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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

Sixth report on monitoring development of the rail market

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Sixth report on monitoring development of the rail market pursuant to Article 15(4) of Directive 2012/34/EU of the European Parliament and of the Council

1. Introduction

The rail sector[1] makes a substantial contribution to the EU economy, directly employing over 1 million people (railway undertakings, infrastructure managers). European rail transports some 1.6 billion tonnes of freight and 9 billion passengers each year. Rail transport is critical to the EU strategy for a more sustainable transport sector, economic and social cohesion and connecting Europeans within and between Member States.

This report is the sixth edition of the rail market monitoring report submitted by the Commission to the European Parliament and the Council pursuant to Article 15(4) of Directive 2012/34/EU[2]. The purpose of this report is to provide an overview of the main developments in rail markets in the context of EU rail market policy objectives[3]. It covers a broad range of topics such as the evolution of the internal market in rail services, the infrastructure and services available to railway undertakings, the framework conditions (including charges[4]), the state of the network, the utilisation of access rights and barriers to more effective rail services. The accompanying staff working document contains a detailed analysis.

This is the first report to draw on the reporting questionnaire set out in Commission Implementing Regulation (EU) 2015/1100 on rail market monitoring[5] (hereinafter 'the RMMS Regulation'). Applicable from 1 January 2016, the RMMS Regulation should gradually lead to a more consistent and coherent dataset with a transitional period, which ends with the reporting year 2016.

In addition to RMMS data submitted by the Member States and Norway, this report also draws on contributions from the Statistical pocketbook 'EU transport in figures'[6], reports from the European Union Agency for Railways[7], Eurostat[8], statistics collected by various sectoral organisations and presentations and studies.

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1 In this report, 'rail sector' refers to railway undertakings and rail infrastructure managers.

2 Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area, OJ L 343, 14.12.2012, p. 32.

3 Norway participates in the RMMS, but data for Norway are not included in EU totals and averages. In addition to the rail market report, the European Union Agency for Railways publishes annual reports on safety and bi-annual reports on the interoperability performance of railways.

4 Comprehensive monitoring of rail prices for customers is not possible due to the wide variety of services offered.

5 Commission Implementing Regulation (EU) 2015/1100 of 7 July 2015 on the reporting obligations of the Member States in the framework of rail market monitoring, OJ L 181, 9.7.2015, p. 1.

6 https://ec.europa.eu/transport/facts-fundings/statistics/pocketbook-2018_en

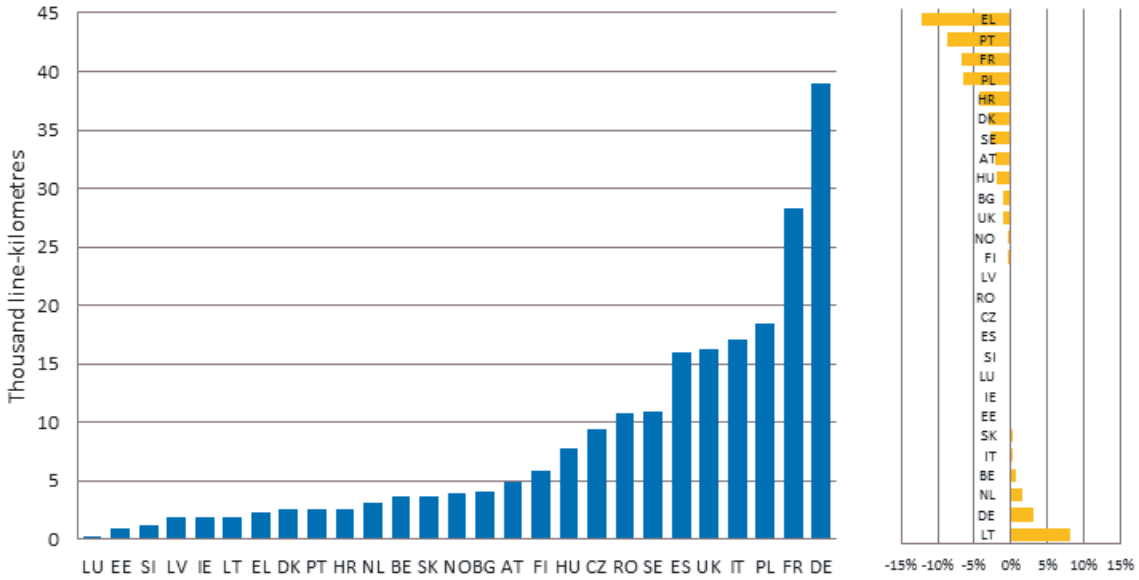
7 https://www.era.europa.eu/library/corporate-publications_en

8 http://ec.europa.eu/eurostat/web/transport/data/database

2. EU rail network

The total **length of the EU rail network**[9] in 2016 was around 221 000 line kilometres (1.6 % lower than in 2011). The **density of national rail networks** reflects countries' different geographical characteristics, with the Nordic and Baltic countries showing the lowest densities of rail network relative to surface area and the highest relative to population. Around 54 % of the EU network was electrified in 2016, with an additional 2 097 km of electrified route since 2011 (+1.7 %). The EU's **high-speed network** stretched to over 8 400 line kilometres by the end of 2017, and has more than doubled in length since 2003.

Figure 1: Length of national networks in 2016 and relative change, 2011-2016



Source: Statistical pocketbook, 2018. Infill data from various other sources.

3. Services to railway undertakings

Mapping service facilities is an ongoing challenge given the variability in services provided and the large number of different operators of various sizes.

According to available RMMS data[10], in 2016 there were:

- 31 000 passenger stations;
- 2 358 freight terminals;
- 452 marshalling yards;
- 1 667 maintenance facilities;
- 702 maritime and port facilities; and

[9] Including Norway.

[10] Data incomplete with gaps and different definitions applied. Data include Norway.

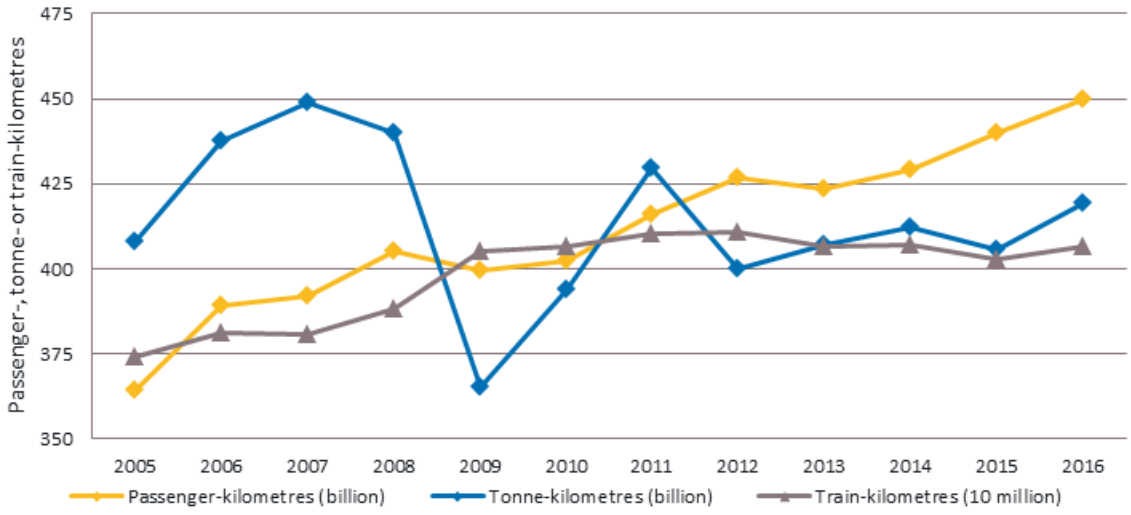
– 954 refuelling facilities.

The Commission is working on implementation of Regulation (EU) 2017/2177 on access to service facilities[11], on an EU rail facility portal to map them and on better implementation of the RMMS Regulation to monitor them.

4. Evolution of rail services

Total EU train kilometres, which include both passenger and freight train movements, remained stable between 2009 and 2016. Rail passenger traffic continued to grow 1.7 % per year. By contrast, rail freight traffic struggled to recover from the significant drop in volumes experienced in 2009, the low point of the economic crisis. A peak in 2011 was followed by a slow recovery from 2012[12].

