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Costly litigation and optimal damages

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ABSTRACT

A basic principle of law is that damages paid by a liable party should equal the harm caused by that party. However, this principle is not correct when account is taken of litigation costs, because they too are part of the social costs associated with an injury. In this article we examine the influence of litigation costs on the optimal level of damages, assuming that litigation costs rise with the level of damages. Due to this consideration, we demonstrate that optimal damages can lie anywhere between zero and the harm plus the victim's litigation costs.

1. Introduction

The standard amount that a party who has been found liable for an injury must pay in damages is the harm caused.[2] Several scholars have noted, however, that this basic principle of law is economically problematic because the social cost of a harmful event is not only the harm, but also the associated litigation costs. They have therefore observed that the injurer should bear the harm plus total litigation costs – which implies that the injurer should pay damages equal to the harm plus the victim's litigation costs, since the injurer already bears his own litigation costs.[3]

We explain here why this conclusion is incorrect when account is taken of the fact that litigation costs generally increase with the level of damages. Consequently, litigation costs can be saved by lowering damages. Due to this consideration, we demonstrate that optimal damages can lie anywhere between zero and the harm plus the victim's litigation costs. The proper level of damages in this range depends on the tradeoff between saving litigation costs and promoting incentives to prevent harm.

The issue we are studying is empirically significant because litigation costs are high – on average about two-thirds of harm – and are sensitive to the level of damages.[4] For this reason, we believe that the optimal level of damages will often be less than the harm and, when the incentive effect of damages is low, could be zero.

We derive our results in Section 2, illustrate them in Section 3, and conclude in Section 4.

2. The model

We employ the standard model of accidents in which potential injurers take care to reduce the risk of accidents to strangers.[5] We assume that if there is an accident the victim will decide whether to sue the injurer and, if he does, that both parties will bear litigation costs. These costs include a fixed component and a variable component that rises with the level of damages.[6] We assume that liability is strict, that is, an injured party will be awarded damages if he brings a lawsuit, regardless of the injurer's level of care.[7] The state selects the level of damages to minimize social costs, which equal the sum of the cost of care, the harm, and litigation expenses.

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[2] See, for example, *Restatement (Second) of Torts*, § 901, comment a (1979) ("the law of torts attempts primarily to put an injured person in a position as nearly as possible equivalent to his position prior to the tort."); *Restatement (Second) of Contracts*, § 344, comment a (1981) (the court ordinarily awards damages that put the breached-against party "in as good a position as he would have been in had the contract been performed, that is, had there been no breach.").

[3] This point, among others, is made in Hylton (1990), Polinsky and Rubinfeld (1988), and Shavell (1999). See also Hylton (2002).

[4] See paragraph (a) in Section 4 below.

[5] The conclusions that we draw would be expected to carry over to harmful events other than accidents, and notably to breach of contract and violations of property rights.

[6] Our assumption that litigation costs rise with the level of damages not only has empirical support, as we noted, but also theoretical support. See Katz (1988).

[7] We comment on the negligence rule in Section 4.

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Let

x = expenditure on care by an injurer; $x \geq 0$;

$q(x)$ = probability of an accident; $q'(\cdot) < 0$; $q''(\cdot) > 0$;

h = harm if an accident occurs; $h > 0$;

d = damage payment by an injurer if an accident occurs and a suit is brought; $d \geq 0$;

γ_i = fixed litigation costs of an injurer; $\gamma_i \geq 0$;

$\lambda_i(d)$ = variable litigation costs of an injurer; $\lambda_i(0) = 0$; $0 < \lambda_i'(d) < 1$; $\lambda_i''(d) \leq 0$;

γ_v = fixed litigation costs of a victim; $\gamma_v \geq 0$; and

$\lambda_v(d)$ = variable litigation costs of a victim; $\lambda_v(0) = 0$; $0 < \lambda_v'(d) < 1$; $\lambda_v''(d) \leq 0$.

To obtain damages d after an accident, a victim must sue the injurer, thereby incurring litigation costs of $\gamma_v + \lambda_v(d)$ and causing the injurer to bear litigation costs of $\gamma_i + \lambda_i(d)$. A victim will bring a suit if and only if damages equal or exceed his litigation costs, that is, when

$$d \geq \gamma_v + \lambda_v(d), \tag{1}$$

or when

$$d \geq d_o, \tag{2}$$

where d_o is the solution to[8]

$$d = \gamma_v + \lambda_v(d). \tag{3}$$

We denote the level of care taken by an injurer by $x(d)$. If $d < d_o$, then $x(d) = 0$ because no suits will be brought. If $d \geq d_o$, then suits will be brought and the injurer's costs will be

$$x + q(x)(d + \gamma_i + \lambda_i(d)). \tag{4}$$

The injurer will choose $x(d)$ so as to minimize (4). This level of precaution is unique since (4) is convex in x. The injurer will choose $x(d) = 0$ if the derivative of (4) at 0 is non-negative:

$$1 + q'(0)(d + \gamma_i + \lambda_i(d)) \geq 0; \tag{5}$$

otherwise $x(d)$ will be positive and determined by

$$1 + q'(x)(d + \gamma_i + \lambda_i(d)) = 0. \tag{6}$$

It is straightforward to show that $x'(d)$ is positive by differentiating (6) with respect to d.

