3RD INTERNATIONAL WORKSHOP ON HIGH-SPEED RAIL SOCIOECONOMIC IMPACTS

How competition on HSR services could generate social and economic benefits: the case of Italy

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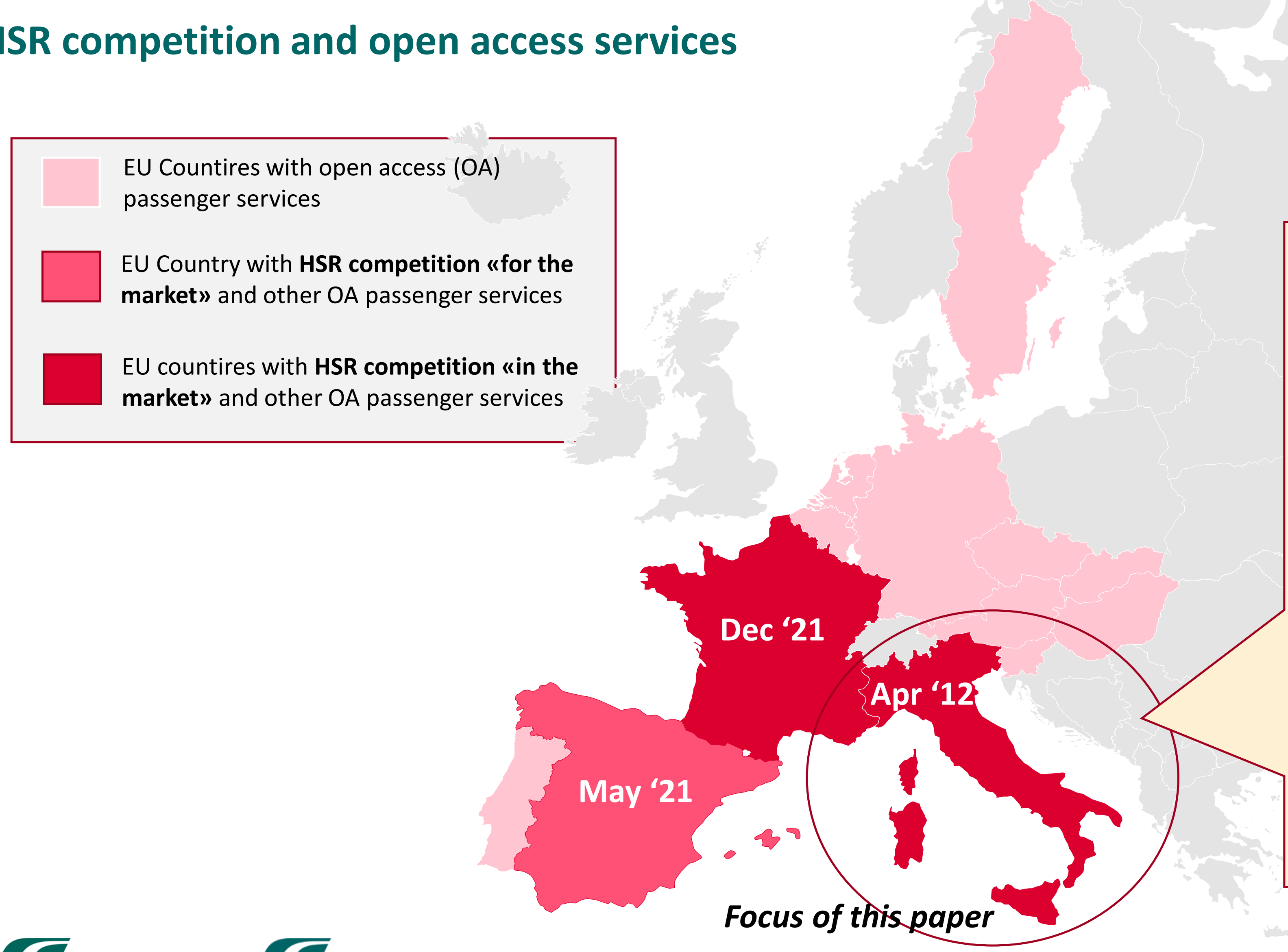
Literature review

In the last decades, scholars investigated the social and economic benefits of «competition» between:

