Analysing the drivers of itemised tourism expenditure from the UK using survey data

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ARTICLE INFO	ABSTRACT
	The aim of this study is to analyse factors influencing the expenditure of British travellers on different items of consumption. Original data were collected using a questionnaire. The total sample size is 1361. Differences are observed on the relevance of the explanatory variables for each categories of expenditure and on the magnitude of their effects. Length of stay is the only driver which is significant across all categories. Its effect is negative. Income which has a positive effect, is the second most important determinant. Travellers who stay at hotels spend significantly more on each category. Those who travel to visit friends and relatives (VFR) spend significantly less. Travellers interested in gastronomy and natural attractions are amongst the higher spenders.

1. Introduction

Investigating the effect and determinants of tourism expenditure and its components is an essential element of destination management practices. Breaking down tourism expenditure into its components and explaining their (possibly different) determinants enable managers, researchers, and policymakers to investigate the way in which a particular factor affects the different items of expenditure, thereby, providing vital and useful information to the tourism and services industries. This has led to the growing trend in the utilisation of survey data for the purpose of analysing tourism expenditure patterns because while highly aggregated data can offer insights into the behaviours of the tourist, Smith (1995) proposes that they can actually conceal important information from policy makers.

Moreover, such exercises are enabled and facilitated by the increasing availability of survey data on tourism expenditure that is collected by the government agents in countries which rely more on tourism as source of economic activities. The governments of these countries recognise the value of demand elasticities in decision-making processes, and accordingly, they gather data on the behaviour of tourists in their areas, looking specifically at their expenditure. Subsequently, these data can be accessed by researchers, which has resulted in a growing focus on the micro-data analysis of the tourism expenditure

sub-classifications. Examples of this include the works of academics such as Wang & Davidson (2010), and Brida & Scuderi (2013).

Wang & Davidson (2010), in their survey of 27 studies, consider expenditure as the measure of individuals' tourism demand. A great variety of modelling methods are highlighted, but multiple regression analysis remains the most common method employed. Out of these 27 papers, only three disaggregate tourist expenditures into sub-categories (accommodation, food and beverages, shopping and so on). A few years later, Brida & Scuderi (2013) scrutinized 86 papers that utilise individual level data and employ different types of regression techniques. Out of these, 56 are based on survey data. Although they do not specify the number of studies that separately analyse the different categories of expenditure, they clearly state that the trend is moving in that direction.

All in all, studies on the determinants of disaggregated tourism expenditure are still very low in number. Therefore, more micro-data investigations disaggregated by the different categories of tourist expenditure are needed in order to better grasp the ways in which tourism may be more beneficial in terms of economic contribution and impact at destinations. The aim of the present paper is to contribute to the literature focusing on original survey data regarding the expenditure behaviour of British travellers. British travellers are amongst the highest spenders in the world. The income generated by British travellers, especially where they constitute a large share of the market does not

only benefit the destination in terms of employment creation and tax revenue but can be fundamental to the survival of the industry at the destination. The Office for National Statistics, (2020) provides some interesting data on the recent travel habits of UK tourists. In November and December of 2019, UK tourists travelling to overseas destinations numbered 4.4 million and 3.9 million respectively, which is an increase of 5% and 4% respectively on the 2018 figures. In terms of their expenditure at the destinations, £2.4 billion was spent in December 2019, which was up 4% on the previous year. In November 2019, the expenditure was £3.1 billion GBP, which was a staggering increase of 21% compared to November 2018.

The importance of this market has been further emphasised during the summers of 2020 and 2021 when following the Covid-19 pandemic, the government of the UK imposed travel restrictions from the country. Destinations such as Mallorca, Algarve and Ibiza which depend very heavily on British tourists have suffered from shortfall in arrivals leading to the closure of businesses and rising unemployment affecting livelihood. See for example, BBC (2020a, 2020b) and Sky News (2021). On the other hand, the Financial Times (2020) reports that countries such as Greece, Turkey, Portugal and Spain are keen to negotiate preferential access for British travellers showing the economic importance of British tourism for the region. In spite of the pandemic which has disturbed international travel, destinations are looking to sources of arrivals which will enable businesses to maintain some cash flow and allow them to survive until the industry recovers fully. Almeida, Machado, & Xu (2021) comment on the difficulties that Madeira is facing due to a decline in arrivals from the UK. The above shows the importance of understanding markets such as the UK, which is an important source of arrivals, expenditure and hence, livelihood for many destinations across the world, but especially in the region. It will be an important part of the recovery efforts of the industry especially that pent up demand from the UK is expected to be high. According to the modelling done in Kourentzes, Saayman, Jean-Pierre, Provenzano, Sahli, Seetaram, & Volo (2021), compared to twenty sources of arrivals, those from the UK are expected to perform fairly better than most of the other countries considered under both pessimistic and optimistic scenarios.

It is essential not only to know the amount that British tourists spend during their holidays but knowledge of the level of spending on the single items of tourism expenditure and the factors that influence their selections are of equal importance. Because the tourism industry is a composite industry made up of different types of businesses, obtaining detailed information on expenditure patterns is important to assess whether all components of the business benefit to the same extent or in the case of a crisis, suffer to the same extent. This level of detailed analysis allows for targeted measures and interventions within the destination. This piece of research, therefore, aims to analyse the determinants of the spending of travellers from the UK for different categories of expenditure. It contributes to the literature by adding to our understanding of the behaviour of tourist from the UK. It provides information on the determinants of expenditure per item which is a level of disaggregation which has not yet been studied for this market. The paper also provides insights on the relationship between length of stay and expenditure per day and on the expenditure patterns of visitors who travel for VFR purposes. Gozgor, Seetaram, & Lau (2021) state that VFR travellers are less risk-adverse and discuss whether they can part of the recovery process of the tourism industry post-Covid. This market, however, is often ignored in studies looking at tourism expenditure because it is assumed that VFR travellers do not contribute significantly to the destination because they tend to stay with local host instead of paying for accommodation. This is an assumption which has not often been tested empirically. This paper therefore, adds to the literature by attempting to provide the empirical evidence to this effect.

