

Open Access Passenger Rail Competition: the case of Italy

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Round Table On Open Access Passenger Rail Competition 2016

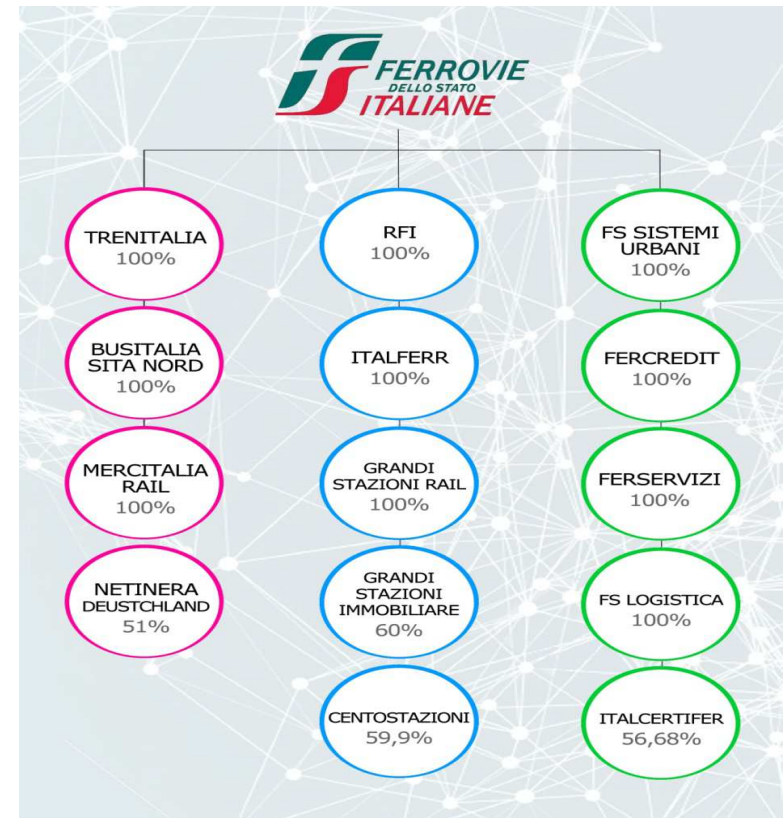
Masarykova Univerzita, Brno

11th November 2016

Open Access Policy: The divestiture

- The vertical divestiture (pre-NTV):
 - In 1985, FSI (Ferrovie dello Stato) ended being a department of the Ministry of Transportation;
 - In 1992, FSI became a SOE (Stated Owned Enterprise);
 - In 1998, FSI became an holding group with forms of separation:
 - RFI: new Infrastructure Manager (IM), responsible for allocation of capacity, safety, maintenance of infrastructure, traffic management;
 - Trenitalia: rail operator;
 - FSI works as a holding group.

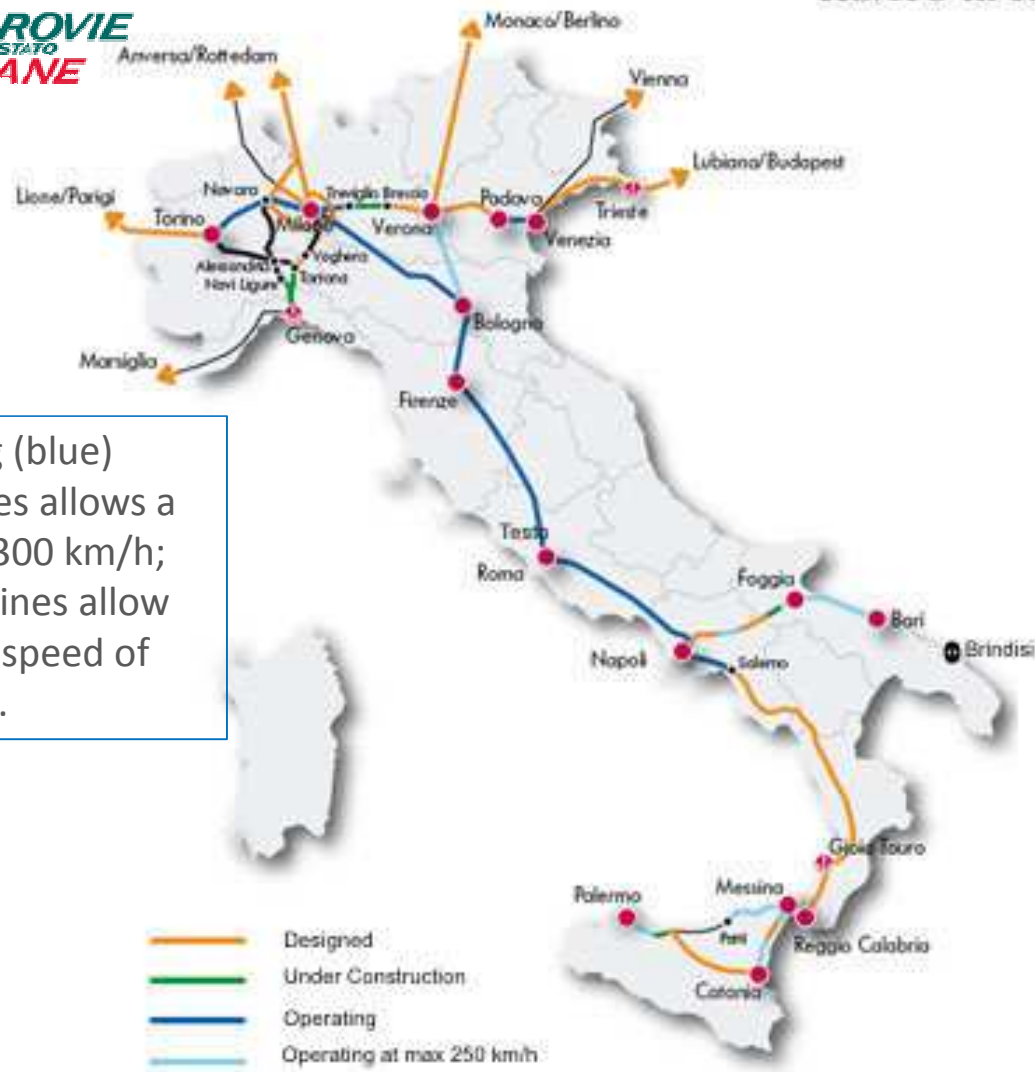
- *Legal unbundling* as form of vertical separation.
- The IM is managerially autonomous, but integrated in the Holding company....



A brief history of HSR in Italy: the network

- First HSR network is “The Direttissima” over the *Rome-Florence* Route (completed in 1992)
- Major investments over the 2000s with a consolidated cost of 32 billion of euro
- The modern HSR Network was completed between 2006 and 2009
 - *Rome-Naples* and *Turin-Novara* were completed in 2006; *Milan-Bologna* in 2008; *Naples-Salerno*, *Milan-Novara* and *Florence-Bologna* in 2009.
- ...but the network is still being developed.
 - In December, HSR on *Treviglio-Brescia* (39.6 Km) over the Milan-Venice HSR route (245 km) which is still under construction for the Brescia-Padova component (152 km). Expected to be completed by 2020.
- New projects in Southern Italy (which suffers a long-term infrastructure gap):
 - *Bari-Naples-Rome* line, works started in 2016 and are expected to be completed by 2026.

Current HSR network in Italy



- Operating (blue) AC/AV lines allows a speed of 300 km/h;
- All other lines allow at most a speed of 250 km/h.

