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ANALYSIS OF BRITISH TRAVELERS' TOURISM EXPENDITURE

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Abstract

The aim of this paper is to analyse factors that affect expenditure patterns of British travellers. It is the first study which focuses solely on this market. Using an original questionnaire, data are collected and a sample of 1,178 is retained. To obtain robust estimates the data are analysed using quantile regression technique. The study shows that income length of stay, employment status and type of accommodation used are important factors affecting per diem expenditure. The study contributes to the literature by investigating an additional dimension of demand determinant by studying the effect of variables related to the home country. Transfer cost in the UK is found to be significant in determining total tourism expenditure abroad.

Keywords

Tourism Expenditure, Microeconomic Analysis, Quantile Regression; Home-Related Variables, British Travelers.

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1. INTRODUCTION

That tourism expenditure brings benefits to the destination is unquestionable and the relationship between tourism expenditure and economic growth and development has been the subject of a wide body of literature. Not only are several destinations heavily dependent on tourism expenditure as a source of economic growth, employment generation and tax revenue but they are increasingly seeking 'good tourism' - high yield tourism with low associated economic, social and environmental costs leading to an increasing reliance on the market profile and information on the expenditure patterns of travellers. Dwyer and Forsyth (2008) posit that knowledge about the yield potential of source markets are fundamental in marketing related decision-making by both the public and private sector.

With an expenditure level of \$71.4 billion, the UNWTO has ranked tourists from the UK as the 4th highest spenders in 2017, behind those from China, the USA and Germany. This represented an increase of 0.8% from the previous year. It makes the UK one of the main tourist generating markets in the world and it is among the top five sources of arrivals and expenditure for destinations such as Spain, France, the USA and Australia just to name a few. It is not surprising that British tourists are classified as high yield and any insights provided on this market is likely to be useful to the destinations.

Despite the economic importance of this market on the global scene, in-depth studies on the British market remain scarce. The literature which has primarily focussed on the UK include Mello, Pack, & Sinclair (2002), Dritsakis (2004), Lyssiotou (2000) and Song, Romilly & Liu (2000). They are from the early 2000's. Since then, changes in tourism related policies such as marketing campaigns by the British government promoting domestic tourism; changes in tax structures related to travel and tourism; the global financial crisis and other positive events and crisis are likely to have introduced changes in the patterns of tourism demand from the UK calling for more analysis based on contemporary data. For example, the number of departures from the UK which fell by 15.1% in 2009, has rapidly recovered and has since grown by an average of 4.6% per year demonstrating the resilience of this industry. The most recent studies on the British tourists focus on the British consumer's willingness to pay for tourism taxation (Seetaram, Song, Ye & Page, 2018). Song, Seetaram & Ye (2019) study the budget allocation of British travellers and Gómez-Déniz, Pérez-Rodríguez & Boza-Chirino (2019) analyse the expenditure patterns of British tourists in Canary Islands.

The aim of this study is to analyse the factors influencing the expenditure patterns of British holiday makers. This is one of the first studies which perform the analysis on British outbound expenditure and unlike previous studies the results are not destination specific. For example, Gómez-Déniz et al.(2019) provide insights on British behaviour relevant to Cyprus. Traditionally, the literature on tourism demand is largely dominated by studies of inbound expenditure (tourism export). They utilise data collected at the destination. Their findings are relevant for the destination in question and often compare the profile of consumers from different markets. This study however uses expenditure data collected at the home country and therefore, is one of the few based on tourism imports and offers the opportunity for an in depth study on one market, here the UK. Additionally, this study innovates in that it includes a set of home related variables together with the analysis of their effect on tourism expenditure at the destination. Other studies such as Seetaram (2012) have hinted at the relevance of expenditure at home by outbound tourists. Indeed, economic impact studies of tourism based on tourism satellite accounts often allocate part of the tourism outbound

expenditure to consumption at home although to the authors best knowledge, no studies have included such expenses in their analysis. The expenditures incurred at home include airport transfer, food at the airport, shopping specific for the trip, and sometime even overnight stay at the airport. These expenses can be expected to have consequences for the home country. The paper postulates that outbound tourism has the potential of contributing to the economy of the both the home and host countries.

This research offers a key advantage as it uses survey data. Data were collected using an original questionnaire which asked UK residents about their holiday choices and expenditure. After cleaning the data, 1175 questionnaires are retained for the analysis. The data are analysed using both ordinary least squares (OLS) and quantile regression (QR) methods and the results compared. The literature on tourism demand from the UK has used macro level data which has its own advantages but it is highly aggregated. According to Blundell (1988), while the use of aggregated data is often unavoidable, micro level data is preferable as they circumvent aggregation bias “*which can result both because of complex interactions between individual characteristics and price/income effects and also because of non-linearities in consumption behaviour*” (Blundell 1988; pg. 18).

The second advantage is using quantile regression as compared to ordinary least squares or other methods commonly applied in the study of tourism expenditure. In particular, OLS assumes that the relationships between independent and dependent variables are the same at all levels of expenditure. On the other hand, QR is more flexible allows for the analysis to account for different slopes for different expenditure levels. For example, heavy spenders have different expenditure patterns as opposed to light spenders. Thus, this method provides for an additional disaggregation of the relationships which delivers a deeper insight into how the independent variable reacts to changes in the dependent variables for each level (Koenker, 2005). Furthermore, it is appropriate for the analysis of survey data as it does not require that variables be normally distributed. QR method has been applied in the analysis of tourism expenditure, among others, by Lew and Pin (2012), Marrocu, Paci & Zara (2015) and Santos and Viera (2015).

The second key contribution of this paper is that it extends the existing literature by adding an extra category of determinants of expenditure to the existing set of four identified by the literature. These are economic constraints, socio-demographic attributes, trip-related and psychographic variables. This paper proposes that home-related expenditure variables such as transfer cost to the airport at home has a bearing on the expenditure of travellers at the destination.

2. A SURVEY OF THE RELEVANT LITERATURE

The type of investigation proposed by this study involves many studies whose comprehensive review goes beyond the scope of the present analysis. Therefore, in what follows, the survey focuses on two main strands of works. The first deals with British outbound tourism and the second with the use of micro-level data in tourism expenditure.

2.1 *British outbound tourism in the literature*

One of the earliest and most comprehensive research on British outbound tourism is that of Song et al. (2000) which uses data from 1965 to 1995 and analyses the drivers of demand for 11 destinations by British tourists. Each destination reveals a co-integrating relationship, thus an error correcting model is applied to obtain both long run and short run elasticities. It is

found that overseas holidays are a luxury good by the British holiday maker with income elasticities ranging from 1.73 to 3.85, the lowest being for Italy and highest for the rest of the world. All the other estimated income elasticities are above 2. More variations are obtained for price elasticities of demand which ranges from -0.15 to -2.86 with consumer being least responsive to changes in price of holidays to Switzerland and most responsive to changes to those of Australia. 14 years later, this study is the basis for Seetaram, Song & Page. (2014) who augment the original model with a variable which captures the effect of Air Passenger Duty to the UK. The later examine departures to 10 international destinations using an autoregressive distributed lag model. The income elasticity obtained confirms that international trips is a luxury for British travellers for all destination except the USA and that the range obtained has narrowed from 0.76 to 2.05. Price elasticities are as high as -2.02 and air passenger duty has a very low detrimental effect on tourism demand for six destinations. In Seetaram et al. (2018), the authors estimate the willingness to pay for airlines taxes and showed that British travellers are more willing to pay higher taxes for long haul trip and for business class travel. Song et al. (2019) propose that faced with an increase in airline taxes, British travellers are more likely to reduce their expenditure pattern at the destination.

