217. The seminal article on the economic approach to crime.
Lott, John R., Jr., and David B. Mustard. "Crime, Deterrence and the Right-to-Carry Concealed Handguns." *Journal of Legal Studies* 26 (1997): 1–68. The original study finding that right-to-carry laws reduce crime. Although the study has been criticized, there is no evidence that these laws cause increases in crime.

Liability

W. Kip Viscusi

Until the 1980s, property and liability insurance was a small cost of doing business. But the substantial expansion in what legally constitutes liability has greatly increased the cost of liability insurance for personal injuries. The plight of the U.S. private aircraft industry illustrates the extent of these liability costs. Although accident rates for general aviation and for small aircraft declined steadily, liability costs for the industry soared, so that by the 1990s the U.S. private aircraft industry had all but ceased production. These substantial costs arose because accident victims or their survivors began to sue aircraft companies in 90 percent of all crashes, even though pilot error is responsible for 85 percent of all accidents. Only after Congress exempted planes older than eighteen years from liability by passing the General Aviation Revitalization Act of 1994 did the industry begin to increase production. Still, output is well below its level before the rise in liability costs. In 1978, 17,811 new U.S.-manufactured general aviation airplanes were shipped, but by 1994 this amount had plummeted to 928. Though shipments have since rebounded to 2,137 airplanes in 2003, that amount is still well below the peak production years.

The consequences of liability can be substantial for industries, and some, such as the asbestos industry, have disappeared altogether because of liability costs. The U.S. vaccine industry has been hard hit by the costs associated with liability for adverse reactions to its vaccines. Indeed, much of the price of vaccines is attributable to costs of liability, which are largely shifted to consumers through higher prices because expected liability costs raise the costs of supplying vaccines. Ten of the thirteen companies manufacturing vaccines for the five serious childhood diseases exited the market because of rising liability costs. Negligence was at one time the dominant legal criterion for determining a firm’s liability. Firms were responsible for accidents arising from their products only if they did not provide an efficient level of safety (see LAW AND ECONOMICS for an explanation of how the term “efficient” is used in this case). Over the past three decades, however, broader liability doctrines, some of which have nothing to do with negligence, have placed greater responsibilities on product manufacturers. In the 1960s, courts adopted "strict liability," which required producers to pay for accident costs in a much broader range of circumstances. The asbestos litigation is perhaps the best-known example of a major line of litigation that was facilitated by the adoption of the strict liability doctrine. One of the courts’ stated ra-
tionales for this expansion is that producers can serve as the insurers of the accident victims’ costs and spread these costs among all consumers through a higher product price. And that is precisely what has happened.

Courts have also expanded liability by broadening the meaning of the term “design defect.” This had been reflected in, for example, a surge of litigation claiming that an inadequate warning—one that does not fully inform the user of a product’s risks—is enough to deem a product’s design defective. A federal appeals court found Unireal liable for the death of a professional truck driver because it failed to warn of the risks from underinflated tires. FMC lost a product-liability suit involving a crane because there was no warning in the cab about hitting power lines with the machine. Many asbestos cases have focused on whether companies properly informed workers of the cancer risk and the need to avoid breathing asbestos dust.

Although increases in liability enhance the incentives to provide safer products, they also discourage product innovation. In a 1990 report, the National Academy of Sciences concluded that the United States had fallen a decade behind Europe in the development of new contraceptives, partly because of the chilling effect of rising liability costs (Mastroianni et al. 1990). In one case, G. D. Searle and Company spent $1.5 million in a single year to successfully defend itself against four lawsuits over its intrauterine device Copper-7. Because annual sales of the product were only $11 million, the company chose to discontinue it.

One might expect liability costs to follow the same trend as risks, but that has not happened. General liability insurance costs rose from $6.4 billion in 1981 to $22 billion in 2001. Over that same period, the overall accidental death rate per 100,000 population actually fell from 46.2 to 35.3. The accident rate per 100,000 population for the highest-accident-risk product, motor vehicles, declined from 23.5 to 15.7.

The principal components of the awards in liability suits are economic damages (lost earnings and medical expenses), compensation for noneconomic damages, and punitive damages. Economic damages have risen, in part, because the cost of medical care has risen. Noneconomic damages, chiefly from pain and suffering, have attracted the most attention from liability reformers because their conceptual basis remains ill-defined. Medical malpractice reforms, in particular, have emphasized limits on noneconomic damages. The legal criteria for pain and suffering compensation are not well articulated. They are an economic loss against which people do not usually insures.

