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IS THERE AN IMPACT OF HIGH SPEED RAIL ON TOURISM?

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ABSTRACT

The objective of this paper is to analyze the role of High Speed Rail systems in promoting tourism development since this topic is not well established in the international literature.
There is no doubt that marketing decisions and strategic planning of tourism provisions require knowledge of factors affecting destination choice and type of trips and forecast of tourism flows in the short and long term. It is interesting to know how holidaymakers select their holiday destinations and investigate which factors are determining their choices.
Two case studies will be considered, the case of Italy where these HS trains are now considered real alternative transport modes and the case of Portugal where the project of a new HSR network connecting the two main Portuguese cities, Lisbon and Porto, as well as connecting Portugal and Spain (Lisbon - Madrid and Porto – Vigo), will be developed in the coming years.

Keywords: High Speed Rail, tourism, regression models, policy implications

1. INTRODUCTION

Investments in transport infrastructures and services bring an increase in employment and therefore an increase in the economic growth of a country; an increase in tourism demand brings an increase in employment and, in turn, a significant contribution to the GDP of a country (Lim, 1997; Seddighi and Theocharous, 2002).

Barrett (1958), Barbaza (1970), Butler (1980), Smith (1992), Soane (1993) and Young (1983) have proposed models to explain the development of tourism resorts and destinations, but not identified transport as a major factor in the development process.

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It is interesting to know how holidaymakers select and revisit their holiday destinations and investigate which factors are determining their choices. In particular, logistic regression models have been extensively used also at the tourist demand analysis (Witt and Witt, 1995; Song and Wong, 2003) especially to explain the decision to do/not to do a holiday.

In a report published by the World Travel&Toursim Council (2011), it is clearly reported the direct contribution of Travel and Tourism to the GDP of a country and to employment (see Table 1).

Travel & Tourism's Direct Contribution to GDP	2011 % share
32 Egypt	7.28
46 Greece	5.64
51 Portugal	5.26
52 Spain	5.13
World Average	5.12
70 Turkey	4.07
72 France	3.87
91 Italy	3.24
118 Switzerland	2.47
119 United Kingdom	2.43
156 Germany	1.68

Travel & Tourism's Direct Contribution to Employment	2011 % share
24 Greece	8.0
34 Portugal	7.0
42 Egypt	6.3
World Average	5.2
62 France	4.5
77 Italy	3.7
86 Switzerland	3.3
93 United Kingdom	3.1
113 Spain	2.6
131 Turkey	2.2
145 Germany	1.8

Source: World Travel&Toursim Council (2011)

Table 1 – Direct contribution of Travel and Tourism to the GDP and to Employement

Major investments on High Speed Rail (HSR) systems have been recently carried out. Europe, together with Asia, is already the leader in HSR systems (Vickerman, 1997). In USA, HSR is a nascent project. The administration of President Obama has budgeted $10 billion for investments in HSR systems to connect major urban centers. These include corridors along

the east coast linking Boston to Washington, Detroit and Chicago in the Midwestern region and Los Angeles to Las Vegas.