HS/HC in Italy

FSI Industrial Plan 2017-2026

- Investments in rail services for **62 billion of EUR**
- 24 billion for HSR (**38,7%** of the total)
- **North:**
 - Terzo Valico, Brennero, Torino-Lione, Milano-Venezia
- **South**
 - Napoli-Bari, Palermo-Catania-Messina, Salerno-Reggio Calabria, Upgrade on the Adriatic line (Lecce-Bari-Bologna)



A brief history of HSR in Italy: the entry of NTV

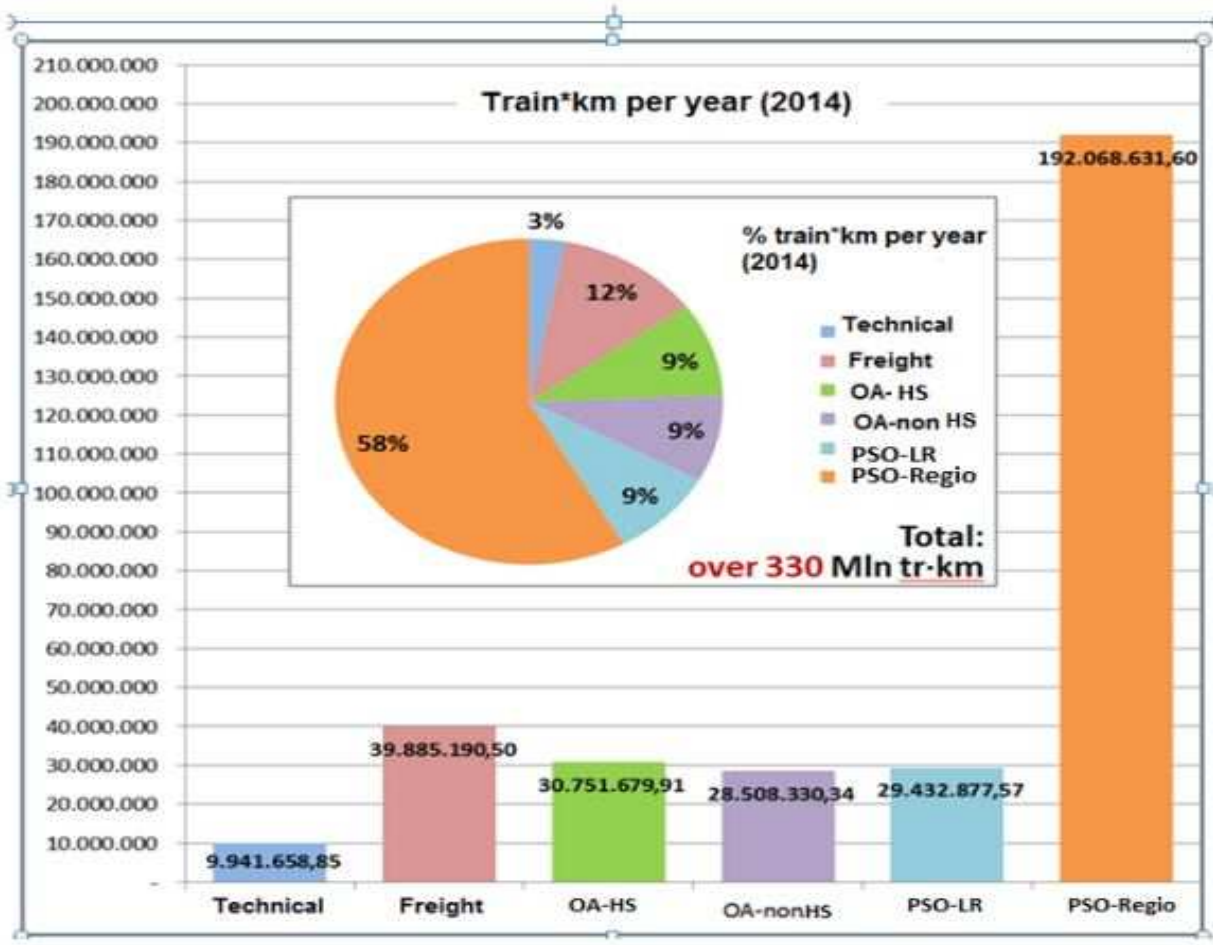


- Italy is the first country in Europe to open its HSR network to «on track competition»;
- Nuovo Trasporto Viaggiatori (NTV), first private operator:
 - established in December 2006, by a number of Italian private entrepreneurs (Montezemolo, Della Valle, Punzo and Sciarrone);
 - The French national incumbent (SNCF) acquired NTV shares as a “technical partner”, without any involvement in the management (initially 20%; now 1.4% due to an increase in capital);
 - It entered the market in regime of “Open Access” in December 2012;
 - The high-speed train of NTV is called “Italo”

The effect of open access in Italy: some numbers

- Market dimension;
- Prices;
- Supply;
- Quality and service differentiation;
- Inter-modal effects

The effect of open access in Italy: Market dimension (traffic in train-km)



Technical
Empty runs
Test Trains



Freight



OA-HS
Open Access
High Speed



OA-nonHS
Open Access
Traditional



PSO-LR
Public Service
Long Distance



PSO-Regio
Public Service
Regional

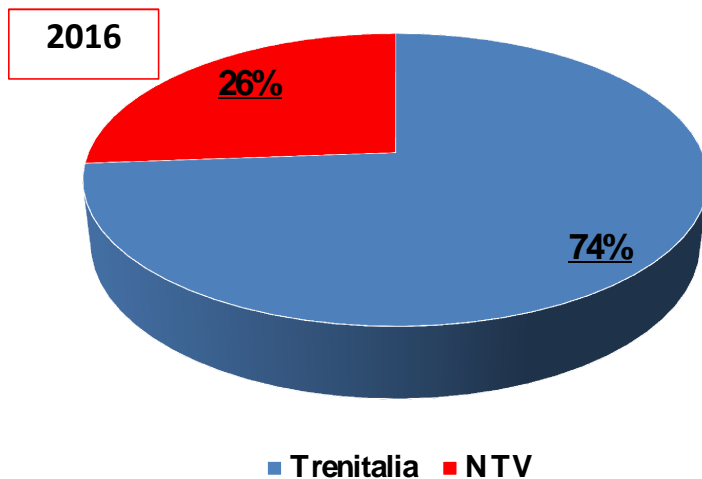
- Net total pax: **280.761.517**;
- Open Access: 59.260.009 (**21,11%**)
- HS services: 30.751.680 (**10,95%**)

The effect of Open Access: Demand (1)

| Italian HSR: NTV and Trenitalia's market shares | | | | | |
|---|------|-------|-------|-------|-------|
| | 2011 | 2012 | 2013 | 2014 | 2015 |
| Passengers (million) | | | | | |
| Trenitalia | 23.4 | 25.1 | 26.2 | 29.1 | 31.2 |
| NTV | 0.0 | 2.0 | 6.2 | 6.5 | 9.1 |
| Share of passengers | | | | | |
| Trenitalia | 100% | 92.4% | 80.9% | 81.6% | 77.4% |
| NTV | 0.0% | 7.6% | 19.1% | 18.4% | 22.7% |

Source: ART first Annual Parliament Report (2014, p.70); EC (2015); Trenitalia; F. Croccolo.

