

# **Cultural participation of tourists – evidence from travel habits of Austrian residents**

**Marta Zieba**

*Department of Economics, Kemmy Business School, University of Limerick, e-mail:  
marta.zieba@ul.ie*

May 2015

[First draft]

## **Abstract**

This paper examines how the individual characteristics of a tourist and other factors related to the type of the trip affect the decision that he or she would choose cultural participation as their primary travel motivation. The data comes from a national telephone survey in Austria, known as Travel Habits of Austrian Residents, conducted for the years 2008 and 2009. Using observations on 8587 respondents and their 14,646 trips, a series of logistic and negative binomial regressions are employed to identify the effects of demographic and socioeconomic characteristics of tourists, and of the attributes of the trip, on both the likelihood and frequency of cultural participation. The findings of this study have practical implications for cultural managers. Although tourism is often promoted as a way to escape from everyday routines, the actual choice of cultural consumption in the tourism arena appears to be dictated by individual characteristics of tourists. Nevertheless, factors related to the character of a trip are also significant in determining cultural participation of tourists.

**Keywords:** cultural tourism, travel habits, logistic and count-data regression, Austrian residents.

**JEL Codes:** Z11, L83, D12, H44

## 1. Introduction

According to McKercher (2002) little research has been published examining the market for cultural tourism in general and its impact on the consumption of cultural activities. This is mainly because of the lack of appropriate data that could quantify the importance of cultural tourism on an international basis (Richards, 1996). On the other hand, there have been several studies examining the demand for cultural goods (see for example Diniz and Machado, 2010), the participation in the arts and culture (O'Hagan, 2014; Falk and Katz-Gerro, 2015), and in particular the consumption of performing arts from both individual level (households or individuals) and aggregate level (countries, regions or institutions) perspective.<sup>1</sup>

Despite the lack of data on cultural tourists, many researchers have argued that the demand for cultural tourism is growing and identified it as a major future growth area both in Europe and elsewhere (see for example Richards, 1996; Zeppel and Hall, 1992). The important role of tourism in cultural consumption has also been recognised by World Trade Organisation (WTO) which estimated that the cultural tourism accounts for 37 per cent of all tourist trips and that its demand is growing by 15 per cent per annum (Richards 1996). More recently, the European Commission Communication (2010) also recognised the significant role of cultural tourism. However, with the absence of adequate data and further research on cultural tourism, the rational policy formation might be difficult.

Austria is not only one of the most favoured tourist destinations where the foreign tourism is growing considerably and the average tourist expenditure per capita has been one of the highest in Europe.<sup>2</sup> Austrian residents also frequently travel, both domestically and abroad. According to BWMFJ (2011), whereas in 1969 only 28 per cent of total population in Austria were travelling for their main holiday destination (at least four nights), in 2006 a record number of 63 per cent of people was achieved. In general, the number of all trips undertaken by Austrian residents increased threefold from 2.4 million people in 1969 to 8.9 million people in 2011. Furthermore, the number of foreign (outbound) trips increased 5 times from 1.1 million since 1969 and it was 5.7 million in 2011. The number of domestic

---

<sup>1</sup> See Seaman 2006 for an overview of early studies and the more recent studies of Werck and Heyndels 2007; Ateca-Amestoy 2008; Zieba 2009; Zieba and O'Hagan 2013, Willis and Snowball 2009, Grisolia and Willis 2012; Laamanen 2013; and Wen and Cheng 2013).

<sup>2</sup> Zieba (2015) provides an overview of the domestic and foreign tourism sector in Austria.

trips undertaken by residents increased from 1.3 million to 3.1 million trips. This data is compatible with the general trend that foreign tourism is growing much faster than the domestic tourism.

The paper contributes to the growing debate on the importance of cultural tourism. It investigates how the individual characteristics of a tourist and other factors connected with the type of the trip will affect the decision that he or she would choose cultural participation as their primary travel motivation. The data is taken from a national survey, known as Travel Habits of Austrian Residents which was conducted by the Central Statistical Office in Austria for the period 2008 - 2009. The data set includes information on Austrian residents who travelled during the past three months and it also contains observations on every trip undertaken by those individuals. Using this detailed and novel data set, we employ the logistic and count data regression techniques in order to examine both the likelihood of participating in cultural tourism as well as the intensity (or frequency) of such participation.

In order to explain factors influencing the cultural participation of Austrian tourists and the frequency of cultural participation, we test two contrasting hypotheses. First, according to 'spillover' theory cultural participation of tourists is an extension of everyday life and hence preferences of tourists correspond with their habits at home. Thus, given available data, we examine demographic characteristics of Austrian residents such as age, gender and number of children in the household; and their socioeconomic status such as education, income and employment status. These factors are important determinants to participate in culture at home and hence they might also positively affect the decision to participate in cultural attractions while on trip. Second, we test a traditional or 'compensation' hypothesis which states that a tourist's experience might be separated from everyday life. Hence, tourists once away from home will behave differently and will tend to consume other goods or services. To test the latter hypothesis, we examine how the type of the trip (domestic or abroad) will affect their travel habits with regard to cultural participation. We also include other attributes of the trip such as: length of stay, accommodation type, travelling mode, the number of persons travelling and the month of travel. In fact, this is the first article to look at such a broad range of

factors which might have an effect on cultural tourism, some of which have not been used before in any study.

The paper is organized as follows. The next section presents the literature review, and this is followed by the description of data sources and the variables used in section 3, and the methodology in section 4. The last two sections discuss the empirical findings and conclude the paper.

## **2. Literature Review**

Cultural tourism usually refers to trips that include visits to such places as museums, art galleries, historical and archaeological sites, festivals, architecture, artistic performances, and heritage sites.<sup>3</sup> It should be, however, noted that tourism literature has not yet settled on a single definition for the term “cultural tourist”. Many studies also attempted to classify different types of cultural tourists, both by type of cultural attraction (e.g. museums, performing arts or cultural heritage) and by individual preferences of tourists (e.g. occasional or intentional cultural tourists). In particular, Stylianou-Lambert (2011) and McKercher (2002) provide an extensive discussion of literature on different cultural tourist typologies.

In the literature on cultural tourism we can generally find two main hypotheses which can explain cultural participation of tourists. Under a ‘traditional’ or ‘compensation’ theory, tourists once away from home will behave differently and will consume other goods and services while on trip such as cultural goods. ‘Tourists are envisioned to adopt a *tourist gaze* as soon as they find themselves at a foreign destination’ (Stylianou-Lambert, 2011, p. 407). As argued by McIntyre (2002), for example, we can describe a tourist experience as “a form of escape from the constraints of the individual’s everyday world and the need for the compression of worthwhile time – the ‘*might never be back here*’ syndrome”. Another argument explaining the traditional hypothesis is the fact that consuming cultural experience requires consumer’s own time. Tourists may have more leisure time at their disposal than at home as their price of leisure, measured by the opportunity costs of time,

---

<sup>3</sup> A similar definition is used by Craik (1997, p. 121): “Cultural tourism consists of customised excursions into other cultures and places to learn about their people, lifestyle, heritage and arts in an informed way that genuinely represents those culture and their historical contexts”. Hence, under term “culture” we understand here a broad term which, in addition to the arts, encompasses a range of characteristics which help to define an area and its population, including customs and traditions, language and literature.

may be zero.<sup>4</sup> Tourists may also be more likely to visit an opera, festival or museum simply because of the fact that a theatre or a museum is one of the attractions in the region. As noted by Craik (1997), for the non-opera-goer, placed in ‘causal’ contact with opera at a chosen destination, the availability of the opera – and time to kill – may persuade the tourist to sample something they never would at home. We can argue that the latter argument particularly applies to trips undertaken abroad on which tourists are keen to visit a national opera or heritage site in order to learn more about the cultural endowment of the country.

