

World Conference on Transport Research - WCTR 2016 Shanghai. 10-15 July 2016

Intercity coach liberalisation. The cases of Germany and Italy.

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Abstract

Intercity (or long-distance) coach transport has long remained a marginal mode in Western and Southern Europe. It connected mainly residual origin-destination relationships, to marginal areas without rail transport or, at best, as an ancillary mode to extend the range of rail accessibility.

However, the recent experiences of German and Italian liberalisations can represent a turning point in the redefinition of the role of this industry. In particular, Germany showed that a competitive environment could foster the sector and make it a true alternative for car and rail, especially in the low cost demand segment. In Italy, instead, the liberalisation effects are appearing more slowly, also due to the fragmentation of the sector and to the relative maturity of the historical market, but more and more pervasively.

While it is clear that a favourable legislative context and the limitedness level of entry barriers are necessary conditions for liberalisation, other elements appear to have a profound influence to explain the important differences between the two cases of Italy and Germany. The paper aims at discussing the role of two further aspects: i) the characteristics, and in particular the dimension and concentration, of the before-liberalisation market, and ii) the geography of the countries. When considering these elements, it becomes clearer why the processes ran at very different speeds north and south of the Alps and why the two markets still appear different.

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Peer-review under responsibility of WORLD CONFERENCE ON TRANSPORT RESEARCH SOCIETY.

Keywords: coach transport; Germany; Italy; market structure; liberalisation

1. Introduction

Intercity (or long-distance) coach transport has long remained a marginal mode in Western and Southern Europe, limited to residual origin-destination relationships, marginal areas without rail transport or, at best, as an ancillary mode to extend the range of rail accessibility. Moreover, the industry has long been strictly regulated (van de Velde, 2009) and, actually, constrained in its full development.

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In the last years, after the pioneering experiences of the UK in 1980 and of Sweden and Norway in the late 1990s, other European countries started liberalising their coach market. In particular, three important countries have recently opened up their formerly regulated coach markets: Germany in 2013, Italy in 2014 (gradually from 2007) and France in 2015.

Since the start of the liberalisation in Europe, very few comprehensive studies about the development of the industry have been carried out. Van de Velde (2009) provides a general overview about what is considered as “long distance coach” in European countries. The same author later overviewed the developments of the industry in the continent (Van de Velde, 2013). A continental level analysis of the state of the art and perspectives of the industry was carried out by SDG (2009), with particular foci on safety issues, terminals, driving regulations and cabotage.

More is available at the country scale. A detailed ex-post analysis of a mature deregulated market, the UK, shows clearly (White & Robbins, 2013) what are the long term changes brought by competition. Another mature market is Norway, where Aarhaug and Fearnley (2016) observed the end of the expansion of routes and of consolidation of companies, together with a small contraction in overall supply. The Norwegian case is also compared with the Swedish one in Alexanderson *et al.* (2010). Among the “recent” liberalisers, KCW (2014) provides a more detailed insight about the regulatory framework in Germany. A focus on the specific issue of dynamics and pricing is found in Strößenreuther *et al.* (2013), due to its importance in making the mode attractive. German opening is compared with the mature US market in Augustin *et al.* (2014). Finally, some preliminary analyses of the Italian coach market and of its potentialities can be found in Beria *et al.* (2013 and 2014), aimed at describing the pre-liberalisation characteristics of the supply.

In this paper, we are interested to discuss how liberalisation and market formation paths may differ across countries, due to their different conditions. In particular, we will show that a favourable legislative context is just a necessary condition for liberalisation to fully deploy its effects. To support this claim, we refer to the important and recent experiences of Germany and Italy, which fully liberalised their intercity coach markets and created an apparently similar context, where the normative framework has removed the main entry barriers. However, the two countries still show important differences in terms of market structure, network supplied and dynamics of market expansion. In addition to the normative framework, we thus stress that two further elements must be considered:

- i) the characteristics, and in particular the dimension and concentration, of the “before-liberalisation” market,
- ii) the geography of the countries.

The following of the paper is structured as follows. Firstly, the regulatory frameworks are presented, comparing the entry requirements and the other regulations still present. In particular, we will discuss the relationship of coach system with other PSOs and the possible problems arising from that. Section 3 deals with the market structure and the process of concentration. It will also describe the pricing strategies used and give some figures about the demand in terms of passengers and load factors. Finally, section 4 discusses the role of geography in explaining how the two liberalisation processes developed. Section 5 concludes.

2. Regulatory framework in Germany and Italy

2.1. The liberalisation in Germany

The debate to open the German intercity coach market has been started shortly after the millennium, but it took until 2009, when the government decided to include it in the coalition contract. Finally, the new public transport law has been enacted in January 2013 and for the first time, the new legal framework allowed intercity coach services again since the ban from 1934. Before 2012, in fact, there have been some intercity services due to the division of Germany and due to grandfather rights, which resulted basically in routes from and to Berlin, operated by *BerlinLinienBus*, which was partially owned by Deutsche Bahn with 65% (100%, since 2015). But nearly any new services competing with existing public transport services (either train or coach) have been prohibited until the end of 2012.

The new legal framework allows now any intercity route, even though they compete with existing train or coach services. Coach companies are allowed to set up new bus stops wherever they like, as long as their services do not disturb local public transport and as long as they keep public transport safety. Local public transport should be secured by the requirements not to sell tickets between stops within 50 km distance or between stops with parallel train services

up to one hour journey time. Furthermore, there is no public funding of intercity coach service, and they operate on commercial basis in contrast to local public transport services, which are subsidised.

2.2. *The liberalisation in Italy*

Long distance coach transport in Italy is referred to by the law as “*interregional road services of State competence*”, to distinguish it from local and regional bus transport which, at present, is in responsibility of regional governments. The *Legislative Decree 285/2005* defines them as “*passenger services [...] operated on paths linking more than two regions*”. The specification “more than two regions” means that all those services linking only two regions, even though having long distance characteristics (many hundreds of kilometres), remain under the responsibility of the involved regions and thus differently regulated (public tendering or, more often, direct awarding).

The sector has been normatively liberalised since 2007. Services, originally regulated by exclusive concessions for origin-destination pairs, have gradually switched during a transitional period ended in 31 December 2013, towards non-exclusive authorisations. Since 2014, the regime is totally based on non-exclusive authorisations.

The change was radical. Exclusive concessions for a line or a service, whose characteristics were fixed in detail and could be changed only after a quite long consultation with many stakeholders, guaranteed that other companies could not operate competing services in a range of 30 kilometres on the same traffic relations. The new authorisations regime simply allows services, after the release of a go-ahead, without any obligation, but also without any exclusivity.

2.3. *Entry and exit requirements*

One of the main elements to assess the actual impact of a regulatory regime is the easiness of entry and also exit from the market and from specific routes. According to Baumol’s contestability theory (Baumol, 1982) in contestable markets “entry is absolutely free, and exit is absolutely costless”. In literature, the intercity coach industry is seen as a market without – or at least with very low – barriers of entry and exit (Schiefelbusch, 2013). While relatively to other transport modes this is surely true, some barriers may remain in place.

