Cultural Participation and Tourism Flows in Italy

Karol Jan Borowiecki and Concetta Castiglione

Department of Economics, Arts Building, Trinity College, Dublin 2, Ireland

ABSTRACT. The importance of cultural events for attracting tourism has been often posited in research, however rarely tested in relation to non-cultural activities. We investigate the association between participation in entertainment activities and tourism flows in Italian provinces, and find that admission to theater-type activities increases as the number of domestic tourists goes up, whereas admission to museums or concerts rises with an increase in foreign tourists. Admissions to exhibitions and shows expose a positive association with both domestic and international tourists, while non-cultural activities remain statistically insignificant. The results provide important empirical support for the existence of a strong relationship between tourism flows and cultural participation. The findings also imply that the demand for entertainment varies depending on the origin of the tourist. Finally, for the cultural activities we calculate the lower-bound of the estimated revenues obtained from tourism.

KEYWORDS: Cultural tourists, cultural participation, tourism flows, Italian Provinces.

1. Introduction

Cultural tourism is perceived as an important economic driver and authorities endeavour to exploit this by fostering cultural activity in their respective countries or regions. Consequently, the attention given to the relationship between tourism and the cultural sector has recently increased significantly. The research is, however, usually constrained to analyses of a single type of cultural activity (e.g. McKercher *et al.*, 2005) and therefore any comparison of results across different cultural activities becomes very difficult. Furthermore, little is known on the relative importance of other, non-cultural activities, such as sport events, in attracting tourism. In this study we attempt to fill this gap and investigate the participation for different types of cultural/leisure activity and tourism flows. We also shed some light on the differences in those relationships depending on the origin of the tourist.

According to Richards and Binink (1995), and in line with European Association for Tourism and Leisure Education (ATLAS), cultural tourism is defined as 'the movement of persons to cultural attractions away from their normal place of residence with the intention to gather new information and experiences to satisfy their cultural needs' (Bonet, 2003). Cultural tourism covers a wide range of activities such as: visits to cultural festivals or cultural sites, longer tours constructed around a cultural theme (museums, performing arts centres, archaeological and historical sites, religious centres and zoos) and a combination of features focusing on historic, cultural and/or heritage elements (Bonn *et al.*, 2007; Boyd, 2002 Throsby, 2001). The focus of economic studies rests, in particular, on the following three areas: the pull factor of different cultural attractions, the attributes of the cultural tourist and the identification of different segments of cultural tourists (Barbieri and Mahoney, 2010).

Research considering tourism and cultural industries, highlights the reciprocal benefit that industries can gain from common strategies (Hughes, 2002; McKercher *et al.*, 2005; Tighe, 1986). Other studies also focus on the influence of culture on tourist behaviour (Bracalente et al., 2011; Correia *et al*., 2011; March, 1997; Tohmo, 2005). Empirical studies investigate the relationship between tourism and a wide range of cultural experiences (Formica and Uysal, 1998; Guzman *et al*.,

2006; Kim *et al*., 2007; McKercher, 2002; McKercher and Du Cros, 2003; Stoddard et al. 2006).

The main contribution of this research to the aforementioned literature is the investigation of the association between tourism flows and the demand for a wide set of cultural/leisure activities. Knowledge of the role of various types of activities in attracting flows of tourists is important in order to develop effective policies (Richards, 1996). This work is also related to a recent study by Massidda and Etzo (2012), in which the determinants of Italian domestic tourism are studied. By investigating patterns of the demand for entertainment by tourists our study focuses on the consequences, rather than causes, of tourism and hence, the insights are complementary to the work by Massidda and Etzo (2012). Furthermore, following Garìn-Munoz (2009) which divide tourists into domestic and foreign, our model sheds some light on the differences in demand for those activities depending on the origin of the tourist. This is particularly relevant in light of the influential article by Kim *et al.* (2007), in which the authors investigate the influence of personal traits on participation patterns by cultural tourists without, however, addressing the issue of the origin of such tourists. Finally, in this study we provide a rough estimation of the direct financial benefits that emerge from cultural tourism.

The empirical analysis is based on a panel of 107 Italian provinces for the two–year period 2006-2007. The data employed provides records of a large number of leisure activities (e.g. museums, theaters, concerts, sports, etc). Preliminary evidence on the positive association between demand for entertainment and tourist visits in Italy is shown in Figure 1. The diagram provides some indication of the heterogeneous demand for leisure activities depending on the origin of the tourist. Employing ordinary least squares methodology we provide more reliable estimates and find a strong and positive association between tourism flows and participation in cultural events. Tourist visits correspond with a significantly higher number of visits to museums, theaters, concerts and exhibitions and shows. The highest share of tourists among all visitors is detected for the exhibition and shows category: around one in three visitors is a tourist. Moreover, tourists account for around 12.8 per cent of museum visits, 4.4 per cent for theater and 6.8 per cent for concerts. Other forms of entertainment, such as sports or multi-genre activities do not exhibit any significant relationship with tourist inflows, underlining the predominant role of cultural activities in attracting tourism. Furthermore, the findings indicate a very high heterogeneity in demand for leisure activity depending on the origin of tourists. Domestic tourists tend to prefer the theater, while foreign tourists prefer museums and concerts. The exhibitions and shows category attracts both types of tourists.

There are several reasons for focusing on Italy. First, it is a country with a long and remarkable cultural history. As a result the supply of cultural goods is plentiful and varied. Second, the geographic distribution of cultural supply is very wide. More than 9 per cent of municipalities host cultural and historical goods of some interest (Ministero del Turismo, 1991).[1] This ensures that estimates from cross–sectional analysis are reliable. Third, Italian statistics institutes provide databases for a wide set of entertainments that allow us to make comparisons between various activities.

In Italy there is no official definition of culture, nor are the boundaries of cultural field clearly defined by government. Since 2000 the Ministry of Heritage and Cultural Activities has been entrusted with authority over a wide range of cultural institutions, such as museums, libraries and archives, visual arts, performing arts and cinema, and copyright (Bodo and Bodo, 2011). In 17 out of 20 regions, ministerial authoring is delegated to Regional Boards for Cultural Goods and Landscapes,

[1] The concentration goes far beyond the 'classical' Italian cities of art. The density of heritage structures in Italian provinces reaches 50 per km^2 in Siena, 46.2 in Grosseto and 42.4 in Latina (Ministero del Turismo, 1991). Note also that each province, the level at which this study is conducted, comprises of around 74 municipalities.

and the local *Soprintendenze*.[2]

Provincial governments have little involvement in cultural policies, although there are some exceptions such as the autonomous provinces of Trento and Bolzano (Bodo and Bodo, 2011). After the central government, the municipalities are the most prominent public actors on the cultural scene in Italy. Through their municipal departments for culture (Assessorati Comunali alla Cultura) they play an important role in the direct and indirect management of cultural institutions: museums and sites of cultural interest, archives, libraries, theaters etc (Bodo and Bodo, 2011).

The paper is organized as follows: Section 2 outlines the methodology applied and data utilised. Section 3 discusses the results, while Section 4 concludes the paper.