On the other side, many recent studies on cultural tourism recognised the fact that tourists carry over their everyday life experiences to the tourism arena which results in a similar pattern of cultural consumption and while on trip. Even in the cases where the main motivation for traveling was to leave one’s everyday life behind, it was found that tourists still try to retain many of the routines of their own culture, or at least those that are close to their sense of identity (Stylianou-Lambert, 2011). This argument implies that a tourist who visits an opera performance or a museum while on trip, is already predisposed to do so. For example, Hughes (1987) argues that certain tourists will be present in the opera audience as non-holiday makers, as an extension of the normal journey to attend an opera production. Hence, the concept of everyday life often appears in opposition to behaviour that takes place away from home. This supports the so-called spillover hypothesis which implies that individual preferences of tourists and their habits at home will also impact in the same way their cultural participation while on trip.

To our knowledge, there has been until today relatively little research which could try to identify a close linkage between socioeconomic, demographic status of tourists and the characteristics of the trip on the one hand, and their motivation to participate in cultural attractions on the other. Nevertheless, the support of both hypotheses can be already found in the previous literature on cultural tourism. With regard to the compensation hypothesis there is indeed proof that tourists prefer to visit art museums when they travel abroad (McIntyre 2007; Borowiecki and Castiglione 2014). Zieba (2015) also finds that foreign tourists, in contrast to domestic tourists, have a positive and significant effect on theatre attendance in

---

<sup>4</sup> See Zieba (2009) for an exact definition of price of leisure and its application to estimating the demand for German public theatres.

Austria. It has also been shown that tourists at art festivals tend to be mature professionals with high income who are willing to travel to attend major cultural events which. This in turn supports the spillover hypothesis. Similar findings were found with respect to tourists who visit museums (Harrison, 1997) and Craik (1997) also suggested that people with lower educational level are unlikely to consume cultural tourism.

Perhaps the most comprehensive study which could quantify the effects of education and other socioeconomic and demographic factors of tourists on their cultural participation was the work by Kim, Cheng and O'Leary (2007). The authors used a series of logistic regression models and identified the effects of gender, age, income and education characteristics of domestic tourists on their participation in four clusters of cultural attractions in the U.S. market. They found that the level of income and education is positively related to participation in the cluster "festival and musical attractions" which includes among others the participation in theatre festivals, opera, ballet and dance performances, and also classical concerts. Additionally, their results indicate that rather the youngest group (below 30) had significantly higher tendency for the participation in this group of performances, compared to other two age groups. Similar results were found for the cluster concerning museums and art galleries except for age which was not a statistically significant predictor for participation in this cluster.

In this study, we also attempt to shed some light on the factors that might affect the decision of tourists to participate in cultural attractions. Applying both logistic and count-data regression procedures, we examine not only the decision of an individual to take part in cultural tourism but also the intensity of such participation. Although our study does not allow us to segment the cultural tourists into different arts clusters, we define as a cultural tourist any individual whose motivation is solely cultural participation or cultural consumption. Consequently, our paper is concerned rather with 'true' cultural tourists as opposed to 'casual' cultural tourists.

Furthermore, in the support of the spillover hypothesis, we argue that the decision to choose cultural activities as the main travel purpose will depend on the individual preferences of individuals at home which in turn correspond with their demographic and socioeconomic characteristics. For this reason, we investigate those explanatory variables which explain the participation in culture in general as

we expect that they will have a similar effect on the cultural participation of tourists. Nevertheless, in line with the compensation theory, we also study the differential role of the temporal effect on consumer behaviour and argue that not only the characteristics of the individuals but also attributes of the trip can influence the choice of tourists to participate in culture.<sup>5</sup> Furthermore, it should also be noted that this study, similarly to Kim et al. (2007), also contributes to the existing literature, by employing a national survey data set which does not limit our results to a specific context but examines the representative sample for all tourists in Austria.

### **3. Data and Variables**

#### *3.1 Data Source*

The data source used in this study is a survey on travel habits of Austrian residents also known as '*Reisegewohnheiten der österreichischen Bevölkerung*'<sup>6</sup>. The survey was conducted by the Central Statistical Office in Austria '*Statistik Austria*' during the period 2008-2009. The sampling method consisted of one stage which was conducted through telephone survey, following a stratified random sampling.<sup>7</sup> About 3,500 persons above 15 years of age were contacted by telephone each quarter from 2008 until 2009. The participation in the survey was voluntary and the respondents were asked about their trips which were undertaken in the past three months. From the comprehensive data set, about 55 variables were collected and some of the categorical variables were anonymised through the generalisation of categories.

The sample includes information on 20,318 trips collected from the sample of 23,701 Austrian residents. The latter data file includes information on individual characteristics of respondents such as age, gender, socioeconomic and demographic variables. It also includes information on the number of trips undertaken, if any and if the trip was domestic or abroad, and also if the trip was a one-day or longer trip. The trips-related data file includes information on each of the trips undertaken by

---

<sup>5</sup> It should be noted that the consumption patterns of 'true' cultural tourist can be explained not only by the 'spillover' hypothesis but also under the 'compensation' theory.

<sup>6</sup> [www.statistik.at/web\\_de/services/mikrodaten\\_fuer\\_forschung\\_und\\_lehre/datenangebot/standardisiertere\\_datensaetze\\_sds/index.html](http://www.statistik.at/web_de/services/mikrodaten_fuer_forschung_und_lehre/datenangebot/standardisiertere_datensaetze_sds/index.html)

<sup>7</sup> A source of selection for the stratified random sampling was the central registration register (der *Zentrale Melderegister*) in Austria. The information about age, gender and place of residence (federal region in Austria) was collected for both those respondents who travelled and those who did not travel in the last three months.

the respondents during the past three months. It includes information on the attributes of the trip (e.g. mode of travel, month of travel and type of accommodation). This data file also includes information on participation in culture while on trip which was identified by the question “*What was your main travel purpose*” where one among nine possible categories was “*culture and sightseeing*”.<sup>8</sup>

This study matches the demographic and socioeconomic characteristics of tourists from the personal data file with information on every trip undertaken by those respondents. The data on those residents who did not travel at all during the specified period of time was not used in this study. We also excluded observations on one day trips as information on those trips was available for domestic trips only, leaving a total of 10,695 observations in the personal data file and a total of 17,178 observations on trips.<sup>9</sup> We also excluded missing observations for some of the variables and hence the effective sample reduced to 8587 individuals and 14,646 trips. Due to the design of the survey discussed earlier, we also divide the sample of all trips into two sub-samples, depending on trip destination: 7692 domestic trips and 6954 foreign trips.

### *3.2 Description of Variables*<sup>10</sup>

In this study we investigate both the likelihood of participating in cultural tourism and in the intensity (frequency) of such participation. Hence, we formulate two models with two corresponding dependent variables. First, using the sample on individual trips, we formulate the participation model (*model 1*) in which the dependent variable,  $Y_1$ , is binary taking the value of one if a resident has chosen culture as his/her travel motivation while on his/her trip during the past three months and zero otherwise. Second, we formulate a count-data model to examine the frequency of cultural participation (*model 2*). We group observations on trips for

---

<sup>8</sup> Other possible choices included: business trip, visiting relatives or friends, training/education, shopping, active (recreation) holiday, seaside holiday, relaxation holiday, health and fitness holiday.

