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WHAT HAPPENS WITHOUT CONSERVATION? THE PROSPECT OF HERITAGE LOSS IN CONTINGENT VALUATION

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What Happens Without Conservation? The Prospect of Heritage Loss in Contingent Valuation

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Abstract: Economic valuation of heritage conservation depends on what respondents expect to happen without the implementation of a proposed intervention, yet this no-program counterfactual is often left implicit. We examine whether explicitly directing respondents to consider potential heritage loss affects stated willingness to pay (WTP) for renovation of a building and whether the contribution of information about adaptive reuse depends on whether such loss enters the valuation decision. A contingent valuation survey of 452 adult residents living near Pückler Palace, a deteriorating historic building in Poland, used a 2×2 randomized design combining a loss-consideration prompt with information about a genuine proposal to adapt the renovated palace as the new premises of the Museum of Ceramics. WTP was elicited as the maximum mandatory one-off levy respondents would support within an advisory-referendum framework. Among respondents not assigned to the loss-prompt treatment, a post-valuation question identified spontaneous consideration of heritage loss. Two-part models separated the probability of positive WTP from the amount stated among positive responses. Respondents assigned to the loss-prompt treatment had approximately twice the odds of reporting positive WTP and stated 61% higher amounts among positive responses. Among unprompted respondents, spontaneous loss consideration—reported by 54%—was associated with 92% higher positive WTP. Reuse information appeared to contribute more when heritage loss was not otherwise considered. The findings show that common information about an asset's current condition need not produce a common understanding of its expected future without the proposed intervention. Stated preference surveys should therefore specify this trajectory with sufficient clarity and credibility that respondents are evaluating a common underlying policy change.

Keywords: cultural heritage, historic preservation, adaptive reuse, contingent valuation, stated preferences, prospect of loss

JEL codes: C51, H43, Z18, Q51

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1. Introduction

Cultural heritage assets are finite and largely non-renewable resources whose continued existence often depends on timely conservation (Hutter and Rizzo, 1997).¹ Historic buildings are exposed to deterioration, abandonment, redevelopment pressures and, in some cases, irreversible destruction (Mazzanti and Mourato, 2002). Because resources available for conservation are limited, decision-makers must determine which interventions generate sufficient social benefits to justify their costs (Provins et al., 2008; Mason, 2008; Avrami et al., 2019).

Assessing these benefits is difficult because much of the value associated with cultural heritage is not reflected in admission revenues, property prices or other market transactions (Navrud and Ready, 2002). Historic buildings may generate existence, bequest, option, identity-related and other values that extend beyond their direct use by current visitors or local communities (Throsby, 2001, 2003). Stated preference methods, including contingent valuation (CV), allow such benefits to be incorporated into economic appraisal where they can be compared with conservation costs and alternative uses of public resources (Carson et al., 2001; Champ et al., 2017). These methods are used in public-sector appraisal (Atkinson et al., 2018; Hanley and Czajkowski, 2019) and feature in guidance for valuing cultural and heritage benefits (Wright and Eppink, 2016; Sagger et al., 2021).

For heritage conservation, however, reliable valuation requires a clear description not only of what the proposed intervention would deliver, but also of what would happen without it. Because such interventions concern an existing asset rather than the creation of a new one, the associated welfare change depends on the difference between the outcomes respondents expect with and without intervention (Provins et al., 2008; Navrud and Ready, 2002; Johnston et al., 2017). Depending on these expectations, respondents may therefore value the proposed intervention relative to either a future of continued deterioration and possible irreversible loss or one in which the building remains broadly unchanged.

¹ Throughout the paper, “conservation” is used as the broader term for actions intended to safeguard the continued existence and heritage significance of the historic asset; “renovation” refers to the specific physical renewal intervention considered in the case study; and “preservation” refers to the outcome of retaining the asset and its heritage significance over time.

This creates a potentially significant problem for stated preference valuation. Contemporary guidelines emphasize that valuation scenarios should clearly define the baseline, the proposed intervention, and the outcomes associated with intervention and non-intervention (Champ et al., 2017; Johnston et al., 2017). Yet the future trajectory of a neglected historic building may not be obvious from information about its present condition alone. If the building's future trajectory in the absence of the proposed intervention is left implicit, respondents may rely on their own perceptions and assumptions to complete the valuation scenario, such that respondents receiving identical scenario information may evaluate different perceived welfare changes (Cameron et al., 2011; Domínguez-Torreiro and Soliño, 2011; Johnston et al., 2017). Making this trajectory explicit may reduce the ambiguity. Beyond this issue of scenario specification, heritage scholarship emphasizes that endangerment and anticipated loss can themselves shape how heritage is understood and responded to (Holtorf, 2015; Vidal and Dias, 2015; DeSilvey and Harrison, 2020).

This raises an empirical question for heritage valuation: does explicitly describing what could happen without intervention materially affect the value respondents attribute to conservation? If respondents already infer the prospect of deterioration or loss from information about an asset's current condition, making these consequences explicit may have little effect. If they do not, the same information may have a bearing on the policy change they perceive and value. Whether respondents arrive at this interpretation spontaneously, i.e., without any kind of prompting, is therefore also informative for understanding how the no-program counterfactual enters stated valuation.²

Adaptive reuse provides a particularly useful setting in which to study this problem. When historic buildings have lost their original functions, securing an appropriate new use may be essential to their preservation and long-term viability (Plevoets and Van Cleempoel, 2019; Arfa et al., 2022; Historic England, 2025). Information about a proposed future use may therefore affect respondents' valuations through two conceptually distinct channels. Respondents may value the services that the new use would provide, but they may also perceive it as making renovation more purposeful and providing a credible pathway to the building's long-term preservation.

² We use the term "no-program counterfactual" to denote the asset's expected future condition without the proposed renovation program.

Existing heritage valuation studies vary in how explicitly they describe what would happen in the absence of the proposed intervention (e.g., Morey et al., 2002; Alberini and Longo, 2009). However, limited evidence exists on whether leaving these consequences implicit leads respondents to construct different counterfactuals or whether making the prospect of heritage loss explicit changes stated value. Likewise, adaptive reuse has been examined in cultural heritage valuation (Wright and Eppink, 2016; Bertacchini and Frontuto, 2024), but little is known about whether the contribution of information detailing a proposed future use depends on whether respondents consider what would happen to the asset in the absence of the proposed intervention. This study uses a CV experiment concerning the proposed renovation of a neglected historic palace in Poland to examine how the no-program counterfactual affects the stated value of heritage conservation. All respondents received the same baseline information explaining that the palace was unused and in poor condition, and they were shown photographs of its current state. A 2×2 experimental design independently varied whether respondents received a loss-consideration prompt and whether information about a genuine adaptive-reuse proposal was provided. Among respondents who did not receive the loss-consideration prompt, a post-valuation follow-up question identified those who spontaneously considered the possibility of heritage loss.

The study contributes to the literature in three ways. First, it provides experimental evidence on whether explicitly directing respondents to consider potential heritage loss in the absence of the proposed renovation project affects stated willingness to pay (WTP). Second, it examines whether similar valuation patterns arise when heritage loss enters the valuation decision spontaneously rather than through the survey prompt, providing evidence on the importance of respondents' own construction of the no-program counterfactual. Third, it examines whether the contribution of reuse information depends on whether heritage loss is already part of the valuation decision.

The results show that respondents assigned to the loss-prompt treatment report substantially higher positive WTP and are more likely to report a positive amount. Among respondents who did not receive the prompt, those who spontaneously considered heritage loss also report substantially higher positive WTP. Reuse information appears to contribute most when loss is not otherwise considered, although the evidence for this interaction is less precise. Together, the findings suggest that the specification of what happens without conservation can materially affect the policy change respondents perceive and value.

2. Theoretical background

2.1. The no-program counterfactual in heritage valuation

The welfare benefit of a heritage conservation program depends on the outcome it produces relative to what would occur without intervention. For an existing heritage asset, the relevant counterfactual is therefore not simply its present condition, but its expected future condition in the absence of the proposed program (Navrud and Ready, 2002; Provins et al., 2008). That expected future condition is consequently part of the policy change respondents are asked to value.

This distinction is particularly important because heritage can generate multiple forms of value beyond current direct use. Individuals may derive bequest value from preserving a historic asset for future generations and option value from retaining the possibility of using or visiting it themselves in the future. They may also derive existence value simply from knowing that the asset continues to exist, without expecting to use or visit it themselves (Throsby et al., 2021). Because the program's contribution to these values depends on what would happen to the asset without intervention, valuation requires respondents to understand this counterfactual (Navrud and Ready, 2002; Johnston et al., 2017).

A central issue is that this counterfactual need not be understood in the same way by all respondents. Respondents approach valuation tasks with different levels of prior knowledge and different beliefs about the good being valued, and the information provided in the survey may interact with this prior knowledge in shaping stated values (LaRiviere et al., 2014; Needham et al., 2018). Clear specification of the baseline, the proposed intervention, and the associated outcomes is therefore important for ensuring that respondents evaluate the intended policy change (Champ et al., 2017; Johnston et al., 2017; Mariel et al., 2021). When outcomes relevant to welfare are incompletely specified, respondents may fill in the missing elements using their own knowledge and assumptions. Consequently, the same proposed intervention may be understood as having different effects on individual well-being relative to what each respondent believes would occur without the intervention.

Evidence on related mechanisms shows that respondents may mentally adjust elements of a stated preference scenario to fit their own circumstances or beliefs (Cameron et al., 2011) and that respondents' perceived status quo may differ from that specified by the researcher (Domínguez-Torreiro and Soliño, 2011). In either case, the contrast between the intervention and the status quo evaluated by respondents may differ from the one intended by the researcher, with consequences for estimated welfare measures. Related work also shows that the relevant

status quo can differ across respondents depending on their local knowledge and perceptions, affecting the reference state from which environmental changes are evaluated (Glenk, 2011). In the heritage context, the same logic implies that identical information about an asset's present condition need not lead respondents to infer the same future trajectory in the absence of intervention.

Heritage valuation studies illustrate different approaches to specifying this trajectory. Some provide relatively detailed projections. Alberini and Longo (2009), for example, describe expected deterioration over a specified period, while Morey et al. (2002) use visual representations of projected degradation if there is no intervention. Other studies describe the counterfactual more generally, referring to continued deterioration, collapse or demolition (Kling et al., 2004; Tuan and Navrud, 2007), or define the counterfactual indirectly through the outcomes that conservation is intended to prevent (Throsby et al., 2021).

When longer-term consequences are not explicitly specified, information about an asset's present condition may still provide signals about its future. A neglected historic building may suggest continued deterioration or eventual loss, but respondents may also expect its condition to remain broadly stable or that some future intervention will occur.

2.2. Heritage preservation as avoidance of loss

The existing-stock character of heritage has an additional implication: conservation protects cultural capital that already exists and may be depleted over time (Throsby, 1999, 2003). This is particularly relevant for existence, bequest, and related non-use values, which depend on the continued presence of the heritage resource (Navrud and Ready, 2002; Provins et al., 2008). Heritage scholarship similarly suggests that perceived endangerment and anticipated loss can heighten the significance attached to heritage and strengthen the impetus for its preservation (Holtorf, 2015; Vidal and Dias, 2015; DeSilvey and Harrison, 2020).

