

A Quantitative Approach in the Ecclesiastical Heritage Appraisal

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Abstract. Cultural, environmental and religious resources are a repository of values participating in the process of recognizing the environmental semantic roots. The presence and use of these resources transform an anonymous place into a place of art, contemplation, meeting and cultural exchange; they contribute to psychological well-being, to the realization of social equity and to the economic development by attracting new investments and strengthening existing ones.

Ecclesiastical goods represent a conspicuous part, in terms of quantity and quality, of the historical and artistic heritage. Religious heritage is also an economic asset, having the characteristics of utility, usability and limited availability that distinguish economic assets (increasingly rare) from non-economic and natural ones.

The ecclesiastical cultural heritage, given its widespread distribution, is certainly a testimony, like other cultural heritage, of history, civilization and culture of a country, but at the same time also of people religiosity as used for liturgical or devotionals purposes.

Given the particular nature of these assets, the valuation approach aimed at their appraisal is also particular and targeted.

This contribution aims to increase knowledge about the evaluation of ecclesiastical cultural heritage, for which at present there is still a few attention, due to its marked atypical nature, uniqueness and complexity.

Keywords: Ecclesiastical heritage · Real estate appraisal · Contingent valuation

1 Introduction

The concept of ecclesiastical heritage, as well as that of cultural heritage, is not clear; it is not easy to find a definition able to make agreement on an economic and legal level.

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All assets belonging to a public juridical person referable to the Church constitute the category of ecclesiastical goods. All other assets are excluded, whether they belong to faithful individually or to private legal people.

As López Alarcón states, the ecclesiastical condition of a good derives from the condition of the subject who owns it [1]. No property has the universal Church as direct owner, even if each of them, as managed by public juridical persons, belongs to the Church.

All the ecclesiastical assets constitute the ecclesiastical heritage, which is subject to administrative law [2].

Ecclesiastical goods represent a very conspicuous part, both from a quantitative and qualitative point of view, of the country's historical-artistic heritage and in recent decades the sensitivity for the protection of this heritage has greatly increased, both in society and in the civil and ecclesiastical institutions. Ecclesiastical cultural goods have a double significance. On the one hand they are evidence of history, civilization and culture of a country, on the other they retain a religious function, as they are intended for liturgical or devotional purposes [3].

The economic analysis of ecclesiastical cultural goods, regardless of the actual legal nature of existing property rights, presupposes their qualification as common property. The ecclesiastical cultural goods are therefore neither private nor public but they are certainly unique and unproducible. These characteristics, analogous to environmental assets, allow to extend some evaluation methods, elaborated by the environmental economy, to the evaluation of cultural heritage, which do not find in the market the suitable place for the formation of prices/values.

2 Research Background

Assigning an economic value to the heritage of art, history and culture to which ecclesiastical cultural heritage belongs is essential in order to promote conservation and enhancement, through diversified and targeted intervention measures [4, 5].

The first phase to be carried out in the economic evaluation of an ecclesiastical cultural asset consists in identifying a notion of value attributable to the use of the asset itself.

The reasons why an ecclesiastical cultural asset is used are essentially summarized:

1. in the celebration of sacred rites;
2. in the manifestation of a spiritual search;
3. in visiting works of art;
4. in historical research;
5. in anthropological studies.

To attribute a value to ecclesiastical cultural properties, we could consider valuations by the individual protagonists of religious celebrations or of the so-called "cultural/spiritual" tourism could be used. However, there would be biased data, as the sample is not complete but represents an elite of people who find it pleasant to stay in these places. To make this assessment operation more complex is also, to be taken into due account, the beneficial emotional effect that these assets determine for individuals

and for which effect there is no market compensation. This beneficial emotional effect attributable to the concept of externality determines in individuals a different conception of the property and therefore a diversified attribution of value. Ecclesiastical cultural goods, unlike public goods in general, are placed in an intermediate stage between consumer goods for private use only and pure public goods or those that can be used by all without particular restrictions. You almost never pay an entrance ticket to enter a structure such as a church or an oratory unlike a museum or a historic building; rarely these goods are protected or sustained in conservation by visitors as are the goods of the State. This is because ecclesiastical cultural goods are intended as consumer goods and not for profit, although they perform functions for the benefit of visitors.