In Table 1, we compare some characteristics of the German and Italian markets in terms of entry requirements and other regulations. According to the regulatory setting in Germany, costs for market entry and exit are actually relatively low. Services are allowed to operate in parallel, even next to rail services with only little restrictions. As there do not exist any subsidies for intercity coach services, every bus company needs to operate on commercial basis. Even though the costs for new busses have to be financed completely by the operator, in case an operator is forced to leave the market, those vehicles can be easily sold on secondary markets.

Differently from the long distance rail sector, also in Italy no subsidies have existed for coach services, even before the liberalisation process. The fact that the market already developed on a commercial basis, probably made its liberalisation less problematic and dynamic. The remaining barriers actually deal mainly with bureaucratic uncertainties. In fact, the new regime, despite being open to newcomers and definitely more flexible than before, still foresee a number of bureaucratic authorisation processes. In particular, the route path must be approved also by involved local authorities and stops must be chosen among the pre-authorised ones or authorised individually after a safety check. Although this process is formally similar to the German one, coach operators complain that the process is, to date, particularly complex.

Table 1. Entry requirements and regulation of the coach markets in Germany and Italy

| | Germany | Italy |
|--|--|--|
| Creation of a new company | Allowed | Allowed |
| Merger among companies | Allowed, subject to antitrust regulations, recent example is the merger of <i>MeinFernbus</i> and <i>Flixbus</i> in January 2015 | Allowed, subject to antitrust regulations |
| Franchising | Allowed | Allowed |
| Establishment of a new route | Allowed as long as stops are above 50km and no (subsidised) regional rail service with one hour journey time exists | Allowed, if among three or more regions. Subject to concession (exclusive or not, depends on local regulations) if between two regions (or inside one). ^a |
| Direct competition on an existing route | Allowed | |
| Competences of authorising authority, approving concessions | Authorising authorities are neutral and usually not competent for the planning of (local) public transport | Authorising authority (the Ministry of Transport) is neutral, but it is the planner of subsidised long distance trains |
| Opening of a new stop/station | Allowed, municipalities have no legal framework to force companies to specific stops, although bus companies have an interest to go for coach stations in cities, when existing. Bus operators are allowed to establish stops wherever they like as long as local public transport is not interfered and traffic safety is secured | Subject to authorisation |
| Access to existing stops/stations | Not regulated, depends on owner of the station and capacities | Guaranteed, but some stations are owned or conceded to incumbent companies. |
| Fare regulation | Not regulated | Not regulated ^a |
| Hiring / renting of coaches | Allowed | Allowed |
| Tickets and timetables available on platforms of third parties | Used by nearly all companies | Used by some companies, but many remain uncomfortable with this option |

a: see the section 2.4 for specifications.

2.4. Relationship with PSOs

In specific cases, new services operated in the market might subtract traffic from those (usually planned) operated under Public Service Obligations (PSOs, being bus or rail services), with or without subsidies. In general, this situation may arise conflicts, especially if not regulated.

In Germany, there is no verified knowledge about any interferences with planned local services, yet. Public authorities are not responsible for intercity coach services as they are working on commercial basis and the regulatory framework is straight in defining long distance coaches and local public transport. Nevertheless, there do exist uncertainties in grey areas. In the press, (regional) rail companies complain about less passengers due to new competing coach services. As *Deutsche Bahn* has reduced its long distance network already long before the coach liberalisation, public transport authorities tendered more and more regional rail services with extended lengths to compensate the cuts. That is why those services, usually longer than 50 km and above one hour journey time from start to end (due to many stops along the route), have now to compete with intercity coach services in some regions. There do not exist any general studies about passenger movements from train to coach. Some train operators argue to have lost many passengers to coach services and Krämer and Rieger (2015) conclude that two thirds of bus passengers would have used the train if the bus service would have not existed. However, *Deutsche Bahn's* decrease of passengers (2.5 million passengers less between 2012 and 2014) is likely to depend also from many other (partially external)

effects such as decreasing supply, labour strikes and flood damages (Naumann & Augustin, forthcoming) and only partially from coach competition.

In Italy, instead, the relationship between long-distance liberalised services and local regulated (and subsidised) ones remains quite unsolved and thus potentially problematic. Although inside the coach market this problem has not been directly faced yet, a former experience in rail transport suggests that contracts under PSO might grant exclusivity and protect the operator from competition, under the principle that the “balance sheet equilibrium” (not better defined) must not be compromised. This might take the form of a lower bound to fares of liberalised service,¹ in order not to be cheaper than subsidised ones, or of a ban to operate certain relations. The case is that of *Arenaways*, a new founded rail company which started operating an intercity service between Milan and Turin (the capitals of two confining regions) in 2009. Before starting operations, it was forbidden from making intermediate stops because this would have compromised the revenues of Trenitalia, operating regional trains under PSO contract. This ban harmed in the cradle the financial sustainability of the enterprise, which rapidly went bankrupt (Boitani & Ramella, 2012).

While a successive verdict has better clarified the context,² the same principle might theoretically be used to stop the coach service of a newcomer on a specific origin-destination pair. However, the incumbent must demonstrate that the impact of the competitor is such to jeopardise the overall financial sustainability of the concession and not just to reduce its revenues. While the substance of this eventuality appears as marginal or applicable to punctual and small concessions only, one must consider that it could be used strategically until the legal framework is definitively established.

3. Market structure and concentration

3.1. Supplier structure

After almost three years of the German liberalisation, the market development is still in rapid progress. In 2015 timetable kilometres have increased more than seven times compared to the year 2012, which was the last year before the liberalisation. The overall supply sharply grew from around 26 million km in 2012 to more than 220 million km in 2015, supplied by more than 50 coach companies, grouped under a limited number of brands.

Since 2015 the market is starting to consolidate (mergers and market exits), especially with the merger between *Flixbus* and *MeinFernbus*, the two largest operators. By August 2015 about 420 inner German connections have been established, defining a broad and comprehensive national network (Figure 3). Now, more and more international routes are developing. Some coach operators are also developing networks for overnight services, a sector *Deutsche Bahn* has retracted, step by step. Figure 1 shows the increase in supply of German companies, from 2012 to 2015 and the market shares of coach companies in 2015, after the mergers into *Flixbus*.

¹ It must be noticed, however, that regional rail fares in Italy are much lower than in Germany (indicatively, 5€ versus 13€ for a 50 km trip, although many discounts and loyalty programs do exist in Germany).

² Decision AGCM 25 July 2012.

