

# **The Economics of Heritage: Integrating Costs and Benefits into Government Decision-Making**

**- Background Paper -**

## **1. Introduction**

In competing for scarce government resources, it is increasingly important that portfolios provide sound economic justification for their work. This imperative is twofold, involving not just a business case for government intervention, but also empirical evidence that the most economically efficient policy and program options are chosen. This requires that the costs and benefits of government intervention be assessed. Such demands can be problematic for portfolios such as the Department of the Environment and Water Resources whose work often has intangible as well as monetary costs and benefits. How is a government role in preserving biodiversity or conserving heritage to be justified in economic terms if its value cannot be quantified?

Whilst the field of environmental economics has made substantial progress in quantifying the intangible costs and benefits associated with the natural environment, there have been relatively few practical applications of heritage economics. This paper reviews the economic theory underpinning the case for government intervention in heritage and explores the issues that will need to be resolved for cost-benefit analyses to be conducted. These include the refinement of techniques for integrating intangible benefits into market scenarios, as well as a better understanding of the costs imposed by different policy instruments. The Department hopes that the upcoming workshop *The Economics of Heritage*, in bringing together economists and heritage professionals, may shed some light on these problems.

## **2. Heritage Conservation in Australia**

The *Environment Protection and Biodiversity Conservation Act 1999* defines heritage value as:

*“...the place’s natural and cultural environment having aesthetic, historic, scientific or social significance, or other significance, for current and future generations of Australians.”*

The current system of heritage conservation is a result of the 1997 Council of Australian Government’s *Heads of Agreement on Commonwealth and States Roles and Responsibilities for the Environment*. The Agreement assigned responsibility for environmental and heritage matters of national and world significance to the Australian Government and responsibility for matters of state significance to state governments. Within the States, matters of local significance are for local government.

Responsibility for heritage is thus organised according to thresholds for differing levels of cultural significance – national, State or local. Commonwealth, State and Territory jurisdictions have similar legislative arrangements for the identification and

conservation of heritage. These include a statutory register of heritage places and the establishment of a Heritage Council to manage the register and advise the government.

Eftec (2005, p.1) make an observation of heritage decision-making in the United Kingdom that could also be made of Australian heritage processes: appraisal of projects and programmes is often undertaken on the basis of expert opinion (i.e. through Heritage Councils), despite Government guidance indicating that where possible, the costs and benefits of projects and policies should be compared. In its response to the Productivity Commission (PC) Inquiry Report *Conservation of Australia's Historic Heritage Places*, the Australian Government acknowledged the importance of ensuring that heritage contributes a net benefit to society. Whilst qualitative assessments will always have a role in heritage decision-making, economic analysis can provide a useful framework for assessing policy options given limited resources.

### 3. The Economics of Heritage

The importance of heritage lies in the benefits or values it generates. These are typically divided into “use” and “non-use” values. Use values are those benefits derived from the direct or indirect use of a heritage site. They may include:

- financial benefits
- aesthetic qualities
- improved community image
- the opportunity to use the site for residential, commercial, tourism, recreation or social purposes.

Non-use values are the intangible benefits associated with the preservation of heritage. These are:

- *existence value*: the benefits associated with the knowledge that a heritage site has been conserved, even if a consumer does not intend to visit it themselves
- *option value*: the benefits derived from having the option to visit a heritage site in the future
- *bequest value*: the value gained from knowing that a heritage site can be bequeathed to future generations.

The economic case for government intervention in heritage lies in the community-wide nature of many of these benefits. The aesthetic quality of a building's heritage facade, for example, will be of value to passers-by as well as to the building's owner. In economic terms, these benefits are *positive externalities* or *public goods*. Externalities are “spill-over” effects from a market transaction which affect the welfare of others. If a spill-over effect is of a beneficial nature, such as the community's aesthetic enjoyment of a privately-owned heritage property, it is said to be a positive externality. Public goods are community benefits which are non-excludable and non-rivalrous. This means that no person can be excluded from their consumption and consumption by one person will not reduce the consumption of another. The existence, option and bequest values of heritage have public good characteristics.

The dilemma presented by goods with positive externality or public good characteristics is that those who derive benefits cannot be made to pay for them. In other words, suppliers have no way of recovering the full cost required to provide the good at a socially optimal level. When private costs and benefits do not reflect social costs and benefits, a market failure is said to occur. The implications of this may be an undersupply of the good. For example, a property owner may demolish a heritage building if the costs associated with its upkeep exceed the private benefits. However this decision does not take into account the wider social benefits that may have been derived from the heritage building. In such circumstances, government intervention may be appropriate.

