PRODUCTS LIABILITY LAW AND INSURANCE PROFITABILITY

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In the past decade there have been numerous legislative attempts to reform aspects of the common law of products liability. If the underlying regime of liability has even an attenuated effect on insurance markets, these reforms should have had some effect on the performance of products liability insurance. For a variety of reasons, however, evidence of that influence has been difficult to obtain. By far the richest source of data is the records of the Insurance Services Office (ISO), the data collection arm of the property/casualty insurance industry.¹ Few studies based on that data have been performed. That W. Kip Viscusi has gained access to this data and has begun a major project analyzing it is therefore cause for celebration among those interested in the effect of tort law on liability insurance markets.²

Viscusi’s article is a valuable step in the effort to understand how differences in products liability law influence the performance of products liability insurance. In this first of what will be a series of papers, he finds, among other things, that differences in products liability laws across states influence the loss ratios of products liability insurance in these states and that (through multivariate analysis) these statutes have a nega-

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¹ The ISO not only collects data from individual insurance companies, it also promulgates form policies that have become the standard for the industry and prepares information on claims, losses, and expenses that can be used to develop rates. For many years ISO also has prepared advisory rates for many lines and subclassifications of insurance, including products liability, and filed these rates on behalf of member companies in states where this is lawful. Beginning in 1990, however, ISO plans to discontinue this practice and to make available only advisory prospective loss-cost data rather than advisory rates themselves.

tive effect on premium levels as well. States that have enacted products liability statutes of various sorts—defining key concepts in products liability, articulating a state-of-the-art defense, imposing a specific products liability statute of limitations, or modifying the collateral source rule—have lower products liability insurance loss ratios and (other things being equal) lower premiums than states that have not enacted these statutes.³

There are a number of doubts that might be expressed about these findings. For example, Viscusi’s analysis aggregates states whose products liability laws and economic conditions are quite varied. By focusing on the presence or absence of statutory provisions alone, he has not controlled for common-law rules that may render the laws of states being compared with each other more similar than he supposes. Also, some may quarrel with the results of his multivariate analysis. Nonetheless, I want to accept Viscusi’s findings at face value. Instead of scrutinizing the viability of Viscusi’s findings, I shall speculate about the lessons that can and cannot be drawn from these findings. If loss ratios and premiums are lower in states with statutes than in states without them, does this mean that the statutes reduce products liability insurance losses, or are there other explanations? Even if the statutes do reduce such losses, are the savings being returned to policyholders in the form of reduced premiums, or are insurers capturing a part of these savings? Notwithstanding Viscusi’s admirable effort, these questions remain unanswered.

I. THE SIGNIFICANCE OF LOSS RATIOS

Viscusi’s measure of insurer profitability is the underwriting loss ratio—the ratio of losses paid in a given line of insurance to insurance premiums earned in that line. Two characteristics of a loss ratio are worth underscoring, for they are key to an understanding of his findings. First, because the loss ratio is just that—a ratio—it varies whenever one of its components varies. Thus, one state’s loss ratio may be higher than another state’s because loss rates per dollar of premium in the first state are higher. But the first state’s loss ratio may be higher, instead, because its premiums per unit of loss are lower. In seeking explanations of differences in loss ratios across states, therefore, one must look not only at differences in loss rates but also at differences in premium levels.

Second, the loss ratio is only one component of insurer profitability. In fact, operating profitability is a product not only of underwriting profit or loss measured by the loss ratio (actually, of the combined ratio of losses

³ Viscusi finds that loss ratios are not lower in states that have enacted a fifth kind of statute—one that imposes a ceiling on the damages that may be recovered in products liability actions.
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plus claim-related expenses to premiums) but also of the investment earnings that accrue to insurers while they hold premiums before paying claims and expenses. An insurer can actually show an overall operating profit (to simplify, I shall set aside such complicating factors as taxes and non-claim-related expenses) even while it suffers an underwriting loss. Indeed, in "long-tail" lines such as commercial general liability, medical malpractice, and products liability insurance, where the average claim is not paid for half-a-dozen or more years after a premium is received, insurers can suffer very sizable underwriting losses and still more than offset them with investment income. Both of these factors—the twofold character of loss ratios and the effect of investment income in offsetting underwriting losses—must be taken into account to explain Viscusi's findings.