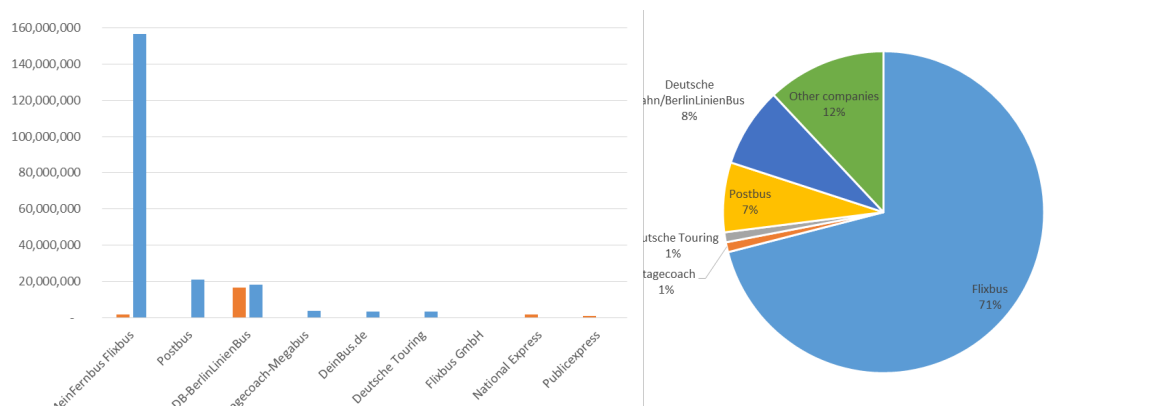


Figure 1. Intercity coach service supply in Germany, 2012 and 2015 (timetable vehicle*km; left) and market shares of coach companies in 2015 (our elaboration on KCW data).

Official aggregate supply figures are not available in Italy. Estimates suggested around 85 million km in 2012 (Beria et al., 2014), and former ones indicated similar values in 2010 (Beria et al., 2013).³ Recent estimates for 2015, after one year of liberalisation, (Beria et al., 2015) instead suggest an increase in frequencies of 38%.⁴

Figure 2 shows the variation in supply for a sample of Italian companies (totalling around 88% of the market) and the market shares of coach companies, according to a simulation based on their weekly frequencies.

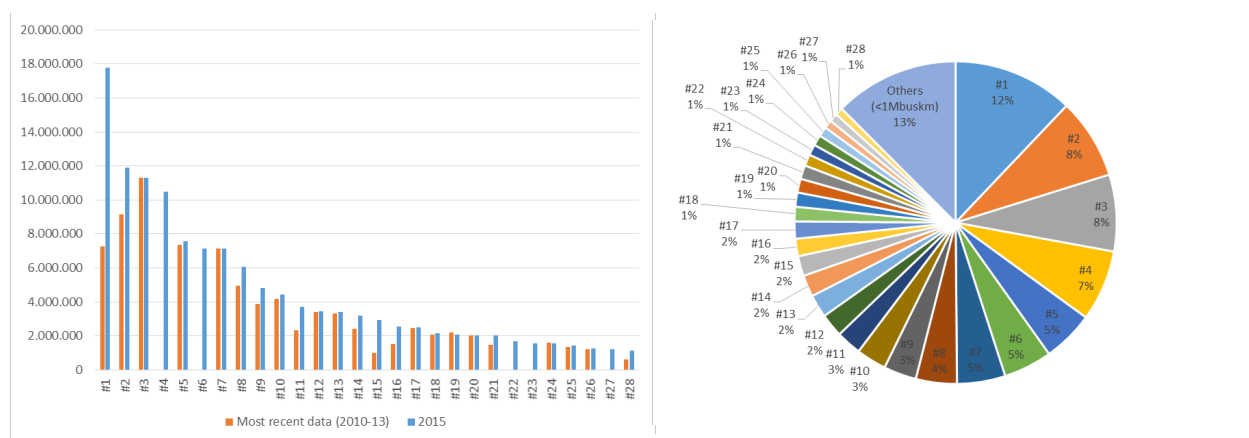


Figure 2. Intercity coach service supply in Italy, before liberalisation (2010-2013) and 2015 (left). Market shares of coach companies 2015 (right). 2015 data are derived from previous data, corrected with an estimation of new/reduced supply based on real timetables.

³ The two estimates are not completely comparable, because both were incomplete and lacking values were differently estimated.

⁴ The supply is far from being consolidated, in particular for *FlixBus*, which plans many new services.

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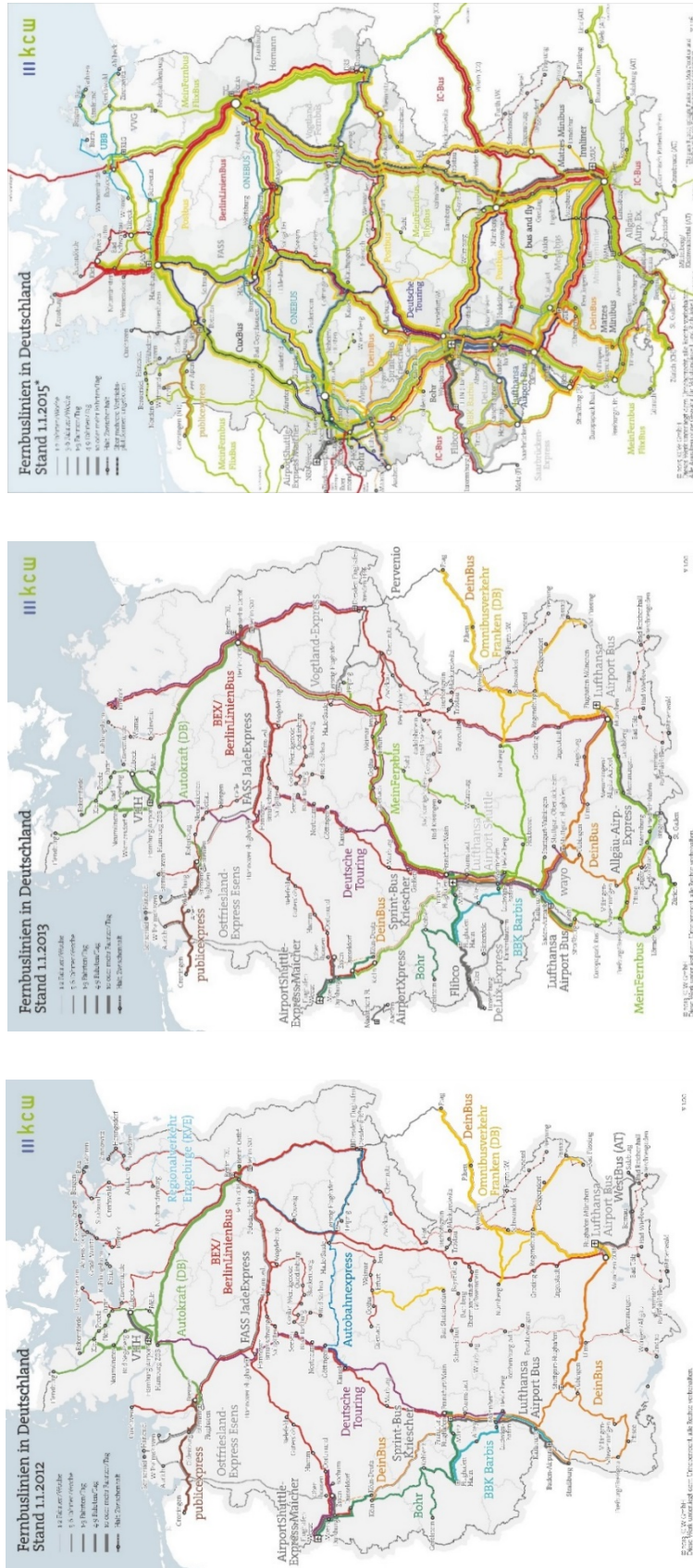


Figure 3. Growth of intercity coach network in Germany. Figures for 2012, 2013 and 2014 (KCW data).

