

litigation, economics of

This article begins by introducing the basic economic framework for studying litigation and out-of-court settlement. One set of issues addressed is positive (or descriptive) in nature. Under what conditions will someone decide to file suit? When do cases settle out of court? Normative issues are also addressed. Are these private litigation decisions in the interest of society more broadly? Next, the article surveys some of the more active areas in the litigation literature including rules of evidence, loser-pays rules, appeals, contingent fees for attorneys, alternative dispute resolution, class actions, and plea bargaining.

Litigation refers to the process of taking an argument to a court of law where a decision will be made.

The discipline of economics has provided researchers – economists and legal scholars alike – with useful tools and frameworks for thinking about litigation. Is there too much litigation or too little? Why do some lawsuits go to trial while many others settle before trial? Should the losing party be required to reimburse the winning party's legal expenses? The first part of this article presents the main frameworks for studying the economics of litigation. The second part surveys just some of the active topics in the literature.

This article is largely a condensed version of Spier (2005). Previous surveys of this topic include Cooter and Rubinfeld (1989), Hay and Spier (1998), and Daughety (2000).

Basic framework

The decision to litigate

Suppose there are two *litigants*: one *plaintiff* and one *defendant*. The plaintiff is the injured party who seeks compensation; the defendant is the party who is potentially responsible for the plaintiff's injuries.

A plaintiff will rationally choose to bring suit when the expected gross return from litigation, x , exceeds the cost of pursuing the case, c_p . The gross return, x , represents the expected judgment at the end of a long and costly trial or a settlement that takes place at some time prior to the trial. It could also reflect other issues, such as the impact that a court decision will have on future cases or the plaintiff's concern for her business reputation. In general, the plaintiff's cost of pursuing the case, c_p , and the defendant's cost of fighting back, c_d , would influence the gross return, x , and could be modelled in a similar way to other economic contests (Dixit, 1987). For the moment, however, we will treat them as exogenous.

The plaintiff's incentive to bring suit typically diverges from what is best for society as a whole (see Shavell, 1982b; 1997). Consider a situation where accidents are totally avoided if the defendant makes a small investment in precautions. If the plaintiff were expected to sue following an accident, the defendant would rationally take the precautions. No accidents would occur and no litigation costs would be incurred. If $c_p > x$, however, then the plaintiff lacks a credible threat to sue. Knowing this, the defendant has no incentive to take the precautions (however inexpensive). In this example, the plaintiff's private incentive to sue is *socially insufficient*. This is not always the case, however. Suppose that the defendant's investment is totally ineffective:

accidents occur whether or not the defendant takes precautions. Following an accident, the plaintiff will sue the defendant when $c_p < x$. The plaintiff's incentive to bring suit is *socially excessive* in this example. Litigation is a socially wasteful activity here because there is nothing the defendant could have done to avoid the accident.

Settlement

Not surprisingly, the overwhelming majority of lawsuits settle before trial. (Fewer than four per cent of civil cases that are filed in the US State Courts go to trial; see Ostrom, Kauder and La Fountain, 2001, p. 29). To use our earlier notation, the plaintiff will receive a net payoff of $x - c_p$ if the case goes to court and the defendant will receive $-x - c_d$. Although x represents a simple transfer from the defendant to the plaintiff, the litigation costs, $c_p + c_d$, represent a deadweight loss. Any out-of-court transfer $S \in (x - c_p, x + c_d)$ from the defendant to the plaintiff would be a Pareto improvement. The precise outcome of settlement negotiations will hinge on a variety of factors, including the timing of offers and counteroffers, the information and beliefs of the two litigants, and the nature of the broader legal and strategic environment.

Settlement with symmetric information

Suppose that the litigants are symmetrically informed and play an alternating-offer game with $T-1$ rounds of bargaining before trial in round T . At trial, the defendant pays x to the plaintiff and the litigation costs, c_p and c_d , are incurred. The litigants share a common discount factor, δ .