This lack of a conceptual base has caused substantial uncertainty in determining compensation for pain and suffering. But juries seem willing to see pain and suffering almost everywhere. After an Illinois refinery explosion, for example, a jury awarded $700,000 to the victim’s survivors, even though there was no evidence that the comatose victim was conscious and would have experienced any pain. The award was overturned on appeal. But the fact that such awards are granted is one reason the U.S. Department of Justice and various legal reform groups advocate schedules and limits for compensating pain and suffering. Most recently, there has been a tremendous expansion of the pain-and-suffering concept as passengers on a plane that never crashed successfully sued for the “fear of death,” and witnesses of the death of a stranger successfully sued for the emotional trauma they experienced by witnessing this death. One plaintiff received an award of $1.15 million simply for the fear of a crash of a United Airlines flight.1

Punitive damages awards have achieved increasing prominence. While million-dollar awards were once sufficient to garner headlines, from 1985 to 2003 there were sixty-four punitive damages awards of $100 million or more, and more than 95 percent of these awards were the result of jury trials rather than bench trials. Eleven of the punitive damages awards have been at least $1 billion. These awards often bear little relationship to the value of compensatory damages, as illustrated by the punitive award of $2.8 billion in Bullock v. Philip Morris. In that individual smoker case, the compensatory damages were $650,000, producing a ratio of punitive damages to compensatory damages of forty-three thousand. In 2003, the U.S. Supreme Court attempted to rein in such excesses in State Farm v. Campbell, in which it indicated that the upper limit should be a single-digit ratio of punitive damages to compensatory damages.

Perhaps the most dramatic change in the character of product-liability litigation has been the emergence of mass toxic torts. Agent Orange, asbestos, and the Dalkon Shield cases are the three most notable examples of such litigation. Each involved more than 100,000 injury claimants—125,000 claimants in the Agent Orange litigation, 190,000 claimants against the Manville Corporation for asbestos exposures, 150,000 claimants in other asbestos cases, and 210,000 claimants against the Dalkon Shield. Asbestos litigation was 2 percent of federal product-liability litigation in 1975, but had risen to 61 percent by 1989. The surge in mass toxic torts has overwhelmed the

1. See Blum v. Airport Terminal Services, 762 S.W. 2d 67 (Mo., 1988).
courts' capacity to process these claims. After the lawsuits against companies that produced asbestos abated, a new wave of asbestos litigation began against firms that used asbestos in their production processes or in their products.

These cases are distinguished not only by their number, but also by the difficulties they create for the liability system. Due to the substantial time lags involved, causality has been difficult to determine. It is noteworthy that in the Agent Orange case, legal doctrine (Feres v. United States) prevented soldiers from suing the actor primarily responsible for their injuries—the federal government. Consequently, they sought compensation from the deep and more readily available pockets of Dow Chemical Company and other Agent Orange producers. The judge who presided over the Agent Orange litigation could not find any clear-cut causality between Agent Orange and the veterans' ailments and, as a result, fashioned a "compromise" settlement for $180 million.

Moreover, in the asbestos cases, liability was imposed retroactively on firms that could not have anticipated the extent of the risks or the likely litigation costs. This means that one of the main modern rationales for expanded liability—that it gives companies an incentive to avoid accidents—does not apply in the asbestos case. The viability of insuring these losses by shifting accident costs onto companies has also come under fire, as the Manville Corporation and others have reorganized under federal bankruptcy law and set up trust funds in excess of $3 billion (in the case of Manville) to cover losses that will inevitably exceed that amount.

Another recent phenomenon has been the emergence of rising liability suits to foster outcomes that are tantamount to regulatory policy changes. In the 1990s, the states sued the tobacco industry to recover the health care costs due to smoking. This litigation led to a settlement with forty-six states for $206 billion and separate settlements with four states for another $36.8 billion, for a total of $243 billion. What was distinctive about the settlement was that it was not a settlement in any conventional sense. Rather, these amounts represented the funds that would be generated by a new per-pack levy on cigarettes. In effect, the industry agreed to a new cigarette excise tax to settle the litigation. This regulation-through-litigation phenomenon is not restricted to tobacco; similar suits have been filed against the gun industry, manufacturers of lead paint, and HMOs. Such suits are controversial because high-stakes litigation is being used to force outcomes that make new regulatory and tax policies, but these efforts are not subject to legislative action and the other mechanisms that ensure broad input into policy decisions.

Periodically, there has been a surge in liability costs, leading to claims that there is a liability crisis. A number of explanations have been offered for these crises. One is that they may be caused by the so-called insurance underwriting cycle. Over the decades, insurance companies have periodically underpriced insurance as they competed for more business. When the claims on these underpriced policies generated large losses, the insurers responded by raising prices substantially. Another explanation offered is that the insurance industry may have had a capital shortfall, causing it to decrease the amount of coverage it would write. It did so, according to this explanation, by raising prices. A third explanation is that the crises were caused by changes in liability—the rise in liability costs, the increased uncertainty of the liability system, and the presence of highly correlated risks that decrease the ability of insurers to pool offsetting risks in their portfolios. The long-run nature of the rise in insurance premiums and the linkage of this increase to the surge in litigation suggest that shifts in liability doctrine are the major contributors to the rise in liability costs. Although the short-run crises have abated, a broad array of tort-reform groups, ranging from the U.S. Department of Justice to the American Law Institute, has concluded that the liability system must be restructured to provide an efficient level of deterrence, to provide appropriate incentives for the introduction of new products, and to meet the legitimate needs of accident victims.

About the Author
W. Kip Viscusi is the University Distinguished Professor of Law, Economics, and Management at Vanderbilt University. He is the founding editor of the Journal of Risk and Uncertainty.

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