- **HSR vs conventional rail**
  - Some references: Gutiérrez *et al.* (1996); de Rus and Nombela (2007); Button (2012); Preston (2012)
- **Inter modal competition between rail and air travel**
  - Some references: Capozza (2016)
- **Inter modal competition between HSR and air travel**
  - Some references: Gonzalez-Savignat (2004); Román *et al.* (2007); Dobruszkes (2011); Behrens *et al.* (2012); Yang *et al.* (2012); Bergantino, Capozza Capurso (2015)
- **Inter modal competition between rail and LH bus travel**
  - Some references: Beria and Bertolin (2019)
- **Intra modal competition in the air market**
  - Some references: Stavins (2001); Borenstein and Rose (1994); Gaggero et al. (2010); Fageda *et al.* (2011); Bergantino and Capozza (2014); Bergantino *et al.* (2018)
- **Intra modal competition in the conventional rail market**
  - Some references: Ivaldi and Vibes (2005);
- **Intra modal competition in the HSR market (topic of this paper)**
  - Some references: Bergantino *et al.* (2015); Bergantino *et al.* (2018)

The state of the art of rail market liberalisation in EU (IV railway package)

HSR competition and open access services



Italian path to HSR competition

2006 Legislation provides for the liberalisation of HSR and commercially profitable LH routes

2008 The newcomer signs the «framework agreement» with the infrastructure manager

2009 Feb – incumbent launches its first HSR lines
Dec – whole HSR network operational

2012 The newcomer is up and running its first HSR services

10+ years

2013 The Italian Transport Regulation Authority begins its activity

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«in the market» HSR competition in Italy produced two major effects

Improvement in the quality and variety of the service proposition

Some examples:

- frequency of services
- optimisation of fare structure (price discrimination)
- hybrid HSR-conventional services (e.g. towards Puglia and Calabria)
- wide range of ancillary services (e.g. first/last mile)

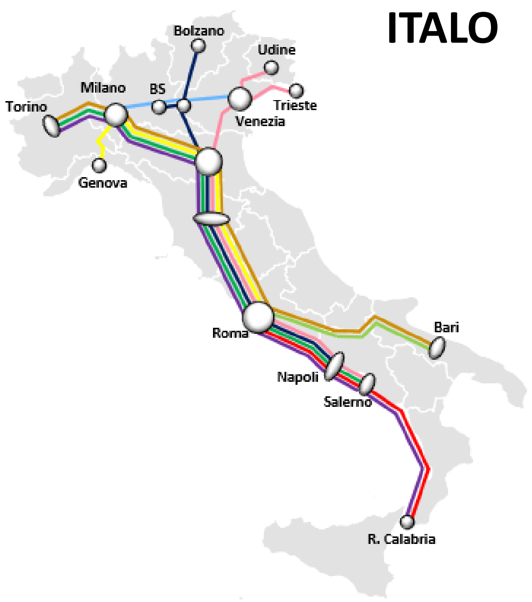
Increase in the overall demand

- Mainly diverted from less environmentally friendly modes (e.g. air transport, LH bus, car)
- Also some new, emerging demand

- Effects more incisive than other (previous) experiences of market liberalisation (airlines and long-distance bus) → positive implications for the society as a whole, thanks to reduced emissions of CO_2 and other pollutants (e.g. -150,000 ton CO_2 on the Rome-Milan / -1,7 Mln car vehicles in 2022)

