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# **UNDERSTANDING THE COMPLEXITY OF ASSESSING CULTURAL HERITAGE'S ECONOMIC IMPACT ON THE ECONOMIC SUSTAINABILITY OF A TOURISM DESTINATION: THE CASE OF SPLIT, CROATIA**

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### ***Abstract***

*The purpose of this conceptual study is to define the possibilities and constraints of assessing the economic impact of tangible cultural heritage on the economic sustainability of a tourism destination. To achieve this goal, the following were critically analysed: (1) strengths and limitations of previously used assessment approaches and techniques; and (2) sustainable development indicators for urban tourism destinations that contain world-class cultural heritage sites. The case study used in this research is an urban cultural heritage site listed on the UNESCO World Heritage List, namely the Historical Complex of Split with the Palace of*

*Diocletian, Croatia, and the associated tourism destination setting. Observational and case study methods were used. Despite all previous efforts to prevent miscalculations and develop a technique that would best suit the tangible cultural heritage valuation process, findings suggest that each cultural heritage site has unique characteristics and requires its own approach to assessing its value and impact. Moreover, such findings have further implications for the UNESCO World Heritage List and the management of World Heritage sites.*

**Keywords: economic value, cultural heritage, economic sustainability, tourism destination, Split**

## 1. INTRODUCTION

The increasing public interest on cultural heritage as an economic welfare generator is not a new phenomenon (Bowitz & Ibenholt, 2009; Bertacchini & Segre, 2016), particularly when tourism enters the equation. Tourism is widely recognized as a powerful tool for economic development of sites, regions, and countries and as such represents a platform for inclusion of cultural heritage and its values into the processes of production, service delivery and consumption. If properly managed, tourism can bring substantial benefits to cultural heritage sites and contribute to cross-cultural exchange, but if not, tourism activity negatively affects cultural heritage properties (UNESCO, 2011, 34 COM 5F.2). Having tourism valorisation of the local resources and massive tourist influx in the equation, sustainability issues of cultural heritage sites and related tourism destinations, become more complex and challenging for destination planners and developers. The conceptualization of both theoretical and practical knowledge pertaining to these issues presents a challenge since the disintegration of knowledge in the research field of tourism and cultural heritage is still heavily present (Bramwell & Lane, 2005) as “literature proliferates with dispersed and isolated case studies, neither converging into theory nor significantly assisting practice” (Loulanski & Loulanski, 2011, p. 838).

The economic analysis of cultural products together with cultural heritage perceived as an economic good has mainly led to two topics, namely 1) cultural production and consumption, and 2) heritage preservation (Bertacchini & Segre, 2016). As a cause of the social, economic, and technological changes in the last decades, a new paradigm shift has happened. As Bertacchini and Segre (2016, p. 1) advise, it is necessary “to a move from public and welfare economic approaches to ones in which the role of cultural production is better understood as an innovation and entrepreneurial activity”.

The capacity of cultural heritage as an economic welfare generator is unquestionable especially when it comes to tourism activities. Nevertheless, the literature shows absence of systematic assessment methods which could bridge the gap between economic value of cultural heritage and economic sustainability of tourism destination. One of these attempts is drafted in the study provided by

Dalmas et al. (2015) who combined socio-historical and economic approaches to assess the value of urban cultural heritage and proposed an operational analysis grid consisting of stocks, flows, investments and depreciations, and existence of threshold effects or risk. By focusing on the 'flows component' (tourist arrivals and overnights, accommodation capacities etc.), this study contributes to the existing body of knowledge by conceptualizing and critically analysing methods, approaches, and techniques of economic evaluation of tangible cultural heritage and by bridging it with existing theoretical knowledge on economic sustainability and indicators for urban tourism destinations and built cultural heritage sites. This represents the novelty of the approach to the assessment.

Given that the main aim of this conceptual study is to define possibilities and constraints of assessing cultural heritage's economic impact on the economic sustainability of a tourism destination, it is important to critically analyse: (1) the approaches and techniques of economic evaluation of tangible cultural heritage by pointing out their main strengths and limitations; and (2) the suggested indicators of sustainability related to cultural tourism destination development. The case of Historical Complex of Split with the Palace of Diocletian in Croatia is used to determine which approaches and indicators are eligible for the assessment of the economic impacts of such a world-class cultural heritage on a destination. This cultural heritage site is unique in a sense that it is a rare example of a historical site which is inhabited, and tourists can even rent the accommodation units within the historical complex. Furthermore, the UNESCO status is one more variable which may affect the issues under the investigation (Yang, Lin, Han, 2010; Guccio, et al., 2018).

## 2. THEORETICAL FRAMEWORK

Despite many methodological and theoretical challenges there have been attempts to quantitatively determine the impact of tangible cultural heritage's value on the economic sustainability of a tourism destination. These rather simplistic regression models were based on cost maintenance method to determine the value of cultural heritage site which served as independent variable and the tourist flows (arrivals and overnight stays) as dependent variable (Matečić, 2017). The results demonstrated the existence of correlation between the cost of maintenance and tourist overnight stays. Nevertheless, these studies failed to address multiple short and medium-long term factors which may influence tourism demand. The tourist arrivals and overnights data series should have been cross-checked with accommodation facility data series (e.g., number of beds in collective tourist accommodation facilities or number of privately-owned apartments for short-term rentals) and marketing effects such as the effects of communication campaigns on accommodation facilities' occupancy rates and prices in the same period. The maintenance costs data series should have been cross-checked with public policies agenda as regards cultural heritage. Furthermore, an Italian study (Guccio et al., 2018) tried to prove the impact of the cultural heritage monetary value on visits to cultural heritage sites, trying to control other factors which may potentially affect

