

Case study

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## Should historic sites protection be targeted at the most famous? Evidence from a contingent valuation in Scotland



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#### ABSTRACT

We used a contingent valuation survey of a random sample of the general public living in Scotland to estimate how willingness to pay (WTP) for the conservation of historic sites (such as castles and stone circles) varies with how well-known these sites are and whether people have visited them. Each respondent was asked to state a maximum WTP in terms of higher income taxes for the conservation of two sites, one of which was "famous" and one of which was less well-known. The hypothetical scenario involved payment to avoid future damage to each site. When observable differences in respondent characteristics are controlled for, we found no significant differences in mean WTP across sites. However, a significant effect was found for respondent familiarity with each site (in terms of recognising it on a photograph), with sites which respondents were more familiar with attracting higher WTP values. Distance effects on WTP were mixed: significant effects of distance of the site from respondents' homes were only found for the less well-known sites, but not for famous sites. The main conclusions of the study were that (i) the Scottish general public are willing to pay for the conservation of historic sites and that (ii) such values exist as much for less well-known sites as for famous sites. This implies that public funds should not be allocated solely to conservation of the best-known sites.

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#### 1. Research aims

This study aims at measuring public preferences for the preservation of Scottish historic sites through a contingent valuation (CV). More specifically, the objectives were to (i) analyse whether Scottish households were willing to pay for future protection of sites and (ii) how to prioritise allocation of funding between sites. The main contribution is to investigate if familiarity with an historic site is a determinant of individuals' willingness to pay (WTP) for its preservation, in other words if public funding should be targeted at the best-known sites. To address this question, 946 Scottish residents were asked, in a CV survey, to state their WTP for the preservation of a combination of famous and less well-known Scottish historic sites.

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#### 2. Introduction

Scotland's rich historic heritage contributes greatly to its cultural identity and its attractiveness as a tourism destination. However, the conservation of such an extensive set of assets imposes a considerable financial burden on the state which can only partly be met by visitor fees. Under tightening budget constraints, this investment of public funding can be questioned. A second, related decision problem relates to the allocation of public funds across different historical properties: how should spending be prioritised? A wide range of methods can be used to measure the public's preferences and values for conserving cultural heritage. Contingent valuation (CV) is particularly suitable in this instance as it enables us to measure the use and non-use value associated with the preservation of historic sites [1]. Indeed, CV has been frequently applied to cultural resources. Noonan [2] identifies over 100 of these studies, from which 26 concern historical sites. This method is often part of a cost-benefits analysis for policy advice. It has been used to justify investments and guide restoration plans for historic sites [3–6].

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#### 3. The case studies

Six case studies were chosen from the 345 historic sites managed by Historic Environment Scotland on behalf of the Scottish Government. These case studies included three famous sites–Calanais Stone Circle, Kilchurn Castle and St Andrews Cathedral–and three less well-known sites–Aberlemno stone cross, Maclellan's castle and Mousa Broch. Results showed that there was indeed a large difference in respondent familiarity between these 2 groups of properties.

The Calanais Stone Circle was erected about 5000 years ago on the island of Lewis. Like Stonehenge, Calanais was probably associated with religious and ritual events. Kilchurn Castle is one of the most picturesque castles in Scotland; it is set on an island in Loch Awe, Argyll. It dates mainly from the fifteenth and sixteenth centuries, and was abandoned and fell into ruin about 250 years ago. St Andrews was a very important religious site associated with Scotland's patron saint, St Andrew. The Cathedral was begun about 850 years ago and was finally dedicated in 1318. Though it is now a ruin, it was the largest and most important church in medieval Scotland.

Mousa Broch was built about 2000 years ago in Shetland. Broch towers like this are only found in Scotland and are among Scotland's most impressive pre-historic buildings. Archaeologists are not sure if they were dwellings or functioned as a fortress. Mousa is the tallest and most complete broch to survive. The Aberlemno stone cross was carved in the 8th century. It is one of three Pictish stones set on a ridge near Aberlemno in Angus. It is thought to have stood on this site for over 1200 years, has both Christian and Pictish symbols and is evidence of the time when Pictish kings adopted Christianity in the North East of Scotland. Maclellan's Castle, in the centre of Kirkcudbright, was built about 1580 when Thomas Maclellan was provost of the town. The castle gives a good idea of how a gentry family would have lived in the sixteenth century from the vaulted kitchens to the great hall.