The analysis aimed at identifying the possible values attributable to such an asset, foresees irreproducibility and often also the plurality of functions in addition to uniqueness.

The study of the appraisal aspects of ecclesiastical cultural heritage involves various areas which, each to their own extent, contribute to defining the overall value of these goods. Assigning a value to ecclesiastical cultural heritage necessarily implies attributing a value to the externalities or benefits they produce and to the functions they perform as instruments of growth and as treasures of history and art.

It is necessary to specify that the cultural asset, a category in which ecclesiastical cultural goods are placed, does not differ much from others, such as public or environmental goods, with regard to the policies and to the interventions of restoration or enhancement to be implemented. Traditional economic theory then does not attribute a value to goods without a market price. The need therefore arises to promote, for the purposes of the development and conservation of these assets, experimental evaluation strategies that can offer concrete support for political decisions.

Already in the 1920s, in the USA, there was an experimentation of evaluation methods able of transforming the implicit preferences that people show, with their behavior regarding these goods, into monetary value [6].

The economic evaluation of ecclesiastical cultural goods must aim to evaluate the benefits that current or future consumers obtain from the goods themselves. This evaluation is based, unlike the cultural evaluation that relies on the judgment of critics and experts, on the individual preferences of citizens. Economic theory in fact reveals that collective well-being is determined by the satisfaction of individual preferences since a benefit is defined as anything that increases individual well-being and a cost anything that reduces it [7, 8].

In order to be able to translate the value of an ecclesial cultural asset into monetary terms, the theory of total economic value can be used [9].

It is a theory that takes into consideration two main values that every good possesses: the instrumental value or use value and the non-use value [10].

In summary, we can express the total economic value (TEV) of an ecclesiastical cultural asset through the following identity:

$$TEV = Use\ value + Non\ use\ value \tag{1}$$

in which the non-use value refers to:

- option value, linked to the desire to ensure the availability of the asset in future;
- existence value, linked to the possibility of preserving the good from possible destruction;
- bequest value, which has as its precise reference the possibility of taking advantage of a certain asset by future generations.

This mathematical exemplification of course cannot be exhaustive to valuate the economic value of an ecclesiastical cultural asset; a general analysis of copious literature reveals, in fact, that over time there have been numerous proposals for assessing quality. In principle, the evaluation of the qualitative values of a resource, be it historical, monumental, artistic, environmental or religious, can be carried out according to two fundamental approaches: the economic approach and the extra-economic approach [11, 12]. The first one is usually used in order to express economic convenience judgment in transformation projects, while the second one, because not expressing in monetary terms, is used to drive design choices.

The economic approach expresses the value of resources in terms of willingness to pay and market price and takes place in a context that considers real demand and supply.

The economic approach for the evaluation of the qualitative values of the architectural-environmental and cultural resources is essentially based on three quantitative procedures aimed at estimating the willingness to pay and the market price. This approach carries out monetary measures of qualitative values. In any case, these are "account prices", that is to say, prices set for the purposes of the valuation analysis that takes place on alternative projects and for selection purposes. The account price is a function of the objectives set by the valuation, therefore it increases in terms of revenues and decreases in terms of costs if it pursues the objectives and operates vice versa when it moves away from it. The rational basis of the approach is basically the same as the extra-economic approach, but the advantage of the economic approach consists in the fact that it is expressed in a single numerary and allows an immediate comparison with the costs to carry out the different alternative projects. Furthermore, an immediate comparison can be made between the results of the projects on the one hand and the budget and financing models of the projects themselves on the other; between productive investment projects and intervention projects that invest qualitative resources or qualitative values of resources.

The procedures for evaluating architectural, environmental and cultural resources are: the hedonic price method (HPM), the travel cost method (TVM), the contingent valuation method (CVM). The first two procedures analyze the revealed preferences with the consumption of private goods complementary to the use of the qualitative resource [13, 14], the third procedure instead examines the preferences expressed (stated preferences) in a specially built virtual market [15–17].

