# PRIVATE VERSUS SOCIAL COSTS

# IN BRINGING SUIT

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### Abstract

The enforcement of a substantial portion of substantive law rests upon a legal system that relies upon private parties to bring suit when such action is in their own best interest. Recent work has analyzed the serious deficiencies that can exist in such a system due to the divergence between social and private incentives to sue in a costly legal system. This problem can be analyzed by focusing on two components: the benefits and costs of suit. Shavell offered the first analysis along these lines and concluded that divergences between private and social incentives concerning both components could lead to inefficient results. Further study of the cost component was provided by Menell, who questioned the existence of an externality problem due to any divergence between private and social costs.

This note examines the cost component in greater depth to determine the relationship between these apparently divergent results. It is demonstrated that Shavell and Menell reached different conclusions because they implicitly make different assumptions, and thus are answering different questions. This note proves that there does exist a divergence between private and social cost when considering the efficiency of a plaintiff's decision to sue, but that in some instances -- including that studied by Menell -- there is no externality problem involved in an injurer's (defendant's) strategic decision ex ante concerning whether to limit damages imposed and thereby render suit unprofitable for victims (prospective plaintiffs). These results are seen to relate closely to many of the intuitions and arguments commonly offered in assessments of the desirability of no-fault proposals and other alternatives to traditional litigation as a method of dispute resolution.

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The enforcement of a substantial portion of substantive law rests upon a legal system that relies upon private parties to bring suit when such action is in their own best interest. Recent work has analyzed the serious deficiencies that can exist in such a system due to the divergence between social and private incentives to sue in a costly legal system. Shavell's analysis of this problem<sup>2</sup> reached two major conclusions. First, there is no general systematic relationship between the social and private benefits of bringing suit, and the divergence cannot be remedied by any obvious modifications of the incentive structure in private litigation.<sup>3</sup> This far-reaching and important conclusion unfortunately has received little attention thus far. Second, he noted that an externality exists due to the

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1. Assistant Professor, Harvard Law School, and Faculty Research Fellow, National Bureau of Economic Research. I wish to thank Lucian Bebchuk, Peter Menell, and Steven Shavell for helpful comments.

2. Steven Shavell, The Social versus the Private Incentive to Bring Suit in a Costly Legal System, 11 J. Legal Stud. 333 (1982).

3. Private benefits are simply the damage award whereas social benefits in his model consist of the reduction in accident costs resulting from the deterrence effect of private suits. (Since deterrence increases care and thus decreases the probability of accident, there are also less suits, leading to a saving in litigation costs relative to what they would have been absent the deterrent effect, but assuming suits still were brought. This interaction makes it more difficult to make a clear conceptual distinction between social costs and benefits in Shavell's model.) Since the social benefits depend, among other things, on the costs and effectiveness of care, neither of which are part of the plaintiff's calculus, private and social benefits would be in alignment only by chance. (It should be noted that although the discussion proceeds using the rhetoric of accident law, the argument is quite general.)

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fact that the private costs of suit are generally less than the social costs since the plaintiff does not bear the defendant's or any public costs of suit.

Menell has criticized this latter conclusion on the ground "that the tendency toward excessive litigation implied by Shavell's analysis is overridden by the injuring party's ability to influence the likelihood of suit."<sup>4</sup> Menell proves that an efficient result is produced by the injurer's decision concerning the amount of damage to cause, which in turn affects whether it will be profitable for the injured party to sue. His analysis implicitly takes as given the legal rules, procedural and substantive, that govern liability and the bearing of litigation costs. Menell's argument, although correct, in fact does not disturb Shavell's initial conclusions because Shavell's analysis concerning the divergence of private and social costs should be understood as questioning the efficiency of such legal rules. In spite of Menell's demonstration, Shavell's argument will be shown sufficient to establish the existence of an externality due to litigation costs and the possibility of remedial action through modifying the legal system that Menell implicitly takes as given.