#### **4. Valuing Benefits**

The Productivity Commission (2005, p.117) notes that the presence of market failure alone does not justify government intervention. The cost of government intervention must not exceed the added social benefits it aims to generate. A cost-benefit analysis of policy options requires that costs and benefits can be identified and quantified. As discussed, the intangible nature of many of the benefits associated with heritage means they cannot be captured by the market. As a result they cannot be valued using normal market valuation (pricing) techniques. In response to a similar dilemma in the market for environmental goods, economists have developed non-market valuation techniques to quantify those goods which exist outside of the market. These techniques seek to express the value of non-market goods in terms of a consumer's willingness to pay (WTP) for provision of the good.<sup>1</sup> Non-market valuation techniques can be classified into *revealed preference techniques* and *stated preference techniques*.

##### **4.1. Revealed Preference Techniques**

Revealed preference techniques infer the value of a non-market good by examining past behaviour towards related market goods. The two most common revealed preference techniques are *hedonic pricing* and *travel-cost*.

Hedonic pricing is based on the idea that the value of a market good will be contributed to by a number of attributes which may include non-market goods. House pricing is the most commonly used proxy market for this method which is often used to infer the value of related environmental goods such as parks and reserves. House prices may also be affected by nearby heritage properties.<sup>2</sup> A simple modelling of this could be stated as:

$$\text{Price} = \text{size} + \text{age} + \text{location} + \text{heritage attributes}$$

By holding the other variables constant, the contribution of nearby heritage to house prices can be estimated. This is an implicit price, or measurement of WTP, for heritage. Clearly, this method requires detailed data on house pricing and its relevant attributes and may therefore be time-consuming and expensive.

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<sup>1</sup> For an explanation of why WTP is a measure of value see eftec (2005), p.2.

<sup>2</sup> For an example of a hedonic modelling of house prices and heritage, see Productivity Commission (2006), p.355.

Furthermore, it only captures those heritage values embodied in house prices. This excludes non-use and visitor values.

The travel-cost method, often used to value tourism sites, derives the consumer's WTP from travel costs to a given site. Travel costs themselves are not WTP prices, but are combined with data on number of visits per capita to generate a demand curve for visits to the site, from which the consumer surplus, or WTP, can be estimated. The method relies on the assumptions that the site is visitable and that travel is undertaken for the sole purpose of visiting the site. Its application to heritage sites is therefore limited to those sites that frequently receive visitors.<sup>3</sup> Even in these cases, however, the method only captures visitor values. Whilst revealed preference techniques have the benefit of being based on data from actual markets, their applicability to heritage is therefore limited.

#### 4.2. Stated Preference Techniques

Stated preference techniques have been developed in response to the limitations of revealed preference techniques. They hypothesise future consumer behaviour towards the non-market good itself by surveying consumer preferences. The two most common stated preference techniques are *contingent valuation* and *choice modelling*.

Contingent valuation surveys ask consumers to state their WTP for provision of a public good. Hypothetical scenarios are presented consisting of a description of the good to be provided and the payment vehicle. Contingent valuation is very flexible in the goods it can be used to value, but its reliability is dependent on sound survey design.<sup>4</sup> Firstly, the good to be valued must be easily identified and understood by consumers. It must be clear how the good will be provided and by who. Secondly, in determining the payment vehicle an *exclusion mechanism* is important, whereby the level of the good to be provided is linked to a payment by the individual such as a tax or entrance fee (Navrud & Ready 2002, p.22). Without such a link, no trade-off between individual wealth and the level of good consumed can be observed. Donation behaviour, for example, does not reveal true preferences as consumers may choose to 'free-ride' on the payments of others. Thirdly, the survey must be constructed in a way that minimises the possibility of bias responses. If, for example, respondents believe they will actually be required to pay for the good, they may understate their WTP. Conversely, if they believe they will not have to pay, they may overstate their WTP.

Choice modelling studies ask consumers to choose between various hypothetical descriptions of goods. Each description or 'choice set' is differentiated by its attributes and levels. A simplified example of choice sets in a choice modelling survey might be:

	Option A	Option B
Number of places protected	High	Average
Condition of protected places	Average	High
Annual levy	\$10	\$20

<sup>3</sup> See, for example, Driml's (2002) valuation study of the Wet Tropics World Heritage Area.

<sup>4</sup> The report of the NOAA (1993) panel on contingent valuation is generally accepted as an appropriate guide to technique.

