solution does not always meet with satisfactory results.

In the following sections, I will discuss three negative effects of excessive liability in cases where offsetting risks are present and the ORP is ignored. To simplify the discussion, I focus on first-category instances, in particular medical malpractice cases represented by Example 1, when the doctor's negligence simultaneously increases one risk to the patient while decreasing another risk to her. This case is a very common occurrence, and adopting the ORP to deal with such circumstances could eliminate the negative effects of excessive liability. Amongst other things, the failure to recognize the ORP fosters the phenomenon of defensive medicine, which is one of the most severe risks of medical malpractice liability.

[44] Note that if liability is for the exact amount of actual harm incurred by the injurer (assuming his risk neutrality), he will not invest excessively in precautions; indeed, there is no reason for him to invest an additional dollar in precautions when it will reduce the expected harm by less than one dollar.

1. Defensive Medicine

One of the most undesirable outcomes of medical malpractice liability is defensive medicine.[45] The threat of tort liability encourages doctors, hospitals, and medical services providers to pursue practices that reduce their liability risk at the expense of their patients' welfare. Defensive medicine is a result of externalities. When a doctor is required to choose between two courses of action and cannot be sure which is the more reasonable one or which will be considered reasonable by the court in the event that a legal suit is brought in the matter, he will choose the action that is least risky for him. This, of course, will not necessarily be the least risky course of action for the patient. It could pose the least risk to the doctor simply because if harm ensues from that action, the doctor will not be held liable for the harm either in whole or in part. Evidentiary barriers and high litigation costs are some of the most common causes behind doctors' escaping liability, as well as of the externalization of costs to patients.

A common example of defensive medicine can be found in obstetrics. Research shows that cesarean deliveries are performed in the U.S. at a much higher than optimal rate.[46] A plausible explanation traces this phenomenon to defensive medicine. Specifically, when

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[45] Chandler Gregg, *The Medical Malpractice Crisis: A Problem with No Answer?,* 70 MO. L. REV. 307 (2005); 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 (2004-2005); Kristie Tappan, *Medical-Malpractice Reform: Is Enterprise Liability or No-Fault a Better Reform?*, 46 B.C. L. REV. 1095 (2004-2005).

[46] Lowering the cesarean rate in the United States has been a goal for the past twenty-five years. U.S. DEP'T OF HEALTH & HUMAN SERVS., NIH PUB. NO. 82-2067, CESAREAN CHILDBIRTH: REPORT OF A CONSENSUS DEVELOPMENT CONFERENCE (1981). Cesarean delivery rates in the United States rose dramatically from 4.5 per 100 births in 1965 to 24.1 per 100 births in 1986. Today, the total cesarean section rate stands at 27.5 per 100 births, making the goal of lowering the rate more urgent than ever. A.R. Localio et al., *Relationship between Malpractice Claims and Cesarean Delivery*, 269 JAMA 366 (1993). In response to the growing concerns in the 1980s about the rising cesarean rate, the U.S. Department of Health and Human Services established decreasing cesarean deliveries as one of the Healthy People Year 2000 objectives. U.S. DEP'T OF HEALTH & HUMAN SERVS., HEALTHY PEOPLE 2000: NATIONAL HEALTH PROMOTION AND DISEASE PREVENTION OBJECTIVES (1990). National efforts to decrease the cesarean delivery rate now focus on low-risk women as defined in the Healthy People 2010 objectives, aiming for a rate of no more than 15 per 100 births. 2 U.S. DEP'T OF HEALTH & HUMAN SERVS., HEALTHY PEOPLE 2010 §16-9 (2d ed. 2000), *available at* http://www.healthypeople.gov/Document/pdf/Volume2/16MICH.pdf.

vaginal delivery is chosen by a doctor and harm materializes, the doctor is frequently sued for the harm, whereas in the event of a cesarean delivery, an action is seldom pursued. Arguably, this happens not because cesarean deliveries never end in harm, but because either the harm is too minor to justify a legal suit or there is a latent harm with long-term effects that can hardly be traced back years later to the operation. The result is that most harms caused by cesarean deliveries are externalized to the patient, while most harms caused by vaginal deliveries are internalized to the doctor.[47] Lowering physician liability would decrease defensive medicine since it would decrease doctors' gains from defensive medicine. Thus, if liability were to stand at zero, defensive medicine would drop almost[48] to zero. However, although lowering liability below social costs would decrease defensive medicine, it could also be detrimental to precaution-taking. For example, when liability is lower than social costs, doctors might not take cost-justified tests that decrease patient risks so long as they cannot shift the costs of the tests to the patients. Thus, to ensure efficient incentives, liability should be set at the level of the social costs of the particular action. Any liability above these social costs would lead to a

