September 2019

Tourism taxes in Italy: A sustainable perspective

Lucia Rotaris
University of Trieste, lucia.rotaris@gmail.com

Marta Carrozzo
University of Trieste, martacarrozzo0407@gmail.com

Corresponding Author

Lucia Rotaris, DEAMS – Dipartimento di Scienze Economiche, Aziendali, Matematiche e Statistiche, Università di Trieste, Via Valerio 4/1 - 34127 Trieste (IT), Italy

Tourism Taxes in Italy: A Sustainable Perspective

Lucia Rotaris[1] and Marta Carrozzo[2]

Dipartimento di Scienze Economiche, Aziendali, Matematiche e Statistiche (DEAMS)
Univeristy of Trieste, Italy
[1]lucia.rotaris@gmail.com
[2]martacarrozzo0407@gmail.com

Abstract

In Italy, a tourism tax was introduced in 2011, since then it has been adopted in most of the Italian provincial capitals and tourist cities. This tax can mitigate the negative externalities caused by tourists; however, it should be carefully planned both in terms of the amount of money to be levied and in terms of the uses to be financed with the tax revenues, it could, otherwise, negatively impact the tourism sector, decreasing—rather than increasing— the social welfare. The aim of this paper is to assess the acceptability of such a tax and to examine how the tax should be designed to better meet tourists' preferences while improving tourism sustainability. To this aim, a Contingent Valuation experiment has been performed for two Apulian touristic towns: Otranto and Castro. The results demonstrate that the willingness to pay (WTP) for the tourism tax depends not only on the vacation and the tourist type but also on how the fiscal revenues are used. If no mention is made of the use of the tax revenues, the WTP can be as low as €0.85 per person per night, which is much lower than the tax actually levied. Instead, if the tax revenues are used to improve and to protect the environment, the WTP can be as high as €3.96. To the best of the authors' knowledge, this is the first research paper estimating the WTP in the Italian context based on tax revenue use.

Keywords: tourism sustainability, tourism tax, tourists' preferences, contingent valuation

Introduction

Tourism taxation is a policy used by national and local authorities with the aim of enhancing tourism sustainability, correcting for the negative externalities caused by tourism, and financing the provision of public services that are used not only by residents but also by tourists. There are many different types of taxes levied on tourists, including fees and charges required for entering the destination country, transport taxes (airport and harbor charges and fees, charges on travel tickets and public transport services, excise duties on fuel, highway tolls), and taxes and fees for visiting tourist attractions; however, the most widely applied is the accommodation tax, which is paid by non-residents who stay overnight at a tourist destination other than their hometown.

In Italy, a tourism tax was initially introduced in 1910, but it was limited to very few municipalities hosting weather stations, seaside resorts, and hydrotherapy facilities. It was then abolished in 1989 and reintroduced within the fiscal federalism reform in 2011. Since then, it has been adopted in 63 Italian provincial capitals (54% of the total) and in all the most visited Italian cities as listed by the Italian National Institute of Statistics (ISTAT, 2017). The increasing popularity of this type of policy among local administrators has been recently highlighted by the

controversial decision of levying, starting from May 2019, and an additional €10 tax from all the tourists visiting the city of Venice even if they do not stay overnight.

Despite its widespread popularity among Italian local administrators, the tax has been severely criticized by the owners of tourisms facilities and recreational activities due to its presumed negative impact on the demand side of the market. Therefore, the aim of this paper is to assess the tourists' acceptability of the accommodation tax and to discuss how the tax should be designed to better meet tourists' preferences while improving tourism sustainability. To this aim, a Contingent Valuation experiment has been conducted in two of the most popular tourist destinations of Apulia, a region in the southern part of Italy, Otranto, where the tax is currently levied, and Castro, where the tax is planned to be introduced but is not yet levied. To the best of the authors' knowledge, no study exists on this specific topic for the Italian context, and little research has been performed at the micro level in other geographical areas.

The paper is structured as follows. In Section 2, the theoretical framework, the rationale for the introduction of a tourism tax and the review of the literature on this topic are presented. In Section 3, the experimental approach is depicted via a brief description of the geographical context where the experiment has been carried out, a summary of the questionnaire used, the sampling strategy adopted, and a description of the sample selected. In Section 4, the empirical model is illustrated, while in Section 5, the main findings obtained are presented. Section 6 concludes with a discussion of the results obtained and with some final remarks regarding how this fiscal policy should be properly planned and designed to be both effective and efficient.

Tourism Tax: Theoretical Framework, Rationale, and Literature Review

Tourism is an important industrial sector in Italy equivalent to 10% of the national GDP, taking into account both the direct and the indirect effects, and 11.4% of national employment (Cassa Depositi Prestiti, 2016). It substantially contributes to the economy of many local communities; however, on the one hand, it requires financial resources for the maintenance and improvement of the existing facilities, to construct new ones, and to provide public services to be used by tourists. On the other hand, it can lead to a degradation of both the natural (Schubert, 2010; Sheng, Li, & Wang, 2017) and the built environment, particularly architectural heritage, whose damages caused by tourists so frequently appear in Italian headlines. Moreover, tourism produces congestion and pollution and generally induces an increase in the cost of living at the local level at the expense of the residents (Rinaldi, 2014).

The inefficiencies caused by the negative externalities produced by the tourism sector can be reduced by levying a tax. The effectiveness of this policy increases as the amount levied approximates the marginal social cost (MSC) caused by tourism (Figure 1). In an optimal scenario, the tax fully internalizes the negative social cost, reducing the number of visitors or the length of their stays at tourist destinations from T (the ex-ante equilibrium) to T' (the ex-post equilibrium); however, because price is one of the primary factors determining the selection of a destination by tourists (Tavares, 2011) and tourist demand is typically highly elastic, the introduction of a tourism tax can substantially affect the number and length of visits to a destination at the advantage of similar, less expensive locations (Collins & Stephenson, 2018; Quarto, 2013), and this effect can be particularly negative for economies that mainly rely on tourism (McAleer, Shareef, & da Veiga, 2005).

