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The Externality of Victim Care

Alan J. Meese†

In a world with no transaction costs, tort law would not be necessary. Instead, injurers and victims would bargain among themselves to produce the mix of activities and care that would maximize their own and thus society's wealth.¹ Of course, transaction costs do exist, and they are of sufficient magnitude to prevent bargaining between injurer and victim: for example, pedestrians cannot identify and write contracts with each driver that might injure them.² In this "real world," the economist's ideal regime of tort law would generate liability rules that induce injurer and victim alike to choose the activities and levels of care they would have chosen in a world without transaction costs.³

For three decades, lawyers and economists have expended significant effort evaluating the economic consequences of various common law liability rules. In so doing they have sought to determine which liability rule(s), if any, will maximize social wealth, that is, induce injurers and victims to replicate the mix of care and activities for which they would have bargained in the absence of transaction costs.⁴ This

† Cabell Research Professor of Law, William and Mary School of Law; Visiting Professor of Law, University of Virginia Law School. The author thanks Peter Alces, Neal Devins, John Duffy, James Hamilton, Avery Katz, Thomas Merrill, Gary Myers, Erin O'Hara, Richard Posner, Warren Schwartz, Sara Stafford, Thomas Ulen, and participants in the faculty workshop at the William and Mary School of Law and participants in the John M. Olin workshop in Law and Economics at Georgetown University Law Center for helpful comments and assistance. This project was supported by a summer research grant from the William and Mary School of Law. Felicia Burton assisted in preparation of the manuscript.

¹ See Guido Calabresi, *Transaction Costs, Resource Allocation, and Liability Rules—A Comment*, 11 J L & Econ 67, 67 (1968).

² See A. Mitchell Polinsky, *An Introduction to Law and Economics* 39 (Little Brown 2d ed 1989); Harold Demsetz, *When Does the Rule of Liability Matter?*, 1 J Legal Stud 13, 26–27 (1972).

³ See William M. Landes and Richard A. Posner, *The Economic Structure of Tort Law* 31–41, 61–62 (Harvard 1987); Demsetz, 1 J Legal Stud at 26–27 (cited in note 2); Calabresi, 11 J L & Econ at 69 (cited in note 1). As Professor Polinsky has put it, employing the example of automobile-pedestrian accidents:

[B]argaining obviously cannot lead to the efficient outcome because neither drivers nor pedestrians know in advance with whom to bargain. The Coase Theorem may be helpful nonetheless. Efficient legal rules for dealing with driver-pedestrian accidents still can be derived by imagining what rules a driver and a pedestrian would have chosen if they could have costlessly gotten together before the accident.

Polinsky, *Introduction to Law and Economics* at 39 (cited in note 2).

⁴ See, for example, Richard A. Posner, *Economic Analysis of Law* 179–97 (Aspen 5th ed 1998); Steven Shavell, *Economic Analysis of Accident Law* 5–46 (Harvard 1987); Landes and Posner, *Economic Structure of Tort Law* at 29–122 (cited in note 3); Steven Shavell, *Strict Liabil-*

effort has yielded a consensus about the welfare consequences of particular liability rules under various conditions.⁵ For instance, scholars agree that, so long as reasonable care by injurer and victim will reduce the probability of accidents to zero, both negligence and strict liability with a defense of contributory negligence will induce the proper care and the proper activity by both victims and injuring parties.⁶ If, on the other hand, reasonable care will not reduce the probability of accidents to zero, only a strict liability regime (with a defense of contributory negligence) will induce the injuring party to adopt the proper care *and* the proper type and level of activity and induce the victim to choose the appropriate care.⁷ At the same time, it is said, only a negligence regime will lead the victim to adopt the proper care *and* activity and the injurer to adopt appropriate care.⁸ These conclusions apply to "alternate care" settings, that is, settings that call for care by only one party, as well as "joint care" settings, in which care by both parties is indicated.

These findings have led to more general conclusions about the effect of negligence and strict liability on social welfare, as well as assertions about the overall efficiency of tort law as a regulatory regime. In particular, scholars have argued that, by itself, a well-administered tort system can in many instances induce efficient combinations of care and activity, obviating the necessity of public law regulation.⁹ Indeed, some scholars have advanced a positive economic theory of tort law,

ity Versus Negligence, 9 J Legal Stud 1, 1 (1980) (adopting as "welfare criterion . . . the benefits derived by parties from engaging in activities less total accident losses less total accident prevention costs"); John Prather Brown, *Toward an Economic Theory of Liability*, 2 J Legal Stud 323, 323 (1973).

⁵ See, for example, Robert Cooter and Thomas Ulen, *Law and Economics* 270-81 (Addison-Wesley 2d ed 1997); Polinsky, *Introduction to Law and Economics* at 40-50 (cited in note 2); Shavell, *Economic Analysis of Accident Law* at 1-46 (cited in note 4); Landes and Posner, *Economic Structure of Tort Law* at 29-122 (cited in note 3).

⁶ Polinsky, *Introduction to Law and Economics* at 40-46 (cited in note 2); Shavell, *Economic Analysis of Accident Law* at 11-15, 24-29 (cited in note 4); Landes and Posner, *Economic Structure of Tort Law* at 38-39, 66-68 (cited in note 3). See also notes 13-17 and accompanying text.

⁷ See Cooter and Ulen, *Law and Economics* at 274, 280 (cited in note 5); Polinsky, *Introduction to Law and Economics* at 49-50 (cited in note 2); Shavell, *Economic Analysis of Accident Law* at 27-28 (cited in note 4); Landes and Posner, *Economic Structure of Tort Law* at 66-69 (cited in note 3).

⁸ See Landes and Posner, *Economic Structure of Tort Law* at 69 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 28 (cited in note 4).

⁹ See Landes and Posner, *Economic Structure of Tort Law* at 29-84 (cited in note 3) (concluding that tort law can regulate accidents in a manner that generally maximizes social welfare); Shavell, *Economic Analysis of Accident Law* at 5-46 (cited in note 4) (discussing qualifications by these scholars regarding these general conclusions). See also J.M. Balkin, *Too Good to Be True: The Positive Economic Theory of Law*, 87 Colum L Rev 1447, 1458-59 (1987) (arguing that positive economic theory of tort law reflects bias against public law regulation).

which holds that courts have, in fact, adopted those rules of tort law that tend to maximize social welfare.¹⁰

This Article identifies an omission from the model scholars have employed to evaluate the welfare consequences of tort-based liability rules in a joint care setting. The consensus approach, it is shown, fails to consider the correlation between injurer activity, on the one hand, and victim care, on the other. More precisely, the conventional model fails to account for the externality of victim care induced by the combination of injurer activity and certain liability rules. While injuring parties do, as the model assumes, internalize the costs of their own care in a strict liability or negligence regime, no liability rule induces injurers to internalize the cost of care taken by *victims*. The conventional approach, then, does not recognize the (real) possibility that the *joint* costs of care induced by an activity might outweigh its benefits. Once allowance is made for this externality of victim care, the current scholarly consensus about the welfare consequences of negligence and strict liability with a defense of contributory negligence proves false. Indeed, identification of the externality of victim care suggests the existence of a second externality, namely, the externality of *injurer* care, which *victims* do not internalize when making activity choices. Absent a Pigouvian tax,¹¹ neither negligence nor strict liability with a defense of contributory negligence will reliably induce the appropriate type and level of injurer or victim activity, even in those cases where joint due care eliminates the risk of accidents. Thus, neither rule will reliably maximize social wealth.

Part I of this Article examines the conventional account of the effect of various liability rules on, among other things, injurers' activity choices. Part II offers a critique of the conventional account, demonstrating that neither negligence nor strict liability with a defense of contributory negligence induces efficient activity choices by injurers in joint care situations given the externality of victim care. This Part also notes the existence of the externality of injurer care and suggests that, in light of this externality, neither regime can induce efficient activity choices by victims. Part III examines the welfare consequences of alternative liability regimes, including "pure" strict liability and "enhanced" negligence, in light of the insights offered in Part II. Part IV offers a partial explanation for the failure previously to identify the externality of victim care and examines some implications of this Article's findings for the positive economic theory of tort law.

¹⁰ See Landes and Posner, *Economic Structure of Tort Law* at 1-28 (cited in note 3) (sketching the argument that tort law reflects a dominant concern for efficiency).

¹¹ See Part III.B.

I. THE STANDARD ACCOUNT OF NEGLIGENCE AND STRICT LIABILITY

As noted above, scholars have reached a consensus about the welfare effects of various liability rules, a consensus reflected in the leading works in the field. These works make use of a shared model to determine the economic consequences of negligence, strict liability, and other tort rules. Boiled down to its essentials, the account generated by the conventional model goes like this: Activities cause accidents, and the social cost of these accidents is the sum of (1) the cost of care taken by victim and injurer when an activity takes place and (2) the damages suffered by victims of accidents that may occur despite this care.¹² Where care by the injurer alone will minimize the social cost of accidents, well-administered regimes of strict liability and negligence will each induce the same optimal amount of care by the injuring party, minimizing the social cost of accidents.¹³ Most cases, however, involve a joint care situation in which care by *both* parties is necessary to minimize the social cost of accidents.¹⁴ In these cases, a well-defined negligence rule will lead both injurer and victim to take appropriate care.¹⁵ Strict liability, on the other hand, will lead the injur-

¹² Cooter and Ulen, *Law and Economics* at 271 (cited in note 5); Shavell, *Economic Analysis of Accident Law* at 7 (cited in note 4); Landes and Posner, *Economic Structure of Tort Law* at 59 (cited in note 3). Victims, of course, are those individuals who will suffer harm in the event an accident occurs. Injurers, it is assumed, will suffer no harm in the event of an accident. This Article will also assume that an individual is either an injurer or a victim and can never be both. See Landes and Posner, *Economic Structure of Tort Law* at 61 (cited in note 3) (adopting such an assumption); Shavell, *Economic Analysis of Accident Law* at 5–6 (cited in note 4) (same).

¹³ Cooter and Ulen, *Law and Economics* at 271–77 (cited in note 5); Polinsky, *Introduction to Law and Economics* at 40–42 (cited in note 2); Landes and Posner, *Economic Structure of Tort Law* at 63–65 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 8 (cited in note 4). This Article will use “precaution” and “care” interchangeably. A strict liability regime is “well-administered” if courts can calculate the damages resulting from accidents caused by the defendants’ conduct. A negligence regime is “well-administered” if, among other things, courts can accurately determine each party’s level of “due care” and whether the injurer actually satisfied that standard. As noted below, courts need not actually recognize a defense of contributory negligence if they define the injurer’s standard of care “as if” the victim is also taking due care. See Landes and Posner, *Economic Structure of Tort Law* at 65 (cited in note 5). Unless otherwise indicated, this Article will assume that courts make these and similar determinations costlessly.

¹⁴ See Shavell, *Economic Analysis of Accident Law* at 10–11 (cited in note 4) (“[I]n most real situations one supposes that it would be best for both injurers and victims to take a positive degree of care, however small.”).