[47] Obstetricians are experiencing an ever-increasing rate of malpractice claims against them, more than any in any other area of specialization. Roger A. Rosenblatt et al., *Why Do Physicians Stop Practicing Obstetrics? The Impact of Malpractice Claims,* 76 OBSTETRICS & GYNECOLOGY 245, 249 (1990). The frequency of such claims has increased such that, in 1999, 76.5% of obstetrician-gynecologists surveyed by the American College for Obstetricians and Gynecologists reported having been sued at least once. Sarah Domin, *Where Have All the Baby-Doctors Gone? Women's Access to Healthcare in Jeopardy: Obstetrics and the Medical Malpractice Insurance Crisis*, 53 CATH. U. L. REV. 499, 504 (2004). In fact, 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). Studies have examined the impact of the risk of a malpractice claim on the incidence of cesarean deliveries and found that a systematic relationship exists between the rate of cesarean procedures and malpractice claim frequency. Michael Daly, *Attacking Defensive Medicine Through the Utilization of Practice Parameters*, 16 J. LEGAL MED. 101, 105 (1995); *see also* Antonella Vimercati et al., *Choice of Cesarean Section and Perception of Legal Pressure*, 28(2) J. PERINATAL MED. 111 (2000) (stating that the perception of legal pressure was directly related to the rate of cesarean procedures).

[48] Non-legal sanctions could also trigger defensive medicine practices. For example, a doctor might tend to choose a course of treatment whose failure would be less discernible to colleagues and thus free from condemnation from those colleagues.

boost in defensive medicine and likely provide doctors with incentive to take excessive precautions.[49] Accordingly, applying the ORP would reduce liability precisely to the point of the social costs.[50]

To illustrate how adopting the ORP would reduce the extent of defensive medicine, let us return to obstetrics. Suppose that a doctor performs a vaginal delivery and harm to the baby materializes. If the court were to hold the doctor liable for negligently choosing this type of delivery but apply the ORP, his liability would be reduced to reflect the net risk created by his wrongful choice. This net risk is the difference between the risk created by the vaginal delivery and the risk that would have been created had the doctor chosen to deliver the baby by cesarean section. Thus, reducing the doctor's liability for negligently choosing vaginal delivery would result in a decrease in doctors' expected gains from choosing cesarean delivery and a consequent diminishment of defensive medicine.

2. Over-Investment in Precautions

In the absence of the Offsetting Risks Principle, injurers in general, and doctors in particular, over-invest in precautions. Consider two types of precautions doctors can take in cases illustrated by Example 1, where Treatment A entails a risk of 500 and Treatment B a risk of 400. One type of precaution consists of the additional measures necessary to administer Treatment B compared to Treatment A, such as

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[49] *Infra* Section IV.2.

[50] Theoretically, defensive medicine could be eliminated through the market, by compensating doctors who must choose the courses of action that pose a greater risk to them. Doctors will be compensated through the price paid by their patients, and their bias towards the less risky course of action will disappear. However, market imperfections in fact often preclude such arrangements. *See* TOM BAKER, THE MEDICAL MALPRACTICE MYTH 64-65 (2005) ("[P]hysicians have little or no ability to raise prices in response to increased costs. When a malpractice insurance crisis hits, the burden falls disproportionately on physicians in high-risk specialties and locations, who cannot raise their prices in response."); Michelle M. Mello & Carly N. Kelly, *Effects of a Professional Liability Crisis on Residents' Practice Decisions*, 105 OBSTETRICS & GYNECOLOGY 1287 (2005); Peter Eisler et al., *Hype Outraces Facts in Malpractice Debate*, USA TODAY, Mar. 5, 2003, *available at* http://www.usatoday.com/news/nation/2003-03-04-malpractice-cover_x.htm (claiming that the cause of doctors' inability to pass higher costs to patients is the limitations on reimbursements set by managed care insurers, Medicare, and Medicaid).

additional medical tests, longer period of hospitalization, etc. Another type of precaution consists of the measures necessary to determine the magnitude of the risks entailed by each treatment, such as information-gathering about the different risks, consulting with other doctors, etc.