Moreover, a tourism tax could further reduce the demand if the fiscal revenues are not used according to the tourists' preferences or to support the location's attractiveness. Indeed, as long as there are competing destinations perceived by tourists as being good substitutes for the taxed ones, the tax could induce not only a movement along the demand function (from T to T') but also a downward shift of the demand (from D to D*), further decreasing the number of tourists from T' to T* (Figure 1). Both impacts, meaning the contraction of tourists caused by the shift from equilibrium T to T' and the possible further decrease caused by the shift from equilibrium T' to T*, are concerns of the firms belonging to the tourist sector that are in fact typically against the introduction of such a tax (Aguiló, Rieri, & Rosselló, 2005).
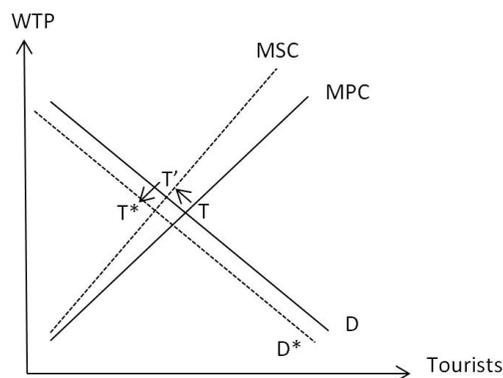

Figure 1. Impact of a tourism tax on the market equilibrium: scenario A.
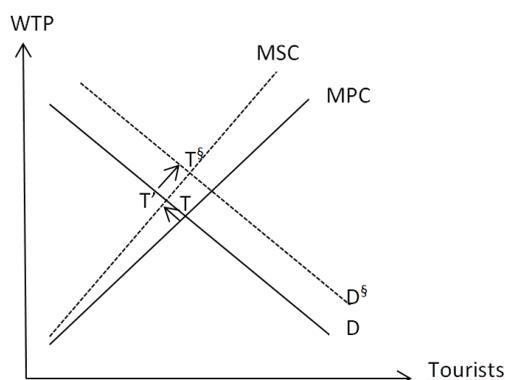

Figure 2. Impact of a tourism tax on the market equilibrium: scenario B.

Both the size and the sign of the net change of the number of tourists can be highly influenced not only by the amount of the tax levied but also by how the local administrators use the fiscal revenues. It could indeed be the case that when properly investing the resources collected via the tax, the demand actually shifts upward from D to D§ (Figure 2), leading to a new equilibrium (T§) characterized by a more efficient resource allocation because the external costs are completely internalized via the tax and by an even larger number of tourists than in the ex-ante scenario (without the tax).

Palmer and Riera (2003), Gooroochurn and Sinclair (2005), Sheng and Tsui (2009), La Scala (2013), and Quarto (2013) have demonstrated that a tourism tax can not only correct for the market failures caused by tourism but can also increase government tax revenues, which may be potentially used to develop tourism attractiveness and recreational activities. Moreover, the tax could be used to minimize the effects of seasonality by charging different tax rates during different periods and to encourage a longer average stay by reducing the tax according to the number of nights spent at a destination (Cetin, Alrawadieh, Dincer, Istanbullu Dincer, & Ioannides, 2017).

All these potential positive effects substantially depend on how the tax is designed, as Rinaldi (2011) pointed out, because to produce the desired positive impacts, it should be based on equity, efficiency, stability, simplicity, and cost effectiveness. Moreover, as explained by Chung, Kyle, Petrick, and Absher (2011), the perceived fairness of the amount levied seems to play a crucial role in the tourists' acceptability of the tax. Indeed, according to La Scala (2013) and Tavares (2011), to successfully increase the tourists' WTP for the tax, it is necessary to explicitly declare how the tax proceeds will be used and to clearly state its rationale. In fact, as demonstrated by Litvin, Crotts, Blackwell, and Styles (2006), Vjekoslav, Bejaković, and Anton (2012), and

Ponjan and Thirawat (2016), when tourists can check and appreciate how the tax revenues are used, they become less reluctant to pay the tax. In particular, Cetin *et al.* (2017) proved that tourists are more willing to pay for investments that might benefit their experiences, concluding that the tax revenues should be devoted especially for tourist infrastructures, tourist facilities, and tourist services and for activities aimed at increasing the locations' attractiveness.

According to Delise (2006), La Salandra (2009), and do Valle, Pintassilgo, Matias, and André (2012), special care should be devoted in particular when designing an environmental tourism tax. In this case, the tax should be aimed at discouraging mass tourism, inducing tourists to adopt environmentally respectful behaviors, and covering the abatement costs of the environmental pollution caused by tourists while driving the market toward the social optimum equilibrium between tourism activities and environmental preservation; however, as underlined by Dodds, Garci, and Holmes (2010), López-Sánchez and Pulido-Fernández (2016, 2017), and Pulido-Fernández and López-Sánchez (2016), the difficulty in designing such a tax is that tourists do not consider or value environmental sustainability in the same way, therefore segment-specific preferences and sensitiveness analyses should be carried out to properly design and introduce an *eco-tourism* tax.

To the best of the authors' knowledge, no research has been carried out in Italy to determine the acceptability of a tourism tax and to analyze tourists' preferences with respect to both the tax amount and the tax revenue use. The aim of this paper is to fill this gap in the literature.