<sup>9</sup> Excluding one-day travellers from our specification is also consistent with the official definition of tourism. According to Bull (1995) and the WTO, we define as “tourists” only the visitors to a country that are staying at least 24 hours, for the purposes of leisure or business, whereas temporary visitors staying in a country less than 24 hours, for the same purposes (excluding transit passengers) are defined as excursionists or just simply one-day travellers. Therefore, we exclude the observations of one-day visitors.

<sup>10</sup> The description of all variables used is presented in Appendix 1.

every respondent in the sample who travelled at least once during the past three months. The dependent variable,  $Y_2$ , takes a form of a count variable indicating a number of times (zero, one or more) a tourist had chosen culture as the main travel reason during the past three months.

According to cultural economics literature, the main factors influencing the likelihood and frequency of cultural participation in general, are the socioeconomic and demographic characteristics of individuals (see for example, Wen and Cheng 2013, Falk and Katz-Gerro 2015, Borgonovi 2004). Thus, following the spillover hypothesis, we assume that similar factors will influence cultural participation of tourists. There has been so far an agreement that education is one of the most important factors influencing the participation of individuals in the arts (see O'Hagan 2014). According to Palma et al. (2005), a higher general education is linked to cultural capital which in turn is the ability to understand the symbolic message of cultural goods. According to Ateca-Amestoy and Prieto-Rodriguez (2013), cultural capital is determined by one's own general education, education transmitted by parents, early exposure to the arts and specific artistic training. Findings in the empirical literature of the performing arts attendance show for example that participation increases as general education and income levels rise (Falk and Katz-Gerro 2015, Borgonovi 2004). The previous literature on cultural tourists' behaviour also indicates the linkage between socioeconomic status and their participation in cultural attractions. Hall and Zeppel (1990) revealed that tourists at arts festivals tend to be mature professionals with high income who are willing to travel to attend major events. Craik (1997) suggested that people with lower educational level are unlikely to consume cultural tourism. Following this, we use education level of Austrian tourists as the explanatory variable which, according to spillover hypothesis should have positive effect on the decision of tourists to choose culture as their primary travel motivation.

Another important socioeconomic factor is the level of income of tourists. Many numerous demand studies on culture and arts (see above) also confirmed the impact of income on cultural consumption. They found that the demand for cultural goods increases with rising level of incomes. We also would expect the income elasticity of demand for cultural goods to exceed one but the empirical evidence with regard to the effect of income is mixed. This may be due to the fact that to participate in

cultural attractions usually requires a sizeable amount of leisure time. Thus, the income effect can be a net effect of two factors: a positive large full-income effect and a negative leisure-price substitution effect (see Zieba 2009; Zieba and O'Hagan 2013, Withers 1980). Whereas our data set does not include information on personal income of respondents, we include average expenditures per trip as the explanatory variable in order to control for the effect of income on choosing cultural attractions while on trip.

We also assume that age is an important demographic determinant of cultural participation of tourists as culture is an acquired taste and people need time to appreciate arts. If cultural tastes develop over a long period, there should be a positive effect of age on cultural participation of tourists. Furthermore, we include the status of employment and distinguish between the employed persons, those seeking employment, students and retired persons. The effect of the status of employment cannot be however predicted a priori. First, we can assume that the employed persons have a higher probability of choosing to attend cultural performances while on trip due to the fact that they are better educated and with higher incomes. Herbert (2001), for example, found that tourists visiting heritage sites usually belong to relatively higher social class (managerial, professional and white-collar workers). On the other hand, those in employment may have higher opportunity costs of leisure time and they will not consume the cultural performances at home and also when away on trip.

In this study we also include a dummy variable for children in the respondents' households in order to control for time availability and opportunity costs of time of the respondents. We assume that persons with children under the age of 15 are less likely to participate in cultural activities at home and thus they will also not participate in cultural activities once away on a trip. Moreover, as found by McIntyre (2007), children are an integral part of determining the holiday experience and they are largely considered as a constraint in the ability of adults to take their ideal holidays.

Besides the individual characteristics of tourists, we also include, in line with compensation hypothesis, other factors which are connected with the concept of the tourist experience as separated from everyday life. These include attributes of the trip undertaken by tourists. First of all, we differentiate between domestic trips and

foreign trips, as we postulate in this study that tourists will be more likely to participate in cultural attractions abroad than in their home country (see also section 2). Furthermore, we use other attributes of the trips such as the number of persons travelling, number of nights spent, mode of travel, type of accommodation and travel month as well as the expenditure per trip. Following our previous discussion, we also assume that tourists who travel domestically or abroad have different preferences with regard to their decision to participate in cultural activities.

### 3.3 Descriptive Statistics

Table 1 presents the distribution of the dependent variables which are specified for participation model (*model 1*) and frequency model (*model 2*), respectively. The first dependent variable,  $Y_1$ , is binary and indicates the decision of a tourist to participate in culture while on trip. We can see that 15.6 per cent of all trips were undertaken for cultural reasons. Whereas only 8 per cent of all domestic trips undertaken by Austrian tourists were for cultural reasons, 24 per cent of foreign trips were cultural trips. The second dependent variable,  $Y_2$ , presents the number of trips undertaken during the past three months on which the respondent has chosen culture. We can also see that on average this number is only 0.26 and there is a higher frequency of choosing culture as travel reason on foreign trips (0.19) than on domestic trips (0.07).

**Table 1:** Summary statistics of the dependent variables

Model	variable and description	statistics	all trips	domestic trips	foreign trips
<i>model 1</i>	$Y_1$ - trip for cultural reasons 1=yes, 0=no	%	15.6	8.0	24.1
		No. trips	14,646	7692	6954
<i>model 2</i>	$Y_2$ - the number of trips on which a tourist participated in culture	Mean (St. Dev.)	0.26 (0.55)	0.07 (0.31)	0.19 (0.46)
		No. respondents	8587	8587	8587

Table 2 presents also the distribution of the dependent variable for *model 2* in per cent of all trips undertaken by the individual respondent. We can see that the majority of Austrian tourists have not chosen culture as their main travel reason on any of their trips (77 per cent) and this in particular applies to domestic trips when only 6.3 per cent of tourists have chosen culture as the main travel reason. This is in

contrast to 17 per cent of respondents who have chosen culture at least once for their foreign trips. Furthermore, 19 per cent of respondents went only once on a cultural trip, 3 per cent of respondents have chosen culture twice while only 1 per cent of all tourists participated in culture more than twice.

**Table 2:** Distribution of the dependent variable for *model 2*

In %	all trips	domestic trips	foreign trips
Never participated	77.43	93.71	82.76
Participated at least once:	22.57	6.29	17.24
only once	19.23	5.71	15.11
twice	2.80	0.46	1.94
more than twice	0.57	0.12	0.19
No. observations	9836	9836	9836

Table 3 presents the distribution of the characteristics of respondents who travelled in Austria or abroad during the past three months, and also the number of trips undertaken by those individuals. First, 50 per cent of respondents are female tourists and 31 per cent of individuals in the sample have at least one or more children under the age of fifteen. As regards the age categories, 40 per cent of all respondents were aged between 35 and 54 years, followed by those aged 55 years and more (36 per cent) and the youngest group aged between 15 and 34 years (24 per cent). Second, as regards the educational background we found that 17 per cent of respondents hold primary degree<sup>11</sup> and the majority of the respondents (with 63 per cent) have the secondary education. Those with tertiary education constitute 20 per cent of respondents. Regarding the occupational status, unemployed persons constitute only 2 per cent of the tourists and those in employment account for 49 per cent. Those in employment include workers and employees (41 percent), and civil servants (8 percent). There are also 7.6 per cent of self-employed people in the sample and almost 10 per cent of tourists are trainees. It is also remarkable that 32 per cent of tourists were out of labour force where the majority of those (86 per cent) are retired persons. Finally, the number of all trips undertaken by the individuals is 1.7 and on average the number of domestic and foreign trips is very similar and equals 0.9 and 0.8 respectively.