Let us consider the first type of precaution. In Example 1, efficiency mandates that the doctor should choose Treatment B (risk of 400) over Treatment A (risk of 500) only if the cost-difference in administering the two treatments is lower than 100 or, in notation, only if Costs of A – Costs of B < 100. However, because the doctor anticipates losing 500 in expected value if he chooses Treatment A and is found negligent, he will choose Treatment B even if the cost-difference between the two treatments is higher than 100. It is important to note that the doctor's willingness to choose Treatment B even if that difference is higher than 100 is due to his uncertainty as to whether he would be able to convince a court, in the event that he chooses A and harm occurs, that he was not negligent since the cost-difference was higher than 100. Indeed, sometimes the cost-difference, in its entirety or in part, is non-verifiable in court (such as investment of time or other non-monetary efforts), and even when it is verifiable, there is always a risk of error on the part of the court or the doctor himself, of which the doctor is well aware.[51] Applying the ORP would prevent these distortions in incentives for doctors, since the Principle brings the amount of liability into line with the social costs of the negligent behavior.[52]

[51] To understand the distortion in its most extreme form, suppose that Treatment A entails a risk of 500 and Treatment B entails a risk of 499. This raises the anomaly of a doctor's great willingness to choose Treatment B even if the additional costs necessary to administer that treatment are much higher than 1. The ORP prevents this anomaly.

[52] At first glance, one could mistakenly confuse the argument made in this Article, that ignoring the ORP burdens injurers with liability for more harm than what they actually caused, with another argument, namely, that injurers who do not satisfy the standard of care could be liable for harm that was not caused by their negligence, thereby resulting in over-deterrence. Under the latter argument, a rule of negligence creates discontinuity or a sudden jump in liability, since the expected liability of an injurer who satisfies the standard of care drops to zero, while any deviation from that standard results in full liability for any harm that occurred. This discontinuity and its behavioral consequences were originally explained in Robert Cooter, *Economic Analysis of Punitive Damages*, 56 U.S. CAL. L. REV. 79 (1982), with Cooter later explaining that the discontinuity is due to incomplete information available to the courts, *see* Robert Cooter, *Punitive Damages for Deterrence: When and How Much?*,

The second type of precaution relates to information-gathering about the risks entailed by the two treatments, in order to choose the right one. Consider again Example 1, and assume that the doctor's choice depends only on the relative risks created by each treatment. The efficient level of investment in gathering information about the risks is only 50, and not 100, because, assuming risk neutrality, even with no information about the risks of the two treatments the doctor has a 50% chance of making the right choice. Therefore, investing more than half of the social costs associated with making the wrong choice is efficiency unjustified. But in such a case, as well, and for similar reasons to those discussed with respect to the first type of precaution, the doctor in Example 1 would invest more than 50 in information-gathering.

Over-investing in precautions is also prevented under a strict liability rule. I discuss in *infra* Section V.4. strict liability as an alternative solution to applying the ORP.

3. Over-Burdening the Negligence-Producing Activity and the Relevance of a Contractual Relationship

When the injurer is liable for more than the harm his activity causes, he may decrease that activity or forego it all together, even if it is desirable from a social perspective. Thus, if the actor derives a benefit of 300 from the activity and the harm amounts to 100, liability of 500 would inefficiently cause him to cease his activity. Non-application of the ORP could have this effect. This is quite clear with respect to all cases falling within the three categories of instances discussed in Part II when the injurer and the victim are strangers to one

40 ALA. L. REV. 1143 (1989). Mark Grady and Marcel Kahan also have 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 (1983); Marcel Kahan, *On Causation and Incentives to Take Care under the Negligence Rule*, 18 J. LEGAL STUD. 427 (1989). In contrast, the argument made in this Article for adopting the ORP holds regardless of the information available to courts or juries and even when the *prevailing* causation rules are properly applied: ignoring offsetting risks will result in liability for much more than the harms negligently caused by injurers.

another. The issue becomes more complicated when a contractual relationship exists between the parties, as exemplified by Example 1. Would imposing liability on doctors in excess of the harm they cause inefficiently repress their activity?

