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HEDONIC VALUE OF ITALIAN TOURISM SUPPLY: COMPARING ENVIRONMENTAL AND CULTURAL ATTRACTIVENESS

by Valter di Giacinto and Giacinto Micucci *

Abstract

This paper provides an empirical evaluation of the main determinants of hotel prices in the Italian tourism industry. We pool information from two datasets: i) a database on hotel prices and attributes based on the Touring Club Italia Guide and providing information on about 1,100 hotels located in almost 300 towns in the entire Italian coastal region; and ii) a set of neighbourhood characteristics indicators that assess local environmental quality and artistic and cultural attractiveness. On the basis of the results of a hedonic analysis of hotel price differentials, we show that tourists place a high value on both marine environmental quality and local access to artistic and cultural amenities. The contribution to consumer utility is sizeable in both cases, but that of artistic and cultural amenities appears to be more stable across seasons. On the whole, our results suggest that the widespread availability of an extraordinarily rich artistic and cultural endowment, as is the case of Italy, may strongly complement environmental attributes in supporting the non-price competitiveness of the coastal tourism industry.

JEL Classification: L83, Q53, R11, Z11.

Keywords: tourism; environment; artistic and cultural attractiveness.

Contents

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1. Introduction[1]

Although affected by increased competition from other Mediterranean countries (Alivernini, Breda, and Iannario, 2012), Italy is still one of the most popular holiday destinations in the sun-and-beach segment. At the same time, towns and establishments (hotels, campsites) in Italy compete in attracting national and foreign tourism. While the determinants of establishments' competitiveness have been widely investigated, the success factors of resorts have received less attention.

This paper makes an empirical evaluation of the factors underlying the observed hotel price differentials in Italian sun-and-beach tourism supply, both at establishment (hotel) level and at town level. We move from the awareness that historical, cultural and artistic attractiveness is also valuable in the sun-and-beach tourism market: Italy, in particular, is abundantly endowed with sun, coastline and artistic and cultural sites, and therefore the issue of the proper and efficient management of these resources is at the core of the economic and political debate. We investigate the hedonic value of cultural and artistic resources and compare it with more specific sun-and-beach characteristics, such as environmental features.

We pool two datasets: i) information on hotel prices and attributes, as provided by the catalogue of the Touring Club Italia for about 1,100 hotels located in about 300 towns in all Italian coastal regions; and ii) various town characteristics, including environmental quality and artistic and cultural attractiveness.

In terms of methodology, we introduce two innovations with respect to previous empirical literature on the tourism sector. First, we include a large number of towns in our study (about 300), belonging to all the Italian coastal regions, while previous studies focused on one or few destinations. In this way we are able to assess the influence of town characteristics on the hotel prices charged in different holiday destinations. This feature is clearly relevant: empirical studies have shown that in the tourist market consumers choose the

[1] The authors wish to thank Luigi Cannari, Massimo Gallo and two anonymous referees for their useful suggestions and Maria Letizia Cingoli and Egidio Pezzuto for the excellent research assistance provided.

destination first and then the hotel. Second, we extend the standard hedonic regression approach taking into account the spatial features of the data. For this, we implement the spatial econometric approach that has recently been shown to increase significantly the explanatory power of hedonic models in the real-estate sector (Him et al., 2006; Cohen and Coughlin, 2006). This extension also improves the robustness of the empirical findings as it allows us to control for spatially correlated unobservable disturbances and possibly omitted variables.

The implications of our empirical analysis are clearly relevant for both hotel managers and public authorities. The former can base their investment strategies on an assessment of the additional features that appear to be highly regarded by customers. At the same time, policy makers at local and central government levels are given an appraisal of the impact on hotel prices, and hence on the attractiveness of a given area for tourism, of the local provision of different kinds of public goods.

The rest of the paper is organized as follows. Section 2 briefly reviews recent empirical contributions on the measurement of price competitiveness in the tourism industry. In Section 3 the data used for the study are presented and some first descriptive evidence is collected. Section 4 presents the econometric specifications considered in the empirical analysis, the results of which are next discussed in Section 5. Section 6 concludes.

2. Review of the literature

In the economics of tourism the subject of competitiveness has acquired particular importance. While firms (tour operators, hotel chains) may differentiate their offer and delocalize their establishments, holiday sites do not change. Firms and sites may try to attract tourists by keeping prices lower than competitors (price competitiveness) and/or by improving service quality (non-price competitiveness).

The hedonic approach analyses price and non-price competitiveness in an integrated framework, providing a separate evaluation of each attribute of a given tourism service bundle. In the hotel market only overall room prices are observed, while the values of attributes (both firm-specific and site-specific) remain hidden. The hedonic approach provides a methodology for estimating the effect of each individual attribute on price. Prices are analysed from the

supply side, assuming that the hotel market is in monopolistic competition in which the management may differentiate its supply.

So far, studies adopting a hedonic approach have mainly focused on hotels attributes, providing useful suggestions to hotel managers. Previous studies used samples of hotels or package holidays located in a few resorts in order to evaluate different hotel (or holiday package) attributes while controlling for the heterogeneity of destination usually by means of town or country dummies, without disentangling the plurality of natural, artistic, social, economic characteristics that can make a resort more or less attractive to consumers. This choice is consistent with the objectives of those analyses and with the sample examined. Consider the Mediterranean resorts: they belong to many countries spread over three continents (Africa, Asia and Europe); they are extremely heterogeneous in many respects and collecting comparable data on them is prohibitive.

Aguilo et al. (2001) address hotel factors (category and type of board) and geographical variables (distance from the city of origin, hotel location), while neutralizing the influence of the destination by conducting the analysis on a single resort (the island of Majorca). In other studies, more than one resort is included, while controlling for destination heterogeneity by means of town or country dummies. Espinet et al. (2003) use data on three towns on Spain's Costa Brava; Mangion et al. (2005) estimate a model of United Kingdom demand for three Mediterranean destinations (Malta, Cyprus and Spain); Haroutunian et al. (2005) analyse a sample of Mediterranean holiday packages. Quintiliani (2012) studies the hedonic value of hotels located in an Italian region (Emilia-Romagna) compared with other Mediterranean competitors; along these lines, it is also worth mentioning the analyses of Thrane (2005), Hamilton (2007), Andersson (2010) and Chen and Rothschild (2010).

Papatheodorou (2002) adopts a different econometric strategy, evaluating the quality of both packages and resorts (thirty destinations, located in ten Mediterranean countries). In a first stage he conducts an hedonic analysis using data from UK holiday packages. Then the author looks for correlations between the relative price premium enjoyed by different resorts and their intrinsic characteristics (a number of sunlust, wanderlust and industrial organization

characteristics). Crouch (2011) evaluates a series of aspects of destination competitiveness using "expert" judgement.[2]

In this paper, we introduce some extensions that may be considered complementary to previous empirical research. Our objective is to estimate hedonic values not only for hotel attributes but also for the characteristic of tourism destinations and their neighbourhoods.

Italy provides a valuable case study for pursuing this research aim. It has an extremely long coastline, covering a wide range of natural features (sand and rock beaches, different air and sea quality, presence of marine parks) and artistic characteristics. Besides, economic structures differ within the country in terms of GDP level, availability of infrastructure, and so on. Although highly heterogeneous in many respects, available data are abundant, comparable and of good quality.

Thus, our result could be useful for both hotel managers and local authorities (at least for improving the provision of some public goods). While the supply of hotel facilities may be decided by the management and changed fairly easily, site attributes are often very persistent. In fact, we can distinguish between attributes that cannot be changed (climate, for example),[3] attributes due to human activities but modifiable only in the very long run (i.e. artistic attractions), and other attributes that can be changed more easily (although perhaps not without difficulty), such as transport infrastructure, amenities and sea quality.

3. The data

The choice of the data source for price and service characteristics has been shown to affect significantly empirical findings in previous hedonic analyses of the tourism industry.[4]

[2] Croes (2011) analyses the economic return of the destination competitive position. See also the survey of Song et al. (2012).

[3] Or cannot be changed simply by public policies implemented in a single resort.

[4] Clerides et al. (2003) show that tour operators' brochures convey more additional quality content than official guides furnished by governments. Haroutunian et al. (2005) consider differences in hotel quality advertised by different operators. The authors discuss two sources of heterogeneity: (a) the information supplied by different operators may not be comparable if it is targeted at different segments of the holiday market, and (b) the quality characteristics may differ between packages with a different star rating. Hedonic analysis may lead to misleading conclusions if such heterogeneities are ignored. However, according to the authors the descriptions in

We base our study on hotel prices collected and published by the "Touring Club Italiano" (TCI) in 2005. TCI is not an Italian government tourist office or a tour operator (or not only a tour operator); it is a well-known non-profit organization carrying out many activities in the field of tourism, such as research and consulting on sites of great artistic and natural beauty, publishing guide books, and organizing holiday tours. Given its wide range of activities and non-profit nature, we are confident of the impartiality of the opinions and information reported in the Guide.

In the TCI catalogue, prices (per day) are reported for single and double rooms and should generally reflect the amount most tourists really pay. We cannot rule out the possibility that the price actually charged is lower when the room is reserved directly by the tourist, maybe as a result of special offers or last minute discounts. Hotels may also adopt different pricing policies according to some observable client characteristics (age, city of origin, length of stay). However, our price measure already takes into account the most important criteria for price differentiation (i.e. seasonality and type of board). In any event, TCI monitoring of data collection probably ensures that price information is gathered consistently across the different locations, making prices comparable across hotels and sites.