¹⁵ Cooter and Ulen, *Law and Economics* at 276–77 (cited in note 5); Polinsky, *Introduction to Law and Economics* at 43 (cited in note 2); Landes and Posner, *Economic Structure of Tort Law* at 74–77 (cited in note 3) (giving examples to support this assumption); Shavell, *Economic Analysis of Accident Law* at 14 (cited in note 4); Brown, 2 J Legal Stud at 341–42 (cited in note 4). This is so, it should be noted, even if the law does not recognize a defense of contributory negligence, so long as courts determine an injurer’s level of due care “as if” the victim is also taking reasonable care. See Posner, *Economic Analysis of Law* at 186 (cited in note 4) (discussing “as if” approach to determining due care). If due care is defined in this manner, injurers will take no more than the socially optimal level of care, knowing that, if an accident still occurs, they will not

ing party to take too much care, and the victim to take none at all.¹⁶ This flaw can be cured, however, if courts temper a regime of strict liability with a defense of contributory negligence.¹⁷

If minimization of the social cost of accidents were the only goal of tort law, there would be little basis, aside from administrative considerations, for choosing strict liability over negligence, or vice versa. Still, the mere fact that an activity is conducted in a way that minimizes the social cost of accidents does not mean that injurer and victim would choose the activity in the absence of transaction costs. The costs of an activity might outweigh its benefits, even if those costs are minimized. This suggests an additional criterion for evaluating liability rules: do the rules induce parties to internalize the full social cost of accidents and thus to choose only those activities that are, on balance, cost-justified?¹⁸ More precisely, such internalization can cause parties to alter their activities in one of two ways. First, parties can substitute to a different type of activity. Second, they can engage in the same activity less often. The owner of a pit bull can trade the animal in for a German shepherd; he can also keep the animal but take fewer walks.¹⁹ Similarly, a common carrier can abandon trains in favor of barges or make fewer train runs.²⁰ Finally, a pedestrian who fears dog bites can substitute an exercise bicycle for walking; he can also take fewer

be liable. Knowing that the injurer will take sufficient care to avoid liability, the victim will take reasonable precautions. See Cooter and Ulen, *Law and Economics* at 277 (cited in note 5); Landes and Posner, *Economic Structure of Tort Law* at 75–76 (cited in note 3). See also Douglas G. Baird, Robert H. Gertner, and Randal C. Picker, *Game Theory and the Law* 14–19 (Harvard 1994) (applying the concept of iterated dominance to derive parties' reactions to various liability rules).

¹⁶ Because the victim will be compensated if an injury occurs, it has no reason to take any precautions. Knowing this, the injurer will take those precautions that minimize the social cost of accidents, given the rule. See Cooter and Ulen, *Law and Economics* at 275 (cited in note 5); Baird, Gertner, and Picker, *Game Theory and the Law* at 14–16 (cited in note 15); Polinsky, *Introduction to Law and Economics* at 45 (cited in note 2); Landes and Posner, *Economic Structure of Tort Law* at 39 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 11 (cited in note 4); Brown, 2 J Legal Stud at 338 (cited in note 4). See also Demsetz, *When Does The Rule of Liability Matter?*, 1 J Legal Stud at 26–27 (cited in note 2) (victims will take no precautions under a rule of pure strict liability for injurers).

¹⁷ Polinsky, *Introduction to Law and Economics* at 45 (cited in note 2); Landes and Posner, *Economic Structure of Tort Law* at 39, 79–80 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 12–13 (cited in note 4); Brown, 2 J Legal Stud at 343 (cited in note 4).

¹⁸ Cooter and Ulen, *Law and Economics* at 279–81 (cited in note 5); Polinsky, *Introduction to Law and Economics* at 46–47 (cited in note 2); Landes and Posner, *Economic Structure of Tort Law* at 39, 61, 66–67 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 21–22 (cited in note 4); Shavell, 9 J Legal Stud at 7 (cited in note 4). See also A. Mitchell Polinsky, *Strict Liability vs. Negligence in a Market Setting*, 70 Am Econ Rev Papers and Proceedings 363, 365–66 (1980).

¹⁹ See Landes and Posner, *Economic Structure of Tort Law* at 103–10 (cited in note 3) (using the example of a vicious dog to illustrate the distinction between care and activity).

²⁰ See Posner, *Economic Analysis of Law* at 193 (cited in note 4) (using the example of railroad and farmer to illustrate the distinction between care and activity).

walks. A well-crafted liability rule will do more than ensure that an activity (dog walking, transportation, or exercise) is carried out with due care; it will also alter the nature of the activity, the level at which it is conducted, or both.²¹

A negligence rule is not "well-crafted" by this definition. Despite due care by both injurer and victim, some activities might still result in accidents. Under a negligence regime, an injurer that takes due care will not be liable even if its activity nevertheless produces significant harm.²² Thus, while injurers will internalize the costs of the care they must take to avoid liability, they will not internalize the damages caused by the accidents that may still occur. Instead, such damages will constitute an externality, that is, a cost borne by victims for which the injurer will not be liable.²³ As a result, the conventional model predicts that injurers will engage in some activities that—while cost-justified from a purely private perspective—will not be cost-justified from a social perspective.²⁴ This shortcoming is not inherent in the concept of negligence. Theoretically, courts could consider the benefits of an activity as part of the negligence calculus, treating as "unreasonable" any particular undertaking of activity that is not cost-beneficial from a social perspective.²⁵ The costs of such an inquiry would be prohibitive, however, and courts rarely conduct such an analysis in practice.²⁶

²¹ See Cooter and Ulen, *Law and Economics* at 279–81 (cited in note 5); Landes and Posner, *Economic Structure of Tort Law* at 108–10 (cited in note 3); Shavell, 9 J Legal Stud at 2–3 (cited in note 4).

²² Landes and Posner, *Economic Structure of Tort Law* at 68 (cited in note 3); Shavell, 9 J Legal Stud at 2 (cited in note 4) ("By definition, under the negligence rule all that an injurer needs to do to avoid the possibility of liability is to make sure to exercise due care if he engages in his activity.").

²³ Landes and Posner, *Economic Structure of Tort Law* at 69 (cited in note 3) (concluding that under a negligence regime, the "injurer has no incentive to adjust his activity" because he knows that, as long as he takes due care, the victim will bear any accident costs).

²⁴ See Cooter and Ulen, *Law and Economics* at 274, 279–81 (cited in note 5); Polinsky, *Introduction to Law and Economics* at 48–50 (cited in note 2); Landes and Posner, *Economic Structure of Tort Law* at 67–68 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 23–25 (cited in note 4); Shavell, 9 J Legal Stud at 2 (cited in note 4). See also Polinsky, 70 Am Econ Rev Papers and Proceedings at 365–66 (cited in note 18) (assuming that if injurer activity is held constant, a negligence regime will lead too many injurers to enter the industry).

²⁵ See Shavell, *Economic Analysis of Accident Law* at 25 (cited in note 4); Landes and Posner, *Economic Structure of Tort Law* at 67–68 (cited in note 3). As Judge Posner has said:

[Courts] do not ask, when a driver is in an accident, whether the benefit of a particular trip (maybe he was driving to the grocery store to get some gourmet food for his pet iguana) was equal to or greater than the costs, including expected accident costs, to other users of the road; or whether driving was really cheaper than walking or taking the train when all the social costs are reckoned in. Such a judgment is too difficult for a court to make in the ordinary tort case.

Posner, *Economic Analysis of Law* at 192 (cited in note 4).

²⁶ See Shavell, *Economic Analysis of Accident Law* at 25–26 (cited in note 4); Landes and

A rule of strict liability, by contrast, will purportedly induce the appropriate type and level of injurer activity. In a strict liability regime, an injuring party will be liable for any harm that occurs even if it has taken reasonable precautions. Thus, an injuring party that engages in an activity will incur two distinct costs: the cost of care and the cost of any accident that occurs despite this care.²⁷ As a result, it is said, an injuring party will internalize the social cost of accidents and compare these costs to the benefits of engaging in an activity.²⁸ To be sure, pure strict liability will produce inefficient levels of care—too much by the injuring party and none by the victim.²⁹ By adding a defense of contributory negligence, however, the law can remedy this shortcoming.³⁰ According to the conventional model, then, strict liability with a defense of contributory negligence will induce appropriate care by both parties, as well as the optimal type and level of activity by the injurer.³¹ Such a regime will not, it should be noted, induce proper activity choices by the victim, who can recover for any damages it suffers so long as it has taken due care.³² Instead, only a negligence rule will cause a victim to alter its activity, as such a regime will ensure that the victim bears the cost of any accidents that occur despite due care.³³

These considerations have led scholars to a more general conclusion: so long as a change in victim activity is not a cost-effective method of reducing the number of accidents, strict liability with a defense of contributory negligence will induce optimal care and activi-

Posner, *Economic Structure of Tort Law* at 67 (cited in note 3).

²⁷ Polinsky, *Introduction to Law and Economics* at 47–48 (cited in note 2); Shavell, *Economic Analysis of Accident Law* at 23, 28 (cited in note 4); Landes and Posner, *Economic Structure of Tort Law* at 66–68 (cited in note 3) (stating that under a strict liability regime, injurers will reduce their level of activity and increase expenditures on care).

²⁸ Polinsky, *Introduction to Law and Economics* at 47–49 (cited in note 2); Shavell, *Economic Analysis of Accident Law* at 23, 28 (cited in note 4); Landes and Posner, *Economic Structure of Tort Law* at 67–69 (cited in note 3); Richard A. Posner, *Economic Analysis of Law* 139–40 (Little, Brown 2d ed 1977) (concluding that strict liability will cause railroads to internalize the cost of accidents that occur despite due care and thus will “facilitate [] a shift to a better method of transportation”).

²⁹ See note 16.

³⁰ See Landes and Posner, *Economic Structure of Tort Law* at 79–80 (cited in note 3).

³¹ *Id.* at 39, 68–71, 79–80 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 27–28 (cited in note 4).

³² See Polinsky, *Introduction to Law and Economics* at 49–50 (cited in note 2); Landes and Posner, *Economic Structure of Tort Law* at 69–70 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 28 (cited in note 4); Shavell, 9 J Legal Stud at 7 (cited in note 4). See also Polinsky, 70 Am Econ Rev Papers and Proceedings at 367 (cited in note 18) (concluding that, if activity of individual victims is fixed, a strict liability regime will lead too many victims to engage in the activity).

³³ See Landes and Posner, *Economic Structure of Tort Law* at 69–70 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 28 (cited in note 4); Shavell, 9 J Legal Stud at 7 (cited in note 4); Posner, *Economic Analysis of Law* at 140 (2d ed) (cited in note 28) (stating that only a negligence regime will induce the victim to make efficient activity choices).

ties by both injurer and victim and thus maximize social welfare.³⁴ If, on the other hand, circumstances are such that only the victim should alter its activity, a negligence regime will induce optimal care and activity by both parties.³⁵ Finally, in those instances where both parties should alter their activity, no regime of private tort law can produce the appropriate activity choices by both injurer and victim.³⁶ In these cases, courts and policymakers must choose a "second best" liability rule.

