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First Year Behavioral Decision Theory Problem Set

Risk Aversion in the Lab

From experimental data of Peter Boessarts and Charles Plott, individuals in the laboratory are indifferent between getting nothing for sure, and a gamble paying \$9.75, -\$3.00, -\$2.25 each with probability 1/3. Assume the standard approximation for the risk premium p using a fixed coefficient of relative risk aversion ρ

$$p = -\frac{\rho}{x} \frac{\sigma^2}{2}.$$

- If wealth is \$350,000, what is the coefficient of relative risk aversion?
- If the coefficient of relative risk aversion is 20, what is wealth?

Investment

An investor may either be wealthy or bankrupt. If he is bankrupt he receives zero and has no choices. If he is wealthy he may choose to invest in stocks or bonds. If he invests in bonds, he remains wealthy, but receives a utility of only one. If he invests in stocks, he has a p chance of going bankrupt each period but receives a utility of two. For what values of p, δ should the investor buy stocks?

Gambling

An economics professor from Big U is watching about to watch a basketball game between Big U and State U. His friend proposes a bet on the outcome – whoever loses has to purchase beer at the pub after the game. The economics professor is reluctant because he always loses whenever he bets with this friend on basketball games. The friend in a spirit of fairness offers the professor the chance to choose either team, but insists he must bet. What should the professor do and why?