ANOMALIES

1. Common consequence and common ratio effects (the 'Allais Paradox')

The common consequence problem can be illustrated with an example. Consider two pairwise choice problems: the first between S1 = ($1M, 1) and R1 = ($5M, 0.1; $1M, 0.89; 0, 0.01); and the second between S2 = ($1M, 0.11; 0, 0.89) and R2 = ($5M, 0.1; 0, 0.9). It can be seen that S1 and R1 includes a common consequence of $1M with probability of 0.89, and that S2 and R2 are derived by subtracting this common consequence from S1 and R1, respectively. An individual whose preferences are compatible with EUT would either choose 'S' or 'R' type of lotteries in both choice problems; common consequences added or subtracted to the two prospects should have no effect on the desirability of one prospect over the other; because the probabilities are incorporated in a linear way in EUT.

A related phenomenon is the 'common ratio effect'. Again we have two pairwise choice problems: the first between M1 = ($3000, 1) and N1 = ($4000, 0.8; $0, 0.2); and the second between M2 = ($3000, 0.25; $0, 0.75) and N2 = ($4000, 0.2; $0, 0.8). Choosing M1 and N2 is inconsistent with the predictions of EUT because the second pair is formed by multiplying the probabilities of the first pair's winning prizes by a common ratio of 0.25. Once again the linearity of EU leads to this conclusion.

2. Preference Reversals

Preference reversal experiments involve a choice and usually a selling task for two bets: 'P-bet' has a high probability of winning a relatively low payoff, whereas the other bet, the '$-bet', offers low probability for winning a relatively high payoff. The typical finding is that subjects choose the P-bet but value $-bet higher. This conflicts with the assumption of procedure invariance. The phenomenon was first observed by psychologists (Lichtenstein and Slovic, 1971; Lindman, 1971), but it was later introduced to economics literature by Grether and Plott (1979) who confirmed the existence of the phenomenon under well-designed, incentive-compatible experimental settings and defined it as a threat to the fundamental optimisation principles of economics.

3. Valuation Gap

The valuation gap refers to the persistent disparity observed between Willingness To Pay (WTP) and the Willingness To Accept (WTA). The former is defined as the maximum buying price whereas the second one is the minimum selling price. Standard economic theory predicts that the two measures, WTP and WTA, should be equal when the income effects are negligible (Hanemann, 1991). However, for the last four decades a considerable amount of experimental literature reported that WTA is significantly higher

than WTP (Horowitz and McConnel, 2002; Sayman and Onculer, 2005; Hammit and Tuncel, 2014). The typical setting of the experiments is to separate the subject pool into sellers and buyers and to ask for WTA and WTP, respectively, under an incentive compatible design such as the BDM and the second price auction, etc. The sellers are endowed with the good whereas buyers are not. The gap is important because if it does exist it means that Coase Theorem that no matter who owns the property rights first, the parties will reach to a Pareto Optimum outcome after a series of transactions, assuming that the transaction costs are negligible-fails to hold. This theorem has important implications for environmental damage cases and constitutes the basis of the legal system related to these issues.

PT and its variants explain the valuation gap with loss aversion concept which can be summarized as "losses loom larger than gains" (Thaler, 1980). Sellers perceive giving away the good as a loss and ask for extra compensation for that. However, recent findings on valuation gap suggest loss aversion might not be the explanation for the observed behaviour, or, at least, not the only one. Most recently, Plott and Zeiler (2005) and Isoni et al. (2011) conducted experiments, which include more comprehensive training procedures to eliminate potential subject misconceptions about the experimental procedures. They found that there is no disparity exhibited when mugs are traded in the experiments, yet, for the lottery tickets the gap seems to be persistent and significant. This raises doubts about the loss aversion/endowment effect account of the valuation gap, since it should be in effect both for the ordinary market goods and the lottery tickets. One way to interpret the results is that there is that loss aversion might not be the right explanation for the valuation gap. Instead there is something special about the lottery tickets, or more generally the risky goods, connected to the probabilistic nature of the outcomes. An alternative explanation might be preference imprecision due to the uncertainty.

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