Community participation in heritage tourism planning: Is it too much to ask?

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Abstract

The literature largely advocates for community participation in heritage tourism planning but there is little empirical evidence on the effectiveness of participatory management and its contribution to heritage. This study adopts an experimental approach to conduct a *ceteris paribus* comparison between participatory and non-participatory decision-making. The analysis relies on behavioural data on choices, deliberation and conflict studied in the context of a controlled collaborative environment. The findings provide important insights in favour of participation, offering support to previous conjectures. First, choices and deliberation between participatory and non-participatory groups exhibit no statistically significant differences, suggesting that community participation can be (equally?) as effective as (with) top-down decision-making. Second, participatory groups are more susceptible to conflict, which is nonetheless constructive rather than destructive, leading to more pro-heritage choices. Further, in participatory groups, we find positive correlations between pro-heritage preferences and deliberation, suggesting that the latter benefits heritage investment decisions. These findings have important implications, arguing for collaborative approaches to heritage tourism planning and less institutional anxiety towards conflict.

Keywords:

Heritage tourism, community participation, voluntary contribution to public goods, experimental economics

JEL codes:

1. Introduction

This paper investigates participatory heritage tourism adopting an experimental economics approach, which introduces an important line of research in tourism development policy. Contrary to previous work and instead of assessing the effects of a participatory exercise *per se*, we test *ceteris paribus* community participation in heritage tourism decision-making against non-participation.

Heritage tourism is special-interest tourism, driven by an appreciation and engagement with elements of the past, such as archaeological sites, local architecture, museum exhibitions, folk arts and traditions that witness the cultural legacy of destinations (Timothy & Boyd, 2006). The 'heritagisation' of the tourism product is increasingly recognised as a means of enhancing destination attractiveness, especially in rural areas, while preserving heritage capital (Antonakakis et al., 2015; Bessiere, 2013; Wu et al., 2015).

Nonetheless, quality development of heritage tourism entails substantial investment in the conservation and promotion of heritage assets and a departure from more conventional tourism activities. In parallel, it necessitates the consent of host communities and their positive attitude towards the sector's growth and direction, which could be better achieved through their involvement in tourism planning (Nunkoo & Ramkinsson, 2011; Reggers et al., 2016).

Community participation in tourism and heritage

Although the concept of community involvement or participation in tourism was introduced more than three decades ago (Getz, 1983; Murphy, 1985), it still remains a topical issue in tourism and sustainable development studies.

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Relevant scholarly work acknowledges community stakeholders, such as local residents and entrepreneurs, as potential partners who deserve an active role not only in tourism trade (Saufi et al., 2014; Ruiz-Ballesteros et al., 2016) but also in the strategic design and decision-making for tourism growth (Wray, 2011; Marzuki et al., 2012; Cohen-Hattab, 2013). The advocates of community participation argue that such policymaking approach can increase trust and public consensus (Byrd, 2007; Vargas-Sanchez et al., 2010), lead to tourism strategies that correspond to local needs (Currie et al., 2009) and contribute to destination sustainability (Byrd et al., 2009; Ooi et al., 2015).

Community participation is also emphasised in the context of heritage and heritage tourism planning (see for instance, Den, 2014; Su & Wall, 2014; Mansfeld, 2015). Heritage management theorists propose that decisions concerning heritage sites need to involve all interested parties to accommodate their values and positions (Fouseki, 2015). At the same time, world-leading specialised agencies propose a heritage tourism paradigm where local needs are pursued through both bottom-up and top-down measures (UNESCO, 2012) and destination communities are involved in the design of conservation and tourism strategies (ICOMOS, 1999).

The problem

Despite the growing consensus over community participation amongst academics and specialists, the top-down linear approach to decision-making still remains the prevailing paradigm for heritage tourism planning (Su & Wall, 2014). Community input tends to be marginalised and largely confined to public consultation with no guarantee of shaping action policy (Spencer, 2010;

Marzuki et al., 2012). This creates a paradox between the abundance of scholarly work in favour of participation and the limited empirical knowledge of its application.

Such disproportion between theory and hands-on evidence encourages scepticism and dissuades from tackling the political, socio-cultural and practical complexities of pursuing participatory decision-making. For instance, it is hard to claim convincingly based solely on theoretical constructs that community-led decisions can benefit heritage or that economically deprived societies would not 'discount the future', as Redcliff (2005, p.215) puts it, by opting for some quick-fix economic solution at the expense of long-term cultural and socio-economic sustainability.

Therefore, it is vital to explore the feasibility of participation further and provide more evidence that the concept is not 'idealistic' but applicable to a natural context. Such evidence is critical for incentivising policymakers to address the challenges of participation and for reducing scepticism about its outcomes and effectiveness. In addition, given the inevitable presence of conflicting stakeholder interests and institutional anxiety of a more inclusive decision-making process, it is necessary to examine more systematically the degree to which conflict may affect the process and outcomes of participatory tourism planning.

Although it is important to address these long-posed questions, there are some inherent complications of doing so empirically. The limited naturally occurring data renders it particularly difficult to observe the effect of community participation in heritage tourism planning or assess the counterfactuals of participatory decision-making in destination development. In consequence,

tourism research examining the effectiveness of participatory structures is quite fragmented, with relevant studies more commonly adopting a case-study enquiry of outcomes in destinations where some form of community participation was empowered or pursued (see *inter alia* Aas et al., 2005; Vernon et al., 2005; Byrd, 2007; Beaumont & Dredge, 2010; Spencer, 2010; Jamal and McDonald, 2011; Waligo et al., 2013; Reggers et al., 2016). These studies employ a mix of qualitative tools (e.g. interviews, focus groups or ethnographic approaches, such as meetings' attendance) with quantitative surveys. However, these approaches are valuable for an ex-post assessment, without possibility of comparing participatory management to the counterfactuals.

The solution

Contrary to previous work, we adopt an experimental approach designed to study the process and outcomes resulting from participatory and non-participatory management in a controlled way. Based on our design, non-participatory groups reflect conventional planning approaches where decisions are led exclusively by state heritage professionals and government authorities. Rather, participatory groups are of mixed structure with broader community representatives (e.g. local residents and tourism professionals) and instructed to make decisions collaboratively. The examination of both structures allows us to identify and directly compare *ex-ante* any potential benefits or costs of active community involvement in tourism planning with its counterfactual course of action, in destinations with no prior participatory experience.

The distinction of experimental research as opposed to other methodological approaches, such as observational tools, is that it randomly assigns human

subjects to various conditions (i.e. treatments) and compares their behaviour against control or other treatment groups (Druckman et al., 2011). Hence, the experimental approach renders it possible to observe community behaviour and test the efficiency of participatory tourism planning in any destination by staging participatory conditions and exposing communities to them. Economic experiments are well-established tools for examining social behaviour (Exadaktylos et al., 2013) and exploring policy issues (Croson, 2003). Thus, our enquiry adopts and adapts their tools with the view to extend the scope of research in participatory tourism and shed some light into this challenging topic that can inform heritage tourism policy.