It is very clear that these systems represent the present and the future of transport investments and many are the expected impacts. Masson and Petiot (2009) stated that the introduction of HSR can improve the tourists' utility and thus reinforce the tourist attractiveness of the territory. The importance of HSR to promote tourism development is recognized by recent studies (Haynes, 1997; Lim, 1997; Sasaki et al., 1997; GREENGAUGE21, 2006; Wang et al., 2012), even if there is not yet a well-established literature on this topic. One aspect that has received little attention is the link between transport and destination development (Prideaux, 2000). Delaplace (2011) proposed a theoretical conceptualization of the heterogeneity of the wider effects of a HSR service according to places. In particular, she analyzed as a set of HSR services innovations differentiating according to countries or to areas which can be appropriated individually or collectively by the stakeholders of the areas. Furthermore, she produced an analysis which integrates in the same framework the different characteristics, at the macro-economic level, at the meso-economic level and at the micro-economic level that can play a role in the HSR effects. Indeed, it seems that this multi-level analysis is central to understand why, in some cases, something happens around HSR service while in other cases, there is no effect. Chen and Haynes (2012) investigated the impact of Chinese HSR systems on the tourism industry. Through a multivariate panel analyses, the study confirms that during 1999 and 2010 time period, the emerging HSR services had significant impacts on boosting tourism in China. Moreover, Provinces with HSR services were likely to have approximate 20% additional numbers of foreign arrivals and 25% greater tourism revenues than provinces without such systems. Ureña et al. (2009) analyzed HSR's impact on big intermediate cities, comparing two case studies (Córdoba and Zaragoza in Spain and Lille in France) and underlined the need for a multilevel analysis with a qualitative analysis. The tourism industry includes many kinds of tourism. They differ both in their shape, duration and aims, and in the means used by tourists. Urban tourism (visits to museums and monuments, food tasting, shopping) is one of the oldest and most practiced form of tourism. It is close to cultural tourism when it included visits to the historic heritage or the discovery of local culture. Bazin et al. (2011) stated that it is usually for short-stays tourism (two or three days), for example during weekends, that a suitable HSR service is required. Indeed, late arrival to destination by night or early in the morning, and return at home during the evening or the night the day of return. Urban tourism concerns mainly individuals or couples from different professional categories, with for some of them, price sensitivity. These short-stay benefits from the existence of a fast rail service which serves several major population areas.

For this tourism, the HSR system has several advantages:

> – since it is a short-stay tourism, using a rail service, in general, avoids the fatigue of driving, congestion and parking difficulties in city centers;
> – traveling alone or in couple, using a HSR system has the advantage of being cheaper than the road trips. It allows saving time and even more when the station is located in the center of the city;
> - it is part of the growing concern for sustainable development thanks to a better environmental assessment than other means of transportation.
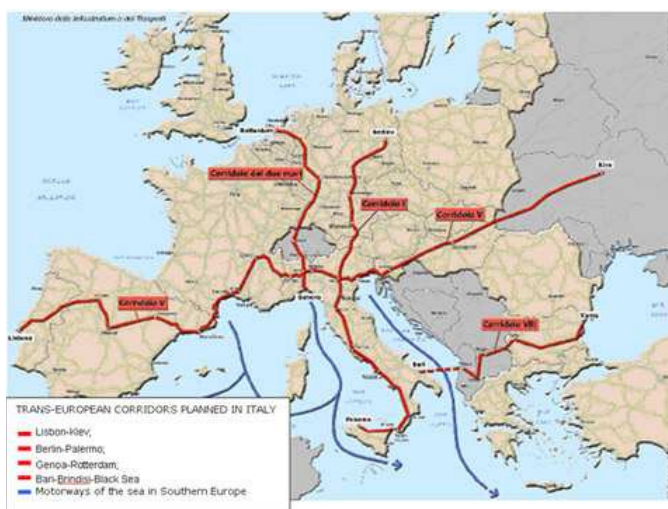
The objective of this paper is to analyze if a link exists between HSR systems and the tourist market through the analysis of two case studies. The case of Italy where these HS trains are now considered real alternative transport modes and the case of Portugal where the project of a new HSR network connecting the two main Portuguese cities, Lisbon and Porto, as well as connecting Portugal and Spain (Lisbon - Madrid and Porto – Vigo), will be developed in the coming years.

This contribution is organized as follows. In section 2 the relationship between HSR and tourism is analyzed together with the main results of the RP survey carried out in Italy. In section 3 the case of Portugal is described. In section 4 conclusions and policy implications are reported.

2. HSR AND TOURSIM IN ITALY

The development of the High Speed/High Capacity (HS/HC) network in Italy is embedded in the wider context of the Trans European corridors. Specifically, the big Trans European projects in which Italy is involved, apart from the Water Highways, are (see Fig.1):

•   Priority Project n. 1: rail section Berlin – Verona – Milan –Bologna – Naples – Palermo;
•   Priority Project n.6 which, by linking Lisbon to Kiev, goes through the Po Valley; it corresponds to the V Ten European Corridor;
•   Pan-European Corridor VIII: intermodal section Varna-Sofia-Bari;
•   Priority Project n.24: rail link between the port of Genoa and that of Rotterdam through the Gottardo tunnel.

