

November 5th, 2018
KAP 414
2:00 P.M. – 3:00 P.M.

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“Optimal Contracting under Mean-Volatility Ambiguity Uncertainties”

Abstract: We present a continuous-time agency model under mean-volatility joint ambiguity uncertainties, where both the principal and agent exhibit Gilboa-Schmeidler's extreme ambiguity aversion. For this, we extend the martingale method well known in the agency literature, by allowing not only the mean but the volatility of the outcome process to be controlled in weak formulation. Unlike the existing literature, we distinguish between ex-post realized and ex-ante perceived volatilities.

Then we argue that the second-best contract in general consists of two sharing rules: one for realized outcome and the other for realized volatility. The outcome sharing rule is for uncertainty sharing and work incentives, as usual, and the volatility sharing rule is to improve the other rule by aligning the agent's worst prior with that of the principal. As a result, the optimal volatility sharing occurs when their worst priors become symmetrized. We show that the realized compensation is positively associated with the realized volatility, and that the sensitivity to the outcome is negatively related to the perceived volatility.