The aim of the study is to examine and compare the effectiveness of community participation with top-down heritage tourism planning and their contribution to pro-heritage investment decisions. To do so, it employs an experimental methodological framework at the field that seeks to expose subjects to collective decision-making with the view to reveal potential trade-offs between self (group) and public (heritage) interests under realistic circumstances. We recruit non-participatory, grassroots and participatory (mixed) groups and we observe any behavioural differences accordingly. Our findings provide some experimental evidence in favour of participatory heritage tourism planning and thus lean support to the theoretical literature.

2. Background of study

Conceptual framework

Our theoretical premise for applying an experimental methodology to the context of participatory heritage tourism planning is on the one hand, the public good qualities of heritage and on the other, the relevance of social preferences to the decision making process regarding public goods. As heritage bears the non-excludable and non-rival features of public goods, heritage assets have long been defined as public or quasi-public goods (see, for instance, Navrud & Ready, 2002) as even in cases where access to them is restricted (e.g. listed buildings used as private residencies) or conditional (i.e. admission charges) there are still consumption elements that cannot be controlled, such as aesthetic pleasure.

Public goods can be enjoyed by all society and provide community-shared benefits. It follows that any investment in public goods affects positively anyone that uses these goods or intends to do so in the future. In turn, the public good nature of heritage assets suggests that any contribution to their preservation or promotion is independent from their consumption. Hence, when it comes to tourism development, (public) investment in heritage could create communal benefits, however the most 'visible' gains would be those shared amongst visitors and tourism stakeholders. For those not involved in tourism trade the benefits might seem too indirect (e.g. economic gains from the injection of tourism income into the local economy) or too intangible (e.g. scientific value or sense of identity and pride).

According to the theory, the separation of investment and its returns may give rise to social dilemmas, where selfish behaviour is seemingly the best course of action, promising the highest (personal) gains which are nonetheless subject to either others' altruism (public goods dilemma) or the ephemerality of

collective non-cooperation (commons dilemma). Otherwise, anti-social behaviour leads to the good's degradation or depletion and to subsequent communal costs.

We hold that such dilemmas are highly relevant to participatory heritage tourism planning. This is because the development of heritage tourism requires substantial financial (public) investment and the support of both policymakers and destination hosts for its long-term viability. Thus, it is worth examining whether community involvement can act as a driving factor for cooperation and encourage pro-heritage investments. Especially when the community in question suffers from economic depression, such enquiry is critical given that opportunity costs could further influence the balance between altruistic and selfish motivations in favour of the latter.

Study context

Even though the vast majority of economic experiments are laboratory-based (Exadaktylos et al., 2013), there are several examples of experiments conducted in the field (see for instance Cardenas, 2004; Cardenas & Ostrom, 2004; Cardenas & Carpenter, 2008). Similar to the latter, this study applies a quasi-field experimental methodology to a natural context (destination). The quasi-field design allows for maintaining some control over subjects' exposure to treatments, which is necessary for testing participatory against non-participatory behaviour by controlling group synthesis (i.e. distinguishing subjects based on their capacity as current policymakers or wider community).

Given that we are interested in heritage tourism, our enquiry is positioned to a destination where such development is highly relevant for stimulating

economic growth while increasing incentives for safeguarding local heritage. On this basis, the context of our study is the prefecture of Kastoria, a peripheral area in the northern peninsular mainland of Greece. Kastoria fits well with our criteria as it has currently a heavily depressed economy, reflected by its 30.8% unemployment rate (Hellenic Statistical Authority, 2016), and a rich but fragile heritage capital, manifested by the inclusion of its historic centre in Europa Nostra list of the '7 Most Endangered Heritage Sites in Europe' (Council of Europe Development Bank, 2015).

As a destination, Kastoria has a fairly established tourism sector of approximately 1,900-bed capacity, which is presently peripheral to its economy (Hellenic Chamber of Hotels, 2016). Following the prevailing model of (mass organised) tourism in Greece, Kastoria developed a tourism offer, which is mostly standardised and mainly consumed domestically. However, as recent years witnessed a decline of its local traditional industries (manufacturing) and a national on-going economic crisis, opportunities emerged for developing its tourism further. Considering Greece's homogeneity and shortfall in special interest tourism (Tsartas et al., 2014), Kastoria could develop a local differentiated heritage tourism product to increase its attractiveness and competitiveness. Based on its rich heritage collection of prehistoric, classical, medieval and modern sites of interest, it could capitalise on heritage tourism to stimulate its rural economy and encourage investment in local heritage assets.

Nevertheless, investing in heritage is costly, whereas building a viable and lucrative heritage tourism sector would bear its fruits in the long run at the expense of other more directly profitable options. These opportunity costs, coupled with the economic predicament of both Kastoria and wider Greece

during the study period, increase the magnitude of decisions and the dilemma of sharing decision-making control with multiple stakeholders.

In terms of prior knowledge, the community of Kastoria has very little experience of collaborative decision-making. This is due to the country's general political culture and especially for heritage, the hegemony of the state archaeological service over heritage management. The latter and its local branches are the leading agents for the formulation and execution of heritage-related planning, often in collaboration with other government authorities (e.g. city councils) but autonomously from non-governmental bodies and the public.

Overall, considering its economic structure, heritage stature and policy culture, it is evident that Kastoria presents several challenges in which participation in heritage tourism planning is worth being explored. The experiment is carried out in a destination where an actual community with real stakes in heritage tourism development can be mobilised and tasked to act collaboratively. Further, this exploration allows for a *ceteris paribus* comparison with non-participation, where decisions are made exclusively by current power-holders, in the same controlled setting.

3. Research hypotheses

In social dilemma experimental settings, social welfare renders its dependency on subjects' decisions. Economic experiments feature tasks with monetary payments in order to establish a direct link between desired and decided outcomes while ensuring internal validity (Zizzo, 2010). In particular, economic experiments use a voluntary contributions mechanism, where

participants are assigned an endowment and undertake a simple allocation task between two accounts; the one representing social/public good contributions while the other private contributions (Brandts & Fatas, 2012). Money allocated to the private account are secured but fixed (i.e. no additional returns), whereas endowments spent on the public good are expected to create collective benefits, depending on others' decisions.

This voluntary contributions mechanism is a standard tool for exploring intrinsic incentives to act against 'rational' profit maximisation (Brandts & Schram, 2008). These incentives are determined by subjects' beliefs, interests and feelings (van Winden et al., 2008). However, given that this methodological technique is used to community participation for the first time, we need to verify the applicability of incentive compatible rewards on subjects' behaviour. For this reason, we employ both hypothetical and real monetary rewards to mimic the natural context and report any differences in our results accordingly. Thus our first hypothesis (H1) concerns the suitability of our method to this particular study context and is expressed as follows:

H1. Incentive-compatible rewards, as opposed to hypothetical monetary rewards, alter subjects' behaviour in terms of group contributions and/or deliberation time and/or conflict.

As analysed in the introduction, tourism literature suggests that community participation improves planning legitimacy and leads to decisions that reflect local needs and values to a greater degree. Based on this premise, it is vital to further explore whether decisions made by participatory groups with wider

community representation would also benefit the future of heritage tourism by encouraging pro-heritage investments to a higher or lower degree than conventional decision-making. In other words, it is necessary to establish whether the wider community shares the same values with traditional policymakers and shows an equal sensitivity towards heritage as compared to state-employed heritage managers and experts in the field. This prompts us to test a second hypothesis (H2) that concentrates on the practical outcomes of participation in heritage tourism:

H2. Compared to non-participatory decision-making, community participation does not affect heritage tourism negatively in terms of investment choices.