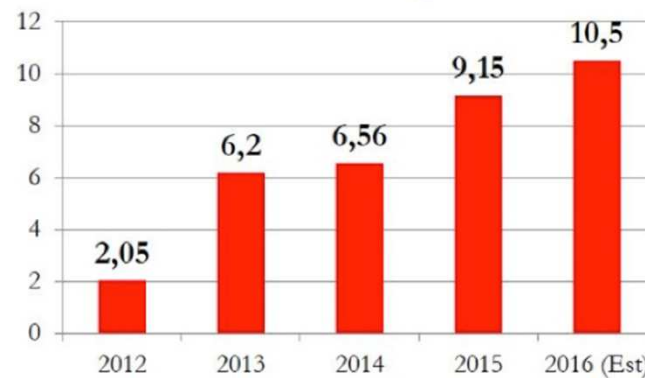
Expo effect: in 2015 Italo's pax increased by 2.6 million (+39.5% of growth rate) and Trenitalia by 2.1 million (7,2%) mainly on the routes directed to Milan. **Ryanair left the market!**



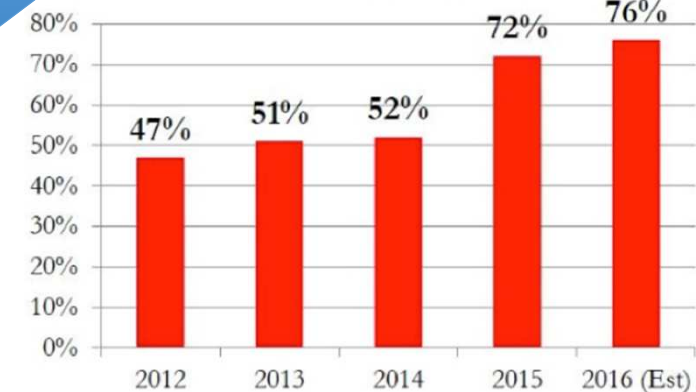
NTV continues to grow

2016

Italo Passengers



Italo Load Factor




The effect of Open Access: Demand (2)

- From air to HSR. Substantial modal shift.

| Route ROME-MILAN | 2008 | 2012 | 2014 | 2016* |
|------------------|------|------|------|-------|
| Plane | 50% | 32% | 24% | 15% |
| Train | 6% | 58% | 65% | 74% |
| Road | 14% | 10% | 11% | 11% |

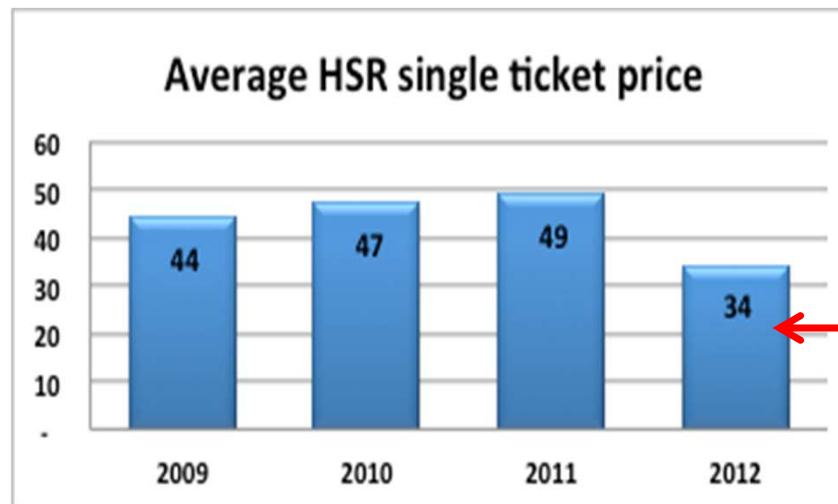
Source: ART 2016; Trenitalia, NTV, Crozet (2016)



In 2015, Ryanair, operating on Rome-Milan Orio al Serio moved out of the market.

The effect of Open Access: Prices (1)

- Competition pressured prices down...
 - effect of price discrimination strategies (promotional fares and new price structures), **PRE ENTRY**:
 - On the Milan-Rome (MI-RM) route, one-way fares reduced an average of 31% between 2011 and 2012 (the year of entry into operation of NTV; Cascetta and Coppola, 2014; p. 184)



Strategic
behaviour:
-31%

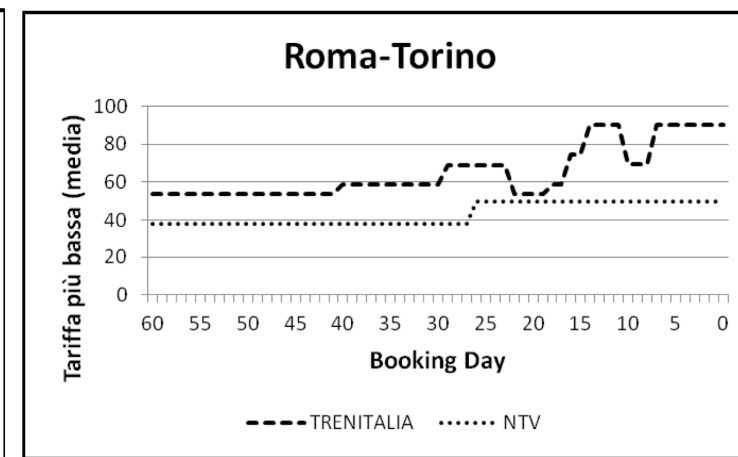
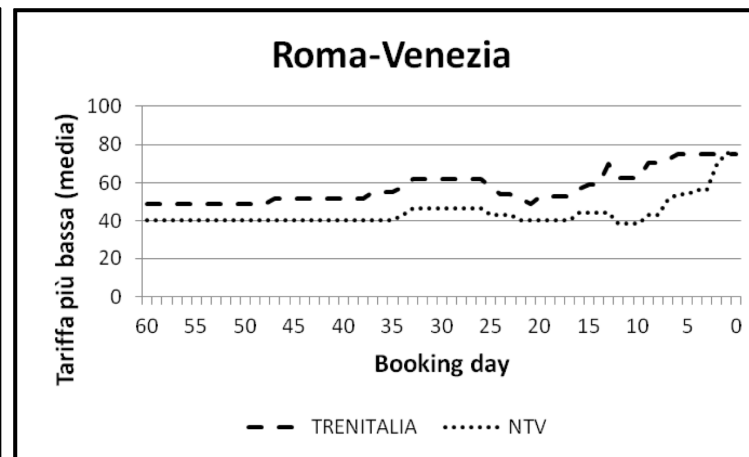
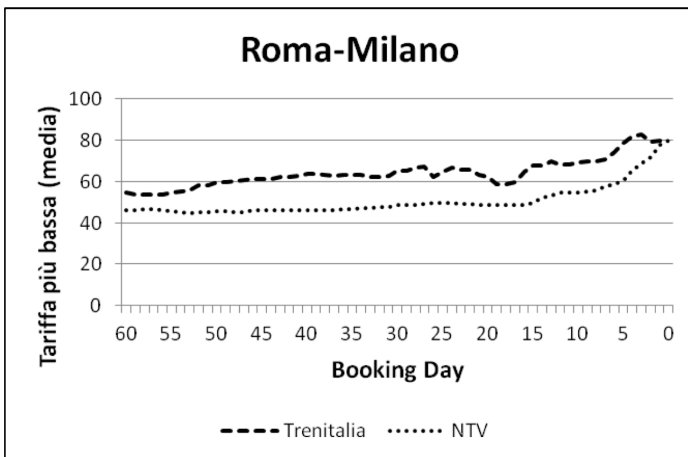
The effect of Open Access: Prices (2)

- Competition pressured prices down....but **the incumbent did not trigger a price war AFTER ENTRY:**

1. Main routes:

- Considering the lowest fare on the three main HS routes, in 2013 the incumbent's tariffs were 30-35% higher than those of NTV (Bergantino et al. 2013; 2015);

(RM-MI 29.92%; RM-VE 30.50%; RM-TO 34.67%)



Source: Bergantino et al. 2013, 2015

The effect of Open Access: Prices (3)

- Competition pressured prices down....but the incumbent did not trigger a price war **POST-ENTRY**:

2. Minor route:

- On the Milan-Ancona (MI-AN) route*, Trenitalia reduced the average cheapest 2nd class fares applied for advanced-booking by about 15% but not for the business class.
- On this route (opened in 2013) NTV started its activities being the cheaper operator but **“ended up being more expensive for comparable services”**.

