

1. Introduction

Interest in environmental conservation, biodiversity preservation and outdoor recreation has increased over the last few decades, with pressures on such natural resources for income generation following a similar upward trend. Consequently, conflicts have occurred between their destructive direct and associated uses¹ and an increasing desire for their preservation. Traditionally such difficulties have not been seen to occur, as, on the basis of financial returns, environmental amenities have little, if any, value. This absence of market prices has led to the stock of wetlands, forests and other natural assets being substantially diminished. Economists generally refer to this situation as market failure² where, through either the absence of a market or its inefficient operation, the total economic value to society is not considered within market operations.

Economists have devised a range of methods in order to include non-market goods within the analysis of costs and benefits. These techniques take advantage of the assumption that although no direct market for the goods considered exists, individuals are still willing to pay something for the benefits received. For example, surrogate market techniques examine the relationship between non-market goods and actual markets. Alternatively, stated preference approaches use questionnaire surveys to create market/referendum like situations within which good definition, means of payment and rules are outlined.

The contingent valuation (CV) method has provided the main focus of stated preference research and more recently choice experiments (CE) have been gaining in popularity. Stated preference methods provide the greatest potential of all non-market valuation approaches as their versatility enables them to be used to value many different types of goods and services. Indeed, stated preference methods have been widely applied for benefit estimation including: air visibility; clean water; woodland; future landscapes; transport safety; street lighting and heritage sites. Furthermore, unlike surrogate market approaches, stated preference methods can be used to estimate the full range of economic benefits received. However, some commentators have questioned the effectiveness of stated preference methods (Kahneman and Knetsch, 1992; Hausman, 1993; Diamond and Hausman, 1994; Boyle *et al.*, 1994). Despite these criticisms, cautious but positive assessments of the usefulness of stated preference methods have also come from many sources (Mitchell and Carson, 1989; Arrow *et al.*, 1993; Carson and Mitchell, 1995; Cummings and Taylor, 1999; Bennett and

Blamey, 2001). Given this controversy, there are many challenges faced when conducting stated preference surveys and the interpretation of the responses requires an understanding beyond neo-classical economics.

CHALLENGES FACED

Given the extent of criticism, no exhaustive categorization of challenges facing stated preference practitioners can be made. However, there are three recurring themes within the literature which are particularly pertinent to the issues considered when using qualitative methods, namely:

1. *Cognitive task faced by respondents.* Here it is important to understand the implications of respondents struggling to understand the scenarios presented and how they feel about the scenarios. It is also important to remember the novelty of the elicitation mechanism within which the respondents have to state their preference. The cognitive task is particularly great for the consideration of environmental scenarios, which are inherently complex and can be characterized in terms of uncertainty of outcomes, lack of clarity as to the best environmental outcome and difficulties of demarcation. The task of the researcher is to reduce respondent cognitive load whilst maintaining sufficient understanding so that meaningful responses can be elicited.
2. *Hypothetical nature of the transaction.* To economists the hypothetical nature of the choices made within stated preference methods is a key concern. As a general principle, it is crucial that the perceived linkages between response and policy-formation are sufficient for respondents to take the price seriously and put in the required effort to give meaningful answers. The hypothetical nature of the stated preference transactions, where the link between response within the questionnaire and payment may not feel as binding as other forms of transaction, is seen to be a key reason for respondents putting in insufficient effort. Indeed, study design needs to focus on providing a scenario that is incentive compatible providing thus truthful preference revelation.
3. *Communal nature of the scenarios considered.* The communal nature of environmental decisions means that the implications are shared by others and there may be moral and ethical issues involved. This communal nature usually requires the use of a collective payment vehicle which implies something about property rights and who else pays. These issues complicate the meaning of stated preference responses and respondent disagreement with the implicit principles of the scenario considered may lead, for example, to a high refusal rate or responses whose meaning is difficult to

interpret. The communal nature of the scenarios may mean that respondents are torn between responding as citizens or as consumers, where there may be incommensurability between the two. The challenge for practitioners is at least to gain an understanding of the extent to which these issues cause difficulties for the respondents and whether responses are consistent with economic theory.