The open access operator provides services on (almost) the same routes

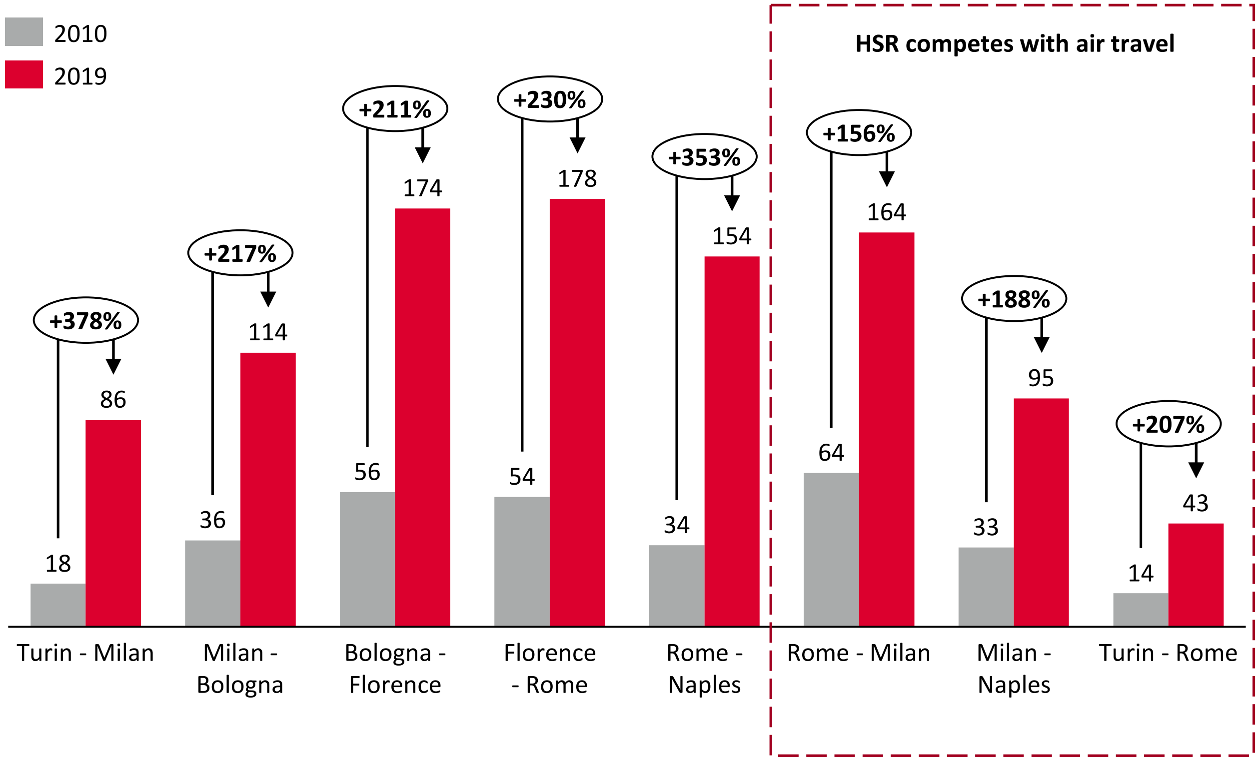
HSR service networks as of Nov '22



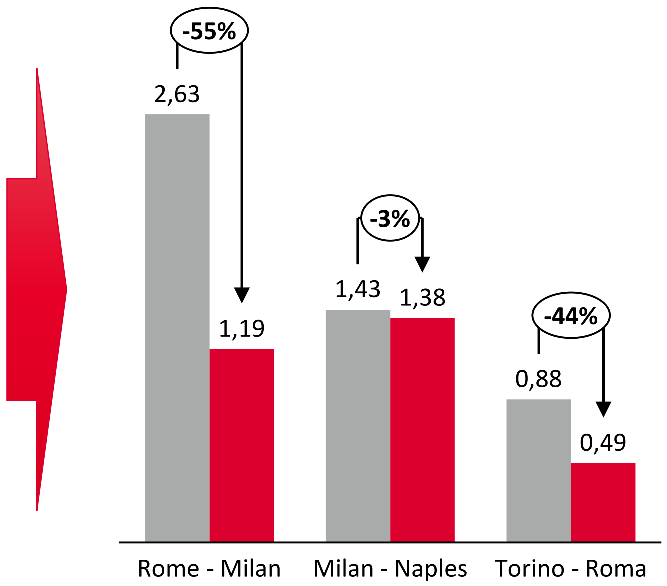
- The newcomer (Italo) did not clearly position itself as a low-cost operator, but rather as a lower-cost operator;
- It started offering services on the most profitable routes (cherry picking); then expanded its network on (almost) the same routes as Trenitalia (e.g. all but the Adriatic line)
- The overall quality of services by the two operators did not reduce: there have been always incentives to improve it, but with an eye on the costs