In his analysis of demand for tourism in the Mediterranean region, Papetheodorou (2009) finds that demand from the UK to be price elastic for Italy, Spain, Turkey and Portugal and that British tourists consider Greece to be a substitute destination with respect to Italy and Turkey. At the same time, there is very little evidence of any complementarity among the Mediterranean destinations (Greece, Italy, Portugal, Turkey, Spain and Yugoslavia). The author's estimations are based on the application of the Almost Ideal Demand System (AIDS) using share of expenditure and arrivals to these regions as the dependent variable. Coshall (2005) performs a time series analysis of UK outbound tourism to nine European destinations using quarterly data from 1976 to 2003. He finds that departure to a few of the destinations are on an increasing trend, however, the seasonal variation is constant from year to year. Coshall (2009) uses quarterly data from 1976 to 2008 to demonstrate the importance of volatility in tourism demand forecasting using UK outbound data to twelve destinations. The aforementioned studies use macro level data. One of the very few studies which utilise individual level data and attempted to profile the British traveller is Langlois, Theodore & Elizabeth (1999).

Langlois et al. (1999) use a questionnaire administered through a postal survey to collect data. Their sample of 173 individuals is made up of 100 British residents of Polish origins and the rest who did not have any personal ties to Poland. Their study is inspired by the significant Polish diaspora in the UK and they conclude that the resulting strong personal ties with Poland is instrumental in driving demand for Poland. It is found that the key aspects of Poland which the travellers found attractive are its 'history and culture', 'hospitality', 'countryside', 'quality of food' and 'value for money'. Travellers indicated a high level of satisfaction from their trip because Poland has a strong base of repeat visitors from the UK. For travellers who did not belong to the Polish diaspora, friends from Poland remain an important source of information on Poland as a destination. While this study offers interesting insights on British travellers, the analysis is nevertheless based on a small sample size and focuses on one destination only. On the other hand, Gómez-Déniz et al. (2019) use a very large sample of 9,805 respondents to analyse the factors affecting the budget shares British travellers at Canary Islands using survey data. They find that the relevant factors are income, length of stay, reason for travel, expenditure on accommodation, travel by low cost carriers and repeat visitation. But for expenditure on accommodation, all other factors have a positive impact on budget shares in Canary island.

2.2 Micro level data in tourism expenditure patterns

The application of micro level data to analyse tourism behaviour is not prominent for the British market. It has been more widely applied for destinations where such data sets are readily available or have been purposefully collected via survey method. According to Wang and Davidson (2010), the earliest study, which used micro level data in tourism research is that of Mak, Moncur, & Yonamine (1977) which analyses the determinant of expenditure and length of stay of visitors from the USA to Hawaii. A gap of more than a decade followed until micro level analysis in tourism research gained some momentum in the 1990's. In these works, the most commonly used dependent variables is total trip expenditure, followed closely by expenditure per person per day. Wang and Davidson (2010) classified the explanatory variables in four categories. These are economic constraints, socio-demographic attributes, trip-related characteristics and psychographic variables. In a systematic review of 86 papers and 354 estimates using econometric models and data at individual level, over a time period ranging from 1977 to early 2012, Brida and Scuderi (2013) provide a deep analysis of the variables included in the different categories by previous research and a detailed explanation on how these sets of variables affect tourism expenditure.

Among the more recent studies from 2010 onwards, Alegre, Mateo, & Pou (2010) analyse household ability to afford an annual holiday of one week using data from the European Community Household Panel. They find that 48 percent of their sample is not able to afford a 1-week holiday in Spain and that households are engaged in a complex decision making process regarding their ability to take holidays based, not only on their income level, but on other financial and demographic characteristics such as ability to save and employment status. Age and level of education are found to be important in determining families' ability to take a holiday. Alegre, Mateo & Pou (2013) find that being unemployed can reduce average expenditure on tourism by almost 32%. Similar results are put forward by Bernini and Cracolici (2015; 2016). Using Italian Household Expenditures from 1997 to 2007, they demonstrate that demographic characteristics of families, especially age, have strong effect on tourism expenditure. Additionally, Bernini and Cracolici (2016) show that households which are economically vulnerable have higher income demand elasticities.

Analysing Japanese data, Wu, Zhang, & Fujiwara (2013) show that education, income, residential area and car ownership are significant in explaining participation in tourism and that marital status, income, household size and travel distance are significant in explaining tourism expenditure. These variables are seen to have a positive effect on tourism demand. Men and larger households, however, are less likely to participate and their expenditure are lower too. Disegna and Osti (2016) use data from a survey of 1,030 foreign visitors to the provinces of Bolzano, Trento and Belluno in the North of Italy and analyse the effect of consumer satisfaction on expenditure. They collected five categories of tourism expenditure namely, accommodation, food and beverages, internal transportation, shopping and other such as entertainment related expenses. The authors used a 10-point Likert scale to measure the degrees of satisfaction. A double hurdle model is used as consumers are faced with two decisions: first whether to spend and, second, how much to spend. It is found that satisfaction with specific characteristics of the destinations is significant in influencing both the decision to spend and the amount of money spent.

Ferrer-Rosell, Coenders & Martínez-García (2015) and Ferrer-Rosell and Coenders (2017) add an additional dimension to the study of tourism expenditure. They use survey data from Spain to assess the effect of the type of airlines international visitors flew in on expenses at the destinations. They find that compared to travellers from full service airlines, those who

travelled by low cost airlines tend to spend more and that the share of expenditure for discretionary expenses are larger for more highly educated travellers, irrespective of type of airlines used. Ferrer-Rosell and Coenders (2017) find that, while the two categories of travellers still diverge in their total trip expenditure, nonetheless there is a degree of convergence in the way in which the trip budget is allocated.

Marrocu et al. (2015) collected data on arrivals to Sardinia using a survey. Using 1445 observations they apply the quantile regression method to analyse the determinants of tourism expenditure in Sardinia. They find that on average a visitor spends €104 per day on a number of items of expenditure and stay on average for 10.9 nights. About one third of the expenditure is on accommodation and the rest of the budget is spent on travel costs, food and drink and on shopping, wellness and recreation. They key findings of the paper that trip characteristics such as length of stay, party size and types of accommodation are the most important determinants of tourism expenditure. Travellers staying in hotels, in rented house or those who camped spend more per day than those staying in private houses. As expected, higher income travellers tend to spend more per day than low income travellers.

