

# Ex Post Liability for Harm vs. Ex Ante Safety Regulation: Substitutes or Complements? Comment

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In a past article for this *Review*, Charles D. Kolstad et al. (1990) argue that the exclusive use of negligence liability leads to suboptimal choice of precaution in the presence of uncertainty and that *ex ante* regulation can correct these inefficiencies. The authors state five propositions that illustrate the distortionary effect of an *ex post* liability rule and show how *ex ante* regulation can promote a more efficient level of precaution. Kolstad et al. base the proofs of these propositions on their equation (8), which gives a derived expression for the expected total cost of the injurer. However, under the general assumptions made by the authors, this equation must read

$$(1) \quad TC(x) = C(x) + \tilde{A}(x)R(x),$$

where  $\tilde{A}(x)$  is expected damage payment *conditional* on the event that the injurer is found liable by the court, i.e.,

$$(2) \quad \tilde{A}(x) = E[p(x, \varepsilon)D(x, \varepsilon) | \tilde{x}(\varepsilon) > x].$$

There is no obvious reason why, in the absence of further assumptions, the conditional expectation  $\tilde{A}(x)$  should be equal to the unconditional expectation

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$$(3) \quad A(x) = E[p(x, \varepsilon)D(x, \varepsilon)],$$

as suggested by their equation (8).

The analysis of Kolstad et al. is complete under mild additional premises. Assume first that—as suggested by Steven Shavell (1987 p. 152)—the magnitude of liability equals *ex ante expected* damages  $E[D(x, \varepsilon)]$  instead of *actual* damages  $D(x, \varepsilon)$ . Assume in addition that the probability of an accident is independent of the random variable  $\varepsilon$  representing the “view of the court,” i.e., that  $p(x, \varepsilon) = p(x)$ . Then the injurer’s total cost given by equation (5) in Kolstad et al. amounts to

$$(4) \quad TC(x) = E[C(x) + L(x, \varepsilon)p(x)E[D(x, \varepsilon)]].$$

Since now  $A(x) = p(x)E[D(x, \varepsilon)]$ , their equation (8) in fact holds true.

## REFERENCES

- Kolstad, Charles D.; Ulen, Thomas S. and Johnson, Gary V. “Ex Post Liability for Harm vs. Ex Ante Safety Regulation: Substitutes or Complements?” *American Economic Review*, September 1990, 80(4), pp. 888–901.
- Shavell, Steven. *Economic analysis of accident law*. Cambridge, MA: Harvard University Press, 1987.