"Comments on Born and Viscusi,"

by Dennis W. Carlton

Comment

Comment by Dennis W. Carlton: This paper is a thorough and thoughtful empirical analysis of the consequences of certain reform measures introduced to deal with the insurance crisis of the 1980s. The authors are clear that the paper's focus is empirical, not theoretical. The findings are noteworthy and robust and should stimulate theoretical work to explain the phenomena of crises in insurance.

The crisis in medical malpractice and general liability insurance in the 1980s manifested itself in huge premium increases (medical malpractice premiums doubled in two years), widespread concern that products were not being offered for sale because of the unavailability of affordable insurance, and the unavailability of certain previously sold lines of insurance. Despite much litigation (plaintiffs sued on antitrust grounds in some states, alleging the cause of the crisis to be conspiracy) and study (academic articles plus studies by various government agencies), the reasons for the crisis as well as our understanding of it merit more attention. It is clear that some enormous and well-publicized damage awards created uncertainty in the industry, but it is not so clear how to link that uncertainty to price and unavailability, although some academic work, especially by George Priest and Ralph Winter, takes important steps in improving our understanding. Nor is it clear how that uncertainty should affect the interpretation of Patricia Born and W. Kip Viscusi's findings, but I hope further work here is forthcoming.

Born and Viscusi's empirical findings seem (subject to some minor criticisms later) robust and striking. The reforms that some states adopted appear to have solved the crisis in the sense that the profitability

of insurance companies (as measured by the loss ratio) has improved. Moreover, the reforms seem to have helped most those insurance companies that were the least profitable. This sounds as if the reforms were successful, but that conclusion is unwarranted, and Born and Viscusi are careful not to endorse it. How the reforms affected the long-run availability of insurance remains unclear.

The authors’ results raise the issue of how long it takes for long-run equilibrium to be achieved in the insurance sector. If the reforms still had such enormous effects in 1991—for example, the loss ratio for medical malpractice of the firm at the seventy-fifth percentile was about 26 percent lower in reform states than in nonreform states—what does that say about the long-run equilibrium in nonreform states? Either the long-run equilibrium has not yet been reached or insurance companies in nonreform states make a lot less money in long-run equilibrium. Moreover, if, as the paper finds, malpractice premiums are lower in reform states than in nonreform states, yet loss ratios are also lower in reform states (the ratio of premiums to loss is higher), doesn’t that mean that a lot less insurance is sold in reform states? It is unclear what theory could generate the authors’ results, and that is what is so good about this paper. It challenges researchers to improve their theories to explain the facts. Let me try to explain the theoretical challenge that the results in this paper pose.

Theoretical Comments

In a simple model of insurance with identical firms ex ante, each firm sets premiums so as to cover expected losses (including costs of operations). Thus the expected loss ratio (expected costs divided by premiums) should equal one. The actual loss ratio for any firm will of course depend on the firm’s subsequent random loss experience. Identical firms ex ante will look very different ex post. When each firm writes a new policy, however, its expected loss ratio will equal one again. This means that, in long-run equilibrium, loss ratios should hover

2. Loss ratios raise a host of complicated accounting and economic problems. For example, one must calculate and discount to present value future costs caused by harms manifested many years after the premiums are written, and one must account for the interest earned on premiums. I will abstract from these important matters here to highlight the key theoretical points.
around one. In other words even if jury awards skyrocket as they did in 1984, firms would be harmed relative to their expectations and would suffer high loss ratios for policies already written, but absent regulatory constraints, they would not be harmed on the next new policy written. In the short run, reforms will benefit firms by limiting losses and preventing the loss ratio from being too high; but in the long run there should be no effect on the loss ratio. Mere cost increases should not cause a crisis of availability nor should they affect the profits of firms at all, and certainly not differentially. Yet that is what seems to be the description of the insurance crisis that the literature and this paper provide.

Because the simple model fails to explain the facts, the model must be too simple. Let me suggest two extensions. First, it must be that the increased uncertainty of awards (as distinct from the amount of the award) matters, either through firms' risk aversion (hard to believe) or because the uncertainty itself increases underwriting costs and the problems caused by the moral hazard of insureds so as to make certain lines unprofitable to write. Thus the reforms affect loss ratios through their effect on the uncertainty of loss.

Second, ex ante firms must have permanent profitability differences, and these differences must become worse during uncertain times. For example, suppose that in long-run equilibrium, firms have differential efficiency (for example, they experience systematically different loss ratios), perhaps because they have different expertise and specialize in different types of niche coverages. When uncertainty increases, the comparative costs of firms change because the underwriting costs in different niches change; thus there can be differential profit effects. The authors' results suggest that in response to the crisis in the 1980s the costs of low-profit firms rose relative to those of the marginal firm in each niche so that profits of low-profit firms got squeezed.

Although this is only one possible explanation for the results—and Born and Viscusi do not attempt to provide one—it can be tested. Indeed, the advantage of developing some theory to explain the results is precisely that the implications can be tested. For example, does the evidence show that the "availability" problem diminished in states enacting reforms compared with other states, as would be expected if loss uncertainty were reduced? Or did the reforms simply prevent some
insurance coverage from being written? Did loss ratio variability decline in reform states? For example, does the variance of the error in the loss ratio model in the appendix decline with reforms?

The differential efficiency of insurance firms is a key element of the results, as is the differential effect of reforms on these insurance firms. It would seem then that the enactment of the reforms should have large differential effects on the stock market value of different insurance companies. Can any event studies be done? Moreover, how stable can the long-run equilibrium be if it involves very different firms? Why don’t the most profitable firms expand over a period of several years? Are there limits on special expertise in niche segments of insurance?

Econometric Comments

I have some quibbles and comments with the econometrics. although given the robustness of the results, I would not expect major changes in empirical results to emerge if my concerns were addressed. First, the inclusion and exclusion of the lagged variable is not a choice between a short-run or long-run model. If the lagged variable belongs in, it should be there, and standard econometric procedures for dealing with possible error structures can be followed. The long-run equilibrium can be calculated in a standard way. To the extent that there is a lagged adjustment period, I would like to know why. What is preventing rapid price adjustment, and how do the reforms affect the speed of adjustment? Regulation should affect the speed of adjustment. Does it?

Second, I am not convinced that the endogeneity of reform has been completely handled. If a state’s decision to enact reform is driven by the unexpected loss of a large number of carriers in the state, then reform will occur in those states where many (low-profit) firms would be hurt. This would seem to strengthen the authors’ results because the nonreform states are in a sense too good a benchmark to use to judge the effect of reform: if no reform were enacted in the reform states, the adverse results would have presumably been more severe than in non-reform states (where the results were not so severe as to merit reform laws).

Third, it is somewhat puzzling that even though the damage caps vary widely across reform states and therefore have large and different truncation effects, there is no empirical detection of such an effect.
Finally, if the differential efficiency of firms is, as the paper suggests, affected by tort reform, it is not obvious that a fixed-effects model will be appropriate. The firm's specific effect depends on the reform.

In conclusion, this is a fine piece of empirical work, and the findings should guide theoretical explanations for insurance crises and lead to a better understanding of these puzzling events.

Commentator's References