At first glance, the answer to this question seems to be no. The scope of doctors' liability is irrelevant to the activities they engage in, since one way or another, doctors shift their liability costs to patients by means of the price mechanism. Thus, if liability in Example 1 is 500 instead of 100, the patient will pay more in the price of the service she receives but will be awarded more in damages if harm occurs. Consequently, both patient and doctor—assuming they are risk neutral—will be indifferent to the scope of the doctor's liability. This analysis is over-simplistic, however. As shown earlier, refraining from reducing liability for the offsetting risks exacerbates defensive medicine and gives doctors incentive to over-invest in precautions. These drawbacks, which can seldom be cured contractually,[53] are shouldered by the patient, with the result that the excessive liability leads to a diminishment in the overall utility a patient can derive from her doctor's services. This utility is determined by the quality of the service (which defensive medicine decreases), the price the patient pays (which the excessive costs of precaution increase), and the scope of the doctor's liability. The erosion of the patient's utility from the medical services renders their consumption suboptimal.[54]

V. CRITICISM AND OBJECTIONS

The central concern that can be raised against adopting the Offsetting Risks Principle is that victims will not be fully compensated for the harms they suffer. This is especially troubling when the offsetting risks relate to a third party or society in general: Why should the victim be less protected by tort law simply because interests not relating to her were overprotected? Another possible objection to the ORP is that courts' failure to offset risks often cures another malfunction plaguing tort law, which is the under-enforcement of legal

[53] *Supra* note 50, and *infra* Section V.4.

[54] Note that the underlying assumption of the discussion in the text above is that the law prohibits injurers and victims from opting out of the prevailing liability regime. *See infra* Section V.4.

norms. A pragmatic objection could also be raised against applying the ORP: the application of the Principle requires that courts use costly information, which increases litigation costs. Finally, one could argue that other mechanisms could cure all, or some, of the inefficiencies created by courts' failure to offset risks. The next sections address each of these objections in turn.

1. Under-Compensation of Victims

Applying the ORP naturally leaves victims partially uncompensated for the harm they suffered due to the injurer's wrongdoing. This outcome cannot be reconciled with corrective justice, which mandates that the injurer rectify the injustice he inflicted on the victim by way of compensation.[55] The ORP clashes with this principle, since it leads to only partial rectification of the injustice. Nevertheless, there are several reasons—except for the efficiency rationale discussed in the Article—for dismissing this concern of under-compensation. The first and most important is the victim's *ex ante* interest in applying the ORP to cases falling in first category.

As the Article demonstrates, offsetting risks could relate not only to the victim herself, but also to third parties or to society as a whole. In the latter types of cases, which can be classified under the second category (third parties) and third category (society) of instances, respectively, it seems—especially when there is no contractual relationship between the injurer and the victim—that the victim's *ex ante* interest in receiving as high compensation as possible is self-explanatory. For all the negative effects of high compensation are not borne by the victim. On the contrary, higher compensation could provide the injurer with stronger incentive to over-protect the victim's interests, even if at the expense of third parties or society as a whole.[56]

[55] WEINRIB, *supra* note 2, at 3-21.

[56] It is possible to conceive of cases falling into the second category in which the victim's *ex ante* interests are less clear. Take, for instance, the example of the emergency room doctor who must decide which patient to treat first (*supra* text accompanying note 30). A threat of high liability (in the absence of the ORP) could encourage the doctor to treat the patient more likely to bring a suit against him. Lower liability (where ORP is applied) will decrease this kind of defensive medicine, as explained in the *supra* Section IV.1., and the patient with a lower probability of suing the doctor may prefer such a liability regime.

The situation is completely different in the first category of cases, when all interests involved are the victim's interests. The discussion that follows focuses on medical malpractice cases, as represented by Example 1, but could easily be applied to other cases as well.

The main reason for a patient's *prima facia ex ante* interest in the non-application of the ORP would be her preference, as a risk-averse person, to full compensation, even if she is required to pay a premium to acquire that entitlement. The difficulty with this insurance argument lies in the anomaly it produces. If insurance is the patient's motive, why should liability be limited only to negligent medical accidents and not to all harms, regardless of how they unfolded? Indeed, the risk-averse patient would presumably be willing to pay a higher premium and receive full coverage in return. Thus, the insurance argument cannot explain a rule of negligence (as opposed to strict liability, which has its own flaws[57]) as emanating from the patient's *ex ante* interest in full compensation. A much better reason for the victim to prefer a negligence rule to a no-liability rule would be her interest in optimal deterrence of her doctor.

