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Economic Analysis of Law

Steven Shavell*

Economic analysis of law involves two elements: prediction of behavior in response to legal rules, assuming that actors are forward-looking and rational, and evaluation of outcomes in relation to well-articulated measures of social welfare. Thus, in its general description, the view adopted in analyzing law is the standard one of economics. Over the past 25 years or so, a relatively small group of individuals has undertaken research in economic analysis of law, but the number of interested individuals and the pace of their work has been growing. What has been accomplished in the field is indicated in a survey I have just written with Louis Kaplow for the next edition of *The Handbook of Public Economics*.¹ A sketch of some of my current research areas will illustrate, I hope, the intellectual appeal of the field of law and economics and also the need for additional work, much of it empirical.

The Amount of Litigation

We constantly encounter the view that the legal system is a very costly social institution, whether measured by the magnitude of legal expenditures, the number of lawyers, or the sheer volume of litigation. This has contributed to a widespread belief that the amount of litigation is socially excessive and has led to various efforts to curb it (for example, by limiting damage awards or adopting

no-fault automobile insurance statutes). At the same time, however, we see that some policies (such as legal aid programs) encourage litigation. What can economics say about the social desirability of the amount of litigation that we observe?

The basic answer developed in a number of papers that I have written² is that we can have no confidence that the actual amount of litigation activity tends toward the socially desirable—there are what may fairly be called “fundamental externalities” particular to litigation that may lead to too much or too little of it, depending on circumstance. On the one hand, there is a divergence between the private and the social costs associated with use of the legal system: the legal costs that would be incurred by a person who brings suit are only his or her own; they do not include those of the defendant or of the state. This creates a tendency toward overuse of the legal system. On the other hand, there is a divergence between the private benefits from suit—the dollar awards that would be won—and the social benefits associated with suit, inherent in the incentive effects brought about by the threat of suit. This divergence might exacerbate the cost-related tendency toward too much suit that I just noted. For example, the dollar awards that victims can win in suits might be high enough to stimulate much litigation, but at the same time the effect of suit on behavior might be quite low. (The dollar awards that victims of automobile accidents can win generate fully half of our tort litigation, but to what degree does the prospect of suit reduce the incidence of automobile accidents?) The divergence between private and social benefits might also lead to too little litigation, though. Suppose that harm is low relative to litigation costs, mak-

ing it not worth victims’ while to sue. But suppose further that, were suit threatened, there would be a substantial effect on the behavior of injurers. In this circumstance, suit would not be brought even though a regime in which victims would sue (say suit was subsidized or the legal costs were shifted to the injurers) might be socially desirable.

The general consequence of the existence of these underlying, significant differences between the private and the social incentives to use the legal system is that social intervention may be justified, either to discourage litigation or to encourage it, as the case may be. To ascertain what policy would be best, we need more empirical work on the costs of the legal system and its effects on behavior in different domains (such as automobile accidents, medicine, and product liability).

Public Law Enforcement

The general subject of public law enforcement—concerning the choice of degree of enforcement effort (the number of police, IRS agents, and the like), the magnitude of sanctions, and their form (fines versus imprisonment)—is of substantial importance, given the overall scope of government regulation, taxation, and crime in society. I have worked continuously in this area and have recently written surveys of it with A. Mitchell Polinsky.³ Here are some of the themes that have emerged from the theoretical research on law enforcement.

First, there is a general social advantage to creating desired expected sanctions by using low probabilities of detection in combination with high-in-magnitude sanctions, because low probabilities of detection conserve on enforcement expen-

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ditures. This point, first stressed by Gary Becker, is qualified for many reasons (including the risk aversion of individuals) but remains fundamental and important.

Second, there is an advantage in using fines as sanctions to the maximum extent possible before resorting to imprisonment, because fines (being a transfer of command over resources) are a much cheaper form of social sanction than imprisonment (which involves the operation of the prisons, among other things).