Furthermore, as collected data needs to accommodate the democratic functioning of policy-making, participants should be instructed to arrive at a collective consensual decision after discussing specific investment scenarios and potential alternatives (see sections 3.2 and 3.3). Although deliberation holds the potential of exposing decision-making to diverse values that exist across a locality (Lo, 2013; Rodriguez-Labajos & Martinez-Alier, 2013), contested opinions within a group may give rise to conflict.

It is thus worth examining whether a participatory decision-making system would be more susceptible to conflict due to its higher and more direct representation of interests. More important though is to identify the effect of conflict on decisions, i.e. whether anti-heritage behaviour prevails over pro-heritage choices or the opposite. Given the limited empirical evidence on the

subject, our third hypothesis (H3) would test the worst-case scenario that is the following:

H3. Community participation gives rise to more conflict compared to non-participation, which in turn influences planning decisions negatively (i.e. leads to anti-heritage choices).

Parallel to the outcomes of participation on planning choices, it is also worth considering the effects of participation on the decision-making process. Previous experimental work has associated intuitive thinking to shorter decision times and less pro-social decisions on the premise that pro-social choices trigger (internal) conflict (Rubinstein, 2007; Piovesan & Wengstrom, 2009). Yet, it is worth exploring whether such findings are extrapolated to collective behaviour in order to inform participatory policy. Thus, along with the testing of effectiveness (in terms of time) of participatory against non-participatory groups, our final hypothesis (H4) is formulated as the follows:

H4. Longer deliberation leads to more pro-heritage collective choices.

4. Methodology and experimental design

Subjects and treatments

To collect behavioural data and observe participants' interactions in a real setting, we ran a series of seven sessions at Kastoria between September and November 2015. Previous work highlights that group-based approaches are more appropriate when dealing with unfamiliar and complex questions given

that a group setting facilitates information sharing and deliberation (Robinson et al., 2008; Lienhoop & Fischer, 2009). Further, collective decision making is of great interest when it comes to participatory planning, given that relevant decisions will be made in the context of small unitary groups (Kocher & Sutter, 2007). Thus, the sessions accommodated a total of 96 subjects that were organised into small groups - normally 4 individuals per group, as is the most common practice in laboratory studies of voluntary contribution in public good games.

Based on our hypotheses, the experiment involved the running of four treatments with a between-subjects design, where each subject/group was exposed exclusively to a single treatment. All treatments were applied to six groups providing a set of 24 group-observations. In particular, treatments 1 and 2 (T1, T2) aimed to test H1 and validate our methodology by comparing data generated when either hypothetical payoffs (T1) or incentive-compatible monetary endowments (T2) were effective. Furthermore, treatments 3 and 4 (T3, T4) were both incentive-compatible but differ in their synthesis.

More specifically, T3 groups consisted of state-employed heritage experts working in the area and/or local administrators (city councils/municipal government). We refer to these groups as 'non-participatory' given that they reflect the conventional structure of decision-making for heritage and heritage tourism. In contrast, T4 groups comprised a mix (normally a 2+2 combination) of traditional decision-makers (state experts/administrators, as in T3) and local residents or entrepreneurs with no current authority and direct power to influence heritage tourism planning. The latter (T4) are defined as participatory

groups because their synthesis represents a more community-inclusive model for heritage tourism planning.

Therefore, we test our remaining hypotheses (H2, H3, H4) by comparing collective decision-making and performance between non-participatory and participatory groups. We further explore the effects of community involvement on heritage tourism investment decisions in grass-roots formations (T2) where local residents and entrepreneurs act independently.

It needs to be highlighted that apart from controlling group synthesis based on participants' capacity (namely, drawing a distinction between experts/administrators and residents/entrepreneurs) the recruitment of subjects and their allocation to treatment groups remained random. Our call for participants was publicly advertised in mainstream local and social media and was open to everyone living or working in the area (convenience/random sampling). Invitations were also disseminated to relevant government bodies/representatives (quota sampling) and followed by phone or email correspondence to confirm attendance.

Although these sampling techniques are susceptible to biases, in our case, a 'biased' self-selected sample was considered more realistic than problematic, as those interested in local heritage tourism are those who would volunteer to a real participatory initiative in the future. Especially for policy testing, it is not uncommon for experimenters to recruit participants with relevant experience or biases as it contributes to external validity (Dyer & Kagel, 1996).

Scenarios and procedure

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After consulting with the local branch of the state Archaeological Service, we designed two project scenarios. The former proposed the development of digital heritage trails across the area, whereas the latter suggested the development of a public engagement programme at the local archaeological museum. Both the digital trails and the museum programme were viewed as effective and affordable tools for promoting local heritage to visitors and interest groups. Our rationale for using two scenarios is that heritage tourism decisions can be influenced by investment-specific goals or by how a particular course of action might satisfy subjects' beliefs (Dryzek & Niemeyer, 2010).

For this reason, our investment scenarios carried two distinct characteristics. First, scenario 1 combined a series of heritage sites at various locations whereas the latter was focused on a single site (museum) at a particular location, to provoke the expression of any localism feelings (at both government and citizen levels). Second, the heritage trails scenario was more tourism-oriented whereas the museum project emphasised education and identity values, to expose any clashing interests between different parties.

We hold that observing behaviour in such different decision-making contexts enhances the robustness of our results as in real world heritage tourism planning involves decision-making on multiple matters. Overall, we draw our conclusions based on aggregate data (i.e. behaviour as expressed in both scenarios) although we also analyse the performance of groups as per treatment by distinguishing between the two scenarios.

Based on our protocol, all sessions followed the same process where subjects were firstly assigned to a group and asked to complete an attitudinal questionnaire survey individually. The questionnaire aimed to provide us with

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some quantitative data of subjects' attitudinal and demographic profile. It comprised three sections of 5-point likert-style statements asking subjects about (i) their feelings for local heritage, government agents and community, (ii) their viewpoints of the legitimacy of various stakeholders to participate in heritage tourism planning, and (iii) their incentives to participate in heritage tourism planning. Demographic information concerned gender, age, location, education, occupation, and membership to community organisations.

Once questionnaires were returned to the researchers, each group was allocated an endowment of 200 tokens and presented with the first scenario. Participants were then requested to decide collectively within their group how they wished to invest their endowment. The exact same process was followed for the second scenario after the allocation of an equal-value endowment.

According to our experimental design, investments were made through a heritage/group-fund mechanism. In both scenarios, all tokens allocated to the heritage fund were in essence invested in the proposed project whereas tokens allocated to the group fund were equally shared amongst participants. Given that economic experiments avoid deception (Murnighan, 2015), the Archaeological Service was committed to undertake the projects' implementation, if financed by participants. In this way, an institutional body was employed to safeguard that pro-heritage decisions could lead to feasible outcomes and provided the experiment with external validity (Croson, 2003).

As in public good experiments, the individually optimal choice was contributing zero sums to the heritage account whereas the heritage/social optimal was contributing full sums. Based on the latter, higher contributions to the heritage fund reflected pro-heritage behaviour, as tokens invested in the

heritage project reduced the personal gains of decision-makers. These gains translated into real monetary rewards for all T2, T3 and T4 groups. In contrast, higher contributions to the group fund expressed anti-heritage behaviour given that groups preferred to use their endowments on other purposes.