Section I explains the intuition behind Menell's argument, which clarifies the nature of his implicit assumptions and thereby makes clear that his result is not in conflict with the claim thet there exists a divergence between private and social costs. The conclusions are proved formally in

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<sup>4.</sup> Peter S. Menell, A Note on Private versus Social Incentives to Sue in a Costly Legal System, 12 J. Leg. Stud. 41, 41 (1983); see also <u>id</u>. at 52 ("Thus the structure of the legal system implicitly internalizes the costs of litigation.").

Section II, supplemented by numerical examples in the Appendix.<sup>5</sup> Section III offers some concluding remarks concerning the significance of these issues.

5. The discussion in the Appendix can be read in place of Section II by readers who prefer the examples to a more formal presentation.

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### I. THE RELATIONSHIP BETWEEN MENELL'S AND SHAVELL'S RESULTS

Menell's approach involves examining the injurer's actions before harm is imposed. In particular, he focuses on the standard nuisance example in which the injurer's level of output determines the level of pollution and thus the level of damage to the victim. The argument begins by noting, as does Shavell, that the plaintiff will sue if and only if damages exceed the plaintiff's litigation costs.<sup>6</sup> But since the prospective defendant's ex ante behavior determines the level of damages, the defendant can influence whether the plaintiff will sue. In particular, by reducing output, and therefore damages, so that they do not exceed the cost of suit, the plaintiff's incentive to sue will be eliminated.

More specifically, Menell correctly explains how the injurer's decision to increase output just beyond the suit threshold point will cost the injurer the sum of the plaintiff's and defendant's litigation costs. The injurer obviously bears its own litigation costs if it crosses the suit preclusion

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<sup>6.</sup> Issues of uncertainty, risk aversion, endogeneity of litigation costs, and other complications concerning lawsuits are ignored since they do not affect the basic argument or the response. In addition, I will follow Menell and Shavell in ignoring that the plaintiff might sue even if damages do not exceed litigation costs in the hope of extracting a settlement by threatening the defendant with going forward despite the cost. All the assumptions used in Menell's argument will not be repeated here. Nor will any attempt be made to assess the general approach used by Menell or Shavell, including their definition of social welfare. This note is limited to examining which of their conclusions follow within their chosen frameworks, and some of the differences between their models.

threshold. Moreover, since the plaintiff will begin to sue at precisely the point where damages equal (or just exceed) its litigation costs, the damages the defendant must pay if output is at the threshold point just equals the plaintiff's litigation costs.

Menell's important observation is that this result is socially desirable because the social cost of crossing the litigation threshold precisely equals the sum of the parties' litigation costs, so the action will be taken if and only if the extra profit to be earned is sufficient to cover those costs. Since the extra profit from producing whatever level of output the injurer selects is net of the extra damages caused, which must be paid to the victim, the injurer's overall decision between a low, suit-precluding output level and a higher output level that results in suit correctly balances all the costs and benefits. The injurer receives the additional profits from greater output and bears the additional damages to the victim, as well as the litigation costs of both parties (its own directly, and the plaintiff's indirectly, as suggested by the preceding argument). Menell's conclusion, which he proves rigorously, is therefore that the injurer takes into account the total of litigation costs in making its decisions. Based upon this result, he argues that there is no externality problem as Shavell suggested.7

Menell's argument up until this final point is entirely correct, and important in its own right.<sup>8</sup> But it does not follow from the demonstration

7. Of course, any public costs, e.g., of the court system, are still omitted.
8. The simple implication is that, <u>if</u> one sets aside the many other possible divergences that could lead to second best arguments for intervention, there

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of the social efficiency of the injurer's decision that there is no divergence between the private and social costs of suit, because Menell's implicit assumption that rules governing liability and litigation costs are not subject to modification in essence has taken as given the private/social cost divergence itself.