II. LONG-TAIL LIABILITY AND THE INVESTMENT EFFECT

To see the role that the investment effect might play in creating differential loss ratios, I shall start with the proposition that each of the statutory provisions whose effects Viscusi has measured have at least the following property in common: each statutory reform, directly or indirectly, is likely to decrease the average length of the tail on products liability claims. Statutes that truncate the period of limitation for bringing such actions and statutes that provide for a state-of-the-art defense have this effect directly. A case can also be made that caps on damages, modifications of the collateral source rule, and even statutory definitions have the same effect indirectly, by marginally reducing the expected value of claims involving stale evidence and uncertain liability—claims that are disproportionately likely to involve long-past rather than recent producer activity. At the margin, therefore, the average length of the tail on products liability claims in states without statutes is likely to be longer than in states with statutes. For example, the average products liability claim nationally is resolved roughly seven years after a premium is paid for coverage. In states without statutes, that average may be as high as eight or nine years; in states with statutes, that average may be as low as five or six years.

The effect of such a difference in the length of the tail on products liability claims in states with and without statutes, given the investment effect, is clear. Other things being equal, loss ratios in states without statutes should be higher than those in states with statutes. This difference in loss ratios would exist even if products liability statutes had no effect whatsoever on total products liability insurance losses, as long as they affected the average length of the tail on claims. Moreover, it would
still exist even if products liability statutes did reduce products liability insurance losses and even if premiums adjusted over time to this effect of the statutes on losses.

The explanation for this difference is that, by truncating the average length of the tail on products liability claims, the products liability statutes in question also contract insurers’ investment income. In states without statutes, insurers hold premiums for a longer period of time, on average, than they do in states with statutes. They may therefore be able to achieve the same overall operating profit while tolerating higher loss ratios because the additional investment income they earn offsets their higher underwriting losses.4

This analysis implies nothing about the absolute level of premiums in any state or in the two sets of states. The critical issue, rather, is the ratio of losses, whatever their absolute level, to premiums, whatever their absolute level. The lower the amount of income an insurer earns from investing a pool of premiums, the lower the loss ratio the insurer needs to achieve in order to show a net operating profit. Thus, competitive forces themselves may lead to loss ratios that are higher in states without statutes. With more potential for investment income, insurers in these states can afford to charge lower premiums per expected loss than otherwise would be the case, with a resulting upward effect on their loss ratios. In the absence of competition, this downward pressure on premiums would be far less intense.5 Other things being equal, insurers in states with statutes must charge higher premiums per exposure because they cannot expect to earn as much investment income per premium dollar.

For similar reasons, a change in the relation between loss ratios in states with and without statutes should be expected whenever there is a change in the investment picture that affects the income generated by holding on to premiums for a longer time. As interest rates rise and insurers’ investment income increases, the gulf between the two sets of states should also increase. On the other hand, as interest rates decline, the difference in the income generated from invested premiums in states with and without statutes should narrow, the difference in premiums across states should narrow as well, and the loss ratios across states should tend to converge. There should never be complete convergence of loss ratios in the two sets of states, however, for as long as the average

4 My theory is contradicted by Viscusi’s findings in one respect. His data show that loss ratios are not lower in states that have enacted ceilings on damages recoverable in products liability actions.

length of the tail in states without statutes exceeds the length of the tail in states with statutes, the investment effect will persist, though to a lesser degree when interest rates, and therefore investment income, are comparatively low. These effects are completely congruent with Viscusi’s findings regarding loss ratios. Loss ratios in states with statutes are lower than in states without them, but the loss ratios of the two sets of states tended to converge during the period Viscusi studied (1980–84), when interest rates were declining. Viscusi, however, reasons that, over time, premiums should adjust upward or downward where there are higher or lower losses, thus yielding fairly constant loss ratios. He therefore concludes that, where markets are competitive, loss ratios should not vary between states. He sees the progressive convergence of loss ratios in states with and without statutes between 1980 and 1984 as evidence of the effect of competition.

