

Non-Additive Probability Theory in Insurance

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Schmeidler's discovery of a sensible theoretical manner to derive decisions from non-Bayesian beliefs has led to a flurry of applications, such as a theoretical correction of prospect theory and, more importantly, an extension of this theory to the prevailing context of unknown probabilities ("ambiguity"). Whereas the views on risk and ambiguity attitude of the great majority of economists are still based on expected utility, considerable refinements and improvements are possible through Schmeidler's model, after which for instance the coexistence of gambling and insurance is no longer a paradox but can be explained naturally. This study reports on a consultancy job for an insurance company where risk and ambiguity attitudes of clients were crucial factors, and where the modern views on those attitudes were instrumental in understanding data, and in the policy recommendations derived there from.

A remarkable finding in this field study was considerable risk seeking. This would be inexplicable under classical expected utility, but can be explained by means of the modern models. More remarkable is the extensive ambiguity seeking that was found. Most of the empirical support for ambiguity aversion derives from experimental studies in laboratories with artificial stimuli such as Ellsberg's urns with proportions of balls deliberately kept secret to the subjects. Our study dealt with natural decisions in a field study. In natural environments we commonly deal with unknown probabilities, and we have no special aversion to them.