Experimental Approach

Since no study exists on the acceptability of a tourism tax in Italy or on how tax revenues should be used according to tourists' preferences, a stated preference experiment was performed involving 304 individuals spending their holidays in Otranto and Castro, two towns located in Apulia (a region in southeastern Italy). The experiment was carried out in August 2018 and is based on a Contingent Valuation exercise that was administered to a sample of Italian tourists via face-to-face interviews. Carson, Flore, and Meade (2001) stated that the Contingent Valuation is one of the most widely used non-market valuation techniques due to its flexibility and ability to estimate the total economic value of non-market resources. Many guidelines that aim to carefully describe how to properly design and implement it have been developed over time (starting from the NOAA panel report by Arrow et al. 1993, to more recent reviews authored by Venkatachalam, 2004, and Johnston et al. 2017), in effect solving most of its alleged shortcomings. An alternative approach is based on Choice Experiments, which ask participants to choose among different bundles of private and public goods, butt is preferable to the Contingent Valuation as long as the goods to be considered are many, which is not the case in this experiment. The focus of our experiment was only on Italian tourists because as proven by Biagi, Brandano, and Pulina (2017), international tourism inflows are less influenced by tourism taxes and because Italian tourists represent the large majority (79%) of tourists spending their holidays in Apulia. The interviews were conducted at the main crossing points of both towns, such as the historic center, the main squares, and the areas surrounding the local monuments and cultural heritage, and in places that host recreational activities, such as beaches, promenades, and parks. The interviews were conducted both during the day and in the evenings to enhance the representativeness of the sample. The interviewees were selected at random on the basis of a counting design. Half of the sample (152 people) was interviewed in Otranto and the other half (152 people) in Castro.

Otranto and Castro are two Apulian towns that are close to the city of Lecce. Apulia is the most visited southern Italian region. It is endowed with more than 7,000 accommodation facilities and 280,000 beds, and in 2018, it hosted more than 15 million tourists. Italian tourists from other Apulian towns (mainly Bari, the regional capital) and from Lombardy, Campania, Lazio, and Emilia-Romagna represent 70% of the domestic inflows. These two towns were selected because Otranto is the third most popular and visited town in the region and because while the municipality of Castro, which is very close to Otranto, is planning to introduce tourism tax but has not done so yet, the municipality of Otranto already introduced it in 2011. Indeed, the aim was to determine if tourists' preferences significantly differ whether they are actually paying the tax or not. In Otranto during the high tourist season (July and August), the tax ranged from €1.50 in accommodation facilities other than hotels (farmhouses, guesthouses, holiday apartments) to €3.00 in five-star hotels. During the low season (April, May, June, and September), it ranged from a minimum of €1.00 to a maximum of €2.00.

Questionnaire and Data Collection

The interview was structured into three sections. The aim of the first section was to collect information on tourists' habits and behavioral attitudes. The tourists interviewed were asked to state whether they habitually spend their holidays in the town where the interview was performed (either Otranto or Castro), how long they were planning to stay for their vacation, the transport mode used to reach their tourist destination, the number of people travelling with them (family or friends), and the type of accommodation or facility chosen: resort, hotel, B&B, camping, or apartment.

During the second section of the interview, the respondents were asked to state their maximum WTP for a per night tourist tax. Two payment cards were used to collect the answers. One card comprised seven values ranging between €0 and €5-and-higher and was proposed to the tourists staying at a resort or a three or more star hotel. A different payment card with seven values ranging between €0 and €2.50-and-higher was proposed to the tourists staying at any other type of accommodation. The values chosen for the payment cards are based on the average tax amounts currently levied in Italy by facility type. Each tourist was asked to state the WTP five times. The first time, no mention was made of the use of the tax revenues. The second time, the person interviewed was told that the tax revenues would be used to finance the following cultural events: exhibitions, concerts, acting performances, festivals, and fairs. The third time, she/he was told that the tax revenues would be used for the maintenance of monuments and historical-architectural heritage. The fourth time, it was stated that the tax revenues would be used to protect some local environmental resources, more specifically, the marine area of Otranto-Leuca, the Oaks Park, the Zinzulusa's cave, and the Romanelli's cave. The fifth time, the person interviewed was told that the tax revenues would be aimed at providing the following tourism services: free guided tours, more frequent public transport services, and discounts for transport services, museums, exhibitions, and parks. The questions used during this section of the interview are reported in the Appendix.

In the third and final section of the interview, information related to the sociodemographic characteristics of the tourists interviewed was collected: gender, age, educational level, occupational status, and municipality of residence.

Sample

The sample was equally composed of males (52%) and females (48%) with no statistically significant differences between the samples interviewed in the two towns. Most of the sample (66%) was between 31 and 65 years old, a small percentage (4%) was older than 65, and 30% was younger than 31. The sample is representative of the Italian tourists visiting Apulia both by residence and by age. The sample interviewed in Otranto was composed of a higher percentage of younger people (32%) if compared with the sample interviewed in Castro (27%). Most of the tourists interviewed (42%) had a high school diploma, 14% had a bachelor's degree, and 24% a master's degree. The sample included mainly employed (47%) and self-employed (30%) tourists. The tourists interviewed generally traveled in groups of two (35%), three (17%), or four (20%) people. Families spending their holidays with their children (up to 18 years old) represented 36% of the sample. Only a small percentage of the sample (16%) spent the holidays in a more than three-star hotel or in a resort, while the majority (60%) rented an apartment or stayed at a B&B. Traveling by car was the preferred transport mode (72%), followed by trains (16%) and airplanes (8%). The table summarizing the sociodemographic characteristics of the sample is reported in the Appendix.

Empirical Model

To analyze the relationship between the stated WTP and the characteristics of the tourists, their vacation types, and the hypothetical uses of the tourism tax, a Tobit model was used. This model, which is also known as censored regression model, is able estimate a linear relationship between variables when there is left-, right-, or left and right-censoring in the dependent variable. In this case study, the dependent variable is the stated WTP, which could either be zero or any of the six discrete positive values proposed during the interview. In this model Y, the dependent variable is a censored version of another dependent variable, Y*, which cannot be observed directly. Y* is supposed to linearly depend on some independent variables X_s by their respective parameters β_s and u, which is a normally distributed error term that captures the random influences on this relationship. Y is defined as a ramp function because it equals Y* when Y* > 0 and zero otherwise.

$$Y = \begin{cases} Y^* & \text{if } Y^* > 0 \\ 0 & \text{if } Y^* \leq 0 \end{cases} \qquad \text{where } Y^* = \beta X + u \quad \text{and} \quad u \sim N(0, \sigma^2) \qquad (1)$$

The β_s coefficients represent the relationship between a change in the X_s (in this experiment, the characteristics of the tourists, of their vacations, and the proposed uses of the fiscal revenues) and the level of the stated WTP (Verbeek, 2008).