the number of visits to cultural sites, e.g., other nearby attractions and regional tourism performance indicators. Furthermore, Guzmán, Pereira Roders, and Colenbrander measured links between cultural heritage management and sustainable urban development trying to bridge the gap between sustainable urban development and the conservation of cultural heritage. The authors concluded that “more efficient tools and more appropriate methodologies to correlate cultural heritage protection as an urban resource are still lacking” (Guzmán, Pereira Roders, & Colenbrander, 2017, p. 192) having tourism activity perspective out of their focus. More recent study tried to develop methodology for assessing the vulnerability of built cultural heritage with usage factors as factors intrinsic to the materials (Mollá et al., 2022) which could be connected to tourism activity and consequently to sustainable tourism development but does not incorporate economic values in the equation.

Although the effects of investing in heritage preservation and maintenance are diverse and differ from site to site and in time (Bowitz & Ibenholt, 2009), it is of an utmost importance to detect the economic impact of such investments on the economic sustainability of tourism destination. In other words, if the economic value of cultural heritage and its economic impacts could support economic sustainability of a tourism destination then this would lead to implications for cultural heritage management towards more innovative approaches in order to justify such investments. However, economic sustainability of tourism destination is essentially concerned with maintaining economic activities related to tourism without damaging the natural or social environment (Gartner, 1996). The economic sustainability of tourism destination becomes meaningful when it is compatible with the environmental and socio-cultural sustainability principles (Mowforth & Munt, 2003).

## **2.1. Economic valuation of cultural heritage – approaches and their limitations**

Assessing the value of particular cultural heritage and its commercialization in tourism have created favourable circumstances “for investment and income production, and generated debate about the economic and non-economic impacts of the process [occurring] on sites ... and on the people who live and work around heritage sites. The debate over commercialization raises ethical, practical, and technical economic questions...” (Gould & Burtenshaw, 2014, p. 3326). The challenge which arises is not solely related to the estimation of true (economic and cultural) value of cultural heritage but to the estimation of potential spill overs in the local economy from investing in cultural heritage (Bowitz & Ibenholt, 2009). It is a well-known fact that tourism activities generate substantial direct, indirect and induced economic impacts on tourism destinations (Dwyer, Forsyth & Dwyer, 2010), particularly those containing UNESCO protected world heritage sites. In that context, tourism-related activities revolved around world-class cultural heritage sites generate a variety of economic impacts

that can be recognized as: 1) direct – immediate effects of visitor consumption, e.g. entry fees or tour guide services, 2) indirect – delayed effects related to job creation and new business opportunities in backward-linked economic activities, e.g. cultural conservation-restoration work or special design of mobile augmented reality application for cultural sites, and 3) induced – backward effects resulting from spending salaries earned by cultural site and related tourism employees on their housing and other everyday life expenses. These impacts can be considered as positive economic impacts for local economy generated by tourism-based commercialization of the local cultural resources.

According to Pearce et al. (2002), one possible approach to express total economic value of some resource (e.g., cultural heritage), is to sum up its use and non-use values. As shown on Figure 1, a use value of the resource refers to all economic benefits that are or can be gained from its market valorisation, while a non-use value is related to a passive use that brings no direct or indirect economic benefits, but has intrinsic value, the one which does not depend on “human view” (O’Brian, 2010, p. 23). Option value is categorized as use value and referred to as a value that will be derived from the future usage of a cultural heritage site. It could be argued that non-users in the present time could become users of heritage sites in the future and that could be the reason why option value is categorized as the use value.

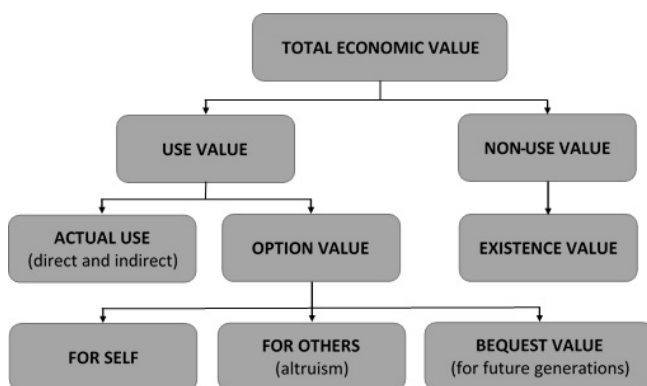


Figure 1 Total economic value of cultural heritage

Source: Pearce et al. (2002, p. 24)

A slightly different approach, based on the Pearce model, was suggested by Sagger, Phillips and Haque (2021), in which authors re-classified Altruism Value (others currently alive should be able to use it) and Bequest Value (future generations should be able to benefit from it) into a ‘Non-use Value’.

Following previously set approaches, valuation methods used in previous studies applied on cultural resources are: 1) non-market or context free valuation

techniques, known as Stated Preference (SP), include Contingent Valuation (CV) and Choice Modelling (CM); and 2) market-based or context specific valuation techniques, known as Revealed Preference (RP), are Travel Cost (TC), Hedonic Price (HP), and Maintenance-cost (MC) methods.

### 2.1.1. Stated Preference (SP) Technique

SP techniques of analysis are derived from behavioural economics but have found extensive application in the case of non-market goods valuing the individual willingness to pay (Thompson, Throsby & Withers, 1983; Navrud & Strand, 1992; Willis, 1994; Pollicino & Maddison, 2001; Noonan 2003; Poor & Smith, 2004; Alberini & Longo, 2006; Willis, 2009; Nijkamp, 2012). Key question posed in the research process using SP techniques is: how to capture users' and non-users' valuations of culture for use within the framework of cost-benefit analysis? (O'Brian, 2010:22). SP techniques use "hypothetical market" asking hypothetical questions such as "What are you willing to pay for...? Are you willing to pay for X? (Pearce et al., 2002, p. 27).