3 METHODOLOGY AND RESULTS

3.1 Survey and Sample

After having examined various potential method of data collection, it was decided that a purposeful designed survey instruments was preferable. A questionnaire was designed and it was piloted in 2016. The outcome of the pilot was taken into account to design an online survey which was implemented through a market research company Cint (www.cint.com). Cint is a reliable company with a track record of generating robust data. The online survey was carried out from the 9th to the 28th of February. A stratified random sampling method was used to ensure that the distribution of income of the sample presented the distribution of income and employment in the UK. Cint has access to 2.5 million panel members within the UK that could be invited. The target population were UK residents who have travelled abroad for holiday. A total of 6,000 panel members were invited and 2002 responses were collected. Of the 2002, after cleaning the data 1,178 responses were retained for analysis. While the online method of data collection is not perfect, it was nevertheless chosen because it is a cost effective way of overcoming low responses of postal surveys.

3.2 Variable Description

The aim of this study is to analyse the factors which influence the expenditure patterns of British holiday makers abroad. An econometric model is proposed where the dependent variables are total expenditure (E_i^{te}). The dependent variables are specified in terms of expenditure per person per day. This prevents the results from being influenced by the party size as well as by the length of stay (Brida and Scuderi, 2013). To test for robustness the model is re-estimated using total expenditure net of travel costs (E_i^{tentc}) as the dependent variable. Five sets of explanatory variables are considered. The first four are proposed by Wang and Davidson (2010). These are *economic constraints* (EC_i), *socio-demographic attributes* (SD_i), *trip-related* (TR_i) and *psychographic variables* (PS_i). This research proposes an extra category: *home-related expenditure variables* (HR_i). If significant, this will be an important contribution to the literature as it will provide the evidence that outbound tourism has the potential for contributing to the home country's economy. The model takes the following form:

$$E_i^j = f(EC_i; SD_i; TR_i; PS_i; HR_i) \quad (1)$$

where E_i^j is tourism expenditure of type j for individual i .

The five groups of independent variables in Equation (1) include both metric and categorical responses. The latter will be modelled through the use of dummies. Starting by the group of *economic constraints*, for instance, the model uses a metric variable to measure income (income per year before tax) and a categorical variable to capture the perceived financial status. According to Brida and Scuderi (2013), income is one of the most used variables to describe tourists purchasing behaviour. The questionnaire asked respondents to indicate the range of their yearly income (after taxes) by choosing among seven classes of income to be consistent with the household budget survey conducted by the Office of National Statistics of the UK. As written in the previous section, in this study the survey was stratified by income to accurately represent the distribution of income in the UK.

However, applying quantile regression using seven bands with a sample of 1,178 is likely to dilute the results and therefore, in order to obtain more meaningful findings, it is deemed better to reduce the number of categories. Therefore, three categories are defined using information from the ONS. The three categories are low, medium and high. According to the ONS, the average gross income of households in the UK, in the year the data was collected was £34,002 and the median income was £30,002. Income level in the sample of less than £30,000 is defined as low income. ONS defines income distribution in decile and the highest decile income level in the highest deciles are £54,418 and above £80,000 being the 9th and 10th deciles respectively. In the study it is assumed that the 9th and 10th deciles are the highest income and with the data for the study, it was assumed that the highest income for this study be defined as £60,000. Therefore, income levels in the sample between £30,000 and £60,000 inclusive are categorised as medium income. This method has the merit of being consistent and it is comparable with the official statistics of the UK.

However, authors such as Alegre et al. (2010) postulate that income is not necessarily a perfect indication of the financial wellbeing of a household and they include dummy regressors to account for financial difficulties. In this questionnaire respondents are asked how well they are managing financially in order to obtain the households' perception on their financial status and standard of living which are assumed to have a bearing on their spending pattern. The respondents had the options of "*find it very difficult*", "*find it quite difficult*", "*just about getting by*", "*living comfortably*" and "*doing alright*". Their responses were used to create a variable to proxy the respondents' perceived standard of living of low median or high. Low standard included respondents who find their financial situation at least quite difficult and high standard of living as those who were at least living comfortably.

As for *socio-demographic attributes*, the analysis refers to employment status, education level, gender and age. Both employment status and educational level are categorical variables that are introduced into the analysis by means of dummy variables. In particular, we consider four employment status, namely employed (reference group), unemployed, retired and student, and three educational levels: primary (reference group), secondary and tertiary. According to the literature, empirical results are mixed with respect to the employment status, whereas a positive effect of education on tourist expenditure is expected. As for gender, results are mixed. Recently, Craggs and Schofield (2009) find that female visitors tend to spend more than males, but, as Brida and Scuderi (2013) highlight, out of 130 regressions, 88 resulted in a non-significant relationship with expenditure. Finally, the effect of age on

expenditure depends on how it is measured (Brida and Scuderi, 2013) although the majority of the studies find a positive coefficient. However, a negative relationship cannot be excluded. Thrane and Farstad, (2011) posit that the relationship may not be linear. It may start as positive and change to negative after reaching a critical value. For this analysis, the questionnaire asked respondents to indicate their own specific age.

Regarding *trip-related characteristics*, the study considers distance, travel time, party size, length of stay and accommodation types. Respondents were asked to state the destination visited. Distance was calculated as the number of kilometres between the home county of the respondent and the capital city of the destination visited. In gravity models distance is a proxy for travel cost and is highly significant and negative. However, within the context of tourism, while the variable retains its significance, the value of the coefficient tends to be lower but is negative. Petit and Seetaram (2018) state that here the distance might be an attraction itself if travellers prefer remote destinations. Therefore, the negative effect of distance is to some extent extenuated. Distances can also proxy the effect of time constraint and preference for mode of transport. The questionnaire asked respondents how important is the travel time and their responses are used to proxy the opportunity cost of travelling by introducing three categorical variables, namely short, medium and long (short is the reference). According to Brida and Scuderi (2013) distance is found to have a positive and significant effect on tourist expenditure. As for travel time, the effect is expected to be negative.

Another variable used in the literature is travel party size with the majority of studies finding it significant but the effect can be either positive or negative. A positive sign is associated with total tourist expenditure by Craggs and Schofield (2009), whereas a negative sign is associated to per person tourist expenditure (Wu et al., 2013; Marrocu et al. 2015). Moreover, the presence of non-linearities cannot be excluded (Thrane and Farstad, 2011). Somehow similar results are obtained for the length of stay (Nights). This variable is one of the most frequently used in tourism expenditure analyses, but its effect depends on its definition. According to Brida and Scuderi (2013), length of stay is found to affect the total tourist spending positively and the daily expenditure per person negatively (Alegre et al., 2011). As for accommodation types, the questionnaire considers nine categories of accommodation that are gathered into four groups for the empirical analysis, namely hotels, friends and relatives' houses (VFR), camping and self-catering houses (reference group). According to Brida and Scuderi (2013), accommodation is not often included in empirical analysis. Nevertheless, when considered, it affects tourist expenditure very strongly. For instance, Thrane and Farstad, (2011) find that tourists visiting relatives or friends spend less on average.