The confusion arises because Menell does not address the question of whether there is a cost externality to the <u>plaintiff's</u> decision to bring suit. Instead, his investigation considers whether there is an externality involved in the <u>defendant's</u> decision to preclude suit, taking as given any externality problem that may exist with the plaintiff's decisionmaking process. Given Shavell's demonstration that the private/social cost divergence leads, ceteris paribus, to an excessive incentive for the plaintiff to sue, it follows that sometimes it might be efficient for <u>society</u> to adopt legal rules that prohibit or otherwise discourage suit, including the important possibility of substituting alternative modes of compensation or dispute resolution. This conclusion simply is silent on the question of whether it might be efficient for <u>injurers</u> to take any particular action that would discourage suit, given the prevailing legal regime.

is no justification for any action to alter injurers' strategic behavior in making lawsuits unprofitable for plaintiffs by reducing the level of damages. Given Shavell's arguments concerning divergences between private and social benefits and the possibility in more general models for care to affect the probability of harm, however, there may indeed be reason to fear such behavior. He demonstrated that suits will be too infrequent precisely when damages are too low in a single case to make it worthwhile for plaintiffs to sue. To the extent strategic behavior by injurers ex ante can make this scenario more likely than it otherwise might be, there could be a problem.

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# **II. PROOF OF RESULTS**

# **Preliminaries**

The derivations will use the following notation:

x = injurer's output.

 $P(x) = gross profits of injurer; at x = 0, P' > 0; P'' \leq 0.$ 

D(X) = gross damages of victim; D' > 0; D'' > 0.

a = plaintiff's (victim's) litigation costs.

b = defendant's (injurer's) litigation costs.

If there is no liability,<sup>9</sup> the injurer simply maximizes P(x). This maximum occurs at P'(x) = 0.  $x_u$  (the "unconstrained" output level) will refer to this level of output.<sup>10</sup>

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9. This case is meant to encompass any rule prohibiting suit, procedural or substantive. It is to be distinguished from the case where the plaintiff will not sue although there is liability -- referred to here as the suit preclusion outcome.

10. If P' > 0 for all x, x would be infinite, in which case the social benefits of permitting suit would also be infinite so long as D' > P' for some x; if not, there could not be any social benefits to suit. Neither case will be considered further.

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The victim's decision rule is to sue if and only if  $D(x) > a.^{11}$  Thus, if the liability rule permits suit, the injurer can preclude suit by choosing x such that  $D(x) \leq a$ . Since profits increase with the level of output, the injurer will choose x to guarantee precise equality.<sup>12</sup> This level of output is denoted  $x_p$ , to refer to the suit preclusion outcome.

The injurer's other option is to set  $x > x_p$ , so that suit will result. In that case, the injurer would maximize P(x) - D(x) - b; the solution implies that P'(x) = D'(x). The level of output which solves this equation will be referred to as  $x^*$ . Note that this is also the socially optimal level of output in the sense that it maximizes social welfare in the absence of litigation costs (and this output would result in the absence of litigation costs, since no other imperfections are assumed to exist); it also is the optimum given that litigation will result. The injurer will find the suit preclusion equilibrium maximizing if and only if

(1)  $P(x_n) \ge P(x^{\#}) - D(x^{\#}) - b$ .

### Menell's Result

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Menell proves that, given that the legal rule permits suit, the injurer's

11. Here and elsewhere, arbitrary choices will be made for cases of precise indifference, i.e., when D(x) = a. Such assumptions have no effect on the interpretation of the results.

12. This is not precisely correct. Since  $P^{n} \leq 0$ , it is possible that even the unconstrained output level would preclude suit, i.e.,  $D(x_{-}) < a$ , in which case the existence of liability has no constraining effect. Since liability is irrelevant in such instances, this case will not be considered further.

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decision whether or not to preclude suit is efficient. This result follows from a simple proof. A suit preclusion equilibrium is socially preferable to one involving suit if and only if

(2) 
$$P(x_p) - D(x_p) > P(x^*) - D(x^*) - a - b$$
.

The existence of a suit preclusion implies that  $D(x_p) = a$ . Therefore, (2) becomes

(3) 
$$P(x_{D}) - a > P(x^{\#}) - D(x^{\#}) - a - b$$
,

which is equivalent to

(4) 
$$P(x_{p}) > P(x^{*}) - D(x^{*}) - b.$$

This statement of the rule for the social optimum is identical to (1), the statement of the firm's decision rule, so the firm's decision will be efficient.<sup>13</sup>

### Prohibiting Suit by Rule

Consider first the case where the equilibrium when suit is permitted involves suit. Then a rule prohibiting suit would be desirable if and only if

(5) 
$$P(x_u) - D(x_u) > P(x^{\#}) - D(x^{\#}) - a - b$$
.