The sample covers about 1,100 hotels, equal to about 12.5 per cent of those operating in marine locations in Italy in 2005 (about 9,000 units according to Istat, 2007). About 46 per cent of the Italian coastal municipalities (288 towns) are included in the sample and roughly 20 per cent of them (53 municipalities) are recommended by the TCI as artistically and culturally attractive sites.[5] About one third of the observations in the sample refer to hotels located in TCI recommended towns.

The map in Figure 1 shows that the municipalities included in the sample are distributed fairly uniformly across the entire Italian coastal territory and the same pattern applies to TCI

operators' brochures do not convey adequate quality information about the holiday packages and hotel attributes. In fact, the variation in price (quality) is more associated with the country of destination than the advertised hotel attributes. Finally, Aguilo et al. (2001) show that the prices of tour operators' offers are not directly comparable because of differences in the number and quality of the services contracted, as well as the segmentation of the market targeted.

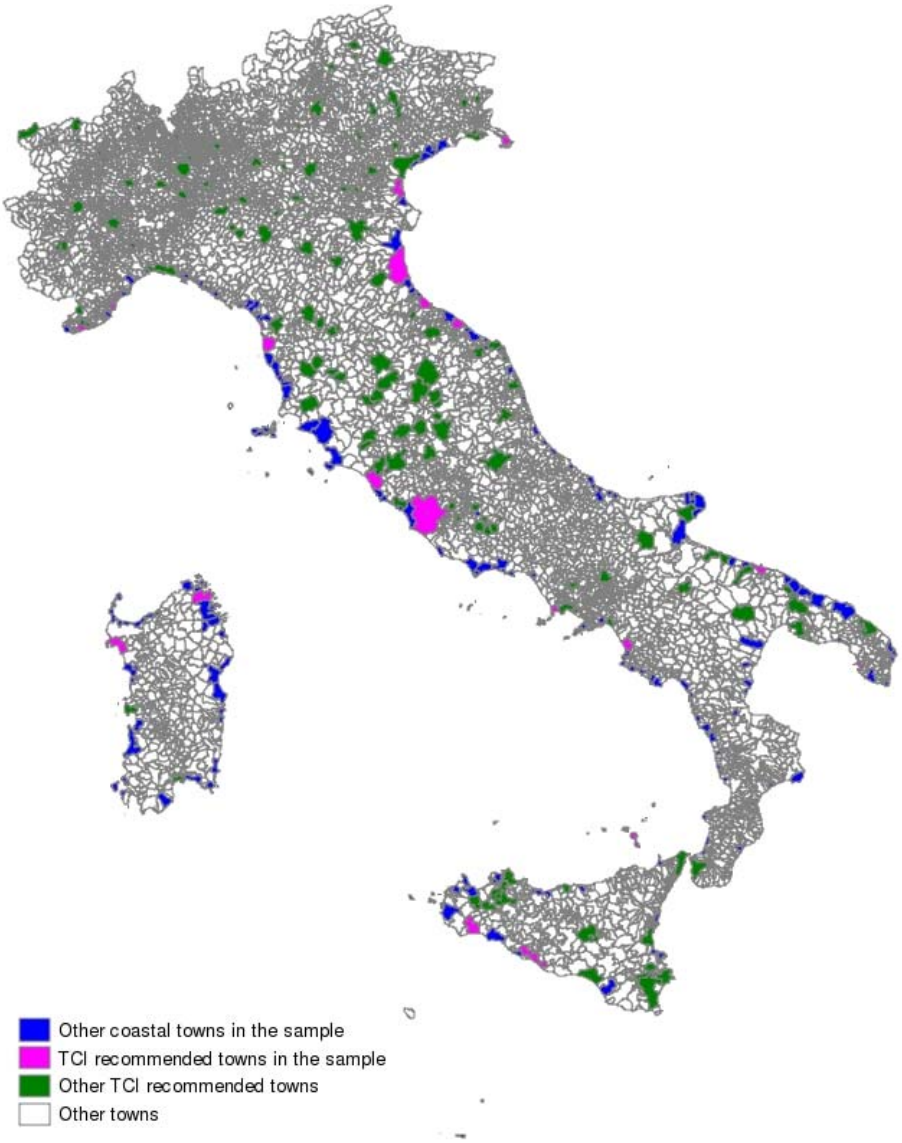
[5] The TCI's qualitative evaluations of the cultural, artistic and historical attractiveness of Italian municipalities are reported in another TCI guide (more on this point in the Section 5.1).

recommended sites. However, as the TCI does not select the hotels in its Guide on the basis of a statistical sampling design, the representativeness of the sample may be partly limited.

The TCI sample does not include hotels with less than a 2 star-rating and these account for only 1 per cent of the sample, while they represent slightly less than a quarter of the reference population. On the other hand, luxury hotels (4 and 5 stars) are oversampled in the TCI database, accounting for about 40 per cent of the total, a share that is almost four times the value observed in the population.

Figure 1

Location of the municipalities in the sample (1)



(1) In Rome, only hotels located in Lido di Ostia are included in the sample.

On the whole, this evidence shows how the TCI hotel sample data convey almost no information on the pricing behaviour of lower quality structures and, in the case of medium and high quality hotels, require proper control for hotel characteristics (category and other specific features) in order to derive meaningful aggregate price differential statistics from the data.

Sample descriptive statistics are reported in Tables 1 and 2. The minimum price for a double room is 108 euros, the maximum price is 172. Obviously, prices increase with the category of the hotels. Moving from 2-star to 3-star we observe an increase of about 30 per cent in the maximum price. Passing from 3-star to 4-star the price doubles and a similar increase is recorded moving up to 5-star hotels. A geographical disaggregation shows that prices are higher in resorts in the Ionian and Tyrrhenian coastal resorts. Quite surprisingly – on the basis of these simple descriptive statistics – the attribution of a Blue Flag Award is associated with lower hotel prices.

Finally, regarding our main variable of interest, the sample means show how, in line with expectations, prices are considerably higher (about one third on average) in towns that are qualified by the TCI as sites of great artistic and cultural importance.

4. The Spatial Hedonic Approach

In applying the hedonic approach to analysing price patterns in the tourism industry we can rely on some close analogies with the real-estate sector, which has received considerable attention in the literature. In both cases the utility the buyer derives from acquiring a given service is influenced not only by facility structural attributes but also by a set of neighbourhood characteristics that qualify the environment where the facility is located, and the hedonic regression analysis is carried out by estimating the following log-linear relationship between prices and the two sets of explanatory variables

$$\log P = X_1\beta_1 + X_2\beta_2 + \varepsilon \tag{1}$$

where P denotes the N-dimensional vector of hotel prices, X_1 is a matrix with observations on hotel structural characteristics, X_2 is a matrix with observations on neighbourhood

characteristics, and ε is assumed to be a vector of independent and identically distributed error terms. Negative values of ε_i (i=1,2,...,*N*) imply price competitiveness (value-for-money) of the *i*-th accommodation offer.

While the introduction of location attributes X_2 explicitly recognizes the spatial nature of price patterns in the tourism industry, conditioning on observable neighbourhood characteristics is not guaranteed to eliminate other spatial features of the pricing mechanism, like the possible interdependence of pricing decisions by suppliers located in the same area or nearby (Bransington and Hite, 2005), or the existence of spatial externalities in neighbourhood attributes. Spatial econometric models provide the statistical tools to deal with both types of spatial effects. Three different specifications can be considered: spatial cross-regressive, spatial lag and spatial error models.

The cross-regressive specification, which is appropriate when dealing with spatial externalities on observed explanatory variables, is obtained by augmenting (1) with the spatial lags of the explanatory variables

$$\log P = X_1\beta_1 + X_2\beta_2 + W_1X_1\beta_1 + W_2X_2\beta_2 + \varepsilon \qquad (2)$$

where W_1 and W_2 are *N*x*N* matrices of known non-negative constants reflecting the structure of potential spatial interaction. Non-zero elements in W_s ($s\in\{1,2\}$) are associated with row-column combinations corresponding to observational units that are assumed to be spatial neighbours, where the definition of neighbours used in the weights matrix typically reflects a notion of distance decay or contiguity (having common borders). By convention, the diagonal elements of the weights matrix are set to zero and row elements are standardized so that they sum to one.

Separate spatial weights matrices may be considered for the two types of regressors on the right hand side of (1), to allow for different spatial interaction structures due, for example, to differences in the geographical scale for which observations on individual characteristics and location attributes are available.

The spatial lag model (SLM) is particularly well suited to deal with strategic interactions in the local markets and provides an assessment of the strength of such spatial

relationships (Kim et al., 2003). It is obtained by introducing the spatial lag of prices on the right-hand side of (1), setting:

$$\log P = \rho W \log P + X_1\beta_1 + X_2\beta_2 + \varepsilon \tag{3}$$

where *W*, as above, is a properly defined spatial weights matrix capturing interaction across agents operating in local tourism markets and ρ is an unknown parameter measuring the sign and intensity of spatial interdependence.

The spatial error model (SEM) is derived from (1) by assuming a spatially autoregressive error term

$$\varepsilon = \lambda W\varepsilon + u \tag{4}$$

and provides an appropriate specification when some unobservable (or unobserved) factors affect the behaviour of the dependent variable on own location and on nearby areas.