It is interesting to analyse, despite the one-year shift of the liberalisation process, how different are the two market structures, and how differently they are evolving. To do that, in Figure 4 we compute the *Herfindahl–Hirschman Index* (HHI) for Italian and German market overall, for the available years, before and after the liberalisation. The HHI must be read together with the dimension of the overall market before and after, as summarised in Table 2.

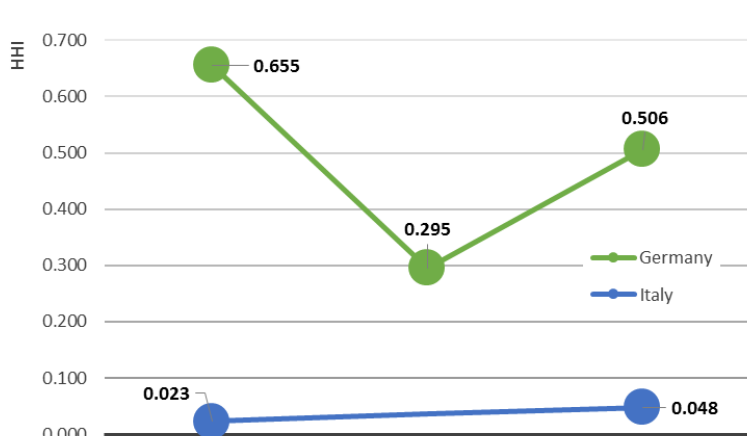


Figure 4. Trend of HHI index for Italian and German markets. Italian 2015 data are derived from 2012 data, corrected with an estimation of new/reduced supply based on real timetables (Beria et al., 2015). German companies' data cover 88% of the market only. For homogeneity's sake, we calculated the same HHI also for Italy.

Table 2. Intercity coach supply and overall concentration of the market in Germany and Italy (our elaboration on KCW data for Germany and Beria et al., 2015 for Italy).

| | Germany | | Italy (excluding seasonal services) | |
|-------------------------------------|---------------|--------------|-------------------------------------|-------------------|
| | Before (2012) | After (2015) | Before (2012) | After (2015) |
| Intercity coach supply [million km] | 26 | 220 | ~85 | ~145 (estimation) |
| Companies | <30 | >50 | | > 45 |
| Market concentration (HHI)* | High (0.655) | High (0.506) | Low (0.023) | Low (0.048) |
| Market share of the biggest company | 68% | 70% | 14% | 12% |

* The *Herfindahl–Hirschman Index* measures the concentration of a market, defined as the sum of the square of the market shares of each company. The index was calculated on a sample of biggest firms, both supplying 88% of the national markets.

Data show that the concentration of the Italian market is very low, and only slowly increasing with liberalisation. This is mainly due to the fact that both the larger incumbents have expanded their network and the newcomers have set a brand new nation-wide network, while closures and reductions have been registered only among the small players. Germany, instead, in 2012 was already much more concentrated around few players, but the total market was really small. Just after liberalisation, the concentration felt because of the entrance of many new players, many of them on niche markets, but the overall market has increased enormously. Remarkably, the entry of international players has been restrained. The most recent market entry by an international player is *Megabus*, belonging to the British *Stagecoach Group*, but only for a few routes, while *National Express* exited the market already in 2014. Already the next year, concentration rose up again because of some failures and of the big merger between *MeinFernbus* and *Flixbus* of January 2015. Numerous niche operators still exist, but their market share is marginal or they are simply under the cap of the main national brands.⁵

⁵ *Flixbus* adopts a model in which a “virtual” unique operator operates via smaller bus companies, called “bus partners”. Other players, such as *Deutsche Bahn* have a number of subcontractors.

We can thus affirm that liberalisation – especially in the faster case of Germany – tends to concentration as soon as the small players disappear or are included in the consortia. However, it must be noticed, for example, that the Italian market is much less fragmented than what the *overall HHI* tells. In fact, Italy looked more like a constellation of local monopolies than as a unique fragmented market. Historically, all local markets were rather perfectly concentrated around the concessionaire. Given that, differently from the greenfield of Germany, Italian network was already established, its structure continues and the supply today is still far from being a “national network”, but rather a combination of lines. Probably, the process of making a network overcoming the concept of single lines will proceed along with concentration around fewer commercial brands.

In conclusion, the shape of the new coach market in the two countries, despite a similar legal framework and timeline, is completely different because of different starting conditions. Italian legacy operators are historically fragmented but locally captive, resulting in a higher inertia to consolidate because maintaining local catchment areas and related revenues. German operators are instead new and operating in a nearly perfect greenfield, and this makes their demand less captive, their network more dynamically changing and the consolidation process faster and deeper. In this sense, the situation of Northern Italy, where no legacy companies used to exist, is (and will be) much more similar to the German one: a battlefield for newcomers, old and new.

3.2. Tariffs and pricing strategies

Pricing is another field in which German and Italian cases differ, due to starting conditions. Before the start of the German liberalisation the pricing strategies of the few existing bus companies were not flexible. With the start of the liberalisation especially start-ups started to implement revenue-management techniques which made the price-setting more flexible, though less transparent. Usually the pricing strategies of German intercity coach industry works similarly to the aviation industry: the later the booking, the higher the tariff. Operators decide case by case how many tickets are available with special offers and how many days a ticket needs to be booked in advance. Nevertheless, in this way bus companies receive the highest return and are able to steer load factors in the busses.

Due to the rapid expansion of the market for the new companies and their aggressive pricing strategy, overall, prices have decreased enormously since 2013. The average fare decreased to about 9 €cent/km, but special offers are available for less than 4 €cent/km, depending on the degree of competition of the route. Remarkably, that is still half the price passengers would pay on comparable routes by train.

In general, pricing strategies of historical coach companies in Italy are still quite limited. The majority of incumbent companies follow the traditional pricing strategies and apply a basic fare, depending on distance and showing limited differences across the sample (Figure 5, left). Typically, fares range from 9 €cent/km on short routes to 5 €cent/km for longer north-south routes. Short routes present higher variability because types of services are more differentiated: some are intercity high quality connections competing with train services, other are more local services among secondary destinations. All but few of these companies offer also discounted fares under fixed conditions (Figure 5, right), such as return tickets or under-25 and over-60 fixed discounts.

A limited number of incumbent companies, already before liberalisation, have recently started adopting a “low-cost strategy”, or more precisely applying advanced-purchase discounts (Figure 5, right). Usually a number of seats is offered at lower fares benefiting early purchasers. However, while active revenue-management systems seem to be implemented only limitedly in the surveyed sample of Italian companies, this figure is expected to increase.