This game is easily solved by backwards induction. Suppose that the plaintiff is designated to make the last settlement in period $T-1$. The defendant will accept any offer that is better than going to trial, so the plaintiff will offer $S_{T-1} = \delta(x + c_d)$, minus a penny perhaps. If the case hasn't settled earlier, it will certainly settle on the courthouse steps. If we work backwards, the litigants are willing to settle for $S_{T-2} = \delta^2(x + c_d)$ in period $T-2$, and (by an extension of this logic) are willing to settle for $S_1 = \delta^{T-1}(x + c_d)$ in period 1.

Two observations about this example are in order. First, the allocation of the bargaining surplus is sensitive to the timing of the settlement offers. If the defendant were the one to make the last offer instead, then the case would settle for $S_{T-1} = \delta(x - c_p)$ in the last round and, working backwards, we would have $S_1 = \delta^{T-1}(x - c_p)$. In other words, the party who makes the last offer succeeds in extracting all of the bargaining surplus. The bargaining surplus would, of course, be more evenly in a random-offer or framework where the two litigants flip a coin to determine who makes an offer.

Second, this simple example does not predict exactly *when* settlement will take place. The litigants are, in fact, indifferent between settling for $S_1 = \delta^{T-1}(x + c_d)$ in period 1 and for $S_{T-1} = \delta(x + c_d)$ on the courthouse steps. The reason for this is straightforward: there is no inefficiency associated with delay when the litigation costs are entirely borne at trial. (Settlement models differ from the related models of bilateral trade. There, discounting causes the pie to shrink. Here, discounting by itself does not affect the size of the pie.) If the costs of litigation were incurred gradually over time instead, so the first $T-1$ rounds of bargaining were costly as well, then there would be a

unique subgame-perfect equilibrium with settlement in period 1 (Bebchuk, 1996).

Settlement with asymmetric information

Asymmetric information is common in litigation settings. Plaintiffs often have first-hand knowledge about the damages they have suffered; defendants often have first-hand knowledge about their degree of involvement in the accident. Litigants also receive private signals concerning the credibility of their witnesses and the quality and work ethic of their lawyers. Some of this information will become commonly known over time – the parties surely learn a great deal through pretrial proceedings and discovery. Other information may never come to light at all, but can nevertheless affect trial outcomes.

Suppose that the defendant has private information about x , the expected judgment at trial. A similar analysis would follow if the plaintiff were privately informed instead. Formally, suppose x drawn from a nicely behaved probability density function $f(x)$ on $[\underline{x}, \bar{x}]$ with cumulative density $F(x)$. Starting with P'ng (1983) and Bebchuk (1984), many papers assume that the uninformed player – the plaintiff in our example – makes a single take-it-or-leave-it settlement offer, S , before trial. The defendant accepts S if it is lower than what he would expect to pay at trial, $S < \delta(x + c_d)$. The offer generates a 'cut-off,' $\hat{x} = \delta^{-1}S - c_d$, where defendant types above the cut-off accept the offer and those below the cut-off reject the offer and go to court.

The plaintiff's optimization problem may be written as a function of the cutoff, \hat{x} : $Max \int_{\hat{x}}^{\bar{x}} \delta(x - c_p)f(x)dx + [1 - F(\hat{x})]\delta(\hat{x} + c_d)$. The first term represents the plaintiff's net payoff associated with those types who reject the settlement offer, and the second term reflects the settlement payments from the defendant types above the cut-off, \hat{x} , who accept the offer. Any interior solution is uniquely characterized by the following first-order condition:

$$1 - F(\hat{x}) - (c_p + c_d)f(\hat{x}) = 0.$$

At least some cases will settle – the plaintiff will certainly make a settlement offer that is accepted by the most liable defendant ($\hat{x} < \bar{x}$) – and an interior solution exists when $(c_p + c_d)$ is not too high.