Optimal deterrence, as this Article demonstrates, is better achieved under the ORP. In particular, there is no reason for the patient to prefer a rule that decreases the surplus she can secure from her interaction with her doctor. A rule that rejects the ORP results in precisely this undesirable effect. As explained above, non-adoption of the ORP leads to more defensive medicine and over-investment in precautions, both borne by the patient. Conversely, adopting the ORP would increase the total surplus the patient would receive from medical services and would, therefore, be the preferable rule from her perspective.[58] Therefore, it is hard to see how injustice is rendered to the patient by applying the ORP to her case.

A second reason, rooted in retributive justice, can explain for one set of cases—those in which the defendant is a recurrent wrongdoer—why the ORP can be less troubling from a moral perspective. In such instances, the ORP will make the wrongdoer pay in the long-run no more or less than the harm he caused, whereas prevailing tort law currently makes him pay in excess of this harm.

[57] *Infra* Section 4.

[58] I develop this argument in Porat, *supra* note 18, at 112-16.

Since justice considerations relate not only to the victim but also to the injurer, the objection to applying the ORP in these cases seems less compelling. To illustrate, let us frame Example 1 as a repeat scenario: the same doctor or same hospital frequently undertakes procedures that involve offsetting risks. In the long-run, when the ORP is not applied, the doctor or hospital pays damages far beyond what was caused to their patients. As explained above,[59] if the Example 1 scenario were to recur ten times in sequence, the harm caused by the doctor's negligence (or by his activity, negligent or not) would be 1000, not 5000. Thus, although the ORP leads to the violation of the corrective justice principle requiring that the wrongdoer pay full compensation to the victim, at the same time, so the argument goes, it is consistent with a retributive justice principle, according to which the injurer should be liable for the precise amount of the harm he caused.[60]

Last, but not least, problems of under-compensation could be solved outside the realm of tort law, either by social insurance or by private insurance.[61] Recall that many accidents, medical and otherwise, are not compensated under prevailing tort law. Also recall that, in cases illustrated by Example 1 and other first-category cases, the definition of "harm caused by the doctor," as opposed to "harm caused by nature," is, at the very best, unclear. A patient who was exposed to a risk of 400

[59] *Supra* Part I.

[60] *Cf.* David Lewis, *The Punishment that Leaves Something to Chance*, 18 PHIL. & PUB. AFF. 53 (1989) (arguing that retributive justice mandates that criminals be exposed to the same risk to which they expose their victims); Jeremy Waldron, *Moments of Carelessness and Massive Loss*, *in* PHILOSOPHICAL FOUNDATIONS OF TORT LAW 387 (David G. Owen ed., 1995) (applying the same argument to tort law). Note, that it is possible to reconcile the PRP with corrective justice. Thus, in Example 1 cases, applying this principle would result in a damages award of 4600 rather than 5000. *See supra* Part III. The reason that the PRP is reconcilable with corrective justice is that it is more about evidence than substance and corrective justice is generally indifferent to evidence. Moreover, the PRP is aimed at overcoming the uncertainty of the *specific* interaction between the plaintiff and the defendant, whereas the ORP has a different objective. *See supra* discussion accompanying note 42. One of the tenets of corrective justice is its focus on the specific interaction between the injurer and the victim. *See* WEINRIB, *supra* note 2, at 64-66; JULES COLEMAN, RISKS AND WRONGS 354-60 (1992); Stephen Perry, *The Moral Foundations of Tort Law*, 77 IOWA L. REV. 449, 507-14 (1992).

[61] The risk that poor people would not be able to purchase insurance is a general problem that can be solved in our context either through mandatory first-party insurance or social insurance.

even with no negligence but is compensated for a risk of 500 that unfortunately materialized into actual harm could be considered as having received a windfall: had the doctor exposed her to a risk of 400 and that risk had materialized into harm of 4000, the victim would have remained completely uncompensated!

2. Curing Under-Enforcement

Under-enforcement of the law is a generally pervasive problem,[62] and the area of provision of medical services is no exception. Many patients who suffer harm due to malpractice do not bring suits against their doctor or else fail to succeed in justified actions.[63] When the law is not fully enforced, wrongdoers do not bear the full social costs associated with their wrongdoings and, as a result, do not take efficient precautions. The non-application of the ORP could mitigate this under-enforcement. Thus, if in cases illustrated by Example 1 (as well as in other examples discussed in the Article), only 20% end up in court and result in the imposition of liability, perhaps liability in the amount of the entire harm (and not only one-fifth of the harm) could remedy the problem of under-enforcement.