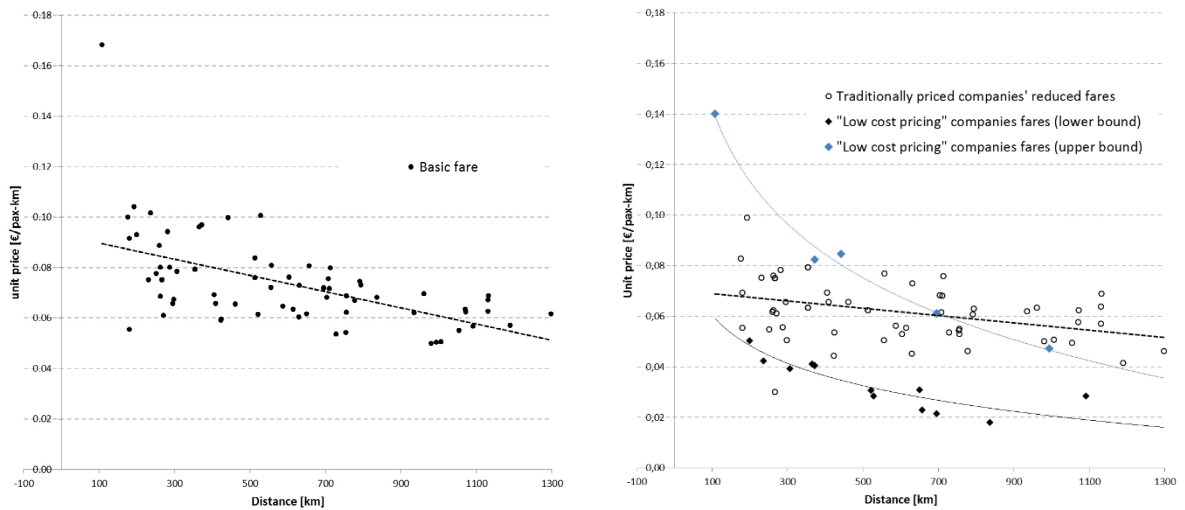


Figure 5. Fare strategies of Italian coach companies in 2013, in function of distance and fare strategy. (Left) basic undiscounted fares of the sample. (Right) the lowest fares available for companies applying conventional discounts and companies adopting advanced purchase strategies. Source: web survey October 2013.

The newcomers *Flixbus* and *Megabus* are introducing in Italy the fare strategies applied abroad. *Megabus* applies very steep advanced purchase functions, with tickets starting from 1€. *Flixbus*, apart when launching new routes, will offer the cheapest tickets at 9€ and applying dynamic revenue-management. Where the two newcomers are present, the Italian companies, if any, have rapidly adopted comparable pricing strategies, even where average prices were already low. In other words, liberalisation has not brought always a decrease in average prices (because already very low), but surely an increase in price variability and discounts.

3.3. Demand

As a sector being open to competition in the market, no detailed information on the demand and patronage do exist in both Germany and Italy.

In Germany there do exist few valid figures on demand data. According to the German Federal Statistic Office, there have been about 6.7 million passengers on national routes in 2013, which is three times more compared to 2012, and 1.5 million passengers on international routes. In 2015 already 20 million passengers have used the intercity buses. The association of German bus companies predicts about 30 million passengers until 2020. Furthermore, the Federal Statistic Office published that passengers travel about 330 km in average per trip. Any detailed figures on passengers, e.g. for routes, are kept secretly by the coach companies. Measuring the coach market against the overall long-distance market (train, coach and plane), the coach market results in about 10% modal split.

Aggregate data in Italy is even more scant. Official statistics of the Ministry of Transport (CNIT, 2014, page 48) accounts for 70,000 million of passenger kilometres on coaches (including charters) in 2013, representing the 12.6% of total mobility. We consider this figure as not reliable, because more than three times larger than the entire long distance rail demand, and especially because contradicting the figure of 3.3% of total mobility, reported in the same document (page 234) for all “extra-urban public transport”.

According to our estimations, based on typical load factors applied to the supplied services (Beria et al., 2013), the patronage of the entire coach sector amounts to 3,000 million of passenger kilometres in 2010 (excluding private

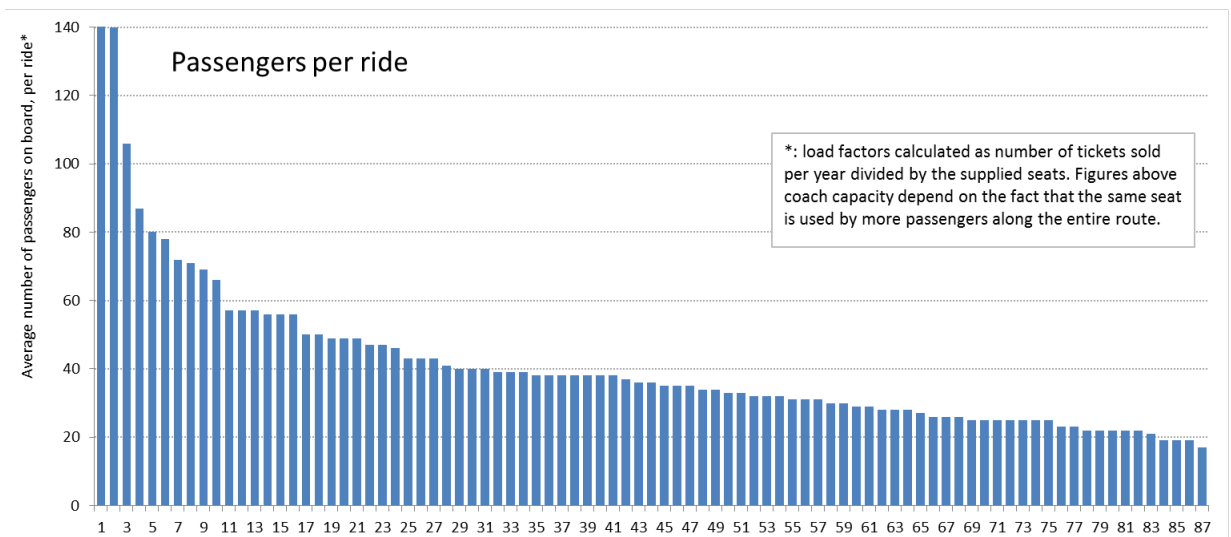
transport and charters), but this estimation could be pessimistic because based on incomplete figures.⁶ Moreover, in 2015, due to the increasing supply, a further reduction in rail services under PSO and the diffusion of yield management, the total number should have increased significantly.

Aside this aggregate and non-official data, 27 Italian companies (around 65% of the total market share of 2013) provided us information on patronage of their lines in 2012 or 2013 (Table 3). Most of the coach lines (86%) were used by less than 50,000 passengers per year; 10% count up to 100,000 passengers and just 4% more than 100,000 passengers. This clearly shows how coach transport is limited to minor connections, namely between secondary cities or between sparse origins with main cities. For a rough comparison, out of 150 domestic air routes in Italy in 2011, 112 registered more than 50,000 passengers and only 38 less (ENAC, 2012).

| Yearly patronage per line | |
|---------------------------------------|-----|
| Less than 10,000 passengers per year | 33% |
| 10,000 to 50,000 passengers per year | 53% |
| 50,000 to 100,000 passengers per year | 10% |
| More than 100,000 passengers per year | 4% |

Table 3 – Patronage data on coach lines in Italy (ANAV data, 2012).