According to Brida and Scuderi (2013, pp. 37), "*Psychographic characteristics refer to the characteristics of consumers that may have a bearing on their responses to products, packaging and advertising, and include self-concepts, lifestyle, attitudes, interests and opinions, as well as perceptions of product attributes*". Holiday motivations can also be included into psychographic variables when they refer to the tourists' preferences strictly related to the holiday purpose. Alegre et al. (2013), for instance, point out that tourists attracted by the local environment are more likely to be high spenders. The questionnaire includes a set of eleven questions asking respondents to state how important were the stated factor when choosing the destination. Each question indicates six possible answers from "Not At All Important to Very Important". Four questions were retained for the analysis: *price, safety, natural attractions* and *gastronomy*. The six possible answers were combined into *low, neutral* and *high* for the analysis with low used as reference level.

Finally, the presence of *home-related expenditure variables* is an innovation proposed by the present investigation. As a matter of fact, and quite surprisingly it is almost disregarded in tourism outbound analyses although it can have very relevant policy implications. This study considers three variables. Crouch (1992) purports that residents of large country may consider a domestic holiday as a substitute for international holiday. In the British context, Visit Britain, the tourism promotion board of the UK, launch their “*GREAT*” campaign to promote the UK as a destination to local residents with the view of giving a boost to domestic holidays. The campaign offered 20.2% discount on products and services offered by partners. A categorical variable measuring how expensive is to take a holiday in UK (very cheap, reasonably priced and very expensive) is included. This variable is expected to indicate whether British travellers consider a domestic holiday as a substitute to an international holiday by assessing whether travellers will adjust their expenditure level taking into account the perceived value of a domestic holiday.

It is established in the literature that transport cost to the destination is an important determinant of demand. However, in this study, it is assumed that the cost of getting to the airport is a complement to the transport cost to the destination. An increase in this cost is expected to reduce demand. In fact, for short haul trips where the market is more competitive because of the strong presence of low cost carriers, the cost of getting to the airport, either by rail, bus or car, can constitute a significant proportion of the total cost of getting to the airport. Therefore, respondents were asked to state the amount it costs them to get to the airport on this trip. In this survey the average cost per person to get to the airport is £59.23 (See Table 2) which is quite high. The third variable, expenditure on other items for this trip in the UK was left open ended where the respondents were asked to fill in the item of expenditure and the amount spent. However, the item of expenditure was mostly left blank although an expenditure amount was filled. This variable is coded as expenditure on items other than airport transfer. This may have resulted in measurement errors in this variable explain the findings in Section 3.4.6. For the few respondents who did give an answer, the items in question were mostly food and drinks purchased at the airport. The average expenditure is £30.47 per person (See Table 2).

3.3 Descriptive statistics

The main characteristics of the dependent variables used in the empirical investigation are reported in Table 1 where five quantiles are reported. As we can see, total expenditure equals, on average, £139 and ranges between £32 (10th quantile) and £254 (90th quantile). Similarly, total expenditure without travel costs is, on average, £121 and ranges between £20 and £225.

Table 1. Descriptive statistics.

Expenditures per person per day (£)	Mean	Quantiles				
		10 th	25 th	50 th	75 th	90 th
Total	138.86	32.19	58.57	97.00	158.33	254.43
Total without travel cost	121.00	20.00	44.25	85.00	140.00	225.22
Accommodation	16.03	0	0	0	18.75	50.00
Food and beverage	22.01	1.38	5.56	13.33	25.83	45.00
Shopping	8.30	0	1.19	3.57	9.52	19.05
Culture	4.17	0	0	0.71	4.55	10.71
Recreation	4.13	0	0	0	4.00	10.00
Other expenditures	4.13	0	0	0	4.17	10.71

Table 2 synthesizes the independent variables main features derived from the survey. As regard to *economic constraints*, the majority of the respondents (51.05%) have a medium net income level between £30,000 and £60,000, while more than one third (34.8%) has a net income above £60,000, and about 14% per cent has a net income lower that £30,000. When asked about their financial conditions, 11% declare to be living comfortably, 27% to be just satisfied with their condition, whereas almost 63% say finding it quite/very difficult. The *socio-demographic variables* reveal that the great majority of the interviewees are employed (65%), whereas one out of four is retired. They are almost exactly split between males and females with an average age of 47 years.

Table 2. Descriptive statistics. % over total if no otherwise specified.

Economic constraints	
Income per year before tax	
Low (<30000£)	14.14
Medium (30000£ - 60000£)	51.05
High (>60000£)	34.80
Financial conditions	
Find it quite/very difficult	62.76
Just about getting by	26.58
Living comfortably/Doing alright	10.67
Socio-demographic variables	
Gender	
Female	50.74
Male	49.26
Employment status	

Unemployed/looking after family	4.23
Retired	25.71
Student/training	5.16
Employed	64.81
Highest educational qualification	
Primary	6.03
Secondary	55.81
Tertiary	38.17
Age (years)	47.12
Trip-related variables	
Distance (km)	1779.43
Party size (Number)	3.67
Length of stay (Nights)	10.41
Accommodation	
Self-catering/house/cottage/other	27.82
Hotel/Guest house/Boarding house	56.00
Friends or relatives home	14.75
Camping/Tent	1.43
How important TRAVEL TIME TO/FROM THE DESTINATION is when you choose a holiday destination?	
Very important	55.89
Neutral	31.28
Not at all important	12.83

Table 2 (Cont.). Descriptive statistics. % over total if no otherwise specified.

Psychographic characteristics	
How important NATURAL ATTRACTIONS are when you choose a holiday destination?	
Very important	68.72
Neutral	23.80
Not at all important	7.48
How important SAFETY is when you choose a holiday destination?	
Very important	78.80
Neutral	17.70
Not at all important	3.50
How important PRICES are when you choose a holiday destination?	
Very important	81.30
Neutral	16.01
Not at all important	2.69
How important GASTRONOMY is when you choose a holiday destination?	
Very important	58.13
Neutral	33.58
Not at all important	8.29
Home-related variables	
How expensive is to take a holiday in UK?	
Very/Quite cheap	6.00
Reasonably priced	39.41
Very/Quite expensive	54.59
Transport exp. in UK (£)	59.23
Other exp. in UK (£)	30.47

As for their educational level, they mainly have secondary (56%) and tertiary (38%) educational qualification. Looking at *trip-related variables*, on average, the destination is about 1800 km away from UK, the number of the tourists in the party is a less than four and the length of stay is little more than ten days. The most common accommodation type is represented by hotels (56%), followed by self-catering (28%) and friends and relatives (15%). Travel time to/from the destination is also very important for UK outbound travellers. The *psychographic characteristics* reveal that, when choosing a destination, UK tourists find natural attractions, safety, prices, and gastronomy very important. Finally, statistics on *home-related expenditure variables* show that 55% of the respondents find taking holiday in UK very/quite expensive.