While the spatial lag and spatial error models are traditionally estimated by maximum likelihood (Ord, 1975), in LeSage (1997) a bayesian approach is developed that allows for an efficient treatment of heteroskedasticity and outliers. The LeSage bayesian spatial lag model is qualified by the following assumptions

$$\varepsilon \sim N(0, \sigma^2 V), \qquad V = diag\{v_1, v_2, ..., v_N\}$$

$$\pi(\rho) \propto \text{constant}$$

$$\pi(v_i^{-1}) \sim \text{ID}\ \chi^2(q)/q \qquad (i = 1,2,...,N)$$

$$\pi(\sigma^2) \propto 1/\sigma$$

$$q \sim \text{constant}$$

where $\pi(.)$ denotes a probability density function and the analogous spatial error model is obtained by replacing the first two assumptions above with the following

$$u \sim N(0, \sigma^2 V), \qquad V = diag\{v_1, v_2, ..., v_N\}$$

$$\pi(\lambda) \propto \text{constant}$$

The positive hyper-parameter q controls the amount of cross-sectional dispersion of error variances. The smaller are the values of q the higher the heteroskedasticity and the likelihood of the occurrence of outliers, while as q diverges the model tends to become homoskedastic.

To conclude, specifications (2)-(4) can be combined to yield more complex structures, allowing for the contemporaneous existence of spatial interaction across agents and spill-over effects in both observable and unobservable right-hand-side variables. In particular, combining (2) and (3) leads to what is usually referred to as a Spatial Durbin model, a specification recently utilized in a spatial hedonic analysis context by Bransington and Hite (2005).

5. The Explanatory Variables

In this section the pool of indicators used to qualify hotel structural attributes and neighbourhood characteristics is introduced separately for the two sets of explanatory variables: hotel features and resort characteristics.

5.1 – Hotel Features

Information from the TCI database allows a fairly accurate appraisal of the accommodation service provided by individual hotels. Apart from category ranking, measured by the number of stars, the availability of some additional services/facilities (swimming pool, air-conditioning, garden or park, supervised car parking, childcare, tennis court, private beach) is assessed.

Hotel size (number of rooms) is also considered among the important hotel characteristics, on the assumption that larger structures usually provide a broader set of ancillary services, such as satellite TV or fast internet access, for which detailed information is not available in the TCI database.

Another important variable for which we lack data is the distance from hotel to sea, although the provision of some additional facilities, like reserved parking lot, tennis courts or a large private garden/park can be expected to provide indirect information on this aspect. On average, hotels located very close to the sea - where high land costs or the existence of land

development restrictions can make the provision of such facilities excessively costly or totally unfeasible - should have fewer additional facilities. Conditional on hotel characteristics that we explicitly control for, we expect distance to the sea to be rather weakly correlated with our main explanatory variables (cultural and environmental amenities).[6]

5.2 – Resort Characteristics

Apart from cultural attractiveness, a large number of location characteristics can be expected to exert some influence on hotel prices by affecting consumer demand for tourism or the local supply of accommodation services. In order to properly identify the impact of cultural and historical amenities on hotel prices it is therefore necessary to control for these possibly confounding factors.

As we run the analysis at the municipality level, the contextual factors that appear reasonably constant for all the locations within a given province can be simply controlled for by including in the hedonic regression analysis a set of provincial dummy variables. The factors that vary little within a province include climate, accessibility, infrastructure, per capita personal income and wealth and, on the supply side, wages and the price of intermediate inputs (electricity, water and other utilities). Nonetheless, a number of other relevant factors may show significant variation within a given province. They include cultural, environmental and recreational amenities and potential sources of positive or negative externalities for the local tourist industry. In the remaining part of this section we describe briefly the indicators that were considered in the empirical analysis in order to control for the heterogeneity of Italian tourist destinations in these respects, providing some motivation for their inclusion in our empirical analysis. All the indicators are measured at the municipality level.

[6] It is difficult to envisage any factor that could cause the average hotel-beach distance to be different in locations with high cultural attractiveness compared with the other locations in the sample. In the case of hotels located in municipalities with better environmental amenities, there might be a correlation with hotel-beach distance if stricter building restrictions are in place, forcing hotels to be sited on average father from the sea. Under this assumption, the actual positive price differential for hotels located in these sites would be even higher than the one we estimate in Section 6, on the basis that distance from the beach has a negative impact on hotel price.

a. Environmental amenities

In the literature applying the hedonic approach to housing prices, environmental (dis)amenities have recently been shown to play an important role in explaining spatial price patterns. In this respect, a clean sea is the first major factor in the sun-and-beach tourism segment considered here. We measure it by means of the score assigned by Legambiente, an independent association that monitors environmental quality in Italy, to the sea in the municipality where the hotel is located.[7]

As the Legambiente score is not available for all the locations in the sample, we add information on the assignment of the Blue Flag Award. The Blue Flag Programme for beaches and marinas is run by the non-governmental, non-profit organisation Foundation for Environmental Education (FEE) and assesses environmental quality in the coastal areas by monitoring water quality, safety standards, environmental management standards and environmental education.

b. Artistic and Cultural Attractiveness

As a measure of the cultural attractiveness of Italian municipalities we use a dummy variable (TCI_ART) based on information derived from another TCI publication.[8] The dummy variable takes the value 1 when the TCI recommends visiting that municipality because it is of great artistic, cultural and historical interest. The TCI Guide recommends about 190 Italian towns (Figure 1 contains a map of these locations in Italy; note that coastal towns, cities located near the coast and more internal municipalities are included). Together with some of the main well-known Italian cities (Rome, Venice, Florence, Naples), the list includes many medium (Padua, Pisa, Siena, Lecce) and small towns (Capri, Pompei, Portofino, San Gimignano), all of which have major artistic and cultural features.

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[7] The Legambiente score is actually available for a number of coastal locations accounting for slightly less than three quarters of the data in the sample. To overcome the missing data problem, the value of the Legambiente score was set to zero for locations for which the score data were missing. At the same time a binary dummy indicating the observations for which the score is observed was introduced. It should capture any possible difference in average sea quality across the two groups of locations (included and excluded from the Legambiente scoring report), thus allowing for a proper measurement of the effect of an increase in the quality of the marine environment on the sub-sample of locations for which the information is available.

[8] Touring Club Italiano, *Guida rapida d'Italia*, 5 vols., 1996.

c. Recreational Amenities

Local access to recreational services outside the hotel is an additional factor that is clearly relevant for the choice of tourism destination, especially among the younger segment. We assess the local availability of this type of infrastructure by introducing an indicator for the diffusion within the municipality of cinemas, discos and amusement parks (variable AMENITIES) – as measured by the number of workers employed in this sector – expressed as a ratio to the sample mean of the variable.

As an indirect proxy of the overall quality of the tourist services we also include an indicator of the average quality of the hotel supply within individual municipalities, measured as the share of total hotel accommodation capacity installed in 4- and 5-star structures (HQSUPPLY). The intuition is that locations with an overall higher standard of accommodation should also have a high level of the other public and private services usually demanded by tourists in this market sector (restaurants, marinas, diving centres, and so on)

d. Localized Externalities

In more densely populated areas hotel prices may be influenced by localized externalities affecting either the demand or supply of hotel accommodation.

A high population density is usually associated with both high land prices and increased congestion and pollution. From the supply side, high land prices may lead to higher costs of producing accommodation and eventually to higher hotel prices. At the same time, increased congestion will adversely affect tourism demand and is therefore expected to have negative effects on room prices. Overall, the sign of the influence of population density on hotel prices is uncertain as it depends on which of the two opposite effects (supply and demand) actually prevails. We control for urban size/density by introducing two additional explanatory variables in the empirical analysis. The first is population density (POPDENS), which, in order to prevent simultaneity issues, we measure by considering only the resident population and excluding tourist inflows. The second indicator is a dummy variable (MAINCITY) for the main metropolitan cities included in our sample (there are only three: Bari, Genoa and Ancona). For these areas, the typical presence of a large tertiary sector competing with the tourist sector on the local market for factors like land and labour could result in higher production costs and, everything else being equal, higher hotel room prices.

6. The Estimation Results

6.1 - The Baseline Econometric Specification

The baseline model specification given by expression (1) was estimated by OLS considering four progressively larger specifications and using as dependent variable the log price for accommodation in a double room (the maximum quoted for each structure was considered, corresponding to the price charged in the high season). In the first specification, we assess the impact of cultural attractiveness on hotel prices controlling only for hotel characteristics and provincial fixed effects.

Estimation results, displayed in column (a) of Table 3, show that prices increase significantly with hotel rating (as measured by the number of stars). Within the same category, hotels offering childcare services and equipped with swimming pool, tennis court and air conditioning achieve prices above the mean. Other things being equal, the price increase ranges from about 6 per cent for the availability of a swimming pool to 11 per cent for the supply of childcare services and 12 per cent for air conditioning. The availability of a private beach is associated on average with a price increase of about 3 per cent, while a private park has a positive but not statistically significant influence on price. A negative effect is estimated for the availability of car parking. The negative coefficient could be due to the fact that the indicator is implicitly acting as a proxy for the hotel-beach distance, a variable for which we cannot control explicitly due to the lack of this information in the TCI database. Given hotel category and ancillary facilities, hotel size appears to have a negligible effect on price.

In line with expectations, the coefficient of the TCI_ART variables is positive and highly statistically significant. The impact on hotel prices is sizeable, implying an average increase of about 17 per cent for hotels in locations that are culturally attractive according to the TCI compared with hotels with the same characteristics located in other sites.

To obtain a more robust measure of the impact of cultural amenities on hotel prices we subsequently introduce a number of control variables at the municipality level.

As a first extension, the influence of environmental factors was considered. Based on estimation results (see column b of Table 3) sea water quality appears to affect hotel prices in a positive and highly significant way. A one point increase in the Legambiente score (measured

on scale from 0 to 100) causes a 1.4 per cent increase in prices. The broader indicator of environmental quality given by the assignment of the Blue Flag Award is also associated with higher hotel prices (about 3.7 per cent on average).