2. Methodology and Data

The aim of this study is to investigate whether there exists any relationship between demand for certain types of leisure activities and tourism flows. We test this hyphotesis by estimating the following model:

$$\text{Attendance}_{pc,jit} = \beta_0 + \beta_1 \text{Tourism}_{pc,\gamma it} + \beta_2 \text{Price}_{jit} + \beta_3 \text{GDP}_{pc,it} + \beta_4 \text{Year}_t + \boldsymbol{\beta} \text{Region}_i + \delta_{it}$$

where the attendance at leisure activities is measured by the number of admissions per capita to a performance *j* in province *i* in year *t* ($Attendance_{pc,jit}$). The coefficient of major interest is β_1 which measures the relationship between per capita tourism flows to province *i* in year *t* ($Tourism_{pc,\gamma it}$) and the dependent variable. In this study we account for tourism intensity in two ways. First, we adopt a measure of *tourist visits,* that is the number of tourists who stayed at least one night in a province which is not their home province. Second *tourists' duration of stay* (i.e. the number of nights that the average tourist sojourned in a province which is not their home province) is taken into account. Furthermore, in order to account for varying sizes of provinces both tourism flow measures are expressed in relation to the population size of a province (e.g. $tourist\ visits_{it}/population_{it}$). We account for varying prices of a performance by introducing the admission price ($Price_{jit}$) as a control variable and controls for GDP per capita, in order to account for wealth heterogeneity between provinces. As the Italian leisure activity database is available for two years at provincial level, 2006 and 2007, an indicator function equal to one for each of the two years is also included in the estimations.[3] In order to deal with unobserved geographical heterogeneity, we include a set of indicator functions that take the value of one for each of the twenty Italian regions. Finally, the model contains a robust estimation of variance (δ_{it}), which prevents any bias arising from the presence of outliers or heteroscadasticity. The model is estimated using ordinary least squares methodology.

The data used in this analysis comes from three sources: SIAE (*Società Italiana degli Autori ed Editori* – the Italian Authors and Publishers Association), the Ministry of Cultural Heritage and Activities (*Ministero per i beni e le attività culturali*), and ISTAT (*Istituto Nazionale di Statistica* – the National Institute of Statistics).

The SIAE data show the number of performances, number of tickets sold, box office revenue, public expenditure and turnover per geographical area, region and type of municipality.[4] All this information is displayed for theatrical activities (theater, opera, revue and musical, ballets, puppets

[2] In Italy 5 out of 20 regions are autonomous with more extended competencies also in the cultural field. Three of these regions (Valle d'Aosta, Sicily and Trentino Alto Adige) exercise exclusive and direct legislative and administrative responsibility for their own heritage assets, museums and sites (Bodo and Bodo, 2011).

[3] Out of sample estimation based on only one of the years is presented in the Robustness Section and delivers very consistent results.

[4] For more detail on SIAE data see Castiglione (2011).

and marionettes, performing arts and circuses), concerts (classical, pop and jazz), sports (soccer, team sports other than soccer, individual sports and other sports), dance and recitals, touring amusements, exhibitions and show and multi-genre. This dataset is complemented by records on museum attendance (number of visitors and revenue) provided at provincial level by the Ministry of Cultural Heritage and Activities. Museums are divided into paying and non-paying. Data on the number of visitors for paying museums are collected according to the numbers of tickets issued while for the non–paying museums estimations are based on register attendance or a counting device.

Data provided by ISTAT comes from different sources. Arrivals and stays for Italians and foreign are taken from the "Movimento dei clienti negli esercizi ricettivi" survey. This monthly survey is carried out at national, regional and provincial levels through a census that provides data on the flow of Italians and foreign in Italy based on the daily declaration that the owners of the tourist accommodation send to the local tourist board. The statistical information is collected with the survey form, where the number of customers arriving and departing, their country or Italian region of residence, and the length of stay are reported. The objective of this survey is to quantify arrivals, stays and the average length of stay in tourist accommodation. Arrivals refer to the numbers of customers, Italians or foreign, staying at least one night in any accommodation for tourists in the period considered. Stays refers to the numbers of nights that customers, Italians or foreign, spend in the accommodation. The ratio between presences (number of nights) and arrivals (number of customers) represents the average length of stay. The tourist accommodation includes all types of facilities: hotels, motels, residences, camp sites, holiday villages, farm accommodation, holiday flat and houses, hostels, alpine refuges and so on.

Population at provincial level has been obtained from the annual survey on the labor force (Indagine sulle forze lavoro). The GDP is taken from disposable household income in Italian regions (Il reddito disponibile delle famiglie nelle regioni italiane). The price index is taken from the publication of the value of money 2007 (Valore della moneta 2007).

3. Empirical Results

3.1 Summary Statistics

Table 1 presents summary statistics of the variables used in the analysis. In Panel A it can be observed that the average province has been visited by around 884,000 tourists in a year. The average stay lasted approximately 4 nights. Around 491,000 tourists (55.5 per cent) come from other parts of Italy, while the remaining visitors come from abroad. Panel B reports the admission rates to various entertainment activities. Theater performances are the most popular and have been visited by around 2.2 people per each resident in a province. Museums and dance and concertinos have been visited each year by around 6 visitors per 10 residents in a province, followed by exhibitions and shows, sports, touring amusements and concerts. The content of each entertainment activity variable is further described in Appendix 1.

Figure 2 presents the geographic distribution of arrivals in Italian provinces. It is interesting to observe the high degree of heterogeneity in the arrivals.[5] Several provinces in northern Italy have been extensively visited, especially the region of Lombardy and Emilia-Romagna, but also central Italy provides popular destinations, in particular in the Lazio region, as well as certain parts of Campania, Calabria and on Sicily. There is also a large number of provinces, spread quite evenly across the map of Italy, that are rarely ever visited. The distribution of participation, as can be viewed in Figure 3, is more concentrated in the northern provinces, however exhibits sufficient heterogeneity. It can be

[5] A similar picture would emerge if one looked at the total duration of stay of tourists (not reported).

observed that some provinces in immediate proximity to each other expose a very different entertainment activity supply. Some similarities with the tourism flows can be observed, for instance, the clustering of leisure activity admissions in north-central Italy.

All in all, the conducted geographical inspection is important for two reasons. First, the figures provide some tentative evidence on the comparability of the patterns of concentration of tourism flows and participation in entertainment activities. Second, we observe a sufficient degree of heterogeneity across Italy for each of the variables. This allows us to statistically exploit this cross-sectional variety in order to detect a more meaningful association between tourism flow and demand for entertainment.

3.2 Main Results

The association between tourism flows and admission to various types of entertainment is reported in Table 2. Panel A reports the coefficients for tourist visits to a province while Panel B summarizes the results for tourist stays (i.e. duration of a visit). The correlation-coefficient between tourist visits per capita and the number of admissions to museums is found to be positive and highly significant. This implies that a visit of one additional tourist per citizen corresponds with a 0.0765 higher admission rate per citizen. Moreover, around every thirteenth tourist visited a museum. Given the average admission rate of around 0.59 per capita (compare Table 1) the results suggest that 12.8 per cent of museum demand is from tourists. The coefficient for theater is equal to 0.091 and implies that every eleventh tourist participated in such activity, which accounted for 4.2 per cent of the overall theater admissions. The increase resulting from tourist visits for concerts is equal to 0.0093 which explains a share of around 6.6 per cent of the total concert attendance. The largest admission rate increase can be observed for the exhibitions and shows category: an additional tourist visit is associated with a 0.085 higher admission rate which corresponds with a high 33.7 per cent of the total visits to exhibitions and shows. The relationship between attendance to the dance and concertinos with tourist visits implies that every sixth tourist attended such activity.[6] The coefficients for the remaining categories are positive, though statistically insignificant. In Panel B it can be observed that the duration of tourist visits is found to be positively correlated with each of the studied entertainment activity admission rates. Statistically significant associations can, however, be detected only for the exhibitions and shows, as well as for dance and concertinos. Each additional night spent implies a higher admission rate by 0.015 to an exhibition or show. This coefficient suggests that, on average, every tenth tourist who stays a week in a province would visit this activity.