3.3 Econometric model

The econometric approach used to investigate the relationship between tourism expenditure and its determinants has traditionally been the classical ordinary least square (OLS) regression model (for a recent survey, see Brida and Scuderi, 2013). The OLS method is the best method for estimating equations as it has the lowest variance. However, when variables are not normally distributed, OLS estimates are unsatisfactory. An additional limitation of OLS model is that it only considers the average relationship between tourism expenditure and the explanatory variables. Therefore, while useful in detecting the mean spending behaviour across groups of tourists, OLS regressions are unable to account for the (possibly) heterogeneous behaviour in their pattern of spending. For example, if tourists with different income levels are characterised by heterogeneous spending behaviours, as basic economic theory would suggest, OLS estimates with income as a dependent variable are not able to capture the differentiated behaviour.

To do away with this, it can be proposed that the investigated sample be divided into different categories using separate OLS equations to distinguish the supposed differentiated spending behaviour. This however, may lead to misleading results (Koenker and Hallock, 2001). Another way for estimating the heterogeneity of tourist spending behaviour in an OLS setting could be that of “categorising” income level into different groups (for example light spenders and high spenders). By so doing, the *average* relationship between tourism expenditure and income for these two groups can be distinguished but not disentangled from the pattern of spending across the entire spending distribution. Namely, the potential differentiated behaviour of light spenders and high spenders for the whole spectrum of the spending behaviour cannot be separated.

Given these shortcomings, as alternative to OLS, in the recent years, the quantile regression (QR) approach is being increasingly applied to the analysis of tourism expenditure. QR assesses specific portions of tourists spending behaviour and, thus, it is able to disentangle the spending patterns for different markets segments. For example, if quantile 0.5 is chosen, the researcher can distinguish between light spenders (those below 0.5) and heavy spenders (those above 0.5). Obviously, any other quantile division is valid, hence quantile regressions provide a flexible and complete characterization of the determinants of tourism spending patterns allowing estimates to be performed on the total sample with total expenditure, or any other measure of tourism spending, as the dependent variable. Moreover, it has been shown (see, for example, Koenker, 2005) that QR is more robust to non-normal errors and outliers with respect to OLS and that QR is efficient also in the presence of highly non-normal residuals, which is not the case for OLS.

Recent applications of the QR approach in tourism studies are provided by Park et al. (2019) who studied travel expenses of tourists in South Korea; Mitra et al (2019) investigating expenditure on whale watching; Hung et al. (2012) on tourism consumption behaviour in Taiwan; Lew and Ng (2012) on Hong Kong visitors spending; Chen and Chang (2012) on the influence of travel agents in Taiwan, and Marrocu et al. (2015) on the determinants of tourism expenditure of Sardinia visitors. Therefore, along with OLS this paper proposes to investigate the determinants of UK tourists spending behaviour abroad by means of QR estimates. Groups are defined at the 10th, 25th, 50th, 75th and 90th quantiles. More formally, assuming a linear relationship between a dependent variable y_i and a set of k independent variables, represented by the vector x_i , the estimation of the q^{th} quantile regression coefficients β_q , minimizes the following function:

$$(\min_{\beta_q} \sum_{i: y_i - x_i \beta_q \geq 0} q |y_i - x_i \beta_q| + \sum_{i: y_i - x_i \beta_q < 0} (1 - q) |y_i - x_i \beta_q|) \quad (2)$$

where i represents the observational unit under scrutiny. As stated by (2), positive residuals are given a weight equal to q , while negative residuals are given a weight equal to $(1-q)$. Thus estimated coefficients β_q represent the effect of each independent variable on y_i for the q^{th} quantile. Equation (2) is minimized via the simplex method or interior-point algorithm. Furthermore, given that the analytical expression of the variance-covariance matrix is very difficult to estimate, in place of analytic standard errors, heteroskedasticity-robust bootstrapped standard errors can be used.

3.4 Results

In this section the main results of the empirical analysis are discussed. Given that several of the regressors are categorical variables, the proper way to interpret their estimated coefficients is in terms of differential effect with respect to the variable identified as a reference. Note that changing the reference case does not modify the estimates. The dependent variable is expressed in logarithmic terms, therefore the effect of the categorical variable in terms of percentage variation with respect to the reference level can be computed using Equation 3 below. Columns from (2) to (6) of Table 3 refer to QR estimates. It is interesting to observe that the estimated coefficients for the median (50th quantile) tend to replicate OLS estimates with only few exceptions, namely age, safety and other expenditure in UK. Moreover, it is also worth noticing that the estimated constant terms, which represent the levels of tourist expenditure of the reference group, tend to increase moving to the right hand side of the distribution (75th and 90th quantile).

3.4.1 Economic Constraints

OLS estimates are reported in Column (1) of Table 3. To obtain the marginal effect for each determinant the following formula is used:

$$\text{Marginal effect} = 100(\exp^{\beta} - 1), \text{ where } \beta \text{ is the estimated coefficient} \quad (3)$$

As expected and in line with the literature, income is an important determinant of total expenditure. For example, Medium and High Income tourists spend, 14.3% and 35.4% more compared with the reference low income group. This is obtained by applying Eq (3). $100(\exp^{0.134} - 1) = 14.3\%$ and $100(\exp^{0.303} - 1) = 35.4\%$, respectively. Tourists who are economically less well-off tend to spend less and the effect of income on tourists' expenditure rises with increasing level of expenditure. First, as regard tourists' income, the positive effect is confirmed at high statistical level only at the 10th and 25th quantile, for both medium and high income tourists. Only 10% statistical significance for high income levels corresponding to the 50th quantile. Accordingly, it is noticed that lower spenders show higher sensitiveness to income constraints (estimated coefficients decreases moving from the 10th quantile to the right of the distribution). Tests on coefficients' equality for both medium and high income tourists show that the differences between the 10th and all other quantiles are indeed statistically significant. Conversely, it seems that the perceived standard of living of respondents does not affect tourists' expenditures.