Figure 2: Passenger and freight volumes, 2005-2016



Source: RMMS, 2018. Infill data from various other sources and estimates.

Rail has the potential to play a significant role in accelerating the reduction in transport emissions. Rail only accounts for 2 % of total EU energy consumption in transport, while it carried 11.2 % of freight and 6.6 % of passengers of all transport modes in 2016. It is also the only mode to have almost continuously reduced CO_2 emissions since 1990: by 2016, it represented only 0.5 % of the CO_2 emissions from all transport modes[13].

Passenger traffic

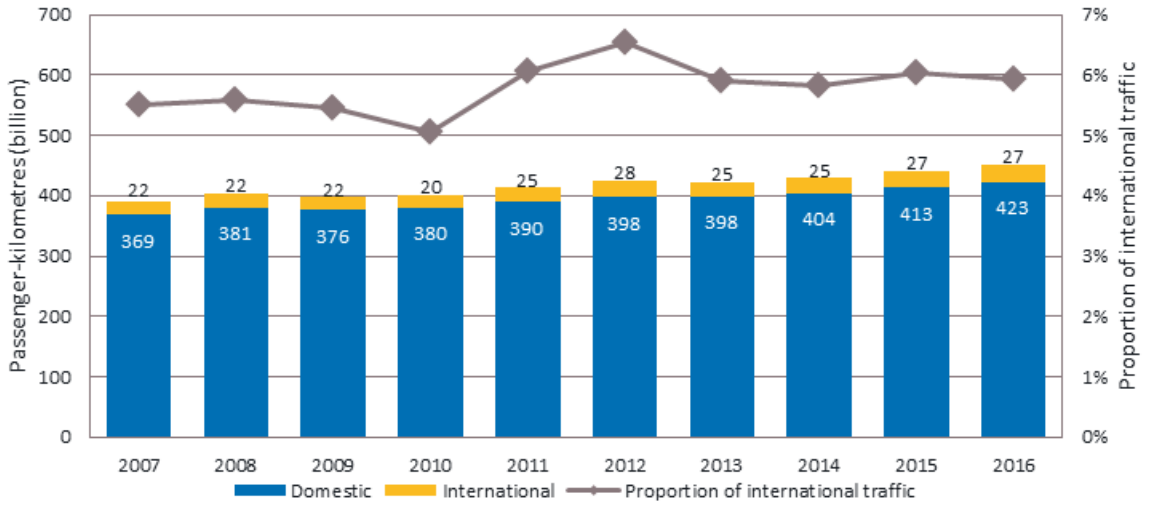
By 2016, EU passenger traffic volumes had reached 450 billion passenger kilometres out of around 6 trillion passenger kilometres of land transport overall. Rail passenger traffic is mostly domestic, with only 6 % crossing borders in 2016.

[11] Commission Implementing Regulation (EU) 2017/2177 of 22 November 2017 on access to service facilities and rail-related services, OJ L 307, 23.11.2017, p. 1–13.

[12] Data on volumes reported in the yearly RMMS questionnaire may differ from those reported by Eurostat, due to the different scope, potential double counting of transit volumes and adjustments (estimates and integration from other sources).

[13] Excluding indirect emissions from electricity consumption.

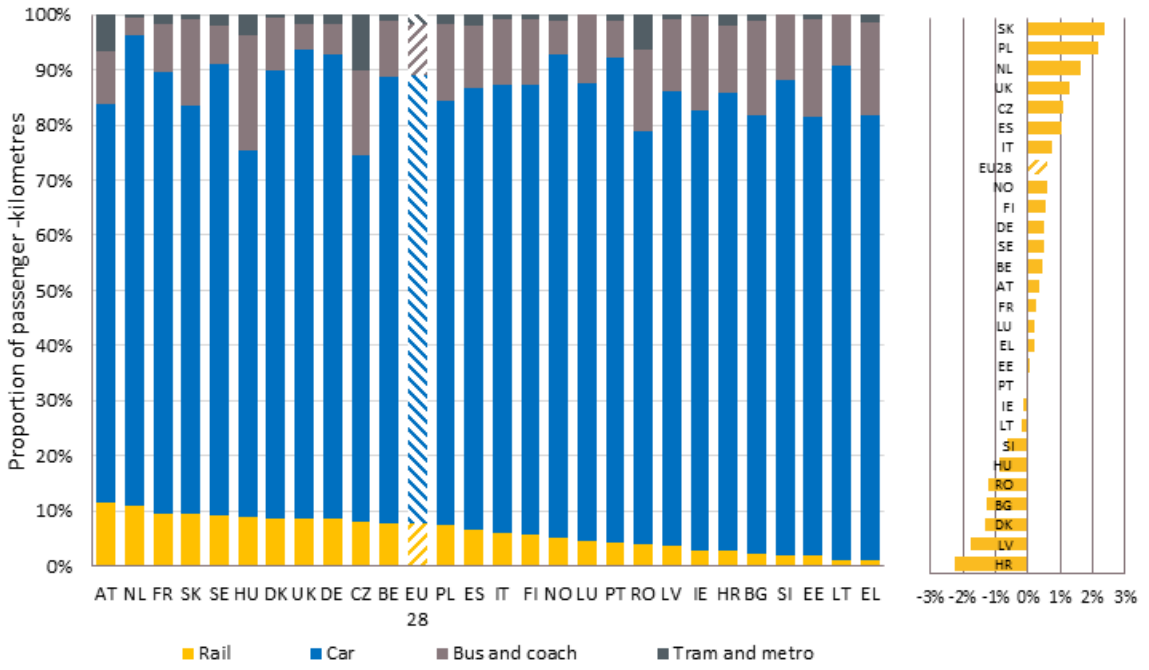
Figure 3: Evolution of rail passenger traffic volumes, 2007-2016



Source: RMMS, 2018. Infill data from various other sources and estimates.

The average propensity to travel in the EU increased from 830 passenger kilometres per inhabitant in 2011 to 882 in 2016 (+1.2 % per year). While the passenger car's **modal share in land transport** remained above 80 %, the share of passenger rail increased from 7.0 % to 7.6 % between 2007 and 2016.

Figure 4: Passenger land transport modal split by country 2016 and change in the share of rail 2011-2016



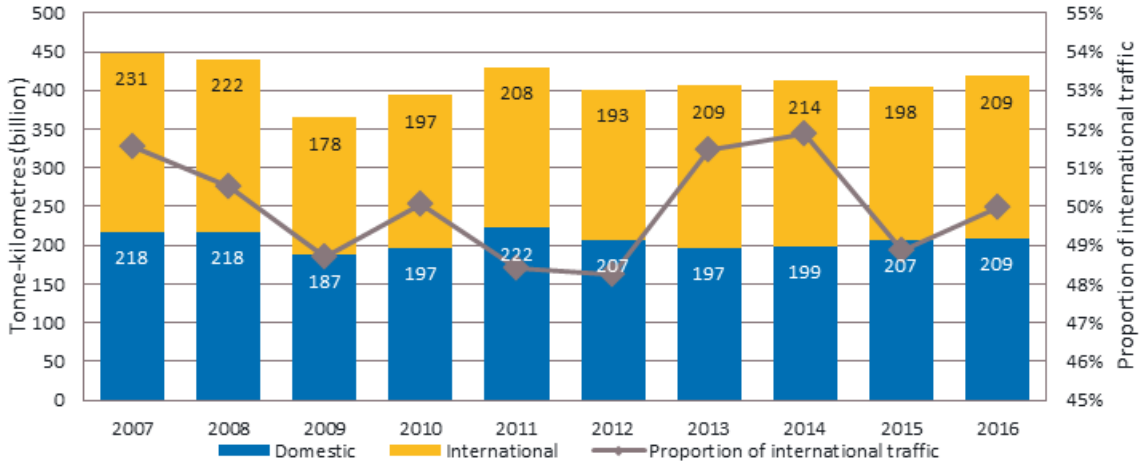
Source: Eurostat and statistical pocketbook, 2018. 2011 data for EU27.

Freight traffic

In 2016, EU freight traffic volumes reached 419 billion tonne kilometres out of 2.5 trillion of land transport overall. Around half of total rail freight is cross-border. This lends rail freight a strong European dimension, and makes it even more sensitive to a

lack of interoperability and cooperation between national rail networks that can affect its competitiveness.