Figure 6. Average passengers per ride, Italy, 2012-2013. Source: our elaborations on surveyed data from routes of 27 companies.



Data on load factors are reported in Figure 6. A dozen of lines have more tickets sold than coach capacity, due to multiple use of the same seat along the ride and of possible “multiple rides” supplied in peak periods. Approximately half of surveyed lines have an average, all year round, of about 40 tickets per ride, which is a good load factor. The less performing lines remain around 20 tickets per ride, which is still sufficient to commercially breakeven thanks to higher prices.

⁶ We can compare this figure with around 20,000 million of passenger-km served by long distance rail in the same year (Beria et al., 2013).

4. Coach network, geography and types of service

In the previous section, we have shown that the differences between the German and Italian coach systems reflect also the differences in the playing field at the moment of liberalisation. However, norms and productive structure tell us only part of the story. As we will show in this section, also geography matters.

4.1. Coach network and geography

Urban structure in Italy and Germany present both similarities and differences. The two countries have comparable extensions (Germany 357k km², Italy 300k km²) but Germany has a higher population (81 million versus 61 million inhabitants) and thus a slightly higher density.

In Figure 8 and

Figure 9, we represent the population of the Municipalities and of Large Urban Zones (as defined by Eurostat, 2012, in its *Urban Audit*) and the network of intercity coach services (2015 for Germany and 2013 for Italy); both countries have a multipolar structure, with many medium sized cities and some less populated areas.

However, the German structure looks more densified, so that urban areas are bigger and closer than in Italy; on the other side, Italy has a rather linear structure, along three main corridors connecting almost all the major cities (North-West to North-East and two major North to South axis).

The figure depicts how the two coach networks developed following different approaches and adapting to the urban and transport structures of the two countries.

The German coach network established, in the first step, basically according to the network of the German “Autobahn”, which connects all the major cities and metropolitan areas. In the second phase more and more routes from large cities to smaller regions developed. These routes between large cities, being established in the first phase, are subject to high competition between different service suppliers, while the niche routes have often only commercial potential for one company. In contrast to the “first” developed network, the niche routes have set up where train connections are missing or the train requires more than one change. Consequently, the intercity coach industry now covers the majority of the country, with more services where absolute trip numbers are higher.

The Italian coach network was instead, to a certain extent, the negative picture of the distribution of population up to 2014: barely present in the highly populated North (the only lines at that time were all long distance routes coming from the South) and well spread in the South. In other words, the existing coach network serves low density areas, especially in the South, and connects them with the main cities, first of all Rome and Naples, also with far from negligible frequencies.

This peculiar structure of the network has a clear historical explanation also in the relationship with other transport systems. Before 2007, the coach system was, de facto, limited to areas where rail was not effective. This has limited the development of lines within the North, as no concessions were given to existing companies, and developed extensively the system in the Centre (connections to Rome across the Appennine mountains) and in the South, where rail was non existing or, most likely, slow and not effective. During the years, Southern enterprises strengthened and expanded, but they never left their “home ports”, setting there the bases and at least one extremity of all lines. So, it is not only possible to reach Rome from almost every village of the South, but also the main centres of the North, such as Milan and Turin, which after World War II were the destination of internal migration movements. At the same

time, cities like Venice or Padua, today with a very active economy and migration flows, remained out of this network, simply because no lines were needed in those years when the region was a place of emigration rather immigration. At the same time, in the North, almost no long-distance coach company existed before the entry of *Megabus* and *Flixbus*.

4.2. Types of service

The analysis of the services in the two countries suggests a possible typing of two – somehow opposite – models and networks (Figure 7):

- “*Intercity*” services, calling at major towns and cities. Stops are usually somehow evenly distributed along the whole route and frequencies are usually more than daily;
- “*Villages to City*” services, connecting low-density areas to major cities. These services provide high geographical coverage calling at many stops in small villages (often made using many different feeder services towards a hub, in a tree chart) and then travelling non-stop (usually on the motorway) to the final major destination. Frequencies are usually low, weekly services are common (e.g., leaving the city on Friday and going back on Sundays) or even only seasonal services.

The new German network of services mostly developed based on the first type, competing with intercity rail services. The historical services in Italy, instead, mostly adopted the second type. In recent years, new services are more and more adopting the “intercity model”, in particular those operated by the foreigner new entrants *Megabus* and *Flixbus*, which in fact are based in Northern Italy.

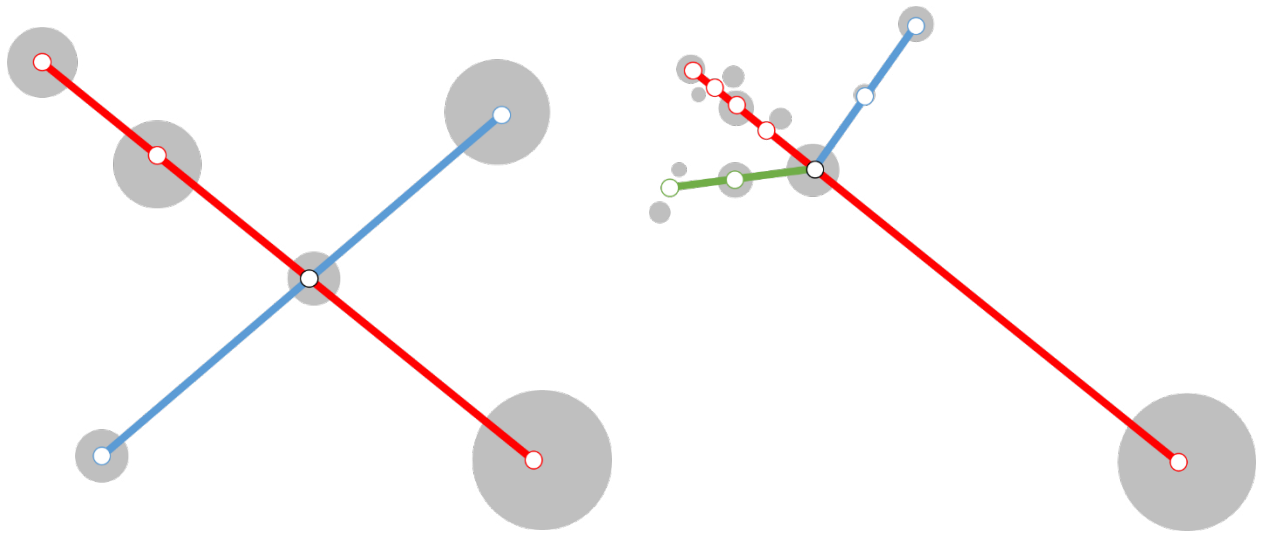


Figure 7. Different types of service and network. “Intercity” services and network (left) and “Villages to City” services (right). Cities and town are represented as grey balls (our elaboration).

