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# A Contingent Ranking Study on the Preferences of Tourists across Seasons*

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ABSTRACT

This paper presents the results of a contingent ranking study carried out on a sample of tourists visiting the province of Ragusa (in South-Eastern Sicily, Italy), known for both its baroque heritage and its sea coasts. I focus only on two attributes of tourism products, namely the accommodation facilities (which appear to have a large importance for tourists' choice, according to similar previous analyses) and local attractions (sea and coasts, cultural and natural heritage endowments, performing-arts and entertainment, local food and wine products). I evaluate whether and how the weight attached by tourists to the attributes and their levels change across seasons.

*Keywords*: Conjoint Analysis; Contingent Ranking; Heritage; Culture; Tourism.

## Un estudio de ranking contingente sobre las preferencias de los turistas en las diferentes temporadas

RESUMEN

Este artículo presenta los resultados de un estudio de ranking contingente realizado a una muestra de turistas que visitaron la provincia de Ragusa (en el sudeste de Sicilia, Italia), conocida tanto por su patrimonio barroco como por sus costas de mar. Sólo nos centramos en dos atributos de los productos turísticos, en concreto en las instalaciones hoteleras (que parecen tener una gran importancia para la elección del turista, según análisis similares previos) y los atractivos locales (mar y costas, elementos del patrimonio cultural y natural, artes escénicas y ocio, productos locales de comida y vino). Se evalúa si, y como, el peso asignado por los turistas a los atributos y sus niveles cambia a lo largo de las estaciones.

*Palabras clave*: Análisis conjunto; ranking contingente; patrimonio; cultura; turismo.

Clasificación JEL: Z10, L83, Q31.

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## 1. INTRODUCTION

This paper presents the results of a contingent ranking study carried out on a sample of tourists visiting the Ragusa province, in the South-Eastern part of Sicily, Italy —known for both its baroque heritage (partly protected by UNESCO programmes) and its Mediterranean sea-coasts.

As it is well known, contingent ranking is a technique, within the conjoint analysis approach, used to evaluate the weight attached by consumers to different attributes of a good. The body of literature on conjoint analysis applied to the evaluation of cultural goods is very large (see the comprehensive review of Noonan, 2003); several applications are also available concerning tourism services (see e.g., Lindberg et al., 2001, just to mention a review). Applications on cultural tourism are less frequent (Boniface and Fowler, 1999, or Caserta and Russo, 2002). In this paper, I apply the contingent valuation method to evaluate the role of cultural endowments in attracting tourism flows.

Recent applications are available regarding Sicily, and the striking result from these applications is the relative unimportance of the cultural heritage, and the preponderant importance of accommodation structure in the tourists' preferences (Cellini et al. 2004, Cuccia and Cellini, 2007).

The motivation behind the present paper is to evaluate whether a broader definition of cultural capital leads to different conclusions. In fact, culture includes not only the built heritage but also other forms of tangible and intangible capital, that contribute to identify a territory, like art craft, gastronomic traditions, cultural events, and so on. These elements, together with natural capital, constitute the local attractions of a territory, and can be very relevant to its tourism attractiveness.

Indeed, I find here that the importance that tourists attach to local attractions is far from negligible —contrary to what is suggested by other studies that focus only on built heritage. However —and this point is quite new in the available literature— the weight that tourists attach to local attractions changes across the seasons of the planned holiday. In this respect, a point is worth underlying: in the literature it is often mentioned that people visiting a destination in different seasons have different preferences. However, formal tests are very rare (Lundtorp *et al.*, 1999, on tourism in Bornhold island, Denmark, is a remarkable exception). More importantly, tests are conducted on different samples of people visiting the destination in different periods. In the present study, I ask the same people to evaluate the importance of different attributes of holiday packages in Ragusa in different seasons, and I find that their preferences change across seasons.

The results suggest specific policy implications, as to the role of cultural goods in promoting tourism. In particular, cultural endowments seem more appropriate to limit the seasonality of tourism flows, rather than to differentiate summer tourism across destinations.[1]

[1] See Swarbrooke (1993, 1994) for a presentation of the features of cultural tourism and heritage tourism specifically.