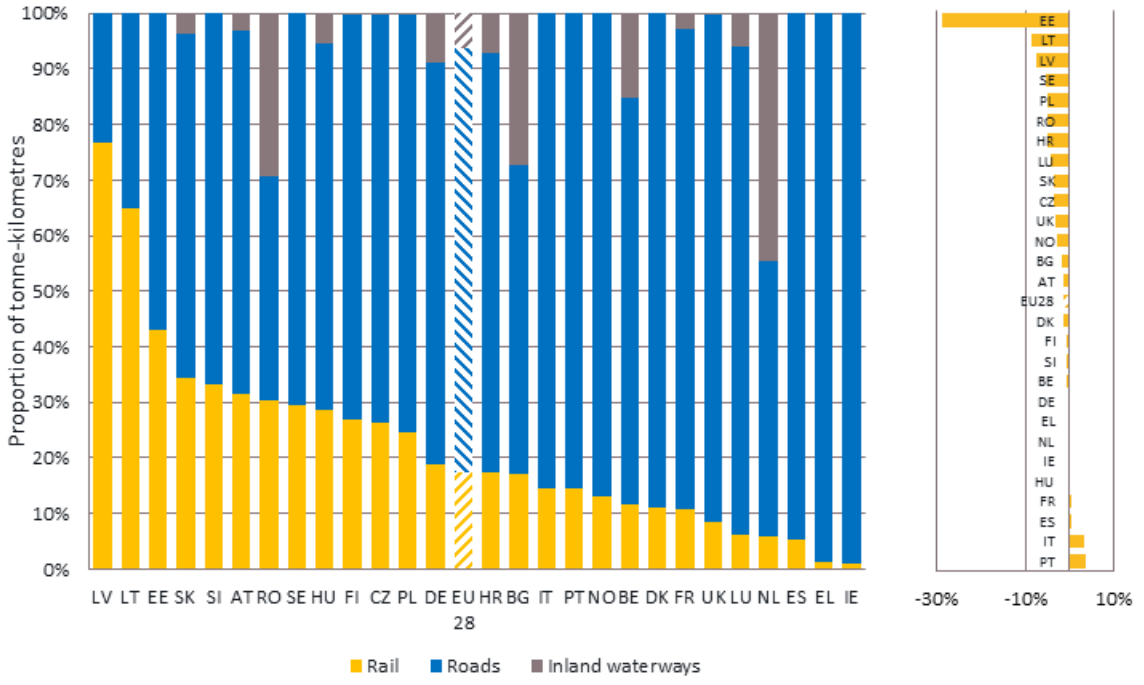
Figure 5: Evolution of rail freight traffic volumes, 2007-2016



Source: RMMS, 2018. Infill data from various other sources and estimates.

On the modal share, since the peak in 2011 (19 %), the rail share in EU land freight has decreased, although managed to remain at around 17 % in 2016, while the road share has increased from 75 % to 76 %.

Figure 6: Freight land transport modal split by country 2016 and change in the share of rail 2011-2016



Source: Eurostat.

5. Evolution of framework conditions in the rail sector

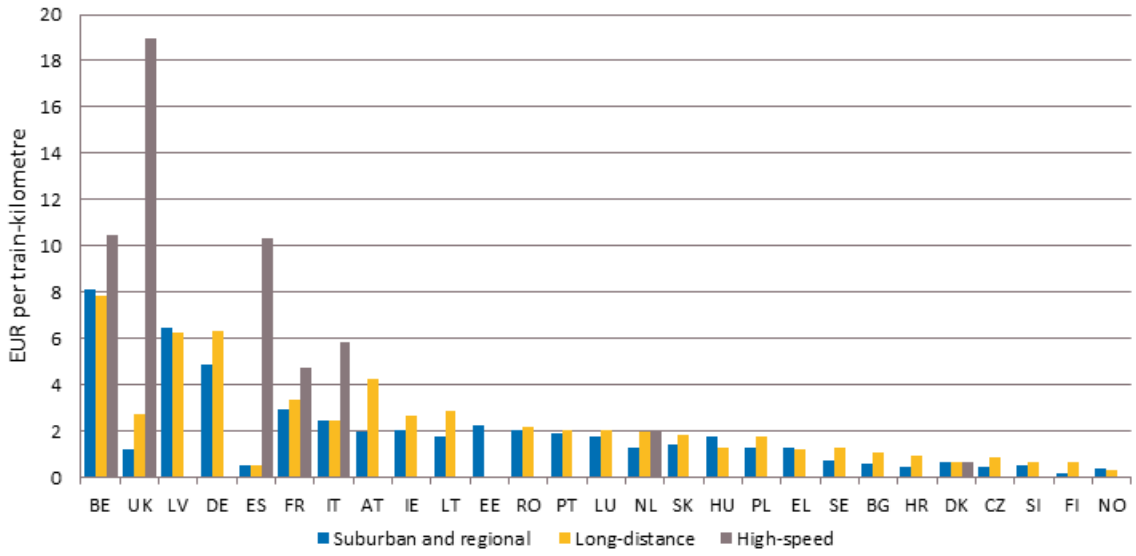
5.1. Infrastructure charging

Track access charges represented more than 80 % of infrastructure managers' revenues from charges in the majority of countries, both for passenger trains and for freight trains.

Track access charges for high-speed rail (excluding mark-ups) are higher than other passenger charges, reaching a maximum in the United Kingdom (EUR 19 per train kilometre in 2016).

Track access charges for conventional long-distance passenger trains (excluding mark-ups) were less than EUR 3 per train kilometre in the majority of countries.

Figure 7: Access charges (excluding mark-ups): passenger trains by type by country, 2016

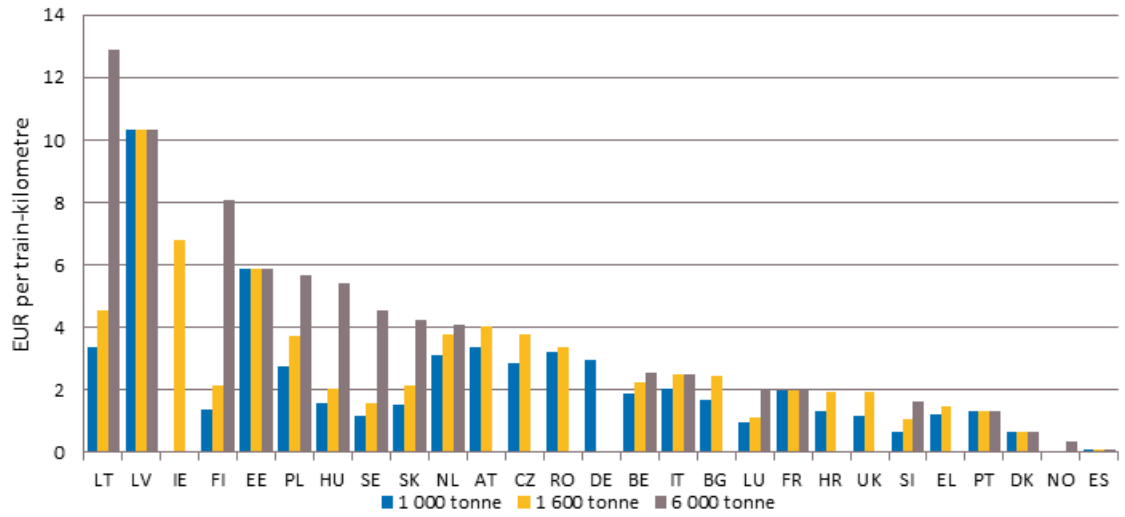


Source: RMMS, 2018. DE data including mark-ups.

Freight charges (excluding mark-ups) are monitored across three different maximum gross tonnages (1 000, 1 600, and 6 000). Five Member States (Latvia, Estonia, France, Portugal and Denmark) apply a fixed charge per train kilometre. In most other Member States, access charges increase with train size, although not necessarily pro rata with tonnage.

Turning to charging levels between 2013 and 2016 (where available), there is no clear upward or downward trend both for passenger and freight trains.

