



# Exploring the interdependences between High Speed Rail systems and tourism: Some evidence from Italy



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## ABSTRACT

This paper highlights the expected impacts of the High Speed/High Capacity Rail project in Italy on tourism. An empirical analysis has been carried out with the aid of a database containing information both on tourism and transport for 77 Italian municipalities, during the 2006–2013 period. The specification of a panel model simultaneously considering the effects on all the municipalities has been proposed. The main results of the analysis show that the impacts of HSR on the number of Italian visitors and the number of nights spent at destination are positive in all the municipalities served by HSR. Moreover an airport traffic model specification has been proposed as well in order to show the impact of plane on Italian tourists' mode choices.

## 1. Introduction

The transportation system and the tourism market can be considered mutually dependent. The transportation industry is a global industry that meets the need for moving passengers and freight as efficiently as possible. It is often argued that a country with a good transportation system can be considered a tourist destination. According to Kaul (1985) the transportation network is an essential component of successful tourism development. Khadaroo and Seetanah (2008, p.831) agree with the principle that “provision of suitable transport has transformed dead centers of tourist interest into active and prosperous places attracting multitudes of people”.

During the centuries, the means of transport have been changing according to the development of technology and discovery and application of steam and electricity in the 19th century and the internal combustion engine in the 20th century. Since 1964, with the Shinkansen in Japan, the revolution in the transportation sector has been represented by High Speed Rail (HSR). The latter has recently experienced significant expansion and new projects are in the pipeline all over the world.

Considering that Europe is among the most visited continent in the world, HSR is likely to induce changes in tourist behaviour. The objective of this manuscript is to investigate the relationship between accessibility, HSR systems and the tourism market. The case study of the High Speed/High Capacity (HS/HC) Rail project in Italy has been considered. The latter should be conceived within the wider context of the Trans-European corridors.

In Italy, the first HSR line was inaugurated in 1992 between Florence and Rome with the so called “Direttissima”, which allowed trains to run at 230 km/h covering the 254 km between Rome and Florence in about two hours (Cascetta et al., 2011). However, this project dated back to 1970.

The new generation of HSR (i.e. with trains running at 300 km/h) started in December 2005 between Rome and Napoli and Milan and Bologna. Later, in December 2009, the project was extended with the Milan–Turin and the Bologna–Florence lines. In 2010 the Italian HSR network was operational and other projects are still a work in progress. The station-to-station travel times, depending on the OD (origin-destination) pair, which have been reduced of about 20–40%, are expected to further decrease with the completion of

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Fig. 1. The High-Speed/High-Capacity Rail system in Italy. (The total number of trains along each corridor is reported considering the two companies Trenitalia and NTV.)

Source: Delaplace et al. (2014).

the new underground bypass stations in Bologna and Florence that will allow speeding up the service in dense urban areas. Once the whole HSR project will be completed most major cities will be connected to the network. The objective is to raise the Italian rail system to the best European standards and to improve its capacity. It remains that the network is not “capillary”, i.e. it connects only big metropolitan cities. In addition to the HSR lines, there are also the High Capacity (HC) rail lines (see Fig. 1), consisting in speeding up and increasing the capacity of the existing rail lines between Florence and Rome. The national Italian network and operations are all 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 high-speed 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. Since 2012 a new private company, Nuovo Treno Viaggiatori, is competing with Trenitalia on the same HSR network.

The number of trains on each O-D connected section are reported in Fig.1.

Tourism is an important component of the services sector in international trade, and the balance between inbound and outbound tourism determines whether tourism is a positive or negative factor in the balance of payments. Italy maintained positive travel and tourism trends in 2015 thanks to the wide and diverse tourist supply to satisfy the different tourist needs. Moreover the EXPO event in Milan contributed to increase the growth of tourism, both in terms of incoming as well as domestic flows. Online travel in 2015 experienced a boom thanks to the rapid rise in mobile commerce. The spread of smart devices among the Italians played a significant role on consumers as well as the increased supply of mobile apps and mobile-compatible websites provided by players.

Airlines are still dominated by the low-cost Ryanair Holdings, thanks to its advantageous pricing as well as the number of widespread routes in the country. Hotels are the best performing in terms of value sales share, given the wide number of rooms available in Italy as well as investments in new sites opening.

Travel and tourism in Italy is expected to register a positive performance and continue to grow. Finally, the fact that tourism is increasingly affordable, coupled with the attractiveness of the country, is expected to further widen the tourism sector in Italy (Euromonitor, 2016). In Table 1 the trend of tourists in the last years has been reported. It is interesting to notice that both the number of Italian and foreign visitors has increased since 2006.

In this paper the principle is to investigate, with a panel database for 77 Italian municipalities built for the 2006–2013 period, to what extent the High Speed/High Capacity (HS/HC) Rail project in Italy affects local tourism. To do so, cities and towns served or not by HS stations have been selected.

The structure of the paper is as follows. Section 2 deals with a literature review on the impacts of HSR on tourism. Section 3 describes the methodology and the main variables introduced in this study. In Section 4 model estimation results are described. Section 5 deals with the conclusions and further perspectives.

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