Third, there is an advantage of using fault-based liability over strict liability when sanctions are socially costly to impose—that is, with the use of imprisonment, or with fines when individuals are risk-averse. The advantage is that, under fault-based liability, injurers generally are induced (in the absence of mistakes) to obey fault standards, and therefore they do not ordinarily bear sanctions. Under strict liability, however, injurers are sanctioned whenever they are caught.

These themes have been refined and extended in various ways. For example, I recently worked on so-called self-reporting of violations. One example of this is a firm's reporting to the Environmental Protection Agency that it has mistakenly discharged a pollutant, or an individual's reporting his or her involvement in a traffic accident to the police.⁴ Evidently, parties are willing to report themselves because if they do not and are subsequently caught, the sanction often would be higher (the sanction for failing to report a traffic accident, for instance, might be that for hit-and-run driving). There are social advantages to designing sanctions in this way; one is that it saves on enforcement costs, because injurers do not need to be found if they volunteer their identity.

I am also working on another enforcement subject, the theory of

corruption of law enforcement officers. Among other things, the theory must confront the question of why corruption is socially undesirable if its deterrence-diluting effect could be offset by an increase in sanctions (which would raise the bribes paid to law enforcers and thus implicitly raise deterrence). This issue, and the optimal way to control corruption through enforcement effort and sanctions, is addressed in my current work on the topic.⁵

Liability Insurance

Liability insurance has been one of this century's most important liability-system developments. Liability insurance fundamentally alters the effect of liability because, when a liable party owns it, he or she does not pay the judgment or settlement out of pocket; the liability insurer pays the judgment. Thus the very existence of liability insurance appears to undermine the deterrent purposes of liability. Indeed, as a consequence of that fear, the sale of liability insurance was resisted for years in many countries (it was never allowed in the former Soviet Union), and today its sale is not allowed against certain types of liability (against punitive damages in certain jurisdictions). At the same time we see that liability insurance, far from being restricted, is often required (drivers must own minimal liability coverage).

These observations about liability insurance raise basic questions about its functioning, social desirability, and optimal regulation, and they were what originally aroused my interest in law and economics. After having devoted much research effort toward analysis of tort law in general, I am now reexamining the subject of liability insurance.⁶

Liability insurance does not vitiate the incentives toward risk reduction

that society seeks from the liability system: the direct incentives of the liability system may be translated into the terms of insurance policies. If insurers can monitor risk-reducing actions of those who are insured, then premiums will tend to be reduced in concert with these actions, often leading those who are insured to take them when socially desirable. For example, the owner of a swimming pool might be induced to put a fence around it by the reduction in the liability insurance premium that this effort would occasion. If, however, the risk-reducing actions of those who are insured are not observable to insurers, then for familiar reasons, moral hazard will tend to lead to dulled incentives to reduce risk. But because coverage will tend to be incomplete, positive incentives to reduce risk will still exist.

It turns out (although it is by no means obvious) that the incentives resulting from the operation of the liability-insurance market are socially desirable in an appropriate second-best sense, and that the unencumbered sale of such insurance is desirable, in natural models of the liability system, provided that the parties have assets sufficient to pay for the harm that they might do.

If, however, the parties' assets are less than the harm they might cause, regulation of liability insurance—by either limiting or requiring its purchase—may be socially desirable. To understand why this is so, one should note that, given their lack of assets, risk-averse parties will tend not to purchase full liability insurance coverage, and perhaps none at all, even when it is sold at actuarially fair rates. The reason is that to purchase full coverage against a loss of, say, \$1 million when one has only \$100,000 in assets is to a great extent to purchase coverage against losses that one would not otherwise have to bear.