Table 3. OLS and quantile regressions. Dependent variable: log of total expenditures.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	10 th	25 th	50 th	75 th	90 th
Economic constraints						
Income (ref.: Low)						
Medium	0.134** (0.053)	0.357*** (0.100)	0.188** (0.074)	0.056 (0.054)	0.045 (0.076)	0.051 (0.087)
High	0.303*** (0.074)	0.563*** (0.130)	0.268*** (0.096)	0.156* (0.081)	0.139 (0.117)	0.202 (0.145)
Living standard (ref.: Low)						
Medium	0.009 (0.094)	-0.072 (0.184)	-0.074 (0.108)	-0.004 (0.078)	0.060 (0.102)	-0.082 (0.154)
High	0.123 (0.087)	0.020 (0.174)	0.012 (0.109)	0.099 (0.073)	0.177* (0.094)	0.077 (0.154)
Socio-demographic variables						
Gender (ref.: Female)						
	0.109** (0.047)	0.174** (0.083)	0.105* (0.061)	0.091* (0.050)	0.100* (0.056)	0.143* (0.085)
Employment status (ref.: Employed)						
Unemployed	-0.490*** (0.153)	-0.385 (0.453)	-0.358** (0.177)	-0.378*** (0.115)	-0.466*** (0.137)	-0.557*** (0.210)
Retired	-0.060 (0.076)	-0.093 (0.139)	-0.030 (0.090)	0.066 (0.074)	-0.023 (0.105)	-0.115 (0.140)
Student	-0.138 (0.126)	0.016 (0.267)	-0.177 (0.147)	-0.139 (0.138)	-0.094 (0.130)	-0.038 (0.171)
Education (ref.: Primary)						
Secondary	-0.051 (0.094)	0.131 (0.170)	-0.143 (0.135)	-0.032 (0.091)	0.027 (0.142)	-0.015 (0.179)
Tertiary	-0.052 (0.098)	0.068 (0.172)	-0.131 (0.139)	0.023 (0.094)	0.070 (0.147)	0.068 (0.182)
Age (years)						
	-0.002 (0.002)	0.004 (0.004)	-0.002 (0.002)	-0.004** (0.002)	-0.004 (0.003)	0.001 (0.004)
Trip-related variables						
Distance (km)						
	0.090*** (0.023)	0.099*** (0.037)	0.080*** (0.027)	0.068*** (0.025)	0.072** (0.031)	0.085** (0.042)
Party size (Number)						
	0.010 (0.008)	0.002 (0.014)	-0.000 (0.013)	0.013 (0.009)	0.011 (0.007)	0.012 (0.014)
Length of stay (Nights)						
	-0.027*** (0.003)	-0.033*** (0.010)	-0.026*** (0.006)	-0.026*** (0.004)	-0.022*** (0.004)	-0.026*** (0.004)
Accommodation (ref.: Self catering house)						
Hotel	0.196*** (0.053)	0.346*** (0.088)	0.282*** (0.064)	0.233*** (0.055)	0.197*** (0.076)	0.089 (0.103)
VFR	-0.441*** (0.081)	-0.499*** (0.164)	-0.329*** (0.093)	-0.391*** (0.079)	-0.350*** (0.120)	-0.465*** (0.129)
Camping	-0.346 (0.275)	-0.666 (0.768)	-0.346 (0.430)	-0.232 (0.354)	0.161 (0.408)	-0.228 (0.299)
Travel time (ref.: Short)						
Medium	-0.050 (0.079)	-0.096 (0.136)	-0.063 (0.102)	-0.044 (0.080)	-0.013 (0.091)	-0.019 (0.128)
Long	-0.079 (0.075)	-0.183 (0.136)	-0.056 (0.101)	-0.107 (0.075)	-0.069 (0.086)	-0.002 (0.124)
Psychographic characteristics						
Safety (ref.: Low)						
Medium	-0.099 (0.134)	-0.379* (0.197)	0.017 (0.154)	0.226 (0.179)	-0.162 (0.228)	0.027 (0.208)
High	0.056 (0.124)	-0.032 (0.167)	0.163 (0.141)	0.310* (0.169)	-0.145 (0.220)	0.085 (0.204)
Prices (ref.: Low)						
Medium	-0.060 (0.171)	-0.211 (0.281)	0.203 (0.221)	-0.070 (0.322)	-0.150 (0.246)	0.068 (0.363)
High	-0.155 (0.166)	-0.079 (0.273)	0.052 (0.212)	-0.175 (0.315)	-0.296 (0.234)	-0.205 (0.347)

Natural attractions (ref.: Not important)						
Neutral	0.216**	0.062	0.088	0.246***	0.323***	0.364**
	(0.087)	(0.179)	(0.116)	(0.092)	(0.120)	(0.157)
Very important	0.224***	0.087	0.110	0.248***	0.244**	0.368**
	(0.078)	(0.166)	(0.107)	(0.084)	(0.115)	(0.156)
Gastronomy (ref.: Not important)						
Neutral	0.214**	0.479**	0.361**	0.201*	0.077	0.197
	(0.097)	(0.218)	(0.165)	(0.116)	(0.118)	(0.139)
Very important	0.260***	0.470**	0.372**	0.232**	0.173	0.181
	(0.095)	(0.213)	(0.161)	(0.116)	(0.117)	(0.130)
Home-related variables						
How expensive is a holiday in UK (ref.: Low)						
Medium	0.035	0.144	0.092	-0.017	0.011	0.106
	(0.116)	(0.290)	(0.173)	(0.123)	(0.113)	(0.191)
High	0.003	0.177	0.078	-0.030	-0.025	0.106
	(0.115)	(0.292)	(0.168)	(0.121)	(0.114)	(0.200)
Transfer cost UK	0.001***	0.001*	0.001*	0.002***	0.002***	0.001***
	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Other exp. in UK	-0.001**	-0.001	-0.001	-0.001	0.000	0.001
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	3.732***	2.279***	3.137***	3.780***	4.551***	4.270***
	(0.297)	(0.518)	(0.372)	(0.409)	(0.470)	(0.611)
Observations	1,178	1,178	1,178	1,178	1,178	1,178
R ² /Pseudo R ²	0.256	0.196	0.169	0.156	0.143	0.158

In the OLS regression, R² is the “standard” R-squared and standard errors (in parenthesis) are robust to miss-specification in the error term. In quantile regressions, R² is the Pseudo R² and standard errors (in parenthesis) are obtained through bootstrapping with 1000 replication. ***= significance at 1%; **= significance at 5%, *= significance at 10%. See the main text for more details.

3.4.2 Socio-demographic variables,

Only gender and employment status are significant in determining total expenditure. In contrast, neither education nor age is relevant. Male respondents spend 11.5% more than female respondents. The result obtained are consistent across all quantiles and contradict those of Craggs and Schofield (2009) and Gomez-Denis (2019). However, in the former the analysis is based on a survey of day-visitor expenditure in a small town of the UK and the later on expenditure at one destination only. These results are relevant as they explain the behaviour pattern of the British market. It is however, interesting to observe, that while age does not seem relevant in general, according to QR estimate, it turns out a significant negative coefficient at the 50th quantile.

Unemployed travellers spend on average 38.7% less than employed ones. The effect is increasing from the 25th quantile onwards. For example, the coefficient for the 90th quantile is -0.557 compared to -0.358 for the 25th quantile. These results are expected as unemployed travellers tend to have a lower purchasing power. Conversely, being either retired or student does not make any difference in the spending behaviour with respect to the reference group. The effect of employment is mixed in the literature and is not considered by Gomez-Denis (2019). It is surprising, on the other hand, that education does not have a bearing on expenditure. A positive relationship will normally be expected. These results may be indicating that education is correlated to income and therefore, the effect is encompassed in the income coefficient.

3.4.3 Trip-related variables

That distance and length of stay are both significant in explaining total expenditure are very important results for destination managers. While distance has a positive effect on

expenditure, the effect of length of stay is negative. The positive effect of distance is an interesting contribution to the literature and this effect is consistent across quantile. As discussed before, distance is used as a proxy for travel cost and therefore, the coefficient of this variable is used to estimate transport elasticity of demand. However, a positive coefficient here shows that British tourists to travel longer distance tend to spend more at the destination. This pattern of behaviour may mean that a long distance holiday is a once in a lifetime holiday and travellers want to make the most of the destination by having a larger per diem expenditure. The probability of returning to the long distance holiday is perhaps lower and British travellers may visit remote destination less frequently.