The rest of the paper is organized as follows. A review of the existing literature is provided in Section 2. Section 3 elaborates on the methodology applied and the findings are presented and discussed in Section 4. Section 5 concludes the paper.

2. Review of literature

The literature on tourism demand modelling and the estimation of tourism elasticities is vast but has been very well summarised in reviews such as Lim (1997, 1999), Crouch (1994) and Song & Li (2008). These studies synthesise the findings from almost 40 years of research on the topic. Given the popularity of demand models using macroeconomic data, it is not surprising that the reviews present findings that focus on the demand elasticities that have been generated using macroeconomic variables as proxies for demand determinants, for example, GDP per capita and real exchange rate are used to estimate income and price elasticities of demand respectively. However, this trend has started to change as it is now accepted that there are advantages in using microeconomic or survey data in the analysis of tourism demand. According to Blundell (1988), this method reduces the potential for error and inaccuracy that may occur when aggregated data are used. The application of microeconomic theory is gaining momentum. It nevertheless still lags behind mainly due to the lack of data availability and the cost involved in the collection primary data compared to the access to secondary aggregated data. The studies using microeconomic data generally seek to model consumer behaviour and the data requirement can be enormous. Wang & Davidson (2010) identify three types of dependent variables used to measure demand. These are the total amount spent on the trip or total amount per day or amount per day per person (Wang & Davidson, 2010). More recent trends, however also include length of stay as the dependent variable. See for example Almeida et al. (2021).

In studies which have used expenditure data, the variable of interest is either the total expenditure or expenditure on specific items such as accommodation, shopping, entertainment, and food and beverages (Brida & Scuderi, 2013). These can be averaged per person or per person per day. Studies which modelled each item of expenditure are less common. Socio-economic data of the respondents and characteristics of trips are used, and the aim is to understand how they affect expenditure to profile consumers in different clusters. Information are analysed to create meaningful strategies for destination managers on market segments and consumer clusters. Wang & Davidson (2010) and Brida & Scuderi (2013) have looked into those studies and assessed the determinants of tourism expenditure and provided comprehensive discussions on the findings of the literature.

Wang & Davidson (2010) have created four categories to sort the different types of determinants. Economic constraints include factors which limit spending and determine related choices. Socio demographics include information on the respondents such as age, education level, marital status and family size. Trip related determinants include factors such as the duration, the source of information, time of purchase and whether it is a repeat visit. Wang & Davidson (2010) add psychologic variables which include the traveller's psychological evaluation of the trip. This category, however, is redefined in Brida & Scuderi (2013) as psychographic variables. Their definition of psychographic variables is inspired by Demby (1974) and Lehto, O'Leary, & Morrison (2002) who state that consumers have attributes which influence their responses to products and their characteristics including the way they are packaged and marketed. The attributes of the consumer include factors such as their lifestyle, their opinions and their interest (Brida & Scuderi, 2013). While the authors put emphasis on the underutilisation of these categories of variables, they nevertheless agree that given the complex psychological nature of consumers, it is not straightforward to collect data and construct these variables.

Mehran & Olya (2019) reflect on 'antecedents' which lead to overseas travel expenditure. These antecedents are made up of economic and non-economic factors and their interactions amplify the already very complex overseas tourism expenditure patterns. The groups of antecedents identified are fairly similar to those discussed in the two papers above but for political factors in the home country such as the political situation, governance, health care, and safety and security. In this study however, because a single market is considered in one time period the

inclusion of political variables is not required.

2.1. Tourism Demand from the UK

Lehto et al. (2002) explore the effect of psychographics on destination choice using a sample of British travellers to three regions, North America, Asia and Oceania. They use data from the UK pleasure travel market survey made up of 1208 individual in-home interviews. The authors analyse their data using factor analyses to obtain three types of psychographic factors which impacted on the choice of destination of the British tourist. The first which they label, Travel Philosophy, included statements on travel arrangements and preferences; price and value for money; attitudes towards travel including long haul trip; preferences for length of trips; and novelty versus familiarity. They find that travellers to North America and Asia have a greater preference for all-inclusive packages while those to the Oceania, preferred more flexibility. Value for money was important for all travellers with those to North America and Oceania paying more attention to this factor. These two groups also tend to prefer destinations where their language is spoken compared to travellers to Asia.

The second category of statistically significant psychographic factors are categorised as '*travel benefits*' and they include statements on seeking escape relaxation and entertainment; experiencing different lifestyle and people; seeking novelty and status; strengthening family and kinship ties. The authors do not find any differences amongst the three groups. These factors are almost equally important for all three. The third factors of interest are '*destination attribute preferences*'. These categories include history, heritage and knowledge; culture and people; environmental quality and infrastructure; value for money and convenience; outdoor and family activities; and scenery and atmosphere. Although all three groups of travellers placed high importance of personal safety, their response are quite different in this category. Outdoor activities are rated significantly higher by travellers to Oceania and travellers to Asia rated '*exotic atmosphere*' much higher than the other

two groups. The authors conclude that psychographics are important for British travellers when choosing destinations. They find that there is a high level of similarities amongst preferences within each group while across the groups, clear distinctions in preferences are observed.

The paper above offered interesting insights on the choice of British travellers but it does not extend the analysis to show whether the relevant factors have any bearing on the expenditure of the travellers per se. Empirical investigations of the demand from the UK tourism i are categorised into two groups in Table 1 below.