Contingent valuation (CV) method is the most popular (Mourato & Mazzanti, 2002) and widely used stated-preference method (Tuan & Navrud, 2008). It is used both in developed and developing countries to estimate the economic benefits of cultural heritage (Whittington, 1998; FAO, 2000; Tuan & Navrud, 2007). It is carried out by asking open-ended questions directly about people's willingness-to-pay to obtain benefits from cultural good or service or willingness-to-accept compensation for their loss. According to Tuan and Navrud (2008), it is a direct stated preference method in which research is conveyed using survey questionnaires. In a CV survey, respondents are asked to simply state whether they are "for" or "against" a good or a program. The same authors state that "application of the CV method to cultural heritage goods is well suited because respondents accept the idea of public provision of these goods" (Tuan & Navrud, 2008, p. 326). Survey questions could be structured in numerous ways such as asking respondents to name a figure, to choose from several options, or asking them if they would pay a specific amount (in which case, follow-up questions with higher or lower amounts are often used) (Pagiola, 1996, p. 9). The studies which used CV methods on cultural heritage valuation only researching benefits derived from visitors (Navrud, Pedersen & Strand, 1992; Willis, 1994; Powe & Willis, 1996; Bravi, Scarpa & Sirchia, 2002; Mourato et al., 2004; Alberini & Longo, 2006; Neuts & Nijkamp, 2011) and the studies researching values derived from non-visitors (Navrud, Pedersen & Strand, 1992; Trine Bille, 1997; Walter & Giovanni, 2000; Pollicino & Maddison, 2001; Mourato, Kontoleon & Danchev, 2002; Seenprachawong, 2006) could be found in extensive number of CV studies within the literature. As detailed description of the cultural heritage asset is required to conduct the research, interviews could be time-consuming; possibility of failure in reflection of respondent's true valuation because of various reasons such as various sources of bias; misunderstandings; and the exercise not taken seriously by

respondents (Pagiola, 1996). Despite its limitations, the CV method is widely used within the field of cultural heritage valuation techniques.

Choice Modelling (CM) method, also known as conjoint analysis, represents one part of solutions to problems CV techniques couldn't deal with (O'Brian, 2010). The difference between CV and CM is that latter asks for rankings or ratings rather than for values. The advantage of the CM method is seen in terms of minimising strategic behaviour "since it encourages the respondents to concentrate on the trade-offs between characteristics of a good or program, as opposed to simply stating whether they are 'for' or 'against' a program in a CV survey" (Tuan & Navrud, 2008, p. 327). Sometimes respondents find it easier to rank or rate options or alternatives without having to think in monetary units directly (Pearce et al., 2002). In other words, the CM method is used to "estimate people's marginal willingness-to-pay for certain attributes" (Tuan & Navrud, 2008, p. 326) of the cultural heritage project or scenario. As regards the type of information, the CM method is used to gather data on: attributes which are significant determinants of the values a respondent place on non-market goods; the implied ranking of these attributes amongst the relevant population(s); the value of changing more than one of the attributes at the same time, and the total economic value of a resource or good (Pearce et al. 2002, p. 49). Nonetheless, the characteristic of each option is presented in monetary terms, as a price or taxation level, in order to monetise an individual's preferences for specific attributes or characteristics of a good (Provins et al., 2008; O'Brian, 2010). O'Brian (2010, p. 28) states that "this technique is especially appropriate if a policy maker seeks to understand the value of particular or individual characteristics of a good and how that characteristic relates to others...". Limitations of CM method are the same as of CV; no direct measurement of value, but assessment of the values of different options and choices (O'Brian, 2010).

After detailed analyses of each method's pro and cons, various authors agree upon development of integrated socio-economic model or multi-criteria analyses which will enable measurement of different forms of data and help to integrate qualitative, quantitative, and monetised data (Low, 2002; Mulgan et al., 2006; O'Brian, 2010). CV and CM methods are "the best techniques to estimate the total economic value of cultural resources that are not traded in the market, and which have large non-use values" (Tuan & Navrud, 2008, p. 327). The main drawbacks of SP techniques are complexity and high costs of application (O'Brian, 2010).

### **2.1.2. Revealed Preference (RP) Techniques**

The group of RP techniques use direct observation of actual values for complementary effects covering Travel Cost (TC) method, Hedonic Price (HP) method, and Maintenance Cost (MC) method.

Travel Cost (TC) method investigates consumers' willingness-to-pay for the cultural heritage good, which is reflected in costs of visiting cultural heritage

site. Travel costs, accommodation costs, entry tickets, time and money spent on site, etc. act as a price for a visit. TC uses amounts of visitors' total expenditure to derive their demand curve for the site's services. It is important to point out that amounts of expenditure are only used to generate the demand curve, not to provide the value of the site. "The value of the site is not given by the total travel cost" (Pagiola, 1996, p.7). Data is collected using surveys on site. The literature offers various examples of cultural heritage studies which partially or fully applied this method in order to evaluate the sites (Boter, Rouwendal & Wedel, 2005; Bedate, Herrero & Sanz, 2004; Alberini & Longo, 2006). The key question in this context is: what people value based on the amount of time they are willing to spend travelling to consume a good or service? (O'Brian, 2010, p. 30). The main limitations of this method are related to its low applicability on multipurpose trips; trips which include more than one cultural heritage site; opportunity cost of a visitor is hard to estimate; substitutes of cultural heritage can cause distortions and create difficulties to assess direct effects; assumption that travel cost is proportional to distance from the site and that people living at the same distance from the site have identical preferences is not valid in international tourism context (Pagiola, 1996; Nijkamp, 2012).