Controlling for environmental amenities causes the coefficient of TCI_ART to drop slightly, from 0.17 to 0.15, while remaining highly significant.

As a further extension, the role of other recreational amenities and, more generally, of the overall standard of services in a given location (as proxied by average hotel quality in the municipality) was assessed.

Estimation results, given in column c of Table 3, show how having access to a larger supply of local recreational facilities has a negligible impact on prices, while the HQSUPPLY proxy has the expected positive sign and is statistically significant at the 5 per cent level.

The inclusion of further controls at the municipality level results in a further slight decrease in the estimated impact of cultural amenities on prices (from about 15 to 13 per cent), although in this case too the effect remains sizeable and significant.

As a final extension, following the discussion in Section 5, the possible influence of localized externalities on hotel prices is controlled for by augmenting the model specification with the POPDENS and MAINCITY indicators.

Estimation results (see column d of Table 3) show how both variables are significantly associated with variations in hotel prices in coastal areas. In line with expectations, the MAINCITY indicator takes a positive coefficient, showing how in the few large urban areas included in the sample hotel prices tend to be higher, all other things being equal. The coefficient of the POPDENS indicator, whose sign cannot be designated a priori, turns out to be negative and significant, signalling that crowding out effects from congestion on tourism demand prevail over supply side effects on hotel prices. Controlling for urban density/size externalities leaves the coefficient of TCI_ART essentially unaffected (a marginal increase from 0.0134 to 0.136 is actually observed).

Overall, the above results appear to provide some robust evidence that the availability of on-site cultural amenities fosters tourism demand in the coastal locations, eventually leading to higher prices of hotel accommodation.

6.2 – Model Extensions

In order to get further insights into the relationship between cultural and environmental attractiveness and hotel prices, the baseline equation, in the fully-fledged form including all the controls at the municipality level, was re-estimated with alternative definitions of the dependent variable.

As a first extension, minimum prices quoted by individual hotels (for one night's accommodation in a double room) were considered as the dependent variable, usually corresponding to low season prices. We expect the influence of cultural attractiveness to be broadly the same over the entire tourist season, while other factors may be less important in low season. Among the latter we expect negative externalities from population density to exert less influence on tourism demand in the low season, when the tourist areas are considerably less crowded.

The estimation results for this model specification, detailed in column a of Table 4, confirm our expectations, showing only a marginal decrease of the TCI_ART coefficient, while the POPDENS indicator is now no longer significant. The positive influence of environmental quality on prices is confirmed.

In order to test the differential impact of cultural attractiveness on high and low season prices, we subsequently regressed the (log) difference of the maximum and minimum price quoted for a double room by each hotel on the same set of explanatory variables.[9] As expected, we find that the TCI_ART proxy is not associated with significantly different (percentage) price differentials between high and low season. On the contrary, sea water quality affects the max-min price differential in a positive and significant way. Finally, in line with previous results, resident population density is found to affect hotel price differentials negatively (the effect is stronger in the high season than in the low).

Having analysed how the influence of cultural attractiveness varies over time (tourist seasons) we assessed how the effect varies over space. Do only amenities directly available on

[9] The difference between high and low price quotes may be affected by the quality of the hotel room, such as its size and view, for which we are not able to control owing to lack of data. Nonetheless, these features are mostly idiosyncratic factors that should be broadly uncorrelated with site characteristics, whose influence on price is the main focus of the paper.

site matter for consumers or do they also value the existence of cultural destinations in nearby areas?

We provide some empirical evidence on this related research question by again estimating the baseline model including, besides the TCI_ART variable, an indicator of the availability of cultural sites in neighbouring municipalities. A 20 km radius[10] around each tourist location in the sample was considered to provide a reasonable working hypothesis and the dummy variable NEIGH. TCI_ART was defined to take the value 1 if any of the adjacent towns was included in the group of TCI recommended locations. In this case the estimated coefficient implies roughly a 9 per cent increase in hotel prices, about one third lower than the direct presence of cultural amenities on site but still sizeable and statistically significant.

Taken together, these results appear to demonstrate that local accessibility[11] of sites of great cultural interest exerts a positive influence on tourist demand and hotel prices in seaside locations. The influence is positive and sizeable both for amenities in the town where the hotel is located and, to a lesser extent, for cultural facilities reachable from neighbouring towns and so entailing fairly small travel costs.

6.3 – Spatial Econometric Specifications

It is well known that ordinary least squares results can yield inaccurate results if the spatial features of the data, namely spatial dependence, are not properly accounted for at the specification stage. The omission of spatially auto-correlated variables that are uncorrelated with the remaining regressors causes residuals to be auto-correlated, biasing the estimated standard errors of regression coefficients. If the set of omitted variables includes endogenous variables like, say, the spatially lagged values of the dependent variables, OLS regression coefficient estimates will be biased and inconsistent.

In order to control for such possible sources of model misspecification, we added to our dataset some of the spatial econometrics models reviewed in Section 4. Therefore, the following nearest neighbour spatial weighting scheme was introduced:

[10] Computations were based on the geodesic distance between the centres of the municipalities.

[11] Note that the influence of the *average* cultural attractiveness of a given province is captured in the model by the inclusion of province fixed effects.

$$\begin{cases} w_{ij} = d_{ij}^{-1} & \text{if } d_{ij} \leq 25\,\text{km} \\ w_{ij} = 0 & \text{if } d_{ij} > 25\,\text{km} \\ w_{ii} \equiv 0 \end{cases}$$

where d_{ij} denotes the geographical distance between the centres of the towns where hotels *i* and *j* are respectively located and where a notional value of 5 km was imputed for hotels located in the same municipality.

The rationale for such a narrow spatial weighting scheme is the expectation that, having already controlled for larger scale spatial factors, by including spatial dummies at the provincial level the remaining spatial dependence in the data should mainly derive from small-scale spatial dynamics.

As a first spatial econometric specification, the spatial error (SEM) model was considered. The estimation results (column a of Table 5) show how the estimate of spatial interaction parameter is positive and highly statistically significant, providing evidence of positive spatial autocorrelation in model residuals. As expected since OLS estimators are unbiased in this context (albeit less efficient than ML), estimated regression coefficients do not show major changes with respect to the corresponding OLS results (column d of Table 3). Controlling for residual auto-correlation, moreover, does not appear to reduce the statistical significance of the individual coefficients.

To allow for heteroskedasticity in the sample data, the SEM model was subsequently re-estimated relying on the bayesian approach. Following LeSage's indications, we set the value of the hyper-parameter q to 4, a value that allows for the presence of considerable cross-section variance dispersion. Given the previous evidence of positive residual auto-correlation, a uniform distribution over the (0.1) interval was imposed for λ, while diffuse priors were specified for the remaining model parameters. The usual conditional normal distribution was assumed for the error term.

A slightly larger spatial parameter is estimated in this case (about equal to 0.17), which remains highly statistically significant. In this case too, estimated regression coefficients continue to show only minor differences with respect to the reference OLS results and their statistical significance is equally preserved.

In order to control for the possible omission of the spatially lagged values of the dependent variables, an SLM model specification was fitted to the data. Apart from explicitly allowing for spill-over effects across neighbouring firms when setting hotel prices, the SLM specifications may also implicitly control for the omission of explanatory variables correlated with model regressors, when the former are spatially auto-correlated.

The estimation results, displayed in columns c and d of Table 5 respectively for the standard and the Bayesian model specifications, while providing evidence of the existence of positive and significant spatial effects, show how baseline findings are confirmed in this case as well.

7. Concluding Remarks

A proper measurement of the addition to travellers' utility conveyed by the individual features of a complex holiday bundle is preliminary to any investment decision by both tourist firms when choosing hotel location and the quantity and quality of accommodation and ancillary facilities and local authorities supplying public goods and infrastructure.

We seek to evaluate all the different components considered by travellers when choosing a holiday package by augmenting the standard hedonic model (based on hotel attributes alone) with a wide range of neighbourhood characteristics, including environmental, cultural and recreational amenities, geographical factors, and possible sources of localized externalities. From a methodological viewpoint, the spatial hedonic approach was subsequently further qualified by implementing spatial econometric techniques in order to improve the robustness of empirical findings.

Our estimates provide evidence that tourists value both environmental quality (as measured by sea water quality) and local availability of cultural and artistic amenities. The magnitude of these two contributions is comparable, but the latter appears to be more stable across the tourist seasons. The availability of cultural and artistic amenities on coastal tourist destinations is also shown to spread part of its positive effects to adjacent locations. Among other results, supply side externalities, both positive, from the average quality of the local tourism industry, and negative, due to increased congestion, are estimated to affect hotel prices in coastal areas in a significant way.

As a whole, it turns out that the presence of an extraordinarily rich and widespread artistic and cultural endowment, as is the case of Italy, may support tourism demand in the sun-and-beach market segment as well.

These results are clearly relevant to policy, as the attractiveness of a coastal destination may be greatly affected by public policies. Consider the quality of the local environment: it clearly depends on both the level and the efficiency of public expenditure devoted to waste collection, treatment and disposal, as well as on the provision of environmentally friendly regulations, preventing private exploitation of public goods, which have to be properly enforced. At the same time, central and local public authorities undoubtedly play a crucial role in preserving the cultural heritage and facilitating general accessibility to cultural resources. Finally, from a policy standpoint, it is important to note how the existence of spatial externalities calls for proper coordination among the public authorities of adjacent jurisdictions.