This argument is not persuasive, however. *First*, in the field of medical services provision, it is hard to assess the scope of under-enforcement in the field.[64] Moreover, it is quite possible that there are many positive externalities present in this field—that is, benefits not captured by prices—that offset the negative externalities arising from under-enforcement.[65] *Second,* even if in certain medical services fields,

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[62] But sometimes the problem is over-enforcement. *See* Richard A. Bierschbach & Alex Stein, *Overenforcement*, 93 GEO. L.J. 1743 (2005) (discussing when over-enforcement arises and how the law of evidence and procedure handles it).

[63] See BAKER, *supra* note 50, who argues that there is a huge under-enforcement problem in medical malpractice, because many patients injured by medical malpractice do not sue.

[64] But see Baker, *id.*, who, through his book, brings evidence of the magnitude of the under-enforcement problem.

[65] *See* David S. Bloch & William R. Nelson Jr., *Defining "Health": Three Visions and Their Ramifications*, 1 DEPAUL J. HEALTH CARE L. 723, 731 (1997) ("Commentators who consider health a non-marketable good contend that there are elements of health which, though valuable, are unquantifiable, such as hope, compassion, and the extension and preservation of life … . Health's social benefits are not fully realized by the market price it commands."). T.R. Marmor, Richard Boyer &

or in other fields, under-enforcement exists, there are certainly fields where such a phenomenon is not present. It is quite possible that in the latter fields, there are offsetting risks, and it is difficult to see any benefit in creating over-enforcement by ignoring these risks, simply because there is under-enforcement in other fields. In particular, there is no reason to assume that the presence of offsetting risks is a good proxy for under-enforcement that can be cured by ignoring offsetting risks altogether. *Finally*, even if there is under-enforcement in certain medical services fields, or in other fields, featuring offsetting risks, there is no reason to assume that the extent of the under-enforcement, on the one hand, and the extent of the over-enforcement created by courts' disregard for offsetting risks, on the other hand, are of similar magnitude. These are two distinct problems that should be dealt with separately and should not be intermixed.

3. Information and Application

Another possible objection to adopting the ORP is that its application requires more information for courts (and juries) than the information needed for damages awards under prevailing tort law. This complicates the process of awarding damages and raises litigation costs.

Under the ORP formula set out in this Article, liability should be calculated as L = h.(r1-r2)/r1.[66] This formula accounts for the offsetting risks (r2), risks that materialized into harm to the victim (r1), and the harm that eventually materialized (h). Most of this information is irrelevant—goes the objection—when courts award damages under prevailing negligence law. Under the prevailing regime, courts do, indeed, need to measure the harm that materialized, but they also need

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Julie Greenberg, *Medical Care and Procompetitive Reform*, 34 VAND. L. REV. 1003, 1009 (1981) ("Improved health, the anticipated outcome of medical care, has positive externalities. This makes medical care a merit good, and, unlike many other economic goods, one that should not be allocated solely on the basis of ability to pay."); Stuart Rome, *Medicine and Public Policy: Let Us Look Before We Leap Again*, 41 MD. L. REV. 46, 48 (1981). *See also* Maja Campbell-Eaton, *Antitrust and Certificate of Need: A Doubtful Prognosis*, 69 IOWA L. REV. 1451, 1459 (1984) ("Moreover, health care usually is viewed as a 'merit good,' with benefits extending beyond its economic value. This view is reinforced by the ethical mandates of the health professions and by a widespread belief that 'more is better' in the provision of medical services.").

[66] *Supra* text accompanying note 16.

only to determine whether the injurer was negligent or not. Consequently, measuring the r1 as well as the r2, which are crucial for the application of the ORP, is not necessary under prevailing law.

For two reasons, the need for additional information cannot justify rejecting the ORP. *First*, courts often use the Hand Formula to determine whether an injurer was negligent or not, comparing between the precautions the injurer failed to take and the expected harm that would have been reduced had those precautions been taken. "Expected harm" under the Hand Formula is no more than the difference between the ORP formula's r1 and r2. Indeed, courts that apply the Hand Formula are not required to accurately measure the expected harm, since it is sufficient that they determine whether the untaken precautions were higher or lower than the expected harm, even without verifying the exact figures of those variables. Still, courts need some information about the various risks involved (r1 and r2), in any event, and the additional information required in applying the ORP is not necessarily so difficult to gather.

Second, and more important, the application of the ORP would not be as accurate as it theoretically could be were the information necessary for its application costless. Even rough estimations of r1 and r2 are better than doing nothing. In fact, ignoring offsetting risks across the board is tantamount to assuming that these risks are *always* zero, when this is most certainly not the case.