Song, Romilly, & Liu (2000) analyse the British tourist demand for eleven destinations during the thirty-year period between 1965 and 1995. They find that the long-run income elasticity varies between 1.73 and 3.85, whereas the short-run elasticity is between 1.05-3.78, thus making overseas holidays a luxury product. Li, Song, & Witt (2004) model international tourism demand from the UK to 22 Western European destinations and state that travel to most of these destinations are luxuries to the British travellers and that demand is more price elastic in the long run than in the short run. This is expected because on the long run the travellers are more flexible both in terms of time and options. The authors also calculate cross elasticities of demand which vary considerably for each of the destinations considered.

Coshall (2006) uses time series data to study outbound tourism from the UK to nine European countries, from 1976 to 2003. He concludes that the seasonal variation in the data does not change and only very few destinations have experienced a significant increase. Coshall (2009) shows that the demand forecast for UK outbound tourism is quite volatile during the years from 1976 to 2008. Papatheodorou (1999) utilises data for the Mediterranean region and reports that British tourism are sensitive to changes in prices in Portugal, Turkey, Spain and Italy. They also perceive Greece as an alternative choice to Italy and Turkey. In contrast to the above studies, Langlois, Theodore, & Ineson (1999) use primary data collected via a questionnaire which was administered through the post. The resultant sample is comprised of 173 individuals, of which 100 are British residents of Polish origins. The authors find that

Table 1
A summary of empirical investigations on the UK outbound market.

	Methodology	Dependent variable	Time period	Main results
Studies using macro data				
Song et al. (2000)	General to specific approach	Total holiday visits per capita to 12 destinations by UK residents	1965–1995	The average long-run income elasticity is 2.4. The average short-run income elasticity is 2.2.
Coshall (2006)	Time series and ARIMA models	Outbound tourism by air to 9 European destinations	1976–2003	Generalisations cannot be made about the stochastic or deterministic nature of trends or seasonality in the tourism flows.
Coshall (2009)	Time series and ARIMA models	Outbound travel flows by air to 20 international destinations	1976–2003	The use of ARIMA models approaches for forecasting travel demand is supported over other types of time series models.
Papatheodorou (1999)	Almost Ideal Demand System augmented to include a time trend	Tourism expenditure of origin country *i* (among which the UK) in 9 destination countries *j* as a % of the aggregate tourism expenditure of origin country *i* in all the destination countries *j*	1957–1989	Most of the expenditure and price elasticities are found to be statistically significant.
Studies using micro data				
Langlois et al. (1999)	Descriptive, univariate and bivariate analyses questionnaires collected by postal mail	Descriptive statistics including frequencies and mean.	Survey conducted in November 1996	The proportion of return visitors from the UK is high. Poland appeals particularly to the elderlies and to lone travellers, as well as those interested in cultural heritage.
Seetaram et al. (2018)	Comparative analysis and hierarchical linear modelling	Amount of taxation that consumers are willing to pay	Survey data 2016	Willingness to pay for taxes for business travel and for long-haul travel are higher.
Song et al. (2019)	CODA, SUR	Budget share of expenditure on different items of consumption.	Survey data 2016	Increases in air travel taxes lead to increases in budget allocations in favour of the share of transportation expenditure and at the expense of the share of expenditure at the destination.
Gómez-Déniz et al. (2019)	Fractional regression model based on the beta distribution	Expenditure of German and UK tourists at the Canary Islands as a share of total trip expenditure which include expenditure at home and abroad.	Survey conducted from January 2009 to March 2012	Accommodation, party size and age are inversely associated with the budget share at the destination.
Massidda et al. (2020)	Quantile Regression	Expenditure per person per day	Survey data 2016	Length of stay is inversely related to total expenditure per person per day. Expenditure incurred for the trip at home can be a relevant driver of expenditure at the destination.

travellers to Poland are interested in the country' hospitality, food, its history, culture and countryside. Respondents also state that the destination is good value for money. However, it is important to note that these findings are obtained from a small group and focus on one destination only; therefore, the results are not generalisable and may not be representative of the population of British travellers.

Gómez-Déniz, Pérez-Rodríguez, & Boza-Chirino (2019) analyse the factors which determine the expenditures of travellers from the UK to the Canary Islands using a sample of 9805 respondents. They find that the most important factors are duration of stay, income of travellers, the motivation for travel, the amount spent on accommodation, travel by low-cost airlines, and whether the trip is a repeat visit. Seetaram, Song, & Page (2014), Seetaram, Song, Ye, & Page (2018), and Song, Seetaram, & Ye (2019) analysed outbound tourism from the UK, and in each of these studies, the emphasis is on examining the effect of fiscal policies on air travel. Seetaram et al. (2014) analyse the effect of the air passenger duty on the number of British outbound tourists to ten destinations to obtain income, price, and tax elasticities of demand. The range of elasticities obtained for both income and prices are quite wide depending on the destinations. For income, they range from 0.36 and 4.11 and for prices from −0.05 and −2.02. Taxes have a statistically significant effect negative effect on demand, but the effect is inelastic. Seetaram et al. (2018) investigates the willingness of travellers from the UK to pay for airline taxes. The contingent valuation method is used to derive demand curves under six scenarios. The findings show that travellers' willingness to pay for taxes for business travel and for long-haul travel is higher. Song et al. (2019) investigates the effect of air travel taxes on the budget allocations of British travellers. They find that increases in taxes lead to an increase in budget allocation in favour of the share of transportation expenditure and at the expense of the shares of expenditure on accommodation and food at the destination. Massidda, Piras, & Seetaram (2020) on the other hand, find that the length of stay of British travellers impacted negatively on the total expenditure per person per day at the destination. The authors also add a new category of determinants and show that trip related expenditure incurred at home can be pertinent in determining expenditure at the destination. This effect is small but significant. Expenditure on transport at home has a positive effect on expenditure per day per person at the destination but expenditure on other items at home has a negative effect.