The Tobit model presented in Table 1 has been estimated on the basis of 1,520 observations, that is five stated WTP values for each of the 304 individuals (one value for each of the four purposes proposed for the tax revenues plus one referring to the scenario in which the purpose was not specified). The estimates are robust at the individual level because the model has been specified in order to take into account the repeated observations collected from each individual. The goodness of fit of the model is quite satisfactory indeed both the McKelvey and Zavoina's R^2 and the Aldrich and Nelson's R^2 are remarkably high (the reader is referred to Veall and Zimmermann, 1996, for a description of the indexes of fit).

Table 1. Tobit Model

Item	βs coefficients	Standard Error	P-value
Constant	0.45***	0.15	0.00
Use of the tax revenue *(dummies, base case undefined use of tax revenues)*			
Cultural events	0.49***	0.09	0.00
Cultural heritage	0.76***	0.09	0.00
Environment	0.95***	0.09	0.00
Tourism services	0.69***	0.09	0.00
Tourists staying in Otranto *(dummy)*	-0.13**	0.05	0.02
Vacation duration *(dummy equal to 1 if shorter than 5 days)*	0.29***	0.09	0.00
Small family *(dummy, base case: number of children smaller than 3)*	0.47***	0.12	0.00
Preferred transport mode *(dummies, base case: all other transport modes)*			
Car	0.23***	0.08	0.00
Airplane	0.43***	0.12	0.00
High quality hotel (dummy, *base case: all other type of facilities*)	0.92***	0.08	0.00
Resort (dummy, *base case: all other type of facilities*)	1.10***	0.22	0.00
Education degree (dummy *equal to 1 if bachelor or master degree*)	0.12***	0.06	0.00
Respondents belonging to the same family *(dummy)*	0.14**	0.06	0.02
Sigma	1.07***	0.02	0.00
Loglikelihood restricted	-2399.670		
Loglikelihood unrestricted	-2241.962		
McKelvey and Zavoina R²	0.41		
Aldrich and Nelson R²	0.26		

Note: ***, **, * significance at 1%, 5%, 10% level

All the dummies identifying the different proposed uses of the tax revenues are statistically significant and positive, meaning that the WTP of the sample is clearly influenced by how the local administrators intend and declare to use the taxes collected. The results demonstrate that any of the uses proposed is preferable to a situation in which no mention is made regarding how the tax is used and why it is levied, which is in line with the evidence reported by Litvin et al. (2006), Tavares (2011), Vjekoslav et al. (2012), La Scala (2013), Ponjan and Thirawat (2016), and Cetin et al. (2017). Among the four possible uses proposed, the preferred one is environmental protection (Environment in Table 1), which is in line with the evidence reported by Taylor, Fredotovic, Povh, and Markandya (2005) and Dodds et al. (2010), followed by maintenance of the local cultural and architectural heritage (Cultural heritage in Table 1), improvements of tourist services (Tourism services in Table 1), and provision of cultural events (Cultural events in Table 1), which is similar to the outcome of the study carried out by Litvin et al. (2006). The results differ from those of do Valle et al. (2012), López-Sánchez and Pulido-Fernández (2016 and 2017), and Pulido-Fernández and López-Sánchez (2016), however, because in their case studies, the large majority of the people interviewed were not willing to pay for a tourism tax, and almost 20% of the respondents were willing to pay only if the tax was used for environmental protection. The results also differ from the evidence reported by Cetin et al. (2017) because according to the sample's preferences, financing the provision of services exclusively designed for tourists was not the most preferred use of the tax.

Tourists spending their holidays in Otranto (*Tourists staying in Otranto* in Table 1) had a statistically significant lower WTP than those staying in Castro, although the difference was not very large. This parameter might have captured the so-called *hypothetical bias* effect. In fact, while in Otranto, the tourism tax has already been implemented since 2011, and tourists have personally experienced the burden of the tax, in Castro, it has not been levied yet, and respondents might not have been fully aware of the additional cost implied by its adoption. An additional explanation of the lower sensitivity to a price increase in Castro could be that in this town, the cultural segment of the demand, which is typically characterized by lower price elasticity, is slightly larger than in Otranto.

The duration of the vacation (*Vacation duration* in Table 1) is also an important factor influencing tourists' WTP. In fact, the shorter the vacation, the smaller the total amount of the tax to be paid, and the more the tourists were willing to pay for it. The results are in line with the evidence reported by Taylor et al. (2005).

Similarly, the smaller the family traveling together (*Small family* in Table 1), the higher the WTP. Both results should be taken into account by local administrators when designing tax discounts either for longer vacations or for larger family or tourist groups.

Traveling by car and airplane (*Car* and *Airplane*, respectively, in Table 1) rather than by train or coach was significantly correlated with a higher WTP, most likely due to the higher disposable income of tourists who can use private transport modes or air transport to reach their vacation destinations.

Similarly, tourists staying in more-than-three stars hotels or in resorts (*High quality hotel* and *Resort*, respectively, in Table 1) are more willing to pay the tax, most likely due to their higher disposable income. This result, which is in line with the findings of López-Sánchez and Pulido-Fernández (2016 and 2017), suggests that it is indeed preferable to module the tax level according to the tourist facility type, as is already done in most Italian tourist cities, including Otranto.

It was also found that the higher the education degree (*Education degree* in Table 1), the higher the WTP, which is in line with the our expectations and with the results found by Dodds et al. (2010) and by López-Sánchez and Pulido-Fernández (2016 and 2017). Finally, a significant although not particularly high *imitative effect* was detected because individuals belonging to the same family and participating in the experiment had a higher WTP everything else being equal. This result is somewhat in line with the evidence reported by Nieto-García, Muñoz-Gallego, and González-Benito (2017) with respect to tourists' WTP for an accommodation and to how their preferences are influenced by the effect of *external information*.