Source: http://www.invitalia.it/site/eng/home/investment-opportunities/logistics/assets.html

Figure 1: The Trans-European corridors passing through Italy

The "Direttissima" (HSR line) between Rome and Florence was opened in 1981 and it represents the first example of a HS rail link in Italy. This was a specific response to the poor quality of the conventional rail route between these cities, which was also the main link between Rome and Northern Italy. However, Italy is currently undertaking a major expansion of HSR (Cascetta et al., 2009). Once it is completed in 2014, most major cities will be connected to the network. The key objective for the construction that is currently underway is to raise the Italian rail network to the best European standards and to improve its capacity. After the completion of the HSR system there will be a reduction in travel time between the major cities connected in the order of 40-50%.

In addition to HSR, HC rail lines consist in speeding up and increasing the capacity of the existing rail lines. In this case, the new rail lines have lower speed limits, but at the same time they allow a better service. In fact it is on these rail lines that the regional service for travellers and freight is made. An example of this type is the Regional Metro System (RMS) project of Naples and Campania region in Italy (Cascetta and Pagliara, 2008).

The national Italian network and operations are owned by FS (State Railway) Holdings, a fully government owned company. It has three key operating subsidiaries: Trenitalia operates all freight and passenger trains, including the HS trains, RFI (Rete Ferroviaria Italiana) manages the infrastructure, and TAV (Treno Alta Velocità SpA) is responsible for the planning and construction of the new HS infrastructure.

In the last years a new operator named Nuovo Treno Viaggiatori (NTV) (New Passengers'Train) is in competition with Trenitalia. Italo, the new HS train, is operating since March 2012 (NTV, 2011).

Concerning the link between HSR and the tourism market in Italy, there are not many contributions in the literature as far as the authors know (Pina and Delfa, 2005; CERTeT, 2011).

In March 2008 an RP survey was carried out on the Naples-Rome link (Cascetta et al., 2011), the main result of the survey was that only 5% of the respondents chose HSR for tourism purpose, while the majority chose the service for work purpose (72%). Another RP survey was carried out on the Rome-Milan link in 2011 and the result was that 18% of the respondents chose HSR for tourism purpose and again the majority chose it for work purpose (55%).

2.1   The Revealed Preference survey

A new Revealed Preference survey was carried out in Rome, which is the largest (1.285 km2) and most populated city (2.761.477 in 2011) (ISTAT, 2011) of Italy. It is placed in Lazio, appealing region with many Italian and international tourists. Rome is among the cities with the highest concentration of historic and architectural attractions in the world, its centre is surrounded by the walls of Aurelian ("Mura Aureliane"), relevant expression of world's history, art and culture. Rome is the first Italian city with a record in the number of visitors. In 2011 it received 28.528.545 tourists. Roman tourism's contribution is about 12% of the local GDP (Cutrufo, 2010).

Located in the centre of the peninsula, Rome is also a main railway node in central Italy. HSR investments in Italy (overall for 923 km), have focused on north-south (Milan-Bologna-Florence-Rome-Naples-Salerno corridor), and west-east (Turin-Milan-Verona-Padua-Venice-Trieste corridor). Rome is located in the corridor connecting the richest cities in terms of tourism. For these reasons the survey was employed in Rome from the 16th of April till the 5th of May 2012. The locations chosen were Termini rail station and two famous tourist places: Colosseo and the Vatican. During this period, two main national holidays were celebrated (25th April and 1st May), this brought an important influx of tourists and made easier data collection.

The respondents are holidaymakers in Rome and 241 complete interviews were collected. The questionnaire, made up of three parts, deals with:

- socio-economic and demographic characteristics of the respondents (age, gender, marital status, education, employment, residence, income, travel alone/with a group);
- revealed preferences data related to leisure travel in Rome (trip origin, duration, access transport mode, name of the transport operator used, availability to revisit Rome for another purpose, budget, etc.);
- revealed preferences data from travel behaviour and HSR use (if HSR could affect destination choice and the visit to other cities close to Rome).