Table 3 displays the results when we disentangle tourism flows by their origin and differentiate between domestic tourism (i.e. tourists from a different Italian province) and foreign tourism (i.e. tourists from abroad). It can be observed that the significant positive association between tourism flows and admissions to museums persists only for the case of foreign tourists, both in terms of visits and duration. Almost every fourth foreign tourist has visited a museum and the probability of such a visit increases by 3.6 per cent for every additional night stayed in the province. The point estimates for theater remain significant only for domestic tourists indicating that it is primarily Italians who demand such attractions: close to one in five tourists visits a theater during their stay and this probability increases by 2.5 per cent for each additional night. The relationship between admissions to concerts and tourism flows prevails only for foreign tourists' visits and duration of stay. Around 2.5

[6] The 'dance activities and concertinos' category includes dance or music performances that are not the main element of appeal for customers (e.g. live piano performance at a bar). As it is not possible to disclose whether it was the quality of the performance or other factors, such as, for example, the quality of the staff working at the bar that attracted the customer, we do not devote much attention to this category and only report the results for consistency.

per cent of foreign tourists attend a concert performance and are more likely to do so if they stay longer. Once again the point estimates increase when compared to the aggregated tourist demand, and are highly significant. The correlation between admissions to exhibitions and shows remains positive and significant for Italian as well as foreign tourists, with an attendance rate approximately twice as high for domestic tourists. The results further indicate that Italian tourism inflows reveal a significantly positive relationship with admissions to touring amusement activities; however the probability of attending such attractions does not increase with the duration of a stay. Italian tourism also evidences somewhat higher attendance to multi-genre activity, although the estimates are carried out with little precision. Activities covered in the sports category do not attract any additional tourism inflows.

3.3 Robustness Tests

In order to ensure the reliability of our results, we conduct a series of robustness tests. The point estimate on the number of nights a tourist stays in a province (*Tourism flows-stay*) might not adequately capture the duration of a stay. This could be particularly the case if the relationship between duration of a visit and participation in an entertainment activity was not linear. For this reason we estimate two further specifications in which we include an additional quadratic term, in order to allow for decreasing returns, or the variable is recorded at its logarithm. The emerging results are reported in Table 2.1 and are in general coherent with our previous conclusions. Another way of estimating the importance of tourism flows is by including both measures employed in this study into one model. The results of such specification are presented in Table 2.2. The role of tourism flows is found to be particularly strong for museums, theater and concerts. Each tourist visit corresponds positively with the admission rate to those forms of entertainment. The relationship is however negative with the duration of stay, providing some indication of decreasing returns. No other category has a significant association with tourism flows, which reconfirms the predominant role of cultural activities in attracting tourism.

The data-set contains records for two years and we include a dummy variable in order to account for temporal variation. Such an indicator would not capture time-variation if, for some reason, equal changes in the dependent as well as the tourism flow variable occurred. It is quite unlikely that any large cointegrated movements would occur in those variables during the short time span of one year. Nonetheless, we re-estimate the model for each year separately. The results are reported in Tables 2.3 and 2.4. It can be observed that the coefficients are very robust in sign, size and significance for both years.

The divergence between the northern and southern part of Italy is believed to be quite marked and might not be sufficiently captured by the regional indicator variables introduced. For this reason we include additional dummy variables in order to take account of whether a province is located in the north, center or south (including the islands). The point estimates are summarized in Table 2.5 and provide very consistent findings.

Some previous studies suggest a strong relationship between tourism flows and heritage sites (e.g. Borg and Costa, 1996; Murrillo et al., 2008). In order to control for the impact of such sites on tourism flows, we obtained data on the number of UNESCO world heritage sites (UNESCO, 2012) and on archeological and cultural sites for each Italian province provided by the Ministry of Cultural Heritage and Activities. Cultural places include museums, monuments, archeological sites, archives, libraries and theaters. The UNESCO World Heritage List includes 936 properties all over the world forming part of the cultural and natural heritage which the World Heritage Committee considers as of outstanding universal value.These include 44 cultural and 3 natural sites in Italy. Additional

specification with controls for those sites are estimated and presented in Table 2.6 to 2.8. It is encouraging to observe that the results remain unchanged.

One might further worry that the variable measuring tourism flows is underestimated. A tourist could travel through a province without staying overnight in it and yet visit a museum or attend an entertainment event. While it is a meaningful point for marketers of the attraction, the worry might be limited in this research design. Since the investigation is conducted at province level, the distances across three adjoint provinces are perhaps too large to be covered within one day. This possibility is further exploited by dropping provinces with the smallest geographical surface, which are arguably most likely to driven through in one day. The results are found to be consistent (not reported).

3.4 Discussion

The results are in line expectations. Museum attendance is primarily driven by foreign tourism, which could reflect a higher interest in Italian culture by international tourists (Lynch *et al*., 2011). In addition, many museums across Italy have very similar exhibitions and are presumably less attractive for Italian visitors. For example, the life and works of Leonardo da Vinci are exhibited, among other places, in the *Museo Leonardiano* in Vinci, *Museo Leonardo da Vinci* in Florence, National Museum of Science and Technology in Milan or *Museo il Genio di Leonardo da Vinci* in Venice. Foreign tourists are more likely to be unique visitors (i.e. visiting for the first time) and therefore, more interested in museums, as opposed to returning visitors who have probably visited a museum already during their previous stay.[7] This argument would not apply to a theater performance, as the repertoire changes on a regular basis, hence attracting recurring visitors. The positive association between admissions to the theater and Italian tourists could also be due to the language barrier that prevents foreign visitors, who may not speak Italian, from attending some events, particularly theater or comedy shows. In addition, some performers might be known to the Italian audience from television and hence be particularly attractive for domestic tourists. Also the marketing of theater events usually takes place in media that are not easily accessible to foreign tourists, for example, in daily newspapers or magazines. On the other hand, concerts are an attractive option even for those who do not speak Italian. Concerts seem also to be advertised more often in publicly visible areas, such as on wall posters or street banners. Moreover, the legacy of classical composers might constitute another significant factor that attracts foreign tourists.[8] A significant association between tourism flows and admissions is found for the exhibitions and shows category. This category usually covers large events, such as cultural exhibitions and trade fairs, and therefore it is primarily targeted at visitors from outside the province. Exhibition and shows are however organised on irregular basis and associated with substantial preparatory and marketing costs. Activities encompassed by the touring amusements (e.g. amusment parks) and multi-genre (e.g. open-air shows) are of much less importance and possibly of significance only within the region.

One important question concerns the economic benefit of the observed tourism flows. Tentative evidence on the relationship between GDP in a province and tourist visits is shown in Figure 3.1. As one would expect the association is positive with a correlation coefficient equal to 0.49 and significant at 1 per cent level. While little can be said on the causal relationship, this figure provides some indication of the economic importance of tourism flows. One can further conduct an

[7] We do not have however data on whether a visit occurred on the first or a later visit. Therefore investigation of this hypothesis is left for future study.

