Bundesnetzagentur

Railway Market Analysis

2013

Bundesnetzagentur für Elektrizität, Gas,
Telekommunikation, Post und Eisenbahnen

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The rail market in figures

Revenue development - railway undertakings			Δ11/12
2012	Total	€18.6 bn	↗
	Rail freight	€ 4.7 bn	→
	Long-dist. passenger	€ 4.1 bn	↑
	Short-dist. passenger	€ 9.8 bn	↗

Revenue development - infrastructure managers			Δ11/12
2012	Total	€ 5.5 bn	↗
	Track access charges	€ 4.4 bn	↗
	Station usage charges	€ 0.7 bn	↗
	Other charges	€ 0.4 bn	→

Transport performance			Δ11/12
2012	Rail freight	110 bn tkm	↘
	Long-dist. passenger	37 bn pkm	↑
	Short-dist. passenger	51 bn pkm	↗

Market share held by competitors			Δ11/12
2012	Rail freight	29 per cent	↑
	Long-dist. passenger	<1 per cent	↗
	Short-dist. passenger	15 per cent	↗

Where final figures were not available at the time of publication of this report, the data were marked with an "e" (estimate).

Summary

The German economy continued its positive growth in 2012. Compared to 2010 and 2011, however, the growth posted in 2012 was significantly more moderate. Consequently, in 2012 Germany's gross domestic product increased by only 0.7% in real terms over the previous year. It is expected that the growth rate will decline further to just 0.4% for the current year 2013.

Buoyed by the macroeconomic trend, revenues in the rail traffic market increased once again (+4%), but still lagged behind the growth of the previous year. This development was driven solely by passenger rail service, with the long-distance passenger rail transport segment reporting a significant increase in revenue of approximately 8%. Infrastructure managers also increased their revenues at a somewhat lower rate of approximately 2%.

In 2012, only the short-distance and long-distance passenger rail transport segments continued the positive growth in volumes seen in all transport segments in recent years. At some 4%, the strongest growth was reported by the short-distance passenger rail transport segment. By contrast, transport volumes in the rail freight segment declined slightly.

It is encouraging that the percentage of competitors in the rail freight transport segment increased significantly in 2012. Contrary to the general trend seen in this segment, the competitors even improved their operating performance. Slight growth could also be observed in the short-distance passenger rail transport segment. However competitors continue to account for less than 1% of this segment despite the Hamburg-Köln-Express's entry into the market.

All in all, operating performance (train-kilometres) on public railway lines fell slightly and, at 1.06 billion train-km, reached the level reported in 2010. The share of infrastructure managers whose terms of use have been reviewed by the Bundesnetzagentur increased once again.

Track access charges and station prices for infrastructure use continued to rise through 2012. As a result, railway undertakings in the rail freight segment had to set aside some 19% of their revenues for infrastructure access charges. For railway undertakings in the long-distance passenger rail transport segment this figure was approximately 23%, and for their counterparts in the short-distance passenger rail transport segment it was some 36%, with 29% alone going to track access charges.

The economic situation in the German rail transport market was also examined as part of this market analysis for the first time, establishing a new focus for this report.

In this connection, baseline business data from railway undertakings and infrastructure managers was gathered from the market participants and subsequently analysed in order to better assess the economic performance and financial stability of the undertakings operating in the German rail market. The findings show a multifaceted and, in some cases, mixed picture of the individual transport segments, types of infrastructure and federally-owned as well as non-federally-owned railway undertakings (see section 6).

1. Introduction

1.1 The Bundesnetzagentur's mandate in the railway sector

In its efforts to ensure effective competition in the railway sector, the Bundesnetzagentur monitors compliance with the legal provisions pertaining to non-discriminatory access to rail infrastructure (tracks and service facilities) and the levying of non-discriminatory charges.

The Bundesnetzagentur's specific duties and powers are set forth in Sections 14ff of the General Railway Act (AEG) which are supplemented by provisions of the Rail Infrastructure Usage Regulations (EIBV).

1.2 Background to the Market Analysis

The Bundesnetzagentur is responsible for monitoring compliance with the provisions of legislation governing access to the railway infrastructure. This includes ensuring non-discriminatory access, reviewing the terms for use of rail networks and service facilities (network statements and service facilities statements) and reviewing the arrangements for charge structures and levels. Fulfilling these tasks requires access to valid, up-to-date information about the rail market in general and railway companies in particular.

For this purpose, the Bundesnetzagentur has conducted written surveys to collect market data ever since it was set up in 2006. Every year, in March or April, it sends questionnaires to railway undertakings and other parties with access entitlements such as regional transport authorities. In 2012, the year under review here, the Bundesnetzagentur sent its questionnaire to more than 800 market participants.

The results of the survey are published not only in the "Railway Market Analysis" but also in the Bundesnetzagentur's annual report and the "Activity Report – Railways".[1] The focus of the latter two publications is on regulatory aspects of the market, while the Railway Market Analysis publishes current statistical data, enabling interested parties to gain insights into the railway sector's structure and performance.

The Bundesnetzagentur strives to ensure continuity in its collection and analysis of this data. This continuity gives the surveyed companies and parties with access entitlements a sound basis for planning. Moreover, it is the only way that useful time series can be produced.

[1] Both the Annual Report of the Bundesnetzagentur and the Activity Report – Railways can be downloaded from the website http://www.bundesnetzagentur.de.

In addition to this, specific data are collected every year on topical issues. For the 2012 reporting year, railway undertakings were surveyed about, for example, additional costs that arise in connection with construction or maintenance work, and the purchase of traction current from third parties, while service facility operators were asked about their services in maintenance facilities.

1.3 Market breakdown

The “Railway Market Analysis 2013” examines the area of rail transport via rail infrastructure to which access must be granted. Rail infrastructure is also a focus of this analysis. Depending on the type of infrastructure they operate, infrastructure companies are referred to as public railway line infrastructure operators or public operators of service facilities. These are further broken down into refuelling facilities, passenger stations, freight yards and freight terminals, marshalling yards, train formation facilities, railway sidings, maintenance facilities and ports.

The following diagram provides an overview of the market breakdown used in the Railway Market Analysis. It must be considered that, for instance, rolling stock manufacturers or railway undertakings can also be rail infrastructure managers as a sub-function of their primary business.

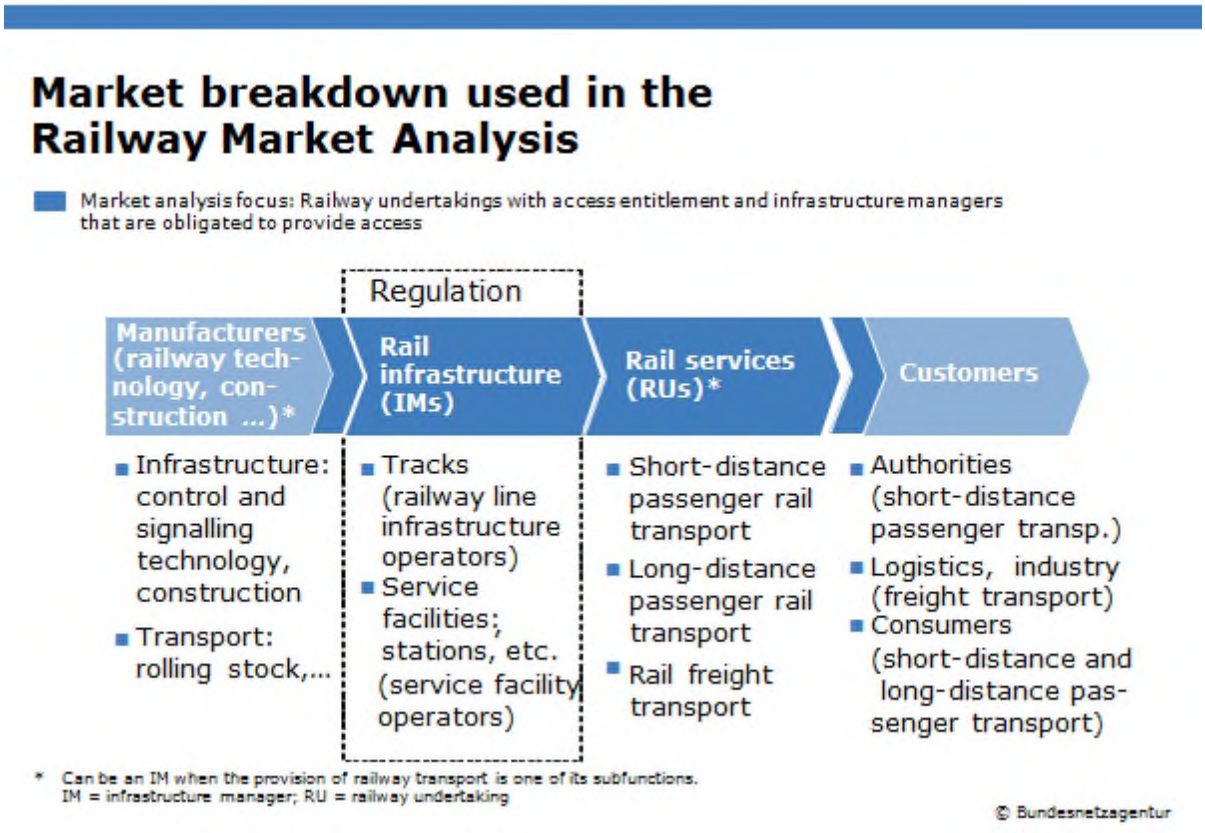


Figure 1: Market breakdown used in the Railway Market Analysis

1.4 Methodology used for rating influencing factors

Sections 4 (Rail infrastructure market) and 5 (Infrastructure access and other charges) of this report address the issue of how railway undertakings rate specific factors that impact the railway market.

This analysis is based on the section “Factors that influence the railway market” in the questionnaire for railway undertakings and the questionnaire for regional authorities responsible for short-distance passenger transport.[2]

In this part of the survey, railway undertakings had the opportunity to assess various issues from their particular standpoint such as the current situation with regard to access to railway infrastructure and service facilities or in connection with non-discrimination. They rated the individual topics on a scale ranging from “1 - Excellent, no need for action” to “5 - Inadequate, urgent action necessary”.

Respondents could choose not to answer this part of the questionnaire. Nonetheless, many of them offered their assessment of the state of the market. As a result, the results provide a representative view of the market and not just a purely regulatory view. The order of similar indicators additionally reveals the areas where railway undertakings see the most problems.

Since the railway undertakings usually assess the market from their point of view at the time of the survey, these findings – unlike the other analyses presented here – refer to the year in which the Bundesnetzagentur conducted the survey (2013).

[2] These questionnaires can be downloaded from the website of the Bundesnetzagentur (http://www.bundesnetzagentur.de).

2. Market structure data

2.1 Market environment

The German economy has developed positively in the years since the downturn in 2009. For 2013, the country's economy is expected to grow by 0.4 percentage points compared to the previous year. This is somewhat less than the growth rate reported for the year 2012. All in all, both 2012 and 2013 saw modest growth.

Looking at Europe as a whole (EU27), the picture is different. The economy in the euro zone rebounded in the first few years following 2009 but then slowed again in 2012. The weakness of the euro zone economy continues to dampen economic activity in Germany.

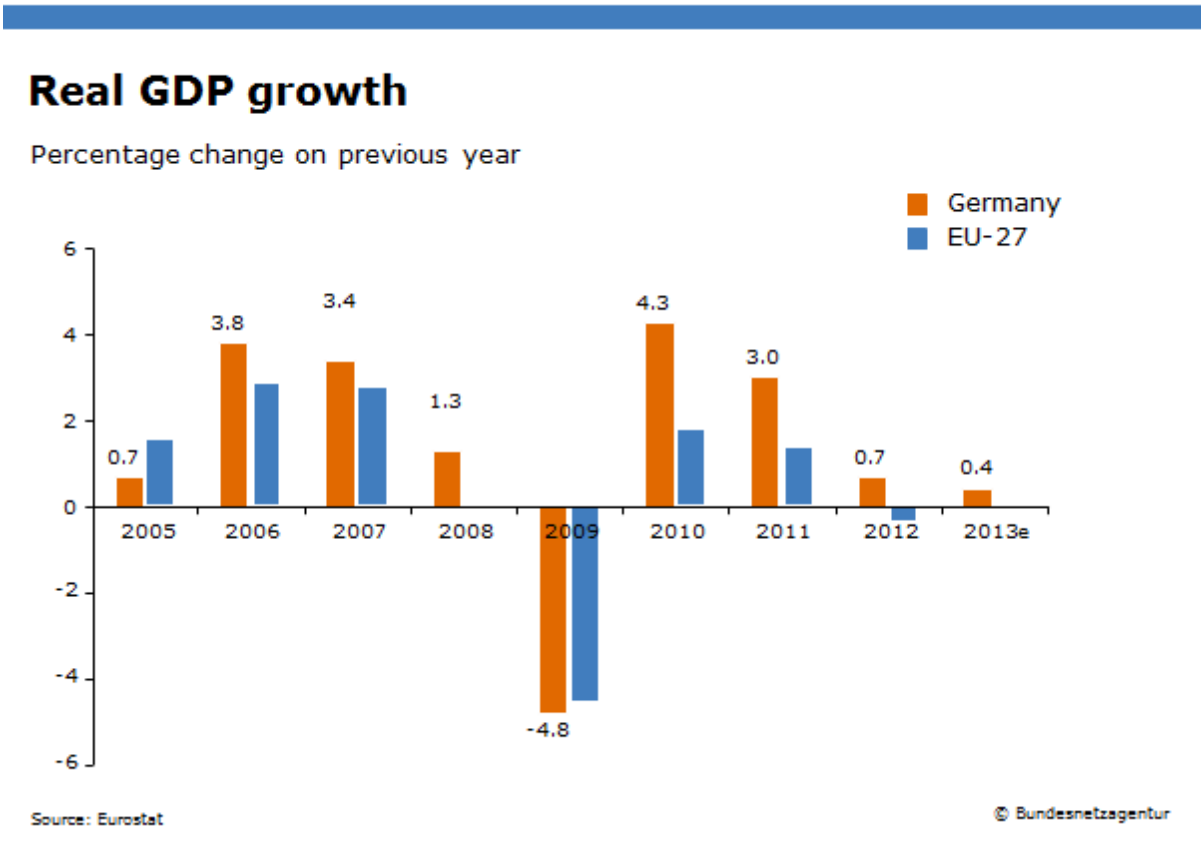


Figure 2: Real GDP growth

2.2 Modal split

Following the initially positive developments in the years since 2009, the overall freight transport market (road, inland waterway and rail freight transport) deteriorated slightly in 2012. According to the latest forecasts however growth of at least 4 billion tonne-kilometres (tkm) is expected for 2013. Consequently transport performance in

the rail freight transport segment in the years 2011 to 2013 is well above the level seen in 2009, the year of the economic crisis, but has not yet reached the level reported in 2007.

Both the road freight and the rail freight transport segments suffered losses in 2012. By contrast, the inland waterway transport segment continued its upward trend. However, the positive trend in the inland waterway transport segment paints a deceptive picture of the actual situation since inland waterway transport suffered significant losses in 2011 due to weather-related cancellations and the intermittent closure of the Rhine for inland waterway transport. It would therefore be more accurate to speak of a recovery in this market.

Overall freight traffic is expected to increase from 623 billion tonne-kilometres (tkm) in 2012 to 627 billion tkm in 2013. The market share of the rail freight transport segment is forecast to decline by 0.3%. The road freight and inland waterways freight transport segments on the other hand could grow their market shares somewhat.

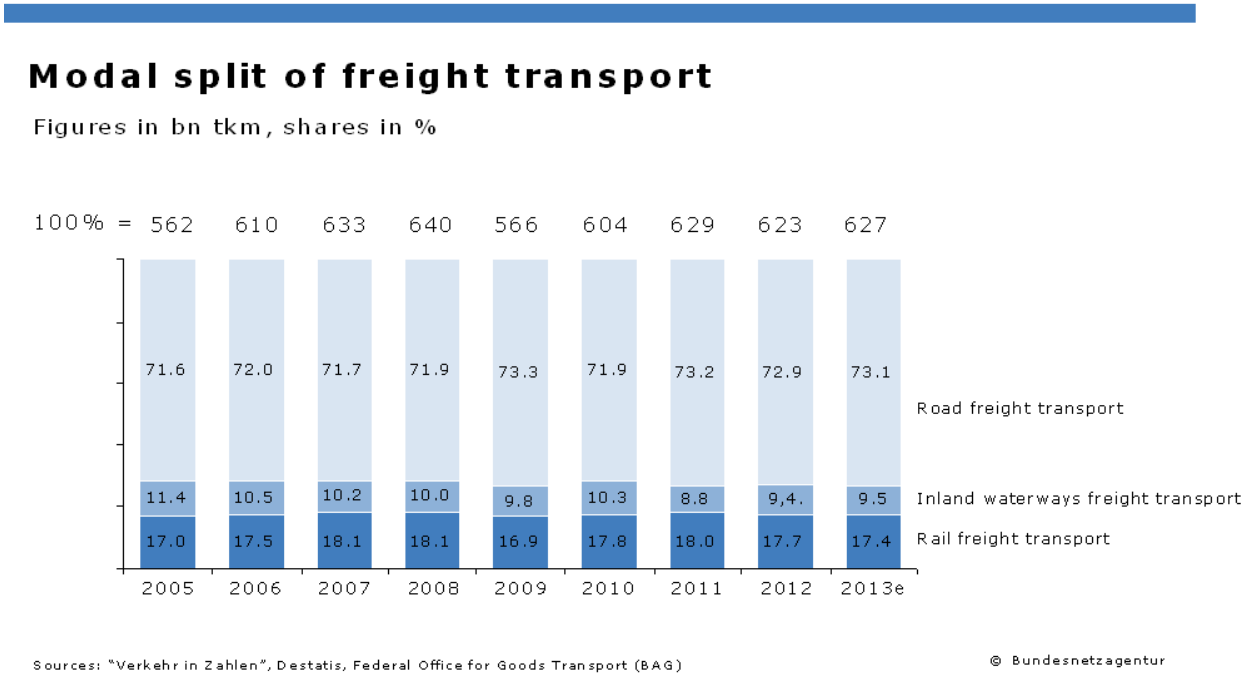


Figure 3: Modal split of freight transport

The total number of passenger kilometres (pkm) travelled in the passenger transport segment rose to 1,082 billion in 2012.

