

Decisions about Human Lives: An Experimental Measure of Risk Attitudes under Prospect Theory

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Abstract

One of the main goals of public policies is to implement measures that aim to reduce mortality and save human lives. This is particularly the case in the domains of health, medicine, security or safety (in transport, housing, professional activities). Such programs can involve significant costs for the society but their consequences in terms of saved human lives are virtually always uncertain. When deciding to implement these measures, policy makers consider both money and human lives as relevant aspects. Classical cost-benefit analysis assumes that human lives can be monetized and thus aggregated with other monetary aspects of the decision problem. Therefore, literature on public decisions paid a lot of attention to the trade-off between human lives and money with the objective to estimate how much money should be invested in order to reduce death or fatality risks (e.g. the statistical value of life).

The monetization of saved human lives relies on the implicit assumption that decisions about human lives follow the same behavioral pattern as decisions about money. Surprisingly, despite a huge body of literature about risk attitudes for monetary outcomes, past research does not provide any systematic investigation of risk attitudes in choices involving human lives. Therefore, the assumption of comparable risk preferences for human lives and for money has no clear empirical support in past research.

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In this paper, we aim to fill the gap in the literature by comparing decisions about lives and decisions about money separately. More precisely, we report an experiment that compares risk attitudes for money and for human lives within prospect theory framework, a model that received a large empirical support for monetary outcomes. For each type of attribute, we elicit prospect theory components, namely utility, loss aversion and probability weighting functions for gains and losses.

Results show that respondents treat differently the two attributes especially when losses are involved. In particular, econometric estimations (based on discrete-choice modelling) show higher loss aversion and more elevated probability weighting in the loss domain for lives than for money. These results contribute to the emerging stream of literature showing that risk attitudes (and more precisely attitudes towards probabilities) can depend on the type of attribute at stake. More practically, our results question the monetization of human lives in public decisions and may explain why policy makers are sometimes reluctant to use this method.