[8] Many international tour organisers provide classical music tours to Italian places that played a role in the history of classical music. Note, that Italian provinces were the main center for classical music over a period of around two centuries during the Renaissance (Borowiecki and O'Hagan, 2012).

exercise to approximate direct revenues from tourism in terms of ticket sales for cultural events. In Table 4 we acquire the average number of tourists who participated in each cultural activity per province by multiplying the number of tourist visits with the point estimates obtained from our model (presented in Panel A of Table 2). Using the estimated tourist attendance and multiplying by the average ticket price, one can obtain the average direct revenue per cultural activity per province. Relating the obtained revenues from tourist visits to the overall revenues of each of the categories, the relative importance of tourism-related direct revenues can be approximated. The weighted average contribution of tourists accounts for a non-negligible 6.1 per cent of total revenue. This contribution towards total revenues from tourist visits varies between 4 per cent for the theater and 15 per cent for museums. This is however the lower-bound estimate, as other possible types of revenue, for example, from sales in souvenir shops, museum cafeterias or theater bars, have not been considered. In addition, revenues obtained from ticket sales are only of minor importance, as many of the studied activities can be visited free of charge. There is, for instance, no entrance fee to 46 per cent museums or 70 per cent art galleries in Italy (ENIT, 1992). It is beyond the scope of the present work to account for revenues earned in related sectors (e.g. the service industry).

4. Conclusion

This work contributes to the growing literature on tourism flows and cultural activities. We add to that strand by investigating the association between tourism flows and attendance at various types of entertainment. Using data for Italian provinces we find a particularly strong and positive relationship between tourism flows and participation in cultural events. Tourist visits correspond with a significantly higher number of visits to museums, theater and concerts, as well as to exhibitions and shows. Other types of public entertainment, such as sports or multi-genre activities do not exhibit any significant relationship with tourist inflows, implying the predominant role of cultural activities in attracting tourism. Demand for leisure activities is found to be very heterogeneous and dependent on the origin of tourists. Domestic tourists participate primarily in theater, while foreign tourists are more inclined to visit museums and attend concerts. Exhibitions and shows attracts both types of tourists. We further provide a tentative analysis of the benefit from tourist participation in cultural activities in in terms of revenue. The results indicate that at least 6 per cent of the revenues from ticket sales can be attributed to tourism. This is nonetheless only an approximation and a lower-bound as it does not account for, for example, revenues from other services provided, such as shops, cafeterias or audiovisual aids. Furthermore, revenues in related sectors (e.g. hospitality industry) remain unobserved.

Turning to policy implications, the emerging findings imply the predominant role of cultural activities in attracting tourism. As such this study provides important empirical support for qualitative arguments posited in previous research on the increasing significance of cultural tourism in Europe (e.g Richards, 1996). Future planning of policies stimulating tourism inflows might be particularly effective if focused on the further development and improved marketing of cultural activities. Policy makers involved in destination marketing should, however, bear in mind the heterogeneous demand of tourists depending on their origin. In particular, provinces with a rich supply of theatrical events could presumably find it easier to attract domestic tourists, while provinces with a good museum or concert supply might benefit more if focus is put on tourists from abroad. One way to promote cultural activities is to locate a museum in a more international tourist place and, on the other hand, to locate a theater in a more domestic tourist place. In cities with a long tradition of tourism, such as Florence, Rome and Venice culture can be promoted by increasing the numbers both of museums and theaters. However, given that museums are especially visited by the domestic tourist probably because many

museums across Italy have very similar exhibitions and are presumably less attractive for Italians, it could be a good strategy for museums to promote temporary exhibitions. Further research investigating efficient marketing strategies and specific case studies is required in order to design best practices for attracting cultural tourism.

References

Barbieri, C., and Mahoney, E. (2010), 'Cultural Tourism Behaviour and Preferences among the Live-performing Arts Audience: an Application of the Univorous–Omnivorous Framework', *International Journal of Tourism Research,* Vol. 12, No 5, September/October 2010.

Bodo, C., and Bodo, S. (2011), *Compendium. Cultural Policies and Trends in Europe*, Council of Europe/ERICarts.

Bonet, L. (2003). Cultural Tourism. In R. Towse (Eds.), *A Handbook of Cultural Economics* (pp. 187–193). Northampton: Edward Elgar.

Bonn, M.A., Joseph-Mathews, S.M., Dai, M., Hayes, S., and Cave, J. (2007), 'Heritage/cultural attraction atmospherics: creating the right environment for the heritage/cultural visitor', *Journal of Travel Research,* Vol. 45, No 3, February 2007.

Borg, J., and Costa, P. (1996), 'Cultural Tourism in Italy'. In G. Richard (Eds.), *Cultural Tourism in Europe* (pp. 156–169). Wallingford: CAB International.

Borowiecki, K. J., and O'Hagan, J. (2012), 'Statistics on Classical Composers: Historical Patterns Based on Automatically Extracted Data'. *Historical Social Research*, forthcoming.

Boyd, S. (2002), 'Cultural and Heritage Tourism in Canada: Opportunities, Principles and Challenges'. *Tourism and Hospitality Research*, Vol. 3, No 3, February 2002.

Bracalente, B., Chirieleison, C., Cossignani, M., Ferrucci, L., Gigliotti, M., and Ranalli, G. (2011), 'The economic impact of ciltural events: the Umbria Jazz music festival', *Tourism Economics*, Vol. 17, No 6, December 2011.

Castiglione, C. (2011), The Demand for Theatre. A Microeconomic Approach to the Italian Case. *Working Paper No. 0911*, Trinity College Dublin (Ireland).

Correia, A., Kozak, M., and Ferradeira, J. (2011), 'Impact of Culture on Tourist Decision-making Styles'. *International Journal of Tourism Research*, Vol. 13, No. 5, September/October 2011.

de Guzman, A.B., Leones, J.D., Tapia, K.K., Wonga, W.G., and Castro, B.V. (2006), 'Segmenting motivation'. *Annals of Tourism Research*, Vol 33, No 3, July 2006.

ENIT. Agenzia Nazionale del Turismo. (1992), *Istituto di Antichità ed Arte dello Stato, Anni 1984-1991*. Rapporto no 3.

Formica, S., and Uysal, M. (1998), 'Market segmentation of an international cultural-historical event in Italy'. *Journal of Travel Research*, Vol. 36, No 4, April 1998.

Garìn-Munoz, T. (2009), 'Tourism in Galicia: domestic and foreign demand', *Tourism Economics*, Vol. 15, No 4, November 2009.

Hughes, H.L. (2002), 'Culture and tourism: a framework for further analysis', *Managing Leisure*, Vol. 7, No 3, July 2002.

Kim, H., Cheng, C., and O'Leary, J.T. (2007), 'Understanding participation patterns and trend in tourism cultural attractions', *Tourism Management*, Vol. 28, No 5, October 2007.

Lynch, M.F., Duinker, P.N., Sheehan, L.R. and Chute, J.E. (2011), 'The demand for Mi'kmaw cultural tourism: Tourist perspectives', *Tourism Management*, Vol. 32, No 5, October 2011.

March, R. (1997), 'Diversity in Asian outbound travel industries: a comparison between Indonesia, Thailand, Taiwan, South Korea and Japan', *International Journal of Hospitality Management*, Vol. 16, No. 2, June 1997.

Massidda, C. and Etzo I. (2012), 'The determinants of Italian domestic tourism: A panel data analysis', *Tourism Management*, Vol. 33, No 3, June 2012.