These conclusions about the relative merits of strict liability and negligence are subject to an important qualification, however. There are some activities that, when conducted with reasonable care, will create little or no risk of accident.³⁷ The social cost of these activities is simply the cost of "due care," which, when taken, reduces the probability of an accident to zero. In these circumstances, it is said, there is no reason for either injurer or victim to alter its activity, since conducting the activity with due care will not result in any external harm.³⁸ Thus, the conventional model predicts that both regimes—negligence and strict liability with a defense of contributory negligence—will produce identical (optimal) levels of care *and* identical (optimal) types and levels of activity by both injurer and victim. As a result, when joint due care eliminates the risk of accidents, the conventional model concludes that both negligence and strict liability with a defense of contributory negligence will maximize social welfare; that is, induce the parties to replicate the mix of care and activities they would have chosen in the absence of transaction costs.³⁹

According to the conventional approach, then, a well-administered regime of private tort law will maximize social welfare whenever joint due care eliminates the risk of accidents, a condition that likely exists for many activities.⁴⁰ Moreover, where joint due care

³⁴ See Landes and Posner, *Economic Structure of Tort Law* at 69–70 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 29 (cited in note 4).

³⁵ Landes and Posner, *Economic Structure of Tort Law* at 69–70 (cited in note 3); Shavell, *Economic Analysis of Accident Law* at 28–29 (cited in note 4).

³⁶ Shavell, *Economic Analysis of Accident Law* at 29–30 (cited in note 4).

³⁷ See *id.* at 24–25 (suggesting that many "everyday activities" involve only "a low risk of accidents when due care is taken"); Restatement (Second) of Torts § 520 cmt. h (1977) ("Most ordinary activities can be made entirely safe by the taking of all reasonable precautions.").

³⁸ Polinsky, *Introduction to Law and Economics* at 46 (cited in note 2) (noting that regulation of activity level is only a concern when "expected accident losses depend not only on the care exercised by each party, but also on the extent to which each party participates in the activity that is the source of the dispute"); Landes and Posner, *Economic Structure of Tort Law* at 108 (cited in note 3) (concluding that law imposes strict liability for keeping a vicious dog "[b]ecause care alone may not suffice to avoid an accident [with the result that] we want the owner of the animal to consider whether the dog is worth keeping").

³⁹ See Shavell, *Economic Analysis of Accident Law* at 24–25 (cited in note 4); Landes and Posner, *Economic Structure of Tort Law* at 38–39, 66–68 (cited in note 3).

⁴⁰ See notes 37–39 and accompanying text.

does not eliminate the risk of accidents, private tort law can still induce efficient care by both parties, as well as efficient activity choices by one of the parties. Thus, even where joint due care does not eliminate the risk of accidents, private tort law can nevertheless maximize social welfare so long as circumstances are such that only one party should alter its activity. Private tort law will fall short only in those cases in which both: (1) joint due care does not eliminate the risk of accidents *and* (2) circumstances require both injurer and victim to alter their activities.

II. SHORTCOMINGS OF THE CONVENTIONAL MODEL

There is something missing from the conventional account of the economic consequences of negligence and strict liability with a defense of contributory negligence. In particular, the model employed to generate this account does not recognize the externality of victim care induced by the combination of injurer activity and these two liability rules in a joint care setting. As shown below, the failure to recognize this externality generates incorrect conclusions. For instance, the conventional model mistakenly concludes that negligence and strict liability with a defense of contributory negligence will lead injurers and victims to choose the proper combination of care *and* activities and thus maximize social welfare whenever joint due care eliminates the risk of accidents. Moreover, when joint due care does not eliminate the risk of accidents, the conventional model erroneously predicts that strict liability with a defense of contributory negligence will produce optimal injurer activity. Thus, the model errs in concluding that strict liability with a defense of contributory negligence will maximize social welfare when changes in victim activity are not required. Further, the conventional model does not account for the externality of *injurer* care and thus mistakenly concludes that a negligence regime will lead to optimal victim activities. As a result, the model erroneously concludes that a negligence regime will maximize social welfare when changes in injurer activity are not called for.

A. Victim Care as Externality

A concrete example will facilitate analysis of the welfare consequences of alternative liability rules. Assume that a railroad wishes to run over an easement through a farmer's field.⁴¹ The train generates

⁴¹ The following example, including the figures and table, is taken directly from Judge Posner's leading textbook. See Posner, *Economic Analysis of Law* at 186 (cited in note 4). It is assumed here that farming is sufficiently profitable to justify locating the farm near the railroad.

sparks, sparks that will ignite the farmer's crops and cause \$150 in damages. The railroad can suppress the sparks entirely, reducing the probability of an accident to zero, by renting a "super spark arrester" for \$100 per run. Moreover, even if the railroad does not employ an arrester, the farmer can eliminate the possibility of an accident by spraying its crops with a potent fire-resistant chemical, at a cost of \$110 each time the train runs.⁴² Finally, the parties can prevent any accident by acting jointly. For example, the railroad can rent a generic spark arrester for \$50 per run, while the farmer employs a less effective chemical at a cost of \$25. The following table will illustrate these various possible combinations of victim and injurer care as well as their social consequences.

TABLE 1

	Super Spark Arrester, No Chemical	Generic Spark Arrester, Modest Chemical	No Spark Arrester, Potent Chemical
Railroad Care	\$100	\$50	\$0
Farmer Care	\$0	\$25	\$110
Cost of Joint Care	\$100	\$75	\$110
Social Cost of Accidents	\$100	\$75	\$110

As defined, this is a classic joint care situation—that is, for any given type and level of activity, the social cost of accidents will be minimized if both parties take some care. Further, because such care will reduce to zero the probability that the activity will produce any injury, it is said, the railroad can run its train—and the farmer can farm—without producing any harm.⁴³

Assume first that this set of circumstances is governed by a well-administered negligence regime.⁴⁴ According to the conventional

See Landes and Posner, *Economic Structure of Tort Law* at 33 (cited in note 3). Moreover, while Judge Posner assumes that victim care consists of leaving a firebreak, I have assumed that victim care involves the use of a fireproof chemical. The example is, of course, contrived for expository purposes; farmers do not really employ fireproof chemicals. This slight departure from the scenario posited by Judge Posner will illustrate the distinction, discussed below, between variable cost and fixed cost victim care. See notes 58–63 and accompanying text.

⁴² The chemical may, for instance, dissipate between runs of the train.

⁴³ See, for example, Shavell, *Economic Analysis of Accident Law* at 24–25 (cited in note 4).

⁴⁴ A negligence regime is "well-administered" if, among other things, courts can accurately determine each party's level of "due care" and whether the injurer satisfied that standard. As noted above, courts need not actually recognize a defense of contributory negligence if they de-

model, such a regime will, under the conditions described, induce the proper care by both parties.⁴⁵ Further, because such care will eliminate the risk of an accident, there is no reason for either party to adjust its activity, with the result that this regime will maximize social welfare. Moreover, unless tempered by a defense of contributory negligence, a strict liability regime will produce an inferior result: the farmer will take no care, while the railroad will rent the super spark arrester.⁴⁶

This result—embraced by every major work in the field—is incorrect. These works consistently assume, often quite explicitly, that an activity can produce only two social costs, even in a joint care situation: (1) the cost of care taken by the injurer and (2) the probability of an accident and the resulting damage to the victim.⁴⁷ The model these works employ, however, does not account for a third type of social cost produced by an activity, and a third component of the social cost of accidents, namely, the cost of *victim* care, that is, care induced by a negligence regime in a joint care situation.⁴⁸ Return to the example above. To be sure, a negligence regime will lead the parties to reasonable care, and thus reduce the probability of an accident to zero. Moreover, the regime will lead the railroad to internalize its *own* cost of care, and the railroad will consider this cost when deciding whether to engage in the activity. However, this regime will *not* induce the railroad to take account of the cost of care incurred *by the victim* if the railroad chooses to run. Thus, railroad activity will produce an exter-

fine the injurer's standard of care as if the victim is also taking due care. See Landes and Posner, *Economic Structure of Tort Law* at 65 (cited in note 3).

⁴⁵ See note 15 and accompanying text.

⁴⁶ Cooter and Ulen, *Law and Economics* at 274–75 (cited in note 5); Landes and Posner, *Economic Structure of Tort Law* at 39 (cited in note 3).

⁴⁷ See, for example, Posner, *Economic Analysis of Law* at 186–87, 192–96 (cited in note 4); Cooter and Ulen, *Law and Economics* at 279–81 (cited in note 5) (equating “harm” with injury to victims and concluding that under a negligence regime, the “marginal risk of harm to others [from additional injurer activity] is externalized,” while a strict liability regime induces the injurer to “internalize[] the social costs of accidents from whatever source—whether from the activity level or lack of precaution”) (emphasis added); Polinsky, *Introduction to Law and Economics* at 47–49 (cited in note 2); Shavell, *Economic Analysis of Accident Law* at 23–24 (cited in note 4) (arguing that a negligence regime may produce too much activity because injurers “will not have a reason to consider the effect that engaging in their activities has on accident losses”) (emphasis added); id. at 27–28 (stating that injurers will adopt optimal activity level in joint care situation if forced to compensate victims for damages); id. at 28 (stating that victims should engage in activities whenever the marginal benefits of doing so are greater than the sum of the cost of victim care and the “expected losses that would result from [the victim] engaging in his activity”); id. at 44 (mathematical appendix) (assuming that injurer activity generates two costs in a joint care situation: accident losses and the cost of injurer care); Landes and Posner, *Economic Structure of Tort Law* at 39 (cited in note 3).

⁴⁸ See note 12 and accompanying text (noting that works employing the conventional approach include cost of victim care as a component of the social cost of accidents).

nality, with the result that the railroad may choose to run even if the benefits of doing so are less than the social costs of accidents, here the *joint* costs of care.⁴⁹ If so, a negligence regime will not reliably maximize social welfare, even if joint due care will eliminate the risk of accidents.

This intuition can be confirmed with the following slight extension of the farmer-railroad example employed thus far. Assume that—costs of care to one side—the railroad will realize a \$65 profit if it should run. In a world characterized by high transaction costs and governed by a negligence regime, the railroad will rent the ordinary spark arrester for \$50, run, and realize a \$15 profit. The farmer, in turn, will spend \$25 on the fireproof chemical. Yet, if transaction costs were nonexistent the railroad would not run, that is, it would forgo the activity. If the railroad possessed an unqualified right to enjoy its right of way, including a right to emit sparks that damaged the farmer's crops, the farmer could offer to pay the railroad \$50 to cover the cost of a generic spark arrester, and also incur a \$25 expense to purchase the fireproof chemical.⁵⁰ An even better course for the farmer, however, would be to pay the railroad \$70 not to run in the first place. The railroad, of course, would prefer such a payment to making a run, which would only produce a (private) profit of \$65. Similarly, if the railroad owned the farm, it would refrain from running; if it did run, the enterprise as a whole, *and thus society*, would lose \$10.⁵¹ Application of a negligence regime in these circumstances, then, would not satisfy the condition for ideal liability rules producing, as it would, a result different from that for which the parties would have bargained in a world free of transaction costs.⁵²

The same (suboptimal) result obtains, it should be noted, under a regime of strict liability with a defense of contributory negligence. Like negligence, such a regime will minimize the social cost of accidents by inducing both the railroad and the farmer to take due care.⁵³ Also like negligence, however, this regime will not cause the injuring party to internalize the cost of victim care induced by its activity and

⁴⁹ See text accompanying note 23 (defining externalities).