Table 2

Trenitalia price variations after the entry of NTV on the Milan-Ancona service. T-test performed on the single price differences between the two comparable periods in 2013 and 2014. *** indicates a statistical significance (p-value) lower than 0.001.

| Day in advance | Economy | | | Business | | |
|---------------------|-------------------------|-------------------------|-----------|-------------------------|-------------------------|-----------|
| | Average prices 2013 (€) | Average prices 2014 (€) | Delta (€) | Average prices 2013 (€) | Average prices 2014 (€) | Delta (€) |
| 1 | 51.16 | 43.09 | -8.07*** | 75.89 | 75.94 | 0.05 |
| 7 | 47.08 | 39.69 | -7.39*** | 75.95 | 76.01 | 0.06 |
| 15 | 41.00 | 35.04 | -5.96*** | 75.98 | 76.01 | 0.03 |
| 21 | 36.68 | 32.00 | -4.68*** | 75.97 | 76.01 | 0.04 |
| 30 | 31.88 | 29.14 | -2.73** | 75.96 | 76.00 | 0.04 |
| Period | | | | | | |
| 14/09–14/10 | 45.62 | 37.32 | -8.31*** | 75.99 | 76.02 | 0.03 |
| 15/10–14/11 | 44.31 | 37.45 | -6.86*** | 75.89 | 76.00 | 0.11 |
| 15/11–14/12 | 43.06 | 38.64 | -4.42*** | 76.00 | 75.99 | -0.01 |
| All prices | 44.39 | 37.84 | -6.55*** | 75.96 | 76.00 | 0.04 |
| No. of observations | 1032 | | | 1032 | | |

*not HS

Source: Beria, 2016

The effect of Open Access: Supply (1)

The entry of NTV led to a large increase in the overall supply of HS train services for two main reasons:

1) The newcomer' supply

- NTV entered the market with 25 trains (Alstom ETR575) and 21 connections in 2012/2013 (Bergantino et al. 2015) which remained the same until now with only a modular change (Bergantino, 2016).

2) The incumbent increased the number of services offered (starting just before the entry of NTV):

- Trenitalia's HS services were 49 in 2009/2010, 79 in 2013 (+ 61%; Bergantino et al. 2015), 88 in 2016 (Bergantino, 2016)

Rail service provision.

| | Trenitalia | | | | | | | | NTV | | | | |
|--------------------------------|--------------|----------|--------------|----------|--------------|----------|--------------|----------|--------------------|-----------|--------------|-----------|------|
| | 2009/2010 | | 2011/2012 | | 2013 | | 2016 | | 2013 | | 2016 | | |
| | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | |
| ROME-MILAN | | | | | | | | | | | | | |
| FrecciaRossa (No Stop)* | 16 | 3 | 17 | 3 | 17 | 2,55 | 15 | 2,55 | Italo No Stop | 3 | 3,03 | 7 | 2,55 |
| FrecciaRossa** | 14 | 3,3 | 19 | 3,3 | 21 | 3,2 | 31 | 3,2 | Italo | 13 | 3,3 | 9 | 3,2 |
| Total HSR | 30 | | 36 | | 38 | | 46 | | | 16 | | 16 | |
| FrecciArgento | | | | | 1 | 4,15 | | | | | | | |
| FrecciaBianca | 1 | 6,4 | 2 | 6,4 | 1 | 6,4 | | | | | | | |
| IntercityNight | | | | | 2 | 7,3 | 2 | 7,55 | | | | | |
| Intercity | 5 | 6,4 | 4 | 6,4 | 3 | 6,4 | 2 | 6,4 | | | | | |
| Espresso | 3 | 7,1 | | 7,1 | | | | | | | | | |
| <i>other services</i> | 9 | | 6 | | 7 | | 4 | | | 0 | | 0 | |
| Total | 39 | | 42 | | 45 | | 50 | | | 16 | | 16 | |
| ROME-TURIN | | | | | | | | | | | | | |
| FrecciaRossa 1000 (less stops) | | | | | | | 6 | 4,05 | | | | | |
| FrecciaRossa 1000 | | | | | | | 6 | 4,3 | | | | | |
| FrecciaRossa (less stops) | 6 | 4,2 | 10 | 4,2 | 8 | 4,05 | | | Italo (less stops) | 3 | 4,1 | | |
| FrecciaRossa | | | | | 6 | 4,3 | 3 | 4,3 | Italo | 2 | 4,17 | 6 | 4,4 |
| Total HSR | 6 | | 10 | | 14 | | 15 | | | 5 | | 6 | |
| FrecciaBianca | | | | | 1 | 6,45 | | | | | | | |
| Intercity | 3 | 7,1 | 2 | 7,1 | 1 | 7,15 | | | | | | | |
| IntercityNight | | | | | 1 | 10,04 | 2 | | | | | | |
| Espresso | 4 | 8 | 1 | 8 | | | | | | | | | |
| <i>other services</i> | 7 | | 3 | | 3 | | 2 | | | 0 | | 0 | |
| Total | 13 | | 13 | | 17 | | 17 | | | 5 | | 6 | |
| ROME-VENICE | | | | | | | | | | | | | |
| FrecciaRossa (less stops) | | | | | | | 1 | 3,1 | | | | | |
| FrecciaRossa | | | | | | | 9 | 3,45 | Italo | 5 | 3,35 | 4 | 3,45 |
| Total HSR | | | | | | | 10 | | | 5 | | 4 | |
| FrecciArgento | 13 | 3,5 | 18 | 3,5 | 17 | 3,45 | 9 | 3,45 | | | | | |
| Intercity | | | | | 2 | 6,05 | 2 | 5,4 | | | | | |
| <i>other services</i> | 13 | | 18 | | 19 | | 11 | | | 0 | | 0 | |
| Total | 13 | | 18 | | 19 | | 21 | | | 5 | | 4 | |

NTV entered the market with 26 connections whereas Trenitalia had, on the same routes 81 connections of which 52 HS (65,20%)

Source:Source: Bergantino et al. 2015; Bergantino 2016
 Authors' elaboration on operators' timetables
 *in 2016, 13 services are FrecciaRossa1000 nostop.
 **in 2016, 18 services are FrecciaRossa1000.
 There are no differences in time but the FrecciaRossa1000 are new and the base tariff is 6 euro higher (35 instead of 29 euro)

Rail service provision.

| | Trenitalia | | | | | | | | NTV | | | | |
|--------------------------------|--------------|----------|--------------|----------|--------------|----------|--------------|----------|--------------------|-----------|--------------|-----------|------|
| | 2009/2010 | | 2011/2012 | | 2013 | | 2016 | | 2013 | | 2016 | | |
| | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | |
| ROME-MILAN | | | | | | | | | | | | | |
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| IntercityNight | | | | | 2 | 7,3 | 2 | 7,55 | | | | | |
| Intercity | 5 | 6,4 | 4 | 6,4 | 3 | 6,4 | 2 | 6,4 | | | | | |
| Espresso | 3 | 7,1 | | 7,1 | | | | | | | | | |
| other services | 0 | | 6 | | 7 | | 4 | | | 0 | | 0 | |
| Total | 39 | | | | 45 | | 50 | | | 16 | | 16 | |
| ROME-TURIN | | | | | | | | | | | | | |
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| FrecciaRossa | | | | | 6 | 4,3 | 3 | 4,3 | Italo | 2 | 4,17 | 6 | 4,4 |
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| Intercity | 3 | 7,1 | 2 | 7,1 | 1 | 7,15 | | | | | | | |
| IntercityNight | | | | | 1 | 10,04 | 2 | | | | | | |
| Espresso | 4 | 8 | 1 | 8 | | | | | | | | | |
| other services | 7 | | 3 | | 3 | | 2 | | | 0 | | 0 | |
| Total | 13 | | 13 | | 17 | | 17 | | | 5 | | 6 | |
| ROME-VENICE | | | | | | | | | | | | | |
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| FrecciaRossa | | | | | | | 9 | 3,45 | Italo | 5 | 3,35 | 4 | 3,45 |
| Total HSR | | | | | | | 10 | | | 5 | | 4 | |
| FrecciaArgento | 13 | 3,5 | 18 | 3,5 | 17 | 3,45 | 9 | 3,45 | | | | | |
| Intercity | | | | | 2 | 6,05 | 2 | 5,4 | | | | | |
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NTV entered the market with 26 connections whereas Trenitalia had, on the same routes 81 connections of which 52 HS (65,20%)

Overall

- The supply on the RM-MI route increased from 39 to 61 (45+16) services (+60%) over the period between 2010-2013 and to 66 in 2016 (+69%).