Viscusi implicitly ascribes the entire amount of the difference in these states to the presumed negative effect of the statutes on losses—that is, their effect both on the frequency and on the severity of products liability claims. If one recognizes that the loss ratios Viscusi has examined are the product of both loss rates and premium levels, however, and that the premiums insurers charge are affected by the returns available from investing them, then a far richer picture emerges. The question then becomes whether the statutes do in fact have an effect on losses.

III. THE EFFECT OF THE STATUTES ON LOSS RATES

Viscusi also found that the statutes in question had a negative effect on premiums. At first glance, this finding does not appear to be congruent with my simple model. The model predicts that loss ratios will be lower in states with statutes than in those without them because premiums in relation to losses will be higher in the former than the latter. But Viscusi’s finding that both loss ratios and (other things being equal) premiums are

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6 Moreover, the nature of the loss data on which Viscusi relied probably understates the extent of the real differences in loss ratios between states with and without statutes. The “losses” he reports as a component of the loss ratios, the heart of this study, themselves have two components: losses actually paid and losses projected. Since not all claims that will ultimately count against policies sold in the years studied have been paid, Viscusi employed ISO projection techniques to round out the losses with estimates of the total amounts that each year’s policies ultimately will pay.

The ISO projection factors, however, ignore differences between the legal regimes of different states. The “losses” Viscusi used to compute loss ratios were therefore composed of actual losses in states with and without statutes, plus a homogenizing loss projection factor that probably resulted in an underestimate of the differences between states. Consequently, the differences between states actually should turn out to be even greater when final data on paid losses per policy year become available.
lower in states with statutes suggests either that the statutes in question do not produce the investment effect or that something more powerful than the investment effect is also operating. Otherwise, how could the statutes have a negative effect on premium levels?

The most obvious inference is that loss ratios in states with statutes are lower despite the negative effect of the statutes on premiums because the statutes reduce losses as well. If this is true—and it is, after all, what the statutes are intended to do—then one must explain why premiums are not even lower. One answer may be the one offered in the preceding section. The inference mentioned above may be true because of the investment effect. The products liability statutes in question may reduce products liability insurance payouts, and the market may react accordingly by charging lower premiums for the same amount of coverage. But if these statutes also truncate the average length of the tail on claims, their negative effect on premiums is not as strong as it otherwise would be. The result is a higher ratio of premiums to losses—a higher loss ratio.

On the other hand, all this may prove too much. The statutes in question may not truncate the average length of the tail on products liability claims, or at least they may not truncate that tail enough to make much of a difference. If this is the case, then the existence and persistence of lower loss ratios in states with statutes, in the face of lower premiums, remain to be explained. The most readily available explanation in the absence of the investment effect is that, although the statutes have a negative effect on both losses and premiums, their influence on losses is greater than their influence on premiums. As a consequence, losses in relation to premiums—loss ratios—are lower in states with statutes than in states without them because insurers in states with statutes are overcharging for products liability insurance. One would still need to explain, however, why insurers in states with statutes could exact premiums above the competitive level and those in states without statutes could not.

IV. The Uncertainty Effect

The implication of the analysis thus far forces the reader to choose between the investment effect and insurer overcharging—or some combination of the two—as an explanation of Viscusi’s findings. In this section, I pursue a more benign and somewhat more complicated explanation. The principal complication requires relaxing my implicit assumption that all else is equal in states with and without statutes. This assumption is of course entirely unrealistic, if only because the statutes themselves are likely to influence insurer attitudes and behavior in ways not yet noted. For example, the enactment of one or more products liability statutes may
decrease the degree of uncertainty associated with marketing products liability insurance. The greater the uncertainty insurers face in a given jurisdiction, the higher the premiums they will demand as payment for bearing the risk of liability transferred to them by products liability insurance contracts. Consequently, other things being equal, premiums in states without statutes should be higher in order to compensate insurers for bearing this additional uncertainty.