The structure of the paper is as follows. Section 2 provides some details about the methods; Section 3 presents the characteristics of the site, the experimental design, and the results of the contingent ranking exercises; Section 4 comments and concludes.

## 2. THE METHOD: THE CONTINGENT RANKING PROCEDURE

Conjoint analysis is the generic label for a class of survey-based analyses. The *conjoint analysis* or *choice modelling* method was originally proposed by Luce and Tuckey (1964); relevant refinements were proposed, along different routes, by, e.g., Green and Rao, 1971, Green and Srinivasan, 1978, 1990; it is currently used by market analyses (see Green et al. (1985), Green and Krieger (1997), Hanley et al. (2001) and Cuccia (2003) for comprehensive review).

Respondents are simply asked to order (or to give a mark to) different combinations of goods (and/or their attributes). Depending on the way in which the order is expressed, different options are possible (e.g., dichotomous choice, graded pair comparison, ranking, rating, and so on). In the present case, I ask people to attach a rank order to 12 different options, so that I deal with a contingent ranking exercise. The rank is then regressed against variables denoting the presence (or the level) of the investigated attributes of the product. So, contingent ranking method (like all conjoint analysis exercises) represents a way to indirectly elicit the people's preference structure starting from specific stated preference.

The demographic characteristics of interviewed people —considered *per se* and/or in interaction with the attribute levels of the product— can be inserted into the regression, as they affect the valuation. Alternatively, the sample can be split according to the demographic characteristics of respondents or according some answers to question, in order to check whether different evaluation emerge, as personal characteristics change.

Three problems connected with the main steps of the procedure are worth discussing briefly, namely, (a) the sample selection, (b) the description of the alternative products to be ranked by respondents, (c) and the choice of the estimators.

As to the experiment at hand, I have chosen to collect interviews from a stratified random sample of tourists; stratification was done according to nationality, gender and age criteria. Tourists were interviewed in different places (sea-side, cultural sites, and other places) and over a quite long period of time (August to December 2007), one of the goals of the paper being the analysis of constancy of preferences for tourism packages over different tourism seasons.[2] We will see that

[2] The respondents were asked to answer just thinking in both seasons, no matter they visited or had an intention to visit the area in different seasons. However, they were aware of the characteristics of the area, since the interviews were collected during their visit.

the answers do not change significantly across the different places where they were collected, nor over the months.

As to the description of alternatives, I have maintained the description as simple as possible: only two attributes of the tourism package are considered, namely local attractions (articulated in four levels) and accommodation (articulated in three levels); such a choice permits us to have the evaluation of the complete list of the twelve possible alternatives from each person interviewed.

As far as the estimators concerned, it is appropriate to stress that OLS has been shown by Maddala (1984) to be a biased and inconsistent estimator in regressions of grade or rank against a set of variables, like in the present exercise: when the regressed is —like in the present case— a polychotomous variable with a natural order, the ordered-probit (or logit) estimation is (theoretically) more appropriate. However, estimation calculations are more involved as compared to the OLS estimation, and the computation iterative procedure sometimes does not converge. More importantly, comparative experiments show that the evidence is substantially equivalent, so that the OLS estimation appears to be substantially correct.[3] The present case provides a further example supporting the (substantial) equivalence of OLS estimates with more appropriate estimators.

## 3. THE CASE STUDY

### 3.1. Description of the site

Ragusa is a province in the South-Eastern Sicily, famous for its baroque cultural heritage, partly protected by UNESCO programmes, for its rural landscape and for its sea-side resorts.

In 2006 (the last year for which official data are available at the province level), there were 61 hotels (8,310 beds) located in Ragusa province and 238 extra-hotel facilities (5,976 beds); the hotel- and extra-hotel structures represent respectively 5.38% and 10.26% of the accommodation structures in the region. The tourist arrivals were 219,240 and the presences 919,132. Foreign presences account for the 30.82%. The presences represent 6.30% of the regional datum. The average length of stay is 4.19 days in the Ragusa province, higher than the value at regional level (3.20). About 74% of the tourism presences in Ragusa are concentrated in June-September (only slightly higher than the regional value); for this reason, we refer to the summer season as to the high-season. All these data suggest that tourism flows in Ragusa are largely motivated by sea-side visits, and the potential benefits from the international recognition of the cultural heritage received by UNESCO have not been exploited yet as they could be.