Motorised individual transport saw a slight decline and the share held by the public road transport segment stagnated at 7.1% in 2012. By contrast, passenger rail transport increased its market share by 0.4 percentage points to 8.2%.

Passenger kilometres travelled in the overall passenger transport segment are predicted to rise to 1,088 billion pkm in 2013. It is expected that motorised individual transport will increase slightly over the previous year while the public road transport segment will lose market share. By contrast, passenger rail transport will stagnate at the level of the previous year.

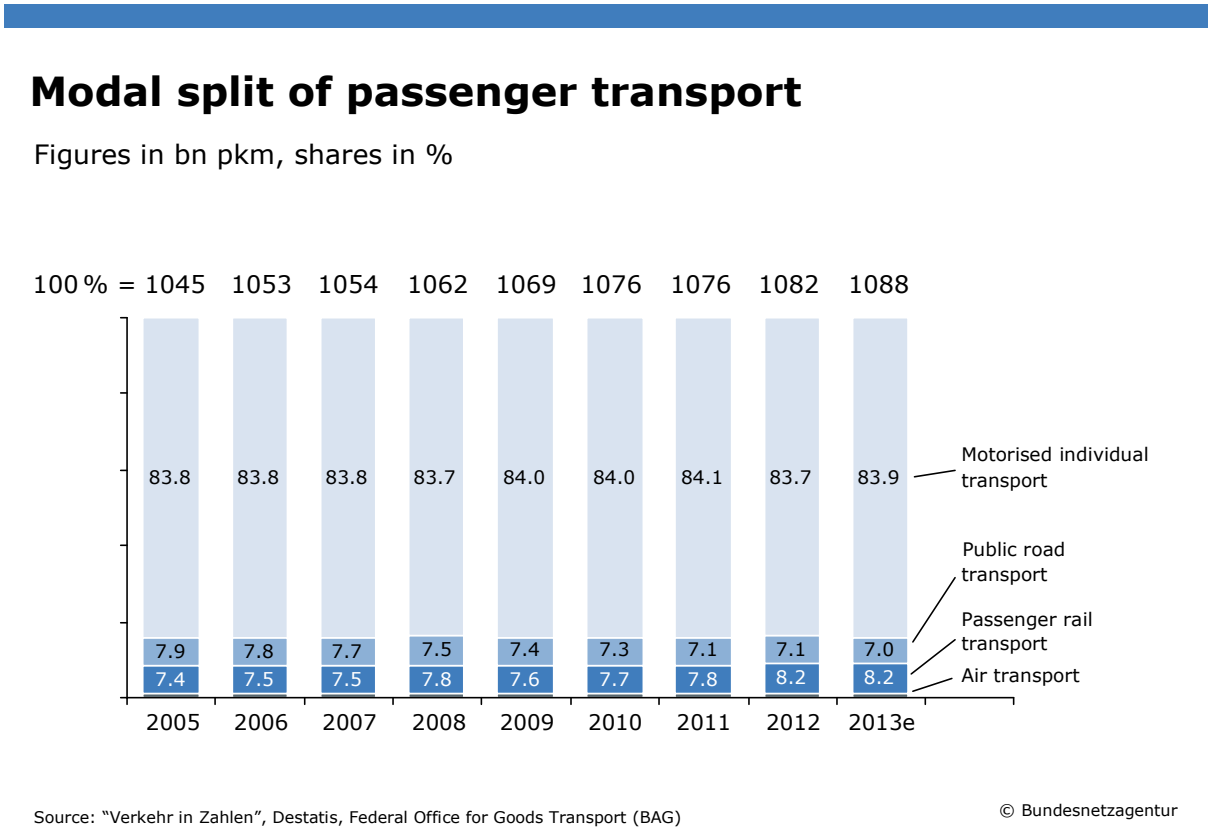


Figure 4: Modal split of passenger transport

2.3 Revenues

Revenues in the rail market rose in 2012 with not only railway undertakings but also infrastructure managers reporting revenue growth. Altogether, revenue generated by infrastructure managers in 2012 will probably increase by nearly 2%. In the case of railway undertakings, an increase of just under 3% is expected.

2.3.1 Railway undertakings

In 2012, revenue generated in the rail transport market increased by more than 3% over the previous year to a total of €18.6 billion. This growth was driven solely by the passenger rail transport segment. Revenue in the rail freight transport segment on the other hand remained constant at the level of the previous year.

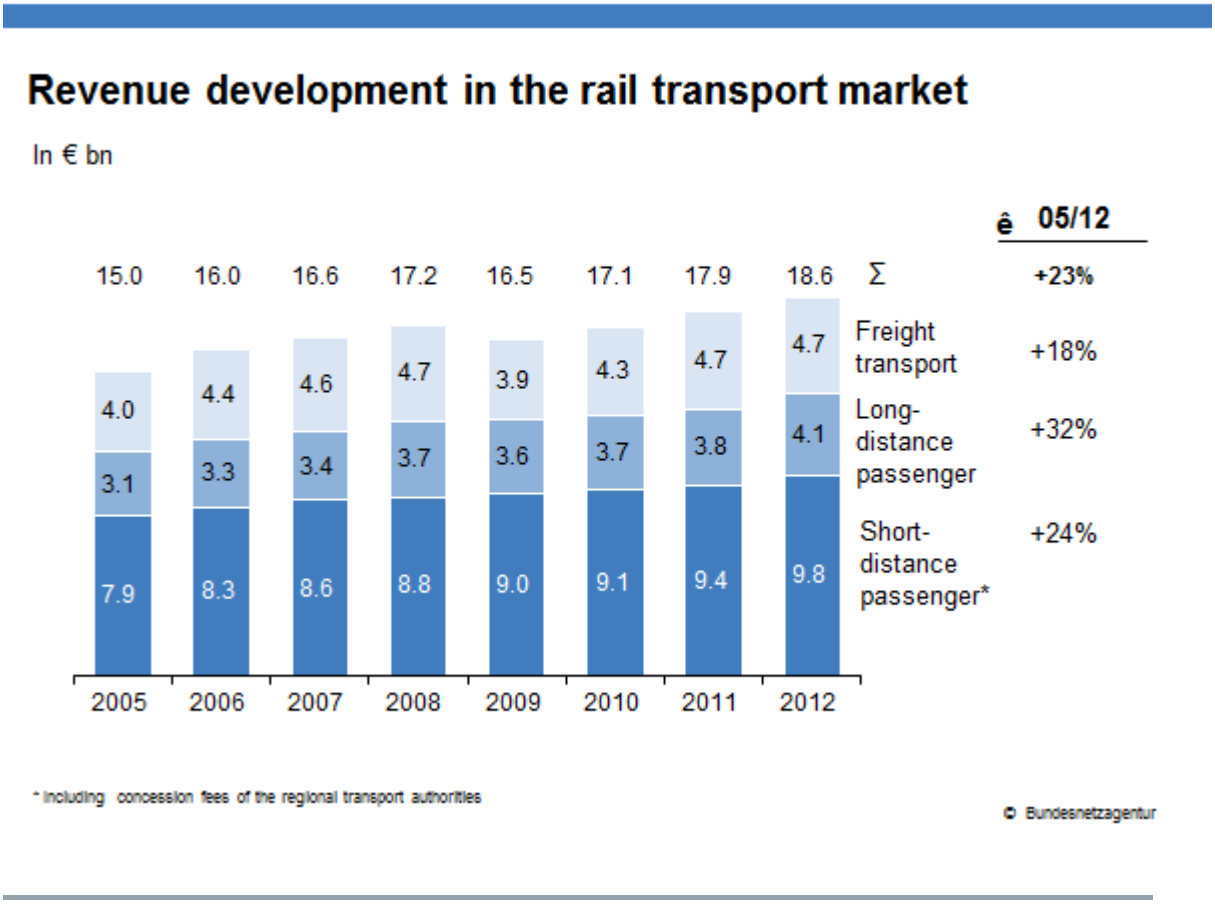


Figure 5: Revenue growth in the rail transport market

2.3.2 Infrastructure managers

The infrastructure managers generated their revenues primarily from the charges they collected for the usage of train paths and service facilities. The greater part of their revenues – 79% of total revenue in 2012 – came from track access charges which came to €4.35 billion in 2012.

Overall, an increase in revenue in the rail infrastructure market could be observed for the year 2012, confirming the trend toward rising revenue levels seen in the preceding years.

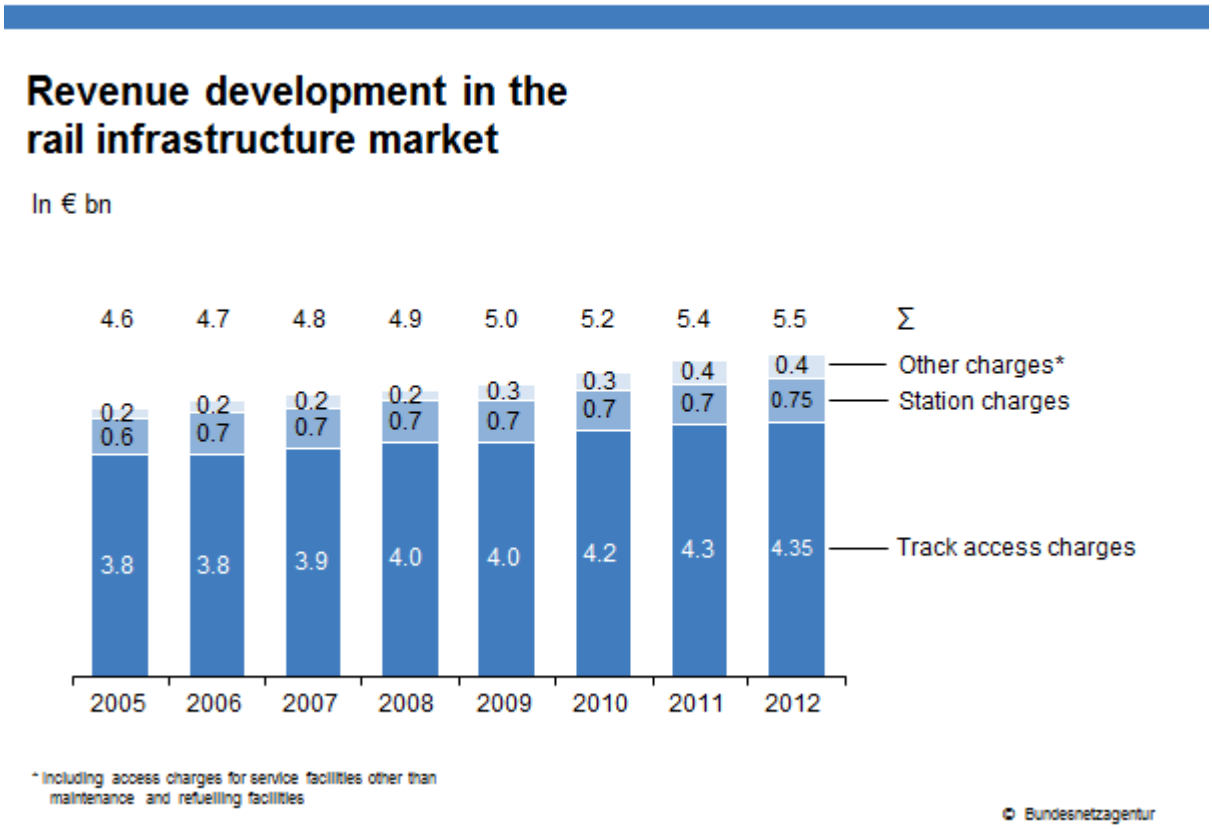


Figure 6: Revenue growth in the rail infrastructure market

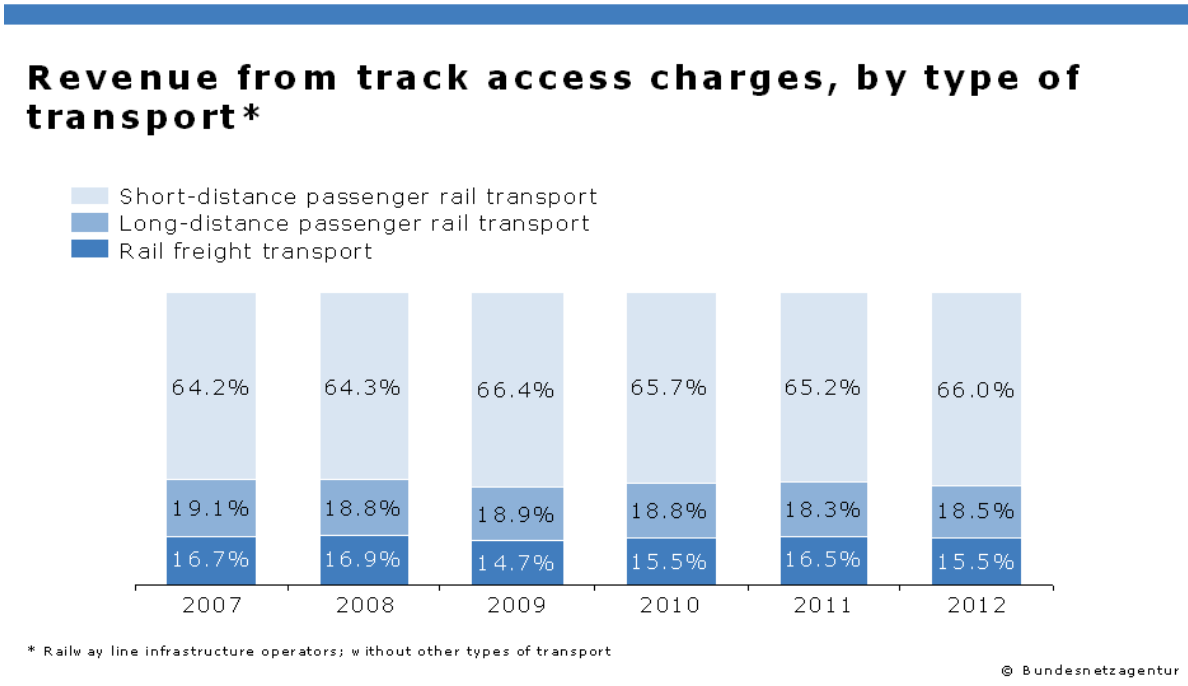


Figure 7: Revenues from track access charges, by type of transport

Passenger rail transport is responsible for two-thirds of the total revenues from track access charges. Charges paid in the long-distance passenger rail transport segment and charges paid in the rail freight transport segment account in nearly equal parts for the other third.

2.4 Employment

At 138,000 full-time employees, the number of persons working in the railway market in 2012 did not change over the level reported in 2011. It is striking, however, that the number of workers employed by infrastructure managers rose while the number employed by railway undertakings fell. This was due to a more stringent classification of employees in integrated companies. The number of engine drivers remained constant compared to the previous year.

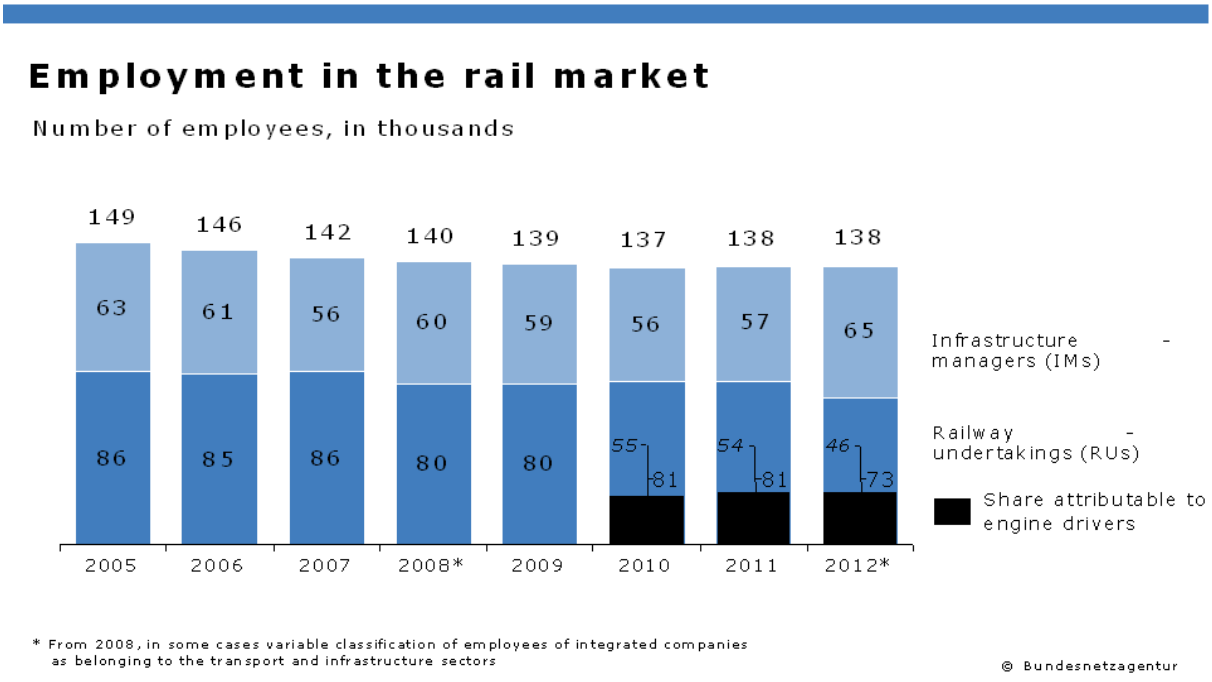


Figure 8: Employment in the rail market

3. Rail transport market

3.1 Number of public railway undertakings

Under Section 3(1) para 1 of the General Railways Act (AEG), a public railway undertaking is a railway undertaking (RU) that is run on a commercial basis and may be used by anyone to convey persons or goods. The Federal Railway Authority's register of public railway undertakings indicates that their number has remained virtually constant in recent years. In November 2013, some 400 railway undertakings had been issued a licence to provide rail transport services for the public. By international standards, the German railway market counts among those national railway markets with the largest number of competitors.