It is the task of the legislature to change the law to allow the courts, especially in medical malpractice cases, to reduce damages when offsetting risks are present. Courts should have at their disposal a legislated menu of possibilities from which they can choose, guided by the simple formula set out in this Article. The legislature could allow courts to award damages, for example, for 10%, 25%, 50%, 75%, or 100% of the harm. Courts would then not need exact figures in order to apply the ORP formula and could make do with rough estimates. Thus aided by a legislative arrangement, the formula could be easily and effectively applied.[67]

[67] Another issue relating to the courts' lack of information is that, under certain circumstances, the ORP encourages potential injurers like doctors to artificially raise the offsetting risks in order to reduce their liability should harm occur. When such a measure is verifiable, courts can refrain from offsetting the enhanced risks and deduct

4. Other Alternatives

The inefficiency resulting from ignoring offsetting risks could, arguably, be resolved through mechanisms other than the ORP. In this final section, I briefly discuss some of these possible alternatives.

First, instead of adopting the ORP, the law could switch from a negligence rule to a strict liability rule to resolve the inefficiency of the over-investment-in-precautions phenomenon described in Section IV.2. Recall that, under prevailing negligence law, this phenomenon is triggered by the great disproportion between a doctor's expected liability if he makes the right choice and his expected liability if he makes the wrong choice. The ORP reduces the difference between the two and aligns the doctor's liability with the social costs of his negligence. Thus, in Example 1, if the ORP were applied, the doctor's expected liability for wrongfully choosing Treatment A would be 100, whereas his expected liability for choosing Treatment B would be 0. This difference in the expected liabilities would be maintained under a strict liability standard: the doctor's expected liability for choosing Treatment A would be 500 and 400 for Treatment B. Under both the ORP and a strict liability rule, the doctor in Example 1 would invest in precautions at the efficient level.

Discussing the desirability of switching to a strict liability rule for medical accidents and for other types of accidents as well is beyond the scope of this Article. It is important to note, however, that strict liability for medical accidents would not solve the defensive medicine problem discussed in Section IV.1. In fact, a rule of strict liability for doctors would foster defensive medicine. Under such a rule, doctors presumably would gain more than what they currently gain under the prevailing negligence rule from choosing courses of action where it is very hard to trace ensuing harms back to the medical treatment they administered. Moreover, liability for all harms suffered by their patients would make doctors liable for far more harms than those created by their activity, negligent or not. Thus, if, in Example 1, the doctor reasonably chooses Treatment B and harm of 4000 materializes, making him bear liability is tantamount to making him his patient's health insurer. Under such a legal rule, the doctor would be liable for

only the risks that would have existed even absent the injurer's artificial production of risks.

harms resulting from the patient's pre-existing conditions in no way related to the doctor's behavior. Making the doctor his patient's health insurer and expanding his liability accordingly would produce difficulties that cannot be thoroughly discussed here.[68]

A second alternative to adopting the ORP is for the government to subsidize injurers for the positive externalities created by their behavior, negligent and non-negligent alike. This solution has one appealing advantage: if it could be implemented, victims would be fully compensated even in the presence of offsetting risks, while injurers would have efficient incentives. Moreover, it would mitigate another possible problem with the ORP, which is the fact that, under the ORP, those who are credited for positive externalities are those who negligently inflicted harm on their victims, whereas those who did not inflict any harm get no credit, even if they also created positive externalities.

Even putting the political obstacles aside, this alternative is not a practical option, certainly not in the area of medical malpractice. It could work if, and only if, the problem with ignoring offsetting risks were the burdening of doctors' activity with excessively high costs. But as illustrated in this Article, ignoring offsetting risks distorts the incentives of doctors to treat their patients, by encouraging them to over-invest in precautions and to practice defensive medicine. For as long as the government subsidy is not provided on a case-by-case basis, so that a negligent doctor, as in Example 1, pays 5000 to his patient but receives a subsidy of 4000 to compensate him for the expected benefit (in reduced risks) he generated through his wrongdoing, his incentives will remain sub-optimal. For obvious reasons, a case-by-case subsidy is impractical and therefore does not constitute a satisfactory solution to the problem of offsetting risks.