<sup>11</sup> This group includes also those with no degree which accounts to 1.64 per cent of all individuals in the sample. The results were not different when this group was treated separately in the model or when it was included together with the primary education.

**Table 3: Summary statistics of personal data file**

Variable	Statistics		Statistics
<i>Gender (%)</i>		<i>Occupational status (%)</i>	
female	50.2	employed*	41.2
male*	49.8	selfempl	7.6
		civilservant	7.6
		housework	4.2
<i>Age class (%)</i>		trainee	9.7
age_1 (15 - 34 years)	23.9	retired	27.7
age_2 (35 - 54 years)	39.9	unempl	2.0
age_3* (> 55 years)	36.2		
<i>Education (%)</i>		<i>No. of trips (mean)</i>	
edu_1 (1=no education/primary)	17.3	all	1.70 (1.29)
edu_2 (2=secondary)	63.0	domestic	0.89 (1.20)
edu_3* (3=tertiary)	19.7	abroad	0.81 (0.91)
<i>Family status (%)</i>		<i>No. observations</i>	
child*	31.4		8587
no child	68.6		

*Notes:* \* denotes reference category. Where applicable, the standard deviation is presented in brackets.

Whereas Table 3 presents the personal characteristics of tourists and the average number of trips undertaken by those individuals during the past three months, Table 4 presents the summary statistics of the attributes of those trips. We present the summary statistics for all trips in column (1) and for domestic and foreign trips, in columns (2) and (3), respectively. In total, 52 per cent of trips chosen by Austrian residents were foreign trips and 48 per cent of trips were undertaken domestically. According to column (1) of Table 4, the majority of Austrian tourists travel alone (44 per cent of all trips) or with one accompanying person (39 per cent of all trips), followed by two persons or more (17 per cent of all trips). The same distribution can be found for both domestic and foreign trips.

Table 4 also presents that Austrian tourists travel on average 5 days and they tend travel for shorter intervals on domestic trips (3.7 days) in contrast to foreign trips on which they spend about 7 days. Two thirds of the trips are also organised with a paid accommodation as opposed to unpaid accommodation (33 per cent). Whereas the most common mode of travel is car for all and domestic trips, plane is the dominating role of transport for foreign trips. With regard to seasons, there is approximately an equal distribution of trips during autumn, winter and spring season, whereas during summer around 40 per cent of all trips occur. The average expenditure per trip is 871 EUR and as we would expect, given the distance and

longer trip duration, the expenditure per foreign trip is two times higher than the average expenditure for a domestic trip.

**Table 4:** Summary statistics of trips-related data file

Variable	all trips	domestic trips	foreign trips
	(1)	(2)	(3)
<i>No. persons travelling (%)</i>			
pers_1 (1 person)*	43.5	43.9	43.0
pers_2 (2 persons)	38.8	38.5	39.1
pers_3 (>2 persons)	17.7	17.6	17.9
<i>No. nights (mean) - length</i>	5.16 (5.57)	3.70 (4.20)	6.75 (6.40)
<i>Accommodation (%)</i>			
paid	67.4	65.3	69.8
unpaid*	32.6	34.7	30.2
<i>Means of transportation (%)</i>			
car	60.9	77.91	42.3
train	10.4	14.23	6.11
bus	7.81	5.62	10.2
ship	1.71	1.52	1.9
aeroplane*	19.2	0.65	39.5
<i>Season of travel (%)</i>			
spring	23.7	22.5	25.0
summer	39.2	37.3	41.4
autumn	18.5	16.8	20.4
winter*	18.5	23.4	13.2
<i>Expenditures in EUR</i>	871.6 (952.6)	508.8 (408.2)	1319.0 (1206)
<i>Type of the trip</i>			
domestic	52.32	n/a	n/a
foreign	47.68	n/a	n/a
No. Observations (max)	14,646	7692	6954

*Notes:* \* denotes reference category. Where applicable, the standard deviation is presented in brackets.

#### 4. Methodology

In this study we examine the factors affecting the travel choices of cultural tourists by employing two alternative methods. First, we formulate a participation model (*model 1*) in which we examine the likelihood of an individual that he or she would choose cultural activities as the main travel reason. We assume that the decision of a tourist to travel for cultural reasons is influenced by his/her cultural preferences. In line with spillover hypothesis, the cultural preferences of tourists correspond with their habits at home and they in turn are connected with their personal

characteristics. Following the ‘compensation’ theory, we also argue that not only the individual factors but also attributes of a trip may influence the decision of an individual to travel for cultural reason. Thus, both personal characteristics and on trip-related factors will determine that the optimal choice of a tourist is to choose culture as their motivation for the trip. The following relation is given in equation (1):

$$Y_i = f(X_i) = f(Edu_i, Dem_i, Soc_i, Child_i, Trip_i) \quad (1)$$

where the dependent variable is dichotomous taking the value of 1 if a tourist travels for cultural experiences during the past three months and 0 otherwise. Among the explanatory variables,  $Edu_i$  represents the education level which is used as a proxy variable of stock for cultural capital.  $Dem_i$ ,  $Soc_i$  and  $Child_i$  provide information on the demographic and socioeconomic characteristics of tourists and his/her household, such as age, gender, occupational status, and the number of children. Finally,  $Trip_i$  denotes the vector of attributes connected with the nature of the trip undertaken by the respondents: destination of the trip (foreign or domestic), number of persons travelled, number of overnight counts, accommodation type, transportation mode, season of travel and expenditure per trip.

Following Reece (2004), the participation model (*model 1*) is estimated using the logistic regression method. We assume that each individual chooses whether to travel for cultural participation to maximise his/her utility. The logit model estimates then the probability of a tourist travelling for cultural reasons, as a function of explanatory factors explained above and it takes the following form:

$$p_i = \Pr[Y_i = 1 | X_i] = \frac{\exp(X_i\beta)}{1 + \exp(X_i\beta)} \quad (2)$$

where  $p_i$  is the probability that  $y = 1$  and  $X_i$  is the vector of explanatory variables as specified in equation (1). The values of the  $\beta$  - coefficients are estimated using maximum likelihood technique with the assumption that the error term is independently and identically distributed. In this specification, we use pooled (longitudinal) data on individual trips which are the repeated number of observations for each individual who has made more than one trip. As the different trips can be assigned to the same respondent, this may lead to correlation in the

patterns of cultural participation and standard logit models may produce incorrect standard errors. Therefore, we estimate the pooled logit model with cluster-robust standard errors by allowing the individual trips to correlate within the individuals.<sup>12</sup>