⁵⁰ See R.H. Coase, *The Problem of Social Cost*, 3 J L & Econ 1, 6–7 (1960) (stating that a farmer will pay a rancher up to the cost of fencing cattle out to reduce size of its herd).

⁵¹ See generally Landes and Posner, *Economic Structure of Tort Law* at 32–33, 35 (cited in note 3) (assuming that “single ownership solution” replicates efficient result); Demsetz, 1 J Legal Stud at 19–20 (cited in note 2) (same). See also Richard A. Epstein, *Holdouts, Externalities, and the Single Owner: One More Salute to Ronald Coase*, 36 J L & Econ 553, 555–57 (1993) (same).

⁵² See note 3 and accompanying text (describing this economic criterion for optimal tort rules).

⁵³ See notes 16–17 and accompanying text.

the liability rule governing it. Thus, the railroad's private cost of a run (its own cost of care) will be less than the social cost (its own cost of care *plus* the cost of care incurred by the farmer) with the result that the railroad may choose to run even if the social cost of accidents is greater than the benefits of the activity.

Thus far we have assumed, for expositional purposes, that joint due care will reduce the probability of an accident to zero. Still, the externality of victim care identified here exists regardless whether this special condition obtains. Assume for a moment that, even if the farmer and the railroad take due care, there is still some positive chance of an accident. Under a negligence regime, the railroad will internalize neither the cost of such accidents nor the cost of victim care. Under a regime of strict liability with a defense of contributory negligence, the railroad *will* internalize the costs of any accidents, and it will make its activity choice accordingly.⁵⁴ Scholars employing the conventional model have assumed that this type of adjustment will be sufficient to ensure that any injurer activity that occurs is socially beneficial.⁵⁵ However, the railroad will not internalize the cost of victim care

⁵⁴ See *id.*

⁵⁵ See Cooter and Ulen, *Law and Economics* at 274, 280 (cited in note 5) (concluding that, under strict liability with a defense of contributory negligence, "the residual bearer of harm internalizes the benefits of any of his or her actions that reduce the probability or severity of accidents" and that "the residual bearer of harm has incentives for an efficient activity level"); Polinsky, *Introduction to Law and Economics* at 47–50 (cited in note 2) (same); Shavell, *Economic Analysis of Accident Law* at 27–28 (cited in note 4) (stating that, under a regime of strict liability with a defense of contributory negligence, "injurers will pay for the accident losses they cause and thus . . . will choose the correct level of their activity given victims' behavior"); *id.* at 28 (stating that it "would be desirable [for the victim to] engage in his activity only when his utility would exceed the cost of taking care plus the expected accident losses that would result from his engaging in his activity"); *id.* at 44 (mathematical appendix) (concluding that injurers will choose the socially correct activity because they will compare the utility from that activity to their own cost of precautions and expected accident losses); Landes and Posner, *Economic Structure of Tort Law* at 38–39 (cited in note 3) ("When efficiency requires that both parties take measures [including activity changes] to reduce damages, a rule of strict liability with a defense based on the victim's failure to take cost-justified measures to reduce damages (contributory negligence) will achieve the efficient solution."); *id.* at 79–80 (concluding that strict liability with defense of contributory negligence will provide injurers with proper incentive to alter their activities in a joint care setting); *id.* at 118 (stating that "strict liability, to be an efficient rule of liability, requires—unlike negligence liability—a defense of contributory negligence").

Although they assert that strict liability with a defense of contributory negligence will induce injurers to adopt the proper types and level of activity, Judge Posner and Professor Landes note that tort law does not, in fact, recognize such a defense. See *id.* at 118–19. Attempting to explain the absence of such a defense, they suggest that the cost of victim precautions induced by a contributory negligence defense may in many instances exceed the benefits of engaging in an ultra-hazardous activity. See *id.* at 119. See also notes 105–09 and accompanying text (offering more detailed exposition of similar view). They do not, however, discuss the relevance of this realization to their previous conclusions that, for instance, a negligence regime will induce appropriate activity choices where joint due care eliminates the risk of accidents. Instead, they ultimately

that will be induced by its decision to engage in the activity. Thus, while strict liability with a defense of contributory negligence will induce different activity choices when compared to a negligence regime, activity will nevertheless depart from the social optimum, as activity decisions will not reflect the internalization of the full social costs of accidents, given the externality of victim care.

The source of the flaw in the liability rules under consideration is easy to identify, particularly if one proceeds by analogy. As noted earlier, a negligence standard does not inherently produce improper activity choices by injurers; courts could, conceivably, define as “negligent” an injurer’s decision to engage in an activity that is not cost justified.⁵⁶ Similarly, courts could, conceivably, undertake such a calculation when determining whether a victim was contributorily negligent. To be precise, courts could set the victim’s level of care “as if” the injuring party were itself exercising due care, including in the calculation of injurer “due care” a consideration of the benefits of the activity in question.⁵⁷ Potential victims, then, would only be required to take care in those instances in which it was reasonable to do so, that is, where the benefits of an activity were greater than the joint costs of

conclude that courts should not allow a defense of contributory negligence to strict liability because doing so would effectively convert strict liability into a negligence regime. Landes and Posner, *Economic Structure of Tort Law* at 119 (cited in note 3). This shortcoming, they suggest, explains why courts do not generally recognize a defense of contributory negligence in the strict liability context. *Id.* As explained below, however, recognition of a defense of contributory negligence will not, in fact, convert a strict liability regime into a regime of negligence. See note 57.

⁵⁶ See notes 25–26 and accompanying text.

⁵⁷ See Posner, *Economic Analysis of Law* at 186–87 (cited in note 4) (discussing “as if” approach to determining standard of care in a negligence regime). Professor Landes and Judge Posner also recognize that courts could, theoretically, engage in such a calculation, but agree that such an approach would be impractical. See Landes and Posner, *Economic Structure of Tort Law* at 119 (cited in note 3). As noted above, they do not recognize the implication of this shortcoming for their assertion that strict liability with a defense of contributory negligence will induce optimal levels of injurer activity. See note 55. Instead, they suggest that courts should refrain from recognizing a defense of contributory negligence in this context because consideration of such a defense would require courts to determine “whether the injurer was negligent to determine whether the victim was negligent,” thus “convert[ing] strict liability into a regime of negligence.” See Landes and Posner, *Economic Structure of Tort Law* at 119 (cited in note 3).

The assertion that strict liability with a defense of contributory negligence will operate as the equivalent of a negligence regime does not appear to be correct. To be sure, in a joint care situation, courts must determine the injurer’s optimal level of care in order to determine the optimal level of victim care. Courts need not, however, determine what precautions the injurer *actually* took to administer a regime of strict liability with a defense of contributory negligence. See Shavell, *Economic Analysis of Accident Law* at 17 (cited in note 4). Under such a regime, injurers will remain liable *regardless of whether they took reasonable precautions*, so long as the victim took appropriate precautions. Contrary to the result produced by a negligence regime, then, injurers will internalize the cost of accidents that still result from their activity, even when conducted with due (joint) care.

care. If, on the other hand, victim care was not a reasonable method of avoiding the accident in question, no defense of contributory negligence would be available, and the defendant would pay the cost of any resulting accident. Such a regime would induce victim care only when the benefits of an activity outweighed its social costs—the joint costs of care and any resulting damage. Of course, such a regime is more hypothetical than real, suggesting that, as implemented in the real world, regimes that induce victim care will lead injurers to make improper activity choices.

B. The Victim Care Externality and Injurer Activities

To this point, the analysis offered here has focused on the effect of various liability rules on the decision whether to engage in an activity, for example, whether a common carrier should transport its cargo by rail or, instead, by barge. Both negligence and strict liability with a defense of contributory negligence, it has been shown, will induce injurers to choose types of activities that are not socially optimal. Still, as noted earlier, injurers can reduce the probability of accidents not only by abandoning an activity and choosing a different one, but also by taking the less drastic step of continuing to engage in the activity but at a reduced level.⁵⁸ And, one suspects that the socially efficient result will sometimes involve such a moderate course. Even one walk of the pit bull might be too many from society's perspective, and efficient liability rules will induce many to abandon this activity altogether.⁵⁹ On the other hand, a train's first cargo may be very valuable, and not well-suited for transport by barge, plane, or truck. Running the train to deliver this cargo might increase society's welfare, even if the run creates a significant risk of accident and induces substantial victim care. Running the train to deliver other cargos may be far less valuable, however.⁶⁰ The economist's ideal liability rule will do more than induce injurers to abandon altogether marginal activities like walking the pit bull. It will also ensure that socially useful activities such as rail transportation are conducted at the appropriate level.

How do negligence and strict liability with a defense of contributory negligence fare when it comes to assuring that socially useful activities are conducted at the appropriate level? Because neither regime will cause injurers to internalize the cost of victim care, it may

⁵⁸ See text accompanying notes 19–21.

⁵⁹ See Landes and Posner, *Economic Structure of Tort Law* at 107–09 (cited in note 3) (employing this example).

⁶⁰ See generally Shavell, *Economic Analysis of Accident Law* at 21–23 (cited in note 4) (assuming that parties derive diminishing marginal utility from activities).

seem that both will result in activity levels that are too high. The actual result, however, is more complicated and turns on whether the cost of victim care is variable or fixed.

In some instances technology might be such that the cost of victim care is essentially fixed, that is, does not vary with the injurer's activity level. Such is the case, of course, in the classic articulation of the farmer-railroad example, where victim care consists of leaving a firebreak.⁶¹ Once incurred, such care will be sufficient to satisfy the requirement of reasonable victim care, regardless of how many times the train should run past the farm.⁶² Similarly, mounting reflectors on a bicycle may constitute a reasonable precaution, the cost of which does not vary with the activity level of motorists. "Variable" costs, on the other hand, are those that the victim must renew each time an injurer engages in the activity. For example, while a cyclist need only purchase one rearview mirror, he must move to the side of the road every time an automobile approaches. Moreover, motorists must stop at a railroad crossing each time the train runs by.