McKercher, B. (2002), 'Towards a classification of cultural tourists', *International Journal of Tourism Research*, Vol. 4, No 1, January/February 2002.

McKercher, B., and du Cros, H. (2003), 'Testing a cultural tourism typology'. *International Journal of Tourism Research*, Vol. 5, No 1, January/February 2003.

McKercher, B., Ho, P.S.Y., and du Cros, H. (2005), 'Relationship between tourism and cultural heritage management: evidence from Hong Kong', *Tourism Management*, Vol. 26, No 4, August 2005.

Murrillo Viu, J., Romani Fernández, J. and Surinach Caralt, J. (2008), 'The impact of heritage on an urban economy: the case of Granada and the Alhambra', *Tourism Economics*, Vol. 14, No 2, June 2008.

Richards, G. (1996), The Policy Context of Cultural Tourism. In G. Richard (Eds.), *Cultural Tourism in Europe* (pp. 67–79). Wallingford: CAB International.

Richards, G., and Binink, C.A.M. (1995), 'European Cultural Tourism Markets'. *Journal of Vacation Marketing*, Vol. 1, No 2, January 1995.

Stoddard, J., Davé, D., Evans, M., and Clopton, S.W. (2006), 'Economic impact of the arts in a small US county', *Tourism Economics*, Vol. 12, No 1, March 2006.

Throsby, D. (2001), *Economics and culture*. Cambridge. Cambridge University Press.

Tighe, A.J. (1986), 'The arts/tourism partnership'. *Journal of Travel Research*, Vol. 24, No 3, January 1986.

Tohmo, T. (2005), 'Economic impacts of cultural events on local economies: an input-output analysis of the Kaustinen Folk Music Festival', *Tourism Economics*, Vol. 11, No 3 September 2005.

UNESCO. (2012). *World Heritage List*. http://whc.unesco.org/en/list (accessed on January 2012).

Tables

Table 1. Summary statistics for Italian provinces (2006-2007)

Variable	Observations	Mean	Std. Dev.
	Panel A: Tourism Flows		
Total tourist visits	214	884’086	1’402’510
Total tourist stays	214	3’473’862	5’311’357
Italians tourist visits	214	491’250	545’628
Italians tourist stays	214	1’977’007	2’291’844
Foreign tourist visits	214	392’836	927’599
Foreign tourist stays	214	1’496’855	3’401’633
GDP pc	107	22’027.9	9’187.6
Population Size	107	557’189.6	636’710.1
	Panel B: Entertainment Admissions		
Museums pc	152	0.597	1.964
Theaters pc	152	2.169	0.920
Concerts pc	203	0.140	0.099
Exhibitions and shows pc	107	0.423	0.303
Dance and concertinos pc	213	0.639	0.656
Touring amusements pc	94	0.328	0.957
Sports pc	204	0.252	0.317
Multi-genre pc	206	0.038	0.086

Table 2. Entertainment admission and tourism flows. Dependent variable: Admission per capita

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
	Panel A: Tourist Visits							
Tourism flows (visits)	0.0765***	0.0911**	0.00935**	0.0855***	0.166***	0.0753	0.0119	0.00393
	(0.0266)	(0.0414)	(0.00381)	(0.0323)	(0.0597)	(0.131)	(0.0153)	(0.00443)
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes
Observations	152	152	203	204	213	94	107	206
R-squared	0.362	0.560	0.466	0.515	0.620	0.436	0.632	0.260
	Panel B: Tourist Stays							
Tourism flows (stays)	0.00449	0.0119	0.000546	0.0158**	0.0324***	0.0115	0.00212	0.00114
	(0.00448)	(0.00759)	(0.000582)	(0.00612)	(0.0107)	(0.0240)	(0.00318)	(0.000811)
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes
Observations	152	152	203	204	213	94	107	206
R-squared	0.338	0.549	0.451	0.512	0.628	0.433	0.631	0.265

Note. Robust standard errors are reported in parentheses. The dependent variable and tourism flows variables are expressed in per capita terms. Each specification contains indicator functions for Italian regions, each year of activity, as well as controls for the GDP of each province and price of each activity (not reported). ***/**/* indicate estimates that are significantly different from zero at 99/95/90 percent confidence.

Table 3. Entertainment admission and tourism flows by origin. Dependent variable: Admission per capita

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
				Panel A: Domestic Tourists Visits				
Italian tourism flows (visits)	-0.0287	0.185***	0.00505	157.3***	0.347***	0.228*	0.0219	0.0116
	(0.0551)	(0.038)	(0.00518)	(18.63)	(0.0677)	(0.129)	(0.0262)	(0.00813)
Observations	152	152	203	204	213	94	107	206
R-squared	0.336	0.56	0.449	0.555	0.691	0.469	0.616	0.269
				Panel B: Domestic Tourists Stays				
Italian tourism flows (stays)	-0.00726	0.0251***	-0.0006	0.0260***	0.0560***	0.0229	0.00367	0.00232*
	(0.00964)	(0.00893)	(0.00087)	(0.00888)	(0.0137)	(0.0295)	(0.0046)	(0.00134)
Observations	152	152	203	204	213	94	107	206
R-squared	0.338	0.546	0.448	0.54	0.667	0.441	0.616	0.273
				Panel C: Foreign Tourists Visits				
Foreign tourism flows (visits)	0.224**	0.0684	0.0247***	0.0830**	0.110*	-0.169	0.0121	-0.00182
	(0.0939)	(0.08)	(0.00815)	(0.0376)	(0.0649)	(0.257)	(0.0186)	(0.00505)
Observations	152	152	203	204	213	94	107	206
R-squared	0.425	0.532	0.481	0.418	0.523	0.439	0.612	0.256
				Panel D: Foreign Tourists Stays				
Foreign tourism flows (stays)	0.0360***	0.0046	0.0039***	0.0191*	0.0327*	-0.00957	0.00188	0.000378
	(0.0111)	(0.015)	(0.00125)	(0.00977)	(0.0177)	(0.0611)	(0.00509)	(0.00112)
Observations	152	152	203	204	213	94	107	206
R-squared	0.373	0.529	0.464	0.421	0.535	0.428	0.612	0.256
				All Regressions				
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes

Note: See Table 2.

Table 4. Direct Revenue from tourist demand for cultural activities, per province.

	Estimated admissions tourist	Average price of activity	Revenue from tourism flows	Share of total revenue
Museums	67’633	2.54	172’052	14.96%
Theaters	80’540	4.96	399’166	3.77%
Concerts	8’266	14.11	116’609	5.09%
Exhibitions and shows	75’589	3.9	295’143	14.14%
Dance and concertinos	146’758	9.26	1’358’571	11.97%
All cultural activities	37’8787	6.18	2’341’542	6.07%

Note: ‘Estimated admissions of tourists’ is calculated by utilising the point estimates obtained from the model and multiplying them by total tourist visits.

Figures

Figure 1. Entertainment admissions and tourist visits (Italian provinces, 2007).