Competition made HSR services to increase and air travel demand to decrease

HSR daily services on the Torino-Naples corridor



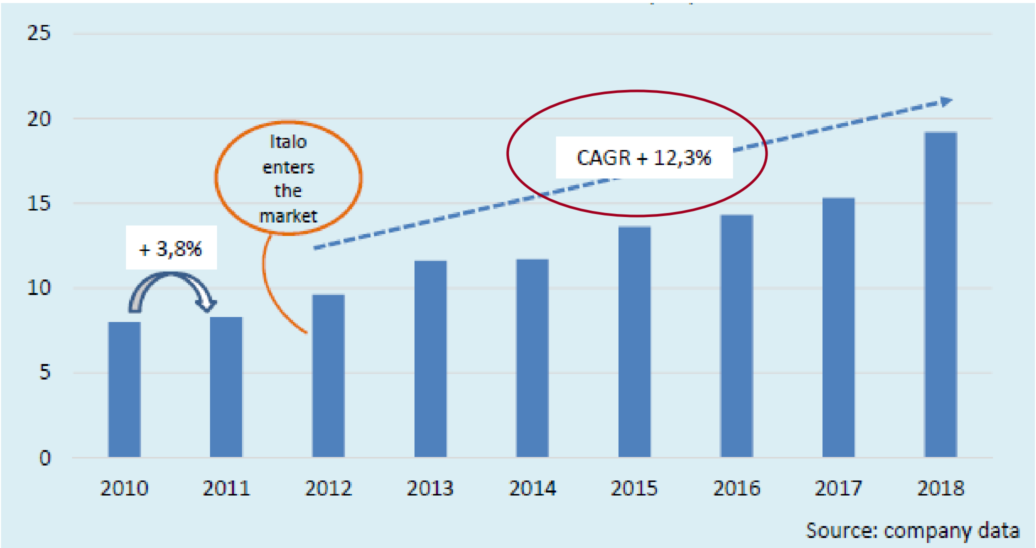
Air travel demand (Mln pax)



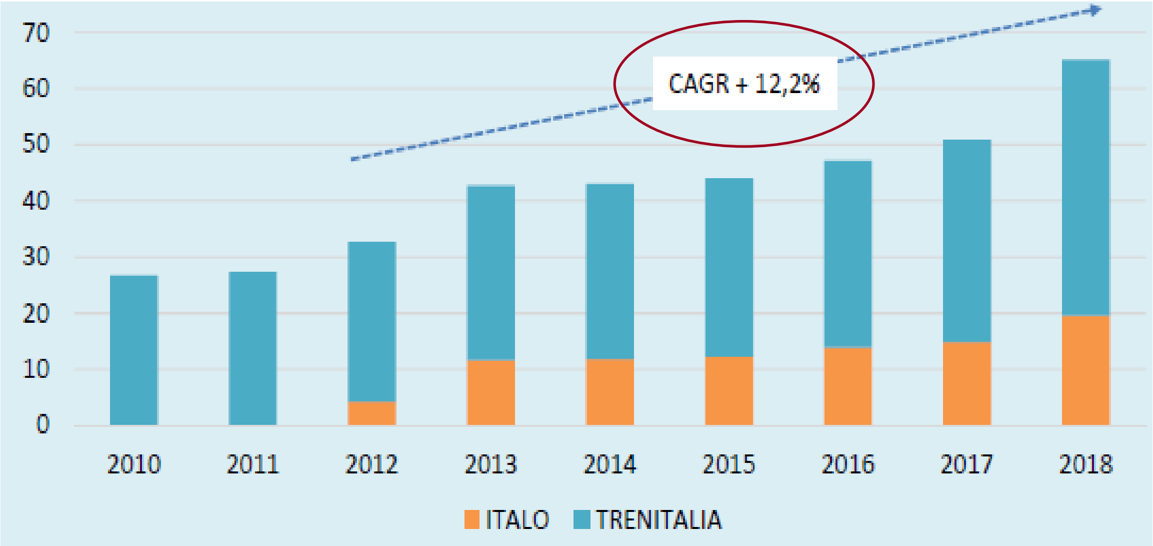
Source: company data and Eurostat

Demand and supply for HSR increased by a similar rate

Demand (pax*km) for HSR services (Italy)



Production (train*km) in the HSR market (Italy)



Source: Italian Transport Authority

The use of price discrimination is a win-win

An example of Trenitalia fare structure

FRECCIAROSSA 9520
09:10 Roma Termini — 3h 40min — 12:50 Milano Centrale
Dettagli
a partire da 29,90€

SELEZIONA SERVIZIO E OFFERTA — comfort →
Modifica visualizzazione

flexibility ↓

	STANDARD	PREMIUM	BUSINESS	BUSINESS AREA SILENZIO	BUSINESS SALOTTINO	EXECUTIVE
BASE	95,00€	112,00€	129,00€	129,00€	139,00€	245,00€
ECONOMY	72,90€	79,90€	91,90€	91,90€	100,90€	195,90€
SUPER ECONOMY	49,90€	51,90€	58,90€	58,90€	64,90€	154,90€
YOUNG	47,50€	56,00€	64,50€	64,50€		
SENIOR	47,50€	56,00€	64,50€	64,50€		
SPECIALE FRECCE	29,90€ In esaurimento	34,90€	39,90€	39,90€		

Italo has a similar fare structure (with less price points)