Findings

On the basis of the results obtained, it was possible to estimate how much the sample would be willing to pay according to the use of the tax revenues and to the location of the vacation (Table 2).

Table 2. Estimated and Stated Average WTP by Tax Revenue Use and Location

Item	All			No protest bidders		
	Estimated (€)	Stated (€)	N. obs.	Estimated (€)	Stated (€)	N. obs.
Tax revenue use						
No earmarking	1.3	1.2	304	1.3	1.5	253
Cultural events	1.8	1.6	304	1.8	1.8	282
Cultural heritage	2.1	1.9	304	2.1	2.0	284
Environment	2.2	2.1	304	2.2	2.1	292
Tourism services	1.9	1.8	304	1.9	1.9	287
Location						
Otranto	1.8	1.6	760	1.8	1.8	699
Castro	1.9	1.8	760	1.9	2.0	700

The estimated WTP is equal to €1.3 if no mention is made of the use of the tax, it increases to €1.8 and €1.9 if the revenues are used for cultural events and for tourism services, respectively, and to €2.1 and €2.2 if the revenues are used for cultural heritage maintenance and for

environmental protection, respectively. The comparison of the estimated and the stated values reported in Table 2 further highlights the high goodness of fit of the econometric model estimated. Minor differences occur when comparing the values referring to all the respondents with the values obtained excluding the few protest bidders. It is also worth noting that the WTP referring to Otranto, where the tax is currently levied, is slightly lower than the WTP referring to Castro, where the tax was not levied at the time of the survey.

Scenario analyses by vacation type and by tourist segment were also performed. For comparative purposes, two extreme cases have been analyzed:

- Vacation type A: lasting more than four days spent in medium- to low-quality facilities by tourists traveling by train or coach;
- Vacation type B: lasting less than five days spent in a resort by tourists traveling by airplane.

According to the tax revenue use, in the first case (Vacation type A), the WTP ranges between €0.85 and €1.36 in Otranto and €0.88 and €1.47 in Castro, while in the second case (Vacation type B), the WTP ranges between €2.15 and €3.09 in Otranto and €2.28 and €3.22 in Castro (Figure 3). These results confirm the usefulness of levying differentiated tax values according to the quality of the accommodation facility and to the length of the vacation.

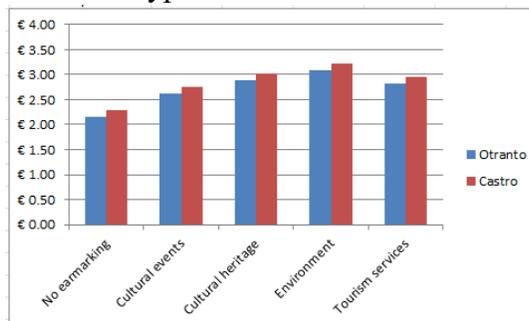Vacation Type A
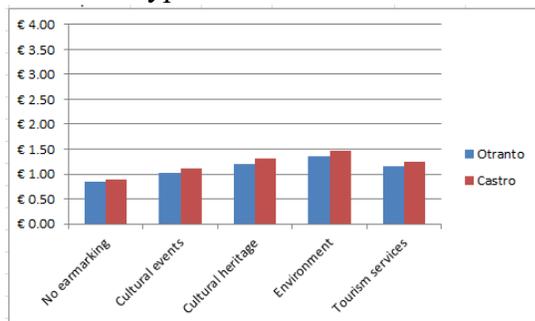
Vacation Type B

Figure 3. Estimated WTP by holyday type, tax revenue use and location.

Similarly, it is possible to estimate how the WTP changes according to the tourist type. In Figure 4, two very different tourist profiles are depicted:

- Tourist type A: traveling with her/his large family (more than two children) and having a medium or low education level (no bachelor's or master's degree);
- Tourist type B: traveling alone or with her/his small family (less than three children) and having a high education level (bachelor's or master's degree).

According to the tax revenue use, for tourist type A, the WTP ranges between €1.52 and €2.43 in Otranto and between €1.63 and €2.55 in Castro, while for tourist type B, the WTP ranges between €2.21 and €3.15 in Otranto and €2.34 and €3.28 in Castro. The differences based on the tourist profiles are not as marked as those based on the holiday type; however, they confirm the appropriateness of charging different tax values according to the type of tourists served, as already proven by do Valle et al. (2012).
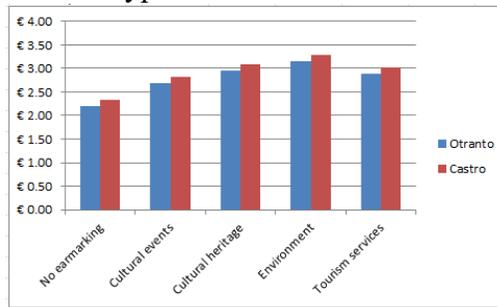
Tourist Type A
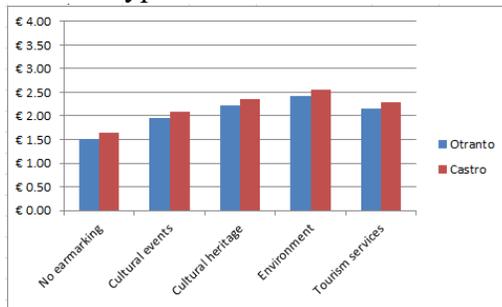
Tourist Type B

Figure 4. Estimated WTP by tourist type, tax revenue use and location.

