Emotions and competence in choice under uncertainty

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Abstract:

This paper presents the results of an experiment testing reaction to risk and uncertainty of a sample of 35 Italian university students. Risky prospects were based on games of chance, while uncertain lotteries were based on the forthcoming results of the May 2001 Italian general political election. Based on these lotteries, we computed decision weights for risk and uncertainty; we also collected data as regards the subjects' degree of belief, expressed by probability judgements, for the same uncertain events.
Our results show that the subjects' behaviour is consistent with expected utility theory as regards risk. However, the subjects exhibit both lower subadditivity (the possibility effect) and upper subadditivity (the certainty effect) in the sense of Tversky and Fox 1995 Psychological Review) as regards the election lotteries: these effects are stronger for decision weights than for probability judgements. Moreover, because the possibility effect is more pronounced than the certainty effect, the decision weights for complementary events sum to more than one, opposite to Tversky and Fox's results in support of subcertainty (according to which the sum of the decision weights is less than one). Furthermore, if we partition the space of events in more than two intervals, the sums of the decision weights are consistently greater than unity: this "super-additivity effect" is an increasing function of the number of intervals in which the event space is divided upon, whereas it does not depend on the interval length.
To check it out whether or not emotions as regards the election outcome or self-assessed competence in politics influence our results, we regress by OLS the sum of the decision weights for each individual on measures of self-assessed emotional involvement and expertise, while controlling for sex and age. We find that both a higher degree of satisfaction with the election outcome and a higher degree of expertise affect positively the sum of the decision weights, but have no effect on the sum of the judged probabilities. Moreover, we also find that emotions and experience affect significatively lower subadditivity, but do not have any significant effect on upper subadditivity. Because we do not find any evidence that the sum of the judged probabilities are affected by emotions or competence, we interpret the first result as evidence of the value function depending on emotions along with monetary rewards, rather than as evidence of "wishful thinking".

Keywords: Uncertainty, Subadditivity, Emotions, Competence