This prediction is consistent with Viscusi’s finding that products liability statutes have a negative effect on premiums. Unfortunately, it is not consistent with his finding that loss ratios are lower in states with statutes. The lower premiums charged in states with statutes should translate into higher loss ratios, not the lower loss ratios that Viscusi observed. The most obvious explanation is, once again, that the statutes reduce loss rates and, despite the reduction in premiums that results from the decreased uncertainty insurers face in states with statutes, their loss ratios are lower still because of the statutes’ greater effect on losses than on premiums. In a competitive setting, insurers should be unable to maintain premiums at this excessive level. Once again, however, one has to explain how products liability insurers had the market power to charge excessive premiums in states with statutes but not in those without statutes.

An alternative is that, in the aggregate, products liability insurers underestimated the influence the statutes would have on their loss rates and, consequently, charged premiums for coverage that have turned out, in retrospect, to be excessive. For example, insurers may have calculated only the direct effect the statutes would have on loss payouts but failed to predict the indirect effect of the statutes. The actual effect of the enactment of a products liability statute on claim frequency and severity may be the direct result of the statute’s provisions or a more indirect product of generally increased judicial and public restraint in products liability cases as a consequence of the legislative message the enactment sent. In short, products liability legislation may have served as a shot across the judicial bow, even if it had none of the other effects that can be ascribed to it, and insurers simply may not have anticipated this development. This phenomenon may also help to account for the convergence of loss ratios in states with and without statutes toward the close of the period Viscusi studied. As insurers began to recognize the effect that the statutes had on loss rates, they would have adjusted their premiums accordingly, and the loss ratios that resulted would have more closely resembled those in states without statutes.

Most of the analysis thus far has focused on the behavior of insurers in states with statutes. It is equally possible, however, that developments in the states without statutes contributed to the differences between the two
groups. Loss ratios rose generally in both sets of states during the period studied because the very stiff competition in commercial insurance markets during this period had a downward effect on premiums across the board. But it may be that loss payouts increased disproportionately in states without statutes during this period, thus increasing their loss ratios.

In states with thin products liability markets and correspondingly low premium volume, a few large losses might account for much of this effect. For example, as Aetna reported losses in Dalkon Shield actions against the A. H. Robbins Company during the period, the entire Virginia products liability loss ratio probably moved sharply upward, even though the Virginia ratio for all other companies might have been considerably lower. The extent to which such lumpiness in losses, reported in a few states in one category or the other, may have affected the overall data is not clear.

V. Conclusion

For all the problems posed in comparing data across aggregations of states with very different products liability regimes, Viscusi’s findings are not surprising. Indeed, if one started with the explanations I have given for his results and attempted to predict what the data would show, it would be surprising to find anything else. Differences in the products liability regimes of different states should have an effect on products liability insurance loss ratios in these states, and they did. Explaining the findings regarding the effect of the statutes on premiums is more difficult. The data do not tell us directly the magnitude of the contribution of the investment effect, the effect of the statutes on loss rates, or the amount of insurer miscalculation or overcharging during the period studied.

I quite agree with the lessons Viscusi draws from his analysis. Drawing conclusions about the implications of his findings for policy-making, at this stage at least, would be dangerous. Among other things there is a substantial time lag between a change in products liability law and the effect of that change on insurance data. The data generated shortly after the change will not reflect it; it may take half-a-dozen or more years before the full effect of the change is evident. By then, the legal and social picture that must be addressed may have changed significantly.

All this renders the use of products liability insurance data in the making of policy a bit like astronomy: we often draw conclusions based on light from a star that collapsed or ceased to exist millions of years ago but whose light is only now beginning to reach the earth. Analyzing that light may yield a great deal of information, but the star one is analyzing is not what is there now.