The extra-economic approach is independent of this real context and expresses the value through the analysis of the individual attributes. This approach finds its starting

point in the theory of multi-attribute utility. This theory, which is the basis of multi-criteria analyzes, is closely connected to the processes of choice and starts from the general idea that in decisions what tends to maximize is not only economic utility but also a set of other elements or criteria. This approach developed for the first time by Lancaster [18] and then by Zeleny [19], Keeney and Raiffa [20], approaches the real way of reasoning and evaluating, when make choices by each individual. In the selection processes, the multicriteria analysis relates in particular to the evaluation aimed at planning. The assessment procedures based on multi-criteria analysis are able to simultaneously take into account several objectives and consequently several judgment criteria, without necessarily providing for monetary quantification.

The purpose of this research is to propose a quantitative approach in order to evaluate the economic convenience in the protection and enhancement of ecclesiastical goods, to be achieved through an economic approach. Although ecclesiastical cultural goods have their own value (sometimes even considerable), they are not considered by market mechanisms, which are typical of private goods. In the absence of a price system, generally, the economic value of a cultural asset can be measured by the quantity of money corresponding to the variation in individual well-being (utility), caused by a change in its availability. A monetary valuation of this variation can be provided by the consumer surplus which is defined as the difference between the maximum amount of money that consumers are willing to pay for a good (gross value) and the amount of money they actually spend on the good itself (financial value) [21, 22]. It can therefore be said that the gross monetary value reflects the total utility of an asset, while the financial value represents the sacrifice or disutility to obtain it. Therefore, by subtracting from the measure of utility that of disutility, an indication of the net utility deductible from the consumption of the good is obtained.

3 Case Study

3.1 Property Description

The case study refers to the conservation and/or transformation project of the Episcopal Seminary in San Marco Argentano (CS-Italy).

The preference granted to the Episcopal Seminary of San Marco Argentano (CS) is generated both by the centrality of the property with respect to the territorial system and by its ability to testify the local and diocesan civilization in its crucial historical phases. It is representative of many buildings in the Italian dioceses. It is, in fact, an ancient building, which plays a significant role in the perception of well-being by the community of reference, and which requires an onerous intervention of protection and enhancement (Fig. 1).

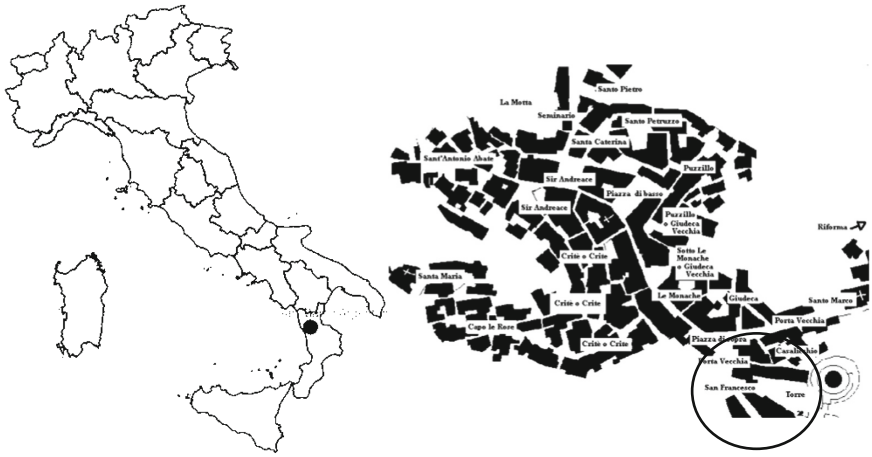

Fig. 1. Location of the Episcopal Seminary

The ownership of the Church and the protective action undertaken by the curia itself, as well as the provision of public benefits that the presence of the seminary implies, reveal the belonging of this property to the category of ecclesiastical goods.

This property represents that huge building complexes of high architectural and cultural value, first used as places of spiritual and cultural training for seminarians, which today are oversized compared to the number of future priests and therefore they are largely unused and subject to physical and structural deterioration. This type of architectural/cultural asset therefore represents a territorial resource almost completely unused. The preference granted to the Episcopal Seminary of San Marco Argentano (CS) is generated both by the centrality of the good with respect to the territorial system and by its characteristics that testifies the local and diocesan civilization in its crucial historical phases.