Given this bias against purchasing full liability insurance coverage, it might be desirable to mandate full coverage. This would be advantageous if insurers could observe what steps are taken to reduce risk or if insurance rates could discourage high-risk individuals from participating in certain activities. It might also be desirable, however, to have the opposite regulation: to forbid the purchase of coverage. That would be advantageous if insurers are unable to observe risk-reducing behavior. (In such a situation, mandating full coverage would create severe moral hazard.) Making parties expose all their assets to risk, rather than only a fraction of them (were they otherwise to purchase limited coverage), would increase incentives to reduce risk.

To understand when and how to regulate liability insurance, these points need to be explored, and data needs to be developed and analyzed on the nature of the judgment proof problem and of liability insurance coverage in various areas of risk.

Reward Systems as Alternatives to Patents and Copyrights

Another of my research interests is the basic alternative to intellectual property rights, which is a system of rewards. Under a reward system, innovators would be paid directly by the government for innovations—possibly on the basis of sales—and innovations would pass immediately into the public domain. Thus the author of a book would not receive a copyright but rather a payment from the government, calculated from sales of the book (perhaps together with other indicia of value). The book, being freely available to all publishers, would sell at production cost.

It turns out that reward systems were used to a fair extent in England

in the late 1700s and the 1800s. Moreover, in the 1860s and 1870s, reward systems figured in one of the most intensive public-policy debates in the economics profession; they were discussed everywhere by economists—in articles, books, and pamphlets and at conferences. At that time the patent system had come under strong attack throughout Europe and was considered likely for repeal (Otto von Bismarck had recommended repeal in Prussia, and England had set up reform commissions); in some countries (Holland and Switzerland, for instance) the patent system was actually rejected for a period. Obviously the patent system ultimately won out, and the entire subject of rewards as a fundamental alternative to intellectual property rights has almost disappeared from economists' sight.

The chief virtue of a reward system, relative to copyright and patent, is that a reward system engenders incentives to innovate without conferring monopoly power on innovators. (Another virtue of a reward system is that improvements of innovations cannot be blocked by original innovators, since by definition such innovators have no intellectual property rights to their innovations.) A principal difficulty with a reward system, though, is the information that government requires to calculate rewards. Tanguy van Ypersele and I conclude in our model of innovation that intellectual property rights do not possess a fundamental social advantage over reward systems; either system could be better, depending on the circumstance.⁷ Moreover, we show that a properly designed optional reward system—under which innovators choose between rewards and intellectual property rights—is unambiguously superior to intellectual property rights. An optional system is also politically feasible because industry would have

nothing to fear from it, since an innovator could always choose to enjoy intellectual property rights in an innovation.

In view of the potential gains that might be obtained from eliminating monopoly pricing of many patented and copyrighted goods (consider the price versus the marginal cost of producing software and pharmaceuticals, or showing movies), the subject of rewards, and especially of optional rewards, seems worthy of renewed attention by economists.⁸

Welfare Economics versus Notions of Fairness in Normative Analysis of Law

The framework of welfare economics is very different from that used by legal academics (and, indeed, by virtually anyone who is not an economist) in evaluating the social desirability of laws. For example, in ascertaining the social desirability of a legal rule governing liability for accidents, economists usually would focus on such factors as the effect of the rule on accident frequency, litigation costs, the allocation of risk-bearing, and the distribution of income. By contrast, the noneconomic views would also generally place substantial weight on various notions of fairness. In choosing a liability rule for accidents, the noneconomic views typically would accord significant importance to such notions as whether corrective justice demands that negligent injurers pay victims.

What can be said about the way in which the noneconomic views are used by legal academics and about their relationship to welfare economics? Kaplow and I are working on a series of papers on this topic.⁹ We stress the following major themes.

First, the noneconomic views are essentially used reflexively, even though very basic questions about

their applicability often are not recognized. For example, how are the demands of corrective justice affected by the possibility that wrongdoers may own liability insurance and thus in fact often do not pay their judgments? Or by the possibility that victims do not need compensation because they own first-party insurance? Or by the possibility that litigants are not people but faceless organizations? These matters aside, how are the demands of corrective justice to be weighed against the incentive effects of liability, litigation costs, and the like? We cannot find real answers to such questions (and it is unusual for them even to be noted) in the writing of legal academics and philosophers.