Source: Bergantino et al. 2015; Bergantino 2016

Rail service provision.

| | Trenitalia | | | | | | | | NTV | | | | |
|--------------------------------|--------------|----------|--------------|----------|--------------|----------|--------------|----------|--------------------|-----------|--------------|-----------|------|
| | 2009/2010 | | 2011/2012 | | 2013 | | 2016 | | 2013 | | 2016 | | |
| | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | Services (n) | Time (h) | |
| ROME-MILAN | | | | | | | | | | | | | |
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| Total HSR | 30 | | 36 | | 38 | | 46 | | | 16 | | 16 | |
| FrecciArgento | | | | | 1 | 4,15 | | | | | | | |
| FrecciaBianca | 1 | 6,4 | 2 | 6,4 | 1 | 6,4 | | | | | | | |
| IntercityNight | | | | | 2 | 7,3 | 2 | 7,55 | | | | | |
| Intercity | 5 | 6,4 | 4 | 6,4 | 3 | 6,4 | 2 | 6,4 | | | | | |
| Espresso | 3 | 7,1 | | 7,1 | | | | | | | | | |
| <i>other services</i> | 9 | | 6 | | 7 | | 4 | | | 0 | | 0 | |
| Total | 39 | | 42 | | 45 | | 50 | | | 16 | | 16 | |
| ROME-TURIN | | | | | | | | | | | | | |
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| FrecciaRossa 1000 | | | | | | | 6 | 4,3 | | | | | |
| FrecciaRossa (less stops) | 6 | 4,2 | 10 | 4,2 | 8 | 4,05 | | | Italo (less stops) | 3 | 4,1 | | |
| FrecciaRossa | | | | | 6 | 4,3 | 3 | 4,3 | Italo | 2 | 4,17 | 6 | 4,4 |
| Total HSR | 6 | | 10 | | 14 | | 15 | | | 5 | | 6 | |
| FrecciaBianca | | | | | 1 | 6,45 | | | | | | | |
| Intercity | 3 | 7,1 | 2 | 7,1 | 1 | 7,15 | | | | | | | |
| IntercityNight | | | | | 1 | 10,04 | 2 | | | | | | |
| Espresso | 4 | 8 | 1 | 8 | | | | | | | | | |
| <i>other services</i> | 7 | | 3 | | 3 | | 2 | | | 0 | | 0 | |
| Total | 13 | | 13 | | 17 | | 17 | | | 5 | | 6 | |
| ROME-VENICE | | | | | | | | | | | | | |
| FrecciaRossa (less stops) | | | | | | | 1 | 3,1 | | | | | |
| FrecciaRossa | | | | | | | 9 | 3,45 | Italo | 5 | 3,35 | 4 | 3,45 |
| Total HSR | | | | | | | 10 | | | 5 | | 4 | |
| FrecciaArgento | 13 | 3,5 | 18 | 3,5 | 17 | 3,45 | 9 | 3,45 | | | | | |
| Intercity | | | | | 2 | 6,05 | 2 | 5,4 | | | | | |
| <i>other services</i> | 13 | | 18 | | 19 | | 11 | | | 0 | | 0 | |
| Total | 13 | | 18 | | 19 | | 21 | | | 5 | | 4 | |

+6

NTV entered the market with 26 connections whereas Trenitalia had, on the same routes 81 connections of which 52 HS (65,20%)

Overall

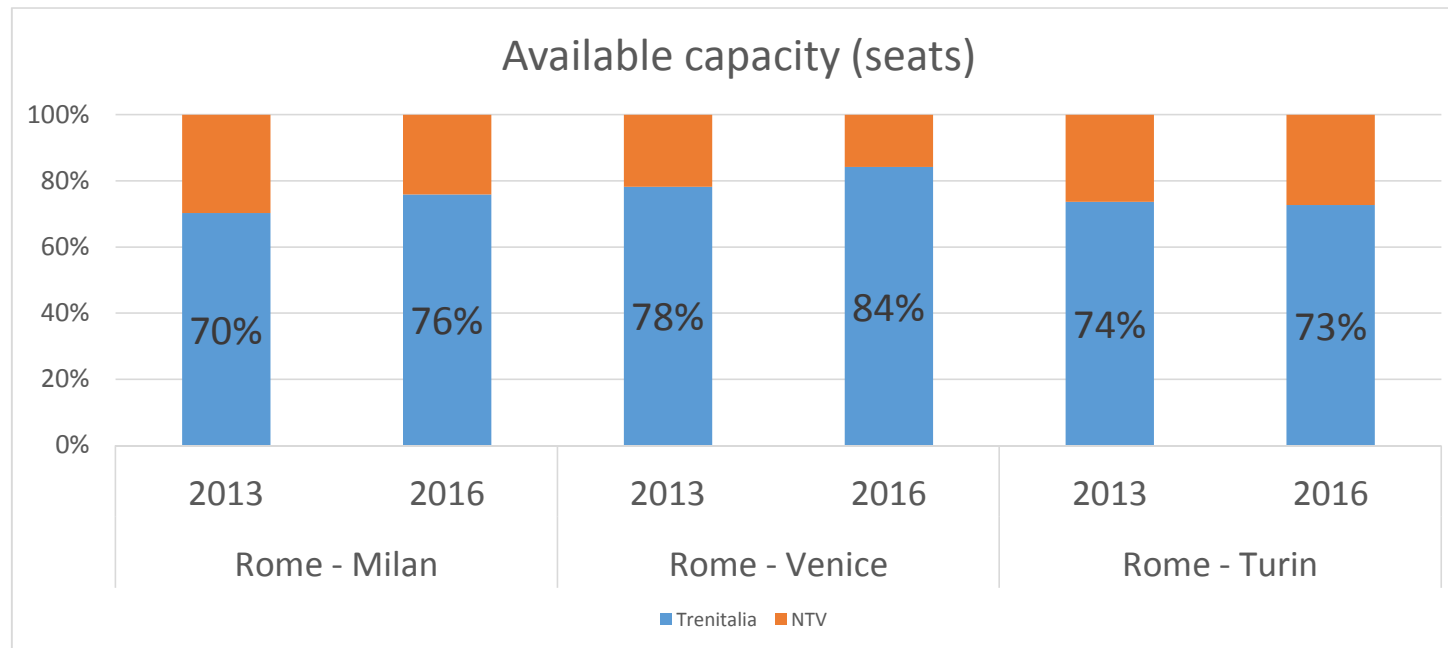
- The supply on the RM-MI route increased from 39 to 61 (45+16) services (+60%) over the period between 2010-2013 and to 66 in 2016 (+69%).
- Specifically, the growth rate of connections reached its peak in 2011/2012 (+6) just before the entry of NTV.