The main socioeconomic characteristics are reported in Table 2.

Table 2 – Socioeconomic characteristics of the sample

Characteristics	Levels	%
Age	18-24	15%
	24-44	53%
	45-64	27%
	>=65	4%
Gender	M	63%
	F	37%
Marital status	Married	36%
	Single	64%
Nationality	Italian	71%
	Not Italian	29%
Education	Primary	14%
	High school	59%
	Bachelor/graduate degree	35%
	Post-Doc experiece	0.41%
Employment	Employee	44%
	Manager	7%
	Freelance	19%
	Student	9%
	Student-worker	9%

	Retired	4%
	Housewife	2%
	Unemployed	6%
Income	< 500€	23%
	501€-2.500€	58%
	>=2.501€	19%
Travel type	Group	87%
	Alone	13%

Source: our elaborations

The sample consists of 152 individuals (63%) men and 89 women (37%), for a total of 241 respondents. The age ranges between 18 to 74 years old (mean = 39), 64% of them are unmarried. 87% of travels are made in group (the remaining 13% travel alone), mainly with family (41%) and friends (42%). 65% of respondents attended high school and 34% of them have a bachelors/graduate degree or other professional certifications (1%). Most of respondents are dependent-workers (44%) or freelance (19%). 23% of the respondents have an income less than 500€, 37% between 501 and 1.500€, and 21% between 1.501 and 2.500€. Earnings from 18% of them are more than 2.501€.

Concerning the transport mode chosen to reach Rome the most used are the airplane (35%), intercity rail (33%) and HSR (27%). A small percentage is referred to car, conventional train and coach (respectively of 3%, 1% and 1%). For obvious reasons, the airplane is used mainly by foreigners even if it is also used by a limited number of Italian respondents (14%).
The stay of the trip (including: departure from home, arrival in Rome, travel to other cities, overnight and return home) is on average 7 days. The budget is on average 745€, while the estimated spending of this budget is 701€. Therefore, the budget generally is almost all spent during the holiday.

Only the 26% of the respondents are positively influenced by the presence of the HSR for the destination choice. Table 3 reports their motivations, mainly due to the easy access to the HSR station (28%) and to the speed to reach the destination (27%), then it follows the reduced travel time (13%). The remaining 74% chose Rome as destination for holiday independently by the presence of HSR. The main motivation is due to the high cost of the HSR ticket (70%) (see Table 4). 87% of respondents who are influenced by HSR in their destination choice are Italians and arrived in Rome with HSR (97%) and interregional low speed train (3%); a limited group of respondents (13%) are foreigners using the airplane to get in Rome.

Table 3 – Reasons why HSR influenced destination choice (Rome)

Motivations	**%**
Speed to reach the destination	27%
Easy access to the HSR station	28%
Frequency of HSR service	5%

Possibility to visit other cities	6%
Reduced travel time	13%
Other (cost, safety, worried of using the airplane, curiosity, train ticket on sale etc.)	18%
Total:	**100%**

Source: our elaborations

Table 4 – Reasons why HSR did not influence destination choice (Rome)

Reasons:	**%**
High cost of HSR ticket	70%
Limited time to spent for a holiday	20%
Number of transfers	5%
Other:	5%
Total:	**100%**

Source: our elaborations

For 12% of the sample, HSR promoted the visit of other neighbouring cities: Naples (38%), Florence (26%), Venice (21%), Milan (9%) and Bologna (6%). Their motivation are mainly the reduced travel time (42%) and the accessibility to the city centre (29%) (Table 5).
93% of respondents that used HSR to move towards other cities are foreigners and arrived in Rome with the airplane.