It should be noted that decisions could range from total pro-heritage (i.e. all amount to the heritage fund) to total anti-heritage (i.e. all amount to the group fund), with any in-between combinations being possible.

For sessions that featured treatments with real monetary incentives (T2, T3, T4) a lottery system was applied once all groups had finalised their decisions for both scenarios. More specifically, one group/decision was randomly selected as winner and real payments were made privately (at a 1:1 token-euro exchange rate). This random selection process was employed because it allowed all decisions to maintain equal chances of becoming effective (thus, still eliciting subjects' true behaviour) while economising study costs (Garcia-Gallego et al., 2011; Georgantzis & Navarro-Martinez, 2010).

Throughout the session only inter-group interaction was allowed whereas contributions were noted on paper and not revealed to other groups. Further, no time limit was imposed for finalising decisions. Rather, deliberation time, measured as the number of minutes passed for reaching a collective decision, was recorded and used as an indicator for assessing groups' performance. This indicator was inspired by previous experimental studies that use time as a proxy to decision-making procedures (Rubinstein, 2007; 2014).

The content of group discussions was also recorded with the view to gain a more complete picture of intra-group negotiations and inform the interpretation of quantitative data. This practice is uncommon for economic experiments and

there are only few studies that had used recordings in the past (e.g. Bosman et al., 2006; Kocher & Shutter, 2007). We followed this approach in order to study conflict and other qualitative features of the negotiation and decision-making process.

More specifically, recordings were employed to extract individual (pursued or desired) contributions within groups and quantify conflict. Our first conflict variable (Conflict1) is estimated as the difference between the average individual (pursued/desired) contributions and the collective (actual) decisions, reflecting what behaviour prevails (anti-/pro-heritage). The second variable (Conflict2) is the standard deviation of individual decisions and quantifies the level of intra-group disagreement. Furthermore, qualitative information provided by recorded discussions helped us analyse group dynamics when conflict arises.

Questionnaire data

Although traditional economic theory oversimplifies individuals' behaviour as one purely dictated by self-interest, there are admittedly other motives that drive economic choices. Indeed, there is vast experimental work, which illustrates that when faced with economic decisions, subjects frequently exhibit social preferences by choosing options that do not maximize their own monetary payoffs (Brandts & Fatas, 2012).

Given that in our case social preferences translate into contributions to the heritage fund, it is worth exploring whether there are specific drivers relating to subjects' profile or ideological background that influence individual choices.

Most importantly, it is interesting to investigate whether intra-group dissimilarity across these factors affects collective decisions.

Thus, we combine questionnaire data with experimental results and perform regression analysis, where individual contributions to heritage are set as the dependent variable whereas attitudinal and demographic questionnaire variables are used as predictors of subjects' behaviour during the experiment (Table 1).

[TABLE 1]

The regression model is shown in Equation 1:

$$IC_j = a + \beta_i SEN_j + \gamma_i LEG_j + \delta_i MOT_j + \zeta_i DEM_j + e_j, \quad\quad (1)$$

where, IC_j denotes the individual contributions of subject j to heritage fund, SEN_j, LEG_j, MOT_j and DEM_j are the vectors of the attitudinal (sentimental, legitimacy, motivational) and demographic characteristics of subject j and β_i, γ_i, δ_i and ζ_i are coefficients to be estimated. Finally, e_j denotes the error term.

Finally, we explore how dissimilarity of the above factors amongst the members of a group influences collective (actual) contributions to heritage. More specifically, similar to Miner (1984) and Pelled (1996) who examine group behaviour based on individuals' traits, we measure intra-group dissimilarity by averaging the summed absolute differences among all subjects of a group, as shown in Equation 2.

$$Dis\_c_g = \frac{1}{n}\sum_{j=1}^{n}|c_j - c_k|, for\ j \neq k, \qu\quad\quad (2)$$

where, Dis_c_g denotes the dissimilarity score of characteristic c and group g and c_j is the value of the individual characteristic of subject j and c_k is the value of the same characteristic for every other subject of the same group.

Again, we perform regression analysis, where intra-group dissimilarity variables are set as predictors of collective contributions (Equation 3):

$$GC_g = c + \theta_i DisSEN_g + \varphi_i DisLEG_g + \omega_i DisMOT_g + \xi_i DisDEM_g + e_g, \tag{3}$$

where, GC_g denotes the collective contributions of group g to heritage fund and $DisSEN_g$, $DisLEG_g$, $DisMOT_g$ and $DisDEM_g$ are the vectors of the dissimilarity scores for each of the sentimental, legitimacy and motivational and demographic elements of group g. θ_i, φ_i, ω_i and ξ_i are coefficients to be estimated and e_g denotes the error term.

5. Results

Group synthesis and behaviour

Table 2 provides a general overview of group characteristics along with the mean values of contributions to the heritage fund, deliberation time to reach a decision and intra-group conflict across all treatments. We observe that in both scenarios T1 groups invest slightly more to heritage than T2 groups, although the most striking differences are found in deliberation and conflict. Further, in

the first scenario, T3 and T4 groups exhibit a similar pro-heritage behaviour whereas in the second round the latter are more generous. The average number of minutes spent to reach a collective decision is little higher for T4 groups whereas conflict values are much greater for T4 compared to T3.

[TABLE 2]

To compare groups' behaviour (mean values) based on their synthesis in greater detail, we ran a series of non-parametric (Mann Whitney) tests. Starting from a comparison between T1 and T2 treatments, Table 3 (Panel A) shows that independently of the scenario, these groups do not exhibit any statistically significant differences in terms of their contributions. However, T2 groups spent significantly more time to reach a decision in both scenarios ($p=0.006$ and $p=0.043$, respectively) suggesting that final contributions are more contemplative (Rubinstein, 2014). In scenario 1, the two treatment groups also exhibit significant differences in terms of conflict ($p=0.045$ for Conflict1 and $p=0.049$ for Conflict2), with T2 groups appearing more susceptible to dispute. The differences in time and conflict maintain their significance when considering aggregate values of both scenarios (Table 3, Panel B).

[TABLE 3]

Thus, there is evidence that the application of real rewards affected subjects' behaviour as it induced longer deliberation times and greater conflict, providing

support to H1. Given these results, T1 groups are excluded from the rest of our analysis.

Moving to the effects of participation, we find that contributions to heritage and deliberation times between T3 and T4 groups exhibit no statistically significant differences. These findings confirm H2, revealing that community involvement in decision-making can be as effective (time-wise) as top-down decision-making and can lead to actions that are equally favourable to heritage investment.

Furthermore, the two conflict variables illustrate that T4 groups are characterised by a higher tendency to conflict (the significance of Conflict1 is at $p=0.056$ for both scenarios whereas Conflict2 is significant with $p=0.092$ in the first scenario). However, it is of great importance that despite higher dispute for participatory (T4) groups, opposing viewpoints do not encourage T4 groups to exhibit a more selfish behaviour. Linking these results to H3, we thus observe that participatory groups are indeed more prone to conflict, but this behaviour does not translate into less pro-heritage choices.