When formulating tourism policies, destination managers often tend to assume that one of the key objectives is to encourage travellers to stay as long as possible at the destination which is lucrative for owners of accommodation and can increase occupancy rate but also provide the visitors with the opportunity to consume and therefore, result in higher expenditure level at the destination. The results from this paper indicate that this is not the case for British travellers. The longer they stay at the destination the less they spend per day and therefore, longer duration needs not necessarily be more beneficial for the destination.

Regarding accommodation, it is interesting to observe that, with respect to self-catering (reference variable), hotels and VFR report two opposite effects, whereas camping does not show any statistical difference. The proportion of campers in the sample is however, very low. Consumers who choose to stay in hotel tend to spend 21.7% more at the destinations compared to travellers staying in self-catering accommodation and British travellers who stay with friends and relatives on the other hand spend 35.7% less. (reconcile with the literature)

3.4.5 Psychographic characteristic

Natural attraction and gastronomy play a role in determining total spending, whereas safety and prices do not show any relevance. In general, visitors who are neutral about natural attractions and those for whom this factor is very important, tend to spend more per person per day at the destination. Visitors for whom natural attraction is very important tend to spend more but this result is significant for the higher quantile of expenditure only and insignificant for the 10th and 25th quantiles. The effect is highest for the 90th quantile. These results confirm those of Alegre et al. (2013) to some extent. They suggest that visitors who spend more are also keen on natural attraction but not everyone for whom natural attraction is very important will spend more per day per person at the destination.

For gastronomy the opposite occurs. Tourists at the 10th, 25th and 50th quantile display a statistically different pattern of spending with respect to those at the extreme of the right tail (75th and 90th quantiles). According to Tikkanen (2007), gastronomy is part of the local culture of the destination which a traveller is exposed to during the trip. It can become an attraction in its own right or be part of the tourism product making the destination more attractive. It has the potential for influencing the behaviour of the tourist and influence the local economy (Tikkanen, 2007). It is interesting that in spite of the growing interest in gastronomy and its relevance for tourism, very few articles have sought to profile visitors for whom gastronomy is an important motivation for travel. One such study is by Ignatov and Smith (2006) who analysed data on Canadian consumers and found that the market segment which was more interested in food at the destination constituted of most mostly female visitors, with lower average expenditure and lower income. In this study the expenditure on food per se was not examined but the results point out that compared to visitors who do not find gastronomy as an important factor in choosing the destination, consumers who do find

gastronomy very important and those who are neutral tend to spend more at the destination. However, this effect decreases for higher level of expenditure per person per day and becomes insignificant for the higher spenders.

3.4.6 Home-related expenditure variables

Transfer and other expenditures in the UK are statistically significant in explaining the expenditure per person per person per day at the destination but they report opposite signs. The results purports that higher transfer cost per person in the UK is associated with higher expenditure at the destination. However, the magnitude of the results is quite similar for each quantile which may be indicating that travellers treat transfer cost as a fixed and the amount incurred is independent of the income range that they belong to. It is however, feebly significant, at 10% level, in the 10th and 25th quintile, and becomes statistically stronger at 1% for the 50th, 75th and 90th quantile. On the other hand, the more travellers spent on other items the lower the expenditure at the destination. Furthermore, the QR estimates confirm that the decisions of tourists to spend their holiday abroad is not affected by the perception of how expensive is a holiday in the UK. This has implications for studies seeking to estimated cross elasticities of demand. This result may be indicating that British tourists, do not necessarily consider domestic holidays substitutes for international trips contrary to findings from studies of other markets. This implies that policy aiming at reducing the cost of a domestic holiday such as charging lower VAT on accommodation in the UK is unlikely to shift consumers' preference from an international trip to a domestic one. This is an interesting result because it suggests that a price-oriented policy targeting international trips in favour for domestic ones may not have the expected outcome from international travellers from the UK.

Table 4. OLS and quantile regressions. Dependent variable: log of total expenditures net of travel costs.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	10 th	25 th	50 th	75 th	90 th
Economic constraints						
Income (ref.: Low)						
Medium	0.111* (0.058)	0.242** (0.105)	0.118 (0.090)	0.036 (0.060)	-0.021 (0.070)	0.081 (0.093)
High	0.259*** (0.081)	0.506*** (0.141)	0.294*** (0.111)	0.080 (0.084)	0.074 (0.118)	0.112 (0.151)
Living standard (ref.: Low)						
Medium	0.035 (0.100)	-0.130 (0.254)	-0.118 (0.131)	0.022 (0.084)	0.074 (0.107)	0.022 (0.150)
High	0.154 (0.095)	-0.068 (0.241)	-0.067 (0.124)	0.157* (0.081)	0.197** (0.096)	0.102 (0.145)
Socio-demographic variables						
Gender (ref.: Female)	0.143*** (0.050)	0.201** (0.088)	0.119* (0.066)	0.118** (0.054)	0.179*** (0.062)	0.167* (0.090)
Employment status (ref.: Employed)						
Unemployed	-0.496*** (0.156)	-0.559 (0.500)	-0.555** (0.237)	-0.338** (0.134)	-0.471*** (0.154)	-0.355 (0.227)
Retired	-0.066 (0.080)	-0.154 (0.156)	-0.074 (0.113)	0.086 (0.089)	-0.018 (0.095)	-0.180 (0.124)
Student	-0.224* (0.133)	-0.231 (0.260)	-0.155 (0.209)	-0.216 (0.155)	-0.218* (0.123)	-0.233 (0.191)
Education (ref.: Primary)						
Secondary	-0.070 (0.096)	-0.056 (0.177)	-0.114 (0.133)	-0.033 (0.111)	-0.008 (0.118)	0.072 (0.156)
Tertiary	-0.096 (0.100)	-0.169 (0.172)	-0.150 (0.142)	-0.011 (0.116)	0.017 (0.124)	0.098 (0.157)
Age (years)	-0.002 (0.002)	0.003 (0.004)	0.000 (0.003)	-0.006** (0.002)	-0.004 (0.003)	0.000 (0.003)