Bebchuk's basic model has been extended in a variety of ways. Nalebuff (1987) argues that the plaintiff may no longer have a credible commitment to take the case to trial following the rejection of the settlement offer, and explicitly incorporates a credibility constraint. Spier (1992) allows the plaintiff to make a sequence of settlement offers before trial. When litigation costs are all borne at trial (so there is no efficiency loss from delay), the plaintiff waits until the very last moment to offer $S_{T-1} = \delta(\hat{x} + c_d)$, where \hat{x} is defined above. (The deadline effect is less pronounced when there are pretrial costs as well.) Reinganum and Wilde (1986) let the informed litigant make a single take-it-or-leave-it offer before trial and characterize a perfect Bayesian equilibrium – unique under the D1 refinement of Cho and Kreps (1987). The defendant's equilibrium offer $S(x) = \delta(x - c_p)$ perfectly reveals his type. Making the correct inference, the plaintiff is indifferent and accepts the settlement offer with probability

$$\pi(x) = e^{-(\bar{x}-x)/(c_p+c_d)}.$$

Note that this probability is increasing in the defendant's expected liability, x . This is implied by incentive compatibility; the defendant must be

rewarded in equilibrium for making higher settlement offers with a higher rate of acceptance by the plaintiff.

Some scholars have used mechanism-design techniques to study settlement and have shown, among other things, that some cases will *necessarily* go to trial when the litigation costs are not too large (Spier, 1994a). In contrast to Myerson and Satterthwaite's (1983) analysis of bilateral trade, settlement bargaining breaks down with one-sided incomplete information and despite common knowledge that gains from trade exist. (Schweizer, 1989, and Daughety and Reinganum, 1994, explore extensive form games with two-sided asymmetric information.) Finally, it is important to mention an older literature where litigants have different priors about the outcome at trial. Landes (1971), Posner (1973), and Gould (1973) show that settlement negotiations may fail when the two sides are sufficiently optimistic. (See Loevenstein et al., 1993, for empirical evidence on self-serving biases.)

Normative implications

There are strong normative arguments in favour of settlement. Through a private settlement, the parties can avoid their litigation costs and (if they are risk averse) the risk premium associated with trials. *All else equal*, private settlement serves society's interest. What makes this topic more interesting – and sometimes exceptionally challenging – is that *all else is not equal*. First, settlement dilutes a defendant's incentives to avoid accidents. Following an accident, the defendant is better off if he has the option to settle his claim. Anticipating settlement on relatively advantageous terms, the defendant has less incentive to take precautions to avoid the lawsuit to begin with (Polinsky and Rubinfeld, 1988). (This not necessarily a bad thing: when cases settle out of court the litigations costs are avoided so the social cost of an accident is lower. Therefore, the defendant *should* be taking less care than if all cases went to trial.) Spier (1997) shows that the defendant's incentives are diluted even further if the defendant has private information. Second, the plaintiff is made better off through settlement than she would be going to trial and is therefore more likely to bring the suit. Therefore, the anticipation of settlement raises the *overall volume of cases* that are pursued.

Topics

Accuracy

Several papers present formal analyses of the social value of accuracy in legal settings. Kaplow and Shavell (1996) argue that the *ex post* accurate verification of the victim's damages is socially valuable if the injurer knew the victim's damages at the time when he chose his precaution level. Accuracy is not valuable, however, if the victim's damages could not have been known by the injurer *ex ante*. The 'scheduling' of damages, or standardizing awards for injuries that fall into particular categories (as in workers' compensation), may be desirable in these cases. Scheduling also makes the future outcome of the case more transparent – there is less to argue about – and can help to promote settlement (Spier, 1994b). Kaplow and Shavell (1992) argue that accuracy gives injurers an incentive to learn about the injuries that their activities might cause and will subsequently fine-tune their precautions. (Accurate information created by earlier trials may also help future actors fine-tune their actions; Hua and Spier, 2005.)

Alternative dispute resolution

Alternative dispute resolution (ADR) refers to the formal and informal proceedings that help parties resolve their disputes *outside* of formal litigation. Unlike settlement, which is typically achieved by the litigants themselves (and their lawyers), ADR proceedings often involve third parties who offer opinions and/or advice. Many of these systems are part of the court system, but many others are designed by the parties themselves (for example, ADR clauses in commercial contracts). In either case, ADR reflects the need to reduce the transactions costs of litigation and to make accurate decisions (Shavell, 1994; Mnookin, 1998). Farber and White's (1991) empirical study of medical malpractice claims suggests that non-binding arbitration provides an informative signal and encourages subsequent settlement. Yoon (2004) confirms this result, but finds that ADR neither reduces litigation costs nor significantly shortens the delay. The importance of this topic and the relative dearth of research – both theoretical and empirical – makes ADR a ripe topic for further investigation.