Table 1

DISTRIBUTION OF HOTELS BY SEA, AREA AND STAR RATING

(number of hotels)

	2-star	3-star	4-star	5-star	Total
Total sample	25	611	442	32	1,110
Sea:					
Adriatic Sea	*4*	*212*	*159*	7	*382*
Ionian Sea	*0*	*29*	*30*	1	*60*
Mediterranean Sea	*0*	*20*	*18*	0	*58*
Tyrrhenian Sea	*21*	*350*	*235*	24	*630*
Area:					
North	*14*	*208*	*121*	6	*349*
Centre	*8*	*157*	*87*	3	*255*
South and Islands	*3*	*246*	*234*	23	*506*

Source: Touring Club Italiano, *Guide accoglienza. Alberghi e ristoranti d'Italia, 2005*.

Table 2

HOTEL PRICES IN THE SUN-AND-BEACH SEGMENT

(average in euros)

	Single Room		Double Room		Full-Board (1)	
	Min.	Max.	Min.	Max.	Min.	Max.
Total sample	73.1	112.0	107.8	172.0	83.5	129.2
Sea:						
Adriatic Sea	*62.4*	*96.0*	*91.3*	*143.3*	*63.5*	*107.9*
Ionian Sea	*77.5*	*122.9*	*118.2*	*180.9*	*97.5*	*146.1*
Mediterranean Sea	*73.9*	*108.7*	*103.6*	*168.0*	*82.6*	*129.2*
Tyrrhenian Sea	*78.8*	*121.3*	*116.5*	*189.2*	*95.0*	*142.1*
Area:						
North	*62.5*	*102.8*	*92.7*	*152.7*	*70.9*	*116.5*
Centre	*76.7*	*110.0*	*112.4*	*164.7*	*91.0*	*129.7*
South and Islands	*78.6*	*119.9*	*115.5*	*188.8*	*89.9*	*139.5*
Category:						
2-star	*62.1*	*72.2*	*81.6*	*97.4*	*63.0*	*82.4*
3-star	*55.8*	*83.4*	*81.9*	*125.4*	*64.1*	*97.0*
4-star	*90.7*	*142.8*	*133.2*	*216.8*	*104.8*	*165.9*
5-star	*173.6*	*265.0*	*244.3*	*422.6*	*208.8*	*311.2*
Blue Flag Award:						
Yes	*66.3*	*102.2*	*97.8*	*155.1*	*73.6*	*118.6*
No	*75.4*	*115.7*	*111.3*	*178.2*	*87.4*	*133.7*
Blue Guide Ratings:						
0	*74.0*	*108.0*	*108.2*	*164.9*	*85.3*	*127.4*
1-sail	*76.0*	*114.8*	*110.5*	*169.7*	*87.7*	*131.9*
2-sail	*65.2*	*100.6*	*94.3*	*150.5*	*70.1*	*116.3*
3-sail	*74.1*	*118.7*	*111.9*	*186.9*	*85.7*	*134.8*
4-sail	*81.5*	*134.4*	*118.8*	*200.3*	*96.7*	*151.7*
5-sail	*75.7*	*114.5*	*126.7*	*221.3*	*113.7*	*151.5*
Artistic Atractiveness:						
Yes	*85.4*	*133.7*	*125.6*	*204.9*	*98.0*	*154.5*
No	*66.7*	*100.7*	*98.7*	*155.0*	*77.6*	*118.6*

Source: Touring Club Italiano, *Guide accoglienza. Alberghi e ristoranti d'Italia, 2005*.
Full-board prices are only quoted for a sub-sample.

Table 3

ESTIMATION RESULTS FOR THE HEDONIC PRICE MODEL

(estimated coefficients and statistics; p-*values in brackets)*

	a	b	c	d
CONSTANT	4.451 (0.000)	3.523 (0.000)	3.520 (0.000)	3.983 (0.000)
4-STAR	0.445 (0.000)	0.449 (0.000)	0.441 (0.000)	0.435 (0.000)
5-STAR	1.194 (0.000)	1.194 (0.000)	1.183 (0.000)	1.188 (0.000)
SIZE	0.011 (0.536)	0.016 (0.375)	0.013 (0.456)	0.019 (0.295)
POOL	0.057 (0.011)	0.043 (0.056)	0.044 (0.052)	0.044 (0.052)
BEACH	0.034 (0.097)	0.038 (0.059)	0.038 (0.056)	0.039 (0.053)
AIRCOND	0.117 (0.000)	0.109 (0.001)	0.107 (0.001)	0.115 (0.001)
TENNIS	0.065 (0.021)	0.060 (0.031)	0.060 (0.031)	0.052 (0.058)
CHILDCARE	0.111 (0.000)	0.107 (0.000)	0.106 (0.000)	0.107 (0.000)
PARKING	-0.065 (0.002)	-0.062 (0.003)	-0.062 (0.003)	-0.058 (0.005)
PRIVPARK	0.009 (0.684)	0.015 (0.458)	0.013 (0.525)	0.005 (0.799)
TCI_ART	0.175 (0.000)	0.153 (0.000)	0.134 (0.000)	0.136 (0.000)
BLUEFLAG		0.037 (0.126)	0.039 (0.109)	0.051 (0.037)
SEAQSCORE		0.014 (0.000)	0.014 (0.000)	0.012 (0.000)
DSEAQSCORE		1.071 (0.000)	1.076 (0.000)	0.911 (0.000)
AMENITIES			0.000 (0.988)	0.002 (0.702)
HQSUPPLY			0.125 (0.027)	0.165 (0.003)
MAINCITY				0.157 (0.065)
POPDENS				-0.053 (0.001)
Dependent variable	Log-price for double room (highest quote)	Log-price for double room (highest quote)	Log-price for double room (highest quote)	Log-price for double room (highest quote)
Observations	1,087	1,087	1,087	1,087
R^2	0.672	0.683	0,685	0,689
R^2 (adjusted)	0,652	0,662	0,663	0,666

All regressions include a full set of dummies for the individual Italian provinces; p-*values* are computed using White's robust estimators of standard errors. Standard errors are not clustered as the issue of correlated errors is subsequently dealt with by fitting spatial econometric specifications to the data (see Table 5).

Table 4

ESTIMATION RESULTS FOR ALTERNATIVE SPECIFICATIONS

(estimated coefficients and statistics; p-*values in brackets)*

	a	b	c
CONSTANT	3.531 (0.000)	0.452 (0.033)	3.946 (0.000)
4-STAR	0.378 (0.000)	0.057 (0.012)	0.432 (0.000)
5-STAR	1.063 (0.000)	0.126 (0.011)	1.178 (0.000)
SIZE	0.011 (0.553)	0.007 (0.664)	0.017 (0.352)
POOL	0.039 (0.140)	0.005 (0.825)	0.045 (0.043)
BEACH	0.005 (0.842)	0.034 (0.108)	0.042 (0.037)
AIRCOND	0.122 (0.000)	-0.007 (0.851)	0.116 (0.001)
TENNIS	0.024 (0.496)	0.028 (0.344)	0.054 (0.051)
CHILDCARE	0.048 (0.038)	0.059 (0.006)	0.107 (0.000)
PARKING	-0.007 (0.773)	-0.051 (0.021)	-0.052 (0.011)
PRIVPARK	0.004 (0.868)	0.001 (0.952)	0.004 (0.854)
TCI_ART	0.122 (0.000)	0.014 (0.628)	0.151 (0.000)
BLUEFLAG	0.057 (0.070)	-0.006 (0.828)	0.052 (0.033)
SEAQSCORE	0.007 (0.010)	0.005 (0.074)	0.012 (0.000)
DSEAQSCORE	0.604 (0.008)	0.307 (0.115)	0.887 (0.000)
AMENITIES	0.003 (0.633)	-0.001 (0.867)	0.008 (0.219)
HQSUPPLY	0.166 (0.012)	-0.001 (0.992)	0.155 (0.006)
MAINCITY	0.166 (0.080)	-0.010 (0.896)	0.152 (0.075)
POPDENS	-0.005 (0.790)	-0.048 (0.001)	-0.060 (0.000)
NEIGHB. TCI_ART (up to 20 km)			0.094 (0.003)
Dependent variable	Log-price for double room (lowest quote)	Log-price for double room (high-low quote diff.)	Log-price for double room (highest quote)
Observations	1,087	1,087	1,087
R^2	0.564	0.246	0.685
R^2 (adjusted)	0,534	0,193	0.662

All regressions include a full set of dummies for the individual Italian provinces; p-*values* are computed using White's robust estimators of standard errors.