Table 5 - Motivations of the influence of the HSR presence

to promote the visit of other cities close to Rome

Motivations	**%**
Reduced travel time	42%
Accessability to the city center	29%
Frequency of HSR services	13%
Comfort	8%
HSR ticket price	4%
Total:	**100%**

Source: our elaborations

2.2   Methodology

In this paper , the objective is to identify the factors influencing the choice of rivisiting Rome and the factors influencing the choice of HSR for visiting cities close to Rome. Two models

have been therefore specified and calibrated. The methodology considered is that of logistic regressions which model the relationship between a dependent variable and one (or more) independent variable(s), in the case where the choice set is made up of discrete alternatives, countable and self-mutually excluding (Cox, 1970; Breslow and Day, 1980; Kleinbaum et al., 1982; Schlesselman, 1982; O'Hagan, 1984; Hosmer and Lemeshow 1989; Allison, 1999; Agresti, 2002). These kinds of models have been extensively applied also at the touristic demand analysis (Witt and Witt, 1995) especially to explain the decision to do/not to do a holiday.

In the simplest case, in which there is one predictor variable X and one dichotomous outcome variable Y (binary logistic model), the logistic model predicts the logit of Y from X (Peng and So, 2002; Seddighi and Theocharous, 2002; Sourupia, 2005). With reference to qualitative response variable, as in this case study, the expected value is replaced by the probability concept. In particular, the logistic regression, unlike the linear regression model, generates the probability to observe a specific aspect (k) of Y given X (P(Y=k/X o $\pi k(X)$)), following a binomial distribution of error term.

This logistic model has the following form in the case of multiple independent variables:

$$\ln\left(\frac{\pi}{1+\pi}\right) = \alpha + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_k x_k \qquad (1)$$

with

$$\pi = \Pr obability(Y = outcome\,of\,\operatorname{int}erest \mid X_1 = x_1, X_2 = x_2, \ldots, X_k = x_k)$$
$$= \left(\frac{e^{\alpha+\beta_1 x_1+\beta_2 x_2+\ldots+\beta_k x_k}}{1+e^{\alpha+\beta_1 x_1+\beta_2 x_2+\ldots+\beta_k x_k}}\right) \qquad (2)$$

where π is the probability of the outcome Y, α is the intercept parameter, βs is the vector of s slop parameters and Xs are a set of predictors.

A logistic regression model has been specified and calibrated on the basis of the above survey.

The model 's specification is in the following reported:

Predictedlogit(HSR_RM_CITIES=1) = β_0 + $\beta_{EASY\_2NEARCITIES}$ EASY_2NEARCITIES+ β_{SPEED_HSR} SPEED_HSR + β_{TRCOST} TRCOST + $\beta_{AVBUDGET\_500-1600}$ AVBUDGET_500-1600 + +$\beta_{TRDURAT\_\leq7DAYS}$ TRDURAT_≤7DAYS + β_{ORIGIN_IT} ORIGIN_IT

The dummy variables are:

EASY_2NEARCITIES	equal to 1 if the for the tourist the easy access (thanks to HSR) to 2 near cities interesting from a touristic point of view is important; 0 otherwise;
SPEED_HSR	equal to 1 if for the tourist the increase of speed (due to the HSR service) is important; 0 otherwise;
TRCOST	equal to 1 if for the tourist the cost of transportation is important; 0 otherwise;
AVBUDGET_500-1.600€	equal to 1 if the tourist has an available budget for his/her holiday between 500-1.600€; 0 otherwise;
TRDURAT_≤7 DAYS	equal to 1 if the tourist's stay is less 7 days an the accessibility to the HSR is important; 0 otherwise;
ORIGIN_IT	equal to 1 if the tourist comes from Italy; 0 otherwise.

The estimation results are reported in table 6.

Table 6 – Estimation results

Variable	Coefficient estimated (t-test)
EASY_2NEARCITIES	4.078* (3.44)
SPEED_HSR	2.9406* (3.50)
TRCOST	-2.8312** (-2.74)
AVBUDGET_501-1.600€	-1.6205* (-2.12)
TRDURAT_ ≤ 7 DAYS	-3.3983* (-3.76)
ORIGIN_IT	-2.5211* (-3.12)
FUNCTION STATISTICS:	
R^2	0.6958
Log-Likhelihood	286.8162

This model aims to identify which variables have an impact on the HSR use to move from Rome towards nearest cities served by HSR (such as Naples, Florence, Bologna, Milan) for tourism purpose. The dependent variable is the HSR presence to promote a tourist visit in a near city connected by HSR (Important: 1, Not important: 0), the independent variables are socio-economic, transport and land-use attributes.