From the travellers' perspective

→ Allows to pay the amount s/he is effectively willing to pay for the desired rail services

→ Price sensitive travellers have the opportunity to purchase no-frills super discounted tickets (but they have to do it weeks in advance)

From the HSR operators perspective

→ Extract the largest part of consumer surplus (increase revenues)

→ need to know their travellers (can use this knowledge to offer personalised services)

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From the Italian domestic market to the European domestic market

- Competition within the Italian borders pushed Trenitalia and FS Group to find new opportunities on new markets in Europe (HSR services in competition in Spain - with Iryo - and France)
- The final aim is to create a HSR European ‘underground’ using its flag train, the Bombardier V300 Zefiro (Frecciarossa1000), designed to run across most European national rail networks (interoperability)

 # train services:
- 250 HS
- 120 IC
- >6000 Regional

 # bus services:
- >13600 Regional/Urban

 # train services (excl. IT):
- 120 HS
- 2200 IC + Regional

 # bus services (excl. IT)
- >900 Regional/Urban

Note: rail and bus services provided by companies of the FS Group at the beginning of 2023

The HSR network goes beyond tracks

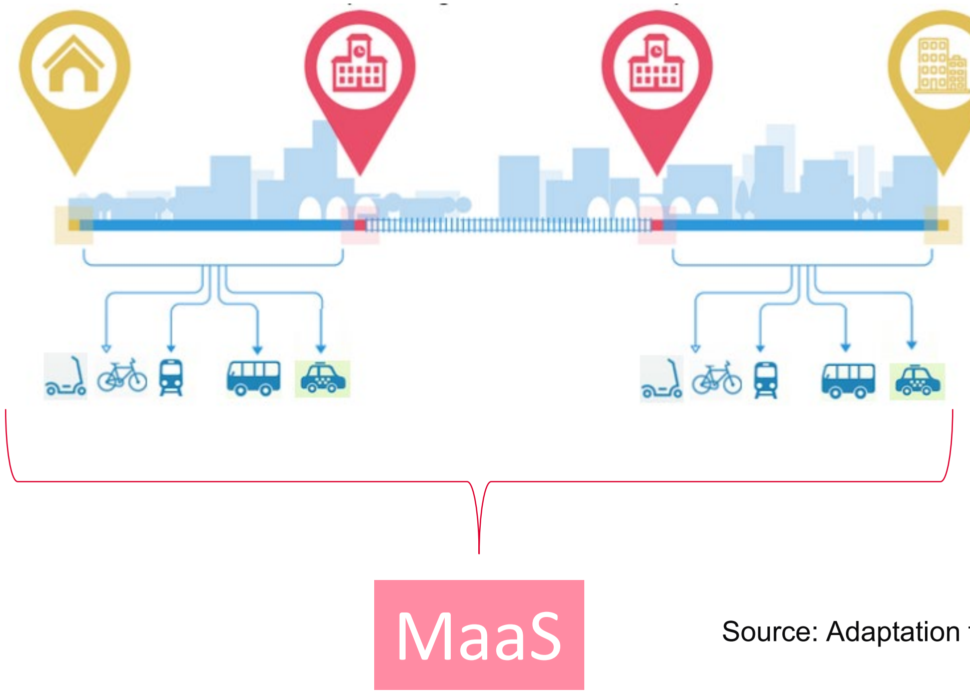
Places of interest not connected to the national rail network are made accessible through:

- FrecciaLink services, i.e. bus transfer in connection with Freccia services (the competitor offers a similar service)
- Regional rail and bus services, urban transport, micromobility

Moreover, HSR supply can be suitably integrated in a comprehensive Mobility-as-a-Service (MaaS) system

Note: Freccialink services in yellow in the map

First/last-mile services, thanks to specific agreements with other partners in shared and collective mobility



Source: Adaptation from UIC

Conclusions

- Italy has been the first, and for a long time the sole, Country with competition in the HSR (10+ years of competition now); therefore, it can be considered a mature laboratory to study the social and economic effects of competition in HSR

- These effects are similar to those experienced, in general, with competition within any transport modes (e.g. increase in supply and quality of services at at lower prices)

- In addition to those effects, it is important to mention that competition within the HSR sector led to an extraordinary modal shift from less environmentally modes (e.g. air transport on the Rome-Milan)

- In the Italian experience, demand and supply for HSR increased by a similar rate, but it is hard to identify which one drove the other

- The increase in the quality of service led to an increase in accessibility. Competition moved beyond tracks