To understand the link between the nature of victim care, on the one hand, and the efficiency of activity levels, on the other, it is useful to return to the farmer-railroad example. Assume that joint due care reduces the probability of an accident to zero. Assume further that, cost of renting the spark arrester to one side, the first run of the railroad generates a profit of \$85, the second a profit of \$75, the third a profit of \$65, and so on. Finally, assume that victim care again involves application of a fireproof chemical each time the train runs, a variable cost.⁶³ Both negligence and strict liability with a defense of contribu-

⁶¹ See Posner, *Economic Analysis of Law* at 186-88 (cited in note 4) (employing this example); Landes and Posner, *Economic Structure of Tort Law*, at 38-41 (cited in note 3) (same); Mark F. Grady, *Common Law Control of Strategic Behavior: Railroad Sparks and the Farmer*, 17 J Legal Stud 15, 29-30 (1988) (same).

⁶² Landes and Posner, *Economic Structure of Tort Law* at 38-39 (cited in note 3) (noting that, if victim care involves leaving a firebreak, the farmer's cost of care and profits will remain steady "regardless of how many trains the railroad decides to run"). See also Mark F. Grady, *Why Are People Negligent?: Technology, Nondurable Precautions, and the Medical Malpractice Explosion*, 82 Nw U L Rev 293, 302-10 (1988) (drawing distinction between "durable" and "nondurable" precautions).

⁶³ The chemical may, for instance, evaporate between runs. As noted earlier, this example is contrived for expositional purposes: farmers do not really spray their crops with fireproof chemicals. Still, it is easy to imagine other instances in which railroad activity could induce victim care that takes the form of variable costs. For instance, the number of times that victims must stop at a railroad crossing gate is directly proportional to the number of trains run. See Richard A. Posner, *A Theory of Negligence*, 1 J Legal Stud 29, 52 (1972) (reporting that nine percent of cases in a sample of nineteenth-century negligence cases consisted of accidents that took place at railroad crossings). Similarly, the number of times that a pedestrian may have to cross the street to avoid antagonizing a vicious dog will depend upon the number of times the dog is walked.

tory negligence will induce the railroad to spend \$50 per run to rent a generic spark arrester. Moreover, the farmer will employ a modest fireproof chemical, at a cost of \$25, each time the railroad runs. The railroad will run four times.⁶⁴ The following table will help illustrate this result.

TABLE 2

No. of Trains	Marginal Injurer Care	Marginal Victim Care	Railroad Profits/Run	Marginal Railroad Profits	Net Marginal Social Wealth
1	\$50	\$25	\$85	\$35	\$10
2	\$50	\$25	\$75	\$25	\$0
3	\$50	\$25	\$65	\$15	-\$10
4	\$50	\$25	\$55	\$5	-\$20
5	\$50	\$25	\$45	-\$5	-\$30
6	\$50	\$25	\$35	-\$15	-\$40

This result is inefficient. To be sure, running the railroad is socially useful, as the first run generates \$10 in social wealth.⁶⁵ Moreover, society will be indifferent about the second run, which will produce railroad profits equal to the social cost of accidents. The third and fourth runs, however, will plainly destroy wealth, since the social cost of accidents will exceed the profits of each such run. Where the cost of victim care is variable, then, both negligence and strict liability with a defense of contributory negligence will produce higher than optimal activity levels.

If the cost of victim care is fixed, however, analysis leads to a different conclusion, as illustrated by Table 3, below. Assume that, instead of employing a fire-resistant chemical, reasonable care by the farmer involves leaving a firebreak, at a cost of \$25. Under negligence or strict liability with a defense of contributory negligence, the train will again run four times, earning a profit of \$5 on the fourth run. The first run, of course, is plainly efficient. Moreover, because the cost of the firebreak is fixed, and therefore does not vary with the level of railroad activity, additional runs of the train will not induce any incremental care by the victim. So long as the first run is socially

⁶⁴ The railroad will abjure a fifth run, because the profits of such a run will be \$45, as against a (private) cost of \$50.

⁶⁵ The run generates \$85 in profits, compared to a joint cost of care of \$75.

justified, both negligence and strict liability with a defense of contributory negligence will lead to the proper level of activity.⁶⁶

TABLE 3

No. of Trains	Marginal Injurer Care	Marginal Victim Care	Railroad Profits/Run	Marginal Railroad Profits	Net Marginal Social Wealth
1	\$50	\$25	\$85	\$35	\$10
2	\$50	\$0	\$75	\$25	\$25
3	\$50	\$0	\$65	\$15	\$15
4	\$50	\$0	\$55	\$5	\$5
5	\$50	\$0	\$45	-\$5	-\$5
6	\$50	\$0	\$35	-\$15	-\$15

Of course, in many cases, "reasonable" victim care will entail some combination of fixed and variable cost care. In these cases, both regimes will result in activity levels that are too high, even if some amount of the activity is socially justified.

C. Injurer Care and Victim Activities

Thus far, the discussion in this part has focused on the impact of liability rules on *injurer* activity. As noted earlier, however, the ideal liability regime should also induce *victims* to make appropriate activity choices.⁶⁷ Moreover, adherents to the conventional approach have argued that a negligence regime will, in fact, cause victims to internalize the social cost of accidents and thus make proper activity choices.⁶⁸

The analysis offered here, however, suggests that the conventional conclusions are incorrect. If there is an externality of victim care, it would seem, there must also be a reciprocal externality of *injurer* care. The conventional model assumes that victim activity generates two costs: (1) the cost of victim care and (2) the cost of accidents that may still occur despite the exercise of joint due care. The analysis offered here, however, suggests the existence of a third cost, namely, the cost of injurer care. Just as activity by the injurer leads the victim to take that care induced by the applicable liability rule, so too does

⁶⁶ Recall that joint due care eliminates the risk of accidents in this example, with the result that there are no accident losses for either party to internalize.

⁶⁷ See text accompanying notes 32–36.

⁶⁸ See text accompanying notes 33–35.

the victim's decision to engage in the activity in question lead the injurer to take due care.

Identification of the externality of injurer care undermines the conventional account of the impact of liability rules on activity choices by victims. In making activity choices, victims will internalize their own cost of care. Moreover, if the activity in question is governed by a negligence regime, victims will internalize the cost of any harm that occurs despite joint due care. Victims will not, however, internalize the cost of injurer care induced by such a regime. So, for instance, in deciding whether to farm in a particular location, the farmer will not consider the cost of the spark arrester that the railroad will thereby be required to purchase. Thus, even under a negligence regime, the farmer may choose to farm although the benefits of this activity do not justify the resulting social cost of accidents. Thus, no regime of private tort law can cause victims to make proper activity choices.

It must be emphasized that there is no externality of victim (or injurer) care in those situations in which transaction costs are low enough that parties can determine their respective care and activities by contract. For instance, there is no externality if the activity in question is the sale and use of a product, and the victim is well-informed about the product's risks and the cost of care it must incur when using it.⁶⁹ In these circumstances, the victim will determine whether the activity takes place, in other words, whether it will purchase the product in question. In making this determination, the victim will internalize the cost of injurer care, which will be reflected in the purchase price, as well as its own cost of care, which it will have to incur when it uses the product.⁷⁰ In deciding whether to purchase the product—that is, to engage in the activity—the victim will internalize both the costs and benefits of this activity, with the result that activities and activity levels will replicate the social optimum.⁷¹

⁶⁹ See George L. Priest, *A Theory of the Consumer Product Warranty*, 90 Yale L J 1297, 1307–13 (1981) (arguing that, in the absence of transaction costs, manufacturer and consumer will allocate risks so as to minimize their joint costs of producing and using the product, including the product's warranty).

⁷⁰ See Alan Schwartz, *The Case against Strict Liability*, 60 Fordham L Rev 819, 824, 826–27 (1992) (arguing that consumers will bear the cost of manufacturer investments in safety and insurance as well as their own safety and insurance costs); Priest, 90 Yale L J at 1307–13 (cited in note 69) (arguing that product price, including possible warranties, reflects the value consumers place on insuring against defects).

⁷¹ Moreover, the victim will internalize the cost of any accidents that may occur despite due care regardless where the law assigns this risk. Either the victim will bear these losses directly, or the manufacturer will bear them, passing them along to the victim in the form of higher prices.

III. ADJUSTING TORT LAW TO ACCOUNT FOR THE EXTERNALITY OF VICTIM CARE

As explained earlier, the dominant view of liability rules holds that, so long as joint due care will eliminate the risk of accidents, negligence or strict liability with a defense of contributory negligence will induce both injurers and victims to adopt socially optimal care and activities.⁷² Thus, where such activities are concerned, the conventional approach concludes that a well-administered regime of private tort law can maximize social welfare. Moreover, where an activity is such that joint due care will not eliminate the risk of accidents, the dominant position holds that strict liability with a defense of contributory negligence will lead both parties to due care and induce optimal activity choices by the injurer, thus maximizing social welfare in those instances that do not require activity changes by the victim.⁷³ Where, on the other hand, circumstances do not call for activity changes by the injurer, but instead require activity changes by the victim, the conventional approach holds that a negligence regime will maximize social wealth, inducing injurers and victims to take due care while at the same time causing the victim to make proper activity choices.⁷⁴ Thus, it is said, private tort law will only fail to maximize social welfare in those cases where both: (1) joint due care fails to eliminate the risk of accidents, *and* (2) circumstances are such that both parties must alter their activities in light of this risk.

A. The Shortcomings of Private Tort Law

This Article has identified an omission from the conventional approach to evaluating the welfare consequences of liability rules. In particular, the conventional model only recognizes one externality produced by an injurer's activity, namely, the risk of an accident and resulting damage. Thus, the conventional approach does not account for a second externality, namely, the cost of victim care that is induced by the combination of injurer activity and various liability rules in a joint care setting. A model that accounts for this externality generates different (and more accurate) conclusions about the welfare consequences of various liability rules.

In particular, neither negligence nor strict liability with a defense of contributory negligence will induce injurers to internalize the cost of victim care induced by their activities in a joint care situation. Thus,

⁷² See notes 37–40 and accompanying text.

⁷³ See text accompanying notes 28–31, 34.

⁷⁴ See text accompanying notes 32–33, 35.

neither liability regime will reliably cause injurers to internalize the full social cost of accidents and thus make proper activity choices. Under both regimes, for instance, some individuals will choose pit bulls as pets even though German shepherds are socially optimal. Further, when activities and technology are such that victim care is a variable cost, injurers will engage in too much of an otherwise useful activity.

Identification of the externality of victim care suggests the existence of an additional externality, also not recognized by the conventional approach, namely, the externality of injurer care. Just as injurers will not internalize the cost of victim care induced by their activity choices, so too will victims make activity choices without internalizing the cost of injurer care. Even a negligence regime, then, will not result in proper activity choices by victims.

Thus, even where joint due care eliminates the risk of accidents, no regime of tort law maximizes social welfare, that is, no regime causes injurer and victim to replicate the activities they would have chosen in the absence of transaction costs.⁷⁵ Similarly, where joint due care does not eliminate the risk of accidents, no regime is efficient, even in those cases which only call for a change in one party's activity.