[3] See, e.g., Sanz et al. (2003), Cuccia and Cellini (2007), Mazzanti (2003). For different positions see Mackenzie (1993) and Roe et al. (1996).

### 3.2. Experimental design

The information on which this study is based was collected during August-December 2007 (that is, during both high-season and low-season months), through person-to person interviews,[4] both in sea-side locations and in internal towns. The persons contacted were about five hundred; about half accepted to answer the questionnaire, but only 225 interviews are used, as they are complete and consistent. Specifically, 127 out of the 225 considered interviews were collected during the high-season (August-September) while the remaining 98 were collected in October-December; 47 were collected in sea-side destinations, 147 in cultural sites and 31 in other places of the province. Table 1 provides information about the demographic characteristics of the persons interviewed. It is worth mentioning that such demographic characteristics do not change significantly depending on the time and place of the interview: age, income and gender distribution of interviewed people remain rather stable.[5]

As to the tourism product packages to be evaluated by the people interviewed, 12 offers are proposed, differing as concerns the levels of characteristics. As already mentioned, only two characteristics are proposed:

(A) accommodation - articulated in three levels, namely, (i) 1-3 star hotels, (ii) 4-5 star hotels, (iii) B&B or agri-tourism structures;
(B) the main attraction of the holiday (articulated in four levels: (i) sea and coast; (ii) cultural and natural heritage; (iii) performing arts and entertainment activities, (iv) local food and wine).

The fact that price did not appear explicitly among the characteristics is motivated by the fact that I intend to collect information about the ordering of differentiated offers, abstracting from the price. Of course, the accommodation implies different prices, so that the consumer's evaluation of accommodation gives indirect information about the evaluation of cost.[6]

[4] The interviewer was Ms. Elisabetta Flaccavento, to whom I express my gratitude. The database containing all answers is available on request, in Excel or E-view format.

[5] For instance, the subgroup of people interviewed in October-December show a percentage of female of 40.24 (vs. 40.44 of the whole sample), an average age equal to 44.61 (as compared to the 43.16 of the whole sample), and a medium income of 1,857 Euro (vs. 1,776), so that the sub-sample is only slightly older and richer. Also the sub-sample of people interviewed in internal places is slightly older and richer than the people interviewed in sea-side locations, but in this case the differences are even smaller.

[6] There are two additional reasons to omit price from the list of attributes: first, I do not aim at estimating the implicit price of attributes, so I do not need the presence of price among the explanatory factors; second, in similar exercises, price typically emerges as having a positive marginal coefficient in the evaluation system, since people often interpret price as an indirect indicator for quality. The absence of price avoids this source of confusion (see Roe et al., 1996, or Alberini *et al.*, 2003).

**TABLE 1**
Statistics of the sample.

| | |
|---|---|
| GENDER | Male: 134 (59.56%); Female: 91 (40.44%) |
| AGE | 17-40: 99 (44.00%)<br>41-60: 102 (45.33%)<br>60+: 24 (10.67%)<br>Min 17; Max 72; Average 43.16 ; Median 42.00 |
| EDUCATION | Secondary: 8 (3.55%)<br>High school: 106 (47.11%)<br>Graduate: 90 (40.00%)<br>Post graduate: 21 (9.33%) |
| OCCUPATION | Student: 7 (3.11%)<br>Retired: 18 (8.00%)<br>Workers – Employee: 93 (41.33%)<br>Workers – Self Employed: 43 (19.11%)<br>Entrepreneur: 34 (15.11%)<br>Unemployed: 4 (1.77%)<br>Other: 26 (11.55%) |
| PERS. INCOME | Euro 0-1000): 79 (35.11%)<br>Euro 1001-2000): 93 (41.33%)<br>Euro 2001-3000): 33 (14.66%)<br>Euro 3001-4000): 11 (4.88%)<br>Euro 4001+): 9 (4.00%) |
| PROVENIENCE | Sicilian: 26 (11.55%)<br>Southern Italy: 30 (13.33%)<br>Central&Northern Italy: 112 (49.88%)<br>Foreign: 57 (25.33%) |
| MAIN REASON OF PRESENT TOUR | Holiday: 148 (65.78%)<br>Visiting friends and relatives: 45 (20.00%)<br>Work: 26 (11.56%)<br>Other: 6 (2.66%) |
| LENGTH OF STAY IN RAGUSA (DAYS) | 1): 5 (2.22%)<br>2-4): 75 (33.33%)<br>5-7): 73 (32.44%)<br>8-15): 38 (16.89%)<br>15+): 34 (15.11%) |
| CURRENT ACCOMMODATION | Agritourism: 50 (22.22%)<br>B&B or residence : 47 (20.89%)<br>1-3 star Hotel: 28 (12.44%)<br>4-5star Hotel: 35 (15.56%)<br>Friends and relatives: 35 (15.56%)<br>Excursionists: 30 (13.33%) |