Hedonic Price (HP) methods are used to analyse the contribution of different attributes to prices usually for housing (Pagiola, 1996). The idea set behind HP methods is that "house prices are affected by a house's bundle of characteristics, which may include non-market cultural factors, such as historic zone designation" (Mourato & Mazzanti, 2002). For example, property values depend on physical attributes of the house (number of bedrooms, heating system, etc.) and on other intangible aspects such as the convenience of access to public transport, shopping, and education; neighbourhood etc. Many attributes of cultural heritage could be revealed based on property values. Regarding cultural heritage valuation, application of various HP methods could be found in the scientific literature (Hough & Kratz, 1983; Vandell & Lane, 1989; Leichenko, Couston & Listokin, 2001; Deodhar, 2004; Ruijgrok, 2006; Noonan, 2007). The key question arising from using this method is: what is the relationship between a good or service and market prices? (O'Brian, 2010:29). Among main limitations, HP methods are unable to measure non-use and option values; it is not applicable to the cultural heritage elements which are not integrated in property prices; large data sets are needed; extremely sensitive to model specification; method reaches equilibrium through property market and no relationship between the price of attributes is found (Pagiola, 1996; Dunse & Jones, 1998; Nijkamp, 2012).

Maintenance Cost (MC) method has often been used to estimate damages to cultural materials (for example, from intensive tourist use or air pollution). As mentioned before, the advantage of this method is seen in the fact that cost information is easier to collect than benefit information. The MC method consists of "calculating the cost savings implied from a reduction in maintenance cycles due to reduced damage rates. However, maintenance costs are not the correct measure of the benefits derived by society from reduced damage to cultural resources, and the sole consideration of costs may seriously underestimate true



economic values” (Mourato & Mazzanti, 2002, p. 55). The main limitation of this method is that cost does not reflect total economic value.

Apart from these methods, Sagger, Phillips and Haque (2021), suggested two additional approaches: a) **Subjective wellbeing** approach in which people are directly asked how they think and feel about their own wellbeing, and includes aspects such as life satisfaction (evaluation), positive affect (hedonic), and a judgement on whether their life is meaningful (eudemonic); and b) **Quality Adjusted Life Years (QALYs)** approach as a common unit to measure health status in terms of the quality of life associated with a state of health, and the number of years for which that health status is enjoyed.

## 2.2. The economic sustainability indicators selection process

Using a four-domain approach (Figure 2) it should be emphasized that heritage has positive impact on all four domains of sustainable development – cultural, social, environmental, and economic. Research findings provided by Jagodzińska, et al. (2015) revealed that although the mapping of the studies on measuring the value of cultural heritage in the context of sustainable development is neither complete nor representative, so “it can be stated without a doubt that there are still numerous gaps in the research”.



Figure 2 A four domain approach diagram of sustainable development

Source: Jagodzińska, et al. (2015)

The concept of sustainability has become a global concern in the 21<sup>st</sup> century and can be interpreted in many ways (Bautista-Puig, Mauleón & Casado, 2021). Apart from other domains, the economic sustainability can be regarded as a macro concept and is related to instrumental cultural values (Jelinčić & Šveb, 2021).

Based on previously discussed techniques and methods, an estimated economic value of cultural heritage, observed with the economic sustainability indicators, can assist in setting the goals of cultural tourism destination planning and development.

Sustainable development, in its broadest sense, can be defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (IISD, 2022). Although the goal of sustainability is clear, it is not possible to claim if some destination is sustainable or not without the data based on measured variables and observed trends. Therefore, it is necessary to develop instruments that transform it from an abstract notion into a practical tool for measuring sustainability (Torres-Delgado & Palomeque, 2014). To support this process, in the last decade there has been numerous efforts by the scientific community aimed at building integrated frameworks for measuring sustainable development (Paracchini et al., 2011).

The high flexibility of definition allows many different approaches and interpretations of the concept (Cernat & Gourdon, 2012). Although sustainability should always be observed through all its three pillars, the fact that tourism “has significantly contributed to environmental degradation, negative social and cultural impacts and habitat fragmentation” (Choi & Sirakaya, 2006, p. 1274) has pushed forward the emphasis on environmental and socio-cultural sustainability, while economic sustainability was presupposed since tourism frequently brings positive economic impacts. However, further development of methodology and sustainable development indicators puts equal emphasis on all three sustainability pillars, and economic sustainability enters the focus of interdisciplinary research.

According to Niñerola, Sánchez-Rebull & Hernández-Lara (2019, p. 1376), “economic sustainability seeks resource efficiency in order to achieve profitability in the long term”. It can be measured with the wide variety of different indicators classified in seven groups (World Tourism Organization, 2004): 1) Seasonality (e.g., occupancy, peak vs. shoulder season, etc.); 2) Leakages (e.g., imported goods, internal vs. external vs. invisible leakage, etc.); 3) Employment (e.g., skills, turnover, wages, etc.); 4) Tourism as a contributor to nature conservation (e.g., funding conservation, tourist participation in conservation, etc.); 5) Community and destination economic benefits (e.g., tourism revenues, tourism contribution to the local economy, investments, taxes, etc.); 6) Tourism and poverty alleviation (e.g., SMEs, self-employment, income opportunities, etc.); and 7) Competitiveness of tourism businesses (e.g. price-value ratio, differentiation, specialization, long-term profitability, etc.).