For our second specification (*model 2*), we examine the intensity of cultural participation using a count nature of the dependent variable which is defined as the number of times a tourist has chosen culture as his/her main travel reason during the past three months (see also Table 1). In this specification, the variables connected with the personal characteristics of tourists remain unchanged whereas the attributes connected with the type of the trip reduce to the number of trips only. This model involves employing a count-data method. We proceed by estimating a simple Poisson regression method that explains the number of times, a tourist reports choosing that activity during the past three months. The main limitation of this method is, however, that only one parameter describes the mean and the variance of the distribution. Due to the fact that our variable has excess of zero values (see discussion in section 3.3), the hypothesis of equidispersion is rejected by the goodness of fit test, and we estimate a negative binomial regression model that allows a greater degree of flexibility in the functional form by not imposing the same mean and variance. The negative binomial regression model takes on the following form:<sup>13</sup>

$$p_i = \Pr[Y_i = y_i | \lambda_i, \alpha] = \frac{\Gamma(\alpha^{-1} + y_i)}{\Gamma(\alpha^{-1})\Gamma(y_i + 1)} \left( \frac{\alpha^{-1}}{\alpha^{-1} + \lambda_i} \right)^{\alpha^{-1}} \left( \frac{\lambda_i}{\lambda_i + \alpha^{-1}} \right)^{y_i} \quad (3)$$

where  $\lambda_i$  is equal to  $\exp(X_i\beta)$ ,  $\Gamma(\cdot)$  is the integral of the gamma function and  $\alpha$  is the parameter of overdispersion. If parameter  $\alpha = 0$ , then the conditional mean is equal to conditional variance and there is no overdispersion indicating that the Poisson distribution is appropriate (Cameron and Trivedi, 2009, p.675). However, if  $\alpha > 0$  then the conditional mean is greater than the conditional variance and the negative binomial distribution is preferred. Given the presence of considerable overdispersion in our data (see Table 2), the negative binomial model should be considered. In

---

<sup>12</sup> Thus, we assume that observations are correlated within individuals, but uncorrelated across different individuals. See also Falk and Katz-Gerro 2015 for similar application.

<sup>13</sup> It should be noted that the regression models for counts have been widely used in the literature on the arts to analyse the participation intensity as well as consumption of various cultural goods (see for example Palma et al. (2013) and Ateca-Amestoy (2008) for the performing arts, or Brida et al. (2011) for museums attendance, or Fernandez Blanco et al. (2015) for books).

addition, the negative binomial method is particularly preferred if the goal of our study is to model the probability distribution and not just the conditional mean.

It should be noted that as our data sample includes a large amount of zero values, another alternative for the count-data model presented in eq. (3) would be the zero-inflated negative binomial regression method. This method has been applied in several studies on cultural participation in the arts and culture (e.g. Ateca-Amestoy and Prieto-Rodríguez 2013, Falk and Katz-Gerro 2015, Wen and Cheng 2013). The underlying assumption of this method is that the zeros are generated by two different data generating processes and that there are two latent groups of tourists: one group has no chance of choosing cultural tourism, i.e. going beyond zero (*'Always Zero Group'*), and another group of tourists may have a zero count, but the probability of having a positive count, i.e. choosing culture as their main travel motivation is nonzero. However, in contrast to the studies on cultural consumption, we do not apply this specification for one important reason. Namely, in line with the compensation theory, we assume that a tourist who never participates in culture at home, may still be likely to consume culture while on trip. Thus, we do not assume that there are some tourists in our sample that might never choose cultural tourism and that all tourists have a likelihood of having a positive count. Following this, the simple negative binomial model is applied.<sup>14</sup>

## 5. Empirical findings and discussion

The results of the logistic regression (*model 1*) are presented in Table 5 while the estimates of the negative binomial regression (*model 2*) are presented in Table 6. Both tables provide the results for all trips but also separately for domestic and foreign trips (columns from 3 to 6). Furthermore, for all types of trips (total, domestic and foreign), we also consider an alternative specification for the reduced sample of observations (columns 2, 4 and 6) where we include the following variables: the dummy variable indicating the presence of children in the household (*child*) and the expenditures per trip in EUR (*expenditures*).

In both tables numerous variables are statistically significant in explaining the likelihood that a respondent wants to travel for cultural reasons (*model 1*) or the

---

<sup>14</sup> We also estimated *model 2* using the zero-inflated negative binomial (ZINB) technique. Nevertheless, the Vuong test, BIC and AIC criteria did not definitely confirm that ZINB is a more appropriate specification than the simple negative binomial method.

occurrence rate of such trips (*model 2*). The  $\chi^2$  value for each of the models indicate that all specifications presented in Tables 5 and 6 are statistically significant at the 1 per cent level.<sup>15</sup> Furthermore, for the pooled logit model in Table 5, robust standard errors are presented which are clustered within individuals. For the negative binomial model presented in Table 6, a likelihood ratio test for alpha ( $\alpha$ ) parameter is applied. In each column of this table, the hypothesis that  $\alpha$  - parameter is equal to zero is strongly rejected. This test confirms an overdispersion in our data and that the Poisson estimator is inefficient with the standard errors biased downwards. Therefore, we conclude that the negative binomial estimator should be used.

The results for the sample of all trips in column (1) of Table 5 show that the dummy coefficient indicating gender is mostly always positive and statistically significant at 1 per cent level, indicating that female tourists are more likely to choose cultural participation as the main motivation to travel than male visitors. The same result is found for foreign trips (column (3)) but the effect of gender is insignificant or even negative for domestic trips (column (2)). However, in Table 6 (*model 2*) where the intensity of cultural participation is being tested, the effect of being female is always positive and statistically significant indicating that women are more likely to participate in cultural attractions than men. In particular, especially for foreign trips, the gender effect is found a lot stronger in contrast to domestic or all trips. These results confirm earlier studies that cultural tourists tend to be females (Kim et al. 2007) which are also in line with cultural participation studies (e.g. Falk and Katz-Gerro 2015).

When examining the effect of age, the oldest group (>55) which has been the reference category had a statistically higher tendency to choose cultural participation than the other two groups. Persons aged between 35 and 54 years of age denoted by parameter *age\_2* are statistically less likely to choose culture as their travel motivation. This finding is confirmed for all trips and foreign trips but not for domestic trips in Table 5. The same result can be found, however, for domestic trips in Table 6 when the intensity of cultural participation is being tested. Furthermore, the coefficient for people aged 35 or less is almost always negative but not

---

<sup>15</sup> It should be noted that while the sign of coefficients is directly interpretable, their magnitude is not. To obtain the latter, the marginal effects should be derived. However, the focus of this paper is the examination of the direction of the effects of the explanatory variables (the sign and significance of the estimated coefficients) and not their magnitude.

significant for any group of tourists in Table 5 but negative and significant for all trips in Table 6. These results are in contrast to those found by Kim et al. (2007) but they are in line with Falk and Katz-Gerro (2015), and they overall confirm our previous discussion that the arts is an experienced good and as a result the most frequent cultural tourists are coming from the older age groups. Nevertheless, when the single trips are examined in Table 5 then the younger group of tourists is not less likely to choose cultural tourism than the oldest age category which is the reference group. The latter finding indicates that definitely those in the middle age (*age\_2*) are less likely to participate in cultural tourism.

As regards the education level, the results presented for the participation model (Table 5) vary slightly from the results presented for the frequency model (Table 6). When considering the first model in Table 5, respondents with primary education but rather not those with secondary education level, are significantly less likely to choose culture as their travel motivation in the group of all and foreign trips but not in the group of domestic trips. In the latter case, the primary and secondary education dummies are not significant. In the frequency model (Table 6), the coefficients of both primary and secondary educational level are negative and highly significant, indicating that higher education level positively and significantly affects the number of times a tourist chooses culture as his/her main travel motivation. The results hold, however, again only for all and foreign trips but not for domestic trips. For the latter group of trips there is no significant association between education level and the number of 'cultural' trips. This result confirms previous studies that generally those with higher education will be more frequent visitors of cultural attractions.

Interesting results are also obtained for the occupational status. The employed respondents have lower probability of attending in contrast to civil servants, trainees and those out of the labour force (retired individuals and those doing the housework). The most striking result perhaps is that the retired people are more likely to choose cultural tourism in contrast to other employment group. The intensity of cultural participation of tourists is also strongly associated with the person being retired where the dummy variable for the retired persons is positive and highly significant.