The combination of the levels of accommodation and the levels of the main attraction of the holiday provides 12 possible products. Each person was asked to

order the 12 products (giving grade 1 for the worst product, to grade 12 for the best one), and was asked to repeat the exercise twice: once for a summer holiday, and a second time for the same products during off-season months.

In such a way, two separate analyses can be made, and the results concerning the summer season can be compared with the ones related to the low-season.[7]

As is usual in this procedure, a combination has been chosen as the base combination: in this case, the 1-3 star hotel and sea and coast as the main attraction of the holiday. All the remaining combinations were characterized by a set of 0-1 dummy variables associated to the presence (or not) of the considered level of attribute: if the considered level-of-attribute is present, the variable takes value 1, and it takes value 0 otherwise. Then, the dependent variable (the grade) is regressed —as the dependent variable— against the set of dummy variables. The interpretation of coefficients is immediate: if the coefficient of a regressor is positive (negative), this means that this level-of-attribute gives a positive (negative) contribution to the preference ordering. More clearly, provided that the "base package" contains the attraction "sea and coast", three different regressors appear in the equation regression, namely, the cultural and natural heritage, the performing arts and entertainment activities, the local food and wine attraction. A positive coefficient for —say— heritage, means that heritage is preferred to sea and coast, while a negative coefficient means that its marginal contribution to the ordering is negative. Furthermore, provided that 1-3 star hotel is in the base package, only two regressors are inserted in the regression as levels of accommodation: B&B+Agritourism and 4-5 star hotels.

We could perform a single regression (clearly, one for summer and one for low-season) with the answers from all respondents; we can insert in such a regression the demographic characteristics of each respondent. However, we could also follow a different route: we can perform a separate regression for each respondent, and then analyse the evidence according to the demographic characteristics of the respondents. As we will see, the two approaches lead to similar conclusions. The outcome of the single regression approach is presented in Sub-section 3.3, while the outcome from the multiple regressions approach is in Sub-section 3.4.

[7] We report the evidence concerning the analysis of correlation between the two responses (referred to high- and low- season, respectively) from the same individuals. Specifically, the (simple) correlation between the variables reporting the ranking order is equal to 0.28 (if computed on the whole sample); if we compute the correlation for each respondent, we obtain that correlations range over the interval [–0.77, +1.00], taking the limit value equal to 1.00 in 9 cases. Given the ranking nature of the variable, however, the Kendall rank correlation coefficient $\tau_K$ is more appropriate in this case: its value for the whole sample is equal to 0.30; if computed for each respondent, it varies over the interval [–0.75, +1.00]. This means that a large variety of cases exists: the evaluations of the same product across different seasons can be very different to quite similar, and in a strict minority of cases (9 out of 225) people give exactly the same order for high- and low- season holiday packages.

### 3.3. Results: the single regression approach

The results from the single (or unified) regression analysis are gathered in Table 2. Three points are worth underlying.