This model has an high explanatory power (R2=0.6958) and all attributes are with the expected sign and statistically significant. The proximity of cities of great tourist interest (EASY_2NEARCITIES) and HSR speed (SPEED_HSR) that allow to reach quickly nearby

cities have a positive and very significant impact on the probability to visit other cities. The cost of transportation (TRCOST), in this case too, has a negative impact together with holiday duration of less than 7 days (TRDURAT_$\leq$ 7DAYS), implying that respondents with a limited time budget prefer to visit just Rome. There is a high probability that foreigners use HSR to visit other cities (93% of the sample).

3. HSR AND TOURSIM IN PORTUGAL

The Portuguese High Speed Rail project (which is currently suspended) includes three priority links - Lisbon-Madrid, Lisbon-Oporto, and Oporto-Vigo corridors - with a total length of about 650 km and an investment of around € 8 billion. It also includes some significant and costly civil structures such as the Tagus Crossing in Lisbon..

The HSR corridor between Lisbon and Oporto is located in the most densely populated area of the country. It is also the most dynamic in economic terms. The main rationale behind the HSR project was linked with several objectives aimed at mitigating a series of frailties and problems in the Portuguese territorial and transportation systems (MTAODR, 2007):

- A strong carbonic and energetic intensity in the transportation sector due to the heavy reliance on road based transportation, leading to a strong dependency to external energy sources;
- A strong geographical dispersion in the economic infrastructures and facilities leading to their weak international projection which leads to losses of scale and atrophy of the more developed economic functions;
- An insufficient international projection of the urban functions in the main urban agglomerations, which creates difficulties in the country's participation in the international investment and economic flows.

Thus the introduction of HSR in Portugal was seen in this document as a strategic tool to help reshaping the regions served by this mode. Therefore it would contribute to organize and reinforce the cities and urban centers within the HSR corridor, and to insert Lisbon in the HSR transeuropean networks and thus increase its role in the context of the great european regions. Besides these objectives the line between Lisbon and Porto would help to reinforce the connection between the two main cities of the country, since travel time between both would be around 1h15m (SDG/VTM, 2009). This corridor encompasses 63% of the total number of companies, 70% of the total GDP, 61% of the total population, and 37% of the total number of tourists (AtKearney, 2003).

Several studies undertaken since 2000 stressed the potential benefits of the HSR in Portugal and its capability to shape the region between Lisbon and Porto (with a population of around 6 million inhabitants):

- HSR could be though as both a instrument of economic policy by reducing regional assimetries and territorial management (Socinova, 2003),
- The Lisbon Porto line considered the existence o both direct services and others with intermeadiate stops thus contributing to the existence of a bundle of services that contribute to the internal cohesion in the corridor and reinforcing connections between all of the cities located inside of it.At the same time one of the objectives of the project

was to reinforce the competitiveness of those intermediate cities by increasing their accessibility in order to transcend their dimension (SDGVTM, 2009).

- The indirect economic benefits envisaged for the project encompassed econmies of agglomreation (due to the increase in accessibility and reduction of travel times), impacts in the labor market. The benefits due to the economies of aglomeration were estimated in 64 million euros. The impacts for the labor market was significantly inferior , only 350 thousand euros. This was due to the low number of commuting trips, since the demand studies didn´t consider explicitly the possible induced traffic due to the effects of super commuting. The impact on imperfect competion is again on the magnitude of the agglomeration economies, around 26.5 million euros (SDG/VTM, 2009).

Another potential beneficial impact of HSR would be in tourism: The impact of HSR on tourism was the object of a recent study (Deloitte, 2010).