A third alternative is to leave it to the injurer and victim, like the doctor and patient, to make the efficient contract they desire instead of imposing the ORP. This solution is relevant only for those cases in which the injurer and victim are not strangers and the transaction costs of drafting the contract between them are not prohibitively high. Note

[68] Since the price patients pay does not capture all benefits created by medical treatments (positive externalities) and since it is difficult for physicians to raise prices to cover their increased costs, under strict liability, they will be unable to raise prices in response to the broad liability imposed on them. *See supra* notes 51, 54, 66.

also that the law prohibits certain injurers and victims, like doctors and patients, from opting out of the prevailing liability regime, which fails to take offsetting risks into account.[69] Were this not the case, the proposal to adopt the ORP would have been a scheme for an efficient default rule, which most parties would be willing to adopt in their contracts.

A fourth and final alternative is to relax the standard of care when offsetting risks are present and impose liability only for gross negligence. However, although this could mitigate some of the negative effects that arise when offsetting risks are completely ignored, it could hardly serve as a comprehensive solution to the problem. Primarily, unlike the ORP, it cannot be fine-tuned for each case, and its impact therefore does not extend to all relevant cases.[70]

VI. Conclusion

This Article has argued that when an injurer's wrongdoing that caused harm to the victim served to simultaneously decrease other risks to her, liability should be reduced far below full compensation. This holds for all cases in which the potential injurer is required to balance amongst the victim's interests and to choose the course of action that is most beneficial to the victim in light of this balancing. Many cases of medical malpractice can be classified as such. If this argument is accepted and liability reduced due to the presence of offsetting risks, the result will be a tremendous desirable decrease in the damages awarded in medical malpractice suits. Doctors will pay in the amount of the social harm created by their negligence, and no more. Defensive medicine will be reduced and over-investment in precautions discouraged, with the main beneficiaries the patients, who will pay less and will receive more in return. Any problem of under-compensation for patients can, and should, be resolved outside the boundaries of tort law. Moreover, the diminishment in damages awards will save huge

[69] *See* Tunkl v. Regents of Univ. of Cal., 383 P.2d 441 (Cal. 1963); Health Net of Calif., Inc. v. Dep't of Health Servs., 6 Cal. Rptr. 3d 235 (2003); 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 (2004-2005).

[70] *See* Porat, *supra* note 18, at 126-28, 131-35, 138-40.

amounts of money currently being pocketed by attorneys charging contingent fees.[71]

Many scholars are suspicious of tort law's ability to efficiently deter wrongdoers. These scholars maintain that, at least in certain areas, it is better to replace tort law with insurance schemes such as social insurance and to avoid the high costs entailed by the existing legal regime.[72] The counter-claim is that even though tort law is far from being ideal, it still works and has a role to play in deterrence.[73] This Article has sought to show that sometimes deterrence can, indeed, be better achieved if the tort system does a little bit less than what it currently is doing. Not only would reducing damages due to offsetting risks improve incentives and achieve more efficient deterrence, it would also reduce the general costs involved in the existing legal regime: lowering damages makes the operation of tort law less expensive.

The Article proposes a framework that is not limited to medical malpractice cases or even to cases where the injurer balances amongst conflicting interests of the victim. As shown, there are many instances in which the potential injurer is required to balance the victim's interests against the interests of third parties or society at large. If tort law strives for optimal deterrence, that is, minimization of social costs, then there should be no difference in how offsetting risks are dealt with in all categories of cases: in the presence of offsetting risks, liability should be reduced accordingly. If, however one accepts that corrective justice and the goal of compensation play a determinative role in tort law, and I believe they most certainly do, cases in which the offsetting risks relate to third parties or society at large could require different treatment. In such cases, application of the ORP is far more problematic.

The area in most urgent need of the ORP is the medical malpractice context. There, offsetting risks are a very common phenomenon, and liability in some medical fields is excessively high, with patients typically paying the price of this inflated liability. Thus I propose that the legislature authorize courts, at least in medical

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[71] *See* STEPHEN D. SUGARMAN, DOING AWAY WITH PERSONAL INJURY LAW: NEW COMPENSATION MECHANISMS FOR VICTIMS, CONSUMERS, AND BUSINESS 40, 184 (1989).

[72] *Id.* at 169.

[73] Garry T. Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*, 42 UCLA L. REV. 377 (1994).

malpractice cases, to reduce damages when offsetting risks are present. The reduction could be in a roughly estimated amount, according to a menu of possibilities set by the legislature, from which courts would choose, guided by the simple ORP formula set out in the Article. Offsetting risks should, and can, be taken seriously by the law.