0 20 40 80 120 160
 Kilometers

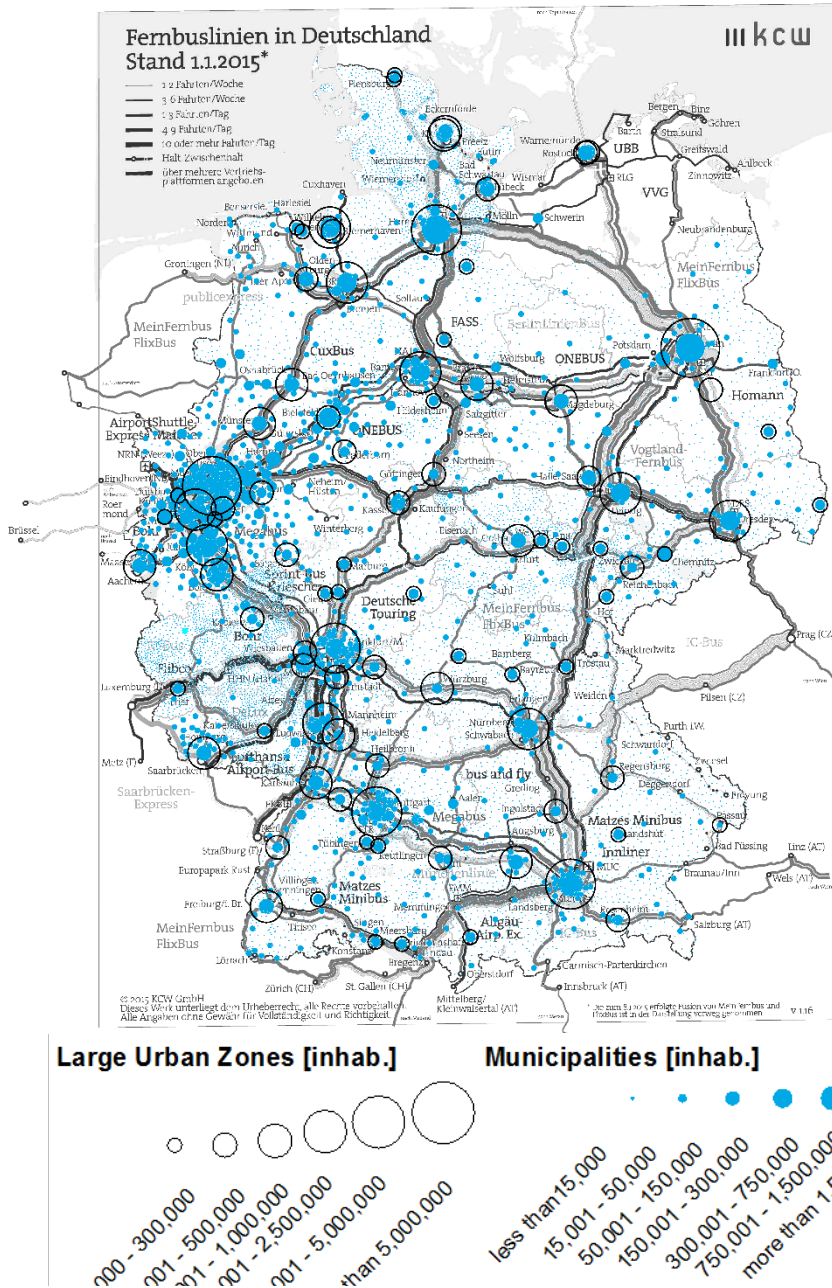


Figure 8. Population of municipalities (filled blue circles) and Large Urban Zones (empty black circles) and intercity coach services in Germany (our elaboration; population: Eurostat 2012 data)..

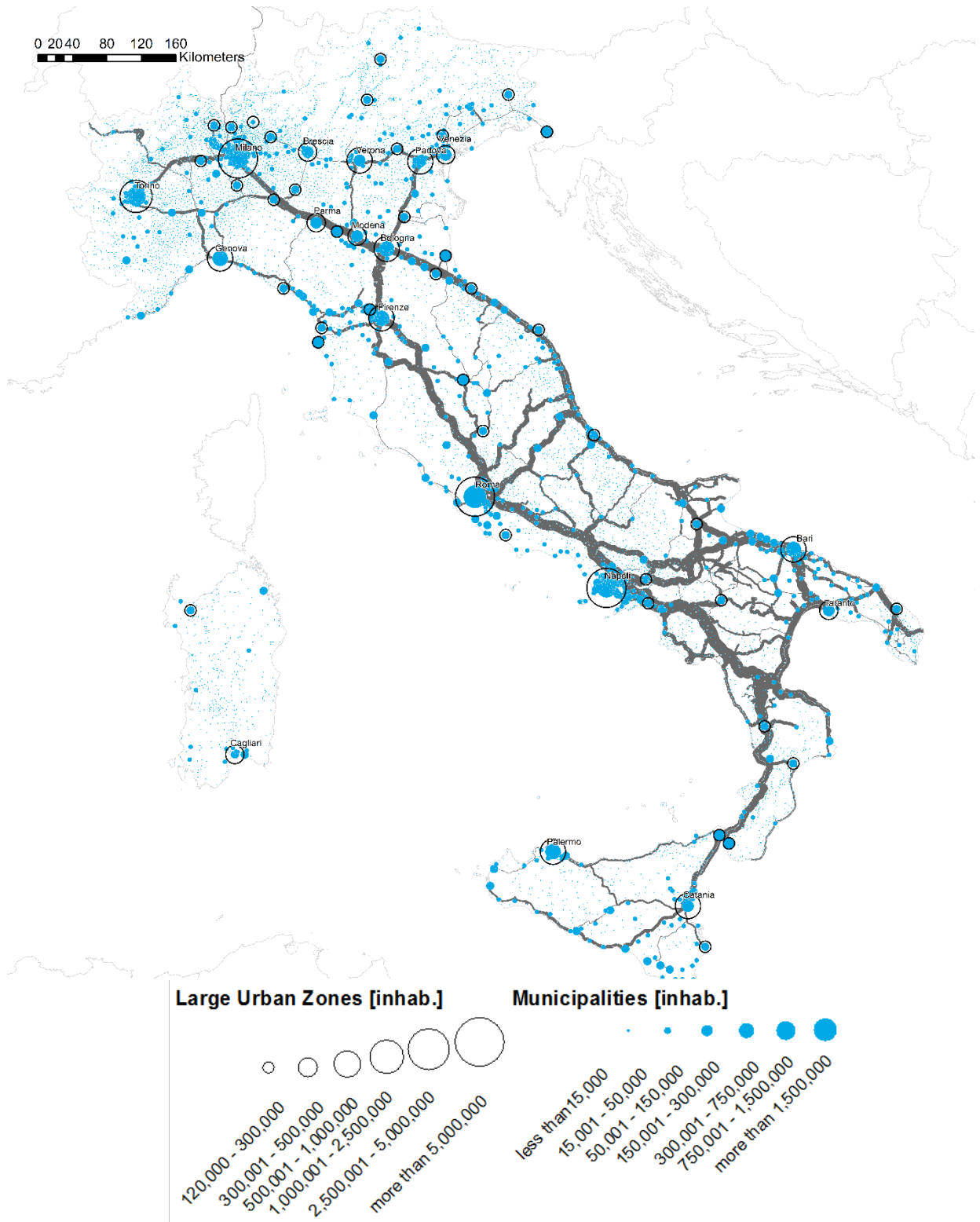


Figure 9. Population of municipalities (filled blue circles) and Large Urban Zones (empty black circles) and intercity coach services in Italy (our elaboration; population: Eurostat 2012 data)

5. Conclusions

In this paper, we compared the first outcomes of recent experiences of intercity coach transport liberalisation in Germany and Italy. The German case has been impressive, with supplied services growing from 20 million km in 2012 to 135 million km in 2014. In Italy, there was a large, even if less impressive, increase of about 38% of supplied frequencies during the first year of liberalisation, but from a broader base of existing services of 85 million km in 2010.