For the purpose of this study, hereafter two sets of indicators were selected specifically for 1) built cultural heritage sites, and 2) urban tourism destinations.

Tables include economic indicators, but also an environmental and socio-cultural, to enable ‘the big picture’ and finally, to extract those economic indicators that are suitable for presented case study.

Table 1

## Suggested indicators for built cultural heritage sites

Issues	Suggested Indicators
Demolition of old buildings with heritage value	<ul style="list-style-type: none"> <li>• Number/percentage of heritage buildings demolished</li> </ul>
Deterioration of built structures	<ul style="list-style-type: none"> <li>• Number/percentage of buildings considered in degraded condition</li> </ul>
Threatened historic districts or structures	<ul style="list-style-type: none"> <li>• Number of buildings and/or districts listed on endangered sites lists (i.e. World Heritage, World Monuments Fund)</li> </ul>
Loss of historic character of districts	<ul style="list-style-type: none"> <li>• Percentage of buildings in district which are historic</li> <li>• Percentage of buildings in district which are vernacular architecture.</li> </ul>
Protection of historic buildings	<ul style="list-style-type: none"> <li>• Number/percentage of old buildings designated at local, national and/or World Heritage levels</li> </ul>
Protection of historic districts	<ul style="list-style-type: none"> <li>• Percentage of district which has protection (level of protection or designation)</li> </ul>
Cost of protection	<ul style="list-style-type: none"> <li>• Level of funding put towards restoration efforts</li> </ul>
Re-use of historic buildings or sites	<ul style="list-style-type: none"> <li>• Number of buildings reused for commercial or residential purposes</li> <li>• Number of buildings reused for tourism purposes (e.g. hotel or restaurant)</li> </ul>
New legislation	<ul style="list-style-type: none"> <li>• Quantity of new legislation introduced to preserve structures at local, provincial/state/canton or national levels</li> </ul>
Tourisms' contribution to preservation of built heritage sites (amount deriving from each source)	<ul style="list-style-type: none"> <li>• Visitor fees</li> <li>• Concession fees</li> <li>• Donations from visitors and tour operators</li> <li>• Fees from guiding and other services</li> <li>• In-kind contributions (e.g. equipment, volunteers)</li> <li>• Revenues from catering and accommodation services</li> <li>• Tourism-related tax designated to site maintenance</li> <li>• Sale of goods (e.g. informative materials, handicrafts, equipment to visitors)</li> </ul>
Tourism management	<ul style="list-style-type: none"> <li>• Existence of congestion management practices (e.g. line management, timing, parking, reservation and on-line purchase systems to avoid queues at ticket office)</li> <li>• Existence of visitor/information centre, interpretative materials, guided tours</li> </ul>
Use levels	<ul style="list-style-type: none"> <li>• Number and origin of visitors to the site per season (day, month, year)</li> <li>• Length of stay</li> <li>• Number of tour operators with permit to operate at site</li> <li>• Times during year when structure is most heavily visited</li> <li>• Current building use (i.e. active, closed, abandoned or demolished), continuation or change of usage of historic structure</li> </ul>

Source: World Tourism Organization (2004)

Table 2

## Suggested indicators for urban tourism destinations

Issues	Suggested Indicators
Improvements to the townscape and protection of the historic heritage	<ul style="list-style-type: none"> <li>• Percentage of restored historic buildings</li> <li>• Expenditures/m<sup>3</sup> of public and private finance spent in improvement of the physical urban environment</li> <li>• Increase of the percentage of pedestrian streets in the total road network</li> <li>• Existence and extent of public open areas</li> <li>• Expenditures/m<sup>3</sup> yearly spent in restoration of historic buildings</li> </ul>
Sustainable tourism enterprises	<ul style="list-style-type: none"> <li>• % of businesses that have adopted environmental management procedures</li> </ul>
Environmental management	<ul style="list-style-type: none"> <li>• Level of public and private finance spent in environmental management systems (e.g. reduce wrapping, recycle waste, energy efficiency etc.</li> <li>• Reduction of operational cost from environmental management (value, %)</li> <li>• Changes in return on investment (%)</li> <li>• Change in use of material/ resources (%)</li> </ul>
Traffic / Public transport system	<ul style="list-style-type: none"> <li>• Percentage of tourists arriving by public transport</li> <li>• Accessibility of tourist attractions by public transport</li> <li>• Existence of a control system for bus parking and level of control (% tour buses complying)</li> <li>• Prices for taxis (per Km)</li> </ul>
Integration of regional economy	<ul style="list-style-type: none"> <li>• Value and percentage of goods purchased locally from the region (e.g. organically grown food from the region)</li> <li>• Percentage of tourist shops promoting regional products</li> </ul>
Presentation of cultural knowledge	<ul style="list-style-type: none"> <li>• Number and percentage of guided tours and/or publications which: give detailed information on the background of the city's history; cover actual issues of city development; show new and unconventional attractions</li> </ul>
Crowding / Spatial distribution	<ul style="list-style-type: none"> <li>• Total number of tourists per square Km in key sites</li> <li>• Variety of tours and visit sites (helping to spread out impacts and benefits)</li> <li>• Number of different sites receiving tours</li> </ul>
Resident attitudes toward tourism	<ul style="list-style-type: none"> <li>• Local satisfaction level with tourism in the city</li> </ul>

Source: *World Tourism Organization (2004)*

The selection of indicators related to measuring sustainability of cultural heritage sites and urban tourism destinations also implies the understanding of the local setting and its peculiarities. Therefore, the common practice in economic valuation of cultural heritage within the urban tourism settings must be adjusted according to all those characteristics that significantly change the approach of valuation, like in the case of the city of Split.

