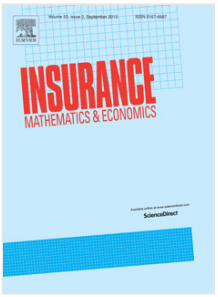

Vigilant measures of risk and the demand for contingent claims

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VIGILANT MEASURES OF RISK AND THE DEMAND FOR CONTINGENT CLAIMS

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Abstract. We examine a class of utility maximization problems with a non-necessarily law-invariant utility, and with a non-necessarily law-invariant risk measure constraint. Under a consistency requirement on the risk measure that we call *Vigilance*, we show the existence of optimal contingent claims, and we show that such optimal contingent claims exhibit a desired monotonicity property. Vigilance is satisfied by a large class of risk measures, including all distortion risk measures and some classes of robust risk measures. As an illustration, we consider a problem of optimal insurance design where the premium principle satisfies the vigilance property, hence covering a large collection of commonly used premium principles, including premium principles that are not law-invariant. We show the existence of optimal indemnity schedules, and we show that optimal indemnity schedules are nondecreasing functions of the insurable loss.

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