If victims do not bring suits, social costs will be

$$q(0)h. \tag{7}$$

If victims do bring suits, social costs will be

$$x(d) + q(x(d))(h + \gamma_i + \lambda_i(d) + \gamma_v + \lambda_v(d)). \tag{8}$$

Optimal damages, d^*, minimize social cost, which is (7) if $d < d_o$ and (8) if $d \geq d_o$. Note that if $0 < d^* < d_o$, we can assume that $d^* = 0$ because no suits will be brought. Therefore, d^* is either 0 or at least d_o.

It will be informative to first examine a simplified version of the model in which there are no variable litigation costs.

Proposition 1. When litigation costs are comprised of fixed costs only, optimal damages are either zero or equal to the sum of the harm and the victim's fixed cost of litigation, $d^* = h + \gamma_v$.

Proof. We first show that d^* cannot equal d_o, which in the present case is γ_v. Either $x(\gamma_v) = 0$ or $x(\gamma_v) > 0$. If $x(\gamma_v) = 0$, $d = \gamma_v$ cannot be optimal because one could achieve the same level of care by the injurer without incurring litigation costs, by choosing $d = 0$. If $x(\gamma_v) > 0$, it is also true that $d = \gamma_v$ cannot be optimal. In particular, (6) must hold, implying that

$$1 + q'(x)(\gamma_v + \gamma_i) = 0. \tag{9}$$

Additionally, the derivative of social costs (8) is

$$x'(d)[1 + q'(x(d))(h + \gamma_i + \gamma_v)]. \tag{10}$$

Using (9), (10) reduces to $x'(d)q'(x(d))h$, which is negative. Hence, $d = \gamma_v$ cannot be optimal.

We now know that d^* either is 0 or is greater than d_o, in which case it satisfies the first-order condition

$$x'(d)[1 + q'(x(d))(h + \gamma_i + \gamma_v)] = 0. \tag{11}$$

If $d^* > d_o$, it must be that $x(d^*) > 0$, for if $x(d^*) = 0$, then d^* cannot be optimal by the argument given in the previous paragraph. Because $x(d^*) > 0$, (6) applies and becomes $1 + q'(x)(d + \gamma_i) = 0$. Thus, (11) can be written as

$$q'(x(d))(h - d + \gamma_v) = 0, \tag{12}$$

implying that $d = h + \gamma_v$.

Either $d^* = 0$ or $d^* = h + \gamma_v$ is possible. Clearly, $d^* = 0$ is possible because, if the sum of γ_i and γ_v is sufficiently large, it will not be desirable to have lawsuits. Likewise, $d^* = h + \gamma_v$ is possible because, if the sum of γ_i and γ_v is sufficiently small, it will be desirable to have lawsuits.■

Comments: The explanation of this result is two-fold. On one hand, if suits are socially worthwhile because their beneficial effects on the injurer's care decision more than justify the resulting litigation costs, damages should equal the harm plus the victim's litigation costs. This will fully internalize the costs imposed on society whenever an accident occurs, given that a suit will result; there is no need for damages to reflect the injurer's litigation costs because the injurer will naturally bear these costs. On the other hand, if suits are not socially worthwhile because their beneficial effects on the injurer's care decision are offset by their associated litigation costs, optimal damages should be zero in order to forestall suits.

Essentially the same result – that optimal damages are either zero or the sum of the harm and the victim's fixed litigation cost – is shown in Polinsky and Rubinfeld (1988) in a different model of liability for accidents and in Shavell (1999) in a model similar to that considered here. Closely related results are obtained in Hylton (1990, 2002). Variable litigation costs are not considered in these articles.

We now state the main result in our model.

Proposition 2. When litigation costs are comprised of fixed and variable costs, optimal damages are either zero, equal to d_o, or exceed d_o and satisfy (14) below. Hence, when optimal damages are positive, they are less than the sum of the harm and the victim's litigation costs, $d^* < h + \gamma_v + \lambda_v(d^*)$.

Proof. We explained above that d^* is either zero or at least d_o. Clearly, as in Proposition 1, $d^* = 0$ is possible because, if the sum of γ_i and γ_v is sufficiently large, lawsuits will be undesirable.

That d^* can equal d_o is demonstrated by an example below. The explanation in essence is that it could be socially desirable to induce suits in order to significantly lower the likelihood of accidents, but not to raise damages any more than is necessary to induce suits because doing so would increase litigation costs more than the additional benefits of risk reduction.

To see that d^* can exceed d_o, observe that if there were no litigation costs, d^* would equal harm h (this follows from Proposition 1). Thus, if litigation costs are sufficiently low, d^* will be close to h and d_o would be close to zero. Therefore, d^* would exceed d_o.

[8] Let $f(d) = d - (\gamma_v + \lambda_v(d))$, and note that $f(0) = -\gamma_v$, $f'(d) = 1 - \lambda_v'(d) > 0$, and $f''(d) \geq 0$. Since $f(d) = 0$ determines d_o and $f'(d) > 0$, it follows that d_o exists, must be unique, and has the claimed properties. Note that d_o will be positive if $\gamma_v > 0$ and zero otherwise.