The value attributable to conservation therefore depends partly on how respondents understand what is at risk without intervention. If an asset is perceived as remaining reasonably secure, relatively little of its continued existence may be attributed to the program; if the counterfactual is understood as involving severe deterioration or possible irreversible loss, the program protects a larger share of the values associated with the asset's continued existence (Salazar and Marques, 2005). Consistent with this logic, evidence from valuation studies of conservation programs in other domains suggests that WTP may be lower when respondents perceive the valued resource as reasonably secure, because less of its continued

existence is understood to depend on the intervention (Bandara and Tisdell, 2005; Richardson and Loomis, 2009).

Because heritage assets form part of a shared cultural endowment, individuals may feel a degree of collective responsibility for their preservation. Their threatened loss may therefore be understood as a failure to protect something already held in common rather than as the non-provision of a new good. This distinction may be particularly relevant where intrinsic or existence values make preservation a matter of moral responsibility rather than simply one of consumption. Boyce et al. (1992) explicitly argue that the assignment of property rights can shift moral responsibility for preserving an existing resource and report experimental results consistent with this mechanism.

A stronger valuation of preventing loss may naturally suggest an interpretation in terms of loss aversion. In stated preference valuation, asymmetries between gains and losses have often been discussed in relation to the disparity between WTP and willingness to accept compensation (WTA), with reference-dependent preferences providing one prominent explanation (Kahneman and Tversky, 1979; Bateman et al., 2005; Kim et al., 2015). A related interpretation has also been proposed in cultural heritage valuation: Lundhede et al. (2013) find particularly strong preferences for the permanent protection of archaeological heritage with no current direct use, and they discuss the valuation of avoided heritage loss in relation to prospect theory. The present setting, however, is not a test of loss aversion in this strict sense: respondents do not value otherwise equivalent gains and losses, and neither the reference point nor property rights are experimentally varied.

Importantly, a high value attached to preventing loss need not in itself establish behavioral loss aversion. The WTP–WTA literature identifies limited substitutability as a separate source of valuation disparities: large WTP–WTA differences can arise when close substitutes for the valued good are limited (Hanemann, 1991; Shogren et al., 1994). For cultural heritage, limited substitutability may be especially relevant because assets can be unique and irreproducible, while substantial value may derive from their continued existence, transmission to future generations, and cultural or symbolic significance (Throsby, 2003; Kling et al., 2004; Provins et al., 2008; Wright and Eppink, 2016).

Respondents may consequently take the prospect of heritage loss into account either because it is stated explicitly in the scenario or because they infer it independently from prior knowledge and contextual cues, such as visible deterioration, prolonged vacancy, inadequate maintenance, or the absence of a viable use. The study therefore distinguishes between

experimentally prompted consideration of potential heritage loss (gradual deterioration, ruin, irreversible degradation, or deliberate demolition) and spontaneous consideration of such loss. Comparing these two routes is informative about whether higher stated value is confined to respondents exposed to the loss prompt or is also observed when respondents report having incorporated potential loss without explicit prompting, although the latter relationship is observational rather than causal.

2.3. Adaptive reuse: preservation and use-related benefits

Adaptive reuse adds a further dimension to the welfare effects of heritage interventions. An appropriate new use can support the continued occupancy, management, and maintenance of a historic building, and thereby contribute to its long-term preservation (Plevoets and Van Cleempoel, 2019; Arfa et al., 2022; Historic England, 2025). At the same time, selecting a new function involves multiple cultural, social, and economic values, and the services generated by that use may themselves provide additional benefits (Ferretti et al., 2014; Ribera et al., 2020). Economic valuation research suggests that conservation supporting adaptive reuse can generate higher values than passive protection (Wright and Eppink, 2016) and that preferences may depend on the characteristics of the proposed reuse (Bertacchini and Frontuto, 2024).

The incremental contribution of reuse information may therefore depend on how respondents understand what would happen without the proposed renovation. If respondents value the services provided by the proposed new use independently of its role in supporting conservation, information about that use should increase WTP even when respondents take potential heritage loss into account. If reuse information instead partly provides a concrete rationale for undertaking renovation, its contribution may be greater when respondents do not otherwise consider potential heritage loss. These represent competing empirical possibilities rather than a priori predictions. This empirical analysis therefore examines whether the effect of reuse information on WTP differs between respondents who do and those who do not take potential heritage loss into account.

3. Methodology

3.1. Contingent valuation

We use CV to estimate the social benefits of renovating Pückler Palace in the city of Bolesławiec, Poland. CV is appropriate because the object of valuation is a defined intervention concerning the historic asset as a whole rather than marginal changes in independently varying

attributes (Lawton et al., 2020). The valued change concerns the palace's expected future condition relative to what would occur without renovation. In the reuse-information treatment, the scenario also specifies its future function.

Let Q_{1i} denote respondent i 's perceived outcome if the renovation program is implemented and Q_{0i} the perceived outcome without the program. The latter may vary across respondents because individuals can differ in what they infer from the palace's current neglect and poor condition. Respondent i 's WTP is the maximum payment that makes the respondent indifferent between the program and the outcome without the program (Carson and Hanemann, 2005):

$$V_i(Y_i - WTP_i, S_i, Q_{1i}) = V_i(Y_i, S_i, Q_{0i}). \quad (1)$$

where Y_i denotes household income, S_i is a vector of individual characteristics, and $V_i(\cdot)$ is the indirect utility function. Equation (1) highlights the importance of the no-program counterfactual: stated WTP depends not only on how respondents evaluate the renovated palace but also on what they believe the proposed program prevents.

We elicited WTP using an open-ended question asking respondents to state the maximum one-off payment they would support for the renovation. Open-ended elicitation records a monetary amount directly rather than inferring WTP from responses to predetermined bids. It therefore provides a point estimate for each respondent and does not require prior knowledge of the population WTP distribution when selecting bids. By contrast, a single-binary-choice question provides only an upper or lower bound on individual WTP, and its statistical efficiency can depend critically on bid selection (Champ et al., 2017; Vossler and Zawojka, 2020). Open-ended elicitation also avoids starting-point and bid-design effects and can provide detailed information on the WTP distribution, which is particularly useful in a geographically focused study with a limited target population (Loomis, 1990; Hansen, 1997; Green et al., 1998; Crastes dit Sourd et al., 2018).

The format also has recognized limitations. Naming a maximum amount may impose greater cognitive burden than responding to a binary referendum question, particularly when respondents have limited experience valuing the good. Its incentive properties also depend on how respondents expect their stated amount to affect program provision and payment. In poorly specified settings, respondents may have incentives to understate or overstate their WTP (Carson et al., 2001; Carson and Groves, 2007).

The incentive properties of open-ended elicitation can therefore be strengthened through the broader valuation framework. Building on this incentive-based perspective, Vossler and Holladay (2018) show how an open-ended question can be embedded in an advisory referendum set-up in which the final project cost is uncertain and determined independently of respondents' answers. Experimental evidence further suggests that, when economic incentives are held constant, WTP distributions may be similar across open-ended and alternative elicitation formats (Vossler and Zawojnska, 2020).

Accordingly, we embedded the open-ended question in an advisory referendum set-up following Vossler and Holladay (2018). Respondents were told that the final project cost was uncertain, would be determined independently of their answers, and that their stated maximum payment would be used to establish whether they would support the program once that cost became known. The amount therefore represented the highest mandatory one-off levy that would be imposed on residents of the study area, calculated at the rate they would accept as payment for the renovation project. This framing preserved the threshold interpretation of the stated maximum amount without constituting a binding implementation. Respondents were reminded to consider their budget constraints and alternative uses of income, including support for other heritage sites.

Respondents who did not support the program were instructed to enter zero rather than leave the valuation question unanswered. Zero WTP is therefore retained as an observed valuation outcome rather than treated as a missing observation. The distinction between genuine and protest zeros cannot be made unambiguously, and protest-related beliefs may also be held by respondents reporting positive WTP (Meyerhoff and Liebe, 2006). We consequently do not exclude zero responses on the basis of attitudinal follow-up questions.

3.2. Survey and experimental design

3.2.1. Valuation context: Lower Silesia, Poland

Lower Silesia provides a particularly relevant context for studying the value of conserving endangered built heritage. The region contains one of the largest concentrations of designated historic buildings in Poland and, according to the national assessment available at the time of the study, accounted for a disproportionate share of endangered residential heritage, a category that includes historic palaces and manor houses such as the type of asset examined here (Rozbicka and Warchoł, 2017; Appendix Table A1). Many historic properties in the region

have been affected by prolonged disuse, insufficient maintenance and the loss of their original functions.

This situation is partly rooted in the region's twentieth-century history. Following the incorporation of Lower Silesia into Poland after the Second World War, and the near-complete replacement of its population, much of the region's pre-war built heritage lost its original users and social functions. This heritage has consequently been described as "heritage without heirs" or "foreign heritage" (Julkowska, 2016; Kurpiel, 2019). Financial constraints, limited recognition of its cultural significance, and the absence of viable contemporary uses have contributed to the neglect and inappropriate alteration of many historic buildings.

These circumstances make Lower Silesia an appropriate setting for examining public preferences concerning the conservation of an unused historic building whose continued existence cannot be taken for granted.

3.2.2. Object of valuation: Pückler Palace in Bolesławiec

We sought a heritage asset for which the consequences of intervention and non-intervention alike could be presented credibly. The selected building needed to be locally important and officially recognized as heritage, but its conservation could not be institutionally or financially assured. It also needed to be unused and in poor condition while retaining sufficient material and cultural significance for renovation to remain feasible. Finally, public ownership was required to support the credibility of the suggested policy and payment scenario, while a genuine adaptive-reuse proposal was needed for the reuse-information treatment. The criteria used to identify a suitable case are summarized in Appendix Table A5. Pückler Palace in Bolesławiec met these criteria.

The palace was built in the eighteenth century and remodeled in the neo-Gothic style in 1857. It represents the 'villa suburbana' residential type and is one of the relatively few surviving examples of eighteenth-century architecture in the area. Its recognized historical and architectural significance is reflected in its inclusion in the official register of immovable heritage assets.

The building had served several functions over time, most recently housing a special education school. The Municipality of Bolesławiec purchased the property in 2018, but the palace subsequently remained unused because of its poor state of repair. A 2020

assessment by the Lower Silesian Voivodeship Conservator of Monuments³ attributed its deterioration to the absence of comprehensive post-war renovation and called for urgent repairs, including work on the roof and other major structural elements, to prevent further degradation. At the same time, substantial parts of the building and its historic character remained intact, making renovation technically feasible.⁴

At the time of the survey, the Municipality was considering adapting the palace as the new premises of the Museum of Ceramics. The museum is an important local cultural institution associated with Bolesławiec's internationally recognized ceramic tradition. Its existing premises provided insufficient space for its activities, and the proposed project involved renovating the palace and relocating the museum to the renovated building.

The project had not yet been formally confirmed because the outcome of the funding application remained unresolved. Some residents may nevertheless have encountered information about the proposal through local media or informal communication. The study could therefore distinguish information provided through experimental assignment from respondents' prior knowledge of the reuse proposal.

The palace represented an intermediate case in which further deterioration and potentially irreversible loss remained credible, but renovation was still feasible. It therefore provided a suitable setting for examining how respondents' expectations about what would happen without renovation affect valuation.

3.2.3. Survey instrument and valuation scenario

The questionnaire began with a brief explanation that the study concerned public opinions about historic buildings requiring protection and that the findings would be used to inform decisions concerning their conservation. General questions about cultural heritage preceded the valuation task.