Second, notions of fairness are deemed to be important without apparent regard for the degree to which individuals actually care about them. Thus a noneconomic view might hold that the negligence rule, and not strict liability, should govern liability because the negligence rule is fairer than strict liability, seemingly even if not a single person in the population considers the negligence rule fairer. The noneconomic views thus appear to be in fundamental tension with individualistic social welfare functions, and implicitly to raise conflicts with Pareto optimality.

We conclude that in evaluating legal policy, the framework of welfare economics should be relied on exclusively, meaning that notions of fairness should not be accorded im-

portance in their own right. Although this conclusion may seem extreme, its full articulation makes clear that it is not really so. It certainly accommodates the belief that it is socially desirable for individuals to have, and to be instilled with, the set of moral views that we think good (keeping promises and the like), for these lead to behavior that advances social welfare in various respects. And our conclusion also accommodates the belief that we in fact consider it important to adhere to many moral views. What is ruled out is that the policymaker give importance to any conception of morality or fairness in addition to the importance that individuals themselves attach to these notions.

Although the issues we examine in drawing our conclusions involve, in many respects, age-old philosophical debates that might not seem fruitful to discuss, we think they need to be confronted carefully and related to the framework of welfare economics, because of their influence on actual legal policy.

¹ L. Kaplow and S. Shavell, "Economic Analysis of Law," NBER Working Paper No. 6960, February 1999.

² S. Shavell, "The Social versus the Private Incentive to Bring Suit in a Costly Legal System," *Journal of Legal Studies*, 11 (2), (June 1982), pp. 333-9; "The Fundamental Divergence between the Private and the Social Motive to Use the Legal System," *Journal of Legal Studies*, 26 (2), (June 1997), pp. 575-612; "The Level of Litigation: Private versus Social Optimality," *International Review of Law and Economics*, forthcoming.

³ A. M. Polinsky and S. Shavell, "Public

Enforcement of Law," in *The New Palgrave Dictionary of Economics and the Law*, Vol. 3, Peter Newman, ed. New York: Stockton Press, 1998; and "The Economic Theory of Public Enforcement of Law," NBER Working Paper No. 6993, March 1999.

⁴ L. Kaplow and S. Shavell, "Optimal Law Enforcement with Self-Reporting of Behavior," NBER Working Paper No. 3822, August 1994; published in *Journal of Political Economy*, 102 (3), (June 1994), pp. 583-606.

⁵ A. M. Polinsky and S. Shavell, "Corruption and Optimal Law Enforcement," NBER Working Paper No. 6945, February 1999.

⁶ Much of my work in tort law is summarized in S. Shavell, *Economic Analysis of Accident Law*, Cambridge: Harvard University Press, 1987. My work on liability insurance is contained in S. Shavell, "On Liability and Insurance," *Bell Journal of Economics*, 13 (1), (Spring 1982), pp. 120-32; "The Judgment Proof Problem," *International Review of Law and Economics*, 6 (1), (June 1986), pp. 45-58; and "Liability Insurance: Its Social Desirability and Optimal Regulation," which I will be presenting as the 25th annual lecture for the Geneva Association on Risk and Insurance.

⁷ S. Shavell and T. van Ypersele, "Rewards versus Intellectual Property Rights," NBER Working Paper No. 6956, February 1999.

⁸ A recent proposal contained in M. Kremer, "Patent Buyouts: A Mechanism for Encouraging Innovation," NBER Working Paper No. 6304, December 1997; published in *Quarterly Journal of Economics*, 113 (4), (November 1998), pp. 1137-68, may be interpreted as a particular way of implementing an optional reward system.

⁹ L. Kaplow and S. Shavell, "Fairness versus Welfare Economics in Normative Analysis of Law," unpublished paper, Harvard University, 1999.