It is particularly challenging for local government and destination management to collect and maintain reliable data bases. The recent study conducted by Pavlinović Mršić & Čale (2020) on the system of indicators for the assessment and monitoring of tourism sustainability in the city of Split, is in the development phase and is marked by many shortcomings. The analysis included 43 indicators of which 3 of them were related to destination management, 10 of them to economic value assessment, 13 of them to social and cultural impacts, and

17 of them to environmental impacts. The results of cross-sectional analysis revealed that the most frequently used indicators are those related to social and cultural impacts, while the lowest used indicators were in the field of environmental impacts.

For case study used in this research, following indicators were considered:

- Use levels – number of tourist arrivals, number of overnight stays, and length of stay.
- Loss of historic character – changing the purpose of using real estates.
- Resident attitudes toward tourism – local satisfaction level with tourism in the city; and
- Cost of protection – level of funding put towards restoration efforts.

These four indicators were chosen based on secondary quantitative and qualitative data which could be accessed through various primary research, statistical reports and other qualitative case studies as regards Split as tourism destination. Use levels are important indicator because they reflect the amount, number, and origin of visitors to the site per season as well as tourist's average length of stay. Loss of historic character is reflected in the change of the purpose of using real estates within the site which can be easily observed. Residents' attitudes toward tourism reflect their willingness to tolerate tourism activity and at the same time sacrifice some part of social and cultural identity for the sake of economic gains. Finally, cost of protection demonstrates exact monetary values put towards the restoration.

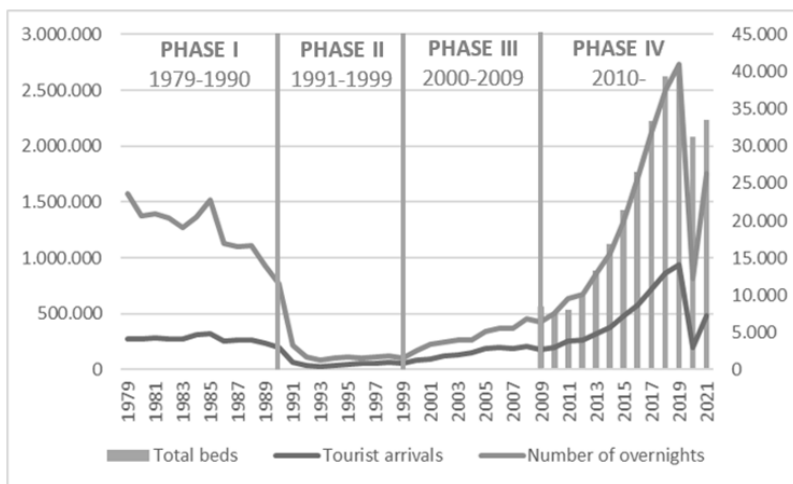
### **3. STUDY LOCATION – UNESCO PROTECTED WORLD CULTURAL HERITAGE SITE OF SPLIT, CROATIA**

In 2021, the city of Split was fourth most populous urban agglomeration on the Adriatic coast measured by size of metropolitan area population, after Italian cities of Bari, Venice, and Trieste (CBS, 2022a; ISTAT, 2022). It is also the 2<sup>nd</sup> largest city in Croatia (after the capital city of Zagreb) populated by approx. 160,000 inhabitants who live in approx. 60,000 households (city area only; CBS, 2022a). Related to these figures, the local peculiarity of Split is that the minority of recorded households are situated in privately owned dwellings within the Historical Complex of Split with the Diocletian Palace, inscribed on the World Heritage List as early as in 1979 based on criteria (ii), (iii) and (iv) (UNESCO, 2021b). The Historical Complex of Split is represented by the ruins of Diocletian's Palace which was built between the late 3<sup>rd</sup> and the early 4<sup>th</sup> centuries AD by the Roman Emperor Diocletian. The Historical complex consists of the Cathedral of Saint Domnius, built in the Middle Ages, reusing materials from the ancient mausoleum; 12<sup>th</sup>- and 13<sup>th</sup>-century Romanesque churches; medieval fortifications; 15<sup>th</sup>-century Gothic palaces and other palaces in Renaissance and Baroque style (UNESCO, 2021b).

Today, the Palace of Diocletian stands as one of the best-preserved artefacts of the Roman architecture in the world. The Palace was changing over the

centuries by the efforts of its inhabitants, and later the citizens of Split who built their own houses and buildings within the historical fortification walls. Nowadays the Historical complex is vibrant with life and filled with small restaurants, café bars and souvenir shops, but also apartments for short-term rental and other facilities that support various tourism activities.

Analysing tourism development patterns over the last four decades and sustainability aspects related to the city of Split, it should be noted that Split is no more only transit city to southern Croatia’s islands, but also a cultural tourism destination worth spending vacation in it. As regards to tourist flows in the city of Split, since 1979, four phases of tourism development can be seen on Graph 1.