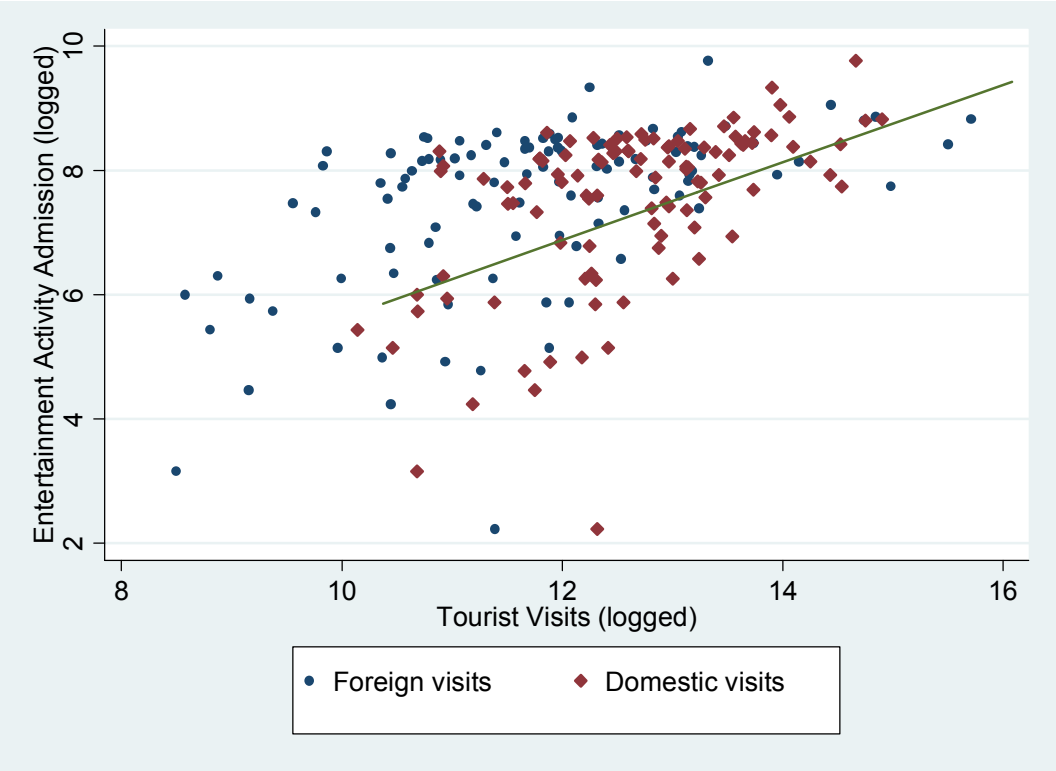
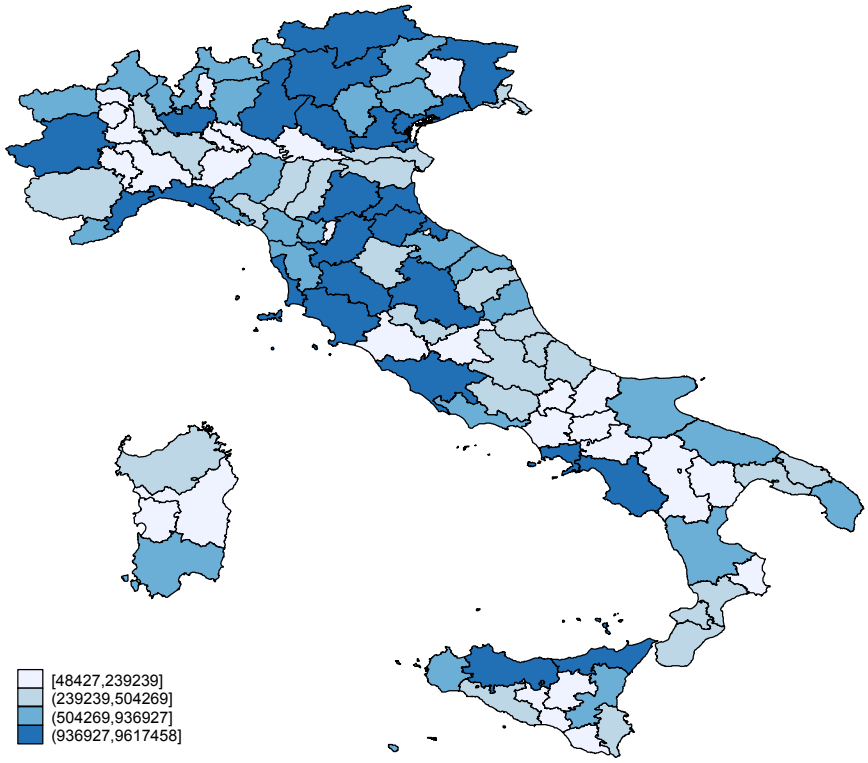
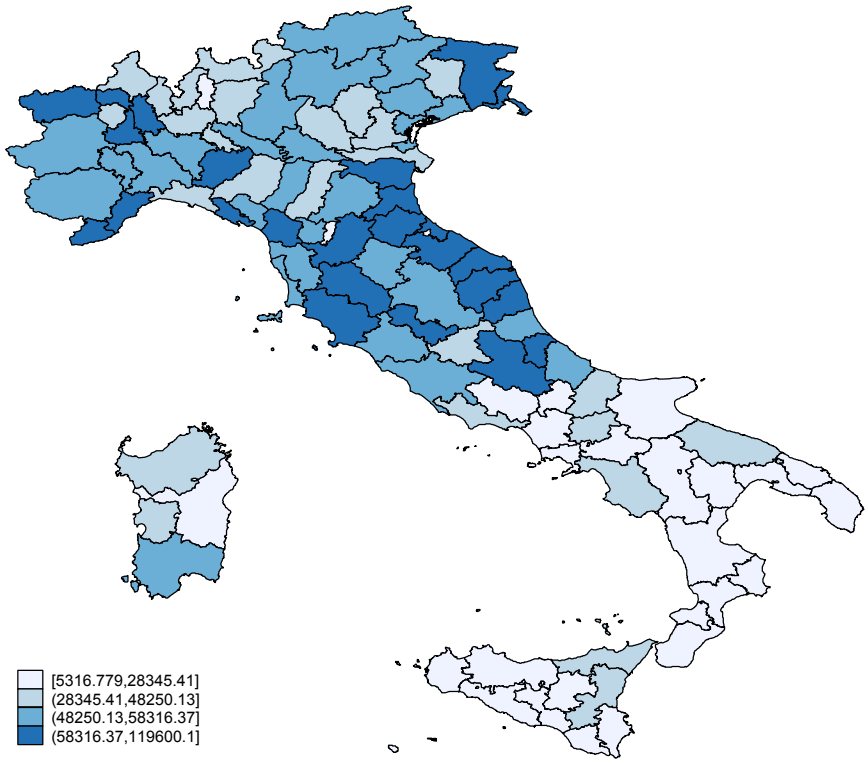


Figure 2. Tourist visits to Italian provinces.



Note: The number of tourist visits is calculated as the average for the years 2006 and 2007.

Figure 3. Entertainment admissions in Italian provinces.



Note: The number of admissions is calculated as the average for the years 2006 and 2007.

Appendix

Appendix 1. Definitions of entertainment variables.