Figure 8: Access charges (excluding mark-ups): freight trains by type by country, 2016

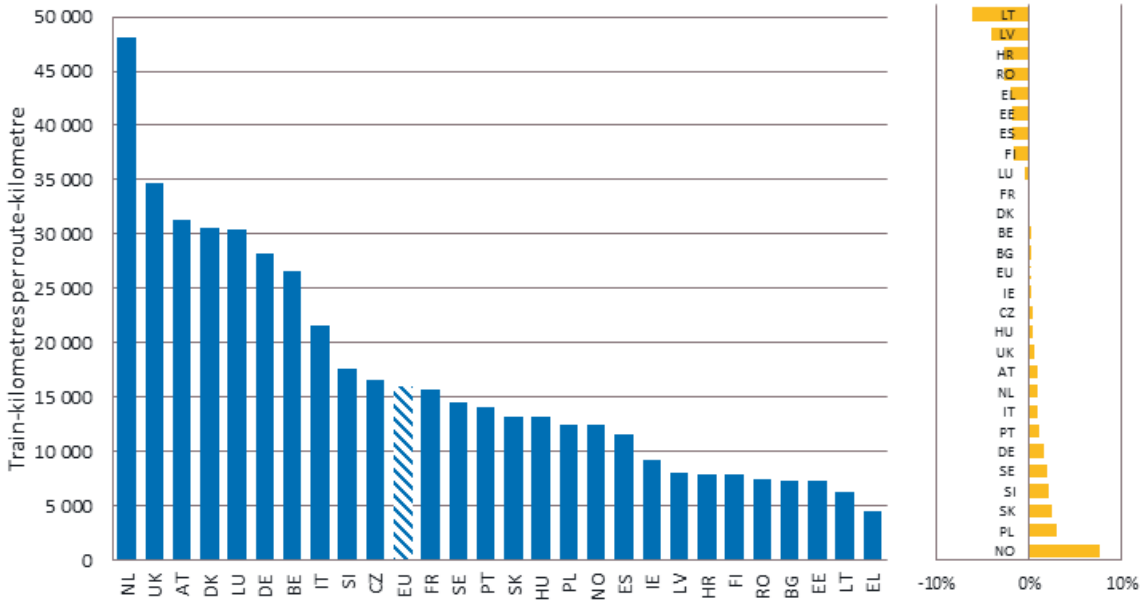


Source: RMMS, 2018. For DE: split by train type not available, figure here includes mark-ups.

5.2. Capacity allocation, infrastructure limitations and barriers to more effective rail services

The most intensively used networks are those of north-west Europe, including the Netherlands (operating almost 50 000 train kilometre per route kilometre in 2016) and the United Kingdom, Austria, Denmark, Luxembourg, Germany and Belgium, where the network utilisation rates were some 70 % higher than the EU average.

Figure 9: Network utilisation in 2016 and compound average growth rate, 2011-2016



Source: RMMS, 2018 and Statistical pocketbook, 2018

Congestion underlines the existence of infrastructure limitations; this prevents all potential traffic from travelling on the network. The total length of track declared

congested (including Norway) is increasing and reached almost 3 000 km in 2016, including 1 000 km of rail freight corridors; 40 % of total congested track is in the United Kingdom. There is also considerable congestion in Germany, Italy and Romania, all of which have declared more than 100 km of track as congested.

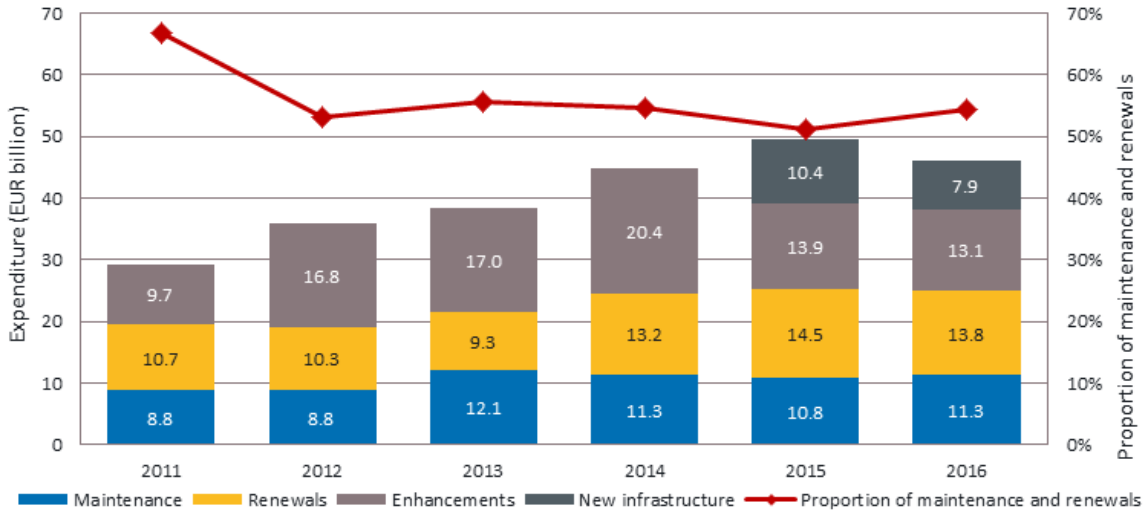
The services most commonly prioritised by Member States are those provided under public service obligation (PSO), first priority in 11 Member States, followed by international passenger and freight services.

Operational infrastructure limitations can also limit rail transport and represent a barrier to more effective rail services. Incompatibility of national legacy train control systems in particular constitutes a significant barrier to interoperability. The Union therefore introduced a common European signalling system — the European Railway Traffic Management System (ERTMS). According to the new ERTMS European Deployment Plan[14], around 30-40 % of the core network corridors must be equipped with ERTMS by 2023 (15 672 km): only one third of that is currently in operation, so there is still much to do in the coming years.

5.3. Infrastructure expenditure and funding

Total EU infrastructure expenditure rose from EUR 29 billion in 2011 to EUR 50 billion in 2015, falling by EUR 3.5 billion in 2016[15].

Figure 10: Expenditure on infrastructure and proportion on maintenance and renewals, 2011-2016



Source: RMMS, 2018.

The EU can co-finance or support rail investment projects by means of the Cohesion Fund, the European Regional Development Fund, the Connecting Europe Facility, the European Investment Bank and the European Fund for Strategic Investments. More than EUR 33 billion in grants has been allocated to rail investment under the current EU financial framework (2014-2020).

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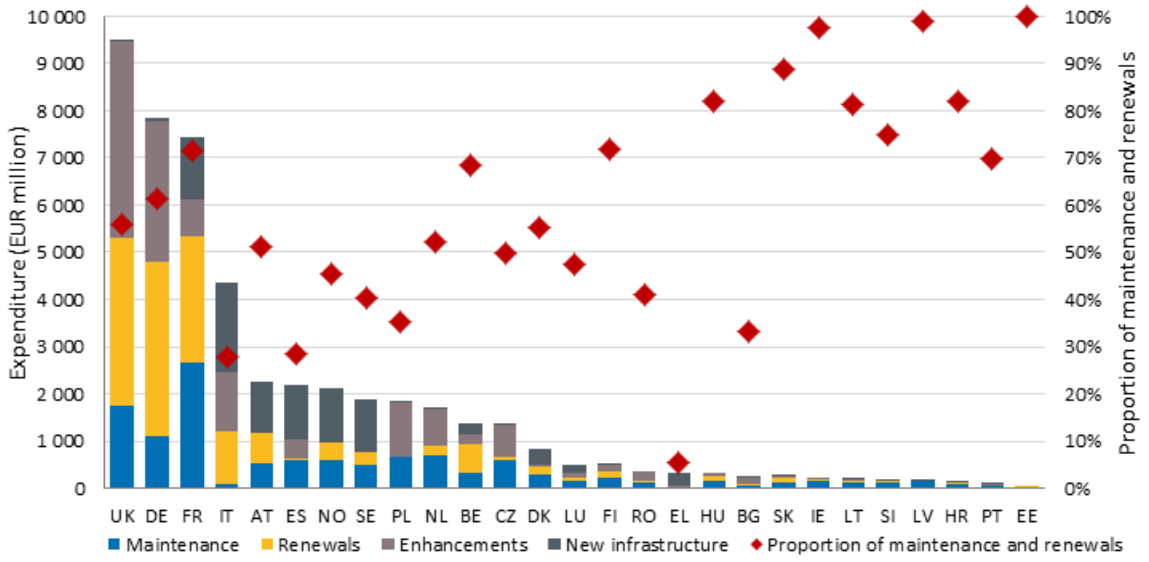
14 Commission Implementing Regulation (EU) 2017/6 of 5 January 2017 on the European Rail Traffic Management System European deployment plan, OJ L 3, 6.1.2017, p. 6–28.