13. Note that if  $x_p > x^{\#}$ , there will necessarily be a suit preclusion equilibrium since  $P(x_p) > P(x^{\#})$  (recalling the qualification in note 12, <u>supra</u>, that  $x_p > x_p$ ). Since the derivation in text does not assume that  $x_p < x^{\#}$  -- unlike the heuristic discussion and later examples -- no separate proof for this case is required.

It should be immediately apparent that inequality (4) failing to hold (i.e., an equilibrium involving suit being more efficient than the injurer precluding suit by constraining its output) provides insufficient information to determine whether (5) holds, i.e., whether a <u>rule</u> prohibiting suit would be desirable.

To focus on whether (5) could hold due solely to divergences between private and social litigation costs,<sup>14</sup> one can add the further constraint that private and social benefits of suit must be equal.<sup>15</sup> Private benefits (i.e., the plaintiff's benefits from bringing suit) are simply  $D(x^*)$ . Social benefits are defined as the difference between (a) the excess of profits over damages when suit is permitted and (b) the excess when suit is prohibited. (Note that "benefits" here refers only to effects on the injurer's behavior, not to the <u>net</u> benefits, which would subtract litigation costs. This

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14. Menell's critique of Shavell is clearly directed at the cost divergence issue, see Menell, <u>supra</u> note 4, at 41 & n.2; yet he does conclude that his model provides sufficient conditions for the "equivalence of the private and social <u>incentives</u> to sue when litigation is costly," <u>id</u>. at 50-51 (emphasis added), which by definition includes the issue of divergent benefits. This conclusion obviously fails since his analysis in no way addresses the issue of benefit divergence.

Menell similarly argues that if the loser (which in his model is always the defendant) must bear all litigation costs (the British rule), the "[e]quivalence of the private and social incentives to sue also holds." <u>Id</u>. at 51. He notes that under this approach, the plaintiff will always sue (in his model). But this leads to a result equivalent to a forced suit equilibrium, which Menell earlier proved inferior to the suit preclusion equilibrium in those cases where the injurer finds it profitable to select that result! Menell is correct in asserting here that "suit occurs only if it is socially desirable," <u>id</u>. at 52, precisely because he once again is taking as given the rest of the system, which may give the plaintiff the wrong incentives.

15. An examination of Menell's Note reveals that private and social benefits of suit are not equal in his examples or derivations.

terminology is employed specifically to isolate the litigation cost component of the problem.) Thus, equality of private and social benefits implies that

(6) 
$$D(x^{*}) = [P(x^{*}) - D(x^{*})] - [P(x_{u}) - D(x_{u})].$$

Once again, (6) (even if combined with (4)), offers no obvious resolution of inequality (5). To prove the matter formally, it suffices to offer numerical examples, each consistent with all prior constraints, providing different results concerning the desirability of a rule prohibiting suit. These are presented in the Appendix.

Finally, consider the comparison in the case in which a rule permitting suit involves a suit preclusion equilibrium as a result of the injurer's constrained output level. In this case, a rule prohibiting suit would be desirable if and only if

(7) 
$$P(x_{u}) - D(x_{u}) > P(x_{p}) - D(x_{p}).$$

Once again, none of the prior qualifications suggest any necessary conclusion concerning the direction of this inequality. Proof through numerical examples again will be offered in the Appendix. It should be noted, however, that in this instance it is not possible for a rule prohibiting suit to be desirable due solely to a divergence in costs, rather than benefits. The simple reason is that in this equilibrium no litigation costs are actually incurred, although their level does determine  $x_p$ , and thus affects whether liability is desirable.