We further our analysis by comparing the behaviour of grass-roots groups (T2) against the other two treatments (T3, T4). We find that in terms of time and conflict, the performance of T2 and T4 groups is similar. The only exemption is found in the first scenario where contributions to heritage are significantly lower across T2 groups ($p=0.058$).

In addition, the comparison between grass-roots (T2) and non-participatory (T3) groups illuminates in the first round a different behaviour across all dimensions (i.e. contributions, time, and conflict variables), with T2 groups making more anti-heritage decisions, being less effective (in terms of higher

deliberation times) and more prone to conflict. However, when we run the tests with total results only Time and Conflict1 persists (Table 3, Panel B).

Deliberation and conflict

As shown on Table 4, the average individual (desired) contributions do occasionally exhibit differences with the final (actual) collective decisions of the groups. As explained in Section 3.4, we define these occasions as conflictual given that intra-group opinions are differentiated.

It is important to note that in their vast majority, conflicting opinions in terms of contributions to the heritage fund led groups to more pro-heritage behaviour. There are only a couple of cases where conflict arose and collective decisions were lower than the average individual contributions. These two cases correspond to T2G4 and T3G1 (grass-roots and non-participatory groups, respectively). In contrast, in all participatory groups pro-heritage behaviour is evident whereas these groups made the highest total contributions. Overall, our study results witness the predominance of social rationality (Vatn, 2009) and of the heritage communal values over individual ones when the participatory treatment was run. This is another evidence in favour of H2 and against H3.

[TABLE 4]

We extend this analysis by investigating the correlations between contributions, deliberation and conflict, using the Spearman correlation test (Table 5). We observe that apart from T3, all variables are positively correlated among them. A positive correlation between Time and Conflict is not surprising

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given that a dispute is likely to extend discussion length and decelerate final decisions. More interesting though is the positive correlation between Contributions and Conflict, indicating that when dispute arouses pro-heritage decisions eventually prevail.

[TABLE 5]

Furthermore, the positive correlations between contributions and time suggest that longer deliberation in collective/social settings does lead to pro-heritage (i.e. pro-social) decisions, as suggested by Rubinstein (2007) and Piovesan and Wengstrom (2009) for individual choices (i.e. we offer support to H4). We should highlight though that these findings hold only for T2 and T4 groups. On the contrary, findings concerning T3 lead us to reject H4 as the correlations between Time and Contributions, as well as, between Time and Conflict are negative.

Overall, Table 5 provides a very interesting observation that conflict in participatory groups is actually constructive, strengthening the argument in favour of utilising community participation in heritage planning.

Subjects' idiosyncrasy and dissimilarity effects
Having documented the importance of participatory decision-making, we continue our analysis by investigating the drivers of individual (desired) contributions to heritage (see Equation 1) and subsequently how factors' dissimilarity among group members might impact collective decisions (see Equation 3). It should be noted that in the latter estimations, due to small

sample size, regressions were ran separately among the four variable categories. The results are presented in Tables 6 and 7.

As illustrated in Table 6, our findings suggest that individual contributions (IC) by T2, T3 and T4 subjects during the experimental session are influenced positively by community trust and by acknowledging the conservation and promotion of local heritage as a priority issue. Furthermore, willingness to pay through personal income (WTP2) has a negative effect on desired contributions to the heritage fund. This is a rather unexpected result (the opposite effect would be anticipated) but it might indicate behavioural differences against a hypothetical question and an actual monetary decision.

[TABLE 6]

Moving to factors concerning stakeholders' legitimacy, we observe that trust towards the local Archaeological Service affects contributions positively. Such finding is plausible given that heritage contributions are in essence allocated to this specific body. The reverse effect is observed for trust to central governance and freelance heritage experts, illuminating the competing roles amongst different expert parties.

From the rest of the variables considered, we find that the highest the importance assigned to special training as a prerequisite for participation in heritage tourism planning, the lowest the IC. Such relationship might signal a sense of alienation in terms of community's felt legitimacy and personal responsibility to heritage tourism planning, which in turn discourages pro-heritage choices. In addition, location plays a negative role in desired

contributions, as remoteness from places of heritage tourism interest is likely to minimise expected benefits.

However, as our interest is focused on participatory heritage tourism planning, we repeat the same analysis restricting the sample to subjects from the wider community (i.e. local residents and entrepreneurs). Compared to the full sample estimation, we find that the individual contributions of community (ICC) are impacted by several additional drivers.

More specifically, ICC is affected in a positive manner by institutional trust, WTP1, and the involvement of tour operators and local organisations to heritage management. At the same time, it is found that monetary gains and the existence of a collaborative spirit as incentives for participation to heritage tourism planning discourage contributions. Demographic-wise, we observe that females are less generous to heritage. Further, higher education appears to have a negative effect on ICC but the opposite holds for current involvement in community organisations.

[TABLE 7]

The final part of our regression analysis focuses on how intra-group dissimilarity of the above factors might influence collective decisions. As illustrated in Table 7, dissimilarity of attitudinal factors concerning stakeholders' legitimacy to participate and dissimilarity of demographic characteristics exert a significant influence on the collective contributions of the group (GC).

In particular, GC were higher when dissimilarity of opinions was higher with regards to the legitimacy of the central and municipal government and the role of tour operators, heritage freelancers and local community-led organisations

in heritage tourism planning. Moreover, higher male presence in the group composition and dissimilarities in terms of occupation amongst group members also influenced GC positively. These contrasts with dissimilarities found for trust towards the Archaeological Service and the role of consultants and tourism professionals, which played a negative role on collective choices as did the dissimilarity of subjects' involvement in community organisations.

Overall, although we document that conflict is constructive for heritage, i.e. allows pro-heritage preferences to prevail in collective decisions, we maintain that not all sources of dissimilarity are beneficial to heritage. This is suggestive of the fact that when it comes to collective decisions, barriers to pro-heritage behaviour should be addressed thoroughly. However, it is important to consider dissimilarity along with group synthesis. Table 8 focuses on the eleven (11) variables that influence GC (Table 7) significantly and shows the average dissimilarities across the three treatments.

[TABLE 8]

In seven of these variables where the coefficient is positive, the treatment group with the highest average dissimilarity score is preferred, as higher dissimilarity favours contributions to heritage. By contrast in the four variables that have a negative coefficient, the opposite is favoured. Interestingly, participatory treatment groups (T4) exhibit the largest number of preferred dissimilarity scores. This especially holds for the variables that had a negative coefficient in Table 7. Such finding strengthens our argument that participatory decision-making provides a fertile ground for heritage tourism planning.

Further analysis on conflict and group dynamics

As a final step of our analysis it is valuable to focus on the recordings of the discussions that took place within the different groups and treatments in their effort to reach to their collective decision. Recordings assist us to gain a deeper understanding of how intra-group conflict played and negotiated during deliberation to identify the conditions that favoured the prevalence of social rationality.

Based on Rahim (2001) and Thomas (1992), we define four approaches to negotiating conflict. These are (i) the *contending* approach, where subjects show interest primarily for their own outcomes, (ii) the *accommodating* approach, where concern is higher for others, (iii) the *collaborative* approach, where interest is balanced between own and others' needs and (iv) the *avoiding* approach where concern is low for both sides. Qualitative results are presented in Table 9.