15 Norway excluded.

Maintaining and renewing the existing network to improve safety and operational performance and ensure reliable service is a major challenge for infrastructure managers — in particular given the increasing traffic and demanding performance targets agreed between national authorities and operators.

In 2016, total reported maintenance and renewal expenditure amounted to EUR 26 billion[16]. The proportion of maintenance and renewal expenditure was 54 % of the total, but varied between countries, with Central and Eastern European countries spending a substantial proportion on maintenance and renewal of lines.

Figure 11: Expenditure on infrastructure and proportion on maintenance and renewals per country, 2016

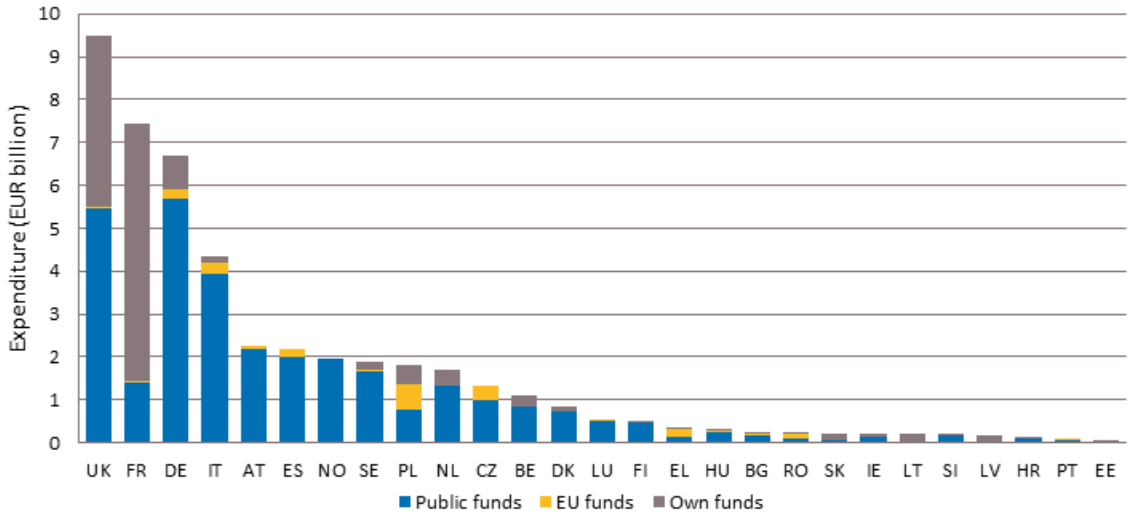


Source: RMMS, 2018. NO, SE included enhancements with renewals.

Infrastructure managers obtain resources to maintain and improve their rail infrastructure from a variety of sources, although 70 % came from national budgets in 2016. Their own resources include infrastructure access charges. The proportion of total funding generated internally was highest in Latvia (100 %), Lithuania and France (both 81 %), followed by Slovakia (69 %) and the United Kingdom (42 %).

[16] Norway included.

Figure 12: State rail infrastructure funding by source and country, 2016



Source: RMMS, 2018.

5.4. Quality of rail transport services

Punctuality and reliability of passenger services

Based on the definition used[17], an average of 90 % of local and regional passenger services were **punctual**. Long-distance services tend to be less punctual because longer distances often include busier lines with mixed traffic. **Reliability** of services, measured in terms of cancellation rates, is usually below 2 % both for long-distance trains and for local and regional trains.

Punctuality and reliability of freight services

Limited data are available on the **reliability** of freight services as Member States were still making use of the transitional period to adapt to the new reporting requirements of the RMMS Regulation. Most Member States reported that domestic freight services were more **punctual**[18] than international freight services. From the limited data available, it appears that the reliability of freight services is significantly lower than the reliability of passenger services and that international services, mainly due to covering longer distances, suffer more than domestic ones.

Safety

Rail remains one of the safest modes of transport. There were 964 rail fatalities[19] in Europe in 2016: the majority of which involved people using level crossings (255) and unauthorised persons (600). The number of employee and passenger fatalities was 32 and 44 respectively. Railway safety continued to improve between 2010 and 2015, although the number of fatalities and serious injuries increased slightly in 2016. Between 2011 and 2015, rail travel was more than 25 times safer than travelling by car.

17 RMMS considers a passenger train punctual if delayed 5 minutes or less.

18 RMMS considers a freight train punctual if delayed 15 minutes or less.

19 Excluding suicides. Further information in the Agency's 'Report on Railway Safety and Interoperability in the EU 2018'.

Satisfaction of customers with passenger services

According to a Eurobarometer survey[20] published in September 2018, 66 % of Europeans are satisfied with the frequency of passenger trains, 59 % with punctuality and reliability, and 55 % with travel information during journeys, particularly when there is a delay. These figures represent significant improvements compared to a similar survey carried out in 2013.

The survey also provides an insight into travel habits. Four out of five (80 %) Europeans travel by train and are most likely to use the train for suburban trips (67 %). There is still significant room for improvement: only 38 % of Europeans are satisfied with how complaints are handled, and the accessibility of rail services for passengers with reduced mobility needs further work. The survey also shows that 75 % of Europeans find buying train tickets easy, and 62 % are happy with the availability of tickets for journeys that use several trains or transport modes.

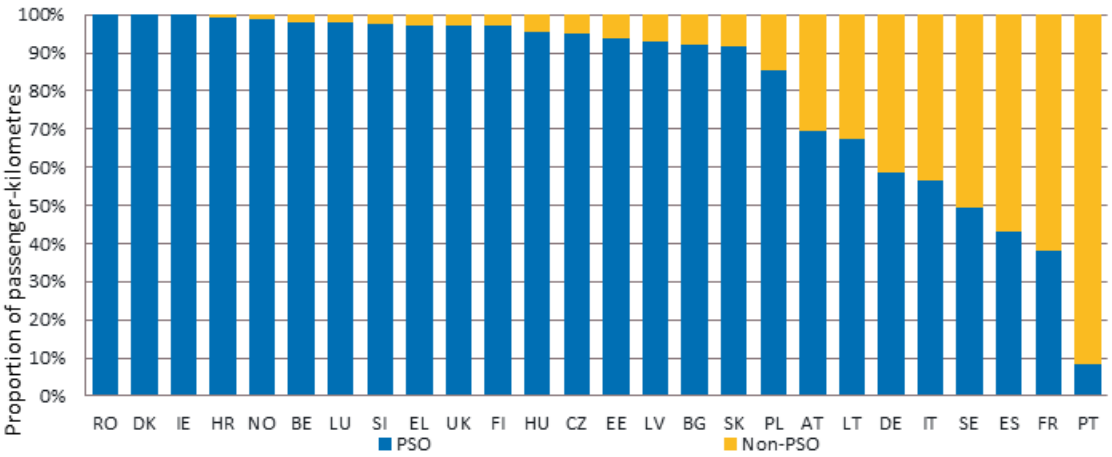
Satisfaction of stakeholders with rail freight corridor services

There is no EU-wide comparable survey of customer satisfaction with rail freight services[21]. Nevertheless, there seems to be a certain consensus among stakeholders on three key components to ensure rail freight customer satisfaction: reliability, flexibility and the provision of reliable shipment information.

5.5. Public service contracts

In 2016, over 60 % of total EU rail passenger kilometres were travelled on services provided under a PSO, and PSO compensation remains a significant source of revenue for railway undertakings in a majority of Member States. PSO is used more for domestic and regional rail services than for long-distance services; only a few countries reported having a PSO on international services.