Table 5

ESTIMATION RESULTS FOR SPATIAL ECONOMETRIC SPECIFICATIONS

(estimated coefficients and statistics; p-*values in brackets)*

	SEM	Bayesian SEM	SAR	Bayesian SAR
CONSTANT	3.930 (0.000)	3.963 (0.000)	3.825 (0.000)	3.710 (0.000)
4-STAR	0.436 (0.000)	0.431 (0.000)	0.437 (0.000)	0.436 (0.000)
5-STAR	1.180 (0.000)	1.120 (0.000)	1.189 (0.000)	1.134 (0.000)
SIZE	0.019 (0.236)	0.026 (0.051)	0.018 (0.258)	0.023 (0.087)
POOL	0.046 (0.033)	0.056 (0.004)	0.045 (0.038)	0.059 (0.001)
BEACH	0.043 (0.032)	0.029 (0.077)	0.039 (0.052)	0.024 (0.118)
AIRCOND	0.118 (0.001)	0.103 (0.001)	0.114 (0.001)	0.097 (0.000)
TENNIS	0.053 (0.039)	0.040 (0.066)	0.052 (0.043)	0.038 (0.075)
CHILDCARE	0.103 (0.000)	0.110 (0.000)	0.106 (0.000)	0.112 (0.000)
PARKING	-0.058 (0.006)	-0.051 (0.003)	-0.058 (0.007)	-0.053 (0.005)
PRIVPARK	0.005 (0.821)	0.002 (0.455)	0.005 (0.816)	0.005 (0.413)
TCI_ART	0.135 (0.000)	0.132 (0.000)	0.135 (0.000)	0.134 (0.000)
BLUEFLAG	0.053 (0.044)	0.061 (0.009)	0.052 (0.043)	0.060 (0.012)
SEAQSCORE	0.012 (0.000)	0.012 (0.000)	0.012 (0.000)	0.011 (0.000)
DSEAQSCORE	0.929 (0.000)	0.891 (0.000)	0.884 (0.000)	0.844 (0.000)
AMENITIES	0.003 (0.674)	0.004 (0.284)	0.002 (0.738)	0.002 (0.404)
HQSUPPLY	0.150 (0.009)	0.162 (0.004)	0.151 (0.006)	0.159 (0.002)
MAINCITY	0.137 (0.106)	0.170 (0.022)	0.154 (0.062)	0.185 (0.011)
POPDENS	-0.048 (0.000)	-0.051 (0.000)	-0.053 (0.000)	-0.053 (0.001)
Dependent variable	Log-price for double room (highest quote)	Log-price for double room (highest quote)	Log-price for double room (highest quote)	Log-price for double room (highest quote)
Observations	1,087	1,087	1,087	1,087
λ	0.142 (0.000)	0.173 (0.000)		
ρ			0.038 (0.095)	0.067 (0.000)

All regressions include a full set of dummies for the individual Italian provinces; p-*values* are computed using White's robust estimators of standard errors.

LIST OF VARIABLES

Variables	*Description*	*Source*
4STARS	" 4-Star	Touring Club Italiano (Hotel guide)
5STARS	" 5-Star	Touring Club Italiano (Hotel guide)
POOL	" Swimming Pool	Touring Club Italiano (Hotel guide)
BEACH	" Private Seaside	Touring Club Italiano (Hotel guide)
AIRCOND	" Air-Conditioning	Touring Club Italiano (Hotel guide)
TENNIS	" Tennis Court	Touring Club Italiano (Hotel guide)
CHILDCARE	" Childcare services	Touring Club Italiano (Hotel guide)
PARKING	" Private car parking	Touring Club Italiano (Hotel guide)
PRIVPARK	" Private garden or park	Touring Club Italiano (Hotel guide)
SIZE	Rooms Number (in Log)	Touring Club Italiano (Hotel guide)
TCI_ART	Qualitative measure of artistic, cultural and historical attractiveness of Italian cities (binary dummy)	Touring Club Italiano (Art guide)
BLUEFLAG	Binary dummy denoting municipalities that were assigned a Blue Flag Award in 2006	Foundation for Environmental Education
SEAQSCORE	Sea Water Quality as measured by Legambiente's score	Legambiente
DSEAQUAL	Binary dummy for the existence of Legambiente's score	Legambiente
POPDENS	Population Density at the municipality level (number of residents / Km^2)	Istat
AMENITIES	Local presence of amusement parks, cinemas, discos, measured by the number of employees in the 2001 Census and expressed as a ratio to the sample mean	Istat
MAINCITY	Dummy equal to 1 if the municipality is a regional capital	Istat
HQSUPPLY	Share of the total hotel lodging capacity in 4 and 5 stars structures, for each town	Istat

References

Aguilo, P.M., Alegre, J., Riera, A., (2001), "Determinants of the Price of German Tourist Packages on the Island of Mallorca", *Tourism Economics,* Vol. 7, n. 1, pp. 59-74.

Alivernini A., E. Breda and E. Iannario (2012), "Quindici anni di turismo internazionale dell'Italia (1997-2011)", Bank of Italy, mimeo.

Andersson D.E. (2010), "Hotel attributes and hedonic prices: An analysis of internet-based transactions in Singapore's market for hotel rooms", *Annals of Regional Sciences*, Vol. 44, No. 2, pp. 229-240.

Bransington D.M. and Hite D. (2005), "Demand for environmental quality: a spatial hedonic analysis", *Regional Science and Urban Economics*, Vol. 35, no. 1, pp. 57-82.

Chen C.F. and Rothschild R. (2010), "An application of hedonic pricing analysis to the case of hotel rooms in Taipei", *Tourism Economics*, Vol. 16, No. 3, pp. 1-10.

Clerides S., P. Nearchou, and P. Pashardes (2003), "Market Remedies for Information Problems: Evidence from the Market for Package Tourism", University of Cyprus, Working Paper.

Cohen, J.P. and P.P. Coughlin (2006), "Spatial Hedonic Models of Airport Noise, Proximity, and Housing Prices", Federal Reserve Bank of St. Louis, Working Paper series No. 23.

Croes, R. (2011), "Measuring and explaining competitiveness in the context of small island destinations", *Journal of Travel Research*, Vol. 50, n. 4, pp. 431-442.

Crouch, G. I. (2011), "Destination competitiveness: An analysis of determinant attributes", *Journal of Travel Research*, Vol. 50, n. 1, 27-45.

Espinet, J.M., Saez, M., Coenders, G. and Fluvià, M. (2003), 'Effect on prices of the attributes of holiday hotels: a hedonic prices approach', *Tourism Economics*, Vol. 9, no. 2, pp. 165-177.

Hamilton J.M. (2007), "Coastal landscape and the hedonic price of accommodation", *Ecological Economics*, Vol. 62, pp. 594-602.

Haroutunian, S., Mitsis, P. and Pashardes, P. (2005) "Using brochure information for the hedonic analysis of holiday packages", *Tourism Economics*, Vol. 11, no. 2, pp. 69-84.

Istat (2007), *Capacità e movimento degli esercizi ricettivi*, Anno 2005.

LeSage, J.P. (1997), "Bayesian estimation of spatial autoregressive models", *International Regional Science Review*, Vol. 20, pp. 113-129.

Kim, C.W., Phipps T.T. and Anselin L. (2003), "Measuring the benefits of air quality improvement: a spatial hedonic approach", *Journal of Environmental Economics and Management*, Vol. 45, pp. 24-39.

Mangion, M., R. Durbarry, and M. T. Sinclair (2005), **"**Tourism competitiveness: price and quality", *Tourism Economics*, Vol. 11, no. 2, pp. 45-68.

Ord, K.J. (1975), "Estimation methods for models of spatial interaction", *Journal of the American Statistical Association*, Vol. 70, pp. 120-26.

Papatheodorou, A. (2002), "Exploring competitiveness in Mediterranean resorts", *Tourism Economics*, Vol. 8, n. 2, pp. 133-150.

Quintiliani F. (2012), “La competitività di prezzo degli hotel della riviera dell’Emilia Romagna e di altre regioni costiere europee”, Bank of Italy, mimeo.

Song H, Dwyer L., Li G., Cao Z. (2012), “Tourism Economics Research: A Review and Assessment”, *Annals of Tourism Research*, Vol. 39, no. 3, pp. 1653-1682.

Thrane, C. (2005), “Hedonic price models and sun-and-beach package tours: The Norwegian case”, *Journal of Travel Research*, Vol. 43, pp. 302-308.

Touring Club Italiano (1996), *Guida rapida d’Italia*, 5 vols., Touring editore, Milano.

Touring Club Italiano (2005), *Guide accoglienza. Alberghi e ristoranti d’Italia*, Touring editore, Milano.

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2011

S. DI ADDARIO, *Job search in thick markets*, Journal of Urban Economics, v. 69, 3, pp. 303-318, **TD No. 605 (December 2006).**

F. SCHIVARDI and E. VIVIANO, *Entry barriers in retail trade*, Economic Journal, v. 121, 551, pp. 145-170, **TD No. 616 (February 2007).**

G. FERRERO, A. NOBILI and P. PASSIGLIA, *Assessing excess liquidity in the Euro Area: the role of sectoral distribution of money,* Applied Economics, v. 43, 23, pp. 3213-3230, **TD No. 627 (April 2007).**

P. E. MISTRULLI, *Assessing financial contagion in the interbank market: maximun entropy versus observed interbank lending patterns,* Journal of Banking & Finance, v. 35, 5, pp. 1114-1127, **TD No. 641 (September 2007).**

E. CIAPANNA, *Directed matching with endogenous markov probability: clients or competitors?*, The RAND Journal of Economics, v. 42, 1, pp. 92-120, **TD No. 665 (April 2008).**

M. BUGAMELLI and F. PATERNÒ, *Output growth volatility and remittances*, Economica, v. 78, 311, pp. 480-500, **TD No. 673 (June 2008).**

V. DI GIACINTO e M. PAGNINI, *Local and global agglomeration patterns: two econometrics-based indicators,* Regional Science and Urban Economics, v. 41, 3, pp. 266-280, **TD No. 674 (June 2008).**

G. BARONE and F. CINGANO, *Service regulation and growth: evidence from OECD countries,* Economic Journal, v. 121, 555, pp. 931-957, **TD No. 675 (June 2008).**

P. SESTITO and E. VIVIANO, *Reservation wages: explaining some puzzling regional patterns*, Labour, v. 25, 1, pp. 63-88, **TD No. 696 (December 2008).**

R. GIORDANO and P. TOMMASINO, *What determines debt intolerance? The role of political and monetary institutions*, European Journal of Political Economy, v. 27, 3, pp. 471-484, **TD No. 700 (January 2009).**

P. ANGELINI, A. NOBILI and C. PICILLO, *The interbank market after August 2007: What has changed, and why?*, Journal of Money, Credit and Banking, v. 43, 5, pp. 923-958, **TD No. 731 (October 2009).**