Respondents were first introduced to Pückler Palace through a short factual description of its history, architectural significance, and protected status. Two photographs showing the exterior of the building were presented with this introduction (Figure 1, panels a–b). Respondents were then asked about their prior familiarity and experience with the palace.

³ Poland's 16 'voivodeships' are its first-level administrative divisions, broadly corresponding to provinces. Hereafter, these units are referred to as provinces.

⁴ Information on the palace's history, technical condition, and planned adaptation is based on unpublished project documentation made available by the Museum of Ceramics in Bolesławiec, including a conservation assessment of the building.

Next, all respondents received the following information about the building's recent use and technical condition:

“Pückler Palace has been unused for the past two years due to its poor technical condition. For more than 30 years prior to that, it housed a special education school. The municipal authorities are planning a renovation to secure the building and restore its interior.”

This information was accompanied by two photographs showing the interior of the palace (Figure 1, panels c–d). Thus, before receiving any additional experimental information, all respondents had been informed that the palace was unused and in poor technical condition and had seen the same four photographs documenting its appearance. This common factual description and the four photographs constitute the baseline information for the study.

Figure 1. Photographs of Pückler Palace shown to respondents before experimental assignment.



Note: Panels (a)–(b) show the exterior of the palace and panels (c)–(d) its interior. All respondents were shown the same four photographs before experimental assignment. Photographs were provided by the Museum of Ceramics in Bolesławiec.

The valuation exercise used an advisory-referendum framework and an open-ended payment question. Following Vossler and Holladay (2018), respondents were informed that the final cost of the program remained uncertain and would be determined independently of

their individual answers. The instructions explained that a respondent's stated maximum payment represented support for the program at any cost per resident up to that amount and opposition to the program at any higher cost.

The payment vehicle was a mandatory one-off levy earmarked exclusively for the palace renovation. A one-time levy was considered more credible than a recurring payment for a specific capital project and it ensured that the costs would apply uniformly rather than depend on voluntary individual contributions.⁵

Before answering the valuation question, respondents were reminded to consider their household budgets, other possible uses of their income, and the need to finance the conservation of other heritage sites. Respondents who did not support the program at any positive cost were instructed to report zero rather than leave the question unanswered.

The remaining sections included post-valuation follow-up questions, items on attitudes toward taxation, culture, public policy, and the proposed project, as well as cultural participation and basic sociodemographic characteristics, including individual and household income. Additional survey materials, including the full program and payment instructions, are reproduced in Appendix B.

3.2.4. Experimental design

The study used a 2×2 factorial design that independently varied the provision of a loss-consideration prompt and reuse information. Respondents were randomly assigned to one of four experimental groups:

1. baseline information only
2. loss prompt only
3. reuse information only
4. loss prompt combined with reuse information

All respondents received the same baseline description of the palace's history, protected status, current disuse, and poor technical condition, accompanied by the same photographs. The experimental groups differed according to whether respondents received the loss-

⁵ Although voluntary payment mechanisms have been used in heritage valuation because of distrust in local authorities or opposition to mandatory payments (e.g. Santagata and Signorello, 2002; Salazar and Marques, 2005), they can create opportunities for strategic responses and generally provide weaker incentives for truthful preference revelation (Carson, 1997; Carson and Louviere, 2011; Johnston et al., 2017; Vossler and Holladay, 2018).

consideration prompt, reuse information, or both. The 2×2 factorial design generated four experimental groups, summarized in Table 1.

Table 1. Experimental design and information provided by experimental group

Experimental group	Loss-consideration prompt	Reuse information	N	Share
Baseline	NO	NO	128	28.3%
Loss prompt only	YES	NO	102	22.6%
Reuse information only	NO	YES	100	22.1%
Loss prompt + reuse information	YES	YES	122	27%
Total			452	100%

Loss-consideration prompt

Respondents in the two loss-prompt groups received the following additional information about the possible consequences of not undertaking the proposed renovation:

“Renovation will help prevent further deterioration of the palace. Failure to take action will lead to increasingly rapid deterioration. There is a risk that the building will become a target of vandalism and looting. Without renovation, the building may fall into ruin, and restoring its original character may become extremely difficult and costly, or even impossible.”

Immediately before the WTP question, they were also instructed:

“When answering the question about your willingness to pay for the renovation of the palace, please pay attention to what could happen if no action is taken to conserve the palace. Imagine a situation in which the palace has become a ruin.”

The loss-consideration prompt therefore combined additional information about potential heritage loss in the absence of the proposed renovation and explicitly asked respondents to consider this possibility by imagining the palace becoming a ruin. Because the information and instruction were introduced together, the design does not separately identify the informational, attentional, and imagery effects of the prompt.

Among respondents receiving reuse information, the wording of the WTP question was identical regardless of loss-prompt assignment; only the preceding information and instructions differed.⁶

⁶ In the two groups without reuse information – the baseline and loss-prompt-only groups – the question was worded as follows: “How much would you be willing to pay as a one-off payment for the renovation of the historic Pückler Palace in Bolesławiec?”

Respondents in the two groups not assigned the loss prompt received the same baseline information and photographs but were not explicitly directed to consider the palace's possible ruin. After completing the valuation task, they were asked whether, while determining their WTP, they had considered the possibility that the heritage asset could be lost if the proposed renovation were not undertaken. This retrospective question was used to identify spontaneous loss consideration.

Because the follow-up question was asked once WTP had been elicited, it recorded whether potential heritage loss had entered the respondent's valuation decision without introducing this possibility before valuation. Unlike assignment to the loss prompt, spontaneous loss consideration was not experimentally determined and is therefore treated as an observed respondent characteristic.

Reuse information

The second experimental factor described the proposal to adapt the renovated palace as the new premises of the Museum of Ceramics. Respondents assigned to the reuse-information treatment received details about the intended function and a few practical outcomes of the relocation. These included the temporary closure of the museum during the move and information about museum admission, so that respondents would not assume that the proposed program included uninterrupted or free museum access. Before the valuation question, respondents assigned to the reuse-information treatment also answered two brief questions about prior visits to the Museum of Ceramics and familiarity with Bolesławiec ceramics.

For respondents receiving reuse information, the elicitation question referred explicitly to the planned function:

"How much would you be willing to pay as a one-off payment for the renovation of the historic Pückler Palace in Bolesławiec, assuming that it will be transformed into the new premises of the Museum of Ceramics?"

After the valuation task, respondents who did not receive reuse information were asked whether they had considered a future use for the palace when determining their WTP and, where applicable, whether they had specifically considered the Museum of Ceramics proposal. This question made it possible to examine descriptively whether respondents independently incorporated a possible future use into their valuation.

Prior knowledge of the specific reuse proposal was measured separately after the valuation task. This distinction is important because a respondent could have heard about

the proposed museum relocation before participating in the survey, but might not necessarily have recalled or considered it when answering the valuation question. The main econometric analysis therefore distinguishes the randomized provision of reuse information from self-reported prior reuse knowledge.

The two experimental manipulations introduced additional elements into the valuation scenario but did not alter the baseline information provided to all respondents. The loss-consideration prompt provided information about potential heritage loss in the absence of the proposed renovation and explicitly directed respondents' attention to that possibility, whereas the reuse-information treatment presented the proposed future function of the renovated building and related contextual information.

3.2. Data collection and sample

The survey was administered by a professional polling agency through a professional online access panel using computer-assisted web interviewing (CAWI). The target population comprised adult residents of Bolesławiec 'Poviat' and six neighboring 'poviats': Polkowice, Legnica, Złotoryja, Lwówek Śląski, Lubań and Zgorzelec.⁷ Eligibility was restricted to respondents aged 18 years or older, corresponding to the minimum voting age in Poland.

Quotas for gender, age, and county of residence were used to approximate the demographic composition of the study area. A pilot survey involving 50 residents was conducted on 8–9 July 2020 to assess the questionnaire and respondents' familiarity with Pückler Palace and the reuse proposal. The results did not indicate a need for substantial changes to the study design. The main survey was administered from July 15 to July 24, 2020.

Participation was voluntary, and respondents could withdraw at any stage. No directly identifying information was collected, and observations were stored under numerical respondent identifiers. Participants received compensation according to the standard rules applied to the online panel.

A total of 487 completed questionnaires were collected. 32 observations were excluded based on prespecified response-quality criteria: patterned responses across survey scales, survey completion times below six minutes, or clearly non-substantive responses to open-ended

⁷ A 'poviat' is a second-level administrative unit in Poland, below a 'voivodeship' in the administrative hierarchy and broadly corresponding to a county. Poviats are hereafter referred to as counties. The survey included residents of neighboring counties because the palace was treated as an asset of wider regional significance and because daily travel between the included areas for employment, education, services, and social purposes is common. Legnica refers here to both the city of Legnica, which has county status, and the surrounding Legnica County.

questions. Three additional questionnaires were excluded because the reported age or gender was inconsistent with the corresponding recruitment information. These exclusions did not materially alter the quota composition of the sample or the distribution of respondents across experimental groups. The final analytical sample therefore consisted of 452 respondents.

The final sample broadly reflected the demographic composition of the study area, although some deviations were observed in age and education. Respondents aged 18–24 were overrepresented, those aged 65 or older were underrepresented, and respondents with only elementary education were also underrepresented. Appendix Table A2 provides a detailed comparison of the sample and study-area population.

3.2. Analytical approach

Open-ended WTP responses exhibit a mass point at zero and a strongly right-skewed distribution among positive amounts. Because zero represents an observed stated WTP outcome rather than a missing response, we use a two-part modeling framework that separates the extensive margin—the probability of reporting positive WTP—from the intensive margin—the amount stated conditional on positive WTP. This approach allows the two outcomes to be governed by different processes.

Let $D_i = 1$ if $WTP_i > 0$ and $D_i = 0$ if $WTP_i = 0$. We estimate the extensive margin using a logit model:

$$\Pr(D_i = 1) = \Lambda(\alpha + \mathbf{Z}_i' \boldsymbol{\pi} + \mathbf{X}_i' \boldsymbol{\delta}), \quad (2)$$

where $\Lambda(\cdot)$ is the logistic cumulative distribution function. The vector $\mathbf{Z}_i$ contains the variables of substantive interest: loss-prompt assignment, spontaneous loss consideration, and reuse-information assignment. The vector $\mathbf{X}_i$ contains the controls: prior reuse knowledge and household income, measured in thousands of PLN.⁸ Equation (2) therefore models the probability that respondent i reports positive WTP.

We estimate the intensive margin among respondents with $WTP_i > 0$. Because positive WTP is right-skewed, we use the natural logarithm of the stated amount as the dependent variable. The general specification is:

$$\ln(WTP_i) = \beta_0 + \mathbf{Z}_i' \boldsymbol{\beta} + \mathbf{X}_i' \boldsymbol{\gamma} + \varepsilon_i. \quad (3)$$

⁸ For reference, during the main survey period, PLN 1 was equivalent to approximately US\$ 0.26, based on the average exchange rate reported by the National Bank of Poland.