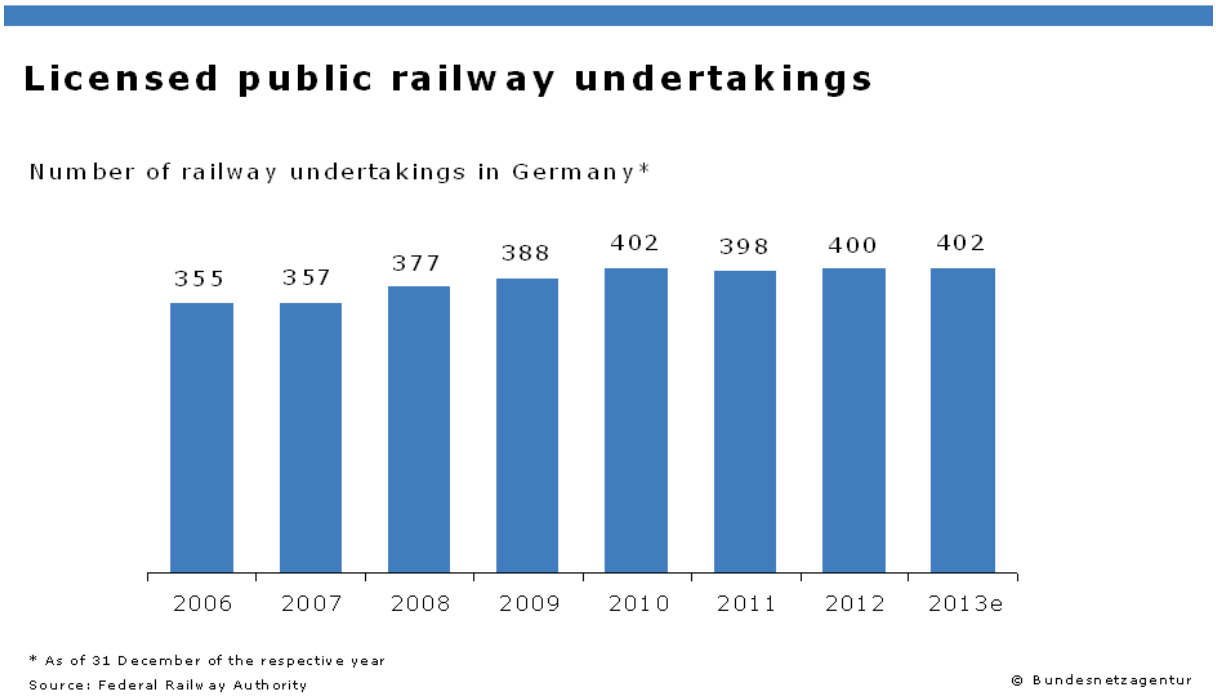


Figure 9: Licensed public railway undertakings

According to the Bundesnetzagentur's annual survey, more than 300 railway undertakings were actively involved in providing railway services in Germany. Approximately 200 of them provide rail freight or other transport services.

More than 110 railway undertakings provided short-distance passenger transport services. The number of railway undertakings operating in the long-distance passenger transport segment remained small. Less than 20 – generally smaller – railway undertakings provide transport services in this segment. More than ten of

these focus exclusively on providing special non-scheduled rail services and consequently do not compete with regular (interval) services.

A number of railway undertakings provide transport services in several market segments.

3.2 Transport volumes

In 2012, only the passenger rail service segment saw its transport volume continue to rise. The short-distance passenger rail transport segment alone transported 2.541 billion passengers, a total of 155 million more passengers than in 2011. This represents an increase of more than 6%. Four million more long-distance passenger rails were transported in 2012 than in the previous year for a total of 131 million, an increase of 3%.

The volume of rail freight transported in 2012 declined by 2%, from 375 million tonnes in 2011 to 366 million tonnes, halting the positive trend seen after the 2009 crisis.

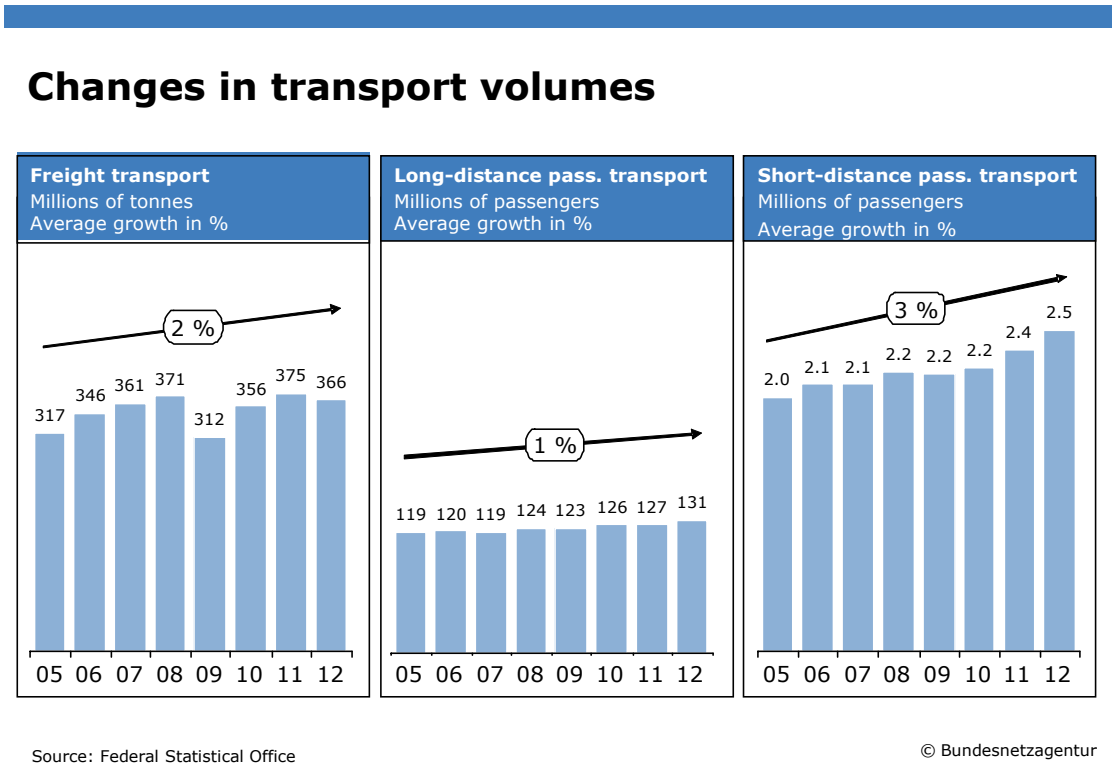


Figure 10: Changes in transport volumes

3.3 Transport performance

Transport performance takes into account not only transport volumes (freight volumes or number of passengers) but also the average transport or travel distances.

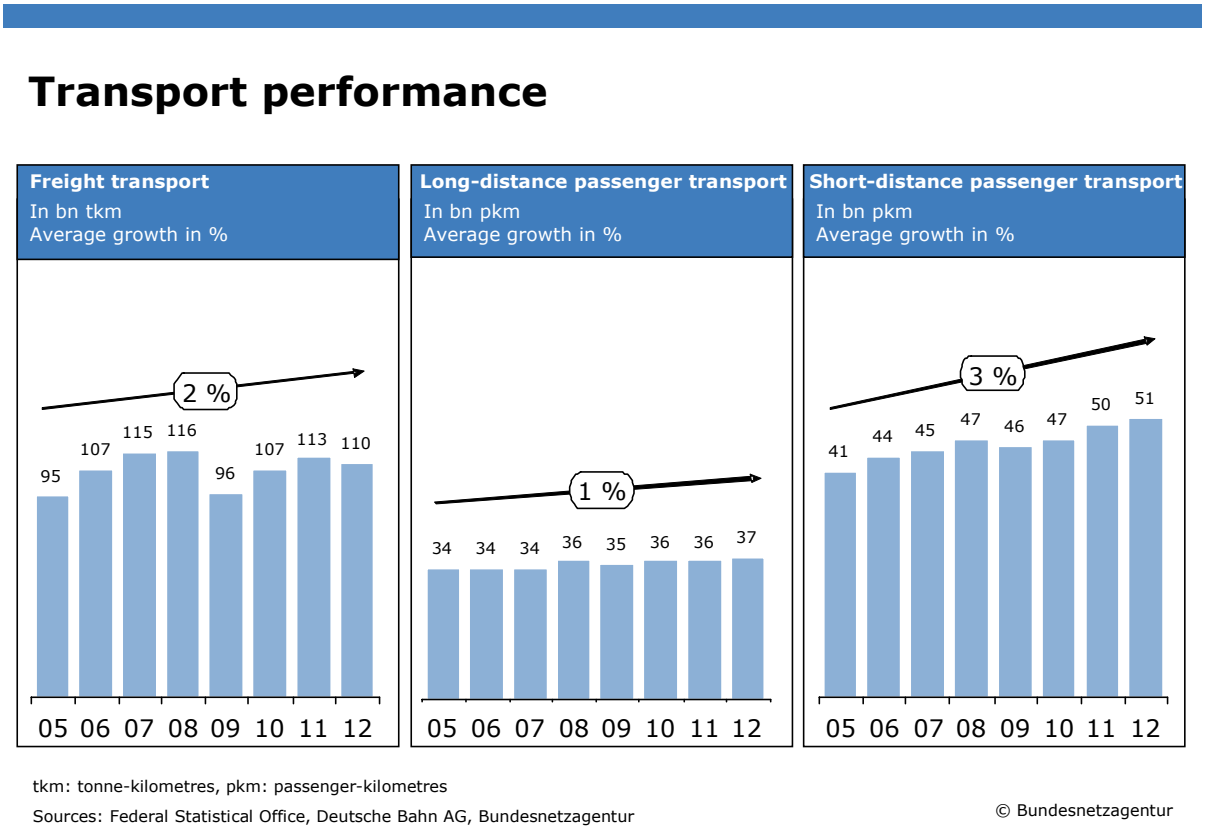


Figure 11: Transport performance

The increase in the number of passengers in the passenger rail transport segment is also reflected in the number of passenger-kilometres travelled. This figure rose to 51 billion passenger-kilometres in the short-distance passenger rail segment and to 37 billion passenger-kilometres in the long-distance segment for an increase of some 2% in short-distance passenger rail transport and approximately 3% in long-distance passenger rail transport.

The rail freight transport segment saw a decline of approximately 3%. Altogether, total traffic in this segment reached 100 billion tonne-kilometres.

3.4 Revenue in the short-distance passenger rail transport segment

The most important sources of revenue for the railway undertakings operating in the short-distance passenger transport segment are – in addition to revenues from the market – public subsidies that are paid through bodies that contract short-distance passenger transport services (regional transport authorities) to the railway undertakings that have been contracted to provide transport services. These subsidies come largely from funds made available by the federal government to Germany's *Länder* (federal states) under the Regionalisation Act.

Using a breakdown of the revenue components, Figure 12 shows the importance of public subsidies for the short-distance passenger rail transport segment. The share of market revenue increased noticeably up to the year 2007 and then remained constant over a period of several years until it declined slightly in 2012. The following diagram shows that in the year 2012 alone market revenues (primarily from the sale of tickets) covered an average of only 38% of the costs generated by short-distance passenger rail services.

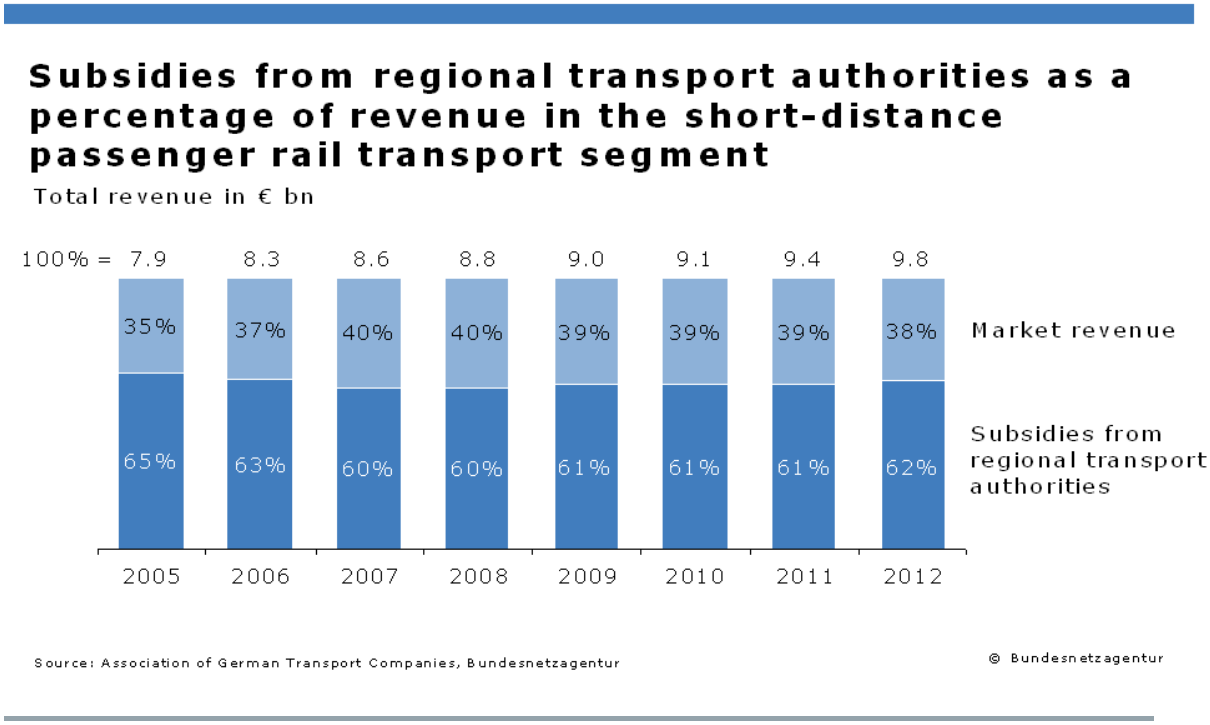


Figure 12: Subsidies from regional transport authorities as a percentage of revenue in the short-distance passenger rail transport segment

The renewed increase in the revenue generated per train path-kilometre travelled can be attributed primarily to larger subsidies. The rise in the mean train occupancy rate from 77 to 79 passengers did not materially affect the railway undertakings' revenue. The increases in revenue and in the number of passengers only minimally affected revenue per passenger-kilometre. Correspondingly the share of market revenue fell slightly in this category as well.

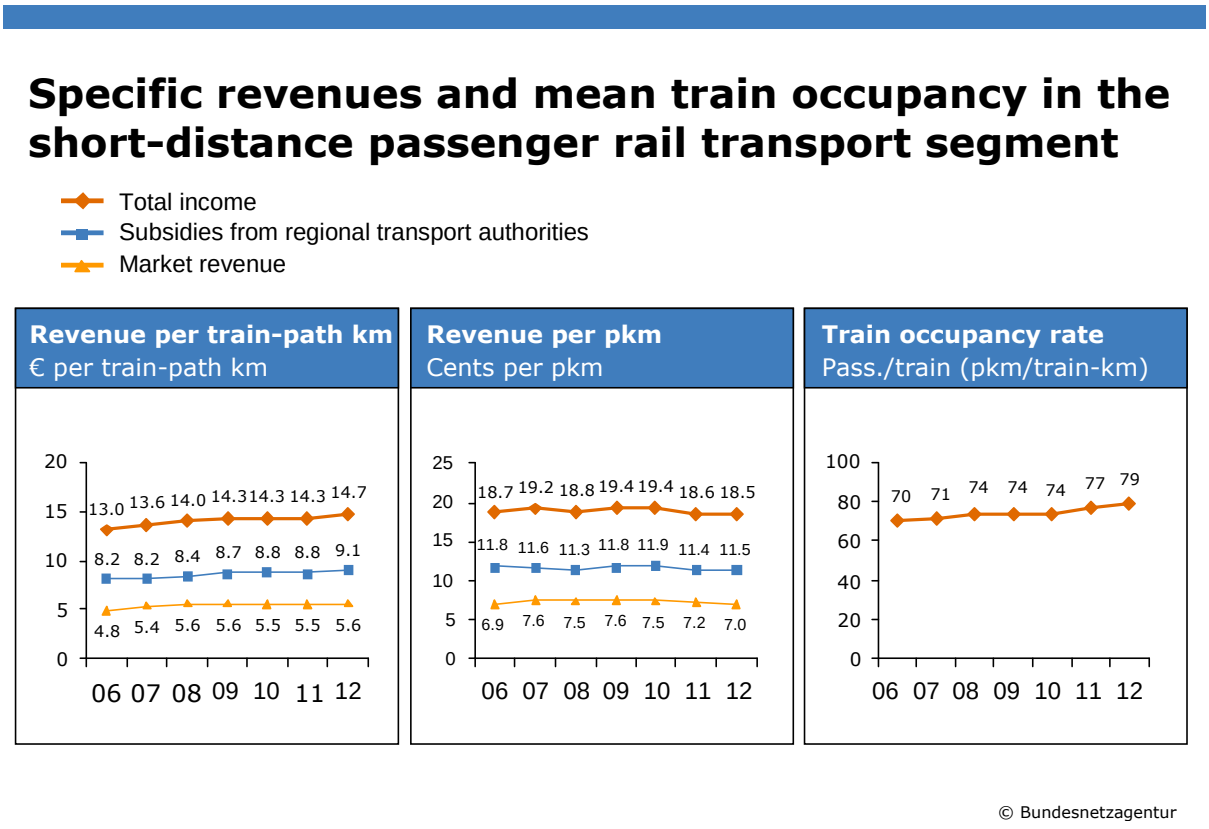


Figure 13: Specific revenues and mean train occupancy in the short-distance passenger rail transport segment

Compared to the short-distance passenger transport segment, mean train occupancy is considerably higher in the long-distance passenger transport segment. As a result, revenue per train-path kilometre is approximately twice as high in the long-distance passenger transport segment. However since subsidies are generally not paid in the long-distance passenger transport segment, revenue per passenger kilometre is significantly lower – just under €0.11 – than it is in the short-distance passenger transport segment.