G. BARONE and S. MOCETTI, *Tax morale and public spending inefficiency,* International Tax and Public Finance, v. 18, 6, pp. 724-49, **TD No. 732 (November 2009).**

L. FORNI, A. GERALI and M. PISANI, *The Macroeconomics of Fiscal Consolidation in a Monetary Union: the Case of Italy,* in Luigi Paganetto (ed.), Recovery after the crisis. Perspectives and policies, VDM Verlag Dr. Muller, **TD No. 747 (March 2010).**

A. DI CESARE and G. GUAZZAROTTI, *An analysis of the determinants of credit default swap changes before and during the subprime financial turmoil*, in Barbara L. Campos and Janet P. Wilkins (eds.), The Financial Crisis: Issues in Business, Finance and Global Economics, New York, Nova Science Publishers, Inc., **TD No. 749 (March 2010).**

A. LEVY and A. ZAGHINI, *The pricing of government guaranteed bank bonds,* Banks and Bank Systems, v. 6, 3, pp. 16-24, **TD No. 753 (March 2010).**

G. BARONE, R. FELICI and M. PAGNINI, *Switching costs in local credit markets,* International Journal of Industrial Organization, v. 29, 6, pp. 694-704, **TD No. 760 (June 2010).**

G. BARBIERI, C. ROSSETTI e P. SESTITO, *The determinants of teacher mobility: evidence using Italian teachers' transfer applications*, Economics of Education Review, v. 30, 6, pp. 1430-1444, **TD No. 761 (marzo 2010).**

G. GRANDE and I. VISCO, *A public guarantee of a minimum return to defined contribution pension scheme members,* The Journal of Risk, v. 13, 3, pp. 3-43, **TD No. 762 (June 2010).**

P. DEL GIOVANE, G. ERAMO and A. NOBILI, *Disentangling demand and supply in credit developments: a survey-based analysis for Italy,* Journal of Banking and Finance, v. 35, 10, pp. 2719-2732, **TD No. 764 (June 2010).**

G. BARONE and S. MOCETTI, *With a little help from abroad: the effect of low-skilled immigration on the female labour supply,* Labour Economics, v. 18, 5, pp. 664-675, **TD No. 766 (July 2010).**

S. FEDERICO and A. FELETTIGH, *Measuring the price elasticity of import demand in the destination markets of italian exports,* Economia e Politica Industriale, v. 38, 1, pp. 127-162, **TD No. 776 (October 2010).**

S. MAGRI and R. PICO, *The rise of risk-based pricing of mortgage interest rates in Italy*, Journal of Banking and Finance, v. 35, 5, pp. 1277-1290, **TD No. 778 (October 2010).**

M. TABOGA, *Under/over-valuation of the stock market and cyclically adjusted earnings*, International Finance, v. 14, 1, pp. 135-164, **TD No. 780 (December 2010).**

S. NERI, *Housing, consumption and monetary policy: how different are the U.S. and the Euro area?*, Journal of Banking and Finance, v.35, 11, pp. 3019-3041, **TD No. 807 (April 2011).**

V. CUCINIELLO, *The welfare effect of foreign monetary conservatism with non-atomistic wage setters*, Journal of Money, Credit and Banking, v. 43, 8, pp. 1719-1734, **TD No. 810 (June 2011).**

A. CALZA and A. ZAGHINI, *welfare costs of inflation and the circulation of US currency abroad,* The B.E. Journal of Macroeconomics, v. 11, 1, Art. 12, **TD No. 812 (June 2011).**

I. FAIELLA, *La spesa energetica delle famiglie italiane*, Energia, v. 32, 4, pp. 40-46, **TD No. 822 (September 2011).**

D. DEPALO and R. GIORDANO, *The public-private pay gap: a robust quantile approach*, Giornale degli Economisti e Annali di Economia, v. 70, 1, pp. 25-64, **TD No. 824 (September 2011).**

R. DE BONIS and A. SILVESTRINI, *The effects of financial and real wealth on consumption: new evidence from OECD countries,* Applied Financial Economics, v. 21, 5, pp. 409–425, **TD No. 837 (November 2011).**

F. CAPRIOLI, P. RIZZA and P. TOMMASINO, *Optimal fiscal policy when agents fear government default*, Revue Economique, v. 62, 6, pp. 1031-1043, **TD No. 859 (March 2012).**

2012

F. CINGANO and A. ROSOLIA, *People I know: job search and social networks*, Journal of Labor Economics, v. 30, 2, pp. 291-332, **TD No. 600 (September 2006).**

G. GOBBI and R. ZIZZA, *Does the underground economy hold back financial deepening? Evidence from the italian credit market*, Economia Marche, Review of Regional Studies, v. 31, 1, pp. 1-29, **TD No. 646 (November 2006).**

S. MOCETTI, *Educational choices and the selection process before and after compulsory school*, Education Economics, v. 20, 2, pp. 189-209, **TD No. 691 (September 2008).**

P. PINOTTI, M. BIANCHI and P. BUONANNO, *Do immigrants cause crime?*, Journal of the European Economic Association , v. 10, 6, pp. 1318–1347, **TD No. 698 (December 2008).**

M. PERICOLI and M. TABOGA, *Bond risk premia, macroeconomic fundamentals and the exchange rate*, International Review of Economics and Finance, v. 22, 1, pp. 42-65, **TD No. 699 (January 2009).**

F. LIPPI and A. NOBILI, *Oil and the macroeconomy: a quantitative structural analysis,* Journal of European Economic Association, v. 10, 5, pp. 1059-1083, **TD No. 704 (March 2009).**

G. ASCARI and T. ROPELE, *Disinflation in a DSGE perspective: sacrifice ratio or welfare gain ratio?,* Journal of Economic Dynamics and Control, v. 36, 2, pp. 169-182, **TD No. 736 (January 2010).**

S. FEDERICO, *Headquarter intensity and the choice between outsourcing versus integration at home or abroad*, Industrial and Corporate Chang, v. 21, 6, pp. 1337-1358, **TD No. 742 (February 2010).**

I. BUONO and G. LALANNE, *The effect of the Uruguay Round on the intensive and extensive margins of trade,* Journal of International Economics, v. 86, 2, pp. 269-283, **TD No. 743 (February 2010).**

A. BRANDOLINI, S. MAGRI and T. M SMEEDING, *Asset-based measurement of poverty*, In D. J. Besharov and K. A. Couch (eds), Counting the Poor: New Thinking About European Poverty Measures and Lessons for the United States, Oxford and New York: Oxford University Press, **TD No. 755 (March 2010).**

S. GOMES, P. JACQUINOT and M. PISANI, *The EAGLE. A model for policy analysis of macroeconomic interdependence in the euro area,* Economic Modelling, v. 29, 5, pp. 1686-1714, **TD No. 770 (July 2010).**

A. ACCETTURO and G. DE BLASIO, *Policies for local development: an evaluation of Italy's "Patti Territoriali",* Regional Science and Urban Economics, v. 42, 1-2, pp. 15-26, **TD No. 789 (January 2006).**

F. BUSETTI and S. DI SANZO, *Bootstrap LR tests of stationarity, common trends and cointegration,* Journal of Statistical Computation and Simulation, v. 82, 9, pp. 1343-1355, **TD No. 799 (March 2006).**

S. NERI and T. ROPELE, *Imperfect information, real-time data and monetary policy in the Euro area,* The Economic Journal, v. 122, 561, pp. 651-674, **TD No. 802 (March 2011).**

A. ANZUINI and F. FORNARI, *Macroeconomic determinants of carry trade activity,* Review of International Economics, v. 20, 3, pp. 468-488, **TD No. 817 (September 2011).**

M. AFFINITO, *Do interbank customer relationships exist? And how did they function in the crisis? Learning from Italy*, Journal of Banking and Finance, v. 36, 12, pp. 3163-3184, **TD No. 826 (October 2011).**

P. GUERRIERI and F. VERGARA CAFFARELLI, *Trade Openness and International Fragmentation of Production in the European Union: The New Divide?,* Review of International Economics, v. 20, 3, pp. 535-551, **TD No. 855 (February 2012).**

V. DI GIACINTO, G. MICUCCI and P. MONTANARO, *Network effects of public transposrt infrastructure: evidence on Italian regions,* Papers in Regional Science, v. 91, 3, pp. 515-541, **TD No. 869 (July 2012).**

A. FILIPPIN and M. PACCAGNELLA, *Family background, self-confidence and economic outcomes,* Economics of Education Review, v. 31, 5, pp. 824-834, **TD No. 875 (July 2012).**

2013

A. MERCATANTI, *A likelihood-based analysis for relaxing the exclusion restriction in randomized experiments with imperfect compliance*, Australian and New Zealand Journal of Statistics, v. 55, 2, pp. 129-153, **TD No. 683 (August 2008).**

F. CINGANO and P. PINOTTI, *Politicians at work. The private returns and social costs of political connections*, Journal of the European Economic Association, v. 11, 2, pp. 433-465, **TD No. 709 (May 2009).**

F. BUSETTI and J. MARCUCCI, *Comparing forecast accuracy: a Monte Carlo investigation*, International Journal of Forecasting, v. 29, 1, pp. 13-27, **TD No. 723 (September 2009).**

D. DOTTORI, S. I-LING and F. ESTEVAN, *Reshaping the schooling system: The role of immigration*, Journal of Economic Theory, v. 148, 5, pp. 2124-2149, **TD No. 726 (October 2009).**

A. FINICELLI, P. PAGANO and M. SBRACIA, *Ricardian Selection*, Journal of International Economics, v. 89, 1, pp. 96-109, **TD No. 728 (October 2009).**