From this brief literature review, it is seen that although there has been some research on the British market only that of Song et al. (2019) has considered different categories expenditure by the British tourists. However, the focus of Song et al. (2019) is on the share of expenditure and their interactions with changes in the amount of taxes incurred during the trip. It does not consider the absolute expenditure for each category and their determinants. The current study aims to fill this gap by providing a comprehensive analysis of itemized tourists expenditure for UK outbound tourism that, to the best of our knowledge, has not yet been examined.

3. Methodology

3.1. Sampling

In order to study the determinants of the expenditure patterns of British tourists divided by a range of spending categories, the econometric model is specified with six different dependent variables, namely: (1) total expenditure (E_i^{te}), (2) accommodation (E_i^{acc}), (3) food and beverage (E_i^{fb}), (4) shopping (E_i^{shop}), (5) culture (E_i^{cult}) and (6) recreation (E_i^{rec}). For this study, primary data were collected using an original questionnaire. The survey was carried out by CINT (www.cint.com), a market research company which specialises in this type of surveys, with a strong reputation for generating good survey data. In order to ensure statistical representativeness, a stratified sampling method is employed. Given the nature of the study, and from the findings of the literature, it was deemed that 'income' is an important determinant of demand

therefore, the sample is stratified based on the income distribution and employment status of the British population. 6000 respondents were invited from a group of over 3 million panellists to take part in the survey. 2002 questionnaires were returned.

A total of 1361 questionnaires were retained for the purpose of analysing the total expenditures. Those 1361 were further broken down as follows: 499 for accommodation expenditures, 1285 for food and beverages expenditures, 1130 for shopping expenditures, 740 for culture expenditures, and finally, 649 for recreation expenditures. The sizes of the subsample differ because of missing values related to the variables of interests. For example, 1361 respondents provided the required information including their total expenditure but of these, only 499 provided information on the amount spent on shopping. This pauses a problem with the representativeness of the sub-samples which is a limitation of the study. However, the subsamples are large enough to proceed with inferences. As Smith (1983) argues, it is preferable to randomly select samples to avoid sample selection bias, but in the case of surveys like the one used here, a model-based approach allows researchers to proceed with inference, but the limitations should be clearly stated. Furthermore, whilst undeniably, there are a few problems associated with collecting data online, it is deemed the optimum approach for this study due to the time constraints and issues surrounding the availability and accessibility of other pertinent methods. However, one advantage is that it is a much cheaper method of data collection which allows for a larger sample in a more cost-effective manner. Another benefit is that it has a higher response rate than other types of surveys. Therefore, on balance, the advantages of this method outweigh its limitations.

3.2. Model specification

With regards to the explanatory variables, their selection is driven by the most recent literature in the field (See for example, Brida & Scuderi, 2013; Marrocu, Paci, & Zara, 2015; Wang & Davidson, 2010). To be more specific, four groups of explanatory variables are included, which are as follows: (1) economic constraints (EC_i), (2) socio-demographic attributes (SD_i), (3) trip-related (TR_i), and (4) psychographic variables (PS_i). The majority of these variables are categorical in nature and are introduced into the analysis via the use of dummies. Notice that when working with categorical variables it does not matter which variable is taken as the base since changing the base does not change the estimates and the predictions are the same no matter which base is used (Wooldridge, 2012). The classical Ordinary Least Squares (OLS) estimator is employed in order to fit the model. As it is well known, the OLS estimator enables to estimate the impact of the explanatory variables on the conditional mean of the dependent variable. This is, by large, the main method that has been used in the empirical literature to estimate the determinant of tourist expenditures (Brida & Scuderi, 2013; Wang & Davidson, 2010). The model is specified as follows:

$$E_i^j = \beta_0 + EC_i^{'}\beta_1 + SD_i^{'}\beta_2 + TR_i^{'}\beta_3 + PS_i^{'}\beta_4 + \varepsilon_i$$

where E_i^j is expenditure of individual i on item j, β_0 is a constant term, the βs are vectors of parameters to be estimated, and ε_i is the residual error term. In all six models, the dependent variable is defined as the amount that each person spends per day. The variable included in logarithmic form. This prevents the results being affected by the number of individual expenditures that it refers to, as has been established by past research (Brida & Scuderi, 2013).

In terms of clarifying tourist expenditure, 'income' is arguably the most commonly utilised economic constraint variable (Brida & Scuderi, 2013). In the present analysis, it is introduced as a categorical variable, with the following parameters: 'low income' is defined as less than £30,000, 'middle income' is from £30,000 to £60,000, and 'high income' is more than £60,000. Low-income earners are set as the reference group. Amongst the socio-demographic variables, 'Gender' and 'age' (expressed in years) are self-explanatory variables. Furthermore,

employment status is the third variable in this group; by using people who are 'employed' as a reference group, the alternative categories are subsequently set as 'unemployed', 'retired', or 'student'.

As previously mentioned, the 'length of stay' and 'accommodation types' are trip related variables: the former is the number of nights spent on on the trip, and the latter is a categorical variable with 'self-catering house' (which is set as the reference group), 'hotel', 'stayed with friends and relatives ', and 'camping' as the options. Accommodation is generally found to have a highly significant impact on tourist expenditure (Brida & Scuderi, 2013). Finally, two psychographic variables are also included in this study: 'natural attractions' and 'gastronomy at destination'. In the questionnaire, the respondents were asked to state how important a given variable was in terms of their choice of destination. For the empirical analysis, the answers were combined into a categorical variable: 'low' (reference level), 'neutral', and 'high'.

The statistical description of the dependent variables, that is, the different items of expenditure are provided below in Table 2.