B. A (Hypothetical) Pigouvian Solution

By itself, the law of torts cannot reliably induce efficient activity choices in a joint care setting. Absent direct regulation of these choices, society could only achieve the efficient combination of care and activity through imposition of a Pigouvian tax.⁷⁶ For instance, if joint due care does not eliminate accident risk, and circumstances are such that only injurers should alter their activities, society could impose strict liability with a defense of contributory negligence plus a tax on the injurer equal to the externality of victim care.⁷⁷ Similarly, if circumstances only required victims to alter their activities, society could impose a negligence regime combined with a tax on the victim equal to the externality of injurer care. Such taxes would cause the party in question to internalize the full social cost of engaging in the activity,

⁷⁵ See Part II.

⁷⁶ Compare Stephen G. Gilles, *Rule-Based Negligence and the Regulation of Activity Levels*, 21 J Legal Stud 319, 337-55 (1992) (arguing that, by declaring violations of regulatory statutes negligent per se, courts enforce legislative determinations that certain activities are unreasonable).

⁷⁷ Compare Shavell, 9 J Legal Stud at 7 & n 12 (cited in note 4) (arguing that "if use of the negligence rule were supplemented by imposition of a tax on the level of injurer activity, an efficient outcome could be achieved"). Of course, Professor Shavell's analysis implies that such a tax should be set to reflect the expected value of accident losses given reasonable precautions. The argument made here, on the other hand, would call for a higher tax.

causing it to make appropriate activity choices. Finally, where circumstances require both parties to alter their activities, society could impose an appropriate liability regime as well as a Pigouvian tax on both parties.⁷⁸

This is not to say that imposition of Pigouvian taxes will always be indicated "in the real world." To begin with, in some circumstances imposition of a Pigouvian tax will produce no improvement in social welfare, even if calculation and imposition of such a tax is costless. For instance, some activities are such that (1) society places a high value on one or more inframarginal iterations of the activity and (2) victim care takes the form of fixed costs. Such activities are socially useful, since the benefits of one or more iterations will outweigh the social cost of accidents, including the cost of victim care. Moreover, because the cost of victim care is fixed, marginal iterations of such an activity will not induce additional victim care, with the result that these incremental activities will produce no externalities.⁷⁹ In such circumstances, imposition of a Pigouvian tax equal to the (fixed) cost of victim care will have no effect on the injurer's activity choice or level with the result that there is no reason to incur the cost of imposing such a tax.⁸⁰

Most activities, of course, will not fall into the category just described. For instance, in some circumstances, even inframarginal iterations of an activity will have only small or modest value to society and thus the injuring party. In other cases, inframarginal activities may be quite valuable, while victim care is of a "variable cost" variety, at least in part. Thus, most activities are such that failure to internalize the externality of victim care will lead to improper activity choices, activity

⁷⁸ One finds an analogy in Professor Shavell's suggestion that, where circumstances require both injurer and victim to alter their activity levels, society can achieve the efficient result by imposing a negligence regime combined with a tax on the injurer equal to expected accident losses. *Id.* Professor Shavell suggests that such a regime would produce the efficient result by ensuring that "the expected payments of injurers and of victims would each equal expected accident losses." Shavell, *Economic Analysis of Accident Law* at 29–30 (cited in note 4). See also Cooter and Ulen, *Law and Economics* at 280–81 (cited in note 5) (noting that, where both parties must alter their activity choices, an "additional control variable from outside liability law" is necessary, such as a tax on the injurer's activity). The conclusions of this Article, of course, require a modification of this prescription. First, the tax on the injurer would have to be raised to account for the externality of victim care. Second, society would have to impose a tax on the victim equal to the externality of injurer care.

⁷⁹ See notes 61–66 and accompanying text (showing that externality of victim care will not result in improper activity choices where the activity in question is socially useful and the cost of victim care is fixed).

⁸⁰ See generally Landes and Posner, *Economic Structure of Tort Law* at 109–10 (cited in note 3) (arguing that courts should not incur costs of administering a rule of strict liability if such a regime will not induce changes in activity). Moreover, in those cases in which the cost of optimal victim care is relatively small, inducing the injurer to internalize this cost may not cause it to alter its activity appreciably.

levels that are too high, or both. In such cases, imposition of a Pigouvian tax would be part of the first best regulatory solution in a world of costless public regulation. Nevertheless, one suspects that such a solution would present serious problems in the "real world," as one or more administrative agencies struggles to calculate the externality of victim care and/or the externality of injurer care in order to determine the appropriate tax or taxes.⁸¹

C. Alternatives to a Pigouvian Tax

Importantly, Pigouvian taxes, negligence, and strict liability with a defense of contributory negligence do not exhaust the alternatives available to policymakers or courts. Instead, there are private law alternatives that will cause injurers to act as if or almost as if they had internalized the externality of victim care. These regimes have shortcomings of their own, and thus still constitute "second best" methods of regulation. Nonetheless, as shown below, these alternatives may in some cases offer improvements over negligence or strict liability with a defense of contributory negligence, further obviating the case for Pigouvian taxes.⁸²

1. Pure strict liability.

Assume that for a given combination of activities, society is only concerned with the externality of victim care and thus only wishes to induce activity changes by the injurer.⁸³ The most straightforward alternative regime would be "pure" strict liability, that is, strict liability with no defense of contributory negligence. Such a regime, of course, would eliminate victim care entirely, with the result that there would be no "externality" with which to be concerned.⁸⁴ Still, this rule would suffer from shortcomings of its own. In the absence of any victim care, injurers would be led to increase their own care to replace the (more

⁸¹ See R.H. Coase, *The Firm, the Market, and the Law* 26 (Chicago 1983) ("The fact that governmental intervention also has its costs makes it very likely that most 'externalities' should be allowed to continue if the value of production is to be maximized.").

⁸² It should be noted that courts could induce injurers to internalize the cost of victim care by awarding a premium over compensatory damages equal to the expected cost of victim care produced by the activity. Of course, this option would only be available in those instances in which joint due care did not eliminate accident risk.

⁸³ Perhaps the victim's activity is socially useful, while care by the injurer is of a fixed cost variety. In these circumstances, there is no reason to cause the victim to internalize the externality of injurer care, as such internalization will not affect the victim's activity choices. See notes 61-66 and accompanying text.

⁸⁴ See note 16 and accompanying text.

efficient) precautions forgone by the victim.⁸⁵ The result, of course, would be excessive care, excessive accident costs, or both, increasing the social cost of accidents attributable to each iteration of the activity. Put another way, a regime of pure strict liability would result in an increase in the social cost of accidents, and thus a marginal cost of injurer activity higher than necessary to force internalization of the cost of efficient victim precautions.⁸⁶ Pure strict liability, then, would eliminate marginal, inefficient activities but at the same time eliminate some efficient activities and increase the cost of inframarginal activities. The extent of these drawbacks—and thus the choice between pure strict liability and negligence or strict liability with a defense of contributory negligence—would depend upon the extent to which injurer care provided a ready substitute for care by the victim. If, for instance, injurer care were an excellent substitute for victim care, pure strict liability would cause the social cost of accidents, and thus the social cost per inframarginal activity, to rise only slightly. Thus, activity choices and levels would diverge only somewhat from the optimum, with the result that “pure” strict liability would be preferable, albeit still second best. On the other hand, if injurer care were a poor substitute for care by the victim, pure strict liability would induce significant increases in the cost of care, resulting accidents, or both, thus causing activity to diverge substantially from the social optimum. In these circumstances, elimination of the externality of victim care would come at a high price, and society would likely prefer negligence or strict liability with a defense of contributory negligence.

2. Enhanced negligence.

A second, less obvious alternative also presents itself, namely, an “enhanced” negligence regime that artificially inflates the level of injurer precautions that constitute “due care.” More precisely, in those cases where the injurer’s activity is governed by a negligence regime,

⁸⁵ Consider Posner, *Economic Analysis of Law* at 186–88 (cited in note 4) (employing an example in which, absent care by the farmer, the railroad must incur \$100 to prevent an accident, where joint care costing \$75 would have sufficed). See also Table 1.

⁸⁶ That pure strict liability will increase the social cost of accidents, for example, the sum of (1) expenditure on care and (2) the expected value of accidents, necessarily follows, of course, from the assumption that the activity in question calls for joint care. See Landes and Posner, *Economic Structure of Tort Law* at 59–60, 73–74 (cited in note 3) (defining a joint care situation as one in which care by both parties is necessary to minimize the social cost of accidents). If some victim care is cost justified and induces a greater reduction in the probability of an accident than an equivalent expenditure on injurer care, forgoing such victim care will increase the social cost of accidents. See *id.* at 39 (concluding that strict liability without a defense of contributory negligence will result in a higher than optimal social cost of accidents in a joint care setting).

courts could set the injurer's standard of due care so that the cost of injurer care is equal to the cost of joint due care that a negligence regime would otherwise produce.⁸⁷ Such a regime would induce the injuring party to choose activities and activity levels that are socially optimal.⁸⁸ Like a regime of pure strict liability, of course, such a regime would produce higher than optimal costs per activity: that increment of injurer care above its non-enhanced level of due care would be less efficient than similar expenditures made by the victim and thus produce a higher than optimum probability of accidents. Still, an enhanced negligence regime would likely involve a lower social cost per activity than a regime of pure strict liability, as the former would induce at least some care by the victim, albeit less than would be induced by a regime of ordinary negligence.⁸⁹ The cost of joint care—the injurer's enhanced care plus the cost of any care still taken by the victim—would necessarily be lower than the cost of care induced by a regime of pure strict liability, which induces only the injurer to take (less efficient) care.⁹⁰ This is not to say that enhanced negligence will always be superior to pure strict liability. In those circumstances in which, despite due care, accidents may still occur, pure strict liability may be preferable to enhanced negligence, as the latter will not induce the injurer to internalize the cost of those accidents that occur despite the care taken by both parties. If, on the other hand, joint due care eliminates the risk of accidents, society will prefer a regime of enhanced negligence, as such a regime will result in a lower social cost of accidents than a regime of pure strict liability.

⁸⁷ Compare Polinsky, 70 *Am Econ Rev Papers and Proceedings* at 365–66 (cited in note 18) (suggesting that courts can reduce the number of injurers participating in an activity by setting the standard of care higher than would otherwise be optimal).

⁸⁸ *Id.* It should be noted that such a rule would only induce the optimal activity level if technology were such that an injurer faced a seamless array of precaution options. In the short run, at least, this may not be the case. For instance, the spark arrester industry may produce only two arresters: one “generic” arrester that costs less than the “enhanced” level of care, and one “super” arrester that costs more. See Table 1. In these circumstances, only adoption of the super spark arrester will satisfy the requirement of the enhanced due care standard, as purchase of the generic arrester will fall short. Over the longer run, however, technology may be sufficiently plastic that the injurer's precaution options are endogenous to legal rules.

⁸⁹ Because the increment of enhanced injurer care is necessarily less efficient than similar care by the victim, the injurer's adherence to the standard of enhanced due care will not eliminate the chance of an accident. Victims would thus take whatever care is reasonable in light of the remaining risk. See note 33 and accompanying text (explaining that a negligence regime will induce the victim to take those precautions that are cost justified in light of care taken by the injurer).