L. MONTEFORTE and G. MORETTI, *Real-time forecasts of inflation: the role of financial variables*, Journal of Forecasting, v. 32, 1, pp. 51-61, **TD No. 767 (July 2010).**

R. GIORDANO and P. TOMMASINO, *Public-sector efficiency and political culture*, FinanzArchiv, v. 69, 3, pp. 289-316, **TD No. 786 (January 2011).**

E. GAIOTTI, *Credit availablility and investment: lessons from the "Great Recession"*, European Economic Review, v. 59, pp. 212-227, **TD No. 793 (February 2011).**

F. NUCCI and M. RIGGI, *Performance pay and changes in U.S. labor market dynamics*, Journal of Economic Dynamics and Control, v. 37, 12, pp. 2796-2813, **TD No. 800 (March 2011).**

G. CAPPELLETTI, G. GUAZZAROTTI and P. TOMMASINO, *What determines annuity demand at retirement?,* The Geneva Papers on Risk and Insurance – Issues and Practice, pp. 1-26, **TD No. 805 (April 2011).**

A. ACCETTURO e L. INFANTE, *Skills or Culture? An analysis of the decision to work by immigrant women in Italy,* IZA Journal of Migration, v. 2, 2, pp. 1-21, **TD No. 815 (July 2011).**

A. DE SOCIO, *Squeezing liquidity in a "lemons market" or asking liquidity "on tap"*, Journal of Banking and Finance, v. 27, 5, pp. 1340-1358, **TD No. 819 (September 2011).**

S. GOMES, P. JACQUINOT, M. MOHR and M. PISANI, *Structural reforms and macroeconomic performance in the euro area countries: a model-based assessment,* International Finance, v. 16, 1, pp. 23-44, **TD No. 830 (October 2011).**

G. BARONE and G. DE BLASIO, *Electoral rules and voter turnout,* International Review of Law and Economics, v. 36, 1, pp. 25-35, **TD No. 833 (November 2011).**

O. BLANCHARD and M. RIGGI, *Why are the 2000s so different from the 1970s? A structural interpretation of changes in the macroeconomic effects of oil prices*, Journal of the European Economic Association, v. 11, 5, pp. 1032-1052, **TD No. 835 (November 2011).**

R. CRISTADORO and D. MARCONI, *Household savings in China,* in G. Gomel, D. Marconi, I. Musu, B. Quintieri (eds), The Chinese Economy: Recent Trends and Policy Issues, Springer-Verlag, Berlin, **TD No. 838 (November 2011).**

E. GENNARI and G. MESSINA, *How sticky are local expenditures in Italy? Assessing the relevance of the flypaper effect through municipal data,* International Tax and Public Finance (DOI: 10.1007/s10797-013-9269-9), **TD No. 844 (January 2012).**

A. ANZUINI, M. J. LOMBARDI and P. PAGANO, *The impact of monetary policy shocks on commodity prices*, International Journal of Central Banking, v. 9, 3, pp. 119-144, **TD No. 851 (February 2012).**

R. GAMBACORTA and M. IANNARIO, *Measuring job satisfaction with CUB models,* Labour, v. 27, 2, pp. 198-224, **TD No. 852 (February 2012).**

G. ASCARI and T. ROPELE, *Disinflation effects in a medium-scale new keynesian model: money supply rule versus interest rate rule,* European Economic Review, v. 61, pp. 77-100, **TD No. 867 (April 2012).**

E. BERETTA and S. DEL PRETE, *Banking consolidation and bank-firm credit relationships: the role of geographical features and relationship characteristics,* Review of Economics and Institutions, v. 4, 3, pp. 1-46, **TD No. 901 (February 2013).**

M. ANDINI, G. DE BLASIO, G. DURANTON and W. STRANGE, *Marshallian labor market pooling: evidence from Italy,* Regional Science and Urban Economics, v. 43, 6, pp.1008-1022, **TD No. 922 (July 2013).**

G. SBRANA and A. SILVESTRINI, *Forecasting aggregate demand: analytical comparison of top-down and bottom-up approaches in a multivariate exponential smoothing framework,* International Journal of Production Economics, v. 146, 1, pp. 185-98, **TD No. 929 (September 2013).**

A. FILIPPIN, C. V, FIORIO and E. VIVIANO, *The effect of tax enforcement on tax morale,* European Journal of Political Economy, v. 32, pp. 320-331, **TD No. 937 (October 2013).**

2014

M. TABOGA, *The riskiness of corporate bonds*, Journal of Money, Credit and Banking, v.46, 4, pp. 693-713, **TD No. 730 (October 2009).**

G. MICUCCI and P. ROSSI, *Il ruolo delle tecnologie di prestito nella ristrutturazione dei debiti delle imprese in crisi*, in A. Zazzaro (a cura di), Le banche e il credito alle imprese durante la crisi, Bologna, Il Mulino, **TD No. 763 (June 2010).**

P. ANGELINI, S. NERI and F. PANETTA, *The interaction between capital requirements and monetary policy*, Journal of Money, Credit and Banking, v. 46, 6, pp. 1073-1112, **TD No. 801 (March 2011).**

M. FRANCESE and R. MARZIA, *Is there Room for containing healthcare costs? An analysis of regional spending differentials in Italy,* The European Journal of Health Economics, v. 15, 2, pp. 117-132, **TD No. 828 (October 2011).**

L. GAMBACORTA and P. E. MISTRULLI, *Bank heterogeneity and interest rate setting: what lessons have we learned since Lehman Brothers?,* Journal of Money, Credit and Banking, v. 46, 4, pp. 753-778, **TD No. 829 (October 2011).**

M. PERICOLI, *Real term structure and inflation compensation in the euro area*, International Journal of Central Banking, v. 10, 1, pp. 1-42, **TD No. 841 (January 2012).**

V. DI GACINTO, M. GOMELLINI, G. MICUCCI and M. PAGNINI, *Mapping local productivity advantages in Italy: industrial districts, cities or both?*, Journal of Economic Geography, v. 14, pp. 365–394, **TD No. 850 (January 2012).**

A. ACCETTURO, F. MANARESI, S. MOCETTI and E. OLIVIERI, *Don't Stand so close to me: the urban impact of immigration,* Regional Science and Urban Economics, v. 45, pp. 45-56, **TD No. 866 (April 2012).**

S. FEDERICO, *Industry dynamics and competition from low-wage countries: evidence on Italy*, Oxford Bulletin of Economics and Statistics, v. 76, 3, pp. 389-410, **TD No. 879 (September 2012).**

F. D'AMURI and G. PERI, *Immigration, jobs and employment protection: evidence from Europe before and during the Great Recession,* Journal of the European Economic Association, v. 12, 2, pp. 432-464, **TD No. 886 (October 2012).**

M. TABOGA, *What is a prime bank? A euribor-OIS spread perspective,* International Finance, v. 17, 1, pp. 51-75, **TD No. 895 (January 2013).**

L. GAMBACORTA and F. M. SIGNORETTI, *Should monetary policy lean against the wind? An analysis based on a DSGE model with banking,* Journal of Economic Dynamics and Control, v. 43, pp. 146-74, **TD No. 921 (July 2013).**

U. ALBERTAZZI and M. BOTTERO, *Foreign bank lending: evidence from the global financial crisis,* Journal of International Economics, v. 92, 1, pp. 22-35, **TD No. 926 (July 2013).**

R. DE BONIS and A. SILVESTRINI, *The Italian financial cycle: 1861-2011,* Cliometrica, v.8, 3, pp. 301-334, **TD No. 936 (October 2013).**

D. PIANESELLI and A. ZAGHINI, *The cost of firms' debt financing and the global financial crisis,* Finance Research Letters, v. 11, 2, pp. 74-83, **TD No. 950 (February 2014).**

A. ZAGHINI, *Bank bonds: size, systemic relevance and the sovereign,* International Finance, v. 17, 2, pp. 161-183, **TD No. 966 (July 2014).**

FORTHCOMING

M. BUGAMELLI, S. FABIANI and E. SETTE, *The age of the dragon: the effect of imports from China on firm-level prices*, Journal of Money, Credit and Banking, **TD No. 737 (January 2010).**

F. D'AMURI, *Gli effetti della legge 133/2008 sulle assenze per malattia nel settore pubblico,* Rivista di Politica Economica, **TD No. 787 (January 2011).**

E. COCOZZA and P. PISELLI, *Testing for east-west contagion in the European banking sector during the financial crisis,* in R. Matoušek; D. Stavárek (eds.), Financial Integration in the European Union, Taylor & Francis, **TD No. 790 (February 2011).**

R. BRONZINI and E. IACHINI, *Are incentives for R&D effective? Evidence from a regression discontinuity approach,* American Economic Journal : Economic Policy, **TD No. 791 (February 2011).**

G. DE BLASIO, D. FANTINO and G. PELLEGRINI, *Evaluating the impact of innovation incentives: evidence from an unexpected shortage of funds,* Industrial and Corporate Change, **TD No. 792 (February 2011).**

A. DI CESARE, A. P. STORK and C. DE VRIES, *Risk measures for autocorrelated hedge fund returns,* Journal of Financial Econometrics, **TD No. 831 (October 2011).**

D. FANTINO, A. MORI and D. SCALISE, *Collaboration between firms and universities in Italy: the role of a firm's proximity to top-rated departments,* Rivista Italiana degli economisti, **TD No. 884 (October 2012).**

G. BARONE and S. MOCETTI, *Natural disasters, growth and institutions: a tale of two earthquakes,* Journal of Urban Economics, **TD No. 949 (January 2014).**