These 6 sites are threatened by the effects of weathering, and their preservation relies on the availability of public funding, jointly provided by taxes. Visitor fees are insufficient to meet conservation needs. In order to pay for conservation work to protect the sites, and keep these sites safe and available to visitors, public funds therefore need to be allocated to Historic Environment Scotland.

#### 4. Method and Data

We used a face-to-face household contingent valuation survey to collect WTP data for the protection of the sites, based on a random sample of the Scottish general public. Three different versions of the questionnaire were used, resulting in each respondent being asked to state their WTP for the conservation of two sites. "Conservation" was defined here as avoiding future damage. Each version of the questionnaire combined one famous site with one less wellknown site. As part of the survey, each respondent was asked: "what is the MOST that you would be willing to pay in higher taxes each year for the next 10 years to maintain this site and keep it open to the public?". The WTP bids were collected on payment cards presenting all the integer values from £0 to £10, with the possibility to state a WTP higher than £10 in an open-ended option. A follow up question was included for those respondents stating a null WTP in order to differentiate protest from genuine zero-bids (Table 1). The low level of protest bidding (6.3% of the non-missing values) suggests that respondents found the hypothetical market to be credible and, on the whole, support the idea that public tax revenues are an appropriate way of funding the conservation of historic sites in Scotland.

A total of 309 respondents answered the questionnaire concerning Aberlemno Cross and Kilchurn Castle, 302 answered the

#### Table 1

Reasons for stating a null WTP.

	Frequency
Protest zero-bids	
Already donate (enough) to charities	3
Don't know\can't remember	18
Government/local authority should pay	13
I am a member of the National Trust	3
I am a non-tax payer/I am not working	11
I do not know where the money will go/not clear where it will be spent	7
It is not local/I would rather support local area	4
Nothing	3
Other	20
People with (more) money should pay	4
Should go towards ALL sites/should go towards other sites	4
They get enough money	9
Visitors/tourists should pay an entrance fee/people who go there should pay	11
Total protest bids	110
Genuine zero-bids	
I am not concerned about the condition of this site	236
I cannot afford to pay any more in taxes, even if that means the site will deteriorate	515
I do not know it/have never heard of it	6
I pay enough tax/do not want to pay more tax	12
It is not a priority/other things are more important (all references)	10
Total genuine zero-bids	779
Total	889

questionnaire concerning Calanais and Maclellan's Castle, and 336 answered the survey concerning Mousa Broch and St Andrews Cathedral. After dropping the 110 protest bids the sample includes 1628 observations of WTP<sup>3</sup>, stated by 836 respondents.

The determinants of individuals' WTP were explored through regressions in which WTP is the dependent variable. We included familiarity with and distance to the site on WTP as focus explanatory variables. Age, gender, employment status, social class as an indicator of income and location of residence (urban, rural or conurban) were also included in the regressions as controls.

Familiarity with the site was measured by two indicators: whether respondents can recognise the site on a picture; and whether they have visited the site in the past. On average, half of the respondents recognised the "famous" site in each pair, while an average of 15% recognised the less well-known site. Distance to the site from the respondent's home was estimated using postcodes provided by respondents in the survey.

In order to analyse the determinants of the WTP for sites protection, we use the Tobit model, also known as censored normal regression model. This model is appropriate for the analysis of this data as WTP cannot be negative, takes the value zero as a minimum and then is a continuous random variable over strictly positive values. The parameters are estimated through maximum likelihood estimation and we analyse the conditional marginal effects of the variables of interest on WTP, estimated at the sample means of the independent variables.

#### 5. Results

The average WTP for the protection of the sites is  $\pounds 2.79$  per year during 10 years for each site (Table 2), with a 95% confidence interval between  $\pounds 2.29$  and  $\pounds 3.30$ . Once we control for observable differences in respondent characteristics, we find little evidence of

<sup>&</sup>lt;sup>3</sup> 156 WTP observations are missing as respondents stated they did not know how much they would be willing to pay for the site to be preserved.

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