**Table 5:** Logistic regression results for the sample of individual trips (*model 1*)

	All trips		Domestic trips		Foreign trips	
	(1)	(2)	(3)	(4)	(5)	(6)
female	0.418 [0.059]***	0.178 [0.108]*	0.142 [0.109]	-0.627 [0.202]***	0.547 [0.068]***	0.524 [0.127]
age_1	-0.138 [0.1236]	0.017 [0.248]	-0.178 [0.222]	0.416 [0.347]	-0.092 [0.147]	-0.110 [0.294]
age_2	-0.323 [0.098]***	-0.235 [0.183]	-0.256 [0.161]	0.061 [0.348]	-0.315 [0.121]**	-0.295 [0.217]
edu_1	-0.216 [0.111]**	-0.019 [0.195]	0.362 [0.201]*	1.647 [0.367]***	-0.443 [0.128]***	-0.622 [0.230]***
edu_2	-0.103 [0.077]	0.174 [0.137]	0.086 [0.164]	0.851 [0.333]**	-0.175 [0.087]*	0.015 [0.166]
selfempl	0.265 [0.116]**	0.383 [0.212]*	0.155 [0.208]	0.375 [0.403]	0.322 [0.136]**	0.239 [0.231]
civilservant	0.317 [0.124]**	0.430 [0.205]*	0.020 (0.248)	0.455 [0.369]	0.492 [0.145]***	0.583 [0.257]**
housework	0.598 [0.135]***	0.657 [0.243]***	0.849 [0.213]***	0.645 [0.464]	0.392 [0.171]**	0.629 [0.313]*
trainee	0.525 [0.134]***	1.045 [0.232]***	0.025 [0.240]	0.088 [0.377]	0.758 [0.148]***	1.448 [0.241]***
retired	0.387 [0.109]***	0.562 [0.196]***	0.480 [0.186]**	0.367 [0.407]	0.442 [0.133]***	0.756 [0.241]***
unempl	0.117 [0.223]	0.656 [0.354]*	0.609 [0.325]*	1.101 [0.445]**	-0.233 [0.322]	0.357 [0.515]
pers_2	0.776 [0.065]***	1.240 [0.128]***	1.023 [0.130]***	2.155 [0.240]***	0.680 [0.076]***	1.014 [0.156]***
pers_3	0.189 [0.099]*	0.677 [0.213]***	0.702 [0.189]***	2.065 [0.353]***	0.014 [0.116]	0.139 [0.267]
length	-0.027 [0.006]**	-0.047 [0.014]***	-0.291 [0.029]***	-0.299 [0.053]***	-0.004 [0.006]	-0.024 [0.014]*
accommpaid	0.574 [0.071]***	0.513 [0.136]***	0.566 [0.130]***	0.556 [0.221]**	0.633 (0.085)***	0.618 [0.183]***
car	-1.179 [0.074]***	-1.087 [0.138]***	-1.494 [0.145]*	-2.297 [0.258]***	-1.168 [0.084]***	-0.929 [0.152]***
train	0.295 [0.098]***	0.542 [0.180]***	-0.076 [0.161]	-0.344 [0.285]	0.411 [0.124]***	0.531 [0.233]**
bus <sup>a)</sup>	0.604 [0.088]***	1.049 [0.155]***	-	-	0.772 [0.101]***	1.134 [0.180]***
ship	0.439 [0.192]**	-0.205 [0.345]	-0.033 [0.299]	-0.519 [0.639]	0.538 [0.231]**	-0.330 [0.391]
spring	0.628 [0.090]***	0.597 [0.165]***	0.313 [0.151]**	0.236 [0.275]	0.709 [0.117]***	0.775 [0.224]***
summer	0.714 [0.089]***	0.948 [0.164]***	0.877 [0.144]***	0.928 [0.251]***	0.624 [0.117]***	0.991 [0.222]***
autumn	0.649 [0.098]***	0.699 [0.176]***	0.751 [0.165]***	0.571 [0.296]*	0.547 [0.124]***	0.731 [0.235]***
expenditures		0.252 [0.055]***		-0.051 [0.278]		0.277 [0.054]***
child		-0.141 [0.159]		-0.064 [0.338]		-0.133 (0.153)
abroad	0.983 [0.067]***	1.015 [0.125]***				
No. observations	14,646	5312	7692	2897	6954	2415
Log-Likelihood	-5236	-1620	-1657	-1848	-3269	-1011

Notes: Cluster-robust standard errors are presented in brackets. \* significant at 10%; \*\* significant at 5%; significant at 1%. <sup>a)</sup> For domestic trips, 'bus' is the reference category.

**Table 6:** Negative binomial regression results for frequency model (*model 2*)

	All trips		Domestic trips		Foreign trips	
	(1)	(2)	(3)	(4)	(5)	(6)
female	0.315 [0.045]***	0.321 [0.049]***	0.220 [0.095]**	0.174 [0.104]*	0.478 [0.055]***	0.501 [0.059]***
age1	-0.413 [0.097]***	-0.315 [0.107]**	-0.373 [0.203]*	-0.392 [0.223]*	-0.393 [0.118]***	-0.270 [0.131]*
age2	-0.454 [0.077]***	-0.281 [0.085]***	-0.281 [0.163]*	-0.272 [0.181]	-0.510 [0.095]***	-0.263 [0.104]**
edu1	-0.347 [0.079]***	-0.338 [0.085]***	0.168 [0.165]	0.360 [0.184]	-0.318 [0.096]***	-0.341 [0.103]***
edu2	-0.196 [0.057]***	-0.174 [0.062]**	0.066 [0.126]	0.273 [0.147]*	-0.139 [0.067]***	0.142 [0.073]*
selfempl	0.164 [0.094]*	0.219 [0.101]**	0.231 [0.195]	0.207 [0.214]	0.191 [0.114]*	0.280 [0.120]**
civilservant	0.146 [0.093]	0.092 [0.102]	-0.065 [0.210]	-0.171 [0.244]	0.338 [0.112]***	0.302 [0.119]**
housework	0.420 [0.108]***	0.506 [0.112]***	0.954 [0.202]***	0.971 [0.209]***	0.235 [0.142]	0.335 [0.146]**
trainee	0.411 [0.103]***	0.453 [0.111]***	0.220 [0.231]	0.296 [0.245]	0.535 [0.121]***	0.568 [0.131]***
retired	0.352 [0.084]***	0.379 [0.089]***	0.522 [0.176]***	0.481 [0.187]**	0.392 [0.104]***	0.451 [0.110]***
unempl	0.051 [0.193]	0.041 [0.208]*	0.683 [0.320]*	0.624 [0.342]*	-0.209 [0.268]	-0.183 [0.290]
notrips	0.185 [0.013]***	0.183 [0.015]***	0.506 [0.038]**	0.496 [0.044]***	0.672 [0.028]***	0.664 [0.030]***
child	-	-0.484 [0.065]***	-	-0.168 [0.131]	-	-0.601 [0.081]***
No. observations (individuals)	8587	7627	8587	7627	8587	7627
LR test that $\alpha=0$	28.51***	25.47***	162.5***	112.83***	91.79***	80.93***
Log-Likelihood	-5399	-4632	-2125	-1802	-4053	-3481

Notes: Standard errors in brackets. \* significant at 10% ; \*\* significant at 5%; significant at 1%.