Source: Bergantino et al. 2015; Bergantino 2016

The effect of Open Access: Supply (5)

| | 2009 | 2013 | 2016 | variation 2013-2016 | variation 2009-2016 |
|--------------|--------|--------|--------|---------------------|---------------------|
| RM-MI | 17.220 | 22.244 | 22.777 | 2% | 32% |
| RM-VE | 5.616 | 7.344 | 9.628 | 31% | 71% |
| MI-TO | 3.444 | 8.036 | 7.206 | -10% | 109% |

Largest growth between pre and post entry



The effect of Open Access: Supply (6)

- To summaries:
 - The main routes experienced a **change in the structure** of supply:
 - The **number of HS connections grew by 26.7%** over the period 2009-2013 (from 30 daily connections in 2009 to 38 in 2013) and by **53% over the period 2009 to 2016** (with a total of 45 daily connections);
 - Instead, the **number of *conventional rail services* fall by 22%** (from 9 daily connections in 2009 to 7 in 2013) by 44% to only 4 in 2016 → ***substitution effect* (create demand for HS)!**
 - It seems that Trenitalia implemented an ***entry-deterrence strategy by increasing its supply*** (as Alitalia did for the airline industry), with the purpose to ***pre-empt the rival about the allocation of slots***.

The effect of Open Access: Quality

Investments in quality differentiation

- Services as free Wi-Fi, the on-board entertainment and working environment improved (Desmaris 2016)
- NTV started collaboration with Eataly for “Italobox”, with 8 different types of menu.
- In 2015 Trenitalia concluded the restyling of the “Bistrò coaches” over all Frecciarossa.
- Trenitalia started introducing new rolling stock (Frecciarossa 1000) able to run up to 360km/h.
- In 2016 both NTV (Italobus) and Trenitalia (FrecciaLink) started offering inter-modal solutions (bus+HSR) to extend their network (e.g. Matera, Potenza, Perugia)
- Car rental services in main cities (car-sharing)

Overall quality competition arising from (Cascetta and Coppola 2014):

- schedules and frequency,
- services in the stations of origin and destination and intermediate stops;
- differentiation of tariff levels and quantity packages;
- level of comfort and other on-board services.

The effect of Open Access: Inter-modal competition

- HS effects:
 - HS **exerts competitive pressures on other alternatives** (Bergantino and Capozza 2015).
 - Empirical evidence shows **downward pressure on airline fares**.
 - The **presence of an HS service in the same timeslot of the flight** (i.e. the presence of direct competition of HSR services w.r.t. air connections) has the following effects (Bergantino et al. 2015):
 - **15.5% reduction** of fares on the Rome Fiumicino–Milan Linate route (13,26 euro average saving per consumer);
 - **29% reduction** on the connection Rome Fiumicino–Milan Malpensa (9,90 euro average saving per consumer).
- It is also shown that **travel time directly affects airline pricing strategies**. On average, higher rail travel time increases airline fares, **HS services lowers them** (Capozza, 2016)

The effect of Open Access: Financial Situation

| Economic Performances | | | | | | |
|---|--------------------|---------|---------|---------|---------|---------|
| Economics Highlights (in million of Eur) | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| | <i>Trenitalia*</i> | | | | | |
| Operating Revenues | 5.707,8 | 5.708,0 | 5.498,0 | 5.497,8 | 5.576,7 | 5.542,3 |
| Operating Costs | 4.458,4 | 4.317,0 | 4.147,8 | 4.112,5 | 4.120,9 | 4.114,9 |
| | <i>NTV</i> | | | | | |
| Operating Revenues | 4,5 | 24,7 | 102,9 | 249,6 | 270 | 308 |
| Operating Costs** | 32,2 | 66,2 | 240,1 | 327,1 | 320,3 | 306,2 |

* Referred to all segments (market and not-market)

** Referred to external costs, labour costs and depreciation and reserves

Source: author's own elaboration using Trenitalia/NTV Financial Statements and Desmaris (2016)

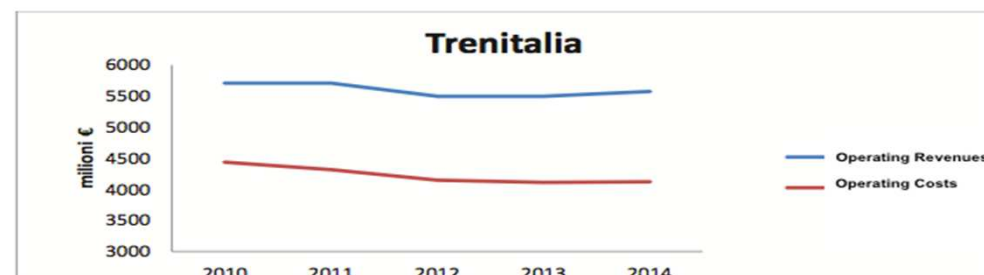


Figura 64. Andamento ricavi e costi operativi Trenitalia: Fonte: Bilanci Trenitalia, elaborazione ART

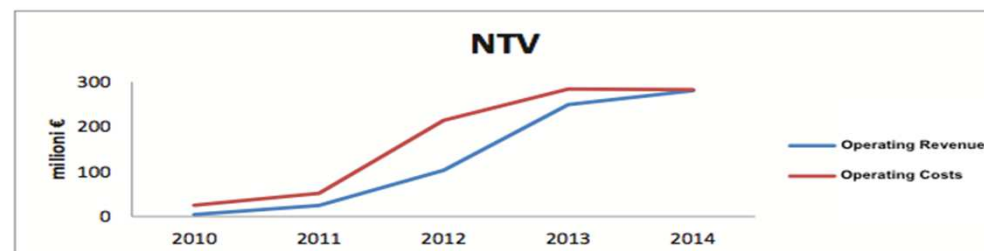


Figura 65. Andamento ricavi e costi operativi NTV: Fonte: Bilanci NTV, elaborazione ART

New challenges....liberalization of bus services and inter-modal competition

- Liberalization process of Italian long-distances bus market (connecting more than 2 regions);
- In January 2014, full transition **from exclusive concessions to non-exclusive authorisations**;
- This translated in **overall increase in the number of connections** (+33%) and rides (+38%), (Beria et al., (2015)),
 - This lead to larger firms to increase supply whereas some smaller companies were either forced to close some services or extend them.
 - The increase in supply mainly affected Calabria, Basilicata, Adriatic coast and North.
- In 2016, the German *Flixbus* bought Megabus
- Over the Milan-Rome route, intense inter-intra modal competition (Bergantino, 2016):
 - Baltour Srl. offers 9 rides with a price ranging from 16 to 33 euro according to time of departure
 - Flixbus offers 11 rides ranging from 9 to 49.90 euro according to day of booking and time of departure

Liberalization of bus services and inter-modal competition: some data

| Long Distance Bus service and HSR competition | | | | |
|---|-----------|----------------|----------------|--------------------|
| | | Average Price | | |
| | n. rides | Day after | After 30 days | After 40 days |
| <i>Bus company</i> | | | | |
| Baltour | 9 | € 23.44 | € 15.33 | € 16.33 |
| 1 change | 6 | € 23.00 | € 15.00 | € 16.00 |
| No change | 3 | € 27.00 | € 16.00 | € 19.00 |
| After 21.00 | 1 | € 33.00 | € 18.00 | € 27.00 |
| Flixbus* | 11 | € 23.63 | € 23.64 | € 15.68 |
| After 21.00 | 2 | € 41.40 | € 32.90 | € 29.40 |
| <i>HSR rivals</i> | | | | |
| Frecciarossa | 39 | € 89.92 | € 55.28 | € 44.53 (33 rides) |
| Italo | 20 | € 72.24 | € 40.90 | € 41.61 |
| Analysis conducted on the 9th of November 2016 using the lowest fare (without special discount) | | | | |
| * Only No change | | | | |

Open Access: Regulatory issues (1)

Before 2013 (European Directive 2001/14):

- URSF (Office for Rail Services Regulation) with roles of: monitoring competition and degree of contestability; resolving disputes, prescriptions.

