Title of the session: Validity of stated preference welfare estimates

Organizers' name: Ewa Zawojska, Romain Crastes dit Sourd

Keywords: benefit assessment; stated preferences; validity; incentive compatibility; consequentiality

A short description of the theme and its relevance:

Stated preference methods play an important role in benefit-cost analyses of public policies by providing estimates of the benefits. In many cases, they constitute the only approach to estimate values of public goods. Although stated preference surveys have been in use for over fifty years, including large-scale valuations like environmental loss assessment following the Deepwater Horizon oil spill in 2010, policymakers and economists alike debate whether survey responses reflect actual values. Many threats to the validity of stated preference measures exist, as value estimates appear sensitive to various aspects of the stated preference survey design (for example, the format or framing of a preference elicitation question) as well as to modelling approaches (for example, accounting for preference heterogeneity, controlling for endogeneity). The goal of this session is to provide a field for discussion on the validity of stated preference welfare estimates, with a special focus on the survey design and its incentive compatibility. Specifically, the session aims at asking and providing some guidance on the question how to design stated preference surveys in order to obtain valid welfare estimates for benefit assessment in benefit-cost analyses. We believe that this discussion can help practitioners get accurate measures of benefits for benefit-cost analyses and, hence, may help policy-makers undertake public policy decisions that will better match society's preferences.

The session concerns an important question in the current valuation literature, namely how to obtain valid value estimates of public goods from stated preference surveys. The session is planned to consist of four short presentations and a general discussion on the topic of the validity of stated preference welfare measures. Each presentation will cover a specific aspect related to stated preference study design, which may affect validity of elicited value measures.

Short bios and statements of each speaker's contribution to the session:

Speaker 1: dr. Ewa Zawojska

Assistant professor at the Faculty of Economic Sciences at the University of Warsaw, Poland. Ewa has completed research stays at several universities abroad, including University of Alberta in Canada, University of Tennessee and Clark University in the United States. Her major field of research interests are non-market valuation, stated preference methods, and, in general, microeconomics. She has several publications in international, peer-reviewed journals, mostly concerning methodological issues related to value elicitation in stated preference surveys.

Speaker 1's contribution: Consequentiality in stated preference studies

Stated preference literature suggests that for respondents to be incentivized to reveal their true preferences, stated preference surveys need to be (seen as) consequential; that is, respondents have to believe that there will be actual consequences following from the survey outcome. There are different ways for controlling consequentiality in field surveys, including attempts to induce consequentiality via special

scripts and to elicit respondents' perceptions of consequentiality via follow-up questions. The available approaches to control consequentiality in field surveys are related to various challenges, which this presentation aims at summarizing. The discussed challenges include the design of scripts typically employed for assuring respondents about survey consequentiality and the form of questions used for elicitation of consequentiality perceptions, among others.

Speaker 2: dr. Christian Vossler

Gerber/Taylor Professor of Business in the Department of Economics, Haslam College of Business, at the University of Tennessee, United States. Director of the UT Experimental Economics Laboratory, Fellow of the Howard H. Baker Jr. Center for Public Policy and Fellow of the Center for Behavioral and Agri-Environmental Research. Christian is an applied microeconomist whose research primarily focuses on environmental and public economics issues. Much of his research has centered on non-market valuation, stated preference methods, with special attention to issues of mechanism design and the external validity of survey-based methods. Other research areas include the development and testing of pollution control instruments and mechanisms to motivate regulatory compliance, and the interaction between social preferences and public goods provision.

Speaker 2's contribution: Revising the gap between the willingness-to-pay and willingness-to-accept for public goods

In the context of valuing public goods to inform policy decisions, there has been heavy reliance on estimates of willingness-to-pay (WTP) even when property rights dictate that willingness-to-accept (WTA) is the appropriate welfare frame. This is in part due to what seem to be anomalous and large WTA/WTP ratios from studies that compare the two measures for the same good. We argue that results from past studies may have been influenced by shortcomings in experimental design, in particular the use of incentive *in*compatible elicitation methods. Using as a case study the conservation of wetlands in northern Québec (Canada), we find that WTA estimates are quite anomalous unless we control for beliefs tied to sufficiency conditions for the incentive compatibility of stated preference surveys. Conditioned on beliefs, our observed ratio is approximately 2.5, which is substantially lower than what has been found in prior, comparable studies.

Speaker 3: dr. Pierre-Alexandre Mahieu

Assistant professor at the University of Nantes, France. Coordinator of the research group "Environmental Challenge, Sea and Energy" at the LEMNA lab at the University of Nantes. Pierre has launched the annually held Workshop on Non-Market Valuation, which provides space for scientific knowledge exchange on current issues related to non-market valuation and aims at improving the validity of welfare estimates generated by these techniques. His main research interests involve stated preference methods, with a particular focus on the methods' incentive compatibility and hypothetical bias.

Speaker 3's contribution: Rounding or not rounding: Are some cost numbers better than other cost numbers in a stated preference survey concerned with a public good?

In single-bounded dichotomous choice surveys involving public goods, each respondent is expected to believe that the cost amount of the program provided in the preference elicitation question represents the amount the participant will be indeed asked to pay if the program is implemented. This payment

consequentiality is needed for incentivizing truthful responding. However, the use of highly rounded numbers in the valuation question (e.g., 5, 10, 20, 50, 100, 1000, etc.), which is common in stated preference surveys, might make respondents doubt about the credibility of the presented cost (e.g., perhaps the exact cost of the program is unknown yet). This, in turn, can affect preferences stated by respondents and so bias welfare estimates. We test if the use of highly rounded numbers discourages payment consequentiality, while the use of precise amounts (e.g., 5.24) encourages it. We find that the precision of the cost amount has no impact on payment consequentiality, neither on the mean value estimates. These results may point to a limited role of the precision level of the stated cost amount for the validity of welfare estimates.

Speaker 4: dr. Romain Crastes dit Sourd

Research fellow at the Choice Modelling Centre, University of Leeds, United Kingdom. Romain is an environmental economist, who has also contributed to the transport research literature and the choice modelling literature. His work seeks to improve both stated and revealed preference methods by using new data collection protocols. He has addressed issues such as incentivizing truth-telling in stated preference surveys and enriching revealed preference data by using smartphone apps.

Speaker 4's contribution: Giving support to the oath approach in stated preference surveys using a lie detector

Various approaches have been put forward to encourage truthful preference disclosure in stated preference surveys, including the oath approach. This approach involves asking respondents to swear they will answer truthfully before starting the survey. The oath approach has been recently criticized because it remains unsure whether it affects stated preferences in unintended ways. In this paper, we give support to the oath approach by introducing a lie detection approach, where respondents are asked to wear a device which records different body responses, such as cardiac pulse. Respondents are informed that they might not be entitled to receive a reward upon completing the survey if the analyst, who monitors the survey, concludes that their answers are untruthful. We compare the lie detection approach to the oath approach and a "no-treatment" base approach by estimating discrete choice models. We find that the lie detection approach and the oath approach both lead to more deterministic responses (higher scale) and lower value estimates. These results are only valid for the respondents who actually believe in the ability of the lie detection mechanism to perform its intended purpose correctly, which is accounted for in the econometric model. Respondents less likely to believe in the lie detector are found to behave like the respondents who do not receive any treatment.