Appeals

In most legal systems, a litigant who is dissatisfied with a lower court's decision can appeal to a higher court. In Shavell (1995), appeals can be an efficient means of correcting the errors made at the lower-court level. Appeals harness the private information of the litigants themselves: an incorrectly convicted defendant is more likely to appeal an earlier ruling since the probability of reversal is higher. In this way, resources are saved relative to random auditing. (See also Spitzer and Talley, 2000.) Daughety and Reinganum (2000a) consider a Bayesian model of appeals where the upper court perceives the private decision to appeal as informative and tries to rule 'correctly' given its posterior beliefs.

Bifurcation

Landes (1993) was the first to formally analyse 'bifurcated' trials where the court establishes the defendant's negligence before determining the plaintiff's damages. One benefit of bifurcation is that, once the defendant is absolved of liability, no further costs are incurred. The effect on the settlement rate is ambiguous, however. Chen, Chien and Chu (1997) consider these issues in a model with asymmetric information. Daughety and Reinganum (2000b) endogenize the level of litigation spending. White (2002), in her empirical analysis of asbestos trials, shows bifurcation raises the plaintiffs' expected returns and increases the number of cases that are filed.

Case selection

The cases that go to trial are the tip of the iceberg – the vast majority of cases are settled before trial. These tried cases are likely to differ – perhaps systematically – from the cases that never reach the courtroom. Suppose the defendant is privately informed about the expected judgment at trial. Both the screening (Bebchuk, 1984) and signalling (Reinganum and Wilde, 1986) approaches discussed earlier predict that defendants with weak cases are more likely to settle out of court than defendants with strong cases. Intuitively, a defendant who expects an adverse judgment is more likely to accept

a settlement offer. This result would be reversed if the plaintiff has private information instead. Many authors have explored case selection using models with non-common priors instead of asymmetric information. Most notably, Priest and Klein (1984) predicted that, for tried cases, the plaintiff win rate will tend towards 50 per cent. This stark result depends on the symmetry of the litigants, among other things. (With asymmetric information, Shavell, 1996, shows that any plaintiff win rate is possible.) More generally, however, the Priest–Klein framework suggests ways that trial rates may be systematically related to plaintiff win rates. Waldfogel (1995) estimates a structural model and finds results roughly consistent with the Priest–Klein theory.

Class actions

When an injurer has harmed a group of victims, these victims may (under some circumstances) join their claims for the purpose of litigation and/or settlement. One advantage of consolidation is the scale economies associated with common proceedings and legal representation. Che (1996) assumes that plaintiffs who join a class forgo a fine-tuned award and receive instead the average damage of the group. Absent settlement, it is clear that plaintiffs with weak cases are more likely to join a class. This adverse selection problem is mitigated when plaintiffs are privately informed. Weak plaintiffs have an incentive to remain independent, too, in an attempt to ‘signal’ that they have strong cases and, in equilibrium, fewer weak plaintiffs join the class. Che (2002) argues that classes may form to increase the members’ bargaining power via information aggregation. The defendant is more generous when bargaining with the class as a whole than when bargaining with individuals.

Contingent fees

In the United States, plaintiffs’ attorneys are often paid on a contingent basis, receiving a third (say) of any settlement or judgment but nothing if the case is lost. The use of contingent fees is regulated in the US. In particular, lawyers are prohibited from purchasing cases from their clients (Santore and Viard, 2001). Many European countries prohibit contingent fees altogether. There are many economic rationales for contingent fees. First, they give liquidity-constrained plaintiffs a way to finance their cases and shift some of the risk to the attorney. They also mitigate moral hazard (Danzon, 1983) and adverse selection problems. In Rubinfeld and Scotchmer (1993), attorneys have private information about their abilities and signal high quality through a willingness to accept contingent payment. Menus of contingent fees also arise when the clients have private information. (See also the mechanism-design model of Klement and Neeman, 2004.) In Dana and Spier (1993), the attorney has private information about the merits of the plaintiff’s case. With contingent fees, the plaintiff can rest assured that the attorney will decline cases that are sure to lose. Finally, contingent fees can also be used strategically to make plaintiffs into ‘tougher’ negotiators (Hay, 1997; Bebchuk and Guzman, 1996.) In empirical studies, Danzon and Lillard (1983) show a higher drop rate with contingent fees, and Helland and Tabarrok (2003) find that contingent fees are associated with higher-quality cases and faster case resolution.

