Does the way to pose the multi-bounded discrete choice (MBDC) willingness to pay question matters? An analysis based on a project for a wastewater treatment factory in Yunnan, China

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Abstract

Based on a recent multi-bounded dichotomous choice (MBDC) contingent valuation (CV) survey carried out in Yunnan, China for the value of a waste water treatment plant, we study in this paper if the appearance order of the proposed bid prices and the arrangement of the uncertainty response choices can affect the willingness to pay of the people living in both urban and rural regions. The estimation of the value of the willingness to pay is carried out by both the original CV estimation method proposed by Welsh and Poe (1993) to adapt the MBDC data and the new Stochastic Payment Card (SPC) approach proposed by Wang and Whittington (2005) and Wang and He (forthcoming) and we get by both methods the coherence results. The preliminary estimation results show that the willingness to pay of the urban and rural household for such a plant stays at about 60 yuans (about 9 dollars) per month. This value seems to be higher when the biggest price appears in the questionnaire firstly. But the appearing order of the uncertainty response choices does not have significant impact on the willingness to pay answers. Our results equally show that the people paying more attention to environmental quality changes in the regions and having already heard about the project of the waste water treatment plant are generally ready to pay more. Besides per capita income level, the other factors that have impact on the budget constraint of a household also affect people’s answer significantly. These factors include the income variation in the near past, perception about future income variations and the expectations of the future income variation related to the implementation of the project and to the potential water quality improvement, etc. The people who are using the water to irrigate their farm lands are also ready to pay more for the project.

Keyword: contingent valuation (CV), China, willingness to pay, questionnaire design, multi-bounded dichotomous choice