[TABLE 9]

In general, we observe that when collaborative behaviour prevailed, conflict resolution leaned towards pro-heritage decisions (e.g. T2G2, T4G6 on Scenario 1 and T2G1, T4G5 on Scenario 2). By contrast, when contending voices were the majority, groups were led towards anti-heritage decisions (e.g. T2G4, T3G1 in Scenario 2). It is important to highlight that this behaviour was only observed in either grass-roots (T2) or non-participatory (T3) groups. In addition, contending behaviour expressed by the minority of a group (which is mainly found for participatory groups) had not an anti-heritage effect on

collective decisions (e.g. T4G3 in Scenario 1 and 2). Again, these findings suggest that participatory decision-making can function as an effective mechanism for heritage tourism planning.

It is also worth noting that our recordings (although not shown here due to data sensitivity issues) illuminate occasions where anti-heritage choices express what Lowenthal (2015) defines as a clash between the benefits of the past (cultural) and the benefits of the present (social, economic). In other words, there were occasions where anti-heritage decisions hindered a prioritisation of other communal causes over promoting cultural heritage. Yet, although not all anti-heritage decisions were necessarily anti-social, they undermined the future of heritage tourism in the area.

Another element that drew our attention was the level of democracy (i.e. the degree of participation amongst group members) and the quality of deliberation. Our impression from recordings data (once again these are not shown here) is that social pressures were present across all treatments and led occasionally to conformity where consensus was reached without much consideration of alternative choices. Perhaps expectedly, groups comprised members of equal status or similar profile followed a much more democratic/balanced process of making their decision.

Finally, it needs to be highlighted that in participatory groups anti-heritage behaviour and conflict originated by either experts/administrators or community representatives alike. However, as we established in either case the balancing of preferences leant towards the heritage side. We further discover here that when the participatory treatment (T4) was run, subjects drove pro-heritage choices, irrespectively of their capacity.

6. Concluding remarks

Tourism is viewed as a driver of economic growth whereas special interest tourism choices, such as heritage tourism present opportunities for the development of deprived rural areas. A review of the relevant literature illuminates a growing consensus that a sustainable heritage tourism strategy requires a cultural change in terms of policy-making, assigning destination communities an active role in planning and decision-making. Yet, such proposition of power sharing is rather radical and the limited empirical evidence demonstrating its benefits convincingly remains its Achilles' heel.

This paper attempts to address this issue by exploring and directly comparing decision-making with and without community participation for the first time. Taking into consideration the complications of collecting relevant empirical data, the study proposes a new methodological approach that departs from the current literature. More specifically, it employs a novel quasi-field experimental protocol, similar to that of public goods, to observe behaviour and obtain data on stakeholders' views in a participatory social setting that allows eliciting group dynamics and interactions amongst subjects. This methodology can thus complement current research tools by testing theory and conducting an ex-ante and comparative analysis of community participation.

In order to be relevant and timely, the study is located to Kastoria, Greece, an area with inherent challenges due to its economic structure, heritage capital and policy culture. The social interaction space staged during the experiment exposed subjects to investment decisions concerning local heritage tourism. Through the formulation of non-participatory, grass-roots and participatory

groups we examine whether decision-making favours investments in specific heritage goods/scenarios. Once presented with the two project scenarios, the subjects had the opportunity to discuss each other's positions, share their knowledge and debate over what was the preferable course of action.

The study employs both hypothetical and incentive-compatible payoffs, meaning that the money invested in the heritage projects reduces the actual personal monetary gains of decision makers. Our behavioural data suggests that contributions to heritage made by treatment groups in which choices were not responsive to actual gains did not differ dramatically compared to incentive compatible results. Although such finding is not fully compliant with experimental literature, similar findings have been reported in the past (Rubinstein, 2007). Still, our data demonstrates that incentive-compatible rewards increased decision-making time and conflict considerably.

We find that although participatory groups made the highest total contributions to the heritage projects compared to all other treatments, these contributions are not statistically different from the participatory groups. Higher contributions to heritage as opposed to own signify a willingness to cooperate on behalf of participatory groups members in providing the public good into question. We further observe that the deliberation times between participatory and non-participatory groups are also not significantly different. More importantly, even though we find that participatory groups were more susceptible to conflict, dispute did not drive their decisions towards anti-heritage choices but rather played a constructive role.

Our findings also illuminate a positive correlation among time, conflict and pro-heritage decisions at both participatory and grassroots groups, whereas

correlations are negative for non-participatory groups. The positive correlation between contributions and time implies that longer deliberation in social settings leads to pro-heritage choices. Again, the positive correlation between conflict and pro-heritage decisions suggests that dispute is not destructive in participatory heritage planning.

In terms of the factors that influence individual preferences, we find that desired contributions to heritage goods (full sample) are influenced positively by high community trust, prioritising local heritage and assigning high credibility to the Archaeological Service. Community respondents are also driven positively by high institutional trust (instead of community trust), high willingness to pay for heritage and acknowledging high legitimacy to community organisations as participants to heritage tourism planning. In addition, membership to community organisations also raises contributions. From the negative factors, the most interesting is location, evident in both samples, suggesting a positive relationship between pro-heritage preferences and proximity to places of heritage tourism interest.

Finally, our analysis reveals that intra-group (dissimilarity?) heterogeneity of the above factors influences collective decisions mainly positively. Across the remaining variables that have negative effects, for almost all, participatory groups exhibit the lowest average dissimilarity scores, implying a higher immunity to disagreement as a source of anti-heritage behaviour compared to other treatment groups. In addition, recordings data illuminate that when conflict arose in participatory groups, the negotiating behaviour of the majority was collaborative and led to pro-heritage choices. In other group formations, when

contending behaviour was prevalent, it favoured decisions that were less pro-heritage than group's average desired contributions.

Our results have important implications given that community participation is widely seen in tourism and development studies as a means of improving the quality, legitimacy and sustainability of heritage tourism strategies. The fact that an economically deprived community with no participatory experience, as the one studied here, is willing to take on an active role in decision-making is very encouraging as it is its acknowledgement of heritage as a public good with potential for communal impacts.

Although these findings are place and time specific, they still indicate that decision-making could indeed depart from conventional approaches to heritage tourism planning towards a more inclusive mixed structure. The latter needs to encourage collaboration between experts, government agencies and non-governmental groups (e.g. residents, local community organisations, tourism professionals) instead of promoting the dichotomies between top-down and bottom-up models. Moreover, we observe that conflict and dissimilarity of opinions are not destructive but rather constructive to heritage decisions. This is a critical finding that could reduce hesitation and anxiety on behalf of heritage professionals and other authorities towards power sharing, as despite community involvement giving rise to more conflict, this does not act as an inhibitor to pro-heritage choices.

Overall, it is argued that the use of experimental economics methods offers the possibility of studying otherwise difficult to capture phenomena, such as negotiation and collective decision making processes in a controlled environment, appropriate for the juxtaposition and comparison of alternatives

and counterfactuals. Thus, future research could further employ experimental approaches to examine community involvement in other context or explore other dimensions of collective behaviour, such as the content of decision-making procedure, intra-group dynamics and negotiation mechanisms.

