

Distinguishing Risk and Uncertainty in Risk Assessments of Emerging Technologies

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Abstract

Economist Frank Knight drew a distinction between decisions under risk and decisions under uncertainty. Despite the significance of this distinction for decision theory, we argue that there has been inadequate attention to the difficulties involved in classifying decision situations into these categories. Using the risk assessment of carbon nanotubes as an example, we show that it is often unclear whether there is adequate information to classify a decision situation as being under risk as opposed to uncertainty. We conclude by providing two (compatible) suggestions for responding to these difficulties: (1) treating decisions as real-world experiments; and (2) promoting broadly based deliberation about quantitative information.

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