Graph 1 Tourist arrivals and overnight stays (left axis) and tourist beds (right axis) in the city of Split, 1979-2021

Source: CBS (2022b)

In 1979, two major events gave Split a special status and introduced the city to a new phase of tourism development, namely 1) the inscription of the Historical Complex of Split with the Diocletian Palace on the UNESCO World Heritage List, and 2) the hosting of the 8<sup>th</sup> Mediterranean Games “involving over 2,048 athletes from 14 nations competing in 26 different sport disciplines” (Pranić, Petrić & Cetinić, 2012). The period between early 1970s and late 1980s is regarded as ‘The Golden Age’ of tourism development not only for Split, but for the entire Croatia’s Adriatic region since many hotels and other important tourism infrastructure were built during that period. The disintegration of ex-Yugoslavia during 1990 and the outbreak of the Croatia’s Homeland war in 1991 have marked the period of sever drop in tourist flows which led into the stagnation phase of tourism development between 1991 and 1999. During the period between 2000 and 2009 the city of Split has recorded moderate growth with no major fluctuations or

disruptions. Surprisingly, following the onset of the Global financial crisis, in 2009, the number of tourist overnights and beds in tourist accommodation facilities in Split started to show rapid growth, until the outbreak of the Covid-19 pandemic at the end of 2019. Such intense growth has resulted in significant increase of economic benefits, but also raised serious concerns regarding the sustainability of the fragile resources, particularly the protected cultural heritage in the historical city centre.

The pressure of intense tourism growth led to another issue – the raise of real estate prices in the historic centre of Split causing the irreversible changes to the local community. The local landlords situated within the Historical complex and in near vicinity, “continuously move away from their homes to suburban areas offering their premises for short-term tourism rentals” (Tolić, 2019). During tourism off season this part of the city is mostly uninhabited, which is symptomatic of ongoing *gentrification* and *tourismification* processes. Referring to 2014 data, it is worth mentioning that “narrow protected zone of the old historical centre and its nearest surroundings hosts approximately 42% of all the accommodation capacities, while all the other parts of Split host the remaining 58%” (Petrić & Pivčević, 2016, p. 299). Such a high density of accommodation capacities within the Historic complex is for sure even higher today, considering the growth of tourist flows and rising real estate prices. As a result of moving local population away from the historical centre, the emergence and spread of restaurants, fast-food shops and convenience stores significantly contribute to the loss of historic character and the erosion of local social fabric.

Although there is no available data on dwellings by occupancy status in the Historical complex, data sets from censuses in 2001, 2011 and 2021 reveal that during the past two decades the total number of dwellings in the city of Split has increased by 17%, while dwelling for permanent residence has increased by 12% (Table 3), which can be considered as indicative for observing the levels of the respective variables.

Table 3

## Dwellings by occupancy status in the city of Split, 2001, 2011 and 2021

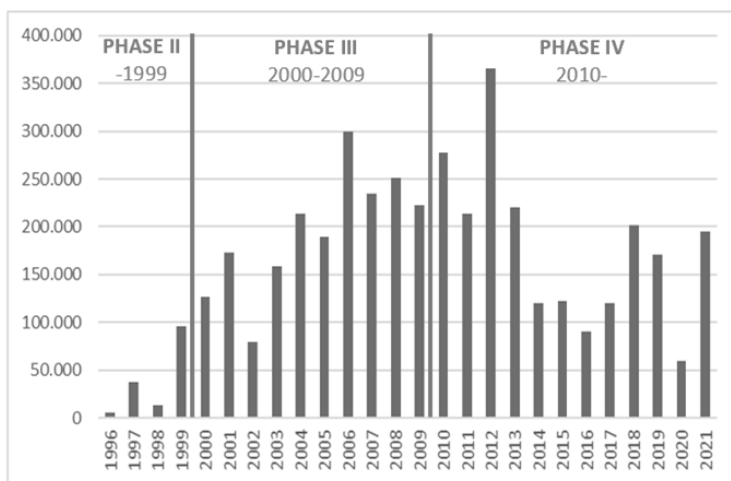
Census Year	2001	2011	2021
Total dwellings	65,804	76,568	77,063
Dwellings for permanent residence	64,672	74,608	72,360
Temporarily unoccupied	6,095	12,557	n/a
Dwellings for occasional residence - for vacation and recreation	534	716	n/a
For renting to tourists	580	594	n/a

n/a – not available data

Source: CBS (2002; 2017; 2022a)

Another important indicator of sustainable tourism development is the residents' attitudes and level of satisfaction with tourism development patterns in the city. According to survey conducted among residents in the city of Split (Petrić & Pivčević, 2016), tourism has been recognized as a set of booming and viable economic activities very often accompanied with 'development myopia' blurring the view on negative tourism impacts. The respondents were expressing predominantly positive attitudes towards the economic benefits (e.g., increased consumption, more jobs, new investments, etc.) and cultural exchange that arise from tourism (e.g., meeting international tourists, enhanced diversity of local cultural activities, positive impacts on cultural identity of local community, etc.), while the social costs (e.g., change of traditional culture, overpriced public investments, changes in social relations within neighbourhood etc.) and environmental deterioration (e.g., overcrowded locations, traffic congestion, noise pollution, etc.) have been perceived as having a low impact on local community setting. It could be argued that both the local community and the city authorities ignored environmental and social costs due to the increasing economic benefits from tourism.

Following the UNESCO guidelines for preserving protected cultural heritage, the state authorities recognized endangered tangible cultural heritage hotspots by providing continuous funding scheme for restorations efforts with certain rises and downfalls. According to data shown on Graph 2, during the past 25 years over €4.3 million of state budget funds have been allocated to protect, renew, and maintain cultural heritage of the Historical Complex of Split with the Diocletian Palace.



