

USING CHOICE EXPERIMENTS TO VALUE A WORLD CULTURAL HERITAGE SITE: REFLECTIONS ON THE EXPERIMENTAL DESIGN

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In the context of public amenities, whose benefits of preservation are not totally reflected by the market, the valuation of cultural heritage has given primacy to the contingent valuation method, with very few attempts being made to valuation via the discrete choice experiments technique (DCE). In the present paper, from among the various phases of the DCE conception, particular emphasis is given to the way in which the attributes levels are combined into alternatives and how they are allocated into choice sets (experimental design step). In order to configure hypothetical scenarios relating to the conservation of a World Heritage cultural landscape, this paper applies both the experimental design strategies identified in the literature review as commonly applied in DCE to value cultural items, as well as D-optimal processes, which proved to be advantageous both in terms of statistical efficiency and in the information required (number of choice sets).

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I. Introduction

The valuation of cultural heritage items has gained relevance in recent years as a result of the growth of cultural touristic destinations, and of the public intervention in the cultural sphere in order to promote a more efficient allocation of resources. In spite of the fact that the contingent valuation method has been the predominant method for assessing the value of cultural heritage items (Navrud and Ready 2002 or Tuan and Navrud 2007), it is a rather limited technique when multi-attribute valuation is to be undertaken, or when for policy reasons the aggregate value of a given program is considered inappropriate. In such cases, the discrete choice experiments technique (DCE) has been suggested as an alternative method.¹

DCE is based on the 'characteristics theory of value' (Lancaster 1966) and is routed on random utility theory (McFadden 1974). DCE asks respondents to select their preferred alternative from each choice set presented sequentially. Each choice set is constituted by two or more alternatives defined by the combination of the relevant attributes.

The development process of DCE embraces the following steps: 1) attribute selection and definition of their respective levels; 2) development of the alternatives and choice sets - experimental design; 3) data collection; and, 4) data analysis. Among the four steps just described, the experimental design step (i.e., the way in which the attributes levels are combined into alternatives and how they are allocated into choice sets) is one of the more complex and less understood issues.

It is worth noting that the design of choice experiments should be constructed to satisfy a number of prior considerations. These include the effects to be estimated, the dimension of the choice set (the number of options for each choice set) and the number of choice sets presented to each respondent.

In addition, empirical evidence on the complexity of the choice task and its influence on responses' validity are based on different measures of complexity and are not unanimous. For Hanley et al. (2002) and Carlsson and Martinsson (2008) designs differing on the number of choice sets did not produce a statistically

¹DCE originated in transport and marketing research by Louviere and Hensher (1982) and Louviere and Woodworth (1983). Subsequently, the use of DCE was extended to other areas of research such as health economics and the valuation of environmental goods (e.g., Adamowicz et al. 1994; Boxall et al. 1996; Hanley et al. 1998, 2002; Alpizar et al. 2003).

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