

SETTLEMENT OF LITIGATION MAY INCREASE OR DECREASE DETERRENCE AND SOCIAL WELFARE

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Question to be addressed

Because litigation usually ends in settlement, the question whether settlement promotes or interferes with deterrence and social welfare is of natural interest.

The question will be considered in the world of a straightforward theoretical model where outcomes when settlement is permitted can be compared to outcomes when (hypothetically) settlement is not permitted.

A prior article stimulating the question

Polinsky & Rubinfeld (1988) argued that settlement may dilute deterrence and social welfare.

The essence of their reasoning: injurers (defendants) settle only if they prefer settlement to trial. The ability to settle thus raises the expected utility of injurers and tends to lower deterrence and social welfare.

A point of departure for the present article

Just as injurers prefer settlement to trial, so do victims prefer settlement to trial. Therefore the ability to settle increases the expected utility of victims—and should spur suit and enhance deterrence.

Hence, the net effect of settlement on deterrence could be in either direction. Settlement will augment deterrence if the increase in the frequency of suit is more important than the decrease in injurers' payments; deterrence will fall otherwise.

A related observation: Changes in deterrence do not necessarily reflect changes in social welfare; and it will be of relevance to understand why that is so.

The model of accidents and litigation studied in the article

The model concerns two groups of individuals—injurers who might cause harm h and victims who might suffer h and bring suit.

The probability p of harm depends on the care x taken by injurers; as x rises, $p(x)$ falls.

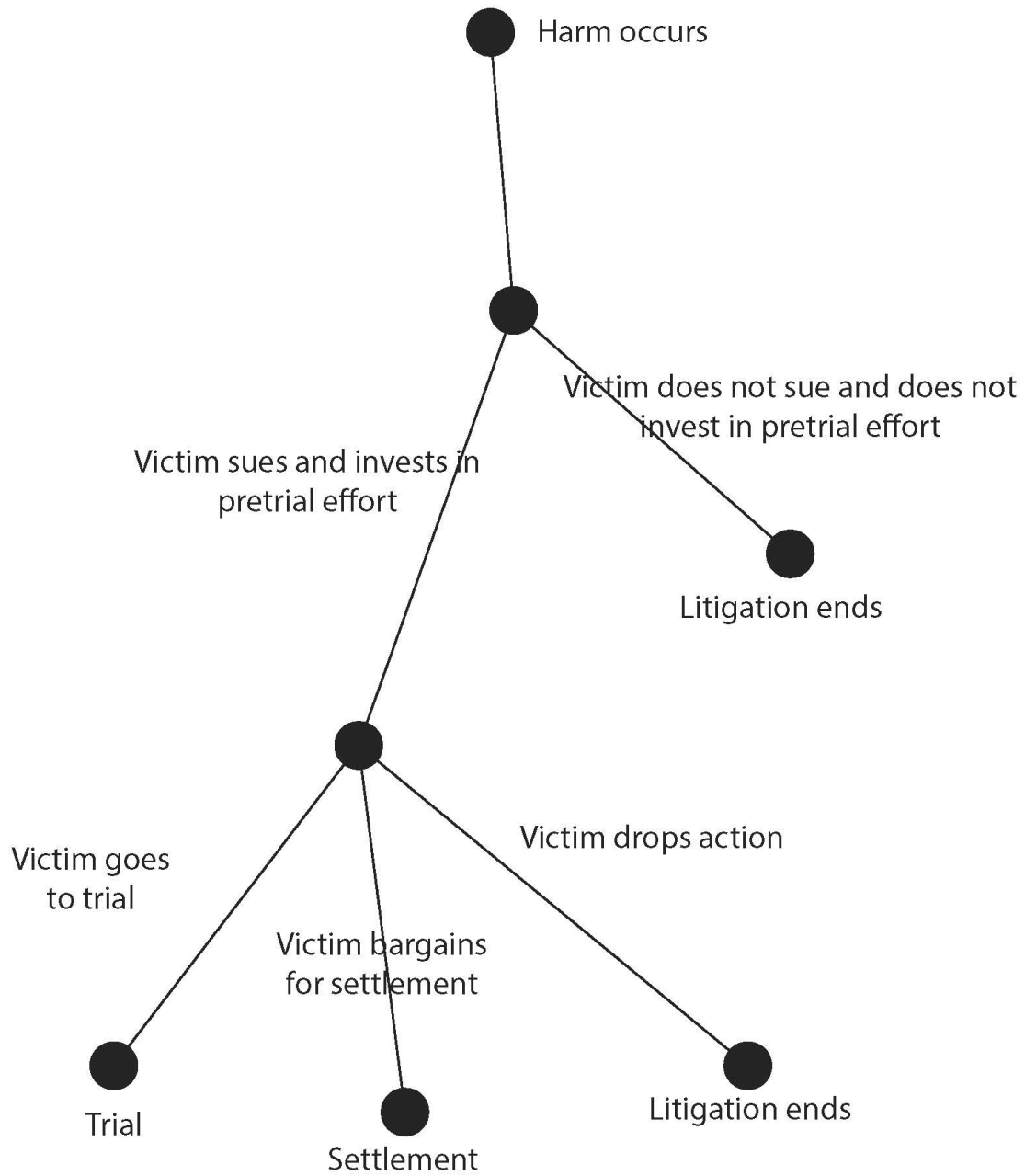
The amount that injurers pay if they cause harm depends on whether they are sued and, if so, what their settlement s will be or their court award $h + \text{legal expenses } c_i$.