Despite the dimension of the supply is now similar, many differences still exist in the two market structures and in the resulting networks. In the paper, we stress that, to understand the differences, one must consider not only the regulatory aspects, but also the industrial, geographical and historical reasons.

From the normative point of view, the process of liberalisation in Italy was more gradual from 2007 to 2014, while the German one was sharp, in 2013. In Italy bureaucratic procedures are much more demanding, reducing the dynamism of the sector, and regulatory uncertainties remain in the relationship with other services operated under PSO. But, overall, in both countries there do not exist any major barriers to entry in the market anymore.

The observation of producers' structure shows instead that the level of concentration is very different. In Germany, the initially concentrated but small market (2013) expanded (2014) and then concentrated again (2015) around a handful of brands, even though making use of subcontractors. Italian market is large but remains extremely fragmented, mainly as a legacy of the former geographically separated markets defined by concessions. Some concentration has started, mainly boosted by the foreign newcomers in the almost greenfield market in the North of the country, more similar to the German situation. It is likely that in the South a higher fragmentation will remain also in the future, due to the lower market potential of routes. Also the process of clusterisation of legacy companies under common brands for commercial and marketing purposes is just at the beginning and evolving at a slow pace.

Differences are not limited to industrial structure. Also history and geography matter, shaping in a different way the two network structures. The German market developed - from greenfield and over the quite compact mesh of mid-sized cities - on the "Intercity" model, with a network serving all major cities and towns. The Italian market historically developed on the "Villages to City" model, so that the network looks like a tree, with the roots in the South of the country, where the services provide accessibility to low density rural areas. Most of new services in Italy are instead also adopting the "Intercity" model.

It must be noticed that there is no reason to consider any incompatibility between the two supply models, since they serve different geographical contexts. It is possible that in Italy a new network of services following the "Intercity" model will grow, with higher frequencies and lower prices, without interfering too much with the existing extensive network of "Villages to City" services. Also in Germany, the new routes serve more and more marginal towns, once the main ones are fully exploited. For sure, the "Intercity" model looks more promising for newcomers: it starts first from the cores of demand, and, possibly, expands later to secondary point-to-point routes.

In conclusion, the cases show that many opportunities arise from the liberalisation of intercity coach industry, as a way to develop new services and widen the market, and these are not limited to new big companies. However, in this new system, small companies might have to find their role, which might be different from the one they used to have for decades.

References

- Alexandersson, G., Hultén, S., Fearnley, N., & Longva, F., 2010. Impact of regulation on the performances of long-distance transport services: a comparison of the different approaches in Sweden and Norway. *Research in Transportation Economics*, 29(1), 212-218.
- Aarhaug, J., & Fearnley, N. (2016). Deregulation of the Norwegian long distance express coach market. *Transport Policy*, 46, 1-6.
- Augustin, K., Gerike, R., Sanchez, M. J. M., & Ayala, C. (2014). Analysis of intercity bus markets on long distances in an established and a young market: The example of the US and Germany. *Research in Transportation Economics*, 48, 245-254.
- Baumol, W. J. 1982. *Contestable Markets: An Uprising in the Theory of Industry Structure*. *American Economic Review*, 72, 1-15.
- Beria, P., Grimaldi, R. and Laurino, A., 2013. *Long distance coach transport in Italy: state of the art and perspectives*. Published in: General proceedings of the 13th World Conference on Transport Research.
- Beria P., Laurino A., Bertolin A., Grimaldi R. (2015). *Autolinee statali: gli effetti della riforma. Risultati, opportunità e criticità dell'apertura del mercato. Studio ANAV 2015*.
- Beria P., Grimaldi, R., Debernardi, A., Ferrara, E., & Laurino, A., 2014. *Spatial and scenario analyses of long distance coach transport in Italy*. MPRA working paper 54739

- Boitani, A., & Ramella, F. (2012). Arenaways and other (non-edifying) railways stories. *Mercato Concorrenza Regole*, 14(1), 97-116.
- CNIT, 2014. *Conto Nazionale delle Infrastrutture e dei Trasporti. Anni 2013-2014*. Istituto Poligrafico e Zecca dello Stato. Roma, Italy.
- ENAC, 2012. *Dati di traffico 2012*. ENAC. Roma, Italy.
- ENAC, 2014. *Dati di traffico 2014*. ENAC. Roma, Italy.
- Eurostat ,2012. *Urban Audit Database: Large Urban Areas*. Website: <http://ec.europa.eu/eurostat/web/cities/data/database>
- Eurostat, 2015. *Rail transport of passengers*. Website: <http://ec.europa.eu/eurostat/web/transport/data/main-tables>
- KCW GmbH, 2014. *New Long-distance Coach Stations and Licensing Practices: Opportunities for Municipalities*, Study for MeinFernbus GmbH/ADAC Postbus/VDA, Berlin. Website: <http://www.kcw-online.de/Veroeffentlichungen-2014.698.0.html>
- Krämer, A., & Rieger, M., 2015. Fernlinienbusse: Chance oder Risiko für den Bahn-Nahverkehr? Eine empirische Bestandsaufnahme zum Zusammenwirken von Fernlinienbussen und Bahn-Nahverkehr sowie ÖPNV. *Der Nahverkehr*. 7-8/2015, p. 51.
- Naumann, R., Augustin, K., forthcoming. *Bahn gegen Bus - Eine Kurzanalyse zu den vorliegenden Fakten*, BahnReport, forthcoming.
- Schiefelbusch, M., 2013. *Past and Future Regulation of Interurban Coach Services in Germany*. *Journal of Transport Economics and Policy (JTPE)*,47, 299-305.
- SDG (2009). *Study of passenger transport by coach*. Final Report. Prepared by Steer Davies Gleave for the European Commission. Directorate General Energy and Transport. Rue de Mott 28. B-1049 Brussels, Belgium.
- Strößenreuther, H., Gertsen, J., Warnecke C., 2013. *Fernlinienbusmarkt mit 500% Plus. der liberalisierte Markt nimmt Fahrt auf*. *Internationales Verkehrswesen*, 65(3), 60-62.
- van de Velde, D. (2009). *Long-distance bus services in Europe: concessions or free market?* (Vol. 21). OECD Publishing.
- van de Velde, D. (2013). Long-distance coach services in Europe. In: Finger M., Holvad T., *Regulating transport in Europe*, Edward Elgar, Cheltenham, UK and Northampton, MA, USA, 115-139.
- White, P., & Robbins, D., 2012. Long-term development of express coach services in Britain. *Research in Transportation Economics*, 36(1), 30-38.