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Table 1. List of variables

Name	Description	Measurement
Individual Contributions (IC)	*Pursued/desired contribution to the heritage fund*	Experimental Units (0-400)
Sentiment Factors (SEN)		
Attachment to heritage	*Sentimental attachment to local heritage*	Ratings from 1-5 where 1 expresses lowest and 5 highest levels
Responsibility to protect heritage	*Feeling of personal stewardship towards local heritage*	
Institutional Trust	*Trust towards local authorities for heritage tourism issues*	
Community Trust	*Trust towards co-citizens and partnering for the delivery of communal gains*	
Heritage as priority issue	*Belief that protection/management of heritage should be a top priority of local policy*	
WTP1	*Willingness to pay for heritage through taxes*	
WTP2	*Willingness to pay for heritage through personal income*	
Legitimacy factors (LEG)		

Central government	*Acknowledging this stakeholder as a legitimate participant in local heritage tourism planning*	Ratings from 1-5 where 1 expresses lowest and 5 highest levels of acceptance
Regional government	*Same as above*	
City councils	*Same as above*	
Local Archaeological Service	*Same as above*	
Consultants-specialists	*Same as above*	
Tour operators	*Same as above*	
Freelance heritage experts	*Same as above*	
Tourism professionals	*Same as above*	
Local community organisations	*Same as above*	
Local residents	*Same as above*	

Motivational factors (MOT)

Monetary gains	*Opportunities to increase personal profits influence willingness to participate*	Ratings from 1-5 where 1 expresses lowest and 5 highest influence
Professional development	*Opportunities to develop professional skills/experience influence willingness to participate*	
Not time-demanding	*Investing too much time influences willingness to participate*	
Receiving special training	*Training as mandatory to participation influences willingness to participate*	
True collaborative spirit	*Collaborative behaviour of others influences willingness to participate*	

Demographic factors (DEM)

Gender	*Males; Females*	Dummy 0 (Male), 1 (Female)
Age	*18-24, 25-34, 35-44, 45-54, 55-64, 65+*	Scores from 1 (18-24) to 6 (65+)
Location	*Most to least central locations of heritage tourism interest*	Scores from 1 (highest proximity) to 3 (lowest proximity)

Education	High school diploma or lower; university graduate degree, post-graduate degree	Scores from 1 (lowest) to 3 (highest education level)
Relevant Occupation	Profession relevant to heritage and/or tourism	Dummy 0 (No),1 (Yes)
Formal community involvement	Membership to a local community organisation	Dummy 0 (No),1 (Yes)

Note: All values are based on questionnaire responses, apart from individual contributions (IC), which were extracted from experiment recordings.

Table 2. Descriptive statistics of group syntheses and collected data.

	Treatment			
	T1	T2	T3	T4
Groups *(N)*	6	6	6	6
Subjects *(N)*	24	24	20	28
Real endowments	No	Yes	Yes	Yes
Avg. Admins per group *(%)*	0.00	0.00	1.00	0.45
Avg. Males per group *(%)*	0.29	0.63	0.33	0.41
Age[1] *(median)*	4.5	3.0	3.0	4.0
Education[2] *(median)*	1.0	2.0	2.0	2.0
Location[3] *(median)*	1.0	1.0	2.0	1.0
Avg. Contributions *(ExU)*				
Sc1	160.00	141.67	200.00	191.67
Sc2	166.67	125.00	125.00	176.67
Avg. Time *(Mins)*				
Sc1	8.17	20.00	8.67	13.83
Sc2	6.17	11.17	7.00	10.33
Avg. Conflict1[4]				
Sc1	-3.33	16.67	0.00	20.00
Sc2	0.00	2.08	-11.11	13.33
Avg. Conflict2[5]				

Sc1	6.67	40.14	0.00	44.72
Sc2	0.00	12.5	19.25	44.72

Notes:
1: Age is coded as 1:18-24, 2:25-34, 3:35-44, 4:45-54, 5:55-64,6:65-74.
2: Education is coded as 1: High school graduate, 2: University graduate, 3: Post-graduate.
3: Location is coded 1-3 starting from Kastoria's city core and moving towards peripheral areas.
4: Conflict1 is estimated as the difference between individual *desired* contributions (mean values) and group *actual* contributions.
5: Conflict2 is the standard deviation of individual desired contributions of group members.
ExU: Experimental Units; Sc1: Scenario 1; Sc2: Scenario 2; Mins: Minutes

Table 3. Inter-treatment comparisons for scenarios 1, 2 and total

	Panel A: Scenarios 1 and 2							
Treatment	**Contributions**		**Time**		**Conflict1**		**Conflict2**	
	Sc1	Sc2	Sc1	Sc2	Sc1	Sc2	Sc1	Sc2
T1vsT2	-0.821	-0.717	-2.766***	-2.023**	-2.006**	0.000	-1.968**	-1.477
T3vsT4	-1.000	-1.378	-1.470	-0.890	-1.915*	-1.687*	-1.915*	-0.866
T2vsT4	-1.896*	-0.895	-0.723	-0.563	-0.259	-1.146	0.000	-1.081
T2vsT3	-2.309**	-0.252	-2.531**	-1.615	-1.897*	-0.631	-2.292**	-0.420
T2vsT4	-1.896*	-0.895	-0.723	-0.563	-0.259	-1.146	0.000	-1.081

	Panel B: Total			
Treatment	**Tot_Contributions**	**Tot_Time**	**Tot_Conflict1**	**Tot_Conflict2**
T1vsT2	-0.490	-2.486***	-2.326**	-1.964*
T3vsT4	-1.199	-1.549	-2.006*	-1.614
T2vsT4	-1.459	-0.722	-0.333	-0.982
T2vsT3	-0.574	-2.096**	-2.326**	-1.250
T2vsT4	-1.459	-0.722	-0.333	-0.982

Notes: Values represent z-statistic of the Mann-Whitney test.
Conflict1 is estimated as the difference between individual *desired* contributions (mean values) and group *actual* contributions.
Conflict2 is the standard deviation of individual desired contributions of group members.
*, **, *** denote significance at 10%, 5% and 1%, respectively.

Table 4. Individual/group contributions per group

	Scenario 1		Scenario 2		Total	
	IC	GC	IC	GC	IC	GC
	150.00	150.00	175.00	200.00	325.00	350.00
	175.00	200.00	200.00	200.00	375.00	400.00
T2	150.00	200.00	200.00	200.00	350.00	400.00
	75.00	100.00	162.50	150.00	237.50	250.00
	100.00	100.00	0.00	0.00	100.00	100.00
	100.00	100.00	0.00	0.00	100.00	100.00
T2 Mean	*125.00*	*141.67*	*122.92*	*125.00*	*247.92*	*266.67*
	200.00	200.00	66.67	0.00	266.67	200.00
	200.00	200.00	200.00	200.00	400.00	400.00
T3	200.00	200.00	200.00	200.00	400.00	400.00
	200.00	200.00	100.00	100.00	300.00	300.00
	200.00	200.00	150.00	150.00	350.00	350.00
	200.00	200.00	100.00	100.00	300.00	300.00
T3 Mean	*200.00*	*200.00*	*136.11*	*125.00*	*336.11*	*325.00*
	160.00	200.00	160.00	200.00	320.00	400.00
	150.00	150.00	100.00	100.00	250.00	250.00
T4	160.00	200.00	160.00	200.00	320.00	400.00
	200.00	200.00	200.00	200.00	400.00	400.00
	200.00	200.00	160.00	160.00	360.00	360.00
	160.00	200.00	200.00	200.00	360.00	400.00
T4 Mean	*171.67*	*191.67*	*163.33*	*176.67*	*335.00*	*368.33*