If a victim is harmed and wants to sue, the victim must bear certain pretrial expenses k (in order to locate a lawyer, exchange information, and the like) before he can engage in settlement bargaining or proceed to trial.

If the victim goes to trial, he will bear legal expenses c_v and the injurer will bear c_i .

The next diagram describes the sequence of events in litigation given that harm has occurred.

Figure 1. Sequence of Events in Litigation



As can be seen, the victim must sue/invest k in pretrial effort before he can bargain about settlement and trial.

Suppose the victim has invested k . Under the assumptions made—including that the parties have perfect information about each other—the victim will obtain nothing if he does not have a credible threat to go to trial.

A credible threat to go to trial means that $h > t_v$, that the damages the victim would receive exceed his trial costs.

If the victim has a credible threat to go to trial, the parties will agree to a settlement s for an amount between what the victim would obtain from trial—which is $h - t_v$ —and what the injurer would pay at trial—which is $h + t_l$.

Given the foregoing, we can see whether the victim will bring suit and spend k in the first place. The victim will do so if and only if $s > k$, the settlement will cover his pretrial expense.

Example 1 of the outcome of litigation

Victim's pretrial costs $k = \$45,000$

Harm $h = \$100,000$

Victim's trial costs $t_v = \$60,000$

Injurer's trial costs $t_i = \$65,000$

Victim has a credible threat to go to trial (after pretrial spending \$45,000) since $\$100,000 > \$60,000$

If a victim brings suit and spends k , settlement s would occur between \$40,000—what the victim would obtain from trial—and \$165,000—what injurer would pay had he gone to trial. Assume s would be \$90,000.

Hence, the victim would choose to bring suit and would then settle—for he would spend \$45,000 pretrial and collect \$90,000 in settlement.

Note: in the model the settlement amount s is perfectly anticipated; and as long as s is at least \$45,000, suit will be brought and the injurer will pay s .

The effect of settlement on suit and deterrence in Example 1

We need to see what would occur in the absence of settlement—if settlement were barred—to determine the effect of settlement.

When settlements are not allowed, if a victim were to bring suit, spending \$45,000 pretrial, he would then go to trial and obtain $\$100,000 - \$60,000 = \$40,000$. So on net the victim would lose \$5,000. Thus, the victim would not bring suit and spend \$45,000 in the first place.

Here, then, it is the opportunity to settle that instigates suit/pretrial spending.

Regarding deterrence, we know that with the opportunity to settle, suit results and injurers pay \$90,000 in settlement. So it is this

\$90,000 that constitutes the penalty for doing harm and that produces deterrence.

And since without the opportunity to settle, there won't be suit, injurers will pay nothing if they cause harm. There will be no deterrence.

Thus the effect of settlement in the example is to augment deterrence.

Comment: in the standard model of suit, a high settlement does not increase the frequency of suit

By the standard model of suit, I refer to the model in which a victim brings suit without bearing pretrial costs. He incurs legal costs only in connection with actual trial. Hence, he brings suit and possesses a credible threat to go to trial when $h > t_v$.

And in the standard model, the victim who has a credible threat will strike a settlement s in the interval $[h - t_v, h + t_i]$ (presuming symmetric information).

In the foregoing basic model, the magnitude of s that the victim anticipates does not affect whether he wields a credible threat and brings

suit. That is determined solely by whether $h > t_v$. (This was noted by Polinsky and Rubinfeld.)

In contrast, when s must cover pretrial k , lest the victim lose by litigating, suit does depend on obtaining a sufficiently high s within the settlement interval such that $s > k$.

Example 2

Victim's pretrial costs $k = \$20,000$, unlike in Example 1, where k was $\$45,000$

Otherwise as in Example 1: Harm $h = \$100,000$

Victim's trial costs $t_v = \$60,000$

Injurer's trial costs $t_i = \$65,000$

As before victim has a credible threat to go to trial: $\$100,000 > \$60,000$.

If victim brings suit, assume again that settlement would be $\$90,000$. And because his

pretrial cost of \$20,000 is again less than \$90,000, the victim would bring suit.

The conclusion is again that the victim would choose to bring suit and collect \$90,000 in settlement.

The effect of settlement on suit and deterrence in Example 2

The victim would behave differently from how he did in Example 1 in the absence of settlement, which was not to bring suit. Now a victim would bring suit even if he cannot settle: If he brings suit, his profit would be \$100,000 – \$60,000 = \$40,000, which exceeds his \$20,000 pretrial cost.