3.3. Statistical descriptions of explanatory variables

Table 3 provides the statistical description of the independent variables. The economic constraints variable is predominantly the income after tax of the consumers. 51.05% of the sample fall within the middle-income category which is between £30,000 and £60,000 and about 34.8% are in the higher income bracket of more than £60,000. Only 14% of the sample have a net income of lower than £30,000. As it is well known from and established in the literature, income is probably the most frequently utilised variable to explain the purchasing behaviour of consumers. From the *socio-demographic variables* it is seen that 65% are employed, whereas approximately one out of four is retired. The average age of the sample is 47 years and it includes equal percentages of male and female. As such, gender bias is not be an issue in this study. Brida & Scuderi (2013) find that the effects of gender and age tourism spending are mixed. The *trip-related variables* show that average number of nights spent at the destination is 10.41. Hotels are by far the preferred type of the accommodation in the sample which 56% choosing to stay in one. 28% and 15% chose to stay in a self-catering accommodation or with friends and relatives respectively. The length of stay is expected to have a positive impact on the daily expenditure per person and spending more time at the destination provides greater opportunities for consumption.

As discussed in Section 3, the variable of 'self-catering house' is set as the reference. When comparing the variables of hotels and staying with friends and relatives to the reference, it is anticipated that tourists who stay in hotels will typically have a higher expenditure, and those who stay in the homes of friends and relatives will generally have a lower expenditure, as for this latter group, it is possible that they will spend part or all of their visit there. Travellers who camp can also be expected to spend comparatively less. From the *psychographic characteristics*, it is observed that gastronomy and natural attractions are very important to the British traveller. Both these variables are expected to positively affect the level of expenditure on the different categories. According to Richards (2018), 89% of national tourism administrations state that cultural tourism comprises a significant aspect of their overall tourism policies and have also stated that they anticipate this field to continue to grow in the upcoming years. In fact, almost 39% of all international

Table 2
Descriptive statistics.

Expenditures per person per day (£)	Mean	Std. Dev.	Min	Max
Total	138.82	184.17	0	3055
Accommodation	16.03	41.20	0	1000
Food and beverage	21.87	45.70	0	1400
Shopping	8.34	8.37	0	357
Culture	4.27	14.84	0	500
Recreation	4.08	16.29	0	511

Table 3
Description of Sample (% of total).

Economic constraints	%
Gross annual income	
Low (Less than £30,000)	14.14
Middle (£30,000 - £60,000)	51.05
High (greater than £60,000)	34.80
Socio-demographic variables	
Gender	
Female	50.74
Male	49.26
Employment status	
Unemployed	4.23
Retired	25.71
Student	5.16
Employed	64.81
Age (Mean number of years)	47.12[1]
Trip-related variables	
Number of Nights (Mean)	10.41[1]
Accommodation	
Self-catering	27.82
Hotel and other paid accommodation (excl. self-catering)	56.00
Local host (friends or relatives)	14.75
Camping	1.43
Psychographic characteristics	
Importance of NATURAL ATTRACTIONS	
Very	68.72
Neutral	23.80
Not at all	7.48
Importance of GASTRONOMY	
Very	58.13
Neutral	33.58
Not at all	8.29

[1] This is the mean of the variable.

tourism was for the purpose of experiencing the culture and cultural sites of the destination, and this accounted for in excess of 516 million trips in 2017 (UNWTO, 2019).

Therefore, this is an important area to investigate. The appeal of natural attractions and local cuisines to UK tourists is in line with those of tourists from all over the world.

Several of the regressors are categorical variables. This has an implication for the interpretation of the estimated coefficients which considers only the effect of one estimator compared to the reference category. The reference category can be changed, and this will not modify the interpretation of the estimates. The empirical results for total expenditure as well as for the five categories of expenditures are reported below in Tables 4.

4. Findings

4.1. Total expenditures

It is observed that the total expenditure is strongly determined by income. It is not surprising that middle and high-income tourists spend, respectively, 21.4% and 46.2% more than the low-income reference group. This means that given the average income of the reference (low-income level) group is £107.06, then the middle-income level group spend, on average, £129.97 and the high-income tourist group spend, on average, £156.52. The results show that males spend 16.4% more than females, and given the latter spend, on average, £124.21 this implies that males spend £144.58. Furthermore, being unemployed entails 34.2% less total spending compared to travellers who are employed that, on average, spend £149.20, implying that unemployed tourists spend £98.17. In what follows, we refrain from computing these effects for all spending categories, yet these simple back-of-the-envelope calculations allows us to have an idea of what will happen, on average, if a policy is implemented in order to stimulate the demand of a specific income, gender or employment group. Age is not a significant determinant of expenditure here. One explanation is that the relationship with age may

Table 4
Factors affecting expenditure per day.

Dependent variable expressed as (log of) expenditure per person per day.