⁹⁰ See text accompanying notes 27–29.

3. Choosing among alternative regimes.

This is not to say that society will always prefer enhanced negligence or pure strict liability to more traditional rules. If the cost of victim care is fixed, for instance, and the activity in question is socially useful, no purpose is served by causing the injuring party to act as though it internalizes the externality of victim care, with the result that departure from traditional rules is unwarranted.⁹¹ On the other hand, one can easily imagine categories of activity that would seem to call for adoption of "pure" strict liability or "enhanced" negligence. For instance, a strong case could be made for adoption of one of these regimes upon a showing of the following factors: (1) variable cost victim care; (2) optimal victim precautions that are relatively costly; and (3) relatively elastic demand for the injurer's activity. Similarly, a strong case could be made if: (1) injurers place little value on even inframarginal iterations of the activity and (2) victim care—whether fixed or variable cost—is relatively expensive. In either case, forcing injurers to internalize the cost of victim care will induce significant (efficient) changes in activities and/or activity levels, changes that may justify departure from more standard rules.

In sum, negligence or strict liability with a defense of contributory negligence will produce improper activity choices and levels in most cases. Absent imposition of a Pigouvian tax, courts must choose between various imperfect liability rules to regulate care and activities. Where joint due care eliminates the risk of accidents, courts should choose between ordinary negligence, strict liability with a defense of contributory negligence, or enhanced negligence. Where, on the other hand, joint due care does not eliminate such risks, and no change in victim activity is indicated, courts must choose between pure strict liability, enhanced negligence, or strict liability with a defense of contributory negligence.⁹² No regime, it should be emphasized, will induce the appropriate care *and* activity. Instead, the choice is between various imperfect alternatives.

IV. TWO REMAINING QUESTIONS

This Article has identified a flaw in the model scholars currently employ to evaluate the economic consequences of common law liability rules. In particular, the dominant model ignores the cost of victim care induced by injurer activity. Moreover, the dominant model ig-

⁹¹ See notes 61–66, 79 and accompanying text.

⁹² There would, of course, be no reason to choose a regime of ordinary negligence, given the assumption that no change in victim activity is necessary.

nores the cost of injurer care that results from victim activity. Because it does not recognize these externalities, the dominant model generates false conclusions about the welfare consequences of negligence and strict liability with a defense of contributory negligence. Recognition of the inadequacy of the current model raises two questions explored in this part: (1) what accounts for the oversight identified here, and (2) what the implications are, if any, of this oversight for the positive economic theory of tort law.

A. Explaining the Omission

The omission of the externality of victim care from the conventional model is puzzling at first. After all, this model purports to include expenditures on victim care as a component of the social cost of accidents, and scholars employ this model to identify the liability rule or rules that minimize these costs.⁹³ Nevertheless, these same scholars have failed to treat victim care as an externality and thus generated incorrect conclusions about the welfare consequences of various liability rules. Closer inspection, however, suggests a likely explanation for this oversight. The omission, it seems, is at least partly attributable to the use of the farmer-railroad exemplar as a vehicle for examining the effect of liability rules, as well as the distinction between fixed and variable cost victim care discussed earlier.

Like other scientists, economists build models in response to real or perceived problems or puzzles.⁹⁴ A model that "solves" such problems is deemed successful, and this model becomes the basis for the solution of other puzzles as well.⁹⁵ Where the law of torts is concerned, several scholars have treated the interaction of a farmer and a railroad as an important problem, requiring such a solution. Raised by Pigou long before the modern law and economics movement,⁹⁶ this example

⁹³ See notes 4 and 12 and accompanying text.

⁹⁴ See Thomas S. Kuhn, *The Structure of Scientific Revolutions* 23–24, 35–42 (Chicago 2d ed 1970) (arguing that scientists construct new paradigms to solve real or perceived puzzles not adequately addressed by current paradigms).

⁹⁵ See *id.* at 23 ("Paradigms gain their status because they are more successful than their competitors in solving a few problems that the group of practitioners has come to recognize as acute. To be more successful is not, however, to be either completely successful with a single problem or notably successful with any large number."); see also *id.* at 23–24.

⁹⁶ See A.C. Pigou, *The Economics of Welfare* 118 (MacMillan 2d ed 1924) (employing this example to illustrate the problem of externality). See also Posner, *Economic Analysis of Law* at 185–90 (cited in note 4) (discussing Pigou's farmer-railroad example); Landes and Posner, *Economic Structure of Tort Law* at 6–7 (cited in note 3) (describing Pigou's analysis based on the farmer-railroad example as a "direct antecedent of the modern economic approach to torts"); Grady, 17 *J Legal Stud* at 19, 41 (cited in note 61) (referring to the farmer-railroad example as "the paradigm that has guided so much recent thought"); Richard A. Posner, *Strict Liability: A*

has served as an important vehicle for illustrating and evaluating the effect of various tort liability rules on primary conduct and thus social welfare. Any model that “solves” this problem, by explaining the effect of tort rules on the conduct of the farmer and the railroad, has been deemed “successful” and thus capable of solving other problems deemed “similar.”⁹⁷ Moreover, a conclusion that certain rules cause both parties to behave efficiently has been taken to establish that such rules would cause parties in other settings to behave efficiently as well.⁹⁸

As it turns out, the farmer-railroad example provides a poor basis for constructing a model that evaluates the impact of liability rules on activity choices and thus social welfare. In particular, the classic articulation of this example involves victim care—leaving a firebreak—the cost of which is fixed in that it does not vary with the level of the railroad’s activity.⁹⁹ Moreover, the problem is described as involving a choice between various *levels* of the same activity—transporting cargo by rail—and not between different *types* of activity.¹⁰⁰ Indeed, even some scholars who do not employ the farmer-railroad example nevertheless characterize the problem of activity choice as involving a decision between different levels of a given activity, without examining the possibility that an injurer might shift to a different activity altogether.¹⁰¹ Given these artificially restrictive assumptions, the external-

Comment, 2 J Legal Stud 205, 205–212 (1973) (invoking the “now familiar example of the railroad engine that emits sparks which damage crops along the railroad’s right of way”); Demsetz, 1 J Legal Stud at 14 (cited in note 2) (discussing farmer-railroad example); Coase, 3 J L & Econ at 29–34 (cited in note 50) (same).

⁹⁷ See Posner, *Economic Analysis of Law* at 186–90 (cited in note 4) (employing farmer-railroad example to derive generalizable conclusions about the impact of various liability rules); Landes and Posner, *Economic Structure of Tort Law* at 31–41, 54–77 (cited in note 3) (employing farmer-railroad example to model effects of negligence and strict liability on care and activity choices and derive more general conclusions).

⁹⁸ See Landes and Posner, *Economic Structure of Tort Law* at 107–22 (cited in note 3) (applying conclusions first generated via farmer-railroad example to evaluate efficiency of tort law generally).

⁹⁹ Once built, this precaution constitutes due care, regardless of the level of the railroad’s activity. See Posner, *Economic Analysis of Law* at 186–88 (cited in note 4) (assuming that farmer’s construction of a firebreak constitutes due care without regard to the activity level of the railroad); Landes and Posner, *Economic Structure of Tort Law* at 31–41 (cited in note 3) (noting that expenditure on care will produce given profit for farmer “regardless of how many trains the railroad decides to run”).

¹⁰⁰ See Landes and Posner, *Economic Structure of Tort Law* at 31–41 (cited in note 3); Coase, 3 J L & Econ 31–32 (cited in note 50).

¹⁰¹ See Shavell, *Economic Analysis of Accident Law* at 21–32 (cited in note 4); Polinsky, *Introduction to Law and Economics* at 46–50 (cited in note 2). To be sure, Professor Shavell does note that injurers must decide “whether” to engage in a particular activity. See Shavell, *Economic Analysis of Accident Law* at 5 (cited in note 4). However, when considering the effect of various liability rules on injurer conduct he only examines “the influence of the rules on parties’

ity of victim care is all but invisible. Almost by definition, the activity in question—carriage by rail—is socially useful. Moreover, the cost of reasonable victim care is the same regardless of the railroad's activity level. Thus, the externality of victim care simply does not present itself, as changes in the injurer's activity level impose no incremental costs on the victim.¹⁰² Relaxation of the restrictive assumptions associated with the farmer-railroad example reveals this externality and allows construction of a model that can produce generalizable conclusions.

B. Implications for the Positive Economic Theory of Tort Law

Revision of the conventional model will naturally have implications for the positive economic theory of tort law. As explained earlier, this theory holds that the common law of torts is comprised of rules that tend to maximize social welfare, by inducing parties to replicate that mix of care and activities that they would have chosen in the absence of transaction costs.¹⁰³ This Article has shown that no regime of tort liability will cause injurers or victims to make proper activity choices in a joint care setting. Only imposition of a Pigouvian tax, coupled with negligence or strict liability with a defense of contributory negligence, will maximize social welfare. While perhaps surprising, this finding does not by itself undermine the positive economic theory of tort law. As noted earlier, a system of Pigouvian taxes may be fraught with administrative costs, costs that militate against legislative adoption of such a regime.¹⁰⁴ At any rate, courts have no authority to adopt Pigouvian or other taxes; failure to do so does not by itself establish that the *common law* is inefficient.

Indeed, the findings of this Article may lend some support to the positive economic theory of tort law. Consider the law's treatment of ultrahazardous activities.¹⁰⁵ The conventional approach concludes that only strict liability with a defense of contributory negligence will produce the appropriate care by the victim and appropriate care and ac-

levels of activity." Id at 21 (emphasis added). See Carol M. Rose, *The Shadow of the Cathedral*, 106 Yale L J 2175, 2177–82, 2197 (1997) (arguing that leading literature on the distinction between property rights and liability rules rests on the unarticulated "shadow example" of automobile accidents).

¹⁰² See notes 61–66 and accompanying text (demonstrating that firms engaged in socially useful activities will make efficient activity choices when the cost of reasonable victim care is fixed).

¹⁰³ See notes 9–10 and accompanying text.

¹⁰⁴ See note 81 and accompanying text.

¹⁰⁵ I am grateful to Richard Posner and Gary Myers, who both suggested that tort law's treatment of ultrahazardous activities may reflect concern for the externality of victim care identified here.

tivity by the injurer engaged in the activity.¹⁰⁶ Yet, contributory negligence is generally *not* a defense to a tort premised on strict liability, a result that would seem inconsistent with the positive economic theory.¹⁰⁷ The analysis offered here, however, suggests a rationale for dispensing with such a defense where strict liability is otherwise indicated. To be sure, a defense of contributory negligence will minimize the social cost of accidents caused by a particular activity. Nevertheless, such an activity, or the level at which it is conducted, may be inefficient in light of the resulting externality of victim care.¹⁰⁸ “Pure” strict liability may therefore be preferable, particularly in those instances where (1) injurer care is a close substitute for care by the victim, and (2) close substitutes exist for the activity in question so that internalization of the cost of victim care will induce significant changes in the activity.¹⁰⁹ In these circumstances, pure strict liability will induce significant changes in the injurer’s activity, while causing only a modest increase in the cost of remaining iterations of the activity. Indeed, abjuring a defense of contributory negligence where such activities are involved may do more than reduce the injurer’s activity level; it may also cause the injurer to switch to a different activity altogether, thus replicating the result that would be produced by a Pigouvian tax.

