Risk Measures

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Overview:

We are working on a project with professor Gary Charness. The project explores how experience/learning could change people's risk attitude to resolve the "risk aversion puzzle"—a particularly vexing occurrence in risk literature (Pedroni et al. (2017)). This puzzle stems from numerous investigations showing large inconsistencies in risk preferences when they were elicited using different or even similar methods. This puzzle raises many crucial questions in economics, and the main one is what is the origin of this inconsistency. Ignacio gave us the idea of checking if the measures used in the literature have an intrinsic cap in the correlation. This gave us the inspiration for our final project in the 245M course. We are working on this project together, so we decided to use the Github platform to develop more experience using this tool in a group research environment.

The project:

We will simulate a population distribution of r and compare these risk parameters(r_0) with the EG (Eckel and Grossman(2002)) and HL(Holy and Laury(2002)) risk elicitation methods. We explore the effects by assuming a normal distribution (of r_o) using a mean and SD supported from previous experiments(Crosetto and Antonio(2016)). The main idea we want the simulation to be supported by some evidence from the field. The correlations between the real r (r_0) and the estimated ones depend on the distribution. Take, for example, HL, where the r parameter is estimated in intervals; in the interior of one of the intervals, it is clear that the correlation between the real r (r_0) and the HL (r_HL) one will lower by structure. Our main goal is to calculate the best correlation we can get in an ideal environment when there is no other noise in that data. In this "ideal environment" we can calculate the intrinsic cap in correlation, which is excited by the methods' structure. The second goal is to compare how some noise in players' decisions (making some errors) could influence the correlation between risk elicitation tasks. For example, players make an error in the risk elicitation task that isn't consistent with their risk attitude or do not have a constant risk attitude. We will assume that players' risk attitude is constant in this project, which can be another argument for the inconsistency in the risk elicitation puzzle, but players may make some errors (epsilon) in their decision and deviate from their constant risk attitude.
We will analyze our data in three different sections; each will deal with a different question. The first section will focus on the correlations between the HL risk elicitation method, the second one will be EG, and the last will explore the correlation between the two tasks.

Holt and Laury