VARIABLES	(1) Total	(2) Accommodation	(3) Food & Beverages	(4) Shopping	(5) Culture	(6) Recreation
Economic constraints						
Income (ref.: Low)						
Medium	0.194***	0.183**	0.139**	0.013	0.190**	0.217**
	[0.048]	[0.084]	[0.069]	[0.072]	[0.090]	[0.099]
High	0.380***	0.354***	0.227**	0.161	0.229**	0.206*
	[0.064]	[0.104]	[0.093]	[0.106]	[0.107]	[0.120]
Socio-demographic variables						
Gender (ref.: Female)						
Male	0.152***	0.087	0.192***	0.090	0.066	0.054
	[0.044]	[0.073]	[0.061]	[0.065]	[0.078]	[0.085]
Employment status (ref.: Employed)						
Unemployed	−0.418***	−0.084	−0.187	−0.076	−0.066	−0.158
	[0.142]	[0.225]	[0.162]	[0.174]	[0.246]	[0.246]
Retired	−0.025	−0.084	−0.241**	−0.054	−0.125	−0.149
	[0.071]	[0.117]	[0.097]	[0.104]	[0.137]	[0.148]
Student	−0.087	−0.421**	−0.208	−0.208	−0.117	−0.612***
	[0.118]	[0.204]	[0.152]	[0.159]	[0.190]	[0.183]
Age (years)	−0.003	0.002	−0.001	−0.007**	−0.006*	−0.008**
	[0.002]	[0.003]	[0.003]	[0.003]	[0.004]	[0.004]
Trip-related variables						
Length of stay ((nights)	−0.018***	−0.032***	−0.027***	−0.020***	−0.030***	−0.028***
(nights)	[0.003]	[0.005]	[0.005]	[0.005]	[0.005]	[0.006]
Accommodation (ref.: Self-catering house)						
Hotel	0.212***	0.420***	−0.133*	0.287***	0.270***	0.117
	[0.050]	[0.080]	[0.072]	[0.077]	[0.095]	[0.101]
VFR	−0.473***	−0.631***	−0.429***	0.129	−0.027	−0.162
	[0.077]	[0.148]	[0.093]	[0.107]	[0.148]	[0.158]
Camping	−0.673**	−0.756***	−0.472***	−0.606**	0.092	0.484
	[0.273]	[0.271]	[0.167]	[0.255]	[0.360]	[0.327]
Psychographic characteristics						
Natural attractions (ref.: Not important)						
Neutral	0.131	0.007	0.102	0.396**	0.345	0.448**
	[0.080]	[0.158]	[0.135]	[0.161]	[0.220]	[0.205]
Very important	0.154**	0.033	0.017	0.356**	0.260	0.454**
	[0.071]	[0.140]	[0.123]	[0.152]	[0.209]	[0.193]
Gastronomy (ref.: Not important)						
Neutral	0.163*	0.175	0.157	0.279**	0.127	0.194
	[0.090]	[0.119]	[0.127]	[0.124]	[0.150]	[0.187]
Very important	0.223**	0.273**	0.338***	0.207*	0.030	0.079
	[0.087]	[0.112]	[0.124]	[0.119]	[0.146]	[0.186]
Observations	1361	499	1285	1130	740	649
	Diagnostic tests					
R-squared	0.22	0.33	0.11	0.09	0.15	0.14
Adj R-squared	0.21	0.31	0.10	0.08	0.13	0.12
F test [*p-value*]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
VIF	1.96	1.94	1.96	2.01	2.19	2.12
RESET [*p-value*]	[0.195]	[0.088]	[0.000]	[0.003]	[0.000]	[0.005]
Breusch-Pagan test [*p-value*]	[0.000]	[0.003]	[0.095]	[0.782]	[0.361]	[0.300]

Constant included but not reported. Robust standard errors in brackets. *** = significance at 1%; ** = significance at 5%, * = significance at 10%. **VIF** = mean variance inflation factor. The VIF test checks for multicollinearity. As a rule of thumb, a variable whose VIF values are greater than 10 may merit further investigation. **RESET**: test of regression model specification. It performs a regression specification error test for omitted variables. **Breusch-Pagan test**: is the Breusch-Pagan test. The null hypothesis that the variance of the residuals is homogenous.

not be linear. According to Brida & Scuderi (2013), this degree of significance of the explanatory variable can be sensitive to how it is measured. Nevertheless, in their review of determinants of expenditure on tourism, 126 of the studies they considered did not find the coefficient of age to be statistically significant in explaining expenditure.

All trip-related variables are statistically significant and have a very strong impact on total spending. The length of stay is negatively correlated with total spending. To be more specific, one additional night at a destination entails a lower spend of 1.8%. As for accommodation, it is found that tourists who stay in hotels spend 23.6% more than tourists who choose to stay in a self-catering house (which as mentioned, is the reference variable), while VFR travellers and those who opt to camp spend respectively, 37.7% and 49% less than tourists in a self-catering house. Finally, psychographic characteristics are shown to be relevant in explaining total expenditures. Essentially, this means that the more the tourists appreciate natural attractions and gastronomy, the more they spend. There is a positive correlation evident between them. Indeed, tourists who declare that natural attractions are very important when choosing their holidays spend 16.6% more than those for which natural attractions are not important. Similarly, tourists who state that gastronomy is very important when choosing their holidays spend 25% more than those for whom gastronomy is not important.

4.2. Accommodation

The impact of income on accommodation expenditure is slightly less with respect to total spending. Similar patterns are observed with higher income tourist spending significantly more on accommodation than the reference category which is low income. It is found that gender is the only socio-demographic trait of the consumers that is significant in determining the level of expenditure on accommodation. For this category, trip-related variables are demonstrably more relevant. All trip related explanatory variables are statistically significant. This can possibly be attributed to the fact that expenditure on accommodation normally tends to take a higher share of the budget, and therefore, consumers are likely to be more sensitive to it. The longer the tourist stays at the destination the lower is his/her expenditure on accommodation per day. Those staying in hotels spend more per day than travellers staying at other forms of accommodations with campers spending the least in this category. Travellers who stayed with friends and relatives spend 46.8% less on accommodation. This is because they are likely to have stayed in a paid accommodation for only part of the trip. The Office for National Statistics (2020) reports that during the three-month period from October to December 2019, there was an increase of 8% in visits to friends and relatives which implies that in spite of an increase in arrivals, the accommodation sector will benefit less than proportionately compared to growth in visitor numbers who choose to stay at hotels. Those who camp incur an expenditure which is lower by 53%. In the last group of variables, natural attractions do not affect expenditure, while those interested in gastronomy tend to spend more on accommodation.