The territory of the municipality of San Marco Argentano extends for about 80 km^2 between the valley of the Crati river and the Thyrrenian mountain range. The ancient center develops on a hill (416 m s.l.m.) which rises from the valley of the Fullone river; in the surrounding flat areas modern settlements and industrial area develop.

The new Episcopal Seminary appears in the classic form with a church, cloister and overlying rooms.

The Seminary of San Marco Argentano building is still in excellent condition; the exterior of the seminar is welcoming with large green spaces for students' meditation and reflection. In the last period, a sports facility was also built welcoming not only seminarians but also young people from San Marco parishes and the whole diocese.

A reserved area inside the Seminary houses the nuns who generously offer the necessary care for the canteen service and the cleaning of the entire building (Fig. 2).



Fig. 2. The Episcopal Seminary exterior

3.2 Methods

In order to appraise the case study property, we've decided to the Contingent Valuation, proceeding as follows:

- drafting of the survey;
- sampling plan;
- conducting interviews;
- statistical data analysis;
- appraisal of the property value.

The survey has been structured in order to acquire information regarding: personal characteristics of the interviewed people (gender, age, provenance, educational qualifications, interests, income bracket, etc.); information relating to the interview conditions (day of the week, time, weather conditions, etc.); willingness to pay.

In particular, it has been asked willingness to pay for a una tantum voluntary contribution linked to the recovery and refunctionalization of the asset. An informative book containing photos and descriptions of the proposed action intervention is presented to the interviewees.

A pilot survey was first carried out, 20 individuals of both sexes residing in the Municipality of San Marco Argentano participated, after which the definitive survey was launched, held in the months of May–June 2019, conducting 210 direct interviews.

The lack of a place where to receive the interviewees required the preliminary elaboration of an information book, equipped with images and brief descriptions useful for the description of the transformation scenario.

The investigation was administered by the three people, properly educated, who directly approached the respondents in the seminar places, at the workplace, at their home or simply on the street. Given the numerous refusals in the initial phase of the investigation, involvement was favored by the issue of a participation certificate. The duration of the interview was on average 25 min.

The sampling plan adopted to carry out the survey is a proportional stratified type one, and it provided for the stratification of the sample in 6 sub-samples of 35 units.

With regard to the method of investigation for the acquisition of data regarding the willingness to pay, it was decided to use the double bounded dichotomous choice technique, following a 4-level model. Table 1 shows the offer vector used during the

survey. The highest level of offer (one-time payment of € 500.00) can be considered a plausible price limit, while the lowest level (one-time payment of € 5.00) can be considered an amount that any respondent can pay.

The vector price varied in the sample. The 210 unit sample is divided into six sub-samples of 35 units each. Each sub/sample is associated with a vector price for which it is asked to express willingness to pay.

Table 1. Price offer vector

First proposed price	Lowest proposed price	Highest proposed price
10,00	5,00	20,00
25,00	10,00	50,00
50,00	25,00	100,00
100,00	50,00	150,00
150,00	100,00	250,00
250,00	150,00	500,00

3.3 Results

The results of the statistical analysis allow us to state that the sample investigated to carry out the investigation has the characteristics established by the prepared sampling plan. The results of the statistical analysis allow to identify the main characteristics of the question:

a) only 16 out of 210 individuals have showed a null willingness to pay;
b) the population is resident in 94% of cases in San Marco Argentano (CS);
c) the respondents are equally divided in males and females and they have an average age of 47;
d) the interviewees only attended compulsory school in more than 27% of cases, 35% have a high school diploma, while 38% have obtained a university degree;
e) the interviewees are largely believers (about 94%)
f) the interviewee is full-time employed in over 30% of the observations, more than 11% are looking for employment while over 15% are retired;
g) the respondents declare that their average family income is around € 1,750.00 per month with a percentage of around 21% declaring an income of around € 1,625.00 and € 2,125.00 and some particular situations whose income reaches € 4,000.00 or just € 37.50;
h) 80% of the survey participants usually read newspapers, and about 64% of them read the cultural and leisure page with interest;
i) 55% of the survey participants watch TV and radio reports and documentaries on cultural and/or religious themes;
j) 45% of the respondents read books on subjects concerning monuments, places of worship, museums and historical centers;
k) the entire sample interviewed is aware of the existence of the Seminar;
l) over 94% of the survey participants visited or viewed it at close range;

m) the protection of the Episcopal Seminary to continue promoting the missionary nature of the Church (religious value) is important for 38% people or very important (62%);
n) for most of the interviewees it is important or very important to keep the Seminar both to allow San Marco Argentano citizens to enjoy it everyday (value of direct use) and that of future generations (legacy value) and to ensure the opportunity of development, cultural growth and employment for the local community (indirect use value).