Specific revenues and mean train occupancy in the long-distance passenger transport segment

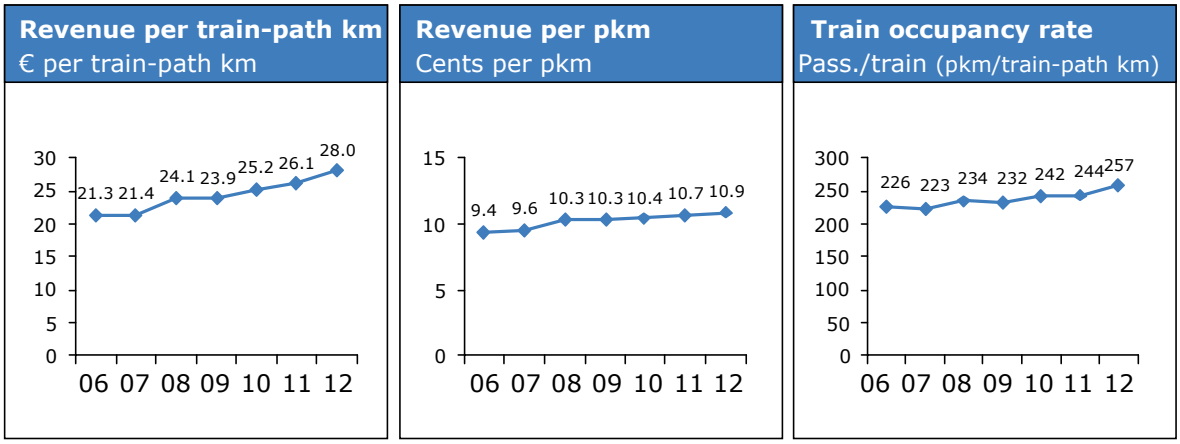


Figure 14: Specific revenues and mean train occupancy in the long-distance passenger transport segment

3.5 Transport and travel distances in the rail transport segment

Figure 15 shows the average transport and travel distances that are calculated on the basis of the respective quotient of transport performance and transport volume.

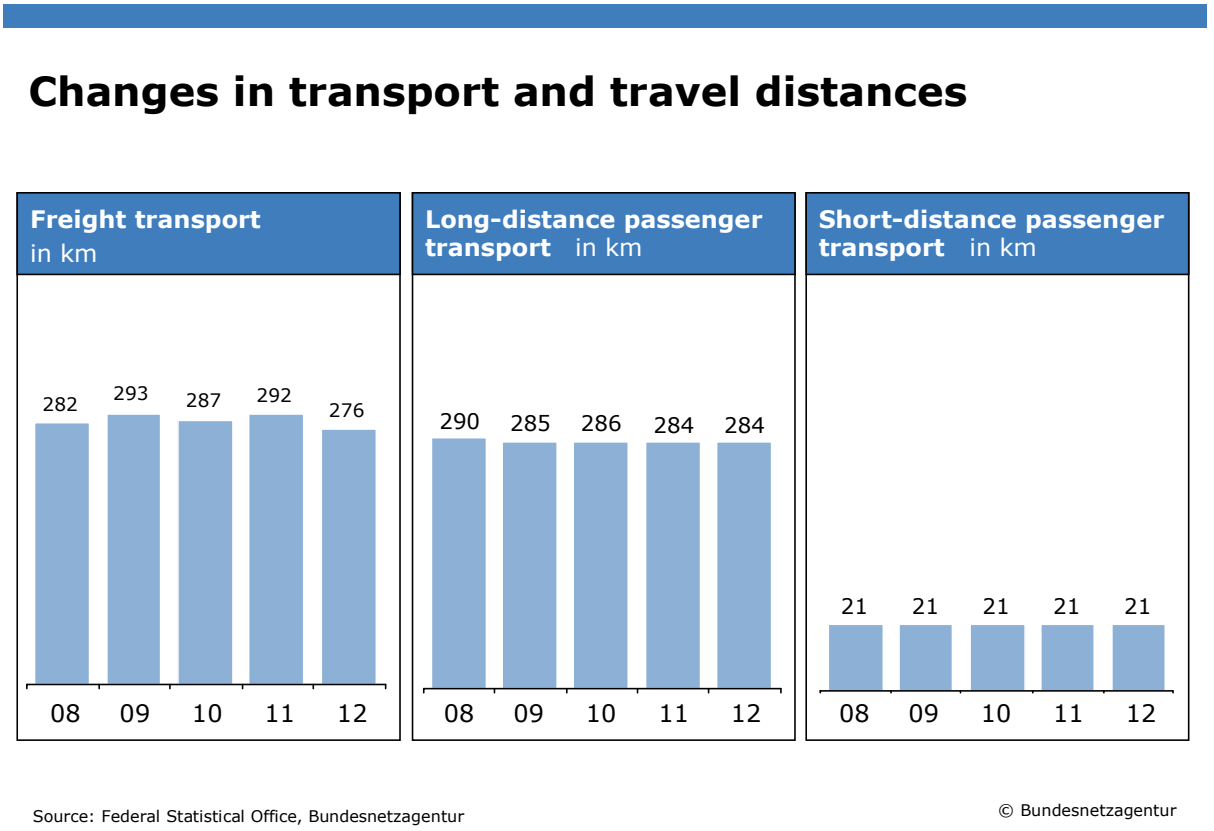


Figure 15: Changes in transport and travel distances

The average travel distance in the short-distance passenger rail transport segment remained virtually unchanged at 21 km in 2012. Likewise, at 284 km, no change over the previous year was seen in the long-distance passenger rail transport segment. By contrast, the average transport distance in the rail freight transport segment fell from 292 in 2011 to 276 in 2012.

When looking at average travel and transport distances, it should be borne in mind that in its market analysis the Bundesnetzagentur takes only inland transport services into account. As a result, only those passenger kilometres/tonne-kilometres/train path-kilometres from cross-border services that were provided in Germany are included in the survey data. Passenger kilometres/tonne-kilometres/train path-kilometres provided in other countries are accordingly included in the statistics of the respective country. Particularly in the rail freight transport segment where

approximately half of all freight is transported across borders the average transport distance of the entire transport is probably much greater.

3.6 General trends in the competition

Growing competitor shares in the individual market segments were observed in the year 2012. This continued the positive trend seen in recent years. In the rail freight transport segment, competitors not only gained market share, they were also able to post an increase in transport services while the overall market receded on the whole.

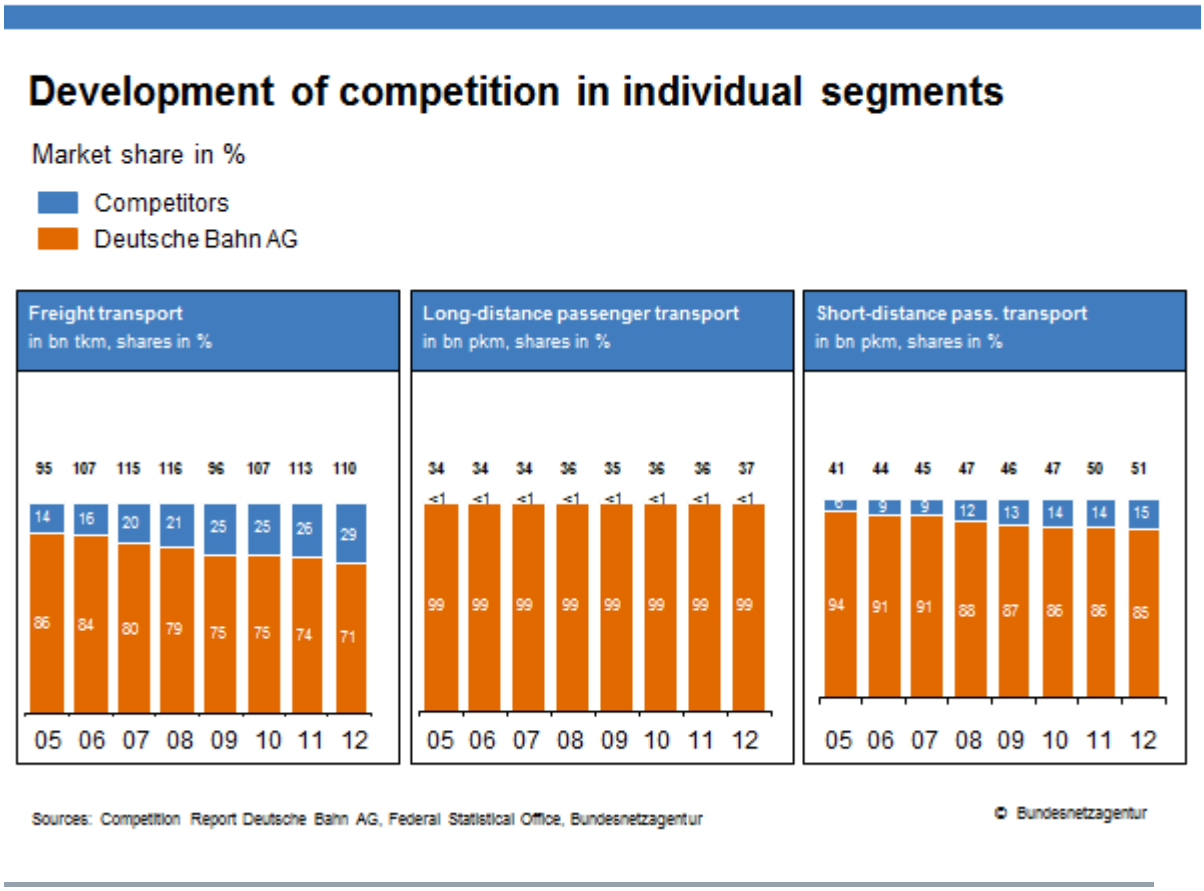


Figure 16: Development of competition in individual segments

Market activities among the competitors are presently concentrated around a number of larger market participants, each of which, however, reaches only a small percentage of the market leader's transport performance. For example, the largest competitor in the rail freight transport segment in Germany holds some 7% of the market. Its counterpart in the short-distance passenger rail transport segment holds approximately 5%. By comparison, the DB Group with its subsidiary Euro Cargo Rail

(ECR) has captured 16% (2011) of the French rail freight transport market since it was opened to competition.[3]

Deutsche Bahn AG railway undertakings continue to clearly dominate the markets in the passenger rail service area. However the trend towards steadily larger competitor shares continued here as well. The competitors in the short-distance passenger rail transport segment grew their market share by one percentage point as a result of successful tenders and an overall increase in passenger demand. Given the many contracts that have already been or will be awarded it is to be expected that this trend will continue in the coming years.

The share held by competitors in the long-distance passenger rail transport segment continues to fall significantly short of 1% despite the Hamburg-Köln-Express's entry into the market in the summer of 2012. The market leader continues to dominate passenger rail transport services with the exception of a few routes that the competitors currently serve with a maximum of three trains in each direction per day.

3.7 Additional costs due to construction or maintenance work

According to information from the market, the financial disadvantages arising from construction measures undertaken by infrastructure managers are significant. The Bundesnetzagentur asked railway undertakings about these additional costs once again in 2012. In their answers, respondents were to make a distinction between increased infrastructure costs (such as higher track access charges due to re-routing), increased operating expenses (such as through the provision of replacement bus service, the deployment of additional rolling stock, personnel or energy costs) and revenue losses (such as through declines in fare revenue).

Just under 40% of the non-federally-owned railway undertakings stated that they were affected by construction measures conducted by the infrastructure managers. This is approximately the same level as in 2011. At less than 1% of their total annual revenues, the amount of the financial disadvantages experienced by the railway undertakings was slightly less than the level observed in the previous year.

All in all, construction measures undertaken by infrastructure managers in the railway transport market led to additional costs in the amount of some €17 million. Increased infrastructure charges accounted for 18% of the additional costs accruing to railway undertakings due to construction or maintenance work, increased operating costs

[3] Source: http://www.deutschebahn.com/de/konzern/im_blickpunkt/2448312/gefco_20120425.html

accounted for 52% and revenue losses 30%. Consequently more than half of the costs incurred were attributable once again to increased operating costs in 2012.

In the short-distance passenger rail transport segment, regional transport authorities compensated railway undertakings in isolated cases for the costs incurred. At 96%, the costs covered by these authorities were almost entirely expenditure on operations.

4. Rail infrastructure market

4.1 Number of infrastructure managers

At present, some 170 railway line infrastructure managers and more than 500 service facility operators receive the questionnaire for the Bundesnetzagentur's annual market survey. Some of these enterprises operate not only railway line infrastructure but also service facilities. Due to this overlap, approximately 550 infrastructure managers are contacted in connection with the railway market survey.

The actual number of infrastructure managers that are contacted is largely determined by the Bundesnetzagentur's market penetration. Germany still does not have a central railway infrastructure register that lists all infrastructure managers. In addition, a licence is not required to operate most service facilities. Due to this, it can be assumed that the Bundesnetzagentur does not have a comprehensive overview of the market in the infrastructure area in all cases.

According to data available to the Bundesnetzagentur, German infrastructure managers operate routes totalling some 37,300 km with a track length of approximately 58,800 km (excluding tracks in service facilities). Non-federally-owned railway line infrastructure operators account for around 5,400 km of these routes and approximately 6,000 km of track (excluding tracks in service facilities).

Based on data available to the Bundesnetzagentur, tracks with a total length of nearly 11,100 km are operated in service facilities.

4.2 Operating performance

Due to the slight decline in rail freight traffic, the number of kilometres travelled in Germany's public railway network fell by some 1% to 1.06 billion train-path km in 2012.

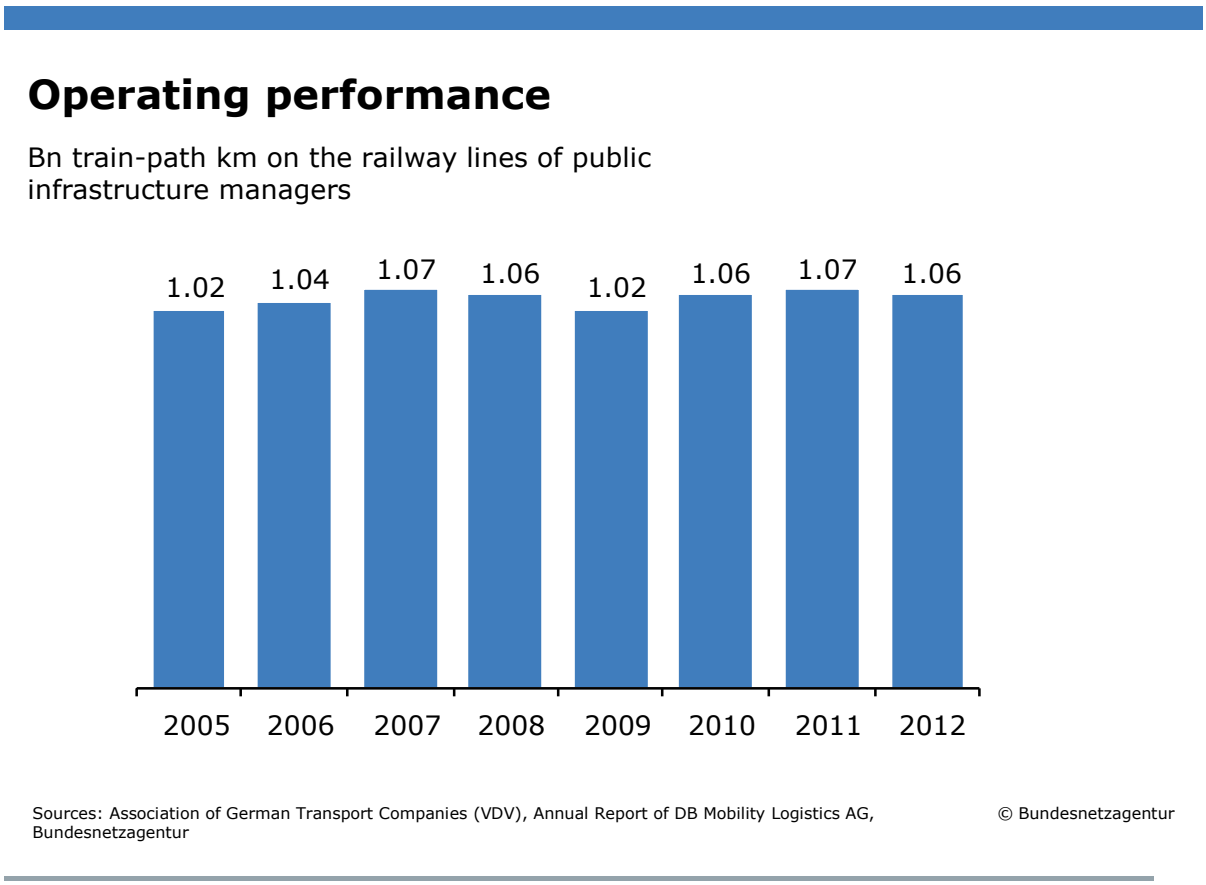


Figure 17: Operating performance

The percentage of kilometres travelled on Deutsche Bahn AG's rail infrastructure remained constant at just under 98%. Consequently the number of kilometres travelled on non-federally-owned infrastructure continues to represent approximately 2% of total kilometres.

4.3 Terms of use for rail infrastructure

Rail infrastructure operators are required by law to allow all parties with access entitlement to use their infrastructure under non-discriminatory terms and conditions. This does not apply to railways in the passenger rail service segment which are not linked to other infrastructure managers, or to railways which are used exclusively for their own freight transport needs.