Table 5. Correlations between total contributions, time and conflict (Spearman's rho)

	Tot_Contributions	Tot_Time	Tot_Conflict1	Tot_Conflict2
T2 Groups				
Tot_Contributions	1.000			
Tot_Time	0.471	1.000		
Tot_Conflict1	0.955	0.441	1.000	
Tot_Conflict2	0.746	0.406	0.896	1.000
T3 Groups				
Tot_Contributions	1.000			
Tot_Time	-0.750	1.000		
Tot_Conflict1	0.674	-0.696	1.000	
Tot_Conflict2	0.696	-0.674	-1.000	1.000
T4 Groups				
Tot_Contributions	1.000			
Tot_Time	0.439	1.000		
Tot_Conflict1	0.657	0.926	1.000	
Tot_Conflict2	0.495	0.956	0.904	1.000

Notes:
Tot_Conflict1 is estimated as the difference between individual *desired* contributions (mean values) and group *actual* contributions.
Tot_Conflict2 is the standard deviation of individual desired contributions of group members.

Table 6. Factors driving individual (desired) contributions. This table presents the results of Equation 1 ($IC_j = a + \beta_i SEN_j + \gamma_i LEG_j + \delta_i MOT_j + \zeta_i DEM_j + e_j$)

	IC	ICC
Constant	133.367	331.849
Sentiment factors		
Attachment to heritage	24.954	-35.477
Responsibility to protect heritage	-1.181	-20.929
Institutional Trust	8.770	40.989**
Community Trust	53.087**	38.335
Heritage as priority issue	45.482**	82.956***
WTP1 (taxes)	37.751	66.736*
WTP2 (income)	-38.617*	-56.143***
Legitimacy factors		
Central government	-36.248*	-80.378***
Municipal government	19.162	-18.636
City councils	-6.387	-4.512
Local Archaeological Service	64.832**	100.753***
Consultants-specialists	-3.432	-16.645
Tour operators	0.551	62.152***
Freelance heritage experts	-49.410**	-88.259**
Tourism professionals	7.043	19.325
Local community organisations	10.653	100.638***
Local residents	-1.733	-30.799
Motivational factors		
Monetary gains	-7.360	-48.900***
Professional development	-11.224	-21.074
Not time-demanding	-0.679	-26.189

Receiving special training	-71.937**	49.018
True collaborative spirit	28.127	-58.438**
Demographic factors		
Gender	-29.954	-81.334***
Age	-7.838	14.493
Location	-67.392*	-84.429***
Education	12.654	-70.809**
Relevant Occupation	-5.843	35.074
Current involvement	-14.320	100.552**
R-squared	0.458	0.796

Notes: Estimations are based on aggregate contributions based on both scenarios.

IC: Individual Contributions to heritage fund (full sample)

ICC: Individual Contributions to heritage fund (community sample).

* , **, *** denote significance at 10%, 5%, 1%, respectively.

Table 7. Intra-group dissimilarity effects on collective (group) contributions. This table presents the results of Equation 3 ($GC_g = c + \theta_i \boldsymbol{DisSEN}_g + \varphi_i \boldsymbol{DisLEG}_g + \omega_i \boldsymbol{DisMOT}_g + \xi_i \boldsymbol{DisDEM}_g + e_g$)

	GC	GC	GC	GC
Constant	149.631	239.955***	250.590***	245.453**
Sentiment factors				
Attachment to heritage	61.040			
Responsibility to protect heritage	36.892			
Institutional Trust	97.406			
Community Trust	-38.645			
Heritage as priority issue	18.265			
WTP1 (taxes)	-58.792			
WTP2 (personal income)	52.047			
Legitimacy factors				
Central government		103.600*		
Municipal government		143.626*		
City councils		-30.238		
Local Archaeological Service		-153.179**		
Consultants-specialists		-134.633**		
Tour operators		141.566**		
Freelance heritage experts		182.573**		
Tourism professionals		-222.141***		
Local community organisations		131.114***		
Local residents		-55.282		

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Motivational factors

Monetary gains				-32.151
Professional development				-10.893
Not time-demanding				45.507
Receiving special training				27.374
True collaborative spirit				139.707
Demographic Factors				
Gender				219.140**
Age				-28.553
Location				-133.600
Education				26.381
Relevant Occupation				226.024*
Current involvement				-192.077**
IDC				
Time				-0.608
				4.003
Group dummies	YES	YES	YES	YES
R-squared	0.554	0.907	0.312	0.623

Notes: Estimations are based on aggregate values based on both scenarios.

GC: collective (group) contributions to the heritage fund.

*, **, *** denote significance at 10%, 5%, 1%, respectively.

Table 8. Average dissimilarity scores for the significant variables of Table 6

Dissimilarity variable	T2	T3	T4
Positive coefficients			
Central government	0.973	**1.083**	0.667
Municipal government	**1.307**	0.517	0.623
Tour operators	1.167	**1.583**	1.123
Freelance heritage experts	0.473	0.817	**1.212**
Local community organisations	**0.807**	0.550	0.623
Gender	0.250	0.317	**0.447**
Relevant Occupation	0.167	**0.513**	0.000
Negative coefficients			
Local Archaeological Service	1.028	0.500	**0.335**
Consultants-specialists	0.917	1.295	**0.312**
Tourism professionals	1.197	**0.895**	1.547
Current involvement	0.473	0.378	**0.223**

Note: Bold denotes best result. The best results for the variables with positive (negative) coefficients are those with the highest (lowest) average dissimilarity scores.

Table 9. Behaviour towards conflict

	Source	Behaviour	IC	GC
		Scenario 1		
T2G1	Institutional mistrust	Majority: Collaborative Minority: Accommodating	150.00	150.00
T2G2	Institutional mistrust	Majority: Collaborative Minority: Collaborative	175.00	200.00
T2G3	Project quality	Majority: Collaborative Minority: Accommodating	150.00	200.00
T2G4	Local dispute	Majority: Collaborative Minority: Contending	75.00	100.00
T4G1	Power clash	Majority: Avoidance Minority: Contending	160.00	200.00
T4G3	Personal agendas	Majority: Collaborative Minority: Contending	160.00	200.00
T4G6	Project quality	Majority: Collaborative Minority: Accommodating	160.00	200.00
		Scenario 2		
T2G1	Institutional mistrust	Majority: Collaborative Minority: Contending	175.00	200.00
T2G4	Personal agendas	Majority: Contending Minority: Collaborative	162.50	150.00
T3G1	Personal agendas	Majority: Contending Minority: Accommodating	66.67	0.00

T4G1	Power clash	Majority: Avoidance Minority: Contending	160.00	200.00
T4G3	Personal agendas	Majority: Collaborative Minority: Contending	160.00	200.00
T4G5	Power clash	Majority: Collaborative Minority: Contending	160.00	160.00

Notes:
IC: Individual (desired) contributions to heritage fund (mean)
GC: Group (actual) contributions to heritage fund