Furthermore, having one or more children below 15 years of age has a negative effect on cultural participation as expected but is not significant in Table 5. However, the coefficient is highly significant and negative in Table 6 where the frequency of cultural participation is considered. This result can be explained from two perspectives. First, children decrease the probability to participate in culture in general due to time constraints and according to spillover theory those with children will be less willing to appreciate culture while on vacation. Second, in line with compensation theory, children while on trip may be a barrier for their parents or caregivers even if they would like to participate in cultural attractions. The latter must ensure that an adequate amusement and facilities are provided for them (see McIntyre 2007).

The attributes of the trips are estimated in the participation model in Table 5 and they are highly significant not only for domestic trips but also for foreign trips. These findings confirm the compensation hypothesis and indicate that tourists travelling with two or more persons, represented by the coefficients *pers\_2* and *pers\_3* respectively, are more likely to participate in culture than travelling alone. This is confirmed for all trips and domestic trips where both coefficients are positive and significant. For foreign trips, the optimal number of persons that are travelling together on cultural trip is two, as the coefficient of *pers\_3* does not differ significantly from the reference category which is one person only.

As regards the length of stay measured by the number of overnight counts, it is striking to note that the coefficient of length is highly significant and negative. This result confirms that Austrian cultural tourists prefer to travel for shorter intervals, especially on domestic trips. This finding is, however, not confirmed for foreign trips for which the coefficient of *length* is significant in column (6) on 10 per cent only. Moreover, as indicated by highly significant and positive parameter of *accommpaid*, there is a higher probability that tourists choose culture as their travel reason when they pay for the professional accommodation (bed & breakfast or hotel) in contrast to unpaid accommodation (relatives and friends or free of charge hostels). As regards mode of transport, Austrian residents who travel abroad by plane (reference category) are more likely to choose cultural activities than tourists travelling by car while they are less likely to choose culture than tourists travelling by bus, train or ship. When we consider domestic trips only in Table 5, plane is excluded as the transport mode due to the insufficient observations and bus is the reference category, confirming that bus is the main transport mode for domestic trips of cultural tourists in contrast to a car. There is also no statistical difference between travelling by train or ship than by bus. Finally, regarding the travel season, during the winter tourists are definitely less likely to travel in Austria for culture than during summer, autumn or spring period. The same finding is relevant for foreign trips on which tourists are more likely to choose culture during the spring, summer or autumn season in contrast to winter season.

It was also possible to examine the effect of *expenditures* per trip on cultural participation of tourists (Table 5). The coefficient is highly significant and positive for all foreign trips but it is not significant for domestic tourists. This result confirms

that income, approximated by the expenditure per trip, is an important factor for the decision of tourists to choose cultural consumption during their vacation at foreign destinations.

Furthermore, to distinguish between foreign and domestic trips, we include a dummy variable in column (1) and (2) of Table 5 which takes the value of 1 if the trip was abroad and zero otherwise. The coefficient of *abroad* is positive and highly significant indicating that Austrian tourists travelling abroad are more likely to choose cultural participation than those travelling within the country. This finding is compatible with results found in Zieba (2015) that the arrivals of foreign tourists in Austria positively affect attendance at Austrian theatres in contrast to domestic tourists' arrivals.

Moreover, the findings in both Tables 5 and 6 clearly indicate that not the same factors affect participation of tourists when travelling domestically or abroad. Whereas higher education and income are relevant for foreign trips they are less likely to affect the domestic trips. Given also the fact that only 8 per cent of Austrian tourists choose culture while travelling within the country, we can suggest that Austrian tourists are not very interested in cultural participation at home, and if they are, the factors which affect their cultural participation might be more connected with traditional theory than with the spillover hypothesis.

## **6. Conclusions**

The aim of this research was the examination of how the individual characteristics of Austrian residents and other factors connected with the attributes of their trips will affect the decision that they would choose cultural participation as their primary travel motivation. We employed logistic and count data regression techniques and examined factors that might have impact on both the likelihood and frequency of cultural participation. In particular, we tested two hypotheses that help us explain determinants of cultural tourism.

The empirical results confirm that both the likelihood and intensity of cultural participation of tourists is mainly determined by their individual characteristics. First, the findings clearly indicate that female tourists are more likely and more frequent participants of cultural attractions while on trip. Another significant determinant of cultural participation of tourists is the age group. As culture is an

acquired taste, people need time to appreciate the arts. Furthermore, higher education level has a positive and significant effect on the number of times a tourist participates in cultural attractions. The explanation behind this finding is that education may help to acquire cultural capital which is necessary to consume the arts. Hence, better-educated individuals have a greater capacity to appreciate and understand the qualities of cultural attractions. However, this result holds for foreign trips only and not for domestic trips.

We also find that individuals with children under the age of fifteen are less likely to participate in cultural attractions on foreign trips than the individuals without children. The effect does not hold, however, for domestic travellers. These results might be consistent with the concept that time availability and opportunity costs of time are an important factor determining the cultural participation at foreign destination. This is also compatible with the result that retired persons and those doing housework are more likely to choose cultural participation on their trip or will travel for cultural reasons more often than the employed persons or persons actively seeking an employment. The latter finding holds not only for foreign trips but also for domestic visits.

The results also indicate that individual characteristics are slightly less important with regard to the likelihood of choosing cultural tourism than the intensity (frequency) of participation in cultural tourism. Whereas age, gender and education have less influence on the decision to consume cultural tourism on an individual trip, these factors are very important with regard to frequency of such participation. Moreover, when we analyse the results for foreign and domestic trips separately, we find that the spillover hypothesis cannot be confirmed in the group of domestic trips. Furthermore, tourists are also more likely to choose culture while on a trip abroad than on domestic trip. There are also significant differences in mode of travel, type of accommodation and number of persons travelling. We find that Austrian cultural tourists are less likely to travel alone and are most likely to travel by train or bus than by plane or car. They are also more likely to travel during summer, autumn and spring months as opposed to winter.

Overall, the findings of this study have practical implications for the cultural managers in tourism. The results confirm the spillover hypothesis that cultural tourists display predictable demographic characteristics, like consumers of art and

culture. In other words, cultural tourists have a higher income, higher education and higher cultural capital, as confirmed by numerous studies on cultural participation. Nevertheless, we also confirm earlier findings that foreign tourists might be more likely to participate in cultural activities than domestic tourists. Other attributes of the trip are also significant in determining cultural participation of tourists and as such they provide an evidence for the traditional ‘compensation’ hypothesis rather than spillover theory. Overall, the presented analysis and empirical findings highlight the need for a greater understanding of the diversity of the demographic profile of the distinct market shares of cultural tourists. This is essential if more effective development and marketing of cultural tourism is to be achieved.

**Acknowledgments:** I would like to thank the Central Statistical Office in Austria – ‘Statistik Austria’ for access to their database on Travel Habits of Austrian Residents – ‘Reisegewohnheiten der österreichischen Bevölkerung’.

## References

- Ateca-Amestoy, V., and Prieto-Rodriguez, J. (2013), Forecasting accuracy of behavioural models for participation in the arts, *European Journal of Operational Research*, 229, 124-131.
- Ateca-Amestoy, V. (2008), Determining heterogeneous behavior for theatre attendance. *Journal of Cultural Economics*, 33 (2), 85-108.
- Barros, C. P., Butler, R., and Correia, A. (2008), Heterogeneity in Destination Choice. Tourism in Africa, *Journal of Travel Research*, 47 (2), pp. 236-246.
- Borowiecki, K. J., and Castiglione, C. (2014), Cultural participation and tourism flows: an empirical investigation of Italian provinces. *Tourism Economics*, 20(2), 241-262.
- Borgonovi, F. (2004), Performing arts attendance: an economic approach, *Applied Economics*, 36, 1871-1885.
- Bull, A. (1995), *The Economics of Travel and Tourism*, Addison Wesley Longman Australia Pty Ltd, 2<sup>nd</sup> edition.
- BWMFJ, Bundesministerium für Wirtschaft, Familie und Jugend (2011), *Tourismus in Österreich 2011. Ein Überblick in Zahlen*. Can be downloaded at: [http://www.bmwfj.gv.at/Tourismus/TourismusInOesterreich/Documents/Tourismus%20in%20O%CC%88sterreich%202011\\_HP.pdf](http://www.bmwfj.gv.at/Tourismus/TourismusInOesterreich/Documents/Tourismus%20in%20O%CC%88sterreich%202011_HP.pdf)
- Craik, J. (1997), The culture of tourism, in: Rojek, C., & Urry, J. (eds.), *Touring cultures: Transformations of travel and theory*, London: Routledge: 114-136.