**TABLE 2**
Unified regression analysis (Dep. Var.: Rank-grade, 1 to 12).

| | Summer season | | Low season | |
|---|---|---|---|---|
| | **OLS** | **ORDERED PROBIT** | **OLS** | **ORDERED PROBIT** |
| *Constant and demographic variables:* | | | | |
| Constant | 7.18* (19.10) | | 2.59* (7.49) | |
| Gender | 0.005 (0.04) | 0.004 (0.08) | 0.01 (0.12) | 0.003 (0.07) |
| Age | 0.0008 (0.15) | 0.003 (0.22) | 0.0004 (0.08) | 0.0001 (0.07) |
| Education | 0.002 (0.03) | 0.001 (0.04) | 0.007 (0.08) | 0.003 (0.08) |
| Income | –0.0003 (–0.01) | –0.00003 (–0.02) | –0.0002 (–0.00004) | 0.0004 (0.02) |
| *Local attraction:* | | | | |
| Cultural and natural heritage | –1.12* (–6.99) | –0.32* (–5.81) | +4.11* (27.74) | 1.53* (25.79) |
| Food & wine | –0.71* (–4.44) | –0.32* (–4.54) | +3.88* (26.16) | 1.36* (23.24) |
| Performing arts and entertainment | –3.45* (–21.48) | –1.18* (–20.50) | +1.31* (8.84) | 0.43* (7.74) |
| *Accommodation:* | | | | |
| B&B or Agritourism | +2.34* (16.81) | 0.77* (15.61) | +3.02* (23.52) | 1.12* (21.90) |
| 4-5 star hotels | –0.53* (–3.83) | –0.16* (–3.35) | +1.60* (12.50) | 0.57* (11.68) |
| No of obs | 2700 | 2700 | 2700 | 2700 |
| R2 | 0.27 | | 0.38 | |
| F | 111.17 | | 183.33 | |
| Relative importance of local attractions | *0.49* | *0.48* | *0.66* | *0.67* |

*Note:* t-statistics in parenthesis for the OLS, and z-statistics in parenthesis for Ordered probit; starred regressors are significant at the 5% level.

Firstly, as already mentioned, even if the most appropriate estimator is the Ordered Probit (the dependent variable is a rank over the range 1 to 12), the OLS one

provides very similar results: this evidence, supporting the reliability of the simple OLS estimates, is common to several other similar analyses (for a deeper theoretical and methodological discussion on this point, see Cuccia and Cellini, 2007). For this reason we will perform the subsequent analysis based on the OLS estimates.

Secondly, the relative importance of local attractions with respect to accommodation is 0.49 in the summer season, while it is 0.66 for the low-season (once again, the values are analogous across different estimators).[8] These values suggest that local attractions have a considerable weight in consumers' preferences, and —more important— tourists attach a larger weight to the local attractions when they decide the off-season vacation, rather than the summer vacation. This makes sense. As we will see below, this does not depend on the number of people giving more importance to one attribute (which remain very similar across seasons) but on the intensity of individual preferences, which change across season. As to substantial evidence, it should be noted that for the summer holidays, "sea and coast" represents the element which gives the most positive contribution to the ordering of the products (among the local attraction), the other levels showing negative coefficient. On the contrary, quite obviously, sea and coast does not contribute to the positive ranking of the products for off-season holiday (the other levels showing positive signs). As for the accommodation, B&B is preferred to 1-3 star hotel for both the summer- and the off-season- holiday, while 4-5 star hotel is worse than 1-3 star during the summer and better during the off-season months.

Thirdly, I have performed tests for evaluating the stability of parameters across different demographic aspects. In particular, I have split each of the regressors concerning local attraction and accommodation, according to: (a) gender; (b) age (under 41 or not); (c) education (graduate or not); (d) income (low or high, the threshold being 2000 Euro per month per capita in the household). Then, I have tested the equality of slope coefficients: if the null of equality is accepted, I derive the conclusion that the demographic aspect does not affect the evaluation of the level of the characteristic of the tourism package. This exercise has led to the following conclusions: (a) gender affects the evaluation of accommodation (both B&B and 4-5 star hotel) for the off-season holiday (specifically, males show a higher propensity for B&B, while females show a higher propensity for 4-5 star hotels); (b) age never appears to be source of different evaluations; (c) education affects the evaluation of cultural and natural stock in summer season (BA-takers have a higher coefficient, though negatively signed in any case); (d) income affects the evaluation of 4-5 star hotel in both seasons ("rich" persons show a larger coefficient).[9] Demographic characteristics affect the evaluation in different ways, across the different holiday seasons. A more precise analyses of the effect of

[8] It is possible to compute the relative weight of each attribute in the ranking choice from the regression coefficients: the difference between the maximum and the minimum coefficients associated to the levels of each attribute, divided by the sum of the differences across all attributes can be interpreted as the relative weight of importance given to the attribute.

