

Meta-Analysis of Hypothetical Bias in Private and Public Goods Valuation with Declarative Methods

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Economic agents do not reveal their true preferences in assessments of private and public goods with declarative methods. These methods are thus subject to an hypothetical bias defined as the difference between hypothetical and actual willingness to Pay (WTP). Some techniques have been developed to calibrate these methods in order to eliminate or reduce the hypothetical bias. This article carries out a meta-analysis to evaluate the effect of the calibration technique, particularly the effect of the measure of the perceived consequence on the hypothetical bias and to determine the factors that systematically affect this bias. The mixed effects hierarchical meta-regression model is used according to the classical approach with the maximum likelihood method and the Bayesian approach with the Gibbs sampling. A database of 462 observations was constructed including 235 observations from 45 private goods valuation papers and 227 observations from 43 public goods valuation studies. The average ratio of hypothetical and real WTP is 2.14 for private goods and 2.09 for public goods, while the median ratio is 1.41 and 1.39 respectively. The results show that certainty correction, cheap talk and consequence perception are effective at reducing hypothetical bias. We found that, use of the certainty correction technique to calibrate the dichotomous choice mechanism, use of the dichotomous mechanism in consequentiality survey and the referendum mechanism in the consequentiality survey are effective to reduce significantly the hypothetical bias in public goods assessments. Nevertheless, we find the evidence that environmental goods valuation leads to a higher bias than public services valuation. As far as the private goods concern, the results highlight that the certainty correction technique is adequate with the dichotomous choice mechanism while the cheap talk technique is adequate with the Vickrey auction and multiple discrete choice mechanisms to reduce the hypothetical bias. This paper contributes to improving the reliability of private and public goods valuation using contingent valuation methods and therefore the accuracy of decisions made by companies and governments in the light of the results of the contingent valuation.