

TRANSFERRING LANDSCAPE VALUES: HOW AND HOW ACCURATELY?

1. INTRODUCTION

Market failure provides a rationale for public intervention in the management of landscape change: to ensure that non-market benefits we derive from rural landscapes (i.e. aesthetics, recreation and ecological function) are kept at socially adequate levels. A variety of policies, including planning controls and agri-environmental schemes, have been designed and implemented for this purpose.

The potential significance of the costs of landscape policy, including the social opportunity cost of environmentally sensitive management as well as policy administration costs, suggests that the landscape benefits actually delivered by policy should be directly valued and weighted against policy costs.

This direct valuation and cost-benefit approach is not yet systematically used in the evaluation of landscape policy. Nonetheless, a number of valuation studies have been carried out in this policy context (e.g. Willis et al. 1993a; Hanley et al. 1996 and Santos 1998), some of which commissioned by public agencies running agri-environmental schemes and included in official evaluation reports (European Commission 1998). Contingent valuation (CV) is the non-market valuation technique most extensively used in these studies and the one best fitting of the typical valuation problem facing policy analysts in this context (Willis et al. 1993b).

However, carrying out an original CV study for every single policy decision is not possible in practice. It would not match the time and budget constraints of most policy-evaluation exercises. Transferring valuation information from previous studies sounds as an attractive alternative, in that, being faster and cheaper, it would allow for a more systematic use of valuation and cost-benefit analysis.

Benefit transfer is the application, with the necessary adjustments, of valuation information from an original study, or from multiple studies, to a different context, where such information is required to evaluate a new policy. Several issues involved in transferring valuation information may affect the quality of the transfer. Desvousges et al. (1998) offer a comprehensive review of these issues. Here, we are interested in the following:

- how to select the original studies for a transfer (source-studies);
- whether to transfer a single best benefit estimate or multiple estimates, possibly from multiple studies;
- how to use valuation information from multiple studies in order to produce the benefit estimate to be transferred; and

- whether to transfer (1) an unadjusted benefit estimate; (2) an estimate adjusted for differences between the original study and the policy context; (3) a source-study-specific valuation model; or (4) a meta-model accounting for the inter-study variation in benefit estimates across the relevant valuation literature.

Some of these issues have already been addressed using rather controlled ‘transfer experiments’ (see e.g. Loomis 1992; Downing and Ozuna 1996), where original benefit estimates at the policy site were compared to estimates transferred from other sites, with both types of estimates produced under very standardised methodological conditions. It is usually impossible to ensure such standardisation in most practical benefit transfers carried out for policy evaluation purposes.

Moreover, most of these past ‘transfer experiments’ only test for convergent validity, i.e. for whether differences between transfer estimates and original benefit estimates are statistically insignificant. They do not investigate whether those differences are large enough to imply divergent policy recommendations, i.e.: whether transfer error leads, in practice, to wrong decisions. This second type of test is known as an importance test, which requires information on policy cost, usually not available in those more experimental studies.

This chapter is focused on a real policy-evaluation case, that of the Pennine Dales Environmentally Sensitive Area (ESA) scheme, for which we had a large amount of available cost and benefit information, as well as many candidate source-studies for transfer (Santos 1998). This focus on a real-world policy setting, with available cost information, enabled us both (1) to address the issues raised above in not so standardised ways, which is more relevant for real-world benefit transfers, and (2) to carry out importance as well as convergent validity tests.

The Pennine Dales comprise some of the most spectacular upland scenery in England. The interesting patterns of colour and texture in the Dales landscapes, which are so appreciated by visitors, were shaped by farming practices that evolved over the centuries. Many cherished landscape features, such as stone walls, flower-rich meadows and broadleaved woods, are threatened by current changes in farming practice, comprising a mix of abandonment of some features (walls and field barns) and intensification of meadows use for forage production. The Pennine Dales ESA scheme is a voluntary scheme which offers farmers management agreements aimed at conserving the cherished landscape attributes of the Dales.

The cost-benefit problem in this case was to compare aggregate landscape benefits for visitors with policy costs, including farm income foregone, and additional work for wall and barn repair and better wood management; policy-administration costs were to be included as well.

Within this cost-benefit frame, a CV survey of visitors to the Pennine Dales ESA was undertaken in 1995, in order to estimate visitors’ willingness-to-pay (WTP) for the ESA scheme on a per-household per-year basis. 422 visitors were successfully interviewed, producing usable questionnaires. Respondents were asked to choose between (1) the continuance of a specified policy scheme, at a given tax-rise cost, and (2) giving up the scheme altogether with no tax increase. This implies a discrete-choice (DC) approach to the elicitation of WTP.