Decoupling

It may be socially desirable to tax or subsidize the plaintiff's damage award. In Polinsky and Che (1991), a defendant chooses his level of precautions and, if injured, the plaintiff decides whether to bring suit. The optimal decoupled scheme taxes the plaintiff's award so that only a handful of cases are brought, but, at the same time, it makes the award very large so that the defendant's incentives are maintained. Since the defendant's stakes are large relative to the plaintiff's, the defendant will tend to spend more at trial (Kahan and Tuckman, 1995; Choi and Sanchirico, 2004). Daughety and Reinganum (2003) consider these issues in a model with asymmetric information.

Disclosure and discovery

Litigants may voluntarily share information before trial. Indeed, the 'unravelling' logic of Grossman (1981) implies that all private information would come to light because an adverse inference would be drawn from silence. Full unravelling cannot occur, however, when hard evidence is simply unavailable. Guilty defendants have an incentive to pool with the innocent defendants who are unable to prove their innocence, for example. This suggests an important role for laws that require litigants to share information before trial. 'Discovery' can improve the accuracy of later court decisions (Hay, 1994; Cooter and Rubinfeld, 1994) and facilitate settlement negotiations before trial by narrowing the scope of asymmetric information (Shavell, 1989). (In contrast, Schrag, 1999, argues that discovery can lead to higher litigation costs and longer delays.) In Farber and White's (1991) sample of medical malpractice cases, many lawsuits are settled or dropped following discovery. Using a survey of attorneys in federal civil cases, Shepherd (1999) finds defendants increase their discovery efforts, 'tit-for-tat', in response to heightened discovery requests by the plaintiff.

The English Rule

In the United States, litigants bear their own costs of litigation – the 'American Rule'. In contrast, the 'English Rule' shifts the winner's costs to the loser. Shavell (1982a) and Katz (1990) show that the English Rule discourages the filing of low-probability-of-prevailing cases but encourages high-probability-of-prevailing cases. (Kaplow, 1993, and Polinsky and Rubinfeld, 1998, discuss the normative implications.) The English Rule also tends to raise the litigation rate when parties disagree about the probability of winning (Bebchuk, 1984; Shavell, 1982a). Intuitively, the scope for disagreement is even higher because the parties have different beliefs about who will bear the litigation costs. Finally, the English Rule tends to raise the level of litigation spending (Braeutigam, Owen and Panzar, 1984; Hause, 1989; Katz, 1987). Intuitively, the marginal cost associated with spending is lower since the costs are partially externalized.

Inquisitorial versus adversarial systems

In adversarial systems, each side gathers and processes information separately. In inquisitorial systems – such as those found in continental Europe – these activities are more centralized and often presided over by a judge (see

the discussion in Parisi, 2002). Adversarial systems are often criticized for giving litigants an incentive to hide relevant information from each other and from the court. They also can lead to the wasteful duplication of effort. On the other hand, adversarial systems may provide better incentives for information gathering (Dewatripont and Tirole, 1999). Milgrom and Roberts (1986) present a persuasion game where the parties have equal access to all of the relevant evidence and show that accuracy is not compromised in equilibrium. This stark result may no longer hold when parties have asymmetric access to evidence or when evidence is costly to gather and disclose; see also Shin (1988), Daughety and Reinganum (2000b) and Froeb and Kobayashi (1996).