Figure 13: Passenger kilometres on PSO and commercial rail services, 2016



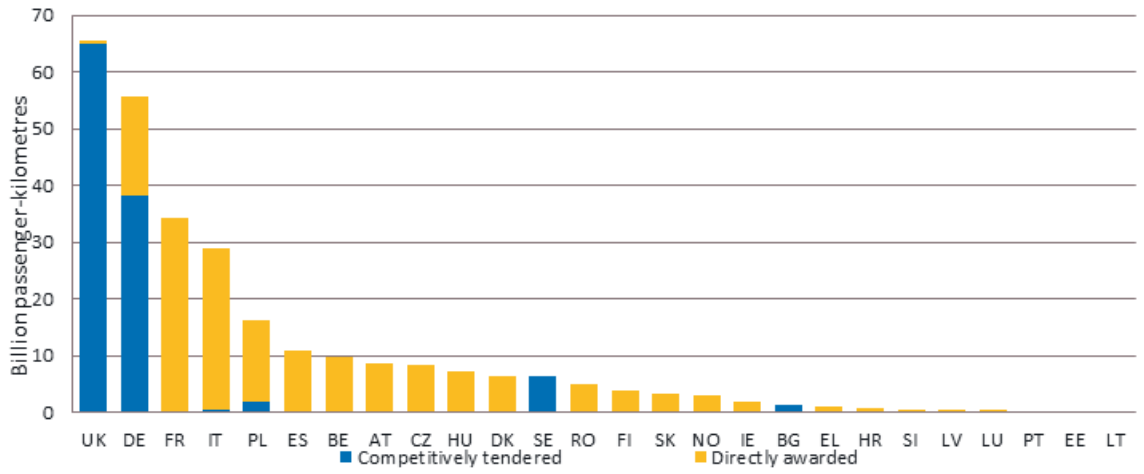
Source: RMMS, 2018. No recent data for NL.

[20] http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/survey/getsurveydetail/instruments/flash/surveyky/2172.

[21] Rail freight corridors publish annual surveys based on a standardised questionnaire.

Competitive tendering was used for only 41 % of all PSO services active in 2016, almost exclusively in three Member States that early liberalised (the United Kingdom, Germany and Sweden). Thanks to the Fourth Railway Package, competitive tendering will gradually become the rule, with direct award only allowed in exceptional cases. New competitive tenders of more than 32 million train kilometres per year were awarded in 2016.

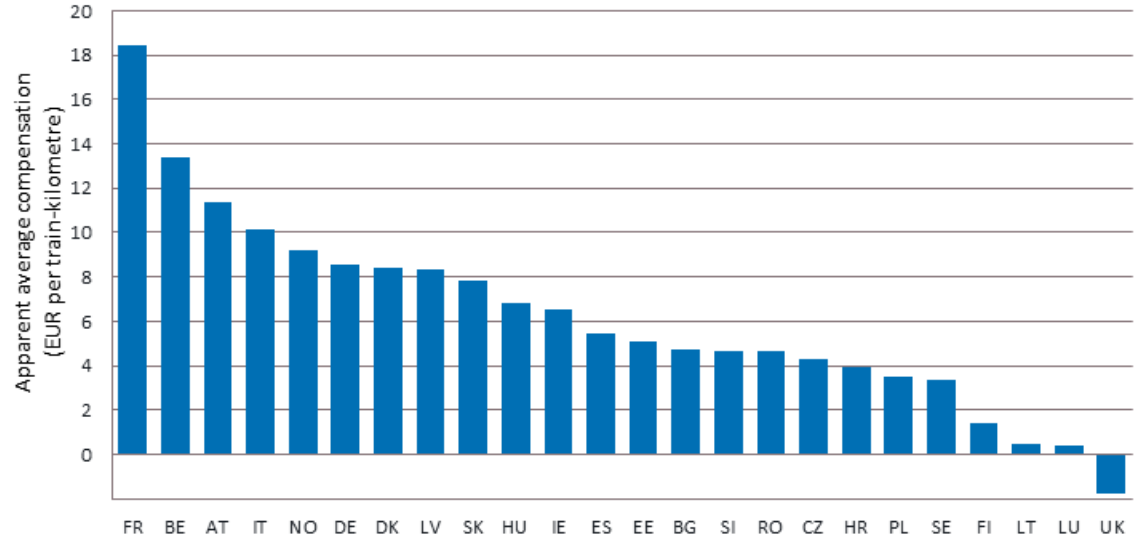
Figure 14: PSOs competitively tendered and directly awarded, 2016



Source: RMMS, 2018. No data for NL.

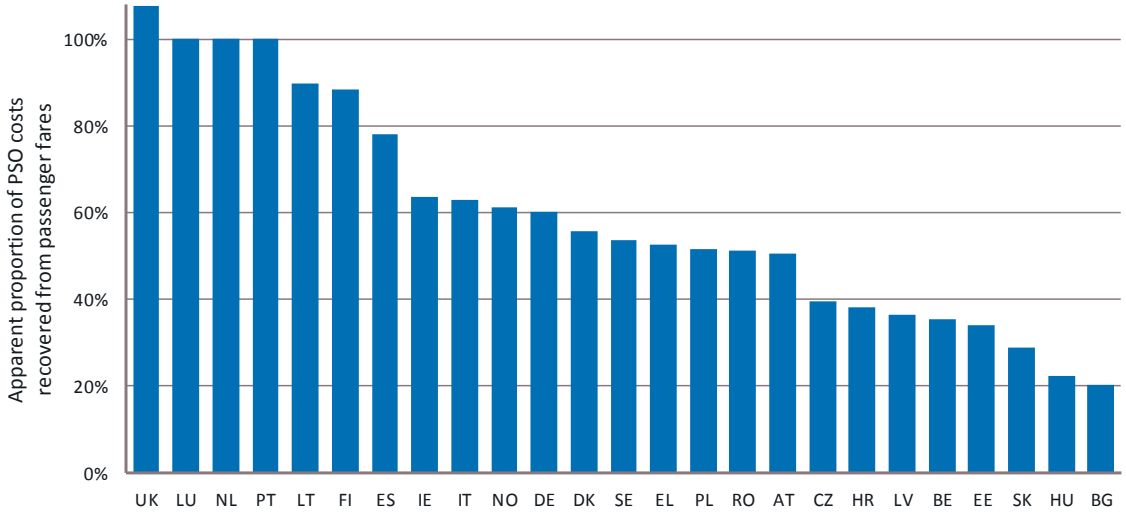
Levels of PSO compensation per train kilometre and the proportion of PSO costs that are recovered through passenger fares widely differ across countries. Average PSO compensation is negative in the United Kingdom, where bidders for exclusive rights under PSO contracts ('franchises') might pay a 'premium' if they deem that services can be operated profitably at current (regulated) levels of access charges and fares.

Figure 15: Apparent average PSO compensation, 2016



Source: RMMS, 2018. No data for EL, NL, PT.

Figure 16: Apparent proportion of PSO costs recovered through passenger fares, 2016



Source: RMMS, 2018. No data for FR and SI.

5.6. Licensing

The **number of active licences** of railway undertakings varied in 2016 between 448 in Germany and 2 in Luxembourg and Ireland. Poland and the Czech Republic also reported over 100 active licences and the UK more than 50.

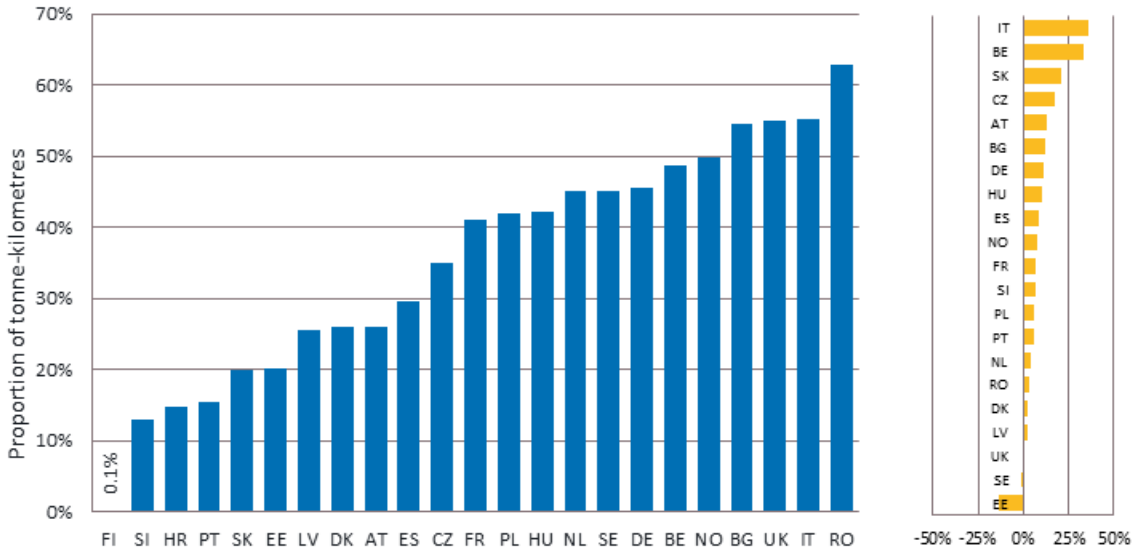
Average fees to obtain a licence in 2016 varied between EUR 37 500 in Portugal and EUR 10 in Croatia.