The terms for using infrastructure are to be drawn up in the form of network statements for railway line infrastructure operators and as service facilities statements for service facility operators. Network statements and service facilities statements that have been drawn up or amended must be submitted to the Bundesnetzagentur for review before they enter into force.

There are still several companies that have yet to draw up a network statement or service facilities statement. The Bundesnetzagentur has repeatedly reminded these companies in recent years to draw up network statements and/or service facilities statements and works with them to ensure that the respective statement is in conformity with the law. In recent years the Bundesnetzagentur's efforts have led to a significant increase in the number of infrastructure managers that have legally-binding network statements or service facilities statements.

In 2012, 73% of the service facility operators and 86% of the railway line infrastructure operators had network statements or service facilities statements that had been reviewed by the Bundesnetzagentur. Some of the remaining infrastructure managers are companies that are not required to lay down terms of use. Other companies are still in the process of drawing up their terms of use.

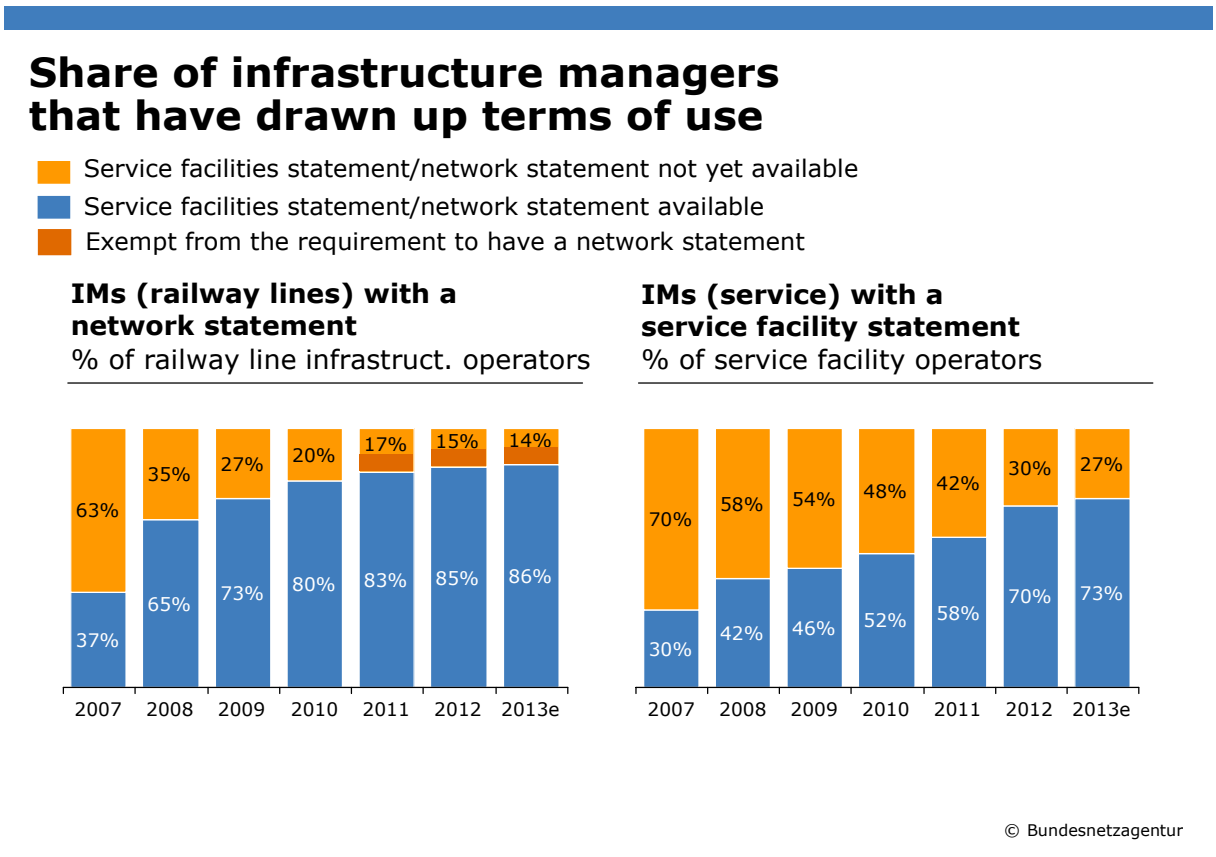


Figure 18: Share of infrastructure managers that have drawn up terms of use

4.4 Rating of access to rail infrastructure

As part of its annual market survey, the Bundesnetzagentur continued its effective practice of allowing infrastructure managers to evaluate market-relevant aspects from their respective point of view.

Overall, the ratings assigned in 2013 were similar to those in the previous year. Even though a generally positive trend can be seen in the ratings over the years, a number of problem areas still exist in the opinion of the infrastructure managers. Tariffs and sales in passenger transport (mark: 3.5), access to international rail infrastructure (mark: 3.3) and network quality and expansion (mark: 3.2) were viewed particularly critically. The price-performance ratio of the infrastructure managers received only a 3.0. It is striking that the ratings were lower for areas which are not subject to regulation.

The Bundesnetzagentur asks not only railway undertakings to assess the relevant market factors but also the regional transport authorities that task railway undertakings with providing transport services in the short-distance passenger rail segment.

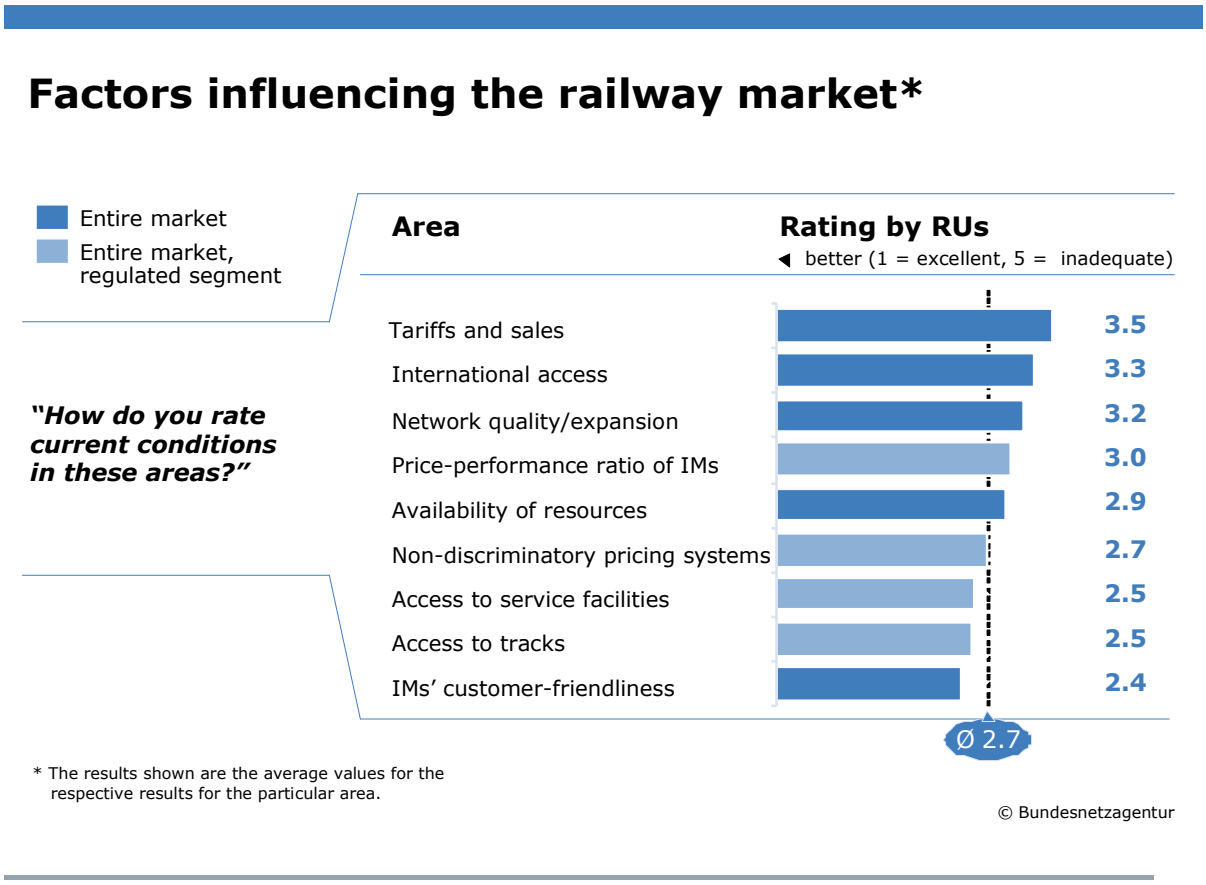
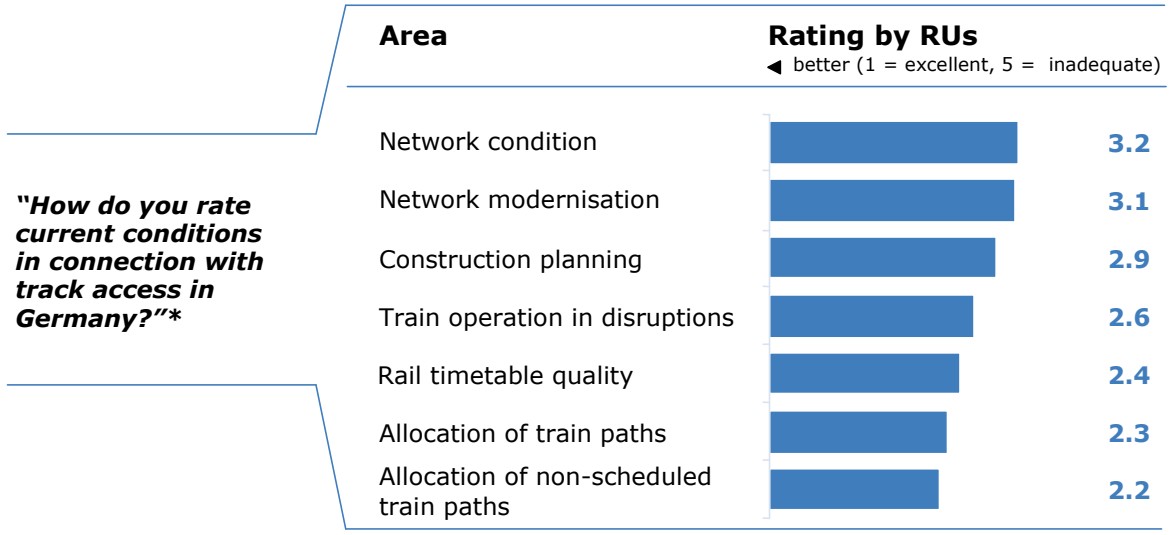


Figure 19: Factors influencing the railway market

Without exception, issues closely related to track access, train path allocation and rail timetable quality were rated as good or satisfactory. The railway undertakings surveyed – like the authorities responsible for public transport – see a need for improvement primarily in the condition of the railway network infrastructure (marks: 3.2 and 3.1). From the railway undertakings' point of view, the infrastructure managers' construction planning (mark: 2.9) also offers room for improvement. The railway undertakings' assessment of this category was again slightly less positive than in the previous year.

By contrast, the railway undertakings gave the railway line infrastructure operators mainly good marks (2.2 and 2.3) for their train path allocation processes. A slight-to-noticeable improvement in the railway undertakings' assessments can be observed in nearly all areas over the years.

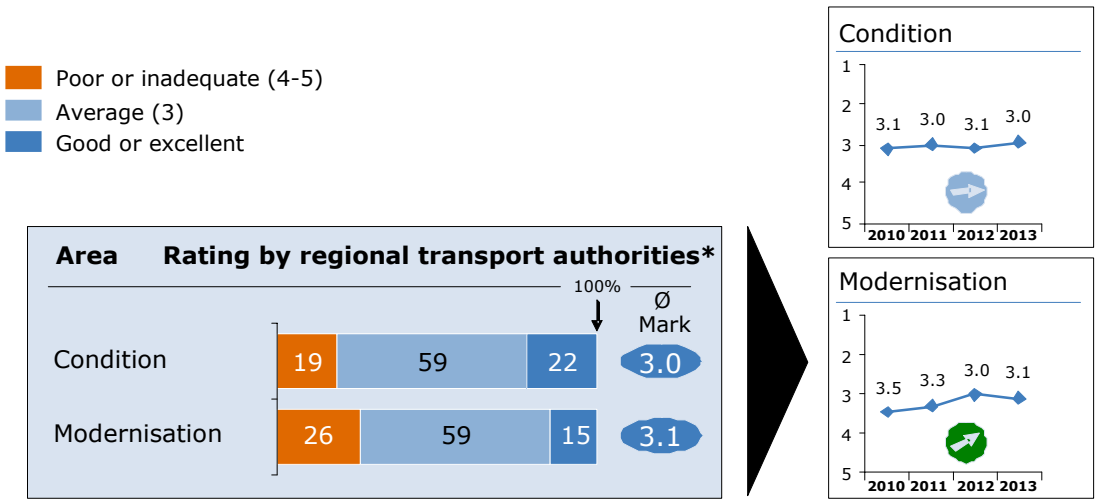
Access to tracks



* The results shown are the average values for the respective results for the particular area.

Figure 20: Access to tracks

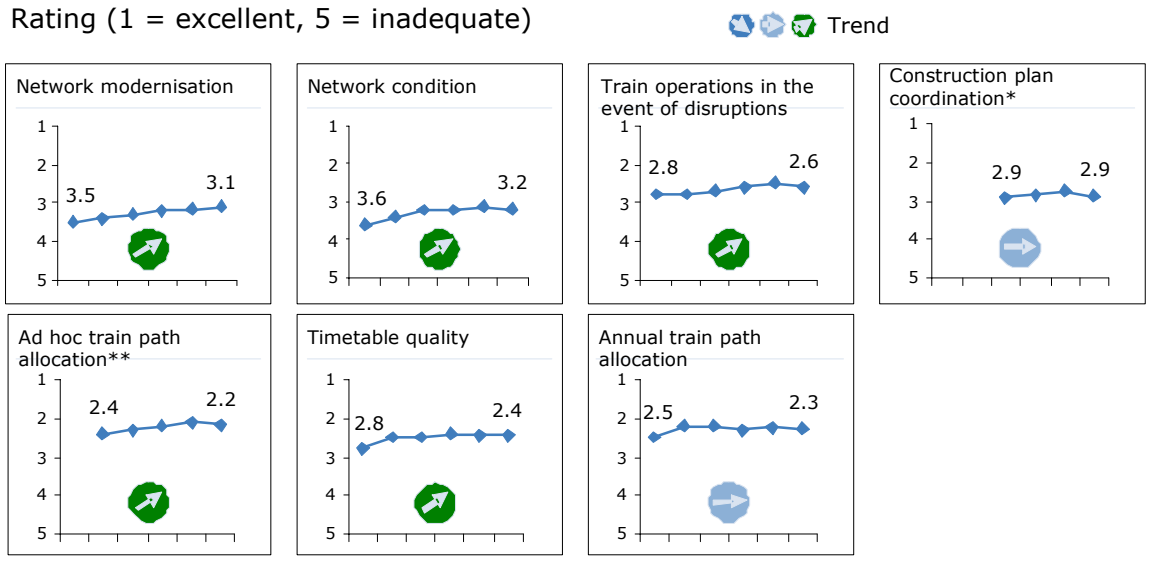
Regional transport authorities' rating of track condition and development



* Survey of regional transport authorities (results in %)

Figure 21: Regional transport authorities' rating of track quality and scope

Trends in the rating of track issues 2008-2013



* Included since 2010
** In 2008 no distinction was made between ad-hoc and annual train schedules.

Figure 22: Trends in the rating of track issues

The railway undertakings' ratings for "access to service facilities" have exhibited a slightly positive trend in recent years. The assessment of access to railway sidings has however continued to be more critical (mark: 2.9), particularly among rail freight operators. However the railway undertakings' ratings probably also reflect the regional access to railway sidings.