Insurance contracts

It is common for insurance contracts to place an upper bound on the level of coverage. This creates a potential conflict between the defendant and his insurer when deciding to settle a case (Meurer, 1992; Sykes, 1994). The insurance company is averse to settling because the defendant will bear the downside of a very large judgment at trial. Nevertheless, the defendant may delegate settlement authority to his insurer as a strategic commitment to be 'tough' in settlement negotiations. By reducing the most that the insurer is willing to pay in settlement, the insurance contract serves to extract value from the plaintiff. These contracts may be undesirable from a social welfare perspective, however, since the toughness of the insurer can increase the litigation rate (and the associated litigation costs). Formally, these ideas are related to Aghion and Bolton's (1987) analysis of contracts as a barrier to entry. (Spier and Sykes, 1998, show that corporate debt has a similar strategic value.)

Joint and several liability

There are many situations where a single victim is harmed by the actions of many injurers (for example, toxic-tort and price-fixing cases). Common rules for allocating responsibility include non-joint liability, where each losing defendant is responsible for his own share of damages, and joint and several liability, where a single losing defendant can be held responsible for the entirety of the plaintiff's damages. Kornhauser and Revesz (1994) analyse settlement incentives when the liability of a non-settling defendant is reduced, dollar for dollar, by the value of the previous settlements. (If the plaintiff's damages are \$80 one defendant settles for S , the remaining defendant may be responsible for $80 - S$.) This rule encourages settlement when the cases are positively correlated but discourages settlement when the cases are independent. Some empirical support has been found in disputes between the Environmental Protection Agency (EPA) and Superfund defendants (Chang and Sigman, 2000).

Most-favoured-nation clauses

Settlement contracts in environments with multiple plaintiffs sometimes include 'most-favoured-nation' (MFN) clauses. They work in the following way: if an early settlement agreement includes an MFN clause and the defendant settles later with another plaintiff for more money, the early settlers receive the better terms, too. Spier (2003a) argues that MFN clauses econ-

omize on delay costs when a single defendant makes repeated offers to privately informed plaintiffs. MFNs may also be used to extract value from future plaintiffs (Spier, 2003b; Daughety and Reinganum, 2004). Intuitively, an MFN commits the defendant to be tough in future negotiations, allowing the defendant and the early plaintiffs to capture a greater share of the future bargaining surplus. The welfare effects of most-favoured-nation clauses are ambiguous. They can make early settlement negotiations more efficient but may lead later negotiations to fail.

Negative expected value claims

Suppose that a plaintiff has a negative expected value (NEV) claim – he stands to lose money if the case proceeds all the way to trial. Could this plaintiff succeed in extracting a settlement from the defendant? Interestingly, the *divisibility* of litigation costs over time can make the plaintiff's threat to litigate the NEV claim credible (Bebchuk, 1996). Here is the intuition. With divisibility, the bulk of the costs are sunk once the case reaches the courthouse steps. At that point, the plaintiff's threat to litigate is credible, so the defendant will settle. If we work backwards, the plaintiff's threat to continue may be credible at all stages of the game. Furthermore, a privately informed plaintiff with a NEV claim may mimic a plaintiff with a positive expected value claim and the defendant (not knowing for sure) may capitulate (Bebchuk, 1988; Katz, 1990). Finally, Rosenberg and Shavell (1985) present a model where the defendant must sink some defence costs or risk a summary judgment before trial.

Offer-of-judgment rules

Under Rule 68 of the United States Rules of Civil Procedure, if a plaintiff rejects a settlement offer and later receives a judgment that is less favourable, then the plaintiff is forced to bear the defendant's post-offer costs. Other rules allow for two-sided cost shifting. Spier (1994a) shows that these rules raise the settlement rate when liability is acknowledged but there is private information about damages. Intuitively, the rule serves to discipline aggressive settlement tactics (but see Farmer and Pecorino, 2000, and Miller, 1986). Bebchuk and Chang (1999) show that offer-of-judgment rules level the playing field in bargaining and lead to settlements that more accurately reflect the expected judgment at trial.

Patent litigation

Suppose that a patentee and an imitator are trying to settle a dispute. At trial, the patent may be invalidated, in which case the imitator will compete on equal footing with the patentee. Settlement provides an opportunity for collusion. Shapiro (2003) discusses these mechanisms and proposed criteria for judicial approval of patent settlements; see also Meurer (1989). Marshall, Meurer and Richard (1994) argue that the mere threat of patent litigation may be enough to soften competition in a patent race; see also Choi (1998). Lanjouw and Schankerman (2001) document interesting correlations between litigation decisions and the characteristics of the patents. In particular, a patent is more likely to be litigated if it serves as the 'base of a cumulative chain' or, in other words, there are more rents to be captured from future innovators.