[9] All tests have been performed at the 95% confidence level. Results available on request.

demographic aspects, however, is performed following the "separate regressions approach".

### 3.4. Results: the separate regressions approach

In what follows, I take the "separate regressions" approach, and I repeat a basic regression for each of the respondents, and then analyse the evidence, by taking into account the demographic characteristics of the respondents.

**TABLE 3**
Demographic characteristics comparison across subgroups of tourists.

| CHARACTERISTIC | WHOLE SAMPLE | High Season | | Low Season | |
|---|---|---|---|---|---|
| | | Subsample "AWARE" | Subsample "COMFORT" | Subsample "AWARE" | Subsample "COMFORT" |
| Number (abs.) | 225 | 135 | 90 | 130 | 95 |
| | | | | | |
| Male | 59.56 | 59.26 | 60.00 | 59.23 | 60.00 |
| | | | | | |
| Aged 17-40 | 44.00 | 42.22 | 46.66 | 43.84 | 44.20 |
| Aged 41-60 | 45.33 | 48.15 | 41.11 | 47.69 | 42.10 |
| Older than 60 | 10.67 | 9.63 | 12.22 | 8.46 | 13.69 |
| | | | | | |
| Graduated | 49.33 | 45.93 | 54.44 | 50.00 | 48.42 |
| | | | | | |
| High income | 23.56 | 23.70 | 23.33 | 23.08 | 24.21 |
| | | | | | |
| Worker - Employee | 41.33 | 44.44 | 36.67 | 50.00 | 29.47 |
| Worker - Self-employed | 19.11 | 22.22 | 14.44 | 17.69 | 21.05 |
| Entrepreneur | 15.11 | 13.33 | 17.78 | 12.31 | 18.95 |
| | | | | | |
| Stay above 8 days | 32.00 | 34.07 | 26.66 | 30.00 | 34.73 |
| | | | | | |
| Vacation Holiday | 65.78 | 66.67 | 64.44 | 70.00 | 60.00 |
| | | | | | |
| From Sicily and South Italy | 24.89 | 17.04 | 36.66 | 21.54 | 29.92 |

*Note:* apart from the first row (Absolute Number), all figures are percentage values.

Table 3 provides the demographic characteristics of the subgroups giving greater importance to local attractions or to accommodation, which I call respectively, "aware tourists" and "comfort tourists", compared to the demographic characteristic of the whole sample.

First of all, it should be noted that 135 respondents (60%) give greater importance to local attractions, but a considerable number of respondents (90, equal to 40% of the sample) attach greater importance to accommodation, as far as the summer season holiday is concerned. The percentages are similar as concerns the low-season holiday: 130 (57.78%) give greater importance to local attractions while 95 (42.22%) attach more importance to accommodation.

The comparison between the sub-groups and the whole sample lets us conclude that the sub-sample of persons giving greater importance to the local attractions ("aware tourists") is characterised by:

- a similar composition as far as gender and income is concerned;
- middle-aged tourists are over-represented (especially for the summer holiday);
- graduates are under-represented (only for the summer-holiday evaluation);
- workers are over-represented while entrepreneurs are slightly under-represented;
- tourists coming from near areas are largely under-represented;
- tourists staying more than 8 days are slightly over-represented in the evaluation of the summer season and slightly under-represented in the evaluation for the low season;
- tourists interviewed during a holiday vacation are over-represented (largely for the evaluation of the low-season).

Some pieces of evidence mentioned above are worth commenting. Firstly, education does not seem to be a determining factor in the importance some people attach to local attractions; rather, it leads to a clear differentiation in the tourism demand: graduates give more importance to local attractions in the evaluation of low season tourism packages while they give higher weight to accommodation in the evaluation of summer holidays; in other words, people with a higher level of formal education appear to be more demanding as concerns local attractions in low season and more demanding as concerns accommodation for the summer holiday. Secondly, even if income does not appear as a relevant factor, jobs are: entrepreneurs are always over-represented among the "comfort-oriented" tourists, while employed workers are always over represented among the tourists more demanding for local attractions. Thirdly, the reason why people coming from near areas give more weight to the accommodation could be the following: provided that these tourists live nearby, in order to decide a holiday in this area (rather than an excursion) they evaluate with particular importance the accommodation.