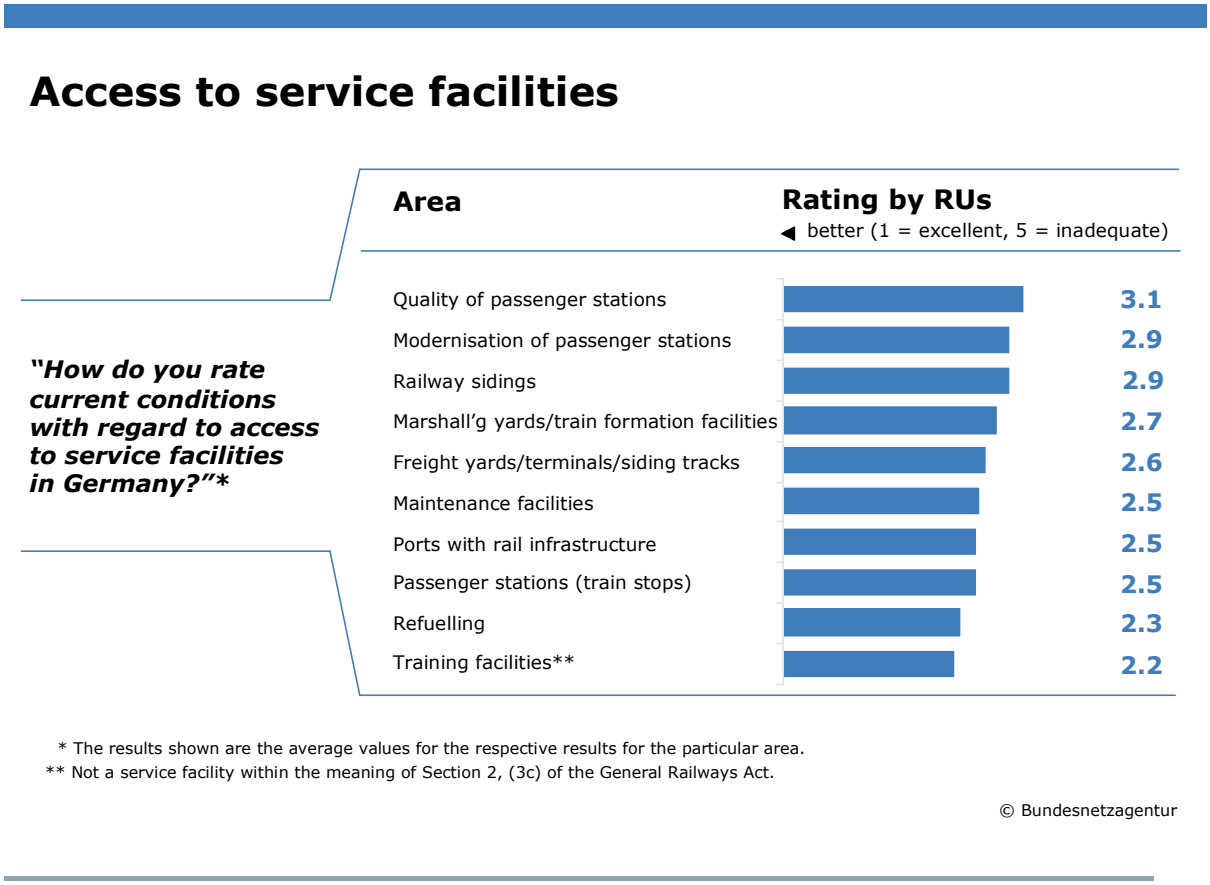


Figure 23: Access to service facilities

Trends in the rating of areas pertaining to service facilities 2008-2013

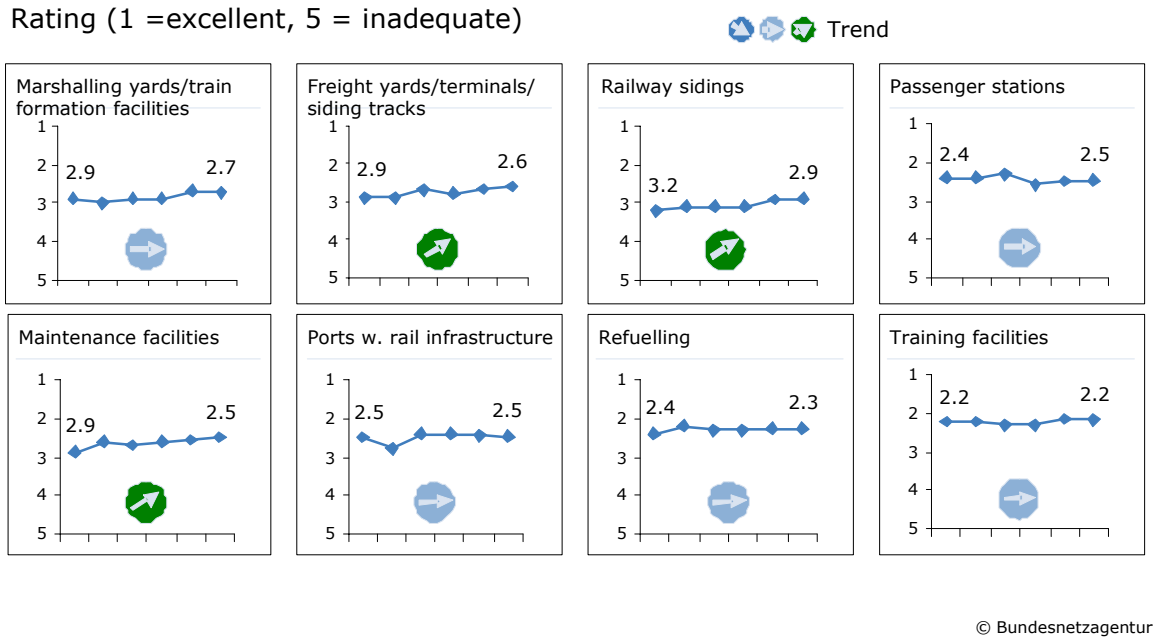


Figure 24: Trends in the rating of areas pertaining to service facilities

Attractive train stations that are suitable for passenger traffic are of vital importance for the attractiveness of passenger rail service. In light of this, railway undertakings have been asked since 2010 how they rate the condition and development of passenger stations and stopping points. In 2013, the railway undertakings surveyed gave marks of 2.9 (scope) and 3.1 (quality). Here approximately one out of every four ratings was “poor” or even “inadequate”. This unfortunately broke the positive trend seen in recent years.

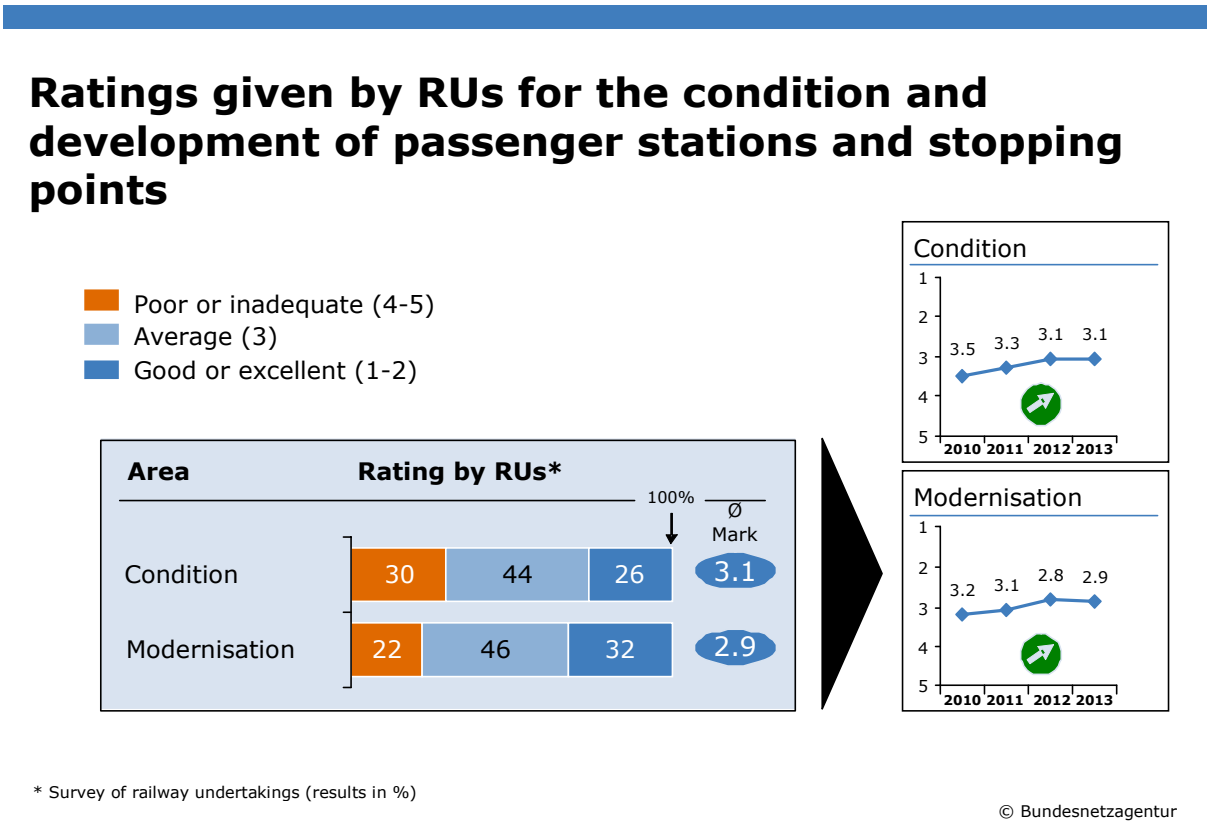
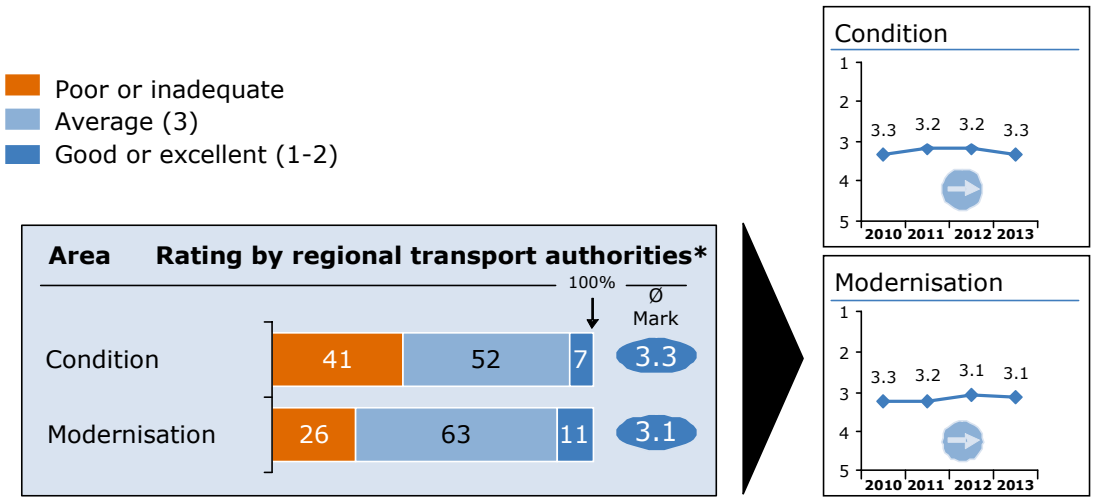


Figure 25: Ratings given by railway undertakings for the condition and development of passenger stations and stopping points

The regional transport authorities were somewhat more critical than the railway undertakings surveyed and assigned the marks 3.1 (development) and 3.3 (condition). Consequently, operators of passenger stations still have considerable room for improvement.

Ratings given by regional transport authorities* for the condition and development of passenger stations



* Survey of regional transport authorities (results in %)

Figure 26: Ratings given by regional transport authorities for the condition and development of passenger stations

4.5 Leasing, sale and decommissioning of lines

In the years since Deutsche Bahn AG was founded in 1994, DB Netz AG has ceased operating more than 600 lines with a total route length of approximately 9,000 km. More than 5,200 km of these were decommissioned. Some or at least parts of these lines – a total of approximately 7% of the decommissioned kilometres – continued to be used as service facilities.[4] In most cases, industrial enterprises ensured that the tracks were connected to the railway network.

Around 140 lines with a total length of some 2,600 km have been transferred to non-federally-owned railways or to cities and municipalities. Approximately 1,200 km of these were sold. The number of lines that have been transferred has declined in recent years. Initially, lines were almost always sold; lines were subsequently increasingly leased.

As of the end of 2012, more than 70 leased lines with a total length of over 1,400 km have been operated commercially as railway lines. The lines were leased by approximately 30 different non-federally-owned railways.[5] The average rent is currently some €900 per kilometre of route length. The leased lines average 20 km in length.

[4] Source: Federal Railway Authority

[5] DB Regio-Netz-Infrastruktur GmbH (RNI) leased further lines.

5. Infrastructure access and other charges

Railway infrastructure access charges are a key cost factor for railway undertakings. On average, approximately one-third of the revenues generated by railway undertakings are passed on to infrastructure managers. At the same time, the level of these charges and any changes in them are of crucial importance, particularly for smaller railway undertakings.

5.1 Level and changes in track access charges

Key factors for the infrastructure and thus for determining charges include not only age and complexity (tunnels, bridges, switches, electrification, etc.) but also topographical aspects and traffic density on the respective lines.

The amount of funding granted for infrastructure measures also plays an important role in this connection. For smaller infrastructure managers in particular, the amount of funding granted is often the factor that decides whether railway infrastructure continues to exist. Since the costs for underutilised infrastructure are (have to be) allocated to a small number of users, the track access charges for infrastructure are correspondingly high in such cases. The same applies to infrastructure managers which have to cover their costs without the help of government subsidies.

The weighted arithmetic mean of the track access charges that infrastructure managers levied in 2013 was €4.11 per train-kilometre. At €4.68 the median value is somewhat higher. This means that the number of infrastructure managers whose track access charges exceed the arithmetic mean is greater than the number of IMs that offer infrastructure access for less than the arithmetic mean.

Range of track access charges

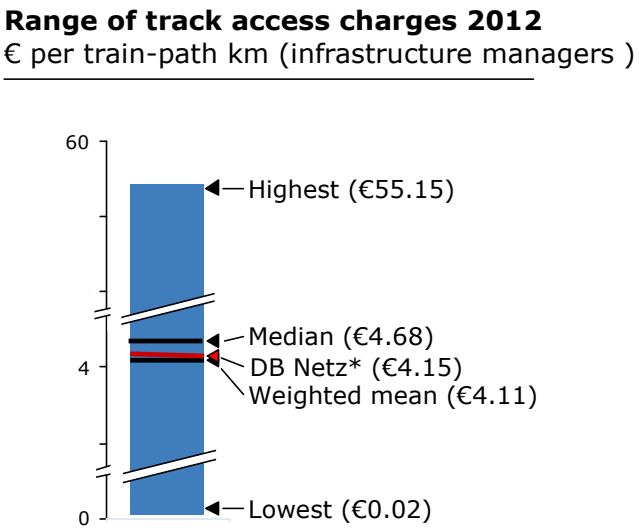


Figure 27: Range of track access charges

As has been the case in recent years, the track access charges that railway undertakings must pay continue to rise. Compared to 2007, the average track access charge has increased by 11% in the short-distance passenger rail transport segment, by 17% in the long-distance passenger rail segment and by 14% in the rail freight transport segment (these calculations include the price rise effected from 2012 to 2013).

During the same period, inflation will probably have increased by only some 10%. This figure is just 6% for costs that are significant for infrastructure managers, such as personnel costs and maintenance costs. Other specific indices such as producer prices are also lower than the inflation rates for the track access charges shown in Figure 27.

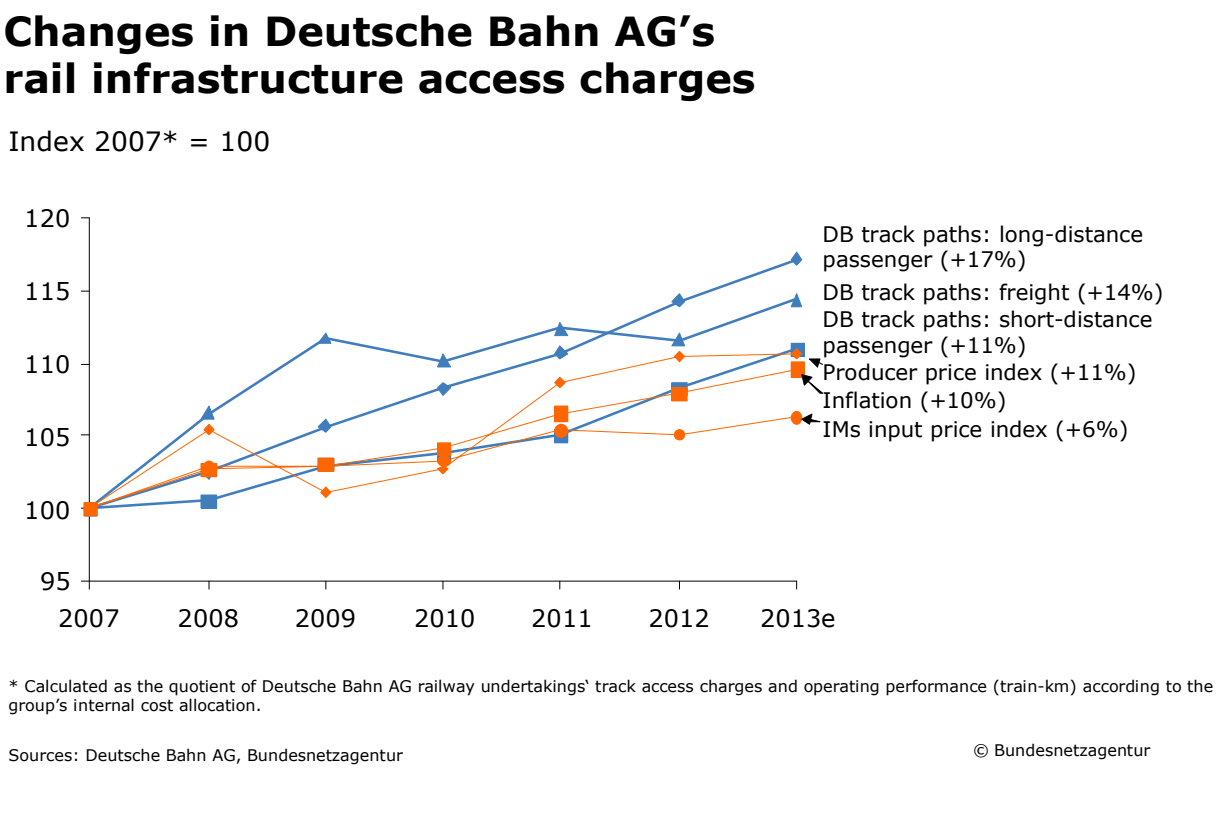


Figure 28: Changes in Deutsche Bahn AG's rail infrastructure access charges

The trend seen in DB Netz AG's track access charges is also reflected in a breakdown by product. In the last 12 years, the charges for train-path products have increased by between 33% and 46%. This corresponds to an annual increase ranging between 2.6% and 3.2%.