Macro-aggregate	Definition
Museums	Museums include data on public museums, monuments and archaeological sites. In 2006 in Italy there were 196 museums and 206 monuments and archaeological area.
Theater	Theater macro-aggregate is composed from theater, opera, revue and musical, ballet, puppets and marionettes, performing arts and circuses. Circus was included in the macro-aggregate of theater since the shows carried out in the last few years - especially at international level - have made use to stage sets and techniques that definitely draw inspiration from the theater.
Concerts	Concert activities include classical concerts (band and choral concerts even if the repertoire may not be purely classical), pop music concerts and jazz concerts.
Exhibitions and shows	Exhibitions and shows, in addition to cultural exhibitions, shows the results of profit-making exhibition activities. This category includes the exhibition of goods to be sold (antiques, carpets, etc.) and trade fairs.
Dance and concertinos	Dance refers to dance with orchestra and dance with recorded music. Concertinos consist of musical performances (live or recorded) that are only an additional element to some other activities or entertainments, for example, live piano music in bars or restaurants.
Touring amusements	Touring amusement includes both single exhibitions and exhibitions inside amusement and leisure parks, as well as admissions to parks.
Sports	Sports consist of the following sub-categories: soccer (international; A, B, C and lower leagues), team sports other than soccer (such as basketball, volleyball, rugby and baseball), individual sports (boxing, cycle racing, athletics, tennis, showjumping, motor racing, speed boat racing and horse racing) and other sports (such as swimming and water polo, winter happenings and other sports).
Multi-genre	Multi-genre includes that may not be referable to a unique kind of event, like open-air shows on the occasion of village fairs or religious festivals.

Appendix 2. Robustness tests

Table 2.1. Robustness test. Entertainment admission and duration of tourists' stay. Dependent variable: Admission per capita

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
	Panel A: Baseline							
Tourists stay	0.0045	0.0119	0.00054	0.0158**	0.0324***	0.0115	0.00212	0.00114
	(0.0045)	(0.00759)	(0.0006)	(0.00612)	(0.0107)	(0.0240)	(0.0032)	(0.0008)
Observations	152	152	203	204	213	94	107	206
R-squared	0.338	0.549	0.451	0.512	0.628	0.433	0.631	0.265
	Panel B: Duration of stay logged							
Tourists stay (log)	6.064	127.5	9.037	90.12**	172.3**	107.0	-1.850	10.30**
	(26.43)	(81.31)	(5.488)	(41.90)	(70.11)	(137.3)	(28.53)	(4.823)
Observations	152	152	203	204	213	94	107	206
R-squared	0.335	0.550	0.455	0.429	0.551	0.432	0.628	0.265
	Panel C: Duration of squared							
Tourists stay	0.00035	0.0135	0.00193	-0.00724	-0.00224	-0.0151	-0.0145**	0.00142
	(0.0093)	(0.0188)	(0.0015)	(0.00735)	(0.0138)	(0.0437)	(0.0066)	(0.0012)
Tourists stay squared	1.35e-07	-3.53e-08	-3.25e-08	5.42e-07**	8.11e-07**	5.14e-07	3.73e-07***	-6.76e-09
	(3.42e-07)	(3.83e-07)	(2.56e-08)	(2.22e-07)	(3.99e-07)	(9.17e-07)	(1.29e-07)	(3.37e-08)
Observations	152	152	203	204	213	94	107	206
R-squared	0.338	0.549	0.453	0.572	0.659	0.437	0.659	0.265
	Panel A-C							
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes

Note: see Table 2.

Table 2.2. Robustness test. Entertainment admission and duration of stay. Dependent variable: Admission per capita

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
Tourist visits	0.348**	0.399**	0.078***	0.0549	0.0176	0.226	0.0175	-0.0226
	(0.175)	(0.175)	(0.0173)	(0.0536)	(0.0960)	(0.386)	(0.0375)	(0.0146)
Tourist stay	-0.0545*	-0.0616*	-0.01***	0.00598	0.0292	-0.0288	-0.00110	0.00519*
	(0.0308)	(0.0314)	(0.0031)	(0.0113)	(0.0193)	(0.0682)	(0.0084)	(0.00282)
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes
Observations	152	152	203	204	213	94	107	206
R-squared	0.426	0.580	0.547	0.517	0.628	0.438	0.632	0.276

Note: see Table 2.

Table 2.3. Robustness test. Entertainment admission and tourism flows by origin in 2006. Dependent variable: Admission per capita

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
	Panel A: Italian tourists visit							
Italian tourists visit	-0.0132	0.178**	0.000918	0.161***	0.358***	0.198	0.0533	0.00222
	(0.0881)	(0.088)	(0.009)	(0.0289)	(0.0492)	(0.133)	(0.0329)	(0.0093)
Observations	77	75	102	103	106	49	52	102
R-squared	0.319	0.617	0.440	0.543	0.698	0.507	0.653	0.253
	Panel B: Italian duration of stay							
Italian tourists stay	-0.00518	0.0245	-0.00135	0.026***	0.0582***	0.0208	0.00911	0.000899
	(0.0141)	(0.0160)	(0.0015)	(0.0050)	(0.00890)	(0.0240)	(0.0057)	(0.0016)
Observations	77	75	102	103	106	49	52	102
R-squared	0.319	0.605	0.445	0.525	0.673	0.484	0.652	0.256
	Panel C: Foreigner tourists visit							
Foreign tourists visit	0.227***	0.0718	0.0215**	0.0626*	0.0948	-0.144	0.0135	-0.00421
	(0.080)	(0.0991)	(0.0102)	(0.0376)	(0.0685)	(0.218)	(0.0406)	(0.0106)
Observations	77	75	102	103	106	49	52	102
R-squared	0.404	0.591	0.470	0.388	0.516	0.478	0.625	0.254
	Panel D: Foreigner duration of stay							
Foreign tourists stay	0.0364*	0.00591	0.00330	0.0153*	0.0313**	-0.00365	0.00397	-0.00044
	(0.0203)	(0.0221)	(0.0023)	(0.00826)	(0.0149)	(0.0496)	(0.0096)	(0.0023)
Observations	77	75	102	103	106	49	52	102
R-squared	0.356	0.588	0.455	0.392	0.530	0.471	0.625	0.253
	Panel A-D							
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes

Note: see Table 2.

Table 2.4. Robustness test. Entertainment admission and tourism flows by origin in 2007. Dependent variable: Admission per capita

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
	Panel A: Italians tourists visit							
Italian tourists visit	-0.020	0.190***	0.00610	0.155**	0.340***	0.203	-0.0211	0.0209**
	(0.0676)	(0.0541)	(0.008)	(0.0654)	(0.102)	(0.270)	(0.0317)	(0.0091)
Observations	75	77	101	101	107	45	55	104
R-squared	0.418	0.545	0.505	0.576	0.697	0.555	0.758	0.302
	Panel B: Italians duration of stay							
Italian tourists stay	-0.0060	0.0255*	-0.00034	0.0260**	0.0548***	0.0130	-0.00355	0.0038**
	(0.0116)	(0.0136)	(0.0014)	(0.0122)	(0.0208)	(0.0596)	(0.0055)	(0.0016)
Observations	75	77	101	101	107	45	55	104
R-squared	0.420	0.531	0.503	0.564	0.671	0.534	0.758	0.305
	Panel C: Foreigners tourists visit							
Foreign tourists visit	0.214*	0.0595	0.0231*	0.105*	0.123	-0.148	0.00619	0.000770
	(0.120)	(0.124)	(0.0122)	(0.0536)	(0.0980)	(0.391)	(0.0285)	(0.0088)
Observations	75	77	101	101	107	45	55	104
R-squared	0.505	0.516	0.528	0.465	0.539	0.539	0.755	0.263
	Panel D: Foreigners duration of stay							
Foreign tourists stay	0.0359**	0.00245	0.00346*	0.0229*	0.0340	-0.00906	-0.00029	0.00122
	(0.0162)	(0.0236)	(0.0020)	(0.0137)	(0.0262)	(0.0939)	(0.0073)	(0.0021)
Observations	75	77	101	101	107	45	55	104
R-squared	0.459	0.513	0.515	0.464	0.550	0.531	0.754	0.265
	Panel A-D							
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes

Note: see Table 2.