The substantive conclusion is that the subsample of "aware" tourists is quite different from the subsample of "comfort" tourists.[10]

In order to understand the marginal contribution of each level of attribute to the ranking, we look at the sign of the coefficient in the regression. Table 4 provides the relevant evidence: it reports the number of cases (out of 225 interviewed persons) in which specific levels of attribute have positive (or negative) coefficients. In order to interpret correctly the result, it should be kept in mind that the levels of attributes are compared with the base combination, containing the level "sea and coast as the main attraction", and "1-3 star hotel": so, a positive (negative) coefficient for "food and wine as the main attraction" means that it is preferred (it is not preferred) to "sea and coast as the main attraction".

**TABLE 4**
Analysis of coefficients for each regressor (Separate regressions approach).

| | High Season | | Low Season | |
|---|---|---|---|---|
| | **Positive coefficient (Max coefficient)** | **Negative coefficient (min coefficient)** | **Positive coefficient (Max coefficient)** | **Negative coefficient (min coefficient)** |
| a) | | | | |
| Cultural and Natural Heritage | 111 [49.33%] (98 [43.55%]) | 114 [50.67%] (48 [21.33%]) | 203 [90.22%] (147 [65.33%]) | 22 [9.78%] (13 [5.78%]) |
| Food & wine | 96 [42.67%] (17 [7.56%]) | 129 [57.33%] (13 [5.78%]) | 206 [91.56%] (43 [19.11%]) | 19 [8.44%] (3 [1.33%]) |
| Performing arts and Entertain. | 17 [7.56%] (7 [3.11%]) | 208 [92.44%] (155 [68.89%]) | 137 [60.89%] (25 [11.11%]) | 88 [39.11%] (45[20.00%]) |
| All positive | 9 [4.00%] | | 127 [56.44%] | |
| All negative | | 103 [45.78%] | | 10 [4.44%] |
| b) | | | | |
| B&B and Agrit. | 189 [84.00%] (157 [69.78%]) | 36 [16.00%] (11 [4.89%]) | 211 [93.78%] (165 [73.33%]) | 14 [6.22%] (9 [4.00%]) |
| 4-5star hotel | 107 [47.56%] (49 [21.78%]) | 118 [52.44%] (113 [50.22%]) | 163 [72.44%] (49 [21.78%]) | 62 [27.56%] (42[18.67.%]) |
| Both positive | 101 [44.89%] | | 155 [68.89%] | |
| Both negative | | 19 [8.44%] | | 11 [4.89%] |

[10] This conclusion can be tested more formally, by performing a Chow break-point stability test in the unified regression: if we test the significance of a break-point when we pass from the "aware" to the "comfort" tourists, we lead to the conclusion that the break is statistically significant $\chi^2_{11} = 61.74$ ($p$ = 0.0000) and $\chi^2_{11} = 32.64$ (p = 0.0000) for the summer —and the low— season, respectively, evaluated for the OLS regression).

Let us start with the "local attractions" attribute.

As far as the summer season is concerned, heritage as the main attraction gives a positive contribution to the ordering of the holiday for 111 persons (for 98 out of these 111 cases it is the most favourable level of local attraction); food and wine gives a positive contribution in 96 cases (and it is the most favourable for 17 respondents) and finally the entertainment is more favourable than sea-coast for only 17 person (for 7 it is the most favourable). The same evaluation can be made in the case of a negative sign. Heritage and landscape resource as the main attraction is judged less favourable (as compared to sea-coast) by 114 person, and for 48 of them it presents the largest (negative) impact, and so on. It should be noted also that all three coefficients are negative, meaning that sea and coast is the most preferred factor as the main attraction, in 103 cases out of 225; on the other hand, in 9 cases, all the coefficients are positive, meaning that all these three factors contribute to a higher position in the ordering (which means that sea and coast as the main attraction has a negative impact upon the holiday package's ordering).