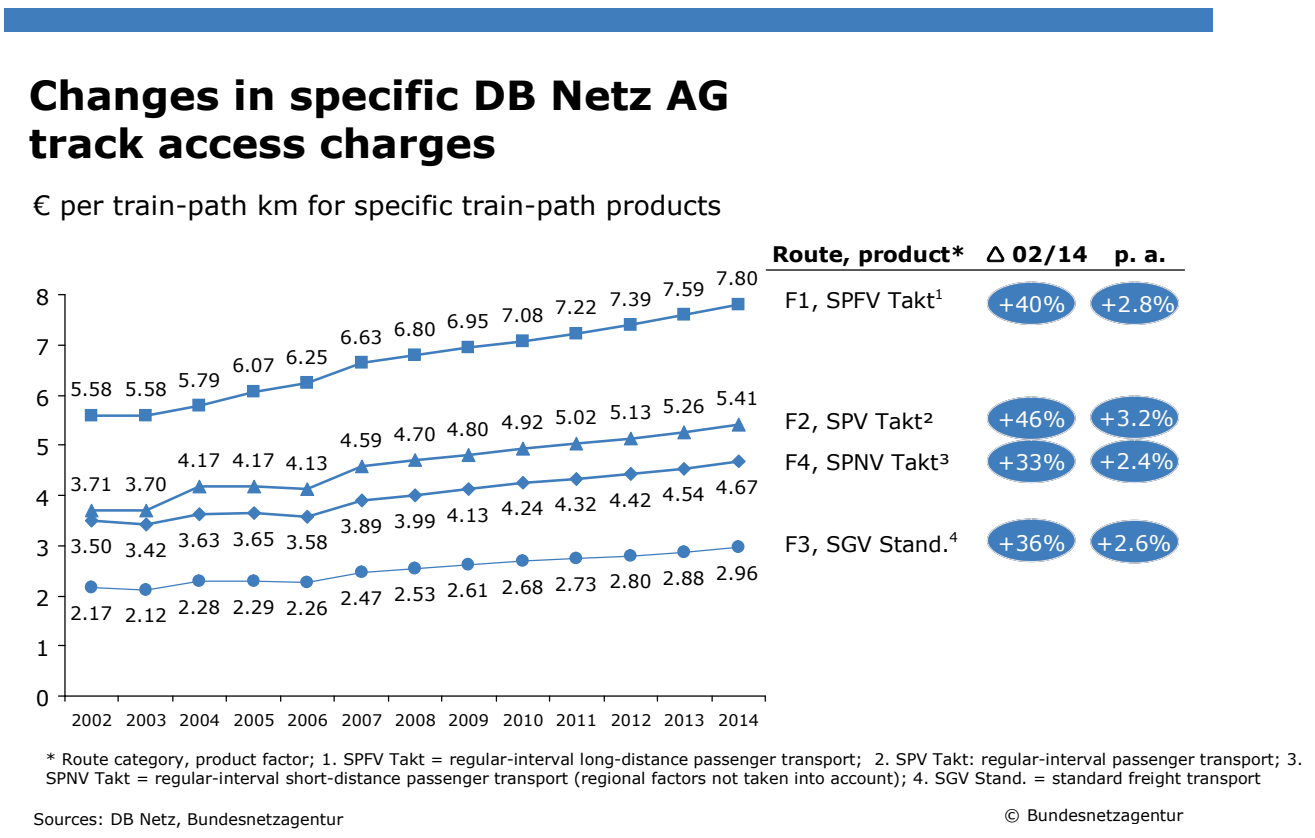


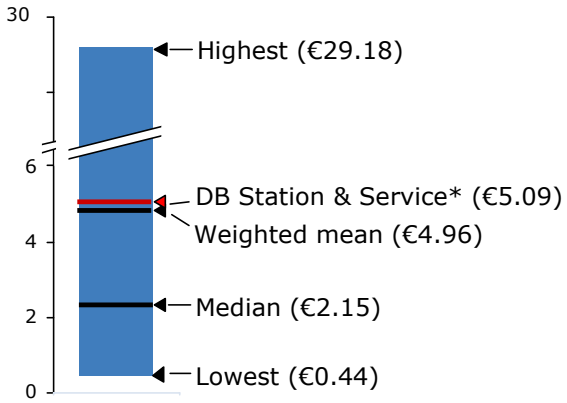
Figure 29: Changes in specific DB Netz AG track access charges

5.2 Level and changes in station prices

In 2012, the average revenue generated per stop was €4.96 (Figure 30). As the largest provider, DB Station & Service AG reported €5.09 in revenue per stop, somewhat higher than the average. The median indicates that half of all station operators in Germany charge an average of less than €2.15 per train stop.

Range of station usage charges

Range of the station usage charges 2012
€ per train stop (infrastructure managers)



* Calculated on the basis of the respective company's annual report.
Sources: DB Netz annual reports, Bundesnetzagentur

Figure 30: Range of station usage charges

The charges levied for stops at DB Station & Service AG's passenger stations have continually increased, parallel to the trend seen in DB Netz AG's track access charges. In 2012 the average charge for a scheduled passenger stop was 12% higher than in 2007. Thus, since 2007, station usage charges have risen considerably more than general inflation (10%) and the infrastructure manager input price index (trend in price indices that are relevant for infrastructure managers) at 6%.

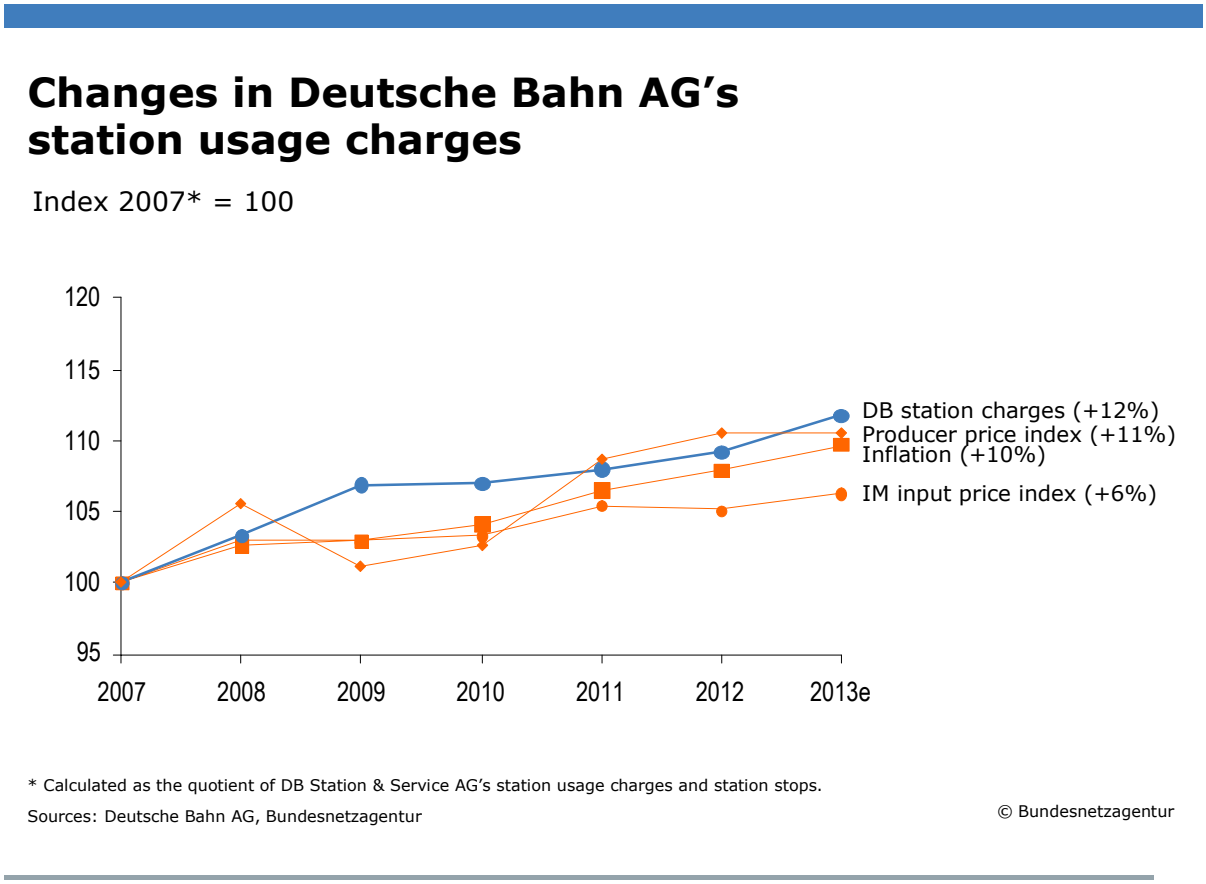


Figure 31: Changes in Deutsche Bahn AG's station usage charges

5.3 Rating and development of charging systems

Every year when it surveys market participants regarding their assessment of the factors influencing the rail transport market, the Bundesnetzagentur asks about non-discrimination and price-performance in connection with the infrastructure managers' charging systems. On the whole, railway undertakings tend to rate the price-performance ratio less favourably than the non-discrimination aspect. Generally speaking, issues relating to charge levels continue to be judged more critically than access issues.

Railway undertakings see a significant need for improvement in the area of non-discrimination in the pricing systems for traction current (mark: 3.0) and passenger stations/stopping points (mark: 2.9).

The pricing systems for track access and maintenance facilities received the most positive ratings (marks: 2.4 and 2.5).

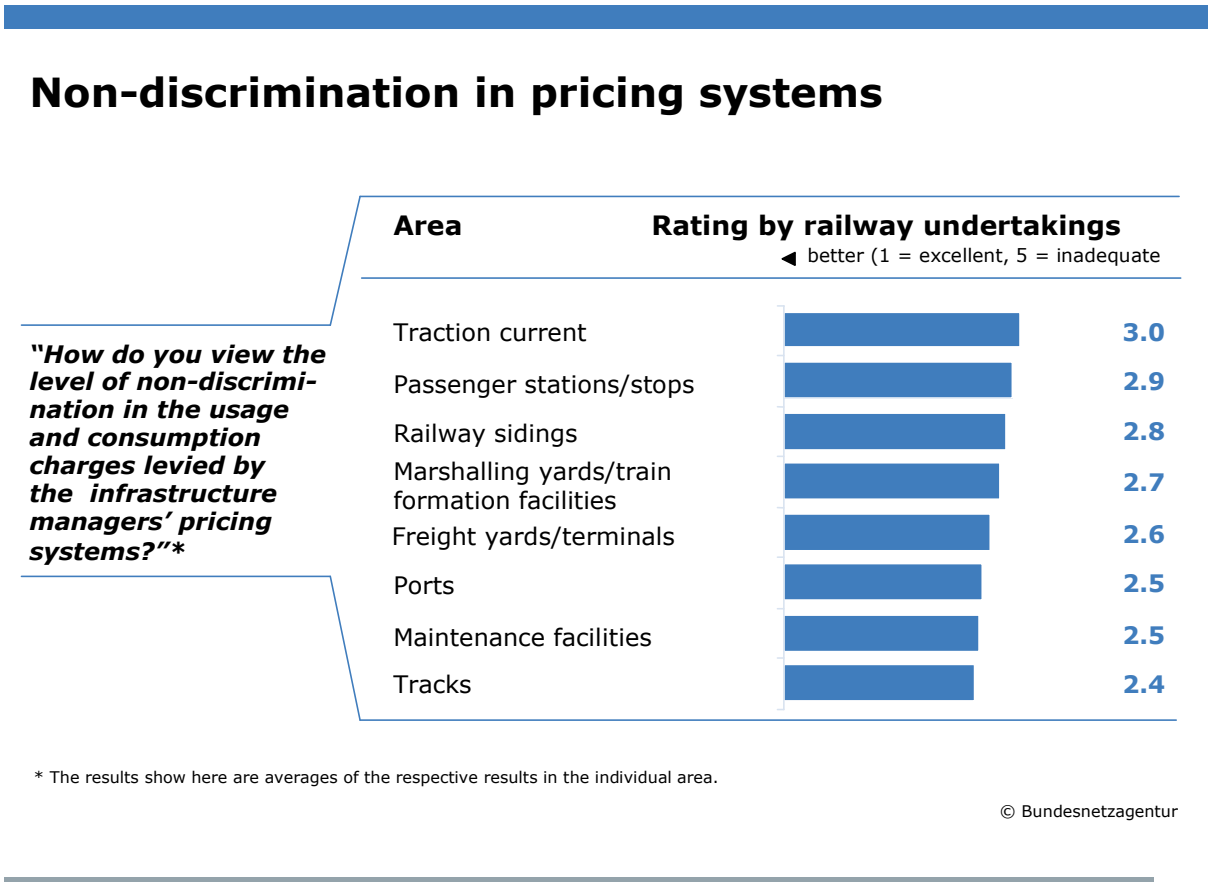


Figure 32: Non-discrimination in pricing systems

The ratings for pricing systems over time indicate that not only the assessment of the question of whether the pricing systems are free of structural discrimination but also the perception in the market have improved compared to the early years of rail regulation (with the exception of traction current). It can be assumed that the Bundesnetzagentur's determinations in connection with charge regulation have contributed to this.

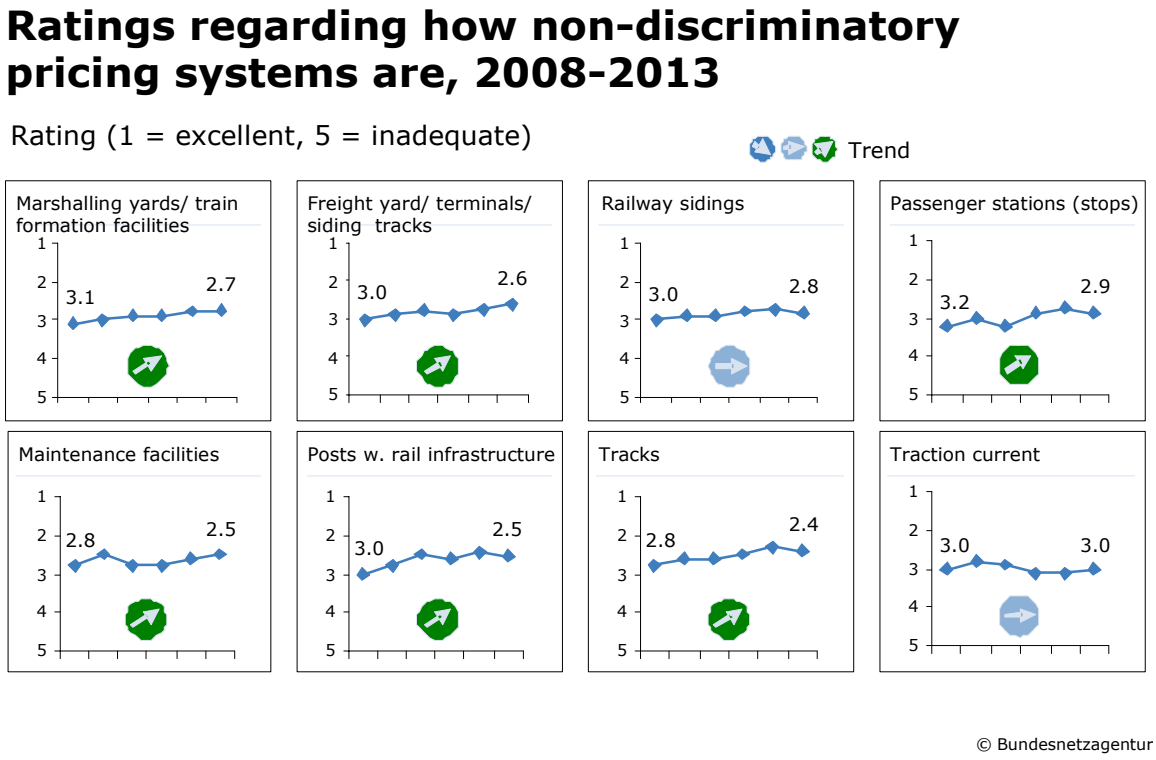


Figure 33: Ratings regarding how non-discriminatory pricing systems are

As in years past, railway undertakings rate the price-performance ratio of railway infrastructure usage less positively than they do the level of non-discriminatory access. The continued discontent over the disproportionate increases in the infrastructure access charges barely changed over the previous year. The strongest criticism was directed at passenger stations (mark: 3.6), railway sidings (mark: 3.2) and traction current (mark: 3.1).

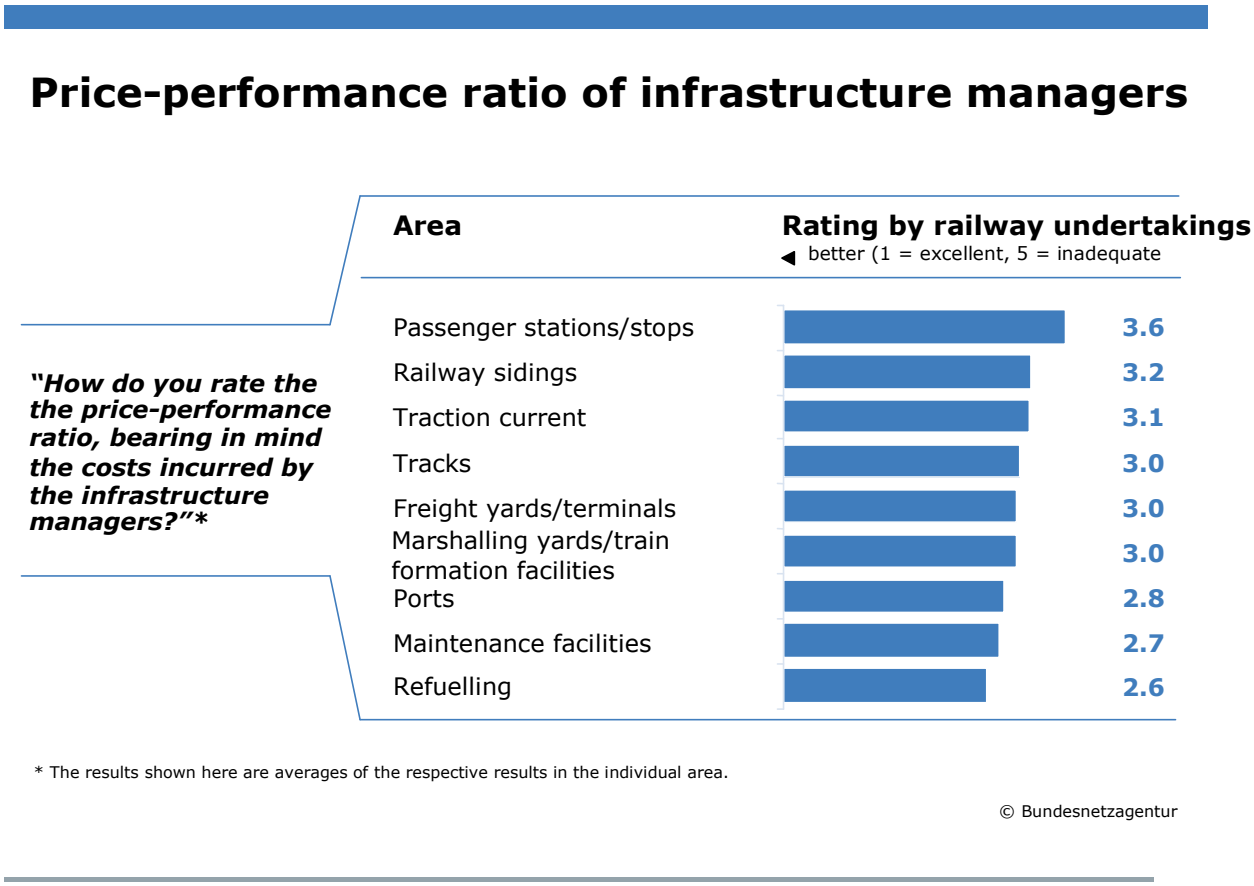


Figure 34: Price-performance ratio of the infrastructure managers

Although the rating given to traction current improved slightly over 2012, the respondents' perception of passenger stations and railway sidings worsened slightly once again. The railway undertakings as a group did not give good marks to any type of service facility. With the exception of maintenance facilities, their view of the price-performance ratio has tended to remain constant when viewed over a longer period.