It was also possible to perform a scenario analysis by market segment, simultaneously taking into account both the holiday type and the tourist profile. For this purpose, the prevalent market segments currently characterizing the tourism demand in Otranto and Castro were identified:

- Segment A: small family, with parents with a high education degree, spending a long holiday, staying at a high-quality hotel, and traveling by car;
- Segment B: large family, with parents with a low or medium education degree, spending a long holiday, staying at a low- or medium-quality hotel, and traveling by car;
- Segment C: couple, both with a high education degree, spending a short holiday, staying at a resort, and traveling by airplane;
- Segment D: single, with a low or medium education degree, spending a short holiday, staying at a low- or medium-quality hotel, and traveling by train or coach.
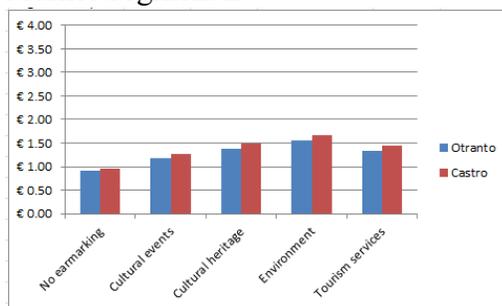
Market Segment A
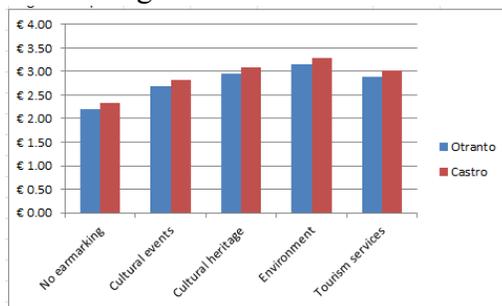
Market Segment C
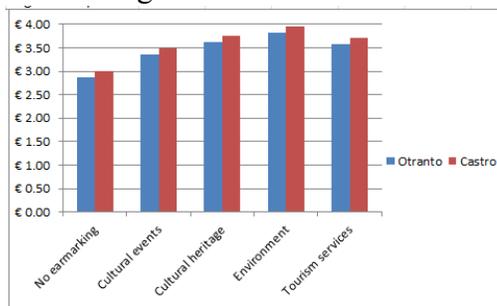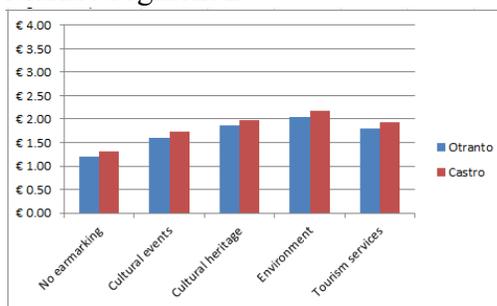
Market Segment B

Market Segment D

Figure 5. Estimated WTP by market segment, tax revenue use and location.

Currently, 37% of the tourists visiting Apulia are represented by segment A and B, while 40% are represented by segment C.

The WTP varies substantially according to the market segment analyzed (Figure 5). The lowest values, ranging between €0.91 in Otranto and €1.67 in Castro, were found for market segment B, while the highest ones, ranging between €2.87 in Otranto and €3.96 in Castro, were found for market segment C. These results further prove the importance of accurately analyzing the tourists' preferences before introducing a tourist tax because the WTP can vary by 300% according to the market segments taken into account. Using a flat tax or mismatching the tax differentiation with respect to the market segments served could indeed substantially negatively impact the demand (that is the number of tourists or/and their vacation length).

Discussion and Conclusions

Conclusions

Since 2011, tourism taxes have been largely used in Italy as a means to collect fiscal resources aimed at supporting tourist services and at internalizing the negative social costs caused by tourists. They are currently levied in more than 50% of Italian provincial capitals and in all the most important touristic Italian cities. The value of the tax can be as low as €0.40 in minor destinations but also as high as €7.00 in the most popular and most visited cities (up to €10 in Venice beginning in May 2019). The value charged changes according to many factors: the location, the accommodation type, the certified quality (number of stars) of the facility, the length of the vacation, the size of the party or of the family traveling together, the tourists' ages, and the tourist season (high vs. low). The widespread use of the accommodation tax in Italy proves its general acceptability, contrary to the opinion of many tourism facility managers who frequently complain about the negative impact that this fiscal policy could have on the number of tourists and on the length of their stays. The experiment confirms this evidence both with respect to Otranto, where the tax has been levied since 2011, and with respect to Castro, where the local administrators are planning to introduce it soon; however, the econometric results obtained demonstrate that the WTP for the tourism tax depends not only on the vacation and the tourist type but also on how the fiscal revenues are used. If no mention is made of the use of the tax revenues, the WTP can be as low as €0.85 per person per night, which is much lower than the tax actually levied not only in Otranto but also in most Italian tourist towns. If the tax revenues are used to improve and to protect the environment, the WTP can be as high as €3.96.

Theoretical Implications

Theoretically, the tax should be levied with the aim of enhancing economic efficiency via the internalization of the net social costs caused by tourism at the local level; however, this outcome is strictly dependent on the ability to estimate the net social cost of tourism and to design a tax that is in line with the preferences of the tourists served. If this information is missing and the tax is too high, not adequately differentiated, or not properly used to mitigate the negative externalities caused by tourism, it could actually reduce rather than enhance the social welfare. Unfortunately, in Italy, the common practice is to levy the tax without a clear understanding of the net social cost of tourism, of the tourists' preferences, or of the possible uses of the fiscal revenues. There are currently several Italian tourist towns that have already begun collecting the tax some years ago but that are still discussing how to use the fiscal revenues obtained or that have never revealed the actual use of the tax revenues. In these cases, if the tax is socially efficient, it is only by chance, and there is a high probability of negatively influencing the tourism sector, which increases as the planning process continues to be vague if not completely absent.

Practical Implications

There are several practical implications that can be drawn based on the results obtained. First, local administrators should either decrease the tax values currently levied or should better inform the tourists regarding how the tax revenues are used, otherwise, in the medium to long-term, the demand might begin to decrease. Second, the tax revenues should be preferably used to protect the environment because this use increases its acceptability. Third, the current practice of differentiating the tax according to the location and the market segment is consistent with heterogeneity of the tourists' preferences; however, it should be preceded by a much more accurate planning of how the tax revenues should be used. Moreover, a proper design of the tax should take into account not only the preferences of the tourists but also the preferences of the facilities' managers, who are seldom interviewed before and/or after a tax introduction. Finally, preferably ex-ante but at least after the introduction of the tax, a much more transparent disclosure of how the tax revenues will actually be used should be carried out and publicized.