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# Interpretation of Results

The possibility that a rule prohibiting suit might be desirable in either instance is well in accord with intuition. When a liability rule results in suits (i.e., when a suit preclusion equilibrium is not efficient, given that suit is legally permissible), it is possible that litigation costs will be substantial even though benefits from suit are minimal. Low benefits result when suit has little effect on the injurer's behavior, as would be the case where the unconstrained level of output  $(x_u)$  is not significantly greater than the optimal level  $(x^{\bullet})$ . The constraint that the private benefits equal the meager social benefits -- an equality that would result only by sheer coincidence -- is insufficient to rule out the undesirability of suit since the total social costs include not only the victim's litigation costs, which is all that it considers in deciding whether to sue, but the defendant's as well. Of course, this possibility result does not provide any indication of the practical significance of this contingency.

When a liability rule results in a suit preclusion equilibrium, there are no litigation costs, and thus it might appear that a <u>rule</u> forbidding suit offers no potential for further gain. This is not necessarily the case, however, because it is possible that the deterring effect of suit, resulting in decreased output ( $x_p$  rather than  $x^{\pm}$ ) results in more of a social cost than the excessive output that would result if suit were no longer permitted ( $x_u$ rather than  $x^{\pm}$ ). This would occur when the possibility of suit deterred output substantially, as might be the case where the plaintiff's litigation costs were small but the defendant's were substantial, and the absence of liability had only a modest effect in terms of excessive output. Again, this is only a possibility result that provides no indication of its likelihood.

# III. CONCLUSION

The preceding analysis demonstrates that Menell came up with a different answer from Shavell because he asked a different question -- focusing on the efficiency of the injurer's (prospective defendant's) ex ante behavior rather than on the efficiency of the victim's (plaintiff's) ex post behavior. Neither question, in the abstract, is the "right" one; both are relevant for different purposes. Thus, the import of the argument here is that Shavell's original claim concerning the private/social cost divergence stands untouched whereas Menell has in fact demonstrated an interesting, but rather separate, proposition concerning the efficiency of the injurer's strategic behavior.

It is also worth keeping in mind that any conclusions concerning the private/social cost divergence in terms of incentives to sue can be highly misleading when viewed in isolation because of the general divergence between private and social benefits. Shavell well illustrated how, a priori, the combination of both divergences could readily run in either direction, so no simple conclusions concerning, for example, appropriate fee shifting arrangements, can be derived from this discussion. Along those lines, the reader should note that the result that it may be socially optimal to ban suits (i.e., change a rule to one of no liability) was shown to be possible, but not necessarily likely.

It is worth noting that this existence result is not really new. For

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example, some of those advocating no-fault auto insurance (which includes a rule of no liability) argue in part that the social benefits of the liability system (in terms of deterrence) are likely to be small by comparison to the costs of operating that system. Similarly, some of the arguments advanced in favor or workers' compensation or other quasi-strict liability schemes are motivated for similar reasons. More generally, it is important to emphasize that the references throughout the preceding discussion to the option of legally prohibiting suit can be misleading if not interpreted broadly, in that alternatives to litigation -- including systems that incorporate direct regulation as one component -- rather than a pure regime of no liability, would often be the appropriate response. Taking such options into account increases the potential significance of the effects of litigation costs. For example, it might often be the case that a costly litigation system in its current form will be clearly superior to elimination of liability altogether (without providing any substitute), yet inferior to other systems that may sacrifice, for example, some of the incentive properties of a liability system in exchange for savings in other costs or better achievement of other objectives.

Shavell and Menell have each offered different models<sup>16</sup> and some

<sup>16.</sup> It should also be noted that Menell's model, which is used in this investigation, focuses on the activity level rather than the level of care, the latter having been the focus of Shavell's inquiry. For a discussion of some of the differences between these issues, see Steven Shavell, Strict Liability versus Negligence, 9 J. Leg. Stud. 1 (1980); Menell, <u>supra</u> note 4, at 49-50, 52. As Menell notes, the difference in examples has some relevance to the applicability of Menell's argument, even if it were correct. In particular, Menell's effect results from the injurer's ex ante decision leading to a smaller magnitude of injury, whereas some types of care may decrease the probability of injury. Suit only arises in the event of harm, so greater care that affects only the probability would not enable the

different (although not necessarily inconsistent) conclusions concerning the incentive to sue when litigation is costly. Since the efficiency of the entire private law system -- either by comparison to eliminating liability altogether or to other forms of social regulation -- depends upon the operation of the litigation system, which is the subject of these investigations, it is important that far greater attention be devoted to studying these issues.

injurer to preclude suit in the manner suggested by Menell's examples.