- Dritsakis, N. (2012), Tourism development and economic growth in seven Mediterranean countries: a panel data approach, *Tourism Economics*, 18 (4), 801-816.
- European Commission Communication (2010), *Europe, the world's No 1 tourist destination – a new political framework for tourism in Europe*, Can be downloaded at: <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52010DC0352>
- Falk, M. and Katz-Gerro, T. (2015), Cultural participation in Europe: Can we identify common determinants? *Journal of Cultural Economics*, DOI 10.1007/s10824-015-9242-9
- Fernandez-Blanco, V., Prieto-Rodriguez J., and Suarez-Pandiello, J. (2015), Quantitative Analysis of Readings Habits, *ACEI working paper series*
- Figini, P., and Vinci, L. (2012), Off-season tourists and the cultural offer of a mass-tourism destination: The case of Rimini, *Tourism Management*, 33, 825-839.
- Gapinski, J. (1988), Tourism contribution to the demand for London's lively arts, *Applied Economics*, 20, pp. 957-968.
- Grisolía, J. M., and Willis, K. G. (2012), A latent class model of theatre demand. *Journal of Cultural Economics*, 36 (2), 113-139.
- Harrison, J. (1997), Museums and touristic expectations. *Annals of Tourism Research*, 24 (1), 23–40.
- Hall, M. and Zeppel, H. (1990), Cultural and heritage tourism: The new Grand Tour? *Historic Environment*, 7, 86-98.
- Kim, H., Cheng, Ch.-K., and O'Leary, J.T. (2007), Understanding participation patterns and trends in tourism cultural attractions, *Tourism Management*, 28, 1366-1371.
- Laamanen, J.-P. (2013), Estimating demand for opera using sales system data: the case of Finnish National Opera. *Journal of Cultural Economics*, 37 (4), 417–432.
- McIntyre, C. (2007), Survival theory: Tourist consumption as a beneficial experiential process in a limited risk setting. *International Journal of Tourism Research*, 9 (2), 115–130.
- McKercher, B. (2002), Towards a Classification of Cultural Tourists, *International Journal of Tourism Research*, 4, 29-38.
- O'Hagan, J. W. (2014), Attendance at/Participation in the Arts by Educational Level: Evidence and Issues, *Homo Oeconomicus*, 31 (3), 411-429.
- O'Hagan, J. and Zieba, M. (2010), "Output Characteristics and Other Determinants of Theatre Attendance—An Econometric Analysis of German Data", *Applied Economics Quarterly*, 56 (2), 147-174.
- Hall, M., and Zeppel, H. (1990), Cultural and Heritage Tourism: The New Grand Tour?, *Historic Environment* 7(3/4), 86-98.
- Palma, M. L., Palma, L. and Aguado, L. F. (2013), Determinants of cultural and popular celebration attendance: the case study of Seville Spring Fiestas, 37 (1), 87-107.

- Richards, G. (1996), The scope and significance of cultural tourism, in: Richards G (ed.), *Cultural Tourism in Europe*, CAB International: Wallingford: 19-46.
- Reece, W. S. (2004), Are Senior Leisure Travelers Different? *Journal of Travel Research*, 43 (1), 11-18.
- Seaman, B. (2006). Empirical Studies of Demand for the Performing Arts, in Ginsburgh V. and D. Throsby (editors), *Handbook of the Economics of Art and Culture*, Volume 1, Amsterdam: Elsevier, 416-472.
- Stylianou-Lambert, T. (2011), Gazing from Home: Cultural tourism and Art Museums, *Annals of Tourism Research*, Vol. 38 (2), 403–421.
- Wen, W.-J., and Cheng, T.-C. (2013), Performing arts attendance in Taiwan: who and how often? *Journal of Cultural Economics*, 37 (2), 309–325.
- Werck, K., and B., Heyndels (2007), Programmatic Choices and the Demand for Theatre: the Case of Flemish Theatres. *Journal of Cultural Economics*, 31 (1), pp. 25-41.
- Willis, K. G., and Snowball, J. D. (2009), Investigating how the attributes of live theatre production influence consumption choices using conjoint analysis: The example of the national arts festival, South Africa. *Journal of Cultural Economics*, 33 (3), 167–183.
- Zieba, M. (2009), Full-income and price elasticities of demand for German public theatre, *Journal of Cultural Economics*, 33 (2), 85-108.
- Zieba, M (2011), Determinants of Demand for Theatre Tickets in Austria and Switzerland. *Austrian Journal of Statistics*, 40 (3), 209–219.
- Zieba, M., and O’Hagan, J. (2013), Demand for Live Orchestral Music – The Case of German Kulturorchester, *Jahrbücher für Nationalökonomie und Statistik*, 233 (2), 225-245.
- Zieba, M. (2015), Tourism flows and the demand for regional and city theatres in Austria, *Journal of Cultural Economics*, DOI 10.1007/s10824-015-9250-9.

## Appendix 1: Description of variables used

Variables	Description
<i>Dependent variable</i>	
$y_i$ ( <i>model 1</i> )	1= respondent travels for cultural purposes in the last 3 months, 0 = respondent does not travel for cultural purposes
$y_i$ ( <i>model 2</i> )	A count variable which indicates the number of times (trips) a tourist travels for cultural reason during the last 3 months.
<i>Characteristics of tourists</i>	
gender	1= female; 0= male
age	Age categories: age_1= 15-34; age_2= 45-54; age_3=>55 (dichotomized in the final analysis).
education	Highest educational level achieved: edu_1 = no education or primary education; edu_2= vocational training (school) or general secondary education; edu_3= third-level/tertiary education (college, university); (dichotomized in the final analysis)
employment status	Employment status (dichotomized in the final analysis): 1= self-employed; 2= employed (blue collar worker, in-on the job training, civil servant, white-collar worker) 3= Retired; 4= doing housework; 5= unemployed (dichotomized in the final analysis)
<i>Family status</i>	
child	Presence of one or more children under age of 15 in the household: 1=yes, 0=no
<i>Attributes of the trip</i>	
notrip	Number of trips each individual has undertaken during the past three months
abroad	Indicates if a tourist went on domestic or foreign trip: 1=trip abroad; 0=domestic trip
pers	Number of persons travelling per trip, dichotomized in the final analysis: pers_1 = 1 if one person, 0 otherwise; pers_2 = 1 if two persons, 0 otherwise; pers_3 = 1 if two or more persons, 0 otherwise.
accommpaid	1= paid accommodation yes; 0= free accommodation (dichotomized in the final analysis)
travel mode	1= plane, 2= ship, 3=train, 4=bus, 5=car (dichotomized in the final analysis)
travel season	Spring (March – May) = 1; summer (June – August) =2; autumn (September – November) =3; winter (December – February) =4 (dichotomized in the final analysis)
expenditures	Expenditures per tourist and per trip in EUR