Plea bargaining

In criminal cases in the United States, the prosecutor and the defendant often negotiate a guilty plea in exchange for a lighter sentence – a process known as plea bargaining. Landes (1971), in the first formal analysis of plea bargaining, assumes that the prosecutor maximizes the sum of expected sentences subject to a resource constraint. Grossman and Katz (1983) assume that the defendant privately observes his guilt and the uninformed prosecutor makes a single take-it-or-leave-it offer of a reduced sentence in exchange for a guilty plea. In the screening equilibrium, the guilty defendants accept the offer and the innocent defendants reject the offer and go to trial. This is, of course, similar to Bebchuk's (1984) analysis of civil settlement. In Reinganum (1988), the prosecutor's offer signals the prosecutor's private information and, as in Reinganum and Wilde's (1986) analysis of civil settlement, the offers with high sentences are rejected more. In contrast to Grossman and Katz (1983), trials are more likely when the defendant is guilty. (In Reinganum, 2000, an informed defendant makes an offer to an uninformed prosecutor.)

Precedent

In Anglo-American legal systems, laws can be created and changed by judges over time. Cooter, Kornhauser and Lane (1979) present an early formal model where the courts learn about – and subsequently adjust – standards of care for injurers and victims. Landes and Posner (1976) consider the possibility of judicial bias, but argue that the threat of being overruled mitigates a judge's incentive to pursue his own agenda. Gennaioli and Shleifer (2005) present a formal model with a different conclusion. Rasmusen (1994) formalizes strategic interactions among a sequence of judges in a dynamic framework and shows that judges may cooperate in equilibrium and follow past precedents because violations would lead to future breakdowns where their own precedents would be violated by others; see also Schwartz (1992), Daughety and Reinganum (1999b) and Kornhauser (1992). Levy (2005) presents a model where judges have career concerns and go against precedent to signal their abilities. (A set of related rules and doctrines, 'collateral estoppel', applies when at least one litigant is involved in multiple suits; see Spurr, 1991, and Che and Yi, 1993.)

Secret settlement

It is not uncommon lawsuits to settle secretly, where neither the existence of the suit nor the terms of the settlement are observed by the public. Secrecy may be facilitated through 'gag orders' or through private contracts. In Daughety and Reinganum (1999a; 2002), open settlements publicize the defendant's involvement in a case and increase the likelihood that other plaintiffs will file suit in the future. They also provide future plaintiffs with information about the expected value of their claims. Daughety and Reinganum (1999a) show that, because of the publicity effect, early plaintiffs can extract 'hush money' from defendants, enriching themselves at the expense of later plaintiffs. Importantly, secrecy can compromise firms' behaviour and product safety choices in a market setting (Daughety and Reinganum, 2005).

Standards of proof

How confident should a judge or jury be before convicting a defendant or finding in favour of a plaintiff? Rubinfeld and Sappington (1987) present a framework where the defendant can manipulate the signal received by the court, and shows how the optimal standard of proof balances litigation costs and *ex ante* deterrence concerns. Sanchirico (1997) presents a model where plaintiffs, as well as defendants, make investments in their cases. Demougins and Fluet (2006) explores the trade-offs when the defendant's wealth is limited. See Bernardo, Talley and Welch (2000) and Hay and Spier (1997) for discussions of the burden of proof.

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See also

< xref = D000242 > dispute resolution;

< xref = L000038 > law and economics.

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Index terms

adverse selection
 alternative dispute resolution
 asymmetric information
 bargaining
 contingent fees
 dispute resolution
 English Rule
 Environmental Protection Agency
 insurance contracts
 liability
 litigation, economics of
 moral hazard
 most-favoured-nation clauses
 negative expected value
 patents
 Posner, R.
 Superfund
 symmetric information
 transaction costs

Index terms not found:

alternative dispute resolution
 asymmetric information
 Posner, R.
 transaction costs