The Advent of the ART (July 2013)

- In 2011, D.L. 201/2011 established the ART;
- In 2013 the ART was set-up:
 - Fully independent board, responsible only to the Parliament.
- In 2014, the ART became fully operating;



Open Access: Regulatory issues (2)

According to the D.L 201/2011, relative to the «on market» rail network, the ART :

- Guarantees **fair and non-discriminatory access** to rail infrastructures through methodologies **incentivizing competition, efficiency and cost reduction** for users, firms and consumers;
- Defines the **criteria for the determination of the access charge**, for the allocation of routes and capacity as well as monitors its right functioning;
- After consistent monitoring, **assesses the efficiency of the different degrees of unbundling between the Infrastructure Manager and the Rail Operator**, taking into account the experiences in other EU member states as well as the needs of commuters.

Open Access: Regulatory issues (3)

- The advent of the ART substantially changed Italian regulatory framework moving **from administrative and politically-mediated decisions toward a system based on rules and incentive mechanisms;**
- This gives more certainty on the functioning of the market;

Discriminatory behaviours?

- **Controversies (post-NTV)**

- In 2013 the Antitrust Authority started an investigation following a claiming from NTV about **dumping and subsidization**.
 - FSI was **declared not guilty** but had to meet some requirements for guarantee a fair competition (Bergantino et al. 2015)
- In 2014, NTV also **disputed measures concerning fair and nondiscriminatory management of the spaces (ART 2016)** as well as the **criteria for determining the access charge contained in Decisions n. 70-76/2014**
 - Specifically, the inclusion of the financial charges for long-term costs related to investments in progress or already completed for the network development, as to the part not covered by Government funding.

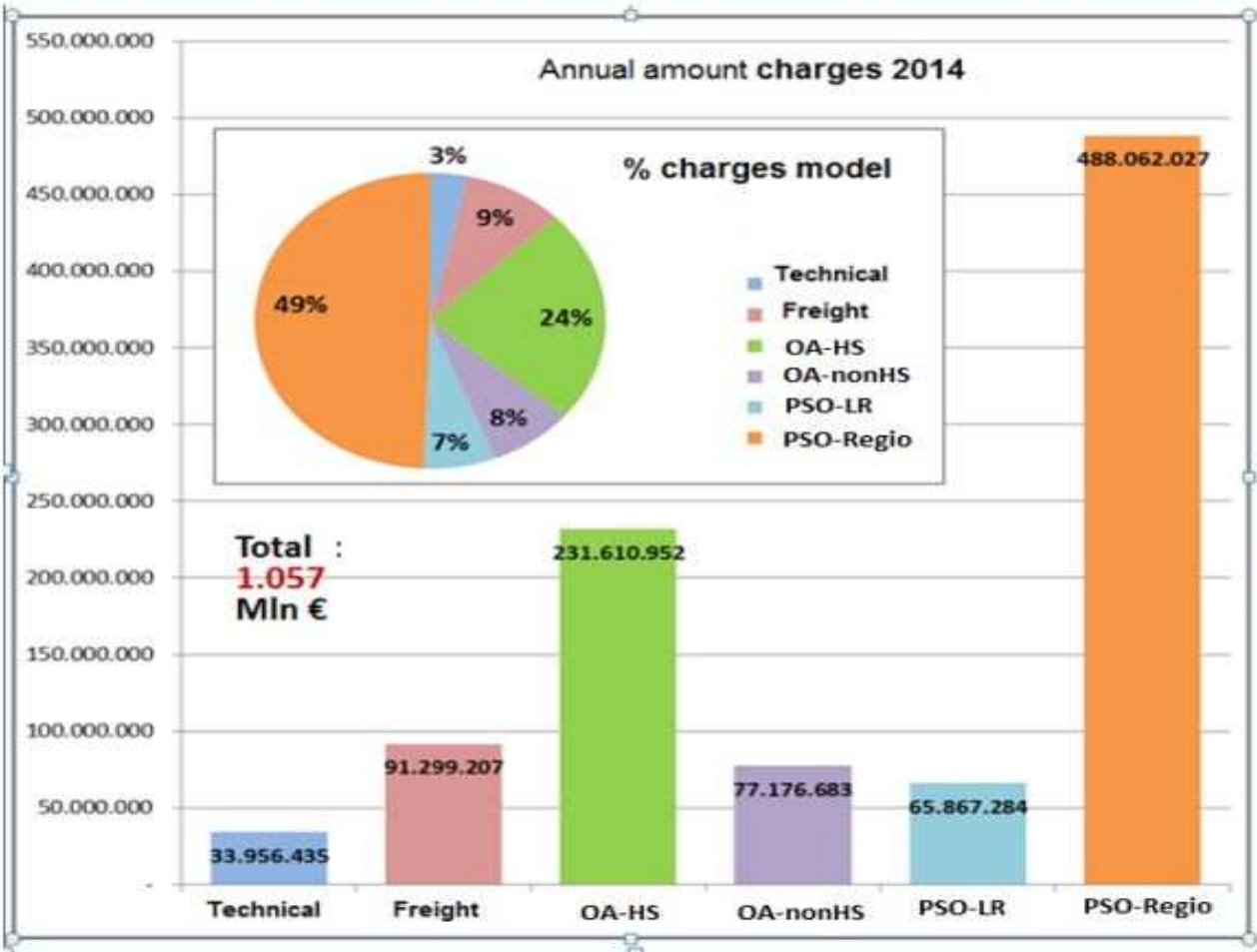
- **Infringement proceedings (ART 2016)** relate to

- conditions for access to facilities and related services;
- allocation of advertising space, information desks, areas for automated customer services;
- criteria applicable to the contracts between RUs and station manager relating to the identification of Service Level Agreements (SLA), cost-oriented charges, multi-year term.

Access Charge: Before the ART

- Before the advent of the ART, access charges were determined via **administrative decisions**:
 - The high-speed lines toll was initially fixed at 12.81 €/km
- **Reduction by 30% of access charge**
 - First, the Ministry for Transport reduced the HSR toll by 15%
 - Then, in 2014, the Authority reduced the access charge to 8.2 €/km
- **Economic consequences**:
 - 10 million of savings for NTV; 33 for Trenitalia (ART 2016)
 - Substantial pro-competitive help when compared to the 37 million of losses in 2014 for NTV (Desmaris 2016) .
- In 2015, the ART started working for new criteria overcoming past procedures.