To restate what was just said, the ability to settle does not increase suit now—for suit would still occur in the absence of settlement.

However, the situation of injurers changes in the absence of settlement. Since injurers will be sued and cannot settle, they will bear damages of \$100,000 plus legal expenses of \$65,000, or \$165,000. This exceeds the \$90,000 they would have borne when sued when settlement was possible.

Therefore, the effect of settlement will be to diminish deterrence. Suit occurs with the same frequency, but the amount that is paid by injurers when there is suit is greater when the opportunity to settle does not exist. (In effect this is the Polinsky-Rubinfeld result.)

Some details about deterrence in the model

As mentioned, injurers choose a level of care x that determines the probability $p(x)$ of harm of h . How much care injurers actually exercise depends on the amount z that they pay if harm occurs.

Their expected expenses are $x + p(x)z$, and they will choose x to minimize this quantity. Given that $p(x)$ is decreasing and convex, the optimal x for injurers, denoted $x(z)$, is zero up to a positive threshold z_0 and after that $x(z)$ is increasing in z and thus $p(x(z))$ is decreasing.

The amount z is important because it is the variable that determines the level of care x and thus the danger $p(x)$.

But how much will be accomplished in lowering $p(x)$ given z depends on the particular character of the $p(x)$ function—the p function

could be particularly sensitive to x or not so.
(For the purposes of examples, I considered $p(x) = \alpha/(1 + \lambda x)$, where $0 \leq \alpha \leq 1$ and $\lambda > 0$, so that $p(0) = \alpha$ and λ is an index of the productivity of care.)

In any case, once the behavior of victims is determined—whether they bring suit and if so the settlement amount—the level of care of injurers can be calculated and thus care x that is exercised and the probability of harm h .

The social objective

The social goal is taken to be minimization of total social costs: the cost of care x taken by injurers plus expected accident harm $p(x)h$ plus expected legal costs, which are k if there is settlement and $k + p(x)(t_v + t_l)$ if there is trial.

Private versus social objectives

The private objective of an individual is taken to be the selfish one of maximizing his own financial well-being. Hence for victims of harm it is to maximize the expected return from suit and for injurers it is to minimize expected payments made to victims

Specific examples of differences between private and social objectives are these:

- Victims' decisions about litigation are motivated entirely about their own financial

return. They do not take into account the degree to which suit and settlement deter accidents and that each accident avoided saves society h plus litigation costs, notably k .

–Victims' and injurers' decisions about settlement do not reflect the influence of the settlement s on victims' propensity to bring suit (for $s > k$ is needed to induce suit) nor its influence on injurers' level of care

Remarks on the propositions

Proposition 1 determines victim and injurer behavior when settlement is possible.

Proposition 2 determines victim and injurer behavior when settlement is barred.

Proposition 3 determines the effect of settlement (by comparing the conclusions of Propositions 1 and 2).

The method used to obtain results in Proposition 3 is that employed in considering Examples 1 and 2 here. However, here I did not calculate $p(x)$ and social costs, whereas I did in the article.

The results are not easy to summarize because they vary across many subcases.

One point of note about the results is that the direction of an effect of settlement on

deterrence can be different from the direction of the effect on social costs. This is not surprising, for as emphasized, private objectives differ from social objectives.

Proposition 4 identifies the litigation decisions that a social planner would make if he were put in the positions of victim and injurer. The main elements of the answer:

Planner would sue, spend k , and then would always settle provided that this would lead to a decrease in social costs. In particular planner would not require that $k < s$; that circumstance would be neither here nor there.

Settlement $s = h + k$ (with a minor qualification). Reason is that the social cost of an accident would be the harm plus the accompanying legal cost, k . This s gives injurers the right incentive to take care x . Of course, in reality, victim and injurer jointly choose s in the interval $(h - t_v, h + t_l)$.

Concluding comments

The importance of risk aversion

Settlement eliminates the risks of trial—of being found responsible for harm, of the magnitude of damages, and of legal expenses.

Hence, settlement may be of substantial value to risk averse victims—they might be much worse off if they had to go to trial.

This implies that victims' willingness to bring suit, and thus to generate deterrence, could be increased significantly by their ability to settle (a point independent of victims' need to offset pretrial expenses k).

Similarly, settlement will be of value to risk averse injurers, suggesting that the degrees of risk aversion of the two sides will determine the net effect of risk aversion.

Lessons from the analysis?

We should not carry the general view that settlement dilutes deterrence.

Although settlement creates a force in that direction, it also generates a force that increases deterrence—because it can finance pretrial costs—the point explored in the analysis. Victims' risk aversion also suggests settlement can foster litigation and deterrence.

It is not clear that we should adopt any overall view of the sign of the net effect of settlement on deterrence.

The information that would be needed to formulate useful social policy about settlement is substantial. Among other things, knowledge of deterrence would be required—how does the probability of harm react to care in its

various forms? Moreover, the relationship between deterrence and social costs is complicated.

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