

# Public Goods Referenda without Perfectly Correlated Prices and Quantities

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## **Abstract:**

Recent experimental economic studies of the validity of dichotomous choice contingent valuation (CV) indicate that consequentiality of a referendum vote is an important element for making the CV referendum be incentive compatible. In these previous studies, possible economic outcomes of a referendum are limited to only two outcomes: (1) the referendum is binding and therefore the good is provided and the payment is collected or (2) the referendum is not binding and neither is the good provided nor is the payment collected. In these experiments, provision and payment are perfectly correlated when there is uncertainty over whether the referendum is binding. While studies to date provide important insights into CV referenda, a fundamentally important feature of CV referenda is overlooked. In instances where we typically need to apply CV referenda, prices (amount paid) and quantities (provision of the good) are rarely, if ever, perfectly correlated. Our research relaxes this assumption in an induced-value experimental setting as well as theoretical analysis and we gain new insights that are contrary to results from studies that utilize a perfectly correlated design. First, we explore the incentive properties of probabilistic referenda with and without a perfectly correlated design. Then, we provide an induced-value experimental test of our theoretical predictions. The results suggest that moving away from perfectly correlated prices and quantities undermines the incentive compatibility result found in other studies. The experimental results are consistent with choices made by risk-averse agents in our theoretical analysis. Our results in standard perfectly correlated induced-value experiments confirm previous findings of probabilistic referenda. Our results also suggest that a negative hypothetical bias possibly occurs even in consequential probabilistic referenda if there are four possible outcomes in respondents' cognitive processes and respondents have concave utility functions, implying that dichotomous choice CV possibly underestimates true values.

## **Keywords:**

probabilistic referenda, incentive compatibility, hypothetical bias, contingent valuation, induced-values

## **JEL Codes:**

C91 (laboratory, individual behavior), H41 (public goods), Q51 (valuation of environmental effects)

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