#### APPENDIX

The examples necessary to prove the results can be derived from Table 1, which is a modified version of a similar set of illustrations used by Menell. This illustration is constructed so that the private and social <u>benefits</u> of suit are equal, and demonstrates that the divergence between private and social <u>costs</u> still exists and can lead to an inefficient outcome.

### <u>Table 1</u>

# ILLUSTRATION OF PRIVATE/SOCIAL COST DIVERGENCE IN ABSENCE OF PRIVATE/SOCIAL BENEFIT DIVERGENCE

| x | P   | D´      | Р   | D        | Net A | Net B |
|---|-----|---------|-----|----------|-------|-------|
| 1 | 100 | 1       | 100 | 1        | 100   | 100   |
| 2 | 90  | 3       | 190 | 4        | 190   | 190   |
| 3 | 80  | 6       | 270 | 10       | 270   | 270   |
| 4 | 70  | 10      | 340 | 20       | 290   | 340   |
| 5 | 50  | 20      | 390 | 40       | 320   | 320   |
| 6 | 20  | 60[30]  | 410 | 100[70]  | 280   | 310   |
| 7 | -10 | 100[40] | 400 | 200[110] | 170   | 260   |

The notation is the same as that used in Section II. In case A, litigation costs are 15 for the victim (plaintiff) and 30 for the injurer (defendant). In case B, litigation costs are 30 for both parties and the numbers in brackets are used instead. The "net" columns at the right refer to the injurer's net profits in each instance. Net profits simply equal P when the plaintiff does not sue and they equal P - D - b when the plaintiff finds it

profitable to sue. For example, the 280 figure in column "Net A" simply equals 410 - 100 - 30.

In both cases, the socially optimal output (in the absence of litigation costs) is 5 units and the injurer's output would be 6 if suit were legally precluded. In case A, the social benefit of suit is 40 (suit reduces output from 6 units to 5, yielding a gain of 60-20). The private benefit is also 40, since the injurer, in the presense of costly litigation as assumed in the example, will produce 5 units and thus cause damages of 40.<sup>17</sup> The private cost of litigation is 15, since the plaintiff only bears its own litigation costs. If the defendant's litigation costs were less than 25, say 15, then the social costs of permitting use of the legal system would be 30, which is less than the benefits of 40, so the rule holding the injurer liable would be desirable. But in the posited example, the defendant's litigation costs are 30, so the social cost is 45, making liability undesirable. If suit were legally prohibited, 40 in social benefits would be sacrificed, but 45 in social costs would be saved. Therefore, there is an excessive private incentive on the part of the plaintiff to litigate: its private costs are less than the benefits even though the social costs are greater.<sup>18</sup>

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17. The injurer will not find it profitable to preclude suit in this example, as implied by the demonstration below that it would be socially undesirable (combined with the earlier proof that the private and social decision rules are the same).

18. If the plaintiff, even though victorious, had to pay defendant's litigation costs, the result in this instance would be the unconstrained social optimum (i.e., the optimum that would prevail in the absence of litigation costs). The equilibrium would be with an output of 5, which would make it unprofitable for plaintiff to sue.

This conclusion does not generalize in a number of respects. First, in a model like Shavell's, see note 16 supra, so long as the probability of an

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Note that this inefficiency results even though the injurer's decision not to preclude suit was efficient <u>taking as given the private/social cost</u> <u>divergence facing the plaintiff</u>. Preclusion, requiring an output of 3, would

accident is not reduced to zero and litigation costs are less than the loss resulting from an accident -- neither condition being inconsistent with private/social convergence of costs and benefits -- there will always be some litigation and thus some litigation costs (assuming a rule of strict liability). Second, in Menell's model, there can be an equilibrium without suit preclusion that involves no private/social divergences.