Apart from the technical details, some substantial evidence can emerge from the comparison between evaluations for summer- and low- season.

From Table 4 we can clearly see that the level of attraction which gives the largest positive contribution to the ordering of the tourism package is: sea-coast (for 103 persons for summer and for only 10 persons for low-season months), heritage (for 98 persons for the summer and for 147 for the off-season), food and wine (for 17 or 43, for summer and off-season respectively), entertainment (for 7 or 25 for summer and low-season). Notably, the base option sea and coast is the least preferred by only 9 people for the summer season holiday, as compared to the 127 for whom this option is the last in the low season. This piece of evidence suggests that choice criteria change across seasons.

This is not true for accommodation: even if its weights change across seasons, the preference on the levels are rather stable: the baseline offer (1-3 star hotel) is the most preferred option by only 19 persons for a summer holiday (or 11 for off-season), the largest positive contribution coming from B&B and agritourism structures for 157 persons for the summer holiday (165 for off-season); 4-5 star hotel is the most preferred option by 49 persons (for both the summer and low-season vacation).

## 4. DISCUSSION AND CONCLUSIONS

A sample of tourists visiting Ragusa, the South-Eastern province of Sicily, was asked to rank different packages of holiday in this area. Only two attributes of the packages ("accommodation facilities" and "the main local attraction") were proposed. Persons were asked to provide two answers (i.e., two lists of ranking): one for a summer-season holiday and one for a low-season holiday. In such a way I intended to evaluate whether and how the ranking criteria differ across seasons.

The emerging evidence is far from being obvious, and for some aspects it is very different from the available applied literature.

Of course, the fact that the importance of attributes can change across seasons is rather intuitive, though not widely documented by available literature.[11] The most recent reference I can provide —to the best of my knowledge— is Lundtorp *et al.* (1999) referred to the preference of tourists visiting Bornholm (Denmark): they base on descriptive statistics to document that holidaymakers in the off-season are more interested in cultural history and craft —or art— works as compared with holidaymakers in other seasons; they also find that holidaymakers in off-season are older and have a higher income. However, the interpretation of the results leads the authors to conclude that preferences of tourists are rather stable, and "nothing can be gained through targeted marketing" (Lundtorp *et al.*, 1999, p. 61).

As compared to my present results two differences are worth stressing (apart from the methodological approach): firstly, the sample of people interviewed by Lundtorp et al. change across seasons, and demographic differences emerge. In my present analysis, the revealed preferences of the *same* people change across the seasons for holiday. Secondly, Bornholm Island is very small and the tourism offer seems to be well-defined (focussed on nature and landscape). In the case of my present analysis, the South-Eastern Sicily can offer different products: seaside coasts, along with tangible and intangible cultural heritage.

A conclusion of my analysis is that the limited importance that typically emerged in available studies for "cultural heritage" as an attribute of a destination is no longer true if we consider culture in a broader way than the built heritage, including tangible and intangible heritage, performing arts, landscape, and so on. Moreover, the interest for such (tangible and intangible) attractions changes over the seasons, for the same group of interviewed people, at least in the case-study at hand. In other words, the same people search for different holidays for different seasons. From this point of view, rather than to differentiate summer tourism, cultural attractions seem to be more important in order to attract tourists in off-season periods. During the summer season, the interest of tourists for the cultural attractions of a destination —more generally, for the specific attributes of a destination apart from sea and coasts— is rather limited and they are mainly interested in other attributes. This feeling changes for the off-season holiday, and the awareness of holidaymakers increases. "Extending the season through tourism focussed on local endowments" seems to be an appropriate task for enhancing tourist attraction by reducing its seasonality, rather than "using heritage to differentiate and so promote summer tourism". However, further research should be necessary to understand whether our conclusions can be extended also to other destinations with different kinds of tourism.

[11] See also Calantone and Johar (1984) who provide an analysis based of different costs and benefits across seasons; Spotts and Mahoney (1993) compare fall- and summer- tourists visiting Michigan; Soo Choeng (2004) adopt a portfolio approach to suggest market segmentation strategies.

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