HSR is expected to have positive impacts on several touristic segments, these include:

- City breaks segment, since HSR links directly city centres and contributes to the increase of accessibility of cities either by reducing travel times or by increasing the levels of supply in transportation;
- Cultural and landscape related touring, since HSR increases the accessibility to several places with cultural and patrimonial interest located in the corridor between Lisbon and Oporto;
- Increase in business tourism, by increasing the accessibility to cities with potential for this type of tourism;
- Tourism related with golf, wich it is one of the touristic strategic products of Portugal and it has an important number of golf courses in the region of Lisbon (Turismo de Portugal, 2007);
- Residential tourism, since it will increase accessibility to areas with potential for second residences;

But at the same time, due to its network configuration, HSR could increase the differences in attractiveness between the coastal areas and the interior regions, therefore increasing regional asymmetries. At the same time, because it increases accessibility between Portugal and Spain could have as a result an increase in the competition between undifferentiated market segments (Deloitte, 2010). Other potential negative impacts of HSR on tourism according to Deloitte (2010) include:

The increase in accessibility between Portugal and Spain (line between Lisbon and Madrid) could result in dominant touristic flows going from Portugal to Spain and not the other way around. Also higher accessibility could result in lower duration of stays, and therefore in lower spending by the tourists.

A forecast was made for the impacts in Tourism, resulting from the HSR network, which estimated the impacts in 2030, on economic benefits, jobs number of guests and number of overnights. These estimates were made for 3 scenarios (a conservative, a baseline and an optimistic, scenarios). A selection of its results, and considering the impact on 3 regions (Greater Lisbon, Greater Porto and Algarve) and the total Continental Portugal, is presented in Table 7.

Table 7 – Impacts of HSR on Tourism

	2030 (conservative scenario)	2030 (baseline scenario)	2030 (optimistic scenario)
Added Value generated by touristic activities (10^6 euros)			
Greater Lisbon	93.3	206.9	349.9
Greater Porto	35.2	78.0	131.9
Algarve	41.7	92.6	156.5
Total	249.4	553.1	935.4
Employment (10^3)			
Greater Lisbon	6.1	13.5	22.9
Greater Porto	2.3	5.1	8.6
Algarve	2.7	6.0	10.2
Total	16.3	36.1	61.1
Guests/Overnights (10^3)			
Greater Lisbon	126.6/299.4	288.5/678.6	509.6/1189.0
Greater Porto	47.7/112.9	108.8/255.9	192.1/448.3
Algarve	56.6/133.9	129.1/303.6	227.9/531.9
Total	338.6/800.5	771.3/1814.2	1362.3/3178.6

Source: Deloitte (2010)

The forecasts presented in Table 6 show clearly the Greater Lisbon region will be the one that will reap the highest volume of benefits. This is due to the fact that Lisbon will the central and pivotal point of the HSR network, but also because Lisbon has been continuously been the region with a higher growth in the number of guests (Deloitte, 2010; Turismo de Portugal, 2007).

But besides the positive impacts that HSR could have on tourism there is the need to adapt the services of HSR to the needs and expectations of tourists, this could be achieved by an alignment between the supply of touristic products and the supply of HSR services. Therefore measures should be taken to increase the benefits generated by HSR on tourism including betting on touristic products that are differentiated, reformulating the touristic supply in order to change and reformulate the concepts linked with the touristic products that could beneficiate more with HSR (particularly the sector of short breaks) and, make the HSR operator aware of the potential that tourism could represent in the service revenues and thus create services and tariff structures that could be attractive to tourists (Deloitte, 2010).

4. CONCLUSIONS

This paper attempts to find a link between HSR and tourism. Findings provide useful information for analysts in their efforts to segment and target specific tourist segments. A greater awareness of tourists characteristics with respect to a specific destination, like in the Roman case, represents an important input for improving packaging and promotion. HSR operators, for instance, could develop specific HSR discount policies ticket when traveling for leisure purposes as it has already been done in China.

The results obtained suggest the implementation of more sophisticated and wide ranging surveys taking into consideration other relevant and transport related dimensions at a regional, national and international level as well.

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