Sweden, Spain and Poland reported the longest **average time to obtain a licence** (more than 100 days).

5.7. Degree of market opening and utilisation of access rights

Thanks to EU legislation, the **rail freight** market was opened up **to competition** in 2007. In 2016, new operators competing with national incumbents were active in all countries except Greece, Ireland, Lithuania and Luxembourg, and in half of them **the market share** of competitors was more than 40 %. Between 2011 and 2016, the market share of competitors steadily increased in all EU countries. Competitors lost market share only in Sweden and Estonia, with their market share in Estonia falling from 41 % to 20 %.

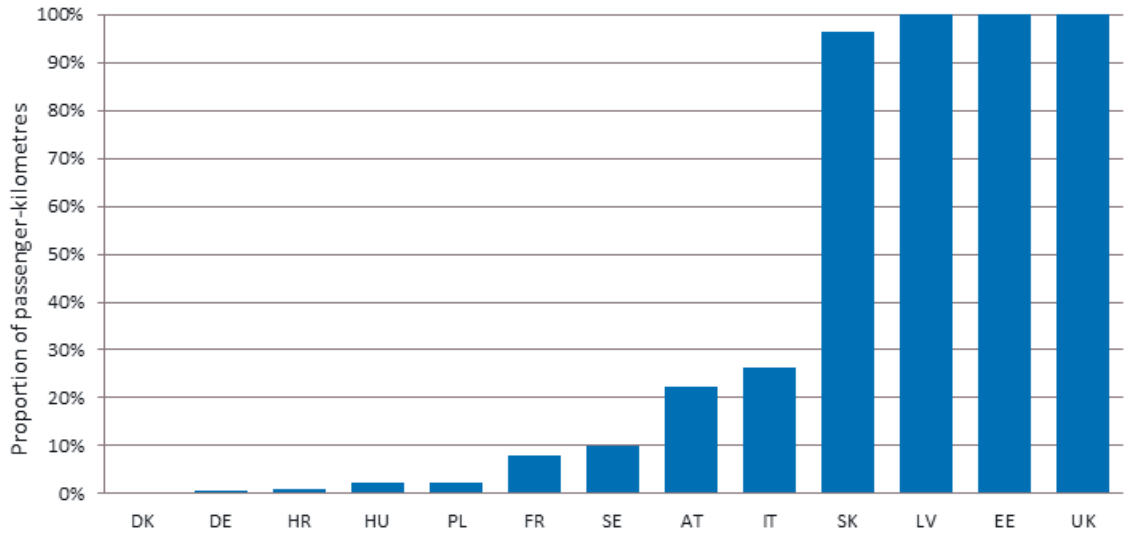
Figure 17: Competitors in freight, market share and compound average growth rate, 2011-2016



Source: RMMS, 2018. One operator with 100% share in EL, IE, LT, LU.

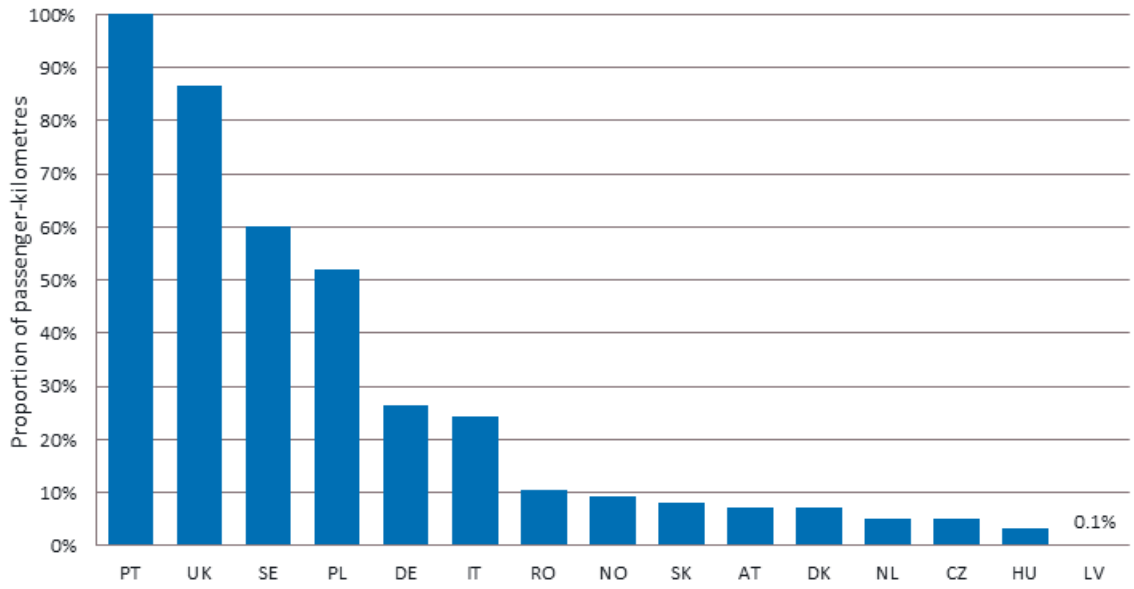
While the **international passenger** market has been **opened up to competition** since 2010, Member States continue to regulate access to their **domestic passenger markets** until the Fourth Railway Package has been implemented. Passenger railway undertakings can offer their services under a PSO scheme or under purely commercial conditions (i.e. without public compensation). In both markets, the services can be offered only by a monopolistic incumbent, or can be open to other competing railway undertakings. According to reported figures, only half of the Member States have competitors operating in the commercial passenger market. Their **market share** is generally higher than 10 %, and in four Member States new entrants offer almost all of the commercial services. Alternative operators are also present in the PSO segment; however, their market share is above 10 % only in a limited number of Member States.

Figure 18: Competitors in commercial passenger market, market share, 2016



Source: RMMS, 2018. No data for BE, CZ, IE, NL and RO.

Figure 19: Competitors in PSO passenger market, market share, 2016



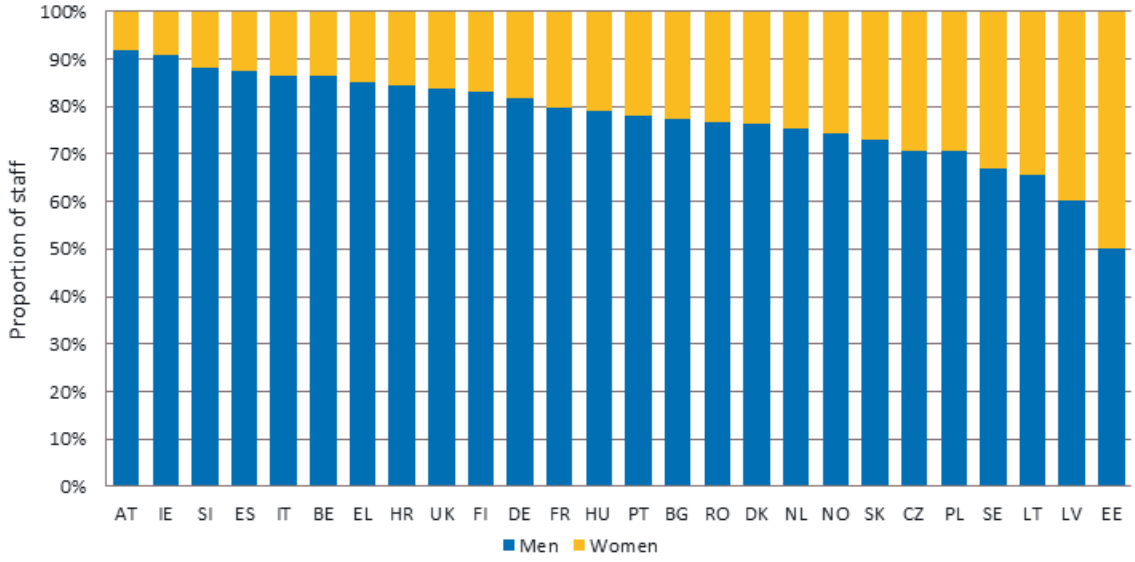
Source: RMMS, 2018. All other Member States reported a single operator.