Trip-related variables						
Distance (km)	0.052** (0.025)	0.067 (0.041)	0.049* (0.030)	0.041* (0.024)	0.041 (0.031)	0.013 (0.050)
Party size (Number)	0.011 (0.009)	-0.013 (0.016)	0.016 (0.015)	0.009 (0.011)	0.018** (0.008)	0.010 (0.014)
Length of stay (Nights)	-0.028*** (0.004)	-0.043*** (0.009)	-0.027*** (0.006)	-0.028*** (0.004)	-0.026*** (0.005)	-0.022*** (0.006)
Accommodation (ref.: Self catering house)						
Hotel	0.270*** (0.059)	0.435*** (0.101)	0.426*** (0.080)	0.292*** (0.064)	0.167** (0.081)	0.165 (0.102)
VFR	-0.913*** (0.095)	-1.289*** (0.230)	-0.887*** (0.122)	-0.851*** (0.110)	-0.771*** (0.127)	-0.663*** (0.132)
Camping	-0.387 (0.256)	-0.622 (0.705)	-0.154 (0.405)	-0.527* (0.282)	-0.327 (0.389)	-0.232 (0.363)
Travel time (ref.: Short)						
Medium	-0.048 (0.084)	-0.063 (0.145)	-0.086 (0.104)	-0.066 (0.087)	0.029 (0.105)	0.020 (0.122)
Long	-0.029 (0.080)	-0.121 (0.146)	-0.100 (0.107)	-0.020 (0.082)	0.014 (0.095)	0.123 (0.120)
Psychographic characteristics						
Safety (ref.: Low)						
Medium	-0.094 (0.157)	-0.270 (0.306)	0.079 (0.231)	0.149 (0.159)	-0.240 (0.270)	-0.180 (0.208)
High	0.032 (0.144)	0.087 (0.270)	0.237 (0.210)	0.153 (0.152)	-0.194 (0.266)	-0.188 (0.202)
Prices (ref.: Low)						
Medium	-0.072 (0.171)	0.000 (0.369)	-0.088 (0.246)	-0.134 (0.285)	-0.123 (0.237)	0.008 (0.213)
High	-0.169 (0.162)	0.060 (0.363)	-0.161 (0.247)	-0.193 (0.283)	-0.262 (0.224)	-0.184 (0.189)
Natural attractions (ref.: Not important)						
Neutral	0.304*** (0.097)	0.226 (0.212)	0.150 (0.173)	0.225** (0.105)	0.408*** (0.101)	0.561*** (0.143)
Very important	0.349*** (0.088)	0.173 (0.201)	0.190 (0.169)	0.177* (0.095)	0.371*** (0.084)	0.630*** (0.131)
Gastronomy (ref.: Not important)						
Neutral	0.271*** (0.105)	0.397 (0.270)	0.427** (0.184)	0.199 (0.131)	0.097 (0.116)	0.211 (0.142)
Very important	0.340*** (0.101)	0.513* (0.262)	0.474*** (0.180)	0.266** (0.131)	0.134 (0.113)	0.222* (0.127)
Home-related variables						
How expensive is a holiday in UK (ref.: Low)						
Medium	-0.021 (0.121)	0.119 (0.228)	0.078 (0.174)	-0.031 (0.144)	-0.093 (0.129)	-0.255 (0.198)
High	-0.010 (0.119)	0.158 (0.232)	0.119 (0.171)	-0.016 (0.143)	-0.129 (0.125)	-0.204 (0.203)
Transfer cost in UK	0.002*** (0.000)	0.002*** (0.001)	0.002*** (0.001)	0.002** (0.001)	0.002*** (0.001)	0.002*** (0.000)
Other exp. in UK	-0.001** (0.000)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	0.001 (0.001)
Constant	3.675*** (0.323)	2.365*** (0.639)	3.006*** (0.403)	4.026*** (0.422)	4.664*** (0.453)	4.725*** (0.545)
Observations	1,175	1,175	1,175	1,175	1,175	1,175
R ² /Pseudo R ²	0.342	0.277	0.242	0.197	0.166	0.183

In the OLS regression, R² is the “standard” R-squared and standard errors (in parenthesis) are robust to miss-specification in the error term. In quantile regressions, R² is the Pseudo R² and standard errors (in parenthesis) are obtained through bootstrapping with 1000 replication. ***= significance at 1%; **= significance at 5%, *= significance at 10%. See the main text for more details.

3.4.7 Total spending net of travel costs

The estimates referred to total expenditure net of travel costs are displayed in Table 4. These results confirm those from Table 3 in most cases and therefore shows the robustness of the initial results obtained. For example, income for medium and high tourists is important in explaining spending net of travel costs, although in the QR regressions it appears to be statistically significant for a lower number of quantiles. In the *socio-demographic* set of variables, gender and unemployment status, together with age, are still the only factors affecting this category of tourists spending. Differences in male and female spending behaviour seem stronger. As regards the trip-related variables, in the OLS regression reported in column (1) distance still seems to be important, on average, in order to explain this category of spending behaviours, however in the QR regressions such a role is detectable only for the 25th and 50th quantile and just at 10% of statistical significance. For all the other explanatory variables in this category, the empirical estimates are very close to those of Table 3. The same can be said about the *home-related expenditure variables* for which no distinctive role with respect to total expenditure is detectable.

4. CONCLUSION

The aim of this research is to analyse the factors determining the expenditure patterns of British travellers. The British market is a very important market for many destinations and therefore, insights on consumers from this market can benefit destination managers in targeting their policies and strategies. Therefore, survey data were collected using an original questionnaire and a sample of 1,178 respondents were retained. The data were examined using the quantile regression method. The key advantage using this method is that, unlike OLS, it does not impose the restriction of normal distribution on the variables. This is the first in depth study of British travellers, who are among the highest spending travellers and an important market for several destinations. The dependent variable used is the per diem expenditure per person and to check for robustness the model was also estimated using per diem expenditure per person net of transport cost to the destination. Hitherto, microeconomic determinants of demand have been classified into categories, economic constraints, socio-demographic, trip related, psychographic variables and home-related expenditure variables. This paper introduces an innovation in the demand model by studying the effect of variables related to the home country, the study gives an interesting contribution to the literature.

The novel variables included in this study are airport transfer in the UK, the perceived value of domestic holiday that is are they expensive or not, and other cost incurred in the UK for the trip. Of these three, airport transfer is found to be significant in determining total tourism expenditure. This is because the cost of getting to the airport can be very high in the UK and even more so as a proportion of total cost of getting to the destination for short haul flights. The fact that travellers' perception of how domestic holidays does not have a bearing on their expenditure is an important result indicating that the decision on how much to spend on a holiday abroad is made independent of the cost of domestic holidays. This may be indicating that domestic and outbound travel are not close substitutes as the literature has hinted. These results may however be specific to the UK and not applicable to other source markets.

The other results obtained are not dissimilar to the literature. Income is found to be an important factor affecting per diem expenditure as are length of stay, employment status and type of accommodation used. What is interesting though is that, travellers for whom natural attractions and gastronomy are very important factors in choosing destinations spent more than those for whom these are not important. Consumers for whom natural attractions are very important spend 0.25 more but from the 50th quantile and above while consumers for

whom gastronomy is very important spend more but only up to the 50th quantile. This offers important insights destination managers.

This study is not without limitations. The data were collected through an online survey which can to some extent introduce bias in the response. It implies that only respondents with access to the internet were able to participate in this survey. However, special care was taken to ensure that the sample was random and stratified by income and education level and therefore, adequately represents the UK population. The sample used also did not distinguish between purpose of visit. It may be that each of the categories of factors considered would have different effect on different purpose of visit. The data used did not allow for this type of analysis. There remains of course the case of Brexit which may have affected consumer preferences. This study however, is not able to comment on how Brexit will affect outbound tourism expenditure from the UK. However, the results obtained do show that income is an important factor affecting expenditure per day per person. This implies that the effect of Brexit on the purchasing power of the British tourist is likely to significantly impact on demand for international tourism from the UK.

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