Market dimension: traffic revenues



Technical
Empty runs
Test Trains



Freight



OA-HS
Open Access
High Speed



OA-nonHS
Open Access
Traditional



PSO-LR
Public Service
Long distance



PSO-Regio
Public Service
Regional

ART: The new Access Charge

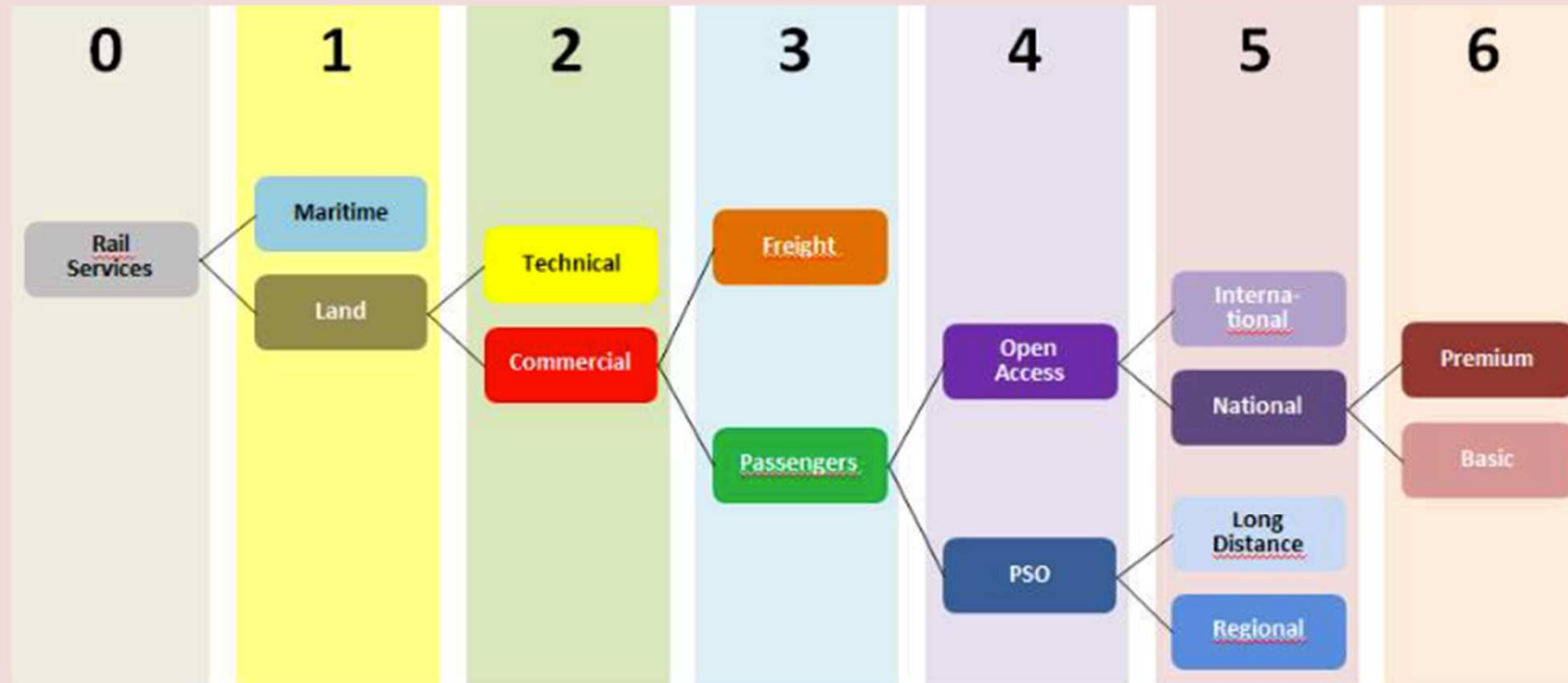


The new system according to “Recast Directive” and D.lgs 112/2015

- In December 2014, the ART launched a “Call for Inputs” to acquire useful preliminary information, comments and considerations from stakeholders.
- In 2015, the ART (**Decision n. 96**) defined the guidelines and criteria for the determination of the access charge by the Infrastructure Manager (RFI)
- The access charge is now based on “**relevant and efficient costs**”.
- **The new system ensures:**
 - Greater flexibility for the IM, managerially independent;
 - Modularity based on the service, geography, capacity, typology of the network;
 - Only variable components (e.g. euro per train/km);
 - Access charges not based on the HSR classification but on “advanced service level” (travel speed of at least 200 km/h).
 - Medium-Long run perspective for the determination of the Access Charge
 - e.g. the ART is now reviewing the plan for the access charge 2016-2021 proposed by the IM (RFI)

Measure 24 Market segments

Taking into account the pairs proposed by Directive 2012/34/EU and the indications resulting from the stakeholders' consultation, the Authority sets out, for the **Minimum Access Package**, the following **basic structure of rail services**:



The Access Charge is differentiated across services

The new Access Charge - Complaints

- Recently, NTV appealed against the criteria defined by the ART (Decision n. 96/2015) for the determination of the access charge as also fixed costs encountered by the IM are taken into account.
 - NTV claims that, according to European and Italian laws, only direct costs can be included and fixed costs cannot be considered as “direct”.
 - Waiting for TAR Piedmont’s decisions.

Criticisms on the new Access Charge

- Although clear criteria for the determination of the access charge, it seems that the Infrastructure Manager could “use its **discretionary margin for lowering the access charge on new routes** (motivated by geographical reasons, scarcity of capacity) **and pre-empt the rival over the allocation of these new slots** (entry-deterrence)”.
- In absence of vertical unbundling, this implies the need for the ART to crucially monitor the activity of the IM in its relationship with the RO and potential conflict of interests in the determination of the access charge.

What's next?

- Proposal for 40% to private shares (CdM n. 94. 23 November 2015).
- In May 2016 “The Council of Ministers approved privatization criteria and terms of the partial disposal of the stake held by the Ministry of Economy and Finance in the equity of Ferrovie dello Stato Italiane S.p.A.”



Governo Italiano
Presidenza del Consiglio dei Ministri

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HSR: A new market segment (1)

- 10,000 HSR commuters are estimated in Italy, which are evaluated as 30-35 million Euro revenues.
- In 2016, ART defines the rights of HS commuters, and the contractual constraints for the transport operators proposing commuters bundles.
 - The Decision refers to those bundles as “commercial services”, given that HS services do not receive any type of subsidy.
 - NTV decided not to offer those services on the whole network, but only on the Bologna-Milan and Naples-Rome routes, because they were considered unprofitable.
- However, as Trenitalia is a public owned enterprise, there is a need to evaluate this situation based not only from the profit perspective.
- According to commuters unions, HS commuting services are market services, but they also are “services of a general economic interest”, as defined by the European Union.

HSR: A new market segment (2)

However, in October, the ART established that:

- It can intervene enforcing the rights of commuters as long as rail operators start offering these commercial services;
- There is no duty for rail operators to satisfy this demand.
- ART hopes that operators will offer services so as to favour individual mobility as well as to reduce commuting time among contiguous cities.

Regulated activities

Services referred to in art. 13 of the Legislative Decree transposing Directive 2012/34/EU

MAP

Paragraph 1: Minimum Access package

- Request for capacity
- Use of capacity
- Use of infrastructure
- Control and regulation of **train** movements
- Use of electrical supply equipment
- Necessary information

Other services

Paragraph 2: Facilities and Services with right of guaranteed access

- Passengers' stations
- Freight terminals
- Marshalling
Train formation
- Light maintenance
facilities
- Other technical facilities
- Port facilities
- Relief facilities
- Refuelling facilities

Paragraph 9: Additional services



- Traction current
- Pre-heating
- Water refilling
- Control of transport of
dangerous goods
- Assistance in running
abnormal trains
- Shunting services

Paragraph 10: Ancillary services

- Telecommunication
network
- Supplementary
information
- Technical inspection
- Ticketing
- Heavy maintenance

ART: The new Access Charge

New operating leverages for RFI

| Charge Component | Component description | Charging principle | Sub component | Description sub-component e modulation | Weight Limits | Variables to be considered | |
|------------------|---|--------------------|---------------|--|--|----------------------------|--|
| A | Direct Costs | COST-BASED | A1 | MASS |  | 50% min | Classes of trainset overall mass |
| | | | A2 | SPEED | | 50% max | Classes of path traffic speed |
| | | | A3 | CONTACT WIRE | | 50% max | Classes of rolling stock |
| B | Full recovery of relevant and efficient costs of the Minimum Access Package | MARKET-BASED | B1 | DEMAND SEGMENTS |  | 50% min | Demand segmentation: Pairs |
| | | | B2 | NETWORK TYPE | | 50% max | Supply segmentation: Network macro-types |
| | | | B3 | TRAIN SLOTS | | 50% max | Supply segmentation: Train slots |
| C | Externalities | COST-BASED | C1 | SCARCITY OF CAPACITY | | n.a. | Type of network, slot and period |
| | | | C2 | ENVIRONMENTAL EFFECTS | | n.a. | Type of rolling stock |
| | | | C3 | ETCS | | n.a. | Type of network, type of rolling stock |
| | | | C4 | REGIONAL OFFSETTING | | n.a. | Territorial scope |

New discretionary margin for the Infrastructure Manager