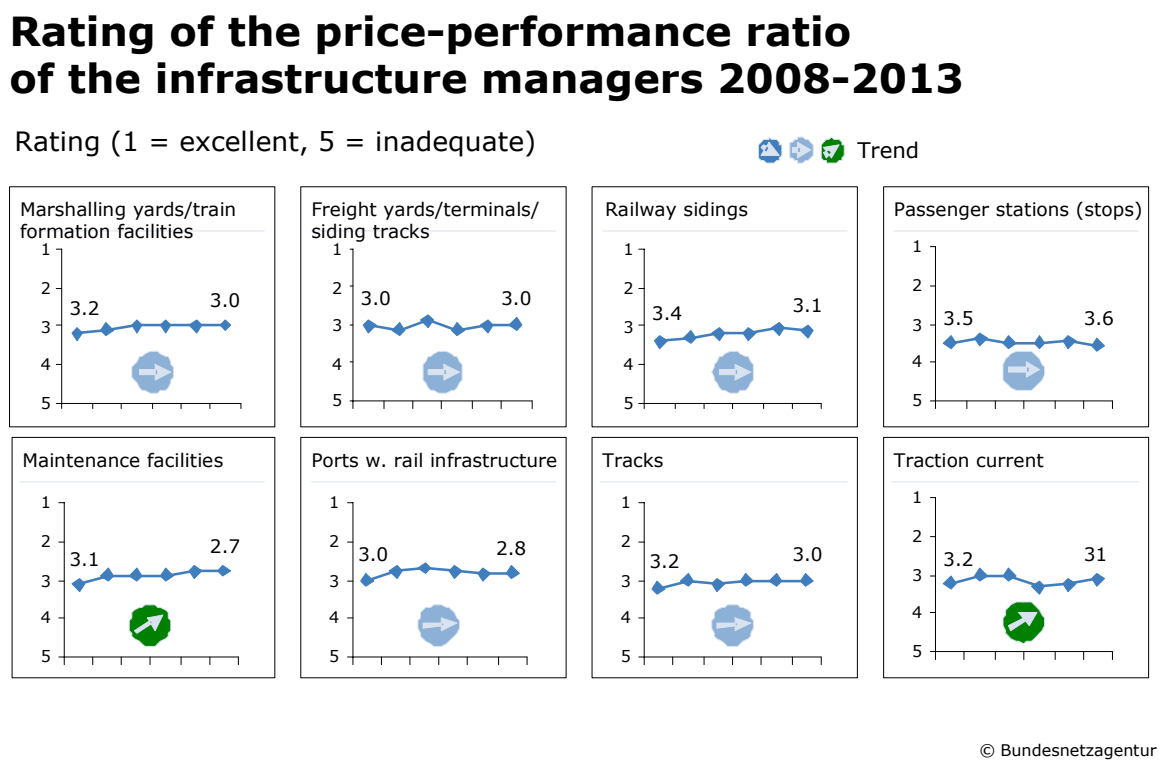


Figure 35: Rating of the price-performance ratio of the infrastructure managers

The regional transport authorities rated the price-performance ratio significantly lower than the railway undertakings did. Only 23% of the regional transport authorities rated the reasonableness of the station usage charges as satisfactory or better. All in all, the price-performance ratio of the passenger station operators was given very bad ratings. At 3.7, the rating of the track access charges levied was not significantly better.

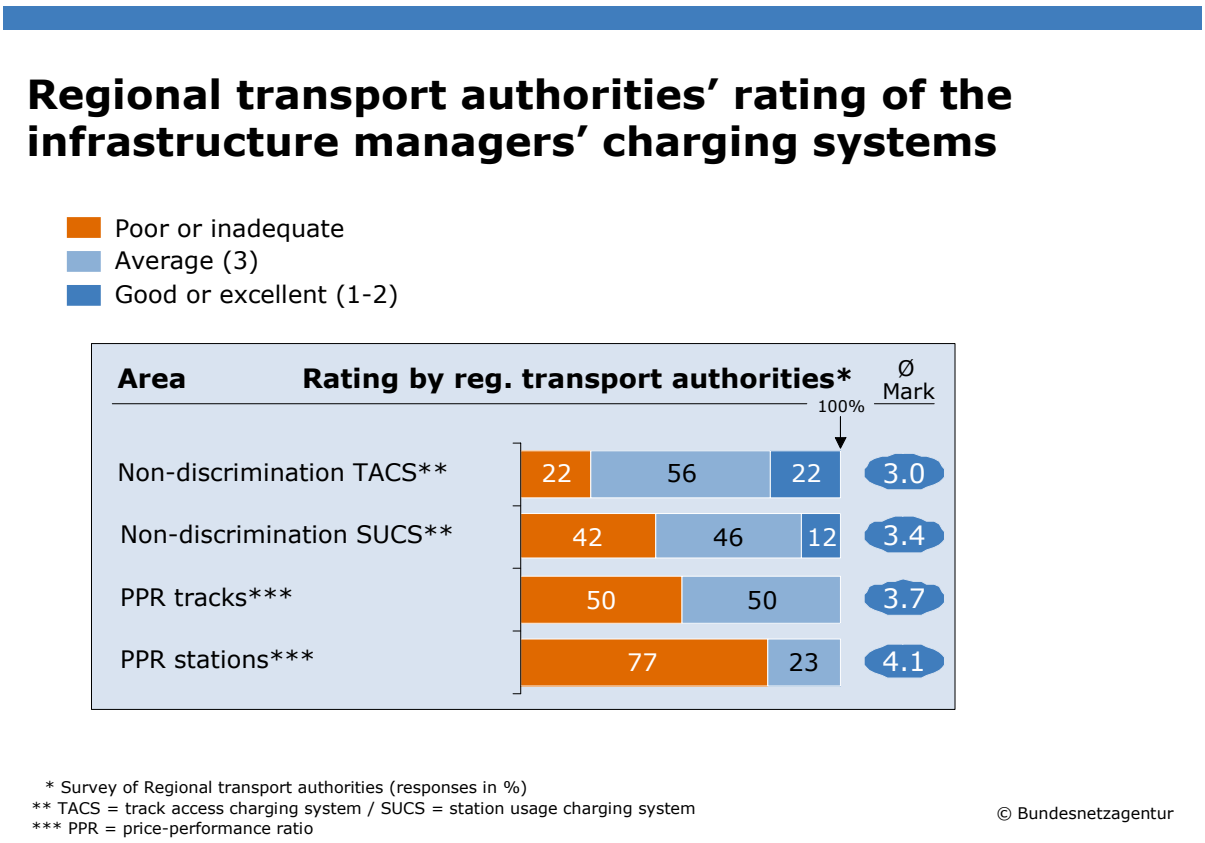


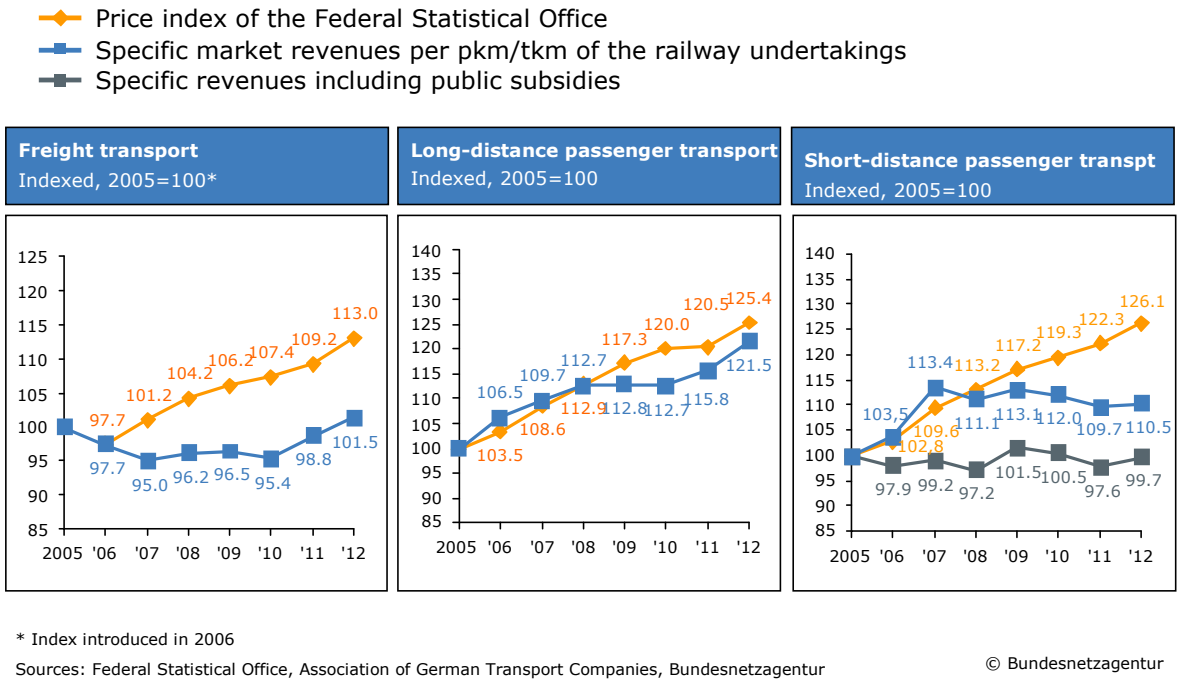
Figure 36: Regional transport authorities' rating of the infrastructure managers' charging systems

5.4 Retail prices

The Bundesnetzagentur's regulatory activities affect ticket prices only indirectly since the regulated usage charges comprise only one part of the retail price. However, ticket prices are a significant factor that determines how attractive passenger rail service is for consumers.

In the rail freight segment, the regulated usage charges are part of the transport costs for the consumer.

Retail prices



* Index introduced in 2006

Sources: Federal Statistical Office, Association of German Transport Companies, Bundesnetzagentur

Figure 37: Retail prices

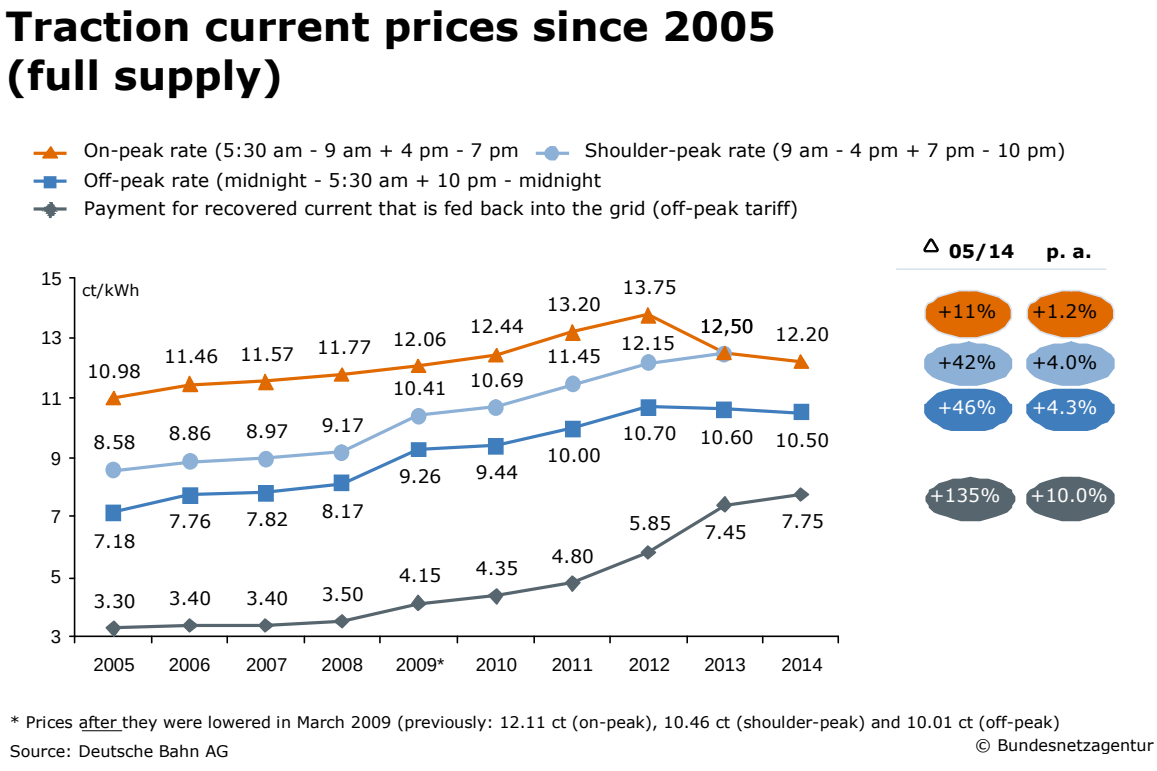
For the first time in several years, the specific market revenues rose in all three transport segments. The most marked increase was seen in the long-distance passenger rail transport segment. Revenue generated in the rail freight transport segment has also increased by several per cent a year for the last two years. Railway undertakings are apparently succeeding more and more in asserting price increases in the market.

Viewed over a longer period, the price of rail freight service, following adjustment for inflation, has become noticeably more economical for users. At the same time the specific price index of the Federal Statistical Office shows a trend towards rising prices in recent years. The inflation rates that the Federal Statistical Office has calculated for tickets in the short-distance and long-distance passenger rail transport segments have developed correspondingly. Prices in the long-distance passenger rail transport segment rose by a total of 25% and in the short-distance segment by 26% between 2005 and 2013. It is, however, important to note that in the short-distance passenger rail transport segment, railway undertakings' revenues are derived from fare revenues (approximately 40%) and public subsidies (some 60%).

The differences in the trends seen in the Federal Statistical Office’s indices and the specific market revenues can be attributed to the fact that the indices published by the Federal Statistical Office show the price trend for precisely-defined services in combination with a fixed quantity structure, whereas the average revenue per tonne-km or person-km is additionally influenced by shifts in the quantity structure.

5.5 Traction current prices

The traction current prices for full supply increased by an average of nearly 5% per year up to 2012. In 2013 the on-peak tariff price declined for the first time, almost to the level seen in 2010. DB Energie GmbH will streamline its tariff structure in 2014 and combine the shoulder-peak and on-peak tariffs. As a consequence both tariffs will be priced the same, as was already the case in 2013. At the same time, the price for traction current will fall once again, by 2.5% over the previous year. Simultaneously the payment for traction current that is fed back into the grid will increase to 7.75 cents per kilowatt hour in the off-peak tariff category. Therefore some 74% of the purchase price for a kilowatt hour in the off-peak tariff (75% in the on-peak tariff) is refunded when electricity is recovered through regenerative braking. Figure 38 shows the changes in the three tariffs for full supply and the payment trend for traction current that is fed back into the grid.



* Prices after they were lowered in March 2009 (previously: 12.11 ct (on-peak), 10.46 ct (shoulder-peak) and 10.01 ct (off-peak)

Source: Deutsche Bahn AG

Figure 38: Traction current prices since 2005

The market continues to view critically the scaling of the capacity utilisation discount. In reality, only DB subsidiaries reach the 2,000 GWh purchase-quantity threshold. Together, all non-federally-owned railways in Germany draw only some 1,500 GWh traction energy from DB Energie for their electrical transport services.[6] The traction energy consumed by non-federally-owned railways therefore accounts for some 14% of total consumption in the German railway market.

In addition to the full provision of traction current through DB Energie, since 2004 all railway undertakings have theoretically had the option of drawing traction current from other energy suppliers (third-party suppliers) and having it transmitted through DB Energie's traction current grid. A new price model, designed in compliance with the provisions of the Energy Industry Act, has applied since 2012 to the transmission of this current, in other words, to third-party access to the grid.[7] Figure 39 shows the changes in the published charges for access to DB Energie GmbH's grid until the year 2010 and the charges for access to the grid based on the provisions of the Energy Industry Act starting 2012.[8]

[6] Source: www.raileco.org, Bundesnetzagentur

[7] Since the end of 2010 the traction current transmission network is required to submit its network access rates for approval under Section 23a of the Energy Industry Act which means the rates are subject to review to ensure they are oriented to cost-efficient service provision.

[8] As a result of the decision that the charges imposed by the traction current transmission network are subject to approval under Section 23a of the Energy Industry Act, the charges that previously applied for accessing the DB Energie GmbH grid are no longer valid.