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Third, in Menell's model, one cannot expect private/social benefit convergence throughout the relevant range. Private benefit equals damages, which are assumed to increase with output. Convergence would therefore require that the social benefit of suit also be increasing with output. That implies that profits are rising faster than damages, which cannot be true where marginal profit equals marginal damages, or at higher levels of output. (Benefit convergence can exist in Table 1, case A, at the unconstrained optimum output level only because the example is discrete rather than continuous.) More generally, benefit convergence is itself a happenstance event, so to expect that happenstance result to hold over a range of output and not just at any one point would be quite farfetched.

Finally, it is worth considering more generally the possible effects of making plaintiffs bear defendant's litigation costs in Menell's model. There are three relevant situations. (1) Equilibrium before and after the change in cost rules is characterized by the plaintiff bringing suit. In this instance, the defendant's output, and thus social benefits, are unchanged, and the same social costs are incurred. Fee-shifting would thus be irrelevant. (2) The change converts an equilibrium involving suit to an injurer suit preclusion equilibrium, which is possible because higher plaintiff litigation costs imply that suit preclusion entails a higher, more profitable level of output. (This possibility argument also shows why a fourth case of moving from suit preclusion to equilibrium with suit is not a possible result.) This would entail a net social benefit. Menell's proof directly implies that the new equilibrium is more efficient than forcing litigation under the new circumstances, and forcing litigation in turn would entail the same output and litigation costs as in the initial situation (this is the argument in case 1); therefore, the result follows. (3) Equilibrium before and after the change involves suit preclusion. The change will increase equilibrium output, which will increase or decrease net benefits depending on whether output is thereby closer or further from the unconstrained optimal output level. (Cases involving crossovers could only be resolved by direct measurement of profits and damages.) Of course, all these results are limited to the special assumptions of Menell's model, and different conclusions are quite possible in the general situation. See, e.g., note 8 supra.

cost 90 in benefits ([70+50]-[10+20]), saving only 45 in costs. Thus, the injurer's behavior in failing to preclude suit, proved efficient by Menell, does not negate the possibility that it might be socially efficient to preclude suit even when the injurer does not, which is one important implication of the private/social cost divergence argument.

To complete the analysis, consider case B in this new illustration. Here the injurer will find it profitable to preclude suit by producing only 4 units. At that output, damages are only 20, which does not fully cover the plaintiff's costs, assumed in this case to be 30. The injurer sacrifices 50 in potential profits from producing the fifth unit, but saves 30 in litigation costs plus 40 in damages. Once again, as Menell's proved for all such situations, this decision by the injurer is efficient, taking as given all the circumstances. The added unit of output has a social benefit of only 30 (50-20) whereas litigation costs of 60 are avoided. But once again, it would be efficient if the plaintiff were barred from suit. In that case, the injurer would produce 6 units rather than 4, the increase in profit would be 70 (50+20), and the increase in damages would only be 50 (20 + 30). The reason there is a gain is that the plaintiff's incentive to sue results in excessively cautious behavior by the injurer.<sup>19</sup>

There still remains some ambiguity in interpreting this final case because, at the equilibrium output of 4, the social benefits of suit are -20, as indicated by the preceding calculation. Because the suit preclusion

<sup>19.</sup> By now it should be obvious that one could readily construct examples involving a suit preclusion equilibrium wherein the rule permitting the plaintiff to sue, even given the cost externality problem, would be desirable. Using the damage figures from case A would suffice.

equilibrium entails no litigation costs, any inefficiency of the sort described here must be due to divergences in benefits. More generally, since private benefits are greater than zero at such an equilibrium, the assumption that social and private benefits are equal would imply positive social benefits at that equilibrium, so there could be no net gain from legally prohibiting suit. Finally, in that situation, no general conclusion can be made concerning the desirability of closing the divergence between private and social cost; such action would increase equilibrium output, which may or may not be desirable because equilibrium output may initially be below or above the unconstrained social optimum.