Graph 2 Annual protection costs of historical part of Split (in EUR) by its tourism development phases, 1996-2021

Source: Ministry of Culture (1996-2020)



A recent study conducted by Vojinović, Križanić and Kolšek (2020) revealed that investments in the renovation of the Slovenian tangible cultural heritage has positive impacts on the growth of tourist activity and tourism revenues in cities where that heritage is situated. Although the cost of the restoration and protection does not grow at the same pace as tourist arrivals and overnight stays (Graph 1 and Graph 2), the continuation of funding is still present. It could be stated that consistency in funding has positive impact on tourism attractiveness of the city of Split. However, increasing attractiveness has led the city of Split to a new phase of tourism development, challenging city authorities and local community to start coping with sustainability issues.

#### 4. CONCLUSION

The role tangible cultural heritage plays in the economic sustainability of a tourism destination cannot be easily assessed, but their relationship is strong and circumstantial, particularly in Mediterranean destinations containing cultural heritage at the UNESCO list. As cultural heritage has two forms of value and since solely cultural value is irreplaceable or irrecoverable, only the state-of-the-art sustainability practices should be applied to the valorisation of such valuable resources. Achieving the state of complete preservation of world-class cultural resource is not only important for the cultural sector or the tourism system, but also for the national economy, as such cultural resources yield abundant economic benefits. The principles of economic sustainability indicate the use of various strategies for employing existing resources optimally so that responsible and beneficial balance can be achieved over the longer term.

The research results showed the increase in the use levels as the number of tourist arrivals and overnight stays in the city of Split continuously grow from the year 2010 until the outbreak of Covid-19 pandemics. Unfortunately, the cost of protection does not correlate with the use levels, but it is still present and continues to exist. Moreover, the investigation of recent tourism development practice in the city of Split and the residents' attitudes toward tourism proved that the city authorities and local community sacrificed negative socio-cultural and environmental impacts of the growing tourism activity over the economic benefits the cultural tourism brings. Such detrimental practice is particularly evident within the walls of Historical complex and the Diocletian's palace where cultural heritage became a tradable asset. The ongoing gentrification process and the conversion of residential spaces into commercial spaces, especially when it comes to apartments for short-term rental, permanently threatens the sustainability of tourism development and local cultural identity.

A variety of approaches and methods can be used to assess the economic value and importance of cultural heritage for a particular destination, still each of them requires certain adjustments and special databases. On the economic side of evaluation approaches and methods, cost-benefit analysis of cultural heritage preservation to estimate cultural heritage's value became a very important

framework of policy decision making. Basic economic evaluation principles originate from classical economic theory where human objective well-being is determined by people's preferences and economic evaluation techniques are based on determining individuals' maximum willingness to pay for a benefit or for the avoidance of a cost, or their minimum willingness to accept compensation for tolerating a cost or forgoing a benefit. Adopting the maintenance cost approach to the estimation of cultural heritage's economic value represented a reasonable option as the cost often justifies cultural heritage financing and management. The disadvantage of this method is that it does not reflect total economic value. However, stated preference techniques are considered as highly valuable to estimate the total economic value of cultural heritage. They are capable of measuring both the use and non-use value of tangible cultural heritage. Disadvantages of such methods are complexity, high costs of application as well as the time-consuming process of data collection. Despite the efforts to prevent miscalculations and develop a technique that would best suit the tangible cultural heritage valuation process, it is unrealistic to expect that a general method could provide a "one size fit all" solution as each cultural heritage site has its own unique characteristics. This is particularly evident in the case of the city of Split and the Palace of Diocletian as an UNESCO's cultural heritage site which is endangered due to unsustainable tourism development practice. Therefore, the recommendation for further research in this field would be aligned with the use of stated preference techniques to assess the total economic value of the cultural heritage site and correlate it with the economic sustainability indicators presented as values. However, it is not just sufficient to prove the correlations between economic values of cultural heritage site and economic indicators, but to assess overall socio-cultural and environmental impacts due to the increased tourism activity at the cultural heritage site.

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## **RAZUMIJEVANJE SLOŽENOSTI PROCJENE EKONOMSKOG UTJECAJA KULTURNE BAŠTINE NA EKONOMSKU ODRŽIVOST TURISTIČKE DESTINACIJE: SLUČAJ SPLITA, HRVATSKA**

***Sažetak***

*Svrha je ovog konceptualnog rada definirati mogućnosti i ograničenja procjene ekonomskog utjecaja kulturne baštine na ekonomsku održivost turističke destinacije. Kako bi se postigao cilj ovog istraživanja, kritički se analiziraju: (1) pristupi i tehnike ekonomske procjene utjecaja materijalne kulturne baštine na destinaciju, ukazujući pritom na njihove glavne prednosti i ograničenja; (2) pokazatelji održivog razvoja za urbane turističke destinacije koje sadrže lokalitete kulturne baštine svjetske klase. Studija slučaja koja se koristi u ovom istraživanju jest urbani lokalitet kulturne baštine, uvrštena na UNESCO-ov popis svjetske baštine, točnije, povijesni kompleks Splita s Dioklecijanovom palačom i pripadajući prostor turističke destinacije. U ovoj studiji koriste se metode promatranja i analize slučaja. Unatoč svim dosadašnjim naporima da se spriječe pogrešne procjene i razvije tehnika koja bi najbolje odgovarala procesu vrednovanja materijalne kulturne baštine, nalazi ovog rada sugeriraju da svako mjesto kulturne baštine ima jedinstvene karakteristike pa stoga mora imati i svoj vlastiti pristup procjeni njezine vrijednosti i utjecaja. Takvi nalazi imaju daljnje implikacije na UNESCO-ov popis kulturne baštine i upravljanje lokalitetima svjetske baštine.*

***Ključne riječi: ekonomska vrijednost, kulturna baština, ekonomska održivost, turistička destinacija, Split.***

***JEL klasifikacija: Z30, Z32, O18.***