4.3. Food and beverages

High- and middle-income tourists spend 14.9% and 25.5% more than low-income group, respectively. Furthermore, males spend 21.2% more than females and retired tourists spend 21.4% less than those in employment. Trip related variables also have an important role to play. Here again, the length of stay negatively influences spending on food and beverage (−2.7%). Also, VFR travellers and those who camp deploy a statistically strong negative impact on food and beverage spending, whereas in contrast with previous results for total spending and accommodation spending, tourists who choose hotels spend 12.5% less than those in a self-catering house. There is, however, a caveat to these results. Part of the expenditure accommodation may include a percentage spent on food and beverages. For example, travellers staying at a hotel on a bed and breakfast, half or full board basis may have included part or all their food bills with their accommodation bill especially if separate itemised invoices were not available at the time. This implies that expenditure on accommodation may have been overestimated while that on food and beverages underestimated. The data collected does not allow for estimating the extent to which this may have occurred. It is however, not expected to be of serious consequences because only questionnaires which provided the relevant information on items of expenditure were retained for analysis. Regarding psychographic variables, it is not surprising that for this category of tourist spending, gastronomy is an important driver.

4.4. Shopping

Expenditure on shopping provide a surprising outcome. It is found that income does not influence the amount spent on shopping. It is the only item of expenditure which is not statistically related to income. In, addition, contrary to the previous items of spending analysed so far, age is statistically significant. Every extra year implies a fall in expenditure on shopping of 0.7%. Interestingly, this is in contrast to information provided by Eurostat (2020). Eurostat (2020) looks at the impact of age on European travel level and finds that the level of tourist expenditure increased up to the group aged between 45 and 54, which accounted for

20% of the total expenditure. However, it decreased for each additional year after that, which is in line with the findings here. Amongst the trip-related variables, the length of stay has a negative consequence on the expenditure on shopping, in line with its effect on other spending categories. Interestingly, diverse results are found for shopping and hotel accommodation or campsites. Tourists staying in hotels spend 33.2% more, whilst those staying on campsites spend 45.4% less indicating that they are more budget conscious. As for the psychographic characteristics, spending on shopping is the only one for which all variables are statistically significant. As a matter of fact, tourists who declare themselves to be neutral with respect to natural attractions and gastronomy spend 48.6% and 32.2% more than those who declare them not to be important; while tourists who declare that natural attractions and gastronomy are relevant in their choice of destination spend 42.8% and 23% more with respect to the reference category.

4.5. Culture

The income variable coefficients show that, compared to the reference low-income group, high-income and middle tourists spend 25.7% and 20.9% extra compared to the reference category. Similar to shopping, age is statistically significant and implies that each additional year of age leads to a − 0.6% lower spending on this category. Among the trip-related variables, only the length of stay (−3%) and hotel accommodation (31%) are statistically significant, whereas none of the tourist psychographic characteristics have shown to be significant in terms of expenditure on culture. This last result is unique for this category of tourist spending, because for all other spending categories, at least one of the psychographic variables has been observed to be significant. The findings for this category are very important because cultural tourism is one of the fastest growing markets (UNWTO, 2019) and studies such as Petit & Seetaram (2019) emphasise on the role that culture plays on influencing demand for the destination. It is often stated that longer holidays provide travellers with more opportunities for consumption, but the findings here show that it is not necessarily the case. A longer duration of stay may have a detrimental effect on demand for the high-end cultural products of the destination. Consumers who stay longer at the destination, may choose to opt for cheaper cultural products to accommodate their lower expenditure per day.

4.6. Recreation

Column 6 of Table 4 reports the empirical results for tourist spending on recreation. The crucial role of income is confirmed for this category of expenditure. Middle (24.2%) and high-income (22.9%) tourists spend more on this category than the reference low-income ones. As for socio-demographic variables, being a student has a negative effect on expenditure on this category (−45.8% with respect to employed status) and similar observations are made for the variable age (−0.8%). A negative effect is again obtained for the length of stay (−2.8%). Finally, in the category of psychographic determinants, the highest effect observed are from those who are either neutral to or who declare that natural attractions of the destination to be very important to them.

5. Discussions

The findings from this study show that relevant additional information are obtained when tourism expenditure per day is disaggregated into different items of expenditure. They contribute to our understanding on the expenditure behaviour of the British tourists. Substantial differences are observed on the relevance of the explanatory variables for each categories of expenditure and on the magnitude of their effects. The decomposition provides richer understanding of the demand determinants. This study confirms some of the findings from Gómez-Déniz et al. (2019) and show that the prominent determinants of expenditure are 'income', 'length of stay', 'reason for travel'. One important

contribution of this study are the findings around length of stay and types of expenditure. In fact, length of stay is the only explanatory variables which is significant and has a consistently negative effect on expenditure across all expenditure categories. The findings here contradict the assumptions from Almeida et al. (2021) who state that reduction in length of stay will reduce expenditure at the destination as it reduces the opportunity for consumption. The findings of this study indicate that the British traveller has a set total budget which is not dependent on the number of days that they intend to stay at the destination, and this can have important policy implications. Taking measures to encourage travellers to stay longer is unlikely to increase the total amount spent for their trip. Instead, their daily budget will be lower. They will stay at cheaper accommodation and spend less on food and drinks, shopping, culture and recreation.

Income is the next most important determinant with a strong effect on all items of expenditure thus, confirming findings from the literature (Wang & Davidson, 2010) but for shopping. The difference in spending between high- and low-income travellers is highest for types of accommodation. Higher income travellers spend significantly more on accommodation, food and beverage and culture than lower- and middle-income travellers. The type of accommodation used by travellers is the third most important variable in explaining the level of expenditure for each category but for recreation. Travellers who stay at hotel spend significantly more on accommodation, shopping and culture. While on the other hand, those who camp spend significantly less on accommodation and shopping and the results for culture are not significant. The original questionnaire included several variables to account for the psychographic characteristics of the travellers however, only Gastronomy and Natural Attractions were retained for further analysis. The findings of this research show that British travellers who chose Gastronomy as one of the attractions of the destination tend to spend more on all categories of expenditure other than culture and recreation.