USE OF QUALITATIVE METHODS

Given the challenges outlined above, it has become perhaps inevitable that there is a need to mix methods within stated preference surveys. Indeed, it has become conventional to use qualitative methods (in-depth individual interviews or focus groups) within questionnaire design. More recently, qualitative methods have also provided a wealth of information that has greatly enhanced our understanding of the meaning and acceptability of stated preferences, aiding analysis and helping to find a more appropriate role for valuations within policy decision making. More specifically, qualitative methods have been used to:

- gain an understanding of perceptions, categories and language used when considering stated preference questions;
- pilot a questionnaire or part of a questionnaire identifying any misperceptions in the scenario definition and related concerns;
- determine additional explanatory variables to be elicited within the main survey to aid interpretation of valuation responses;
- help explain post-survey any empirical regularities or anomalies encountered within the quantitative results; and
- consider the public acceptability of the approach as an aid to environmental decision-making.

These objectives can all be meaningfully achieved without any fundamental changes to the conventional stated preference approach.

Despite the improvements to questionnaire design achieved through the use of qualitative methods, it has been demonstrated that conventional stated preference research may still:

- make insufficient allowance for the cognitive limitations of the respondents;
- provide insufficient incentives and;
- make insufficient allowance for the communal nature of the scenarios and payment vehicles.

Although the use of group methods can do little to correct for the hypothetical nature of stated preference, it has been suggested that cognitive and communal issues can be better dealt with by further extending the role of the group-based approach. For example, group methods provide a permissive and non-threatening environment for value construction and follow-up questionnaire/meetings can also provide the opportunity for post-meeting discussion with friends/family and further research of the issues. Group-methods also enable the communal nature of environmental issues to be considered within a social environment and consensus to be reached on environmental values. Although alleviating the problems of preference construction and communal issues, such departures from the conventional approach may also have implications in terms of the form of the value estimates calculated and their use within decision making.

AIMS AND CONTENT

This book explores the extent to which the challenges of stated preference methods can be overcome through the use of mixed methodologies, particularly qualitative methods. More specifically, the book:

- introduces stated preference and qualitative methods;
- provides a step-by-step guide to the use of qualitative methods within environmental valuation;
- considers insights from qualitative methods into the meaning of stated preference responses and the applicability of the methods used; and
- explores how the role of group-based approaches can be extended beyond that of a complementary role to further improve environment valuation.

Part I provides an introduction to environmental issues and public consultation, as well as stated preference (contingent valuation and choice experiments) and qualitative methods. The first chapter in this section (Chapter 2) provides an overview of the complexity of the environmental scenarios decision makers are faced with and considers the various approaches available in terms of public consultation. Chapter 3 then introduces stated preference methods and the challenges faced in designing questionnaires that will provide meaningful valuations. The practicalities and pitfalls of using qualitative methods to improve the conventional valuation process and design are then considered (Chapter 4) in the form of a guide to their implementation.

Part II considers the contribution to stated preference from mixing methods. A detailed first chapter (Chapter 5) provides a framework for interpreting stated preference responses in terms of economics, behavioural psychology and more social approaches. This chapter also provides an outline of the many insights

gained from qualitative methods into the meaning of the valuation responses given and the applicability of stated preference approaches. Chapter 6 then reviews these issues in the context of scope sensitivity which has been the subject of a heated empirical debate within environmental economics literature and is crucial to the question of applicability of stated preference research.

The final Part looks at further extending the use of qualitative methods within environmental valuation research. Chapter 7 considers the use of group-based approaches to actively deal with the problem of preference construction. Chapter 8 explores the extent to which group-based methods can also aid difficulties caused by the communal nature of scenarios and payment vehicles used. These two chapters illustrate the many recent efforts that have been attempted in order to develop 'better' environmental valuation estimates. The results are promising but also illustrate the challenges of trying to mix methods within environment valuation.

The book concludes by evaluating stated preferences in the context of qualitative findings and provides a judgement as to the extent to which they can be improved through the use of mixing methods.

NOTES

1. For example, agriculture or housing development would be a direct use and sewage disposal an associated use.
2. See any basic environmental economics text such as Hanley *et al.* (2001).