Limitations and Future Research

The major limitation of this research is the admittedly small sample size, comprising only 304 people. For this reason, caution should be used when extending the results obtained in terms of WTP to other Italian tourist towns. Moreover, the experiment focused only on the domestic inflows, while it should be extended to the international inflows as well. Finally, the analyses should also include the preferences of the facilities' managers, whose opinions are scarcely analyzed but whose active role in the successful implementation of the policy is crucial. Nevertheless, the results obtained could be useful as a starting point for future experiments because, to the best of the authors' knowledge, no other study has been carried out on this topic in Italy. In the near future, the authors will extend the research to other Italian tourist towns to determine whether and how the WTP changes according to the tourist vocation of the location analyzed and (natural – beach, sun, mountain – vs. cultural – museums and heritage centers). Foreign tourists will also be interviewed with the aim of testing whether there is a significant difference between the WTP of Italian and foreign tourists.

References

Aguiló, E., Rieri, A., & Rosselló, J. (2005). The short-term price effect of a tourist tax through a dynamic demand model: The case of the Balearic Island. *Tourism Management*, *26*(3), 359-365.

Arrow, K., Solow, R., Portney, P. R., Leamer, E. E., Radner, R., & Schuman, H. (1993). Report of the NOAA panel on contingent valuation. *Federal Register*, *58*(10), 4601-4614.

Biagi, B., Brandano, M. G., & Pulina, M. (2017). Tourism taxation: A synthetic control method for policy evaluation. *International Journal of Tourism Research*, *19*(5), 505-514.

Cassa Depositi Prestiti (2016). L'industria del turismo [The tourism sector]. *Studio di Settore 07*. Retrieved from https://www.cdp.it

Carson, R. T., Flores, N. E., & Meade, N. F. (2001). Contingent valuation: Controversies and evidence. *Environmental and Resource Economics*, *19*(2), 173-210.

Cetin, G., Alrawadieh, Z., Dincer, M. Z., Dincer, F. I., & Ioannides, D. (2017). Willingness to pay for tourist tax in destinations: Empirical evidence from Istanbul. *Economies*, *5*(21), 1-15.

Chung, J. Y., Kyle, G. T., Petrick, J. F., & Absher, J. D. (2011). Fairness of prices, user fee policy and willingness to pay among visitors to a national forest. *Tourism Management*, *32*(5), 1038-1046.

Collins, C. G., & Stephenson, E. F. (2018). Taxing the travelers: A note on hotel tax incidence. *Journal of Regional Analysis and Policy*, *48*, 7-11.

Delise, E. (2006). Impatti ambientali negativi del turismo: Eco-tassa, una soluzione? [Negative environmental impacts of tourism: Environmental tax, the solution?]. *Annali Italiani del Turismo Internazionale*, *1*, 31-52.

do Valle, P. O., Pintassilgo, P., Matias, A., & André, F. (2012). Tourist attitudes towards an accommodation tax earmarked for environmental protection: A survey in the Algarve. *Tourism Management*, *33*(6), 1408-1416.

Dodds, R., Graci, S. R., & Holmes, M. (2010). Does the tourist care? A comparison of tourists in Koh Phi Phi, Thailand and Gili Trawangan, Indonesia. *Journal of Sustainable Tourism*, *18*(2), 207-222.

Gooroochurn, N., & Sinclair, M. T. (2005). Economics of tourism taxation: Evidence from Mauritius. *Annals of Tourism Research*, 32(2), 478-498.

ISTAT. (2017). *Movimento turistico in Italia Anno 2016* [*Tourism outlook Italy 2016*]. Retrieved from https://www.istat.it

Johnston, R. J., Boyle, K. J., Adamowicz, W., Bennett, J., Brouwer, R., Cameron, T. A., & Tourangeau, R. (2017). Contemporary guidance for stated preference studies. *Journal of the Association of Environmental and Resource Economists*, *4*(2), 319-405.

La Salandra, A. A. (2009). Affrontare i costi del turismo: Alcune soluzioni in rassegna [Tackling the costs of tourism: Review of possible solutions]. *Le pagine di Risposte Turismo*, *4*, 1-25.

La Scala, A. E. (2013). Elementi ricostruttivi della "imposizione sul turismo": Opportunità e limiti nel contesto del cd. Federalismo fiscal [Review of the "tourism tax": Pros and cons within the fiscal federalism], In Ficari, V. & Scanu, G. (Eds.), *"Tourism taxation": Sostenibilità ambientale e turismo fra fiscalità locale e competitività ["Tourism taxation": Environmental sustainability and tourism between fiscal federalism and competitiveness]* (pp. 1-28), Torino, Italy: Giappichelli.

Litvin, S. W., Crotts, J. C., Blackwell, C., & Styles, A. K. (2006). Expenditures of accommodations tax revenue: A South Carolina study. *Journal of Travel Research*, *45*(2), 150-157.

López-Sánchez, Y., & Pulido-Fernández, J. I. (2016). In search of the pro-sustainable tourist: A segmentation based on the tourist "sustainable intelligence". *Tourism Management Perspectives*, *17*, 59-71.

Lopez-Sanchez, Y., & Pulido-Fernández, J. I. (2017). Factors influencing the willingness to pay for sustainable tourism: A case of mass tourism destinations. *International Journal of Sustainable Development and World Ecology*, *24*(3), 262-275.