Still, there does not appear to be a perfect “fit” between the law of strict liability and the prescriptions of economic theory as qualified here. There is no apparent reason to conclude that pure strict liability will inevitably be superior to a regime that recognizes a defense of contributory negligence. No doubt there are some activities where (1) injurer care is a poor substitute for care by the victim, and (2) the in-

¹⁰⁶ See notes 27–31 and accompanying text. As noted earlier, the conventional approach also concludes—correctly—that strict liability will not induce the victim to internalize the cost of accidents that occur despite due care. Moreover, this Article has demonstrated that neither negligence nor strict liability with a defense of contributory negligence will induce the victim to internalize the cost of injurer care. It is generally assumed, however, that changes in victim activity are not efficient methods of accident reduction where ultrahazardous activities are concerned, and the analysis that follows adheres to this assumption. See, for example, Landes and Posner, *Economic Structure of Tort Law* at 113 (cited in note 3) (noting that victims of construction blasting cannot feasibly avoid such injuries by changing locations, because construction is ubiquitous).

¹⁰⁷ See Restatement (Second) of Torts § 524 (providing that contributory negligence is generally not a defense to the tort of strict liability for ultrahazardous activities). See also Landes and Posner, *Economic Structure of Tort Law* at 118–20 (cited in note 3) (exploring this apparent inconsistency).

¹⁰⁸ As noted earlier, Professor Landes and Judge Posner recognize that the cost of victim care may in some cases outweigh the benefits of an ultrahazardous activity. See note 106. They do not, however, consider the implications of this finding for their general conclusions regarding the welfare consequences of various liability rules. See *id.*

¹⁰⁹ See notes 86–87 and accompanying text (suggesting that pure strict liability will be superior to strict liability with a defense of contributory negligence under these conditions).

jurer's activity has no close substitutes. Imposition of "pure" strict liability on these activities will raise the social cost of inframarginal iterations, without causing a significant alteration of the activity. In these circumstances, it seems, pure strict liability may well be inferior to a regime of strict liability with a defense of contributory negligence. The failure to recognize such a defense in these circumstances would seem inconsistent with the positive economic theory of tort law.¹¹⁰

There may be less to this apparent inconsistency than meets the eye, however. Modern tort law, it seems, defines the class of activities subject to strict liability in a manner that excludes those activities for which a defense of contributory negligence is indicated. More precisely, in determining whether an activity is "abnormally dangerous" and thus subject to strict liability, courts consider, *inter alia*, the extent to which the activity is "ordinary" or "natural" for the region in question as well as the net social value of the activity, an inquiry that includes a consideration of potential substitutes.¹¹¹ Activities that are "unnatural" and of little value will be deemed "abnormally dangerous" and thus subject to strict liability if, despite due care, they involve a significant degree of risk.¹¹² Such activities, it seems, will have close substitutes, with the result that imposition of strict liability will cause the injurer to scale them down or abandon them altogether.¹¹³ On the other hand, activities that are both "natural" and "valuable" are generally not deemed "abnormally dangerous" even if joint due care fails to eliminate the risk of accidents.¹¹⁴ In these circumstances it seems less likely that close substitutes exist for the activity in question, with the result that imposition of strict liability will have little effect on the activity.¹¹⁵ Such activities are therefore governed by a negligence regime,

¹¹⁰ To be sure, the law of strict liability does recognize a defense of contributory negligence in limited circumstances. See Restatement (Second) of Torts § 524(2). The availability of such a defense, however, does not turn on the nature of the underlying activity, but instead upon the victim's state of mind. See *id.* illustrations 1 and 2 ("plaintiff's contributory negligence in knowingly and unreasonably subjecting himself to the risk of harm from the activity is a defense").

¹¹¹ See Restatement (Second) of Torts § 520(d)-(f), cmts l-k.

¹¹² See *id.* at § 520(a)-(c). See also W. Page Keeton, *Prosser and Keeton on Torts* 537 (West 5th ed 1984).

¹¹³ See Landes and Posner, *Economic Structure of Tort Law* at 112-13 (cited in note 3) ("The more valuable a land use [for water storage] is relative to its alternatives, the less likely it is to be changed by the imposition of liability for accidents that can be avoided only by altering the activity."); *id.* at 113 (concluding that blasting is properly deemed ultrahazardous because there are substitutes for such activity).

¹¹⁴ See Restatement (Second) of Torts, § 520(d)-(f) (considering whether the activity is "of common usage," "inappropriate . . . to the place where it is carried on," and "considering its value to the community," despite its dangerous character).

¹¹⁵ See Landes and Posner, *Economic Structure of Tort Law* at 112-13 (cited in note 3). See also Restatement (Second) of Torts § 520 cmt k (stating that the storage of water in reservoirs is

which will, of course, induce victims to take reasonable care. Thus, the definition of "abnormally dangerous" and concomitant imposition of "pure" strict liability includes only those activities for which there are close substitutes such that internalization of the externality of victim care will have a significant effect on activity choices. Recognition of a contributory negligence defense in these circumstances would likely produce activity choices that diverge significantly from the optimum. On the other hand, activities for which there are no close substitutes are governed by a negligence regime that induces reasonable victim care. The absence of a defense of contributory negligence to strict liability seems therefore consistent with the positive economic theory of tort law.

The findings of this Article pose a greater challenge to the positive economic theory of tort law where the law of negligence is concerned. The conventional account of liability rules holds that, where joint due care eliminates the risk of accidents, a well-administered negligence regime will maximize social welfare. Moreover, proponents of the positive economic theory argue that tort law does just that, abjuring strict liability in favor of a negligence regime whenever joint due care eliminates accident risk.¹¹⁶

This Article has shown that a properly administered negligence regime will not, in fact, produce optimal activity choices in those instances in which joint due care eliminates the risk of accidents. In particular, such a regime will not cause injurers to internalize the cost of victim care induced by their activities. Moreover, in some cases, a regime of "enhanced negligence" will produce a combination of joint care and injurer activity that more closely approaches the optimum.¹¹⁷ As a result, proof that courts have adopted a regime of ordinary negligence whenever joint due care eliminates the risk of accidents may actually militate *against* the positive economic theory, by establishing that courts have refused to adopt regimes of enhanced negligence when it may be efficient to do so.

Indeed, the findings of this Article should cause proponents of the positive economic theory to rethink their characterization of the law of negligence. In particular, these scholars may wish to consider assertions by other scholars that courts have on occasion imposed stringent (enhanced?) duties of care on injuring parties, while at the

"abnormally dangerous" in areas where "constant streams and abundant rains" make such storage "unnecessary for ordinary or general purposes").

¹¹⁶ See Landes and Posner, *Economic Structure of Tort Law* at 107 (cited in note 3).

¹¹⁷ See notes 87-90 and accompanying text.

same time requiring victims to exercise only modest precautions.¹¹⁵ Such an articulation of the respective duties of injurer and victim, while inconsistent with the conventional approach, could reflect a judicial attempt to internalize the externality of victim care via adoption of a regime of enhanced negligence.¹¹⁹ Here again, identification of the externality of victim care could actually bolster the positive economic theory, by explaining a definition of negligence that would otherwise appear inconsistent with economic theory. Now armed with a revised model that tells them what to look for, proponents of the positive economic theory may be able to build stronger case.¹²⁰

CONCLUSION

Lawyers and economists have come to a consensus about the social consequences of various common law liability rules. In particular, scholars have asserted that a negligence regime will produce optimal victim and injurer activity whenever reasonable joint care eliminates the risk of accidents. These same scholars have also asserted that, where reasonable joint care does not eliminate the risk of accidents, strict liability with a defense of contributory negligence will produce optimal injurer activity, while a negligence regime will induce optimal activity by the victim. This Article has demonstrated that each of these conclusions rests upon a flawed model for evaluating the economic

¹¹⁸ For instance, one scholar has concluded that, during the nineteenth century, courts in New Hampshire and California held injurers to a standard of "utmost care," while at the same time excusing victims for "indiscretion," "mere error in judgment," or "lapses of memory." Gary T. Schwartz, *Tort Law and the Economy in Nineteenth-Century America: A Reinterpretation*, 90 Yale L J 1717, 1757-63 (1981). Indeed, California courts found that the emission of sparks from a railroad engine was itself prima facie proof of negligence, because a "perfect" railroad engine would not produce sparks. *Id.* at 1746. See also *Pittsburgh, Cincinnati and St. Louis Railroad Co v Nelson*, 51 Ind (Black) 150, 153-54 (1875):

If the company, by availing itself of all the discoveries which science and experience have put within its reach, could have constructed its machinery so perfect as to prevent the emission of sparks or the dropping of coals, and if the machinery used in this case was not so perfect as to accomplish this purpose, the fact that the machinery used was such as was in common and general use, and had been approved by experience, did not relieve the appellant from liability.

Moreover, the courts of California and New Hampshire also concluded that placing crops too close to railroad tracks could not constitute contributory negligence. Schwartz, 90 Yale L J at 1747. Similarly, another scholar has found that courts sometimes excuse victims for forgetfulness or inadvertence but that there is "no decision immunizing a *defendant* who has forgotten a reasonable precaution." Grady, 82 Nw U L Rev at 304-05 (cited in note 62) (emphasis added).

¹¹⁹ See notes 87-90 and accompanying text (explaining that such a regime would entail enhanced care by the injurer and reduced care by the victim).

¹²⁰ See Kuhn, *Structure of Scientific Revolutions* at 114-17 (cited in note 94) (explaining that paradigm changes cause reinterpretation of previously observed phenomena).

consequences of liability rules. That model, it has been shown, does not account for the externality of victim care, that is, the cost of victim care induced by injurer activity in a joint care setting. Because of this externality, both negligence and strict liability with a defense of contributory negligence will produce activity levels above the optimum. Absent imposition of a Pigouvian tax, no liability rule will maximize social welfare.

Identification of the externality of victim care suggests the existence of another externality, namely, the externality of injurer care. Neither negligence nor strict liability with a defense of contributory negligence will cause victims to internalize this cost. Thus, even a negligence regime will not cause victims to make proper activity choices, unless accompanied by imposition of a Pigouvian tax.

The failure to recognize these externalities previously may be due in part to overreliance on the farmer-railroad exemplar as a vehicle for illustrating and examining the effect of various liability rules on activity choices. Relaxation of the restrictive assumptions associated with this example reveals the externality of victim care, thus paving the way for recognition of the externality of injurer care. Moreover, recognition of these externalities may actually bolster the positive economic theory of tort law by providing explanations for certain doctrines that otherwise appear inconsistent with economic theory.