Respondents must therefore make trade-offs between different attributes – in this case, the quantity and quality of heritage places. By including a monetary attribute, values can also be inferred. Choice modelling is subject to the same survey technique difficulties as contingent valuation and the choice sets can be particularly complex for respondents to comprehend. It does, however, eliminate the potential for bias inherent in direct elicitation of WTP. The use of multi-attribute scenarios yields richer and more cost-effective data by providing not just one value estimate, but a functional relationship between levels of attributes. Choice modelling can thus be used to estimate consumer preferences towards more complex and realistic policy scenarios.

Application of non-market valuation techniques to heritage has been very limited to date. A 2005 survey found only 33 studies in existence, most using contingent valuation (eftec, 2005). Much progress has been made in the field of environmental economics through the ongoing trial and error of practical application of these techniques. Further research needs to be conducted into how they might be applied in a heritage context.

## **5. Understanding Costs**

The Productivity Commission (2006, p.149) made the finding that:

*“Current methods of identifying historic heritage places for statutory listing focus on the benefits expected to accrue to the community. Typically, there is little, if any, consideration of the costs imposed either on the owner or the community more generally.”*

Cost-benefit analysis of heritage decision-making options will require not only quantification of intangible benefits, but also consideration of costs. The administrative costs of government intervention are reasonably easy to determine. Compliance costs are less clear. They are usually associated with the use of regulatory policy instruments (such as statutory listing) and can be explicit costs or implicit opportunity costs. Explicit costs imposed by heritage listing can include the requirement to carry out additional maintenance works in consultation with restorers and archaeologists, as well as a greater administrative burden. Opportunity costs are those opportunities (usually potential developments of properties) that must be forgone to keep the heritage property in its present form. They be incurred by the community as well as by private owners as the opportunity forgone may have had wider social benefits – if, for example, a heritage building was converted into a commercial site.

On the question of identification, Throsby (1997, p.23) notes that it may be difficult to determine whether private expenditures may have taken place regardless of regulatory requirements. Older buildings often require higher maintenance than more recent ones, regardless of their heritage status. In examining opportunity costs, Rypkema (2006, p.13) notes that just because a heritage owner cannot achieve a “maximum return” on their property, does not mean they cannot achieve a “reasonable return”. The difficulty, then, is determining what level of “cost” can be attributed to a site’s

heritage designation. A better understanding of the costs imposed by different policy instruments is required before accurate cost-benefit analyses can be undertaken.

## **6. Integrating Cost-Benefit Analysis into Government Decision-Making**

A clear objective for the *Heritage Economics* workshop then, is to refine the approaches used to measure the costs and benefits of heritage protection. In particular, how they might be applied to specific policy scenarios and how they might meet the information needs of central government agencies.<sup>5</sup> A major impediment to their application is the lack of comprehensive and consistent data sets on heritage. In considering methodologies, a second objective might be to determine what data is needed for cost-benefit analysis of heritage, and how it might be collected.

The final objective, as indicated by the sub-title of our workshop, is to determine how cost-benefit analysis can be integrated into decision-making processes. When is a quantitative approach appropriate and when and how should it be combined with qualitative assessment? As most heritage exists within the jurisdiction of local government, the feasibility of conducting cost-benefit analysis at the local level needs particular attention. The valuation techniques discussed may require more resources than can be justified for each decision. One solution under examination in the field of environmental economics is *benefit transfer*, whereby the values of one non-market good are 'transferred' to another good with similar attributes. Eftac (2005, p.9) found there to be limited scope for this technique in heritage decision-making at present, given the lack of heritage valuation studies in existence. Again, this indicates the need for further application of non-market valuation techniques to heritage.

## **7. Conclusion**

Economic analysis of heritage provides a number of valuable insights into heritage conservation in Australia. An understanding of market failure not only augments justification for government intervention in heritage conservation, but can help indicate how intervention might best be targeted. The next step in heritage economics is to develop tools for practical implementation of these insights. Conducting cost-benefit analysis of policy options for heritage conservation can help ensure that they have a net benefit by addressing the specific causes of market failure. This will demand further development and application of non-market valuation techniques, as well as better information regarding the costs of heritage, particularly to the private sector. Comprehensive assessments of the costs and benefits of heritage may assist in contributing to a system of heritage conservation that is more efficient and effective.

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<sup>5</sup> Bennett (2000) and Mourato & Mazzanti (2002) have begun examining possible policy applications for stated preference techniques.

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