McAleer, M., Shareef, R., & da Veiga, B. (2005). *Risk management of daily tourist tax revenues for the Maldives*. Retrieved from https://www.feem.it/en/publications/feem-working-papers-note-di-lavoro-series/risk-management-of-daily-tourist-tax-revenues-for-the-maldives/

Nieto-García, M., Muñoz-Gallego, P. A., & González-Benito, Ó. (2017). Tourists' willingness to pay for an accommodation: The effect of eWOM and internal reference price. *International Journal of Hospitality Management*, *62*, 67-77.

Palmer, T., & Riera, A. (2003). Tourism and environmental taxes: With special reference to the Balearic ecotax. *Tourism Management*, *24*(6), 665–674.

Ponjan, P., & Thirawat, N. (2016). Impacts of Thailand's tourism tax cut: A CGE analysis. *Annals of Tourism Research*, *61*, 45-62.

Pulido-Fernández, J. I., & López-Sánchez, Y. (2016). Are tourists really willing to pay more for sustainable destinations? *Sustainability*, *8*(12), 1-20.

Quarto, A. (2013). La politica fiscale nel settore turistico: Un confronto internazionale [Fiscal policy in the tourism sector: An international comparison] *Rivista di Scienze del Turismo*, *1-2*, 27-52.

Rinaldi, A. (2011). Le tasse sul turismo: Quali tipologie scegliere? [Tourism taxes: Which type should to be chosen?]. *Rivista di Scienze del Turismo*, *3*, 97-104.

Rinaldi, A. (2014). Externalities and tourist tax: Evidence from Italy. *Rivista di Scienze del Turismo-Ambiente Cultura Diritto Economia*, *3*(2), 79-91.

Schubert, S. F. (2010). Coping with externalities in tourism: A dynamic optimal taxation approach. *Tourism Economics*, *16*(2), 321-343.

Sheng, L., & Tsui, Y. (2009). Taxing tourism: Enhancing or reducing welfare? *Journal of Sustainable Tourism*, *17*(5), 627-635.

Sheng, L., Li, T., & Wang, J. (2017). Tourism and externalities in an urban context: Theoretical model and empirical evidence. *Cities*, *70*, 40-45.

Taylor, T., Fredotovic, M., Povh, D., & Markandya, A. (2005). Sustainable tourism and economic instruments: International experience and the case of Hvar, Croatia. In A. Lanza, A. Markandya, & F. Pigliaru (Eds.), *The Economics of Tourism and Sustainable Development* (pp. 197-224). Cheltenham, England: Edward Elgar.

Tavares, K. (2011). *Trends in taxation on tourism services & products*. Retrieved from http://atrium.lib.uoguelph.ca/xmlui/handle/10214/2578.

Veall, M. R., & Zimmermann, K. F. (1996). Pseudo-R^2 measures for some common limited dependent variable models. *Journal of Economic surveys*, *10*(3), 241-259.

Venkatachalam, L. (2004). The contingent valuation method: A review. *Environmental Impact Assessment Review*, *24*(1), 89-124.

Verbeek, M. (2008). *A guide to modern econometrics*. Chichester, England: John Wiley & Sons.

Vjekoslav, B., Bejaković, P. & Devčić, A. (2012). Tax system as a factor of tourism competitiveness: The case of Croatia. *Procedia - Social and Behavioral Sciences*, *44*, 250-257.

Appendix

Table 3: Sociodemographic Characteristics of Sample

Sociodemographic Characteristics	Sample's Description
Gender	Male: 52%; Female: 48%
Age group	Age 18–30: 30%; Age 31 – 65: 66%; Age older than 65: 4%
Education	Middle school: 20%; High school: 42%; Bachelor or Master: 38%
Occupational status	Employee: 47%; Self-employed: 30%; Student: 10%; Retired: 6%; Housewife:5%; Unemployed: 2%
N. people travelling together	1: 7%; 2: 35%; 3: 17%; 4: 20%; more than 4: 21%
Accommodation type	Apartment or B&B: 60%; Hotel < 3 stars: 24%; Hotel >= 3 stars: 16%
Transport mode	Car: 72%; Train: 16%; Airplane: 8%; Other: 4%

Questions Used to Collect Data on Tourists' Willingness to Pay in Otranto

1-What would be your maximum willingness to pay for a tourism tax per person per night in Otranto?
- Values proposed to tourists staying in a three-or-more-stars hotel: €0; €1; €2; €3; €4; €5; more than €5
- Values proposed to tourists staying in other facility types: €0; €0.5; €1; €1.5; €2; €2.5; more than €2.5

2-What would be your maximum willingness to pay if the tax revenues were spent to finance exhibitions, concerts, acting performances, festivals, and fairs?
- Values proposed to tourists staying in a three-or-more-stars hotel: €0; €1; €2; €3; €4; €5; more than €5
- Values proposed to tourists staying in other facility types: €0; €0.5; €1; €1.5; €2; €2.5; more than €2.5

3-What would be your maximum willingness to pay if the tax revenues were spent for the maintenance of monuments and the historical-architectural heritage?
- Values proposed to tourists staying in a three-or-more-stars hotel: €0; €1; €2; €3; €4; €5; more than €5
- Values proposed to tourists staying in other facility types: €0; €0.5; €1; €1.5; €2; €2.5; more than €2.5

4-What would be your maximum willingness to pay if the tax revenues were spent to protect the environment, more specifically: the marine area of Otranto-Leuca, the Oaks Park, the Zinzulusa's cave and the Romanelli's cave?
- Values proposed to tourists staying in a three-or-more-stars hotel: €0; €1; €2; €3; €4; €5; more than €5
- Values proposed to tourists staying in other facility types: €0; €0.5; €1; €1.5; €2; €2.5; more than €2.5

5-What would be your maximum willingness to pay if the tax revenues were spent to provide the following services for tourists: free guided tours, more frequent public transport services, discounts for transport services, for museums, for exhibitions and for parks entrance tickets?
- Values proposed to tourists staying in a three-or-more-stars hotel: €0; €1; €2; €3; €4; €5; more than €5
- Values proposed to tourists staying in other facility types: €0; €0.5; €1; €1.5; €2; €2.5; more than €2.5