Table 2.5. Robustness test. Entertainment admission, tourism flows and the North-South divide. Dependent variable: Admission per capita.

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
	Panel A: Tourists visit							
Tourists visit	0.077***	0.0911**	0.0094**	0.0855***	0.166***	0.0753	0.0119	0.00393
	(0.0267)	(0.0414)	(0.0038)	(0.0323)	(0.0597)	(0.131)	(0.0153)	(0.00443)
Central	-0.924	1,135***	-5.842	605.0***	1,556***	-56.44	223.4***	24.61
	(154.0)	(409.2)	(25.01)	(213.1)	(306.5)	(121.2)	(51.42)	(27.28)
South & Islands	-130.3	631.2	-72.92**	643.9***	618.0	10.50	146.0*	12.48
	(170.5)	(452.3)	(33.49)	(201.5)	(386.8)	(427.6)	(85.34)	(32.47)
Observations	152	152	203	204	213	94	107	206
R-squared	0.362	0.560	0.466	0.515	0.620	0.436	0.632	0.260
	Panel B: Duration of stay							
Tourists visit	0.00449	0.0119	0.000546	0.0158**	0.0324***	0.0115	0.00212	0.00114
	(0.0045)	(0.0076)	(0.0006)	(0.00612)	(0.0107)	(0.0240)	(0.0032)	(0.00081)
Central	-9.379	1,759**	-41.65*	398.0***	1,417***	2.740	230.9***	127.1***
	(145.7)	(710.0)	(23.48)	(151.9)	(235.5)	(247.6)	(68.16)	(41.18)
South & Islands	-158.0	418.0	-117.6***	485.0***	364.4	-5.136	141.2	27.19
	(163.6)	(426.9)	(28.92)	(147.2)	(278.7)	(448.4)	(90.91)	(31.79)
Observations	152	152	203	204	213	94	107	206
R-squared	0.338	0.549	0.451	0.512	0.628	0.433	0.631	0.265
	Panel A-B							
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes

Note: see Table 2. Northern Italy is baseline category.

Table 2.6. Robustness test. Entertainment admission, tourism flows and UNECO World Heritage Site. Dependent variable: Admission per capita.

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
	Panel A: Tourists visit							
Tourists visit	0.075***	0.0841**	0.0083**	0.0804**	0.168***	0.102	0.0118	0.00380
	(0.0262)	(0.0421)	(0.0035)	(0.0339)	(0.0603)	(0.115)	(0.0157)	(0.0045)
Unesco World Heritage site	10.76	68.29	13.00**	46.57***	-26.48	261.7**	1.962	1.172
	(21.19)	(45.79)	(5.601)	(15.76)	(24.65)	(121.2)	(15.39)	(3.502)
Observations	152	152	203	204	213	94	107	206
R-squared	0.363	0.567	0.487	0.542	0.622	0.501	0.632	0.260
	Panel B: Duration of stay							
Duration stay	0.0044	0.0114	0.000467	0.0153**	0.0324***	0.0162	0.00210	0.00113
	(0.0045)	(0.0077)	(0.0006)	(0.00627)	(0.0107)	(0.0214)	(0.0032)	(0.0008)
Unesco World Heritage site	16.91	79.20*	13.90**	52.87***	-9.257	259.3**	2.859	1.339
	(20.18)	(45.74)	(5.676)	(14.05)	(21.05)	(119.5)	(15.35)	(3.456)
Observations	152	152	203	204	213	94	107	206
R-squared	0.340	0.558	0.475	0.547	0.628	0.497	0.631	0.265
	Panel A-B							
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes

Note: see Table 2.

Table 2.7. Robustness test. Entertainment admission, tourism flows and Archaeological Sites. Dependent variable: Admission per capita.

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
	Panel A: Tourists visit							
Tourists visit	0.0763***	0.0797*	0.0079**	0.0845**	0.167***	0.0675	0.0105	0.00435
	(0.0272)	(0.0440)	(0.0031)	(0.0330)	(0.0604)	(0.138)	(0.0160)	(0.004)
Archeological sites	0.672	18.00	4.778***	2.287	-2.258	11.75	3.328	-0.849*
	(4.839)	(15.28)	(1.418)	(1.986)	(3.365)	(9.615)	(2.275)	(0.481)
Observations	152	152	203	204	213	94	107	206
R-squared	0.362	0.569	0.550	0.517	0.620	0.442	0.636	0.263
	Panel B: Duration of stay							
Duration of stay	0.00457	0.0101	0.000548	0.0158**	0.0324***	0.0113	0.00201	0.00116
	(0.00463)	(0.0082)	(0.0005)	(0.00617)	(0.0108)	(0.0244)	(0.00325)	(0.001)
Archeological sites	1.574	20.29	4.896***	3.560*	0.181	13.00	3.535	-0.788
	(4.971)	(15.34)	(1.445)	(1.965)	(2.741)	(8.197)	(2.232)	(0.483)
Observations	152	152	203	204	213	94	107	206
R-squared	0.362	0.560	0.540	0.517	0.628	0.441	0.636	0.268
	Panel A-B							
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes

Note: see Table 2.

Table 2.8. Robustness test. Entertainment admission, tourism flows and Cultural Sites. Dependent variable: Admission per capita

	Museums (1)	Theater (2)	Concerts (3)	Exhibitions and shows (4)	Dance and concertinos (5)	Touring amusements (6)	Sports (7)	Multi-genre (8)
	Panel A: Tourists visit							
Tourists visit	0.0788***	0.0715	0.00936***	0.0846**	0.165***	0.0748	0.0104	0.00400
	(0.0269)	(0.0453)	(0.00352)	(0.0326)	(0.0602)	(0.135)	(0.0162)	(0.00443)
Cultural sites	0.699	9.223**	0.601***	0.713**	0.372	0.123	0.631	-0.0636
	(0.632)	(3.917)	(0.225)	(0.341)	(0.420)	(1.495)	(0.605)	(0.0533)
Observations	152	152	203	204	213	94	107	206
R-squared	0.385	0.599	0.507	0.521	0.620	0.436	0.635	0.260
	Panel B: Duration of stay							
Duration of stay	0.00525	0.0101	0.000743	0.0159***	0.0324***	0.0114	0.00193	0.00113
	(0.00460)	(0.00844)	(0.000535)	(0.00609)	(0.0108)	(0.0243)	(0.00330)	(0.000814)
Cultural places	0.631	9.758**	0.612***	0.937**	0.802**	0.485	0.666	-0.0494
	(0.641)	(4.029)	(0.228)	(0.376)	(0.380)	(1.407)	(0.593)	(0.0552)
Observations	152	152	203	204	213	94	107	206
R-squared	0.340	0.593	0.494	0.523	0.630	0.433	0.634	0.266
	Panel A-B							
Region controls	yes	yes	yes	yes	yes	yes	yes	yes
Price controls	yes	yes	yes	yes	yes	yes	yes	yes
GDP controls	yes	yes	yes	yes	yes	yes	yes	yes
Year control	yes	yes	yes	yes	yes	yes	yes	yes

Note: see Table 2

Appendix 3

Figure 3.1. GDP and tourist visits (Italian provinces, 2007).