The demand curve was estimated by regressing the accumulated frequencies of the interviews on the corresponding willingness to pay (Table 2).

Table 2. Detected frequencies in relation to WTP

WTP (€)	Sub-sample dimension	Frequencies (yes)	Frequencies (yes) %
10,00	35	33	27,00
25,00	35	30	24,60
50,00	35	31	25,40
100,00	35	22	18,00
150,00	35	5	4,10
250,00	35	1	0,80
Total	210	122	100

Among the recurring functional forms, the logarithmic one has proven to be able to interpret the data in a better way, providing a value of the determination coefficient R^2 equal to 0.958.

The functional relationship that binds the dependent variable WTP to the independent variable Fc is the following one:

$$WTP = 287,99 - 44,80 lnFc, \tag{2}$$

With reference to the chosen sample, the surplus generated by the protection and enhancement of the Episcopal Seminary is estimated by integrating the truncated demand function between zero and the maximum valid frequency.

$$\int_0^{194}(287{,}99 - 44{,}80 lnF)dF = € \ 18.777{,}25. \tag{3}$$

The pro capite surplus is given by:

$$\int_0^{194}(287{,}99 - 44{,}80 lnF)dF : 194 = € \ 96{,}79. \tag{4}$$

The surplus was then extended to the population residing in the catchment area (7,590 units), considering a reduction factor based on the incidence of those who, within the sample of respondents, declared they were not willing to pay.

In this way, the economic value attributed to the protection and enhancement of the asset was estimated at € 678,663.82.

The utility flow supplied by the asset can be considered plausible for the purpose of its inclusion in a neo-classical economic analysis. In fact, subsequently, in order to determine the economic convenience of the public investment, the economic value thus calculated was taken as an ex ante measure of the net social benefits associated with the protection and enhancement project.

The approach linked to the evaluation of the consumer surplus seems to suggest new perspectives as a support to the public decision-maker in the classification of "goods of excellence", thus reconciling the cultural instances expressed by the community with the need for rationalization in the use of limited financial resources.

4 Conclusion

Ecclesiastical assets represent a conspicuous part, in terms of quantity and quality, of the historical and artistic heritage. In recent decades, the issues of conservation and protection of cultural heritage in general and ecclesiastical cultural heritage in particular have been at the center of debates promoted by both civil and ecclesiastical institutions.

Conserving means moving in a multidisciplinary field in which the economic criterion cannot be ignored. The cultural heritage, testimony to historical or artistic or religious values, is also an economic asset, having the characteristics of utility, usability and limited availability that distinguish economic assets from non-economic and natural goods.

Given the particular nature of these assets, the evaluation approach aimed at their valuation is also particular and targeted.

The appraisal of these properties is centered around the search for the monetary evaluation of the qualitative values that are generally found in cultural heritage in general and all other aspects connected to the religious function that ecclesiastical cultural heritage performs. A not negligible aspect for valuation purposes is the lack of a market for ecclesiastical cultural properties, which are usually not freely traded.

The valuation of ecclesiastical cultural heritage can be approached recurring to different procedures reported in literature, mainly implemented in the context of historical-cultural and environmental heritage. Among the existing methods, the Contingent Valuation Method (CVM) appears to be the most suitable for the monetary valuation of the market value of ecclesiastical cultural heritage.

This study just marks a first step in the path of issues concerning the valuation of ecclesiastical cultural heritage by providing scientific-estimative answers to the public decision-making processes of programming which require, with increasing frequency, the availability of suitable tools to provide a measurable sign, in monetary terms, of the collective benefits resulting from the recovery, reuse and management of real estate resources characterized by historical and architectural values.

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