5.8. Employment and social conditions

According to the RMMS data reported by the Member States and Norway, at the end of 2016 just over 1 million people were employed in the European railway sector, around 600 000 of them by railway undertakings and 440 000 by infrastructure managers.

The workforce is predominantly male; on average only 21 % were women. The proportion of female staff varies between 50 % in Estonia and 8 % in Austria.

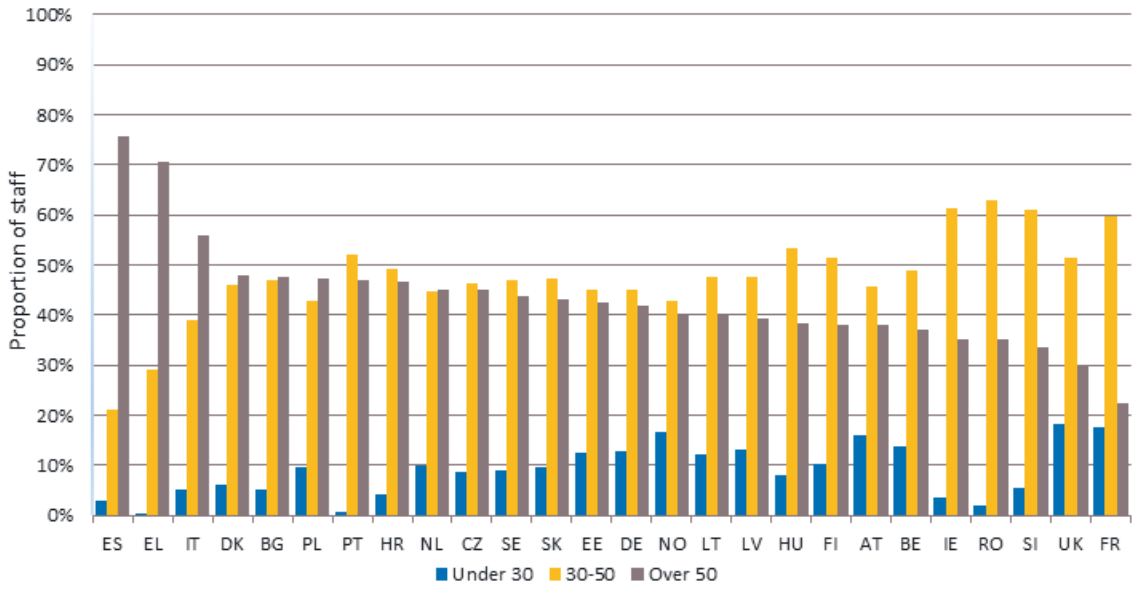
Figure 20: Employees by gender and country, 2016



Source: RMMS, 2018. No data for LU.

An ageing workforce continues to be a concern, especially for Spain, Greece and Italy, where over 50 % of the workforce were over 50 years old in 2016.

Figure 21: Employees by age group and country, 2016



Source: RMMS, 2018. No data for LU.

Data show that 90 % or more of staff have permanent contracts, reflecting both the need for highly trained staff such as train drivers and signal operators to be retained and historic employment policies. 80 % or more of the staff are also employed full time.

Only a few Member States reported the use of apprenticeship and traineeship programmes, which are more common in Austria for railway undertakings and in Germany for infrastructure managers.

6. Conclusions

This section draws its conclusions based on the analysis carried out in this report and in the accompanying staff working document, and examines the relevance of ongoing Commission initiatives and the need for legislation in the rail sector.

EU railways continue to grow, with passenger volumes in particular increasing significantly between 2011 and 2016. However, freight volumes remain volatile and led to a loss of modal share in comparison with road transport in 2016. At the same time, rail markets are gradually opening up and safety levels remain high. The industry is gradually becoming more performance-based, innovative and responsive to customer needs.

Rail is an important contributor to EU transport mix, providing clean mobility and a high level of efficiency. While the satisfaction of Europeans with passenger rail services has increased compared to 5 years ago, there is still room for improvement on passenger

rights. The negotiations with legislators on the Commission's 2017 proposal to revise Regulation (EC) 1371/2007[22] on rail passengers' rights and obligations are still ongoing.

These developments have occurred against a background of substantial change within the industry, which has been driven by the structural changes initiated by EU legislation more than 20 years ago and concluded by the adoption of the Fourth Railway Package in 2016. Implementation of the package's technical pillar from June 2019 will further improve interoperability between national rail networks. It will also cut red tape for operations beyond one single Member State and strengthening the role of the European Union Agency for Railways. The market pillar completes the opening of domestic markets as of December 2019 and imposes the principle of competitive tendering as the rule for public service contracts in the EU by December 2023 at the latest, with direct award only allowed in exceptional cases.

The Commission has continued to work on implementing measures necessary for effective market functioning. It is now focusing on enforcement, ensuring that both pillars of the package are transposed and implemented correctly and that implementing acts are adopted and complied with.

On the rail freight's struggle to grow modal share, the international nature of these services makes them sensitive to interoperability barriers and cross-border coordination issues. To tackle the situation, the Commission is pursuing an agenda of complementary initiatives and measures. The Commission's long-standing policy of achieving interoperability (including the efficient and coordinated deployment of ERTMS) has been strengthened recently, with the focus on solving practical cross-border operational issues.

The Commission's infrastructure development policy in the form of the Trans-European Transport Network (TEN-T) policy aims to improve infrastructure by addressing bottlenecks and missing links. Under the next financial period, the Commission has proposed to use Connecting Europe Facility 2, Cohesion Fund, European Regional Development Fund and InvestEU financial support to speed up also rail digitalisation. To help the rail industry access finance, the Commission is developing a methodology to assess the green components in rail projects under its action plan on sustainable finance[23].

The rail freight corridors remain a key part of the Commission's policy to boost rail freight. The Rail Freight Regulation[24] and Train Drivers Directive[25] are still being evaluated. To bolster rail freight, in November 2017 the Commission proposed amending Combined Transport Directive 92/106/EC[26] as part of its second mobility package to provide new and more effective support measures for shifting freight from road to rail.

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22 Regulation (EC) No 1371/2007 of the European Parliament and of the Council of 23 October 2007 on rail passengers' rights and obligations, OJ L 315, 3.12.2007, p. 14–41.

23 https://ec.europa.eu/info/publications/180308-action-plan-sustainable-growth_en

24 Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight, OJ L 276, 20.10.2010, p. 22–32

25 Directive 2007/59/EC of the European Parliament and of the Council of 23 October 2007 on the certification of train drivers operating locomotives and trains on the railway system in the Community, OJ L 315, 3.12.2007, p. 51–78

26 Council Directive 92/106/EEC of 7 December 1992 on the establishment of common rules for certain types of combined transport of goods between Member States, OJ L 368, 17.12.1992, p. 38.

These key policies are accompanied by efforts to tackle the issue of rail noise, to better embed rail in the multimodal transport system by deploying digital technologies and to foster innovation, particularly by way of the activities of the Shift2Rail[27] joint undertaking.

Furthermore, rail cannot be considered in isolation from other modes: its competitiveness also depends on the framework for intermodal competition. This is why the Commission is striving for equal conditions for intermodal competition, such as through the mobility package including the amendment of the Eurovignette Directive[28]. The Commission has also commissioned a comprehensive study on the internalisation of external costs in transport. This will help it to assess the extent to which the 'user pays' and 'polluter pays' principles are implemented in the Member States for all modes of transport.

Reliable monitoring of the rail market remains a priority to be able to follow market developments and to benchmark performance.

[27] https://shift2rail.org/

[28] https://ec.europa.eu/transport/modes/road/news/2017-05-31-europe-on-the-move_en