Another important contribution of this paper is that it is one of the few which analyses the pattern of expenditure of VFR travellers. This market remains under-researched. Studies on this market tend to hypothesis that its contribution to the destination is lower because the VFR market spend less on accommodation as they stay with a local host and therefore, contribute less to the economy of the destinations. These claims are refuted in Backer (2015) who show that the reputation of VFR as low yield tourist is often is a misjudgement occurring from errors in data classifications. She shows that although this market spends less on accommodation, VFR travellers in Australia are patrons of local attractions and spend significantly more on other items such as restaurants and shopping. The current paper however, contradicts the findings from Backer (2015). The study here shows that British travellers who stayed with local hosts also spend less on food and drink compared to the other types of travellers. They seem to spend more on shopping however, these results are not statistically significant. Prior to the Covid-19 pandemic, travel for VFR purposes was one of the fastest growing outbound market from the UK. The findings here show that in spite of an expected increase in arrivals for this category of travellers, the economic impact can be expected to be lower than from other markets. The yield from this market remains lower. Hence, although as argued in Gozgor et al. (2021) this market can assist in recovery in the post-pandemic phase, the lower yield indicates that the destinations may not benefit as much. Pent up demand from this market is unlikely to significantly alleviate problems associated with shortages in cash flows that the tourism-related businesses are currently experiencing.

The findings create the profile of the highest spending tourist from the UK who is a high-income male tourist, who is employed and around 47 years old. He stays in a hotel, is interested in the local cuisine and travels for reasons other than VFR. He is willing to spend more on accommodation, food and beverages, and shopping than the other categories. The longer he stays at the destination the less he spends per day. The implication is that a destination which is encouraging British tourist to stay longer will be favouring the cheaper forms of accommodations.

On the other hand, marketing short breaks to the British tourists is more likely to increase the yield from this market. For example, by having a higher turnover of British tourists, destinations can ensure a constant demand for their products and a more vibrant market. This profile obtained in this study can be of interest to specific segments of the tourism market, such as food tourism. This form of tourism places great emphasis on experiences and attractions related to food. Organising food related events and experiences at destinations can be a good way of attracting high yield British tourists.

6. Conclusion

Tourism exports have been growing rapidly in recent years until the Covid outbreak. Competition for travellers which was already quite strong may get even fiercer in the post pandemic recovery phase when travel restrictions may limit demand and destinations relying heavily on tourism will be even more keen in attracting visitors. It will be more important for each destination to have a better understanding of its markets. An important step in this direction is the full understanding of the main drivers of tourist expenditures especially from key markets. These expenditures are incurred on a multifaceted and diverse collection of products and services. There are a priori no reasons to assume that the different items that comprise tourist expenditures are explained by the same set of explanatory variables or that there are any similarities or patterns in the magnitude or direction of the relationship between explanatory variables and items of expenditure.

This aim of this study is to contribute to the existing literature by determining the factors that affect the expenditure of British tourists and increase our knowledge on how length of stay or travelling for VFR purpose influence expenditure on different items of consumption. The British market is studied because it is important for the region and other destinations. The expenditures are disaggregated into five expenditure categories (accommodation, food and beverage, shopping, culture, and recreation) and following Wang & Davidson (2010) four groups of explanatory variables (economic constraints, socio-demographic attributes, trip-related and psychographic variables) are used. The findings of this paper enrich our understanding of the behaviour of British travellers with regards to the factors which influence the decisions taken on how much to spend per day at the destinations and their motivations behind this level of expenditure.

The two most important variables in determining demand are length of stay and income. To summarise the findings, length of stay is the only variable which is significant across all categories of expenditure. Income is the second most important factor. It is seen that compared to the low-income tourists, the total amount of money spent per person per day is almost double for high-income tourists and more than 20% higher for middle-income tourists. Furthermore, high-income tourists spend more than middle-income tourists on accommodation, food and beverages, and culture. As for the socio-demographic variables, males spend more than females in total and on food and beverages. Being unemployed reduces total spending by one third while being retired also decreases spending on food and beverages. Students spend less on recreational activities. Finally, age reduces expenditure on shopping, cultural and recreational activities, although the effect is relatively minimal.

Regarding the category of trip-related variables, the number of nights spent at the destination and the categories of accommodation are influential on expenditure behaviours. The length of stay reduces expenditure per person per day in all categories. Tourists who choose to stay in hotels have higher total spending and shopping and culture. Conversely, both camping and VFR tourists spend less in total, resulting in lower expenditure on accommodation and expenditure on food and beverages. Furthermore, tourists who opt to use campsites have a significantly lower level of shopping expenditure. The two psychographic characteristics considered in our analysis (natural attractions and gastronomy) have demonstrated a positive impact on total expenditure per person per day. Moreover, natural attractions have also

shown a very important positive effect for cultural and recreational spending. Gastronomy is revealed to be an important driver for expenditure on accommodation, food and beverages, and shopping.

To conclude, this analysis confirms the importance of disaggregating tourist expenditure into its components to understand the determinants of tourist expenditure behaviour. Such information is extremely valuable for managers, researchers, and policymakers since it enables them to gain direct and beneficial insight into how a particular factor affects the different spending items. There are many examples of the advantages that it generates, and two are given as follows: Firstly, managers of tourism firms can use this information to generate specifically customised marketing campaigns for a market segment. Secondly, local authorities can employ the information they require in planning and devising strategies to increase the growth of the tourism industry in their areas more efficiently and effectively.

This type of studies however, relies on respondents' willingness and ability to provide accurate information on past expenditure. These criteria are however, not always met. Respondents may not recall the amount they spend on each category because of the time lapse between consumption and filling of questionnaires. This has meant that the subsamples in this study are significantly smaller than the total sample resulting from missing values. They may not as presentative of the British population as desired but they are nevertheless, large enough for statistical inferences and the findings are reasonable and consistent.

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