We estimate three parameterizations of Equation (3). The first follows the factorial experimental design while distinguishing the two routes through which heritage loss can enter the valuation decision:

$$\ln(\text{WTP}_i) = \beta_0 + \beta_P P_i + \beta_S S_i + \beta_R R_i + \beta_{PR} (P_i \times R_i) + \mathbf{X}_i' \boldsymbol{\gamma} + \varepsilon_i, \quad (4)$$

where P_i denotes prompted loss consideration, operationalized as assignment to the loss-consideration prompt; S_i equals one for respondents not assigned the loss prompt who subsequently reported having considered heritage loss spontaneously, and zero otherwise; and R_i denotes assignment to the reuse-information treatment. The main-effects specification in Table 3, column (1), sets $\beta_{PR} = 0$, whereas column (2) includes the interaction. In the interaction specification, β_R measures the contribution of reuse information among respondents not assigned the loss prompt, while $\beta_R + \beta_{PR}$ measures its contribution among respondents assigned the prompt.

The second parameterization combines the two routes into a single indicator, $L_i = 1$ for respondents assigned the loss prompt or, among those not assigned it, respondents reporting spontaneous loss consideration:

$$\ln(\text{WTP}_i) = \theta_0 + \theta_L L_i + \theta_R R_i + \theta_{LR} (L_i \times R_i) + \mathbf{X}_i' \boldsymbol{\kappa} + u_i. \quad (5)$$

The main-effects specification in Table 4, column (1), sets $\theta_{LR} = 0$, whereas column (2) includes the interaction. This parameterization examines whether the contribution of reuse information differs depending on whether heritage loss enters the valuation decision, regardless of how it is considered. The combined indicator is conceptually useful, but it is not fully randomized because spontaneous loss consideration is an observed respondent characteristic.

Finally, we estimate a specification using separate indicators for the reuse-information-only, loss-prompt-only, and combined groups, with the baseline group as the reference category. Unlike the factorial parameterization, which separates the main effects of the two experimental factors from their interaction, this specification directly expresses the estimated difference between each experimental group and the baseline group. It is therefore used to facilitate the presentation and interpretation of predictions for each experimental group. Prompt assignment and reuse information are experimentally randomized, whereas spontaneous loss consideration and prior reuse knowledge are observed respondent characteristics. Coefficients involving the latter variables are therefore interpreted as conditional associations. In specifications including spontaneous loss consideration, the prompt coefficient is interpreted relative to respondents who received no prompt and did not spontaneously consider loss.

Intensive-margin estimates are conditional on reporting positive WTP and are interpreted as differences in stated amounts among respondents with positive WTP.

The main specifications control for household income because WTP is constrained by ability to pay. Missing income responses reduce the estimation sample; specifications excluding income, and therefore using the larger sample, are reported in the Appendix.

As robustness checks, we estimate Tobit models for WTP in monetary levels, including zero responses (Tobin, 1958), and gamma generalized linear models (GLMs) with a log link for positive WTP. The Tobit model, as an econometric approach, provides a conventional limited-dependent-variable benchmark, but assumes that the same latent process governs both zero and positive WTP. The gamma GLM offers an alternative way to accommodate the skewness of positive WTP and avoids the retransformation required to express predictions from a log-linear model in monetary units (Manning and Mullahy, 2001). To further assess sensitivity to distributional assumptions, we follow Czajkowski et al. (2024) and compare a broader range of parametric specifications for the WTP distribution using log-likelihood, AIC and BIC as measures of model fit. These results are reported in Appendix Tables C2–C4. All models use heteroskedasticity-robust standard errors. In the interaction specifications, inference on the contribution of reuse information when loss is considered is based on the relevant linear combination of the main and interaction coefficients.

4. Results

4.1. Descriptive results

Of the 452 respondents included in the final sample, 397 (88%) reported positive WTP for the proposed renovation program, while 55 respondents reported zero WTP. Mean WTP in the full sample was PLN 75.65. The distribution was strongly right-skewed, with a relatively small number of high responses.

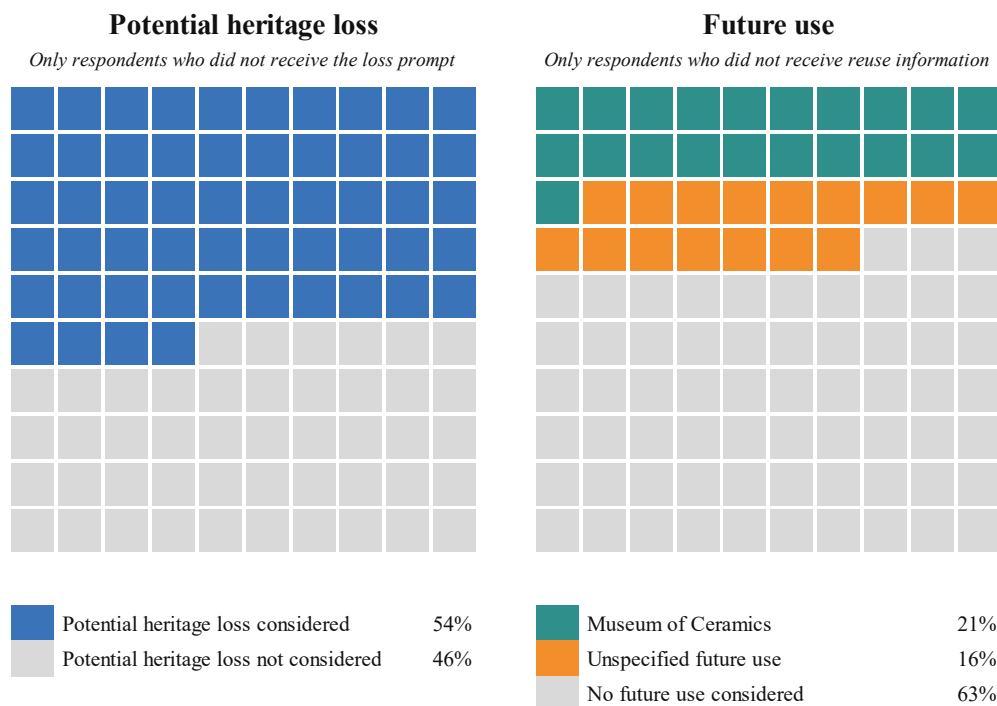
The unadjusted means varied across the experimental groups. Respondents in the baseline group reported the lowest mean WTP, at PLN 57.56. Mean WTP was PLN 85.23 in the loss-prompt-only group, PLN 75.15 in the reuse-information-only group, and PLN 87.03 in the combined group. These are unadjusted descriptive differences across the experimental groups.

Table 2. Descriptive WTP statistics by experimental group

Experimental group	Mean WTP (PLN)	95% CI	Median (PLN)	Zero WTP (%)
Baseline	57.56	40.03 - 75.09	20	15.6
Loss prompt only	85.23	58.10 - 112.36	50	9.8
Reuse information only	75.15	52.02 - 98.28	20	14.0
Loss prompt + reuse information	87.03	59.79 - 114.28	25	9.0
Total	75.65	63.80 - 87.50	20	12.2

Note: WTP statistics are calculated for all respondents in each experimental group, including zero responses. Confidence intervals refer to the mean.

The follow-up questions show that some respondents incorporated loss or future use into their valuation even when these elements were not explicitly presented. Among respondents who did not receive the loss prompt, 54% reported that, while forming their valuation, they had considered the possibility that the palace could be lost if the proposed renovation were not undertaken, whereas 46% did not report considering this possibility. Among respondents who did not receive reuse information, 21% considered the Museum of Ceramics as a future use, 16% considered a different but unspecified future use, and 63% did not report considering any future use (Figure 2). Respondents' prior familiarity with the palace and the reuse proposal is summarized in Appendix Table A4.

Figure 2. Spontaneous consideration of scenario elements when not explicitly provided

Note: Left panel reports responses among respondents who did not receive the loss-consideration prompt (N = 228). Right panel reports responses among respondents who did not receive reuse information (N = 230). Each square represents approximately 1% of respondents.

These responses indicate substantial heterogeneity in how respondents completed elements of the valuation scenario that were not explicitly specified, including whether they incorporated potential heritage loss and future use into their valuation.

4.2. Prompted and spontaneous loss consideration

Table 3 examines two margins of WTP: the amount reported among respondents with positive WTP and the probability of reporting a positive amount.

Table 3. WTP estimates: prompted and spontaneous loss consideration

	(1) OLS: log(WTP)	(2) OLS: log(WTP)	(3) Logit: WTP>0
Prompted loss consideration	0.474** (0.213)	0.742*** (0.262)	0.742** (0.378)
Spontaneous loss consideration	0.653*** (0.230)	0.682*** (0.229)	0.005 (0.386)
Reuse information	0.187 (0.158)	0.449** (0.228)	0.025 (0.308)
Prior reuse knowledge	0.516*** (0.184)	0.519*** (0.184)	0.264 (0.406)
Prompted loss consideration x Reuse information		-0.511 (0.317)	
Household income (PLN 1,000s)	0.073*** (0.019)	0.072*** (0.019)	0.083 (0.075)
Constant	2.695*** (0.218)	2.568*** (0.230)	1.397*** (0.412)
Observations	361	361	409

Note: Columns (1)–(2) report OLS estimates for log(WTP) among respondents reporting positive WTP. Column (3) reports logit estimates for the probability of reporting positive WTP. Household income is expressed in PLN 1,000s. Heteroskedasticity-robust standard errors are reported in parentheses. ** $p < 0.05$, *** $p < 0.01$.

Both loss-prompt assignment and spontaneous loss consideration are positively related to the intensive margin. In the main-effects model, respondents assigned to the loss-prompt treatment reported approximately 61% higher positive WTP than respondents who received no prompt and did not report spontaneously considering heritage loss, holding other observed characteristics constant. Respondents who spontaneously considered the possibility of heritage loss reported approximately 92% higher positive WTP than the same reference group.

The similarity in direction and approximate magnitude is notable. Higher positive valuations are therefore not confined to respondents exposed to the explicit loss wording:

a comparable association is observed among respondents who independently incorporated potential heritage loss into their valuation. Because spontaneous loss consideration was not experimentally assigned, this relationship is interpreted as a conditional association.

The extensive-margin results differ. The loss-prompt coefficient corresponds to approximately twice the odds of reporting positive WTP relative to respondents who received no prompt and did not report spontaneous loss consideration. Spontaneous loss consideration, by contrast, was not associated with the probability of reporting positive WTP. Reuse information and prior reuse knowledge were also unrelated to this margin.

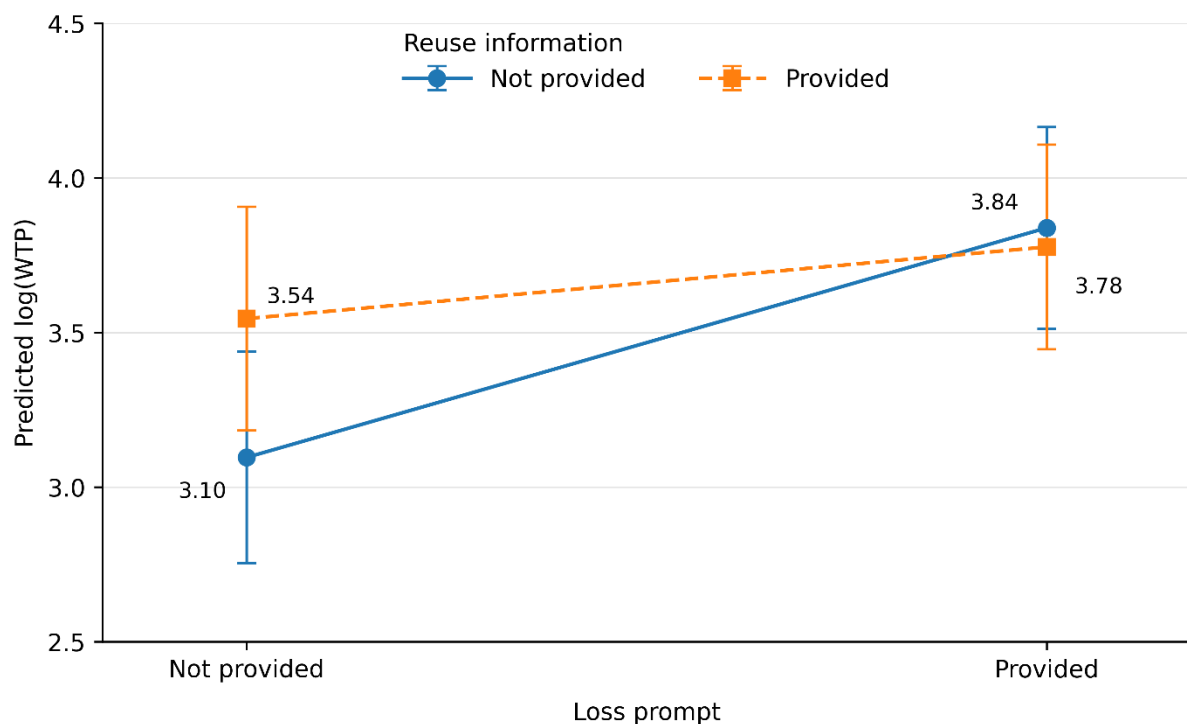
The prompt is therefore associated with both the probability of reporting positive WTP and, among respondents with positive WTP, the amount stated. Spontaneous loss consideration is associated primarily with the amount reported conditional on positive WTP.

Self-reported prior knowledge of the reuse proposal is also positively associated with the intensive margin. Respondents who reported having heard about the proposal before undertaking the survey stated approximately 68% higher positive WTP. Household income has the expected positive association: an additional PLN 1,000 of monthly household income corresponds to approximately 7.6% higher positive WTP. Percentage differences for log-linear models are calculated as $100[\exp(\beta) - 1]$.

4.3. Loss consideration and reuse information

Table 3, column (2), examines whether the contribution of reuse information depends on assignment of the loss prompt. In the positive-WTP subsample, the interaction model indicates higher stated amounts for both the loss prompt and reuse information when introduced separately. In the absence of reuse information, the loss prompt is associated with approximately 110% higher positive WTP. In the absence of the loss prompt, reuse information is associated with approximately 57% higher positive WTP.

The negative interaction coefficient indicates that these two contributions are not additive. Its estimate is imprecise and is not statistically significant at conventional levels, so it should not by itself be treated as conclusive evidence of an interaction. Nevertheless, the adjusted predictions presented in Figure 3 reveal a clear descriptive pattern.

Figure 3. Adjusted predictions of log(WTP) by loss-prompt and reuse-information assignment

Note: Predictions are based on the factorial OLS specification estimated among respondents reporting positive WTP and adjusted for spontaneous loss consideration, prior reuse knowledge, and household income. Error bars indicate 95% confidence intervals. Underlying estimates are reported in Appendix Table C1, column (2).

Predicted log WTP is lowest when neither the loss prompt nor reuse information is provided. Reuse information raises the prediction when the loss prompt is absent, while the loss prompt produces a still larger increase when reuse information is absent. Providing both the loss prompt and reuse information results in a predicted value very similar to that produced by the loss prompt alone. Thus, once respondents are explicitly directed to consider potential heritage loss, information about the planned future use produces little additional increase in predicted WTP. The corresponding experimental-group estimates are reported in Appendix Table C1.

Table 4 provides a complementary analysis using a combined loss-consideration indicator. This variable equals one when the possibility of heritage loss was either prompted by the survey or considered spontaneously by a respondent who did not receive the prompt. In the main-effects specification, loss consideration is associated with approximately 71% higher positive WTP, whereas reuse information has no statistically significant average association.

The interaction model indicates that reuse information is positively related to positive WTP when loss consideration is absent. Its estimated contribution in this group is

approximately 104%. The interaction is negative and statistically significant at the 10% level. Taken together, the point estimates imply an almost zero incremental association of reuse information once heritage loss has already entered the valuation decision.

Table 4. WTP estimates using the combined loss-consideration indicator

	(1) OLS: log(WTP)	(2) OLS: log(WTP)
Loss consideration	0.536*** (0.202)	0.885*** (0.278)
Reuse information	0.165 (0.158)	0.714** (0.362)
Prior reuse knowledge	0.508*** (0.186)	0.532*** (0.185)
Loss consideration x Reuse information		-0.707* (0.402)
Household income (PLN 1,000s)	0.074*** (0.019)	0.073*** (0.018)
Constant	2.703*** (0.218)	2.430*** (0.268)
Observations	361	361

Note: Loss consideration equals one when consideration of heritage loss was either prompted or, among respondents not receiving the prompt, arose spontaneously during valuation. Models are estimated for respondents reporting positive WTP. Household income is expressed in PLN 1,000s. Heteroskedasticity-robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The interaction is stronger in this combined-indicator specification than in the fully experimental model. Because the combined indicator also incorporates observational spontaneous loss consideration, the result is interpreted as a conditional empirical pattern rather than a fully experimental interaction effect.

Overall, the results suggest that reuse information contributes more to valuation when respondents do not otherwise consider the possibility of losing Pückler Palace. Once potential heritage loss becomes part of the valuation decision, the proposed future function appears to make only a limited incremental contribution.

4.4. Robustness and distributional assumptions

The robustness checks reported in Appendix Tables C2 and C3 yield results consistent with the main findings. Prompted and spontaneous loss consideration remain positively associated with WTP both in the Tobit models estimated using all WTP observations, including

zeros, and in the gamma GLMs estimated using positive WTP observations only. Prior knowledge of the reuse proposal and household income also remain positively associated with WTP across both sets of models.

The coefficient on reuse information is positive across the alternative specifications, although its statistical significance varies. The interaction between the loss prompt and reuse information remains negative but is imprecisely estimated. The robustness models therefore support the central positive relationship between loss consideration and WTP, while the evidence that reuse information contributes less in the presence of the loss prompt remains suggestive rather than definitive.

We also compared a broad range of parametric specifications for the WTP distribution. Models allowing for a separate point mass at zero generally fit the data better than corresponding specifications without a zero spike. The zero-inflated generalized Pareto distribution provides the best fit according to AIC and BIC, while the zero-inflated lognormal ranks second. These results support modeling the mass at zero separately from the distribution of positive WTP. The relatively strong performance of the zero-inflated lognormal also provides support for the log-linear modeling of positive WTP used in the main analysis. The full comparison of distributional fit and implied mean WTP estimates is reported in Appendix Table C4.

5. Discussion and conclusions

This study examined whether the value assigned to conserving a deteriorating heritage asset depends on how potential heritage loss enters the valuation decision. Using a 2×2 CV experiment, we varied whether respondents were explicitly directed to consider potential heritage loss and whether they received information about a genuine adaptive-reuse proposal, while follow-up questions identified respondents who considered heritage loss spontaneously. The study therefore contributes to the literature on the economic valuation of cultural heritage, where non-use values are particularly significant (Bille, 2024), while also speaking to growing interest in behavioral aspects of cultural valuation and heritage policy (Coate and Hoffmann, 2022; Rizzo, 2021).

The results provide a consistent picture. Respondents assigned the loss-consideration prompt reported substantially higher positive WTP and were also more likely to report a positive amount. Among respondents who did not receive the prompt, those who spontaneously considered potential heritage loss likewise reported substantially higher positive

WTP. Reuse information contributed most when loss was not otherwise considered, although the evidence for this interaction is less precise.

The results also illustrate the relevance of non-market valuation for local heritage conservation. Only around 19% of respondents had ever visited Pückler Palace, yet 88% reported positive WTP for its renovation. Support for the proposed renovation therefore extended well beyond previous direct users of the building, consistent with the importance of option, existence, bequest, and other values that are not captured by observed visitation (Navrud and Ready, 2002; Bille, 2024).

The central interpretation of the experimental result is not simply that mentioning loss increases stated values. In a conservation setting, what respondents expect to happen if there is no intervention forms part of the policy change being valued. Respondents who understand non-intervention as involving ongoing severe deterioration and possible irreversible loss are not evaluating the same welfare change as respondents who envisage a less consequential future for the building. The loss-consideration prompt may therefore affect stated WTP by changing how respondents understand the counterfactual against which the proposed intervention is evaluated.

The follow-up responses show that common baseline information about the palace's current condition did not ensure a common understanding of what might happen without the proposed renovation. All respondents saw the same photographs and were told that the palace was unused and in poor technical condition. Yet, among those who did not receive the loss-consideration prompt, 54% reported having considered potential heritage loss when stating their WTP, whereas 46% did not. Thus, respondents given the same baseline description differed in whether they incorporated potential heritage loss into the counterfactual against which they valued the proposed renovation. This pattern is consistent with evidence that respondents may adjust stated preference scenarios in light of their own beliefs and circumstances (Cameron et al., 2011). Related studies link stated valuations to respondents' prior knowledge (Needham et al., 2018) and to beliefs about the accuracy of that knowledge (LaRiviere et al., 2014). Taken together, these findings reinforce the importance of clearly specifying the counterfactual and the policy outcomes (Navrud and Ready, 2002; Johnston et al., 2017).

Prompted versus spontaneous loss consideration

An informative feature of the results is that higher positive WTP arises both through explicitly prompted and through spontaneous consideration of heritage loss. Respondents who

independently incorporated potential loss into their valuation reported substantially higher WTP even though they had not been instructed to imagine the palace becoming a ruin. The valuation patterns associated with prompted and spontaneous consideration are similar in direction and broadly comparable in magnitude. Higher valuation is therefore not confined to respondents exposed to explicit loss wording.

This comparison makes an explanation based solely on an unusual reaction to the wording of the loss prompt less compelling. It is also consistent with the prompt making explicit a possible future trajectory in the absence of renovation that a substantial group of respondents had already inferred independently. The comparison should nevertheless remain cautious. Spontaneous loss consideration was not randomly assigned, and respondents who inferred potential loss themselves may differ systematically from those who did not. Their valuations therefore provide an observational rather than experimental comparison. The two results instead provide complementary evidence: the randomized loss prompt changed valuation responses, while higher positive WTP was also observed when potential loss entered respondents' decisions without explicit prompting.

The randomized loss prompt affected the probability of reporting positive WTP and was also associated with higher amounts among respondents with positive WTP, whereas spontaneous loss consideration was associated primarily with the amount reported among respondents stating a positive WTP. One possible interpretation is that explicitly making potential heritage loss part of the scenario changes whether some respondents regard the proposed program as worth supporting at all. Among respondents already willing to support intervention, independently recognizing potential loss may instead be associated mainly with the magnitude of the value they assign to the program. The present design does not identify the mechanism underlying this difference.

The findings are relevant to behavioral interpretations of cultural valuation (Coate and Hoffmann, 2022; Rizzo, 2021), but they should not be interpreted as direct evidence of prospect-theory loss aversion. The experiment does not compare otherwise equivalent gains and losses or manipulate the reference point. Higher valuation when potential heritage loss enters the decision is also consistent with non-behavioral characteristics of heritage, including irreversibility, limited substitutability, and existence or bequest values attached to an already existing cultural asset (Hanemann, 1991; Lundhede et al., 2013). The present results do not distinguish among these explanations.

Adaptive reuse as a pathway to preservation

The second experimental dimension provides a complementary result. When the loss prompt was absent, informing respondents that the renovated palace would become the new premises of the Museum of Ceramics increased predicted positive WTP. When the loss prompt was present, the same information produced little further increase, and the loss-prompt-only and combined groups generated very similar predicted valuations.

This pattern is consistent with preservation being an important component of the benefits generated by adaptive reuse in this setting. Where potential heritage loss is not otherwise incorporated into valuation, a concrete future use may provide an additional rationale for undertaking renovation. Once respondents already understand renovation as preventing possible heritage loss, specifying the future institutional function appears to add relatively little to predicted WTP.

This does not imply that respondents are indifferent to future use or that adaptive reuse has value only because it prevents deterioration. A new function may generate cultural and social services in its own right, while active occupancy can provide the institutional and financial conditions required for continued maintenance. Rather, the results suggest that preservation and use need not constitute independent components of the benefits of adaptive reuse. For a deteriorating building that has lost its previous function, one important contribution of adaptive reuse may be precisely that it provides a feasible route to continued conservation.

Prior knowledge of the reuse proposal is also positively associated with positive WTP. This association should not be interpreted as evidence that prior communication or consultation causally increases valuation, since respondents familiar with the proposal may differ systematically in local engagement, cultural participation, or interest in the palace. It does, however, reinforce the distinction between being presented with the reuse scenario within the survey and entering the survey with prior awareness of a real local project.

The adaptive-reuse results suggest that the benefits of use and preservation may be to some extent overlapping rather than fully independent: a viable new function may be valued in part because it provides a credible route to the building's long-term preservation. Appraisals of adaptive-reuse projects should therefore recognize this interdependence rather than assume that use-related and preservation benefits are necessarily additive.

Implications for stated preference valuation

The main methodological implication concerns the specification of the counterfactual in the absence of the proposed renovation project. For an existing heritage asset, this counterfactual should not automatically be defined as the indefinite continuation of the asset's current physical condition. Where further deterioration is credible, the expected trajectory of the asset's condition forms part of the counterfactual against which conservation is valued. Leaving this trajectory unspecified may lead respondents to evaluate different perceived benefits from the same project, even when they otherwise receive identical information.

The appropriate objective is to provide a sufficiently complete, proportionate, and evidence-based description of what intervention is expected to prevent. Where the timing, probability, or severity of deterioration is uncertain, that uncertainty should be communicated rather than replaced by unsupported certainty.

The comparison between prompted and spontaneous loss consideration is particularly informative in this respect. A change in WTP following additional scenario information need not imply that the information has created a new preference. It may also arise because the information changes respondents' understanding of the counterfactual to which their preferences are applied. In the present study, respondents exposed to the same baseline information nevertheless differed in whether they incorporated potential heritage loss into their valuation. Making relevant consequences explicit may therefore reduce variation in the policy change respondents believe they are valuing.

The results also suggest that valuation studies of adaptive reuse should specify both the counterfactual and the proposed project. Detailed information about the proposed future function may be insufficient if what would happen to the building in the absence of the proposed intervention remains unclear. Conversely, where a specific future use forms part of the proposed project, omitting information about that use may leave relevant benefits unspecified. For projects in which adaptive reuse provides a viable pathway to the long-term preservation of a building that has lost its original function, preservation and future use may be interconnected components of the welfare change being valued.

Limitations and further research

Several limitations identify useful directions for further research. First, because the loss-consideration prompt combined additional information about potential heritage loss with

instructions to consider and imagine that outcome, the study cannot separately identify the effects of clearer counterfactual specification, directed attention, and imagined scenarios. Future experiments could vary these elements independently, for example, by comparing a factual description of the expected trajectory without intervention with otherwise identical versions that additionally direct attention to or ask respondents to imagine that trajectory. Such designs would help distinguish the effect of specifying the counterfactual more clearly from the effects of how respondents are prompted to process it.

Second, spontaneous loss consideration was measured retrospectively after valuation. This avoided introducing the possibility of heritage loss before WTP elicitation, but the measure remains observational and may also be subject to retrospective reconstruction of the valuation process. Future experiments could vary how much information is provided about the asset's expected trajectory in the absence of renovation, allowing the role of respondents' own construction of the counterfactual to be examined more directly.

Third, future studies could examine uncertainty more explicitly. Heritage deterioration rarely follows a known deterministic trajectory. Experimental scenarios could therefore vary the probability, severity, and timing of deterioration and investigate how these dimensions affect valuation.

Fourth, the interaction between the two experimental factors is estimated with limited precision. Replication with a larger sample powered to identify interaction effects would provide a stronger test of whether the contribution of reuse information depends on consideration of potential heritage loss.

Fifth, the reuse-information treatment identifies the effect of providing information about one specific genuine proposal—the relocation of the Museum of Ceramics—relative to leaving the future use of the renovated building unspecified. It does not identify welfare differences between museum reuse and any explicitly defined alternative use or no-use option. Future studies could compare different forms of adaptive reuse directly.

Finally, the experiment concerns one publicly owned, deteriorating, and locally significant historic building and one genuine adaptive-reuse proposal. This specificity strengthens the credibility of the valuation scenario but limits direct generalization. The case-selection criteria reported in Appendix Table A5 delineate the class of heritage assets to which the present findings are most directly applicable. The importance of respondents' expectations about what would happen without renovation and the relative contribution of preservation and

future use may nevertheless differ across heritage types, deterioration trajectories, levels of substitutability, and reuse functions.

Conclusions

The valuation of a conservation program depends critically on what respondents expect to happen without it. For an existing heritage asset, the relevant welfare change is not the value of the preserved building in isolation, but the difference between its expected future with and without intervention. The results show that including potential heritage loss in this comparison can materially affect stated WTP.

Assignment to the loss-consideration prompt increased both the probability of reporting positive WTP and the amount stated among respondents with positive WTP. Among respondents who were not prompted, those who independently considered potential heritage loss also reported substantially higher positive valuations. At the same time, almost half of respondents who did not receive the loss prompt did not report considering such loss despite receiving the same baseline information about the palace. Leaving what would happen to the palace in the absence of renovation implicit can therefore result in respondents constructing materially different versions of the policy change they are asked to value.

The adaptive-reuse results provide a further, although less definitive, insight. Information about the proposed museum function appeared to contribute most when heritage loss was not otherwise considered, and little once potential heritage loss was made explicit. This pattern suggests that, for deteriorating historic assets, part of the value associated with adaptive reuse may derive from its role as a feasible means of securing continued conservation, in addition to the services generated by the new use itself.

The methodological implication is that stated preference surveys should define the asset's expected trajectory in the absence of the proposed renovation project with sufficient clarity and credibility that respondents are evaluating a common underlying policy change. Understanding what conservation prevents can therefore be as important for economic valuation as describing what conservation provides.

References

- Alberini, A., Longo, A., 2009. Valuing the cultural monuments of Armenia: Bayesian updating of prior beliefs in contingent valuation. *Environment and Planning A*, 41(2), 441-460.
- Arfa, F., Zijlstra, H., Lubelli, B., Quist, W.J., 2022. Adaptive reuse of heritage buildings: From a literature review to a model of practice. *Historic Environment: Policy and Practice*, 13(2), 148–170.
- Atkinson, G., Groom, B., Hanley, N., Mourato, S., 2018. Environmental valuation and benefit-cost analysis in UK policy. *Journal of Benefit-Cost Analysis*, 9(1), 97-119.
- Avrami, E., Macdonald, S., Mason, R., Myers, D. (Eds.), 2019. *Values in heritage management: Emerging approaches and research directions*. Getty Conservation Institute.
- Bandara, R., Tisdell, C., 2005. Changing abundance of elephants and willingness to pay for their conservation. *Journal of Environmental Management*, 76(1), 47-59.
- Bateman, I., Kahneman, D., Munro, A., Starmer, C., Sugden, R., 2005. Testing competing models of loss aversion: An adversarial collaboration. *Journal of Public Economics*, 89(8), 1561-1580.
- Bertacchini, E., Frontuto, V., 2024. Economic valuation of industrial heritage: A choice experiment on Shanghai Baosteel industrial site. *Journal of Cultural Heritage*, 66, 215–228.
- Bille, T., 2024. The values of cultural goods and cultural capital externalities: State of the art and future research prospects. *Journal of Cultural Economics*, 48, 347–365.
- Boyce, R.R., Brown, T.C., McClelland, G.H., Peterson, G.L., Schulze, W.D., 1992. An experimental examination of intrinsic values as a source of the WTA-WTP disparity. *The American Economic Review*, 82(5), 1366-1373.
- Cameron, T.A., DeShazo, J.R., Johnson, E.H., 2011. Scenario adjustment in stated preference research. *Journal of Choice Modelling*, 4(1), 9–43.
- Carson, R.T., 1997. Contingent valuation: theoretical advances and empirical tests since the NOAA panel. *American Journal of Agricultural Economics*, 79(5), 1501-1507.
- Carson, R.T., Flores, N.E., Meade, N.F., 2001. Contingent Valuation: Controversies and Evidence. *Environmental and Resource Economics*, 19(2), 173–210.
- Carson, R.T., Groves, T., 2007. Incentive and informational properties of preference questions. *Environmental and Resource Economics*, 37(1), 181–210.

- Carson, R.T., Groves, T., List, J.A., 2014. Consequentiality: A theoretical and experimental exploration of a single binary choice. *Journal of the Association of Environmental and Resource Economists*, 1(1/2), 171-207.
- Carson, R.T., Hanemann, W.M., 2005. Contingent valuation. *Handbook of environmental economics*, 2, 821-936.
- Carson, R.T., Louviere, J.J., 2011. A common nomenclature for stated preference elicitation approaches. *Environmental and resource economics*, 49, 539-559.
- Champ, P.A., Boyle, K.J., Brown, T.C., 2017. *A Primer on Nonmarket Valuation*. Amsterdam: Springer.
- Coate, B., Hoffmann, R., 2022. The behavioural economics of culture. *Journal of Cultural Economics*, 46(1), 3-26.
- Crastes dit Sourd, R., Zawojcka, E., Mahieu, P.-A., Louviere, J., 2018. Mitigating strategic misrepresentation of values in open-ended stated preference surveys by using negative reinforcement. *Journal of Choice Modelling*, 28, 153–166.
- Czajkowski, M., Zawojcka, E., Meade, N., da Motta, R.S., Welsh, M., Ortiz, R.A., 2024. On the inference about a willingness-to-pay distribution using contingent valuation data. *Ecological Economics*, 222, 108207.
- DeSilvey, C., Harrison, R., 2020. Anticipating loss: rethinking endangerment in heritage futures. *International Journal of Heritage Studies*, 26(1), 1-7.
- Domínguez-Torreiro, M., Soliño, M., 2011. Provided and perceived status quo in choice experiments: Implications for valuing the outputs of multifunctional rural areas. *Ecological Economics*, 70(12), 2523-2531.
- Ferretti, V., Bottero, M., Mondini, G., 2014. Decision making and cultural heritage: An application of the Multi-Attribute Value Theory for the reuse of historical buildings. *Journal of Cultural Heritage*, 15(6), 644–655.
- Finocchiaro Castro, M., Guccio, C., Rizzo, I., 2011. Public intervention on heritage conservation and determinants of heritage authorities' performance: a semi-parametric analysis. *International tax and public finance*, 18, 1-16.
- Freeman, A.M., Herriges, J.A., Kling, C.L., 2014. *The measurement of environmental and resource values: theory and methods*. Routledge.
- Glenk, K., 2011. Using local knowledge to model asymmetric preference formation in willingness to pay for environmental services. *Journal of Environmental Management*, 92, 531–541.

- Green, D., Jacowitz, K.E., Kahneman, D., McFadden, D., 1998. Referendum contingent valuation, anchoring, and willingness to pay for public goods. *Resource and energy economics*, 20(2), 85-116.
- Hanemann, W.M., 1991. Willingness to pay and willingness to accept: how much can they differ? *The American Economic Review*, 81(3), 635-647.
- Hanley, N., Czajkowski, M., 2019. The role of stated preference valuation methods in understanding choices and informing policy. *Review of Environmental Economics and Policy*, 13(2), 248–266.
- Hansen, T.B., 1997. The Willingness-to-Pay for the Royal Theatre in Copenhagen as a Public Good. *Journal of Cultural Economics*, 21(1), 1–28.
- Historic England, 2025. Making changes to heritage assets: Historic England Advice Note 2 (HEAG023). Historic England.
- Holtorf, C., 2015. Averting loss aversion in cultural heritage. *International Journal of Heritage Studies*, 21(4), 405-421.
- Hutter, M., Rizzo, I. (Eds.), 1997. *Economic perspectives on cultural heritage*. Macmillan.
- Johnston, R.J., Boyle, K.J., Adamowicz, W., Bennett, J., Brouwer, R., Cameron, T.A., Hanemann, W.M., Hanley, N., Ryan, M., Scarpa, R., Tourangeau, R., Vossler, C.A., 2017. Contemporary guidance for stated preference studies. *Journal of the Association of Environmental and Resource Economists*, 4(2), 319-405.
- Julkowska, V., 2016. Multicultural heritage of the memory of Lower Silesia. A study of selected sites of memory. *Historia@Teoria*, 1(1), 19.
- Kahneman, D., Tversky, A., 1979. Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–292.
- Kim, Y., Kling, C.L., Zhao, J., 2015. Understanding behavioral explanations of the WTP-WTA divergence through a neoclassical lens: Implications for environmental policy. *Annu. Rev. Resour. Econ.*, 7(1), 169-187.
- Kling, R.W., Revier, C.F., Sable, K., 2004. Estimating the public good value of preserving a local historic landmark: the role of non-substitutability and citizen information. *Urban Studies*, 41(10), 2025-2041.
- Kurpiel, A., 2019. Translokalne dziedzictwo kulturowe Dolnego Śląska. *Łódzkie Studia Etnograficzne*, 58, 87–100.
- LaRiviere, J., Czajkowski, M., Hanley, N., Aanesen, M., Falk-Petersen, J., Tinch, D., 2014. The value of familiarity: effects of knowledge and objective signals on willingness to pay

- for a public good. *Journal of Environmental Economics and Management*, 68(2), 376-389.
- Lawton, R., Fujiwara, D., Arber, M., Maguire, H., Malde, J., O'Donovan, P., Lyons, A., Atkinson, G., 2020. DCMS rapid evidence assessment: Culture and heritage valuation studies—Technical report. Simetrica Jacobs.
- Loomis, J.B., 1990. Comparative reliability of the dichotomous choice and open-ended contingent valuation techniques. *Journal of Environmental Economics and Management*, 18(1), 78–85.
- Loomis, J., Ekstrand, E., 1998. Alternative approaches for incorporating respondent uncertainty when estimating willingness to pay: the case of the Mexican spotted owl. *Ecological Economics*, 27(1), 29-41.
- Loewenstein, G.F., Weber, E.U., Hsee, C.K., Welch, N., 2001. Risk as feelings. *Psychological bulletin*, 127(2), 267–286.
- Lundhede, T., Bille, T., Hasler, B., 2013. Exploring preferences and non-use values for hidden archaeological artefacts: a case from Denmark. *International Journal of Cultural Policy*, 19(4), 501-530.
- Manning, W.G., Mullahy, J., 2001. Estimating log models: To transform or not to transform? *Journal of Health Economics*, 20(4), 461–494.
- Mariel, P., Hoyos, D., Meyerhoff, J., Czajkowski, M., Dekker, T., Glenk, K., Bredahl Jacobsen, J., Liebe, U., Olsen, S.B., Sagebiel, J., Thiene, M., 2021. Environmental valuation with discrete choice experiments: Guidance on design, implementation and data analysis. Springer.
- Mason, R., 2008. Be interested and beware: Joining economic valuation and heritage conservation. *International Journal of Heritage Studies*, 14(4), 303-318.
- Mazzanti, M., Mourato, S., 2002. Economic Valuation of Cultural Heritage: Evidence and Prospects, in: de La Torre, M. (Ed.), *Assesing the Values of Cultural Heritage*. Los Angeles: The Getty Conservation Institute.
- Messer, K.D., Poe, G.L., Rondeau, D., Schulze, W.D., Vossler, C.A., 2010. Social preferences and voting: An exploration using a novel preference revealing mechanism. *Journal of Public Economics*, 94(3–4), 308–317.
- Meyerhoff, J., Liebe, U., 2006. Protest beliefs in contingent valuation: explaining their motivation. *Ecological economics*, 57(4), 583-594.

- Morey, E., Rossmann, K., Chestnut, L., Ragland, S., 2002. Valuing Reduced Acid Deposition Injuries to Cultural Resources: Marble Monuments in Washington, D.C., in: Navrud, S., Ready, R.C. (Eds.), *Valuing Cultural Heritage: Applying Environmental Valuation Techniques to Historic Buildings, Monuments and Artifacts*. Cheltenham: Edward Elgar.
- Mourato, S., Kontoleon, A., & Danchev, A. (2002). Preserving cultural heritage in transition economies: A contingent valuation study of Bulgarian monasteries, in: Navrud, S., Ready, R.C. (Eds.), *Valuing Cultural Heritage: Applying Environmental Valuation Techniques to Historic Buildings, Monuments and Artifacts* (pp. 68-86). Cheltenham: Edward Elgar.
- Navrud, S., Ready, R.C., 2002. *Valuing Cultural Heritage: Applying Environmental Valuation Techniques to Historic Buildings, Monuments and Artifacts*. Cheltenham: Edward Elgar.
- Needham, K., Czajkowski, M., Hanley, N., LaRiviere, J., 2018. What is the causal impact of information and knowledge in stated preference studies? *Resource and Energy Economics*, 54, 69–89.
- Plevoets, B., Van Cleempoel, K., 2019. *Adaptive reuse of the built heritage: Concepts and cases of an emerging discipline*. Routledge.
- Provins, A., Pearce, D., Ozdemiroglu, E., Mourato, S., Morse-Jones, S., 2008. Valuation of the historic environment: The scope for using economic valuation evidence in the appraisal of heritage-related projects. *Progress in Planning*, 69(4), 131–175.
- Ribera, F., Nesticò, A., Cucco, P., Maselli, G., 2020. A multicriteria approach to identify the Highest and Best Use for historical buildings. *Journal of Cultural Heritage*, 41, 166–177.
- Richardson, L., Loomis, J., 2009. The total economic value of threatened, endangered and rare species: an updated meta-analysis. *Ecological economics*, 68(5), 1535-1548.
- Riganti, P., Nijkamp, P., 2005, August 23–27. Benefit transfers of cultural heritage values: How far can we go? [Paper presentation]. 45th Congress of the European Regional Science Association: Land Use and Water Management in a Sustainable Network Society, Amsterdam, The Netherlands. <http://hdl.handle.net/10419/117506>
- Rizzo, I., 2021. Behaviourally informed heritage policies: challenges and perspectives. *La economía de la cultura: una disciplina joven. Estudios en homenaje al profesor Víctor Fernández Blanco*.
- Rozbicka, M., Warchoń, M., 2017. Raport o stanie zachowania zabytków nieruchomych w Polsce. Zabytki wpisane do rejestru zabytków (księgi rejestru A i C). Warszawa: Narodowy Instytut Dziedzictwa.

- Sagger, H., Philips, J., Haque, M., 2021. Valuing Culture and Heritage Capital: A Framework Towards Informing Decision Making. London: Department for Digital, Culture, Media and Sport.
- Salazar, S.D.S., Marques, J.M., 2005. Valuing cultural heritage: the social benefits of restoring and old Arab tower. *Journal of cultural heritage*, 6(1), 69-77.
- Santagata, W., Signorello, G., 2002. Individual preferences and allocation mechanisms for a Cultural Public Good: Napoli Musei Aperti, in: Navrud, S., Ready, R.C. (Eds.), *Valuing Cultural Heritage: Applying Environmental Valuation Techniques to Historic Buildings, Monuments and Artifacts* (pp. 238-253). Cheltenham: Edward Elgar.
- Shogren, J.F., Shin, S.Y., Hayes, D.J., Kliebenstein, J.B., 1994. Resolving differences in willingness to pay and willingness to accept. *The American Economic Review*, 84(1), 255–270.
- Statistics Poland, 2021. National Population and Housing Census 2021: Population [Data set]. Local Data Bank.
- Statistics Poland, 2020. Local Data Bank [Data set]. Statistics Poland.
- Throsby, D., 2003. Determining the Value of Cultural Goods: How Much (or How Little) Does Contingent Valuation Tell Us? *Journal of Cultural Economics*, 27(3–4), 275–285.
- Throsby, D., 2001. *Economics and culture*. Cambridge University press.
- Throsby, D., 1999. Cultural capital. *Journal of Cultural Economics*, 23(1), 3–12.
- Throsby, D., Zednik, A., Araña, J.E., 2021. Public preferences for heritage conservation strategies: a choice modelling approach. *Journal of Cultural Economics*, 45, 333-358.
- Tobin, J., 1958. Estimation of relationships for limited dependent variables. *Econometrica*, 26(1), 24–36.
- Tuan, T.H., Navrud, S., 2007. Valuing cultural heritage in developing countries: comparing and pooling contingent valuation and choice modelling estimates. *Environmental and Resource Economics*, 38, 51-69.
- Vidal, F., Dias, N., 2015. *Endangerment, biodiversity and culture*. Routledge.
- Vossler, C.A., Holladay, J.S., 2018. Alternative value elicitation formats in contingent valuation: Mechanism design and convergent validity. *Journal of Public Economics*, 165, 133–145.
- Vossler, C.A., Zawojcka, E., 2020. Behavioral drivers or economic incentives? Toward a better understanding of elicitation effects in stated preference studies. *Journal of the Association of Environmental and Resource Economists*, 7(2), 279-303.

Wright, W.C., Eppink, F.V., 2016. Drivers of heritage value: A meta-analysis of monetary valuation studies of cultural heritage. *Ecological Economics*, 130, 277-284.

Appendices

Appendix A. Study context and sample

Table A1. Registered immovable heritage assets in Poland and Lower Silesia, 2016

	Poland, N	Average per province, N	Lower Silesia, N (% of province average)
All registered immovable heritage assets	70,885	4,430	8,429 (190%)
Registered immovable heritage assets at highest risk of collapse	3,781	236	706 (299%)
Registered residential buildings	4,748	297	671 (226%)
Registered residential buildings at highest risk of collapse	773	48	206 (426%)

Note: Figures are as of April 30, 2016, based on Rozbicka and Warchoł (2017). The category of immovable heritage assets is broader than historic buildings and also includes urban and rural layouts, building complexes, parks and gardens, cemeteries etc. The average per province is calculated by dividing the national total by 16. Percentages in parentheses express the number of registered immovable heritage assets in Lower Silesia relative to the unrounded average per province.

Table A2. Population and study sample structure

		Population	Study sample
Variable		Share	Share
Gender			
	Female	52.1%	53.5%
	Male	47.9%	46.5%
Age (in years)			
	18-24	8.0% ^a	19.5%
	25-44	35.7%	37.2%
	45-64	33.2%	31%
	65+	23.1%	12.4%
Education			
	Elementary (or lower)	13.1%	3.3%
	Secondary or vocational	63.7%	65.7%
	Higher	19.8%	31%
	Unknown / not established	3.4%	0%

Note: Gender and age population estimates are based on Statistics Poland's Local Data Bank (2020) and refer to the population aged 18 and over in the selected counties. Education estimates are based on Statistics Poland (2021), National Population and Housing Census 2021, Local Data Bank, and refer to the population aged 20 and over in the selected counties. ^a Two-fifths of the population aged 15–19 was included to estimate the population aged 18–19.

Table A3. Distribution of the study sample and adult population across surveyed counties

County	Study sample		Population	
	N	Share (%)	N	Share (%)
Bolesławiec	81	17.9	72,497	16.7
Polkowice	70	15.5	49,407	11.3
Legnica	110	24.3	124,433	28.6
Złotoryja	30	6.7	34,585	7.9
Lwówek Śl.	45	10.0	36,815	8.5
Lubań	33	7.3	44,204	10.2
Zgorzelec	83	18.4	73,417	16.9
Total	452	100	435,358	100

Note: Population estimates are based on Statistics Poland's Local Data Bank (2020) and refer to the population aged 18 and over. Two-fifths of the population aged 15–19 was included to estimate the population aged 18–19.

Table A4. Prior familiarity with Pückler Palace and the adaptive-reuse proposal

Prior knowledge or experience	N	Share (%)
Had heard about the palace	198	43.8
Had previously visited the palace	87	19.3
Knew that the palace was unused and in poor condition	135	29.9
Had heard about the Museum of Ceramics reuse proposal	93	20.6

Note: N = 452. Categories are not mutually exclusive.

Table A5. Criteria used to select the heritage asset for the valuation study.

Criterion	Rationale
<i>Local significance</i>	The study sought a heritage asset of clear local importance whose conservation could nevertheless not be assumed to receive sufficient institutional or financial support.
<i>Formal heritage status</i>	The asset had to be officially recognized as cultural heritage, providing an externally established basis for its historical or architectural significance and protection.
<i>Credible risk of further deterioration</i>	The counterfactual needed to imply a credible prospect of continued deterioration and potentially irreversible loss, so that it differed meaningfully from the future trajectory under the proposed intervention.
<i>Retention of heritage qualities</i>	Despite its poor condition, the asset needed to retain sufficient historical, architectural, or other heritage qualities for conservation to remain meaningful and technically feasible.
<i>Currently unused</i>	The asset had to be out of use, creating a genuine policy problem concerning continued conservation and the need for a viable future function.
<i>Genuine adaptive-reuse proposal</i>	A real proposal for a future use was required so that the reuse-information treatment could be based on an actual policy option rather than an entirely hypothetical scenario.
<i>Public ownership</i>	Public ownership was required to support the credibility of both the proposed intervention and a payment mechanism involving residents of the study area.

Appendix B. Selected valuation scenario materials

The materials below are this author's translations of the original Polish questionnaire. They reproduce the wording presented to respondents.

B1. Program scenario, payment mechanism, and valuation instructions

Renovation requires costly repair and conservation work. At this stage, the total cost of renovating the palace is not yet known. The necessary funds could be raised through an additional one-off levy imposed on all residents of the region. This would mean an additional expense for you. Given the scale of the project, it is important to learn the views of local residents. Some people may be willing to allocate money for this purpose, while others may not.

In a moment, we will ask you to state the maximum amount you would be willing to pay as a one-off payment toward the renovation of the palace. Once specialists (architects and engineers) have determined the total cost of the renovation, it will be possible to calculate how much each resident of the region would individually have to pay for the renovation to proceed. This amount can then be compared with the amount you state in this survey.

This means that your stated amount will be treated as a vote for or against the proposal. For example, if the amount you state is higher than the actual renovation cost per resident of the region, your response will be counted as a vote in favor of the renovation and the collection of the levy. If the amount you state is lower than the actual renovation cost per resident of the region, your response will be counted as a vote against the renovation and the collection of the levy.

In this way, we will determine the percentage of votes for and against the project among survey respondents. The resulting number of votes for and against will serve as an advisory recommendation and will be submitted to the Municipality of Bolesławiec, which owns the palace. You therefore have a genuine opportunity to influence decisions concerning the future of this historic building.

Please remember that you are being asked to state the maximum amount you would be willing to pay as a one-off payment toward the renovation of the palace because the amount of the required levy is not yet known.

Please also take into account that many similar historic buildings and other cultural heritage sites require protection. When making your decision, please remember that you may wish to spend your money on something else. Please consider how much you would genuinely be willing to pay toward the renovation of the palace. If you cannot afford any additional expense or if you oppose the renovation, please state PLN 0.

B2. Reuse information

The municipal authorities plan to make use of the historic building by relocating the Museum of Ceramics to the palace. In this case, the renovation would also involve adapting the palace interior to the needs of the museum.

The Museum of Ceramics holds the most extensive collection of Bolesławiec ceramics. It currently occupies two separate buildings in the town, which do not provide sufficient space for the museum to carry out its activities. Admission to the permanent exhibition costs between PLN 2 and PLN 8. The museum also organizes temporary exhibitions, workshops, and events that are free to attend. During implementation of the project, which is expected to take approximately one year, the museum will be closed to visitors.

Appendix C. Additional estimation results**Table C1.** Positive-WTP estimates by experimental group

	(1) OLS: log(WTP)	(2) OLS: log(WTP)	(3) OLS: log(WTP)
Reuse information only	0.347 (0.234)	0.449** (0.228)	0.429** (0.219)
Loss prompt only	0.361 (0.220)	0.742*** (0.262)	0.820*** (0.249)
Loss prompt + reuse information	0.281 (0.223)	0.681** (0.264)	0.653*** (0.253)
Spontaneous loss consideration		0.682*** (0.229)	0.598*** (0.221)
Prior reuse knowledge		0.519*** (0.184)	0.464*** (0.181)
Household income (PLN 1,000s)	0.074*** (0.019)	0.072*** (0.019)	
Constant	3.078*** (0.168)	2.568*** (0.230)	2.780*** (0.206)
Observations	361	361	397

Note: The baseline group is the reference category. Heteroskedasticity-robust standard errors are reported in parentheses. ** p < 0.05, *** p < 0.01.

Table C2. Robustness of willingness-to-pay estimates to alternative model specifications (Tobit models)

	(1) Main effects, with income	(2) Interaction, with income	(3) Main effects, no income	(4) Interaction, no income
Prompted loss consideration	24.096*** (8.514)	32.692*** (10.989)	24.483*** (8.094)	33.050*** (10.536)
Spontaneous loss consideration	21.302** (10.054)	21.891** (10.051)	19.614** (9.457)	20.479** (9.461)
Reuse information	9.373 (7.300)	17.677* (10.390)	7.585 (6.981)	15.860 (9.739)
Prior reuse knowledge	16.423* (8.996)	16.602* (8.976)	18.131** (8.646)	18.410** (8.620)
Prompted loss consideration x Reuse information		-16.851 (14.602)		-16.613 (13.926)
Household income	4.675***	4.673***		

	(1) Main effects, with income	(2) Interaction, with income	(3) Main effects, no income	(4) Interaction, no income
(PLN 1,000s)	(1.310)	(1.323)		
Constant	16.423* (8.747)	12.556 (9.167)	29.488*** (7.245)	25.368*** (7.760)
Error variance	4681.366*** (481.487)	4662.026*** (479.218)	4754.618*** (461.936)	4734.705*** (460.149)
Observations	409	409	452	452

Note: The dependent variable is WTP in PLN, including zero responses. Heteroskedasticity-robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C3. Robustness of willingness-to-pay estimates to alternative model specifications (gamma GLMs)

	(1) Main effects, with income	(2) Interaction, with income	(3) Main effects, no income	(4) Interaction, no income
Prompted loss consideration	0.372** (0.196)	0.588*** (0.223)	0.421** (0.199)	0.683*** (0.228)
Spontaneous loss consideration	0.401** (0.198)	0.451** (0.188)	0.382* (0.203)	0.457** (0.188)
Reuse information	0.290** (0.146)	0.494*** (0.192)	0.205 (0.150)	0.449** (0.191)
Prior reuse knowledge	0.425** (0.166)	0.439*** (0.167)	0.369** (0.168)	0.391** (0.170)
Prompted loss consideration x Reuse information		-0.382 (0.288)		-0.451 (0.295)
Household income (PLN 1,000s)	0.062*** (0.023)	0.065*** (0.025)		
Constant	3.688*** (0.195)	3.558*** (0.182)	3.928*** (0.178)	3.769*** (0.160)
Observations	361	361	397	397

Note: The dependent variable is positive WTP in PLN. Models are estimated using a gamma distribution with a log link and therefore exclude zero-WTP responses. Heteroskedasticity-robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C4. Comparison of alternative parametric specifications for the WTP distribution

Distribution	Spike at zero	Log-likelihood	Parameters	AIC/n	BIC/n	Mean WTP	S.E.
<i>Observed open-ended mean</i>	—	—	—	—	—	75.65	—
Generalized Pareto	Yes	-2,282.63	4	10.118	10.154	82.60	24.66
Lognormal	Yes	-2,294.10	3	10.164	10.191	95.63	15.76
Birnbaum–Saunders	Yes	-2,304.52	3	10.210	10.238	69.72	6.76
Exponential	Yes	-2,328.67	2	10.313	10.331	75.52	4.48
Exponential	No	-2,407.41	1	10.657	10.666	75.80	4.20
Location-scale t	Yes	-2,473.47	4	10.962	10.999	54.40	12.40
Logistic	Yes	-2,572.00	3	11.394	11.421	65.62	3.91
Normal	Yes	-2,672.01	3	11.836	11.864	94.70	5.66
Logistic	No	-2,714.02	2	12.018	12.036	66.15	3.89
Normal	No	-2,834.63	2	12.551	12.570	97.78	5.53
Extreme-value	Yes	-2,861.52	3	12.675	12.702	116.15	7.85
Rayleigh	Yes	-2,921.74	2	12.937	12.955	123.33	3.66
Extreme-value	No	-3,059.00	2	13.544	13.562	125.53	8.08

Note: Models are ordered by AIC/n. “Spike at zero” indicates that a separate point mass at zero is estimated. AIC/n and BIC/n denote the Akaike and Bayesian information criteria divided by the number of observations; lower values indicate better fit. Mean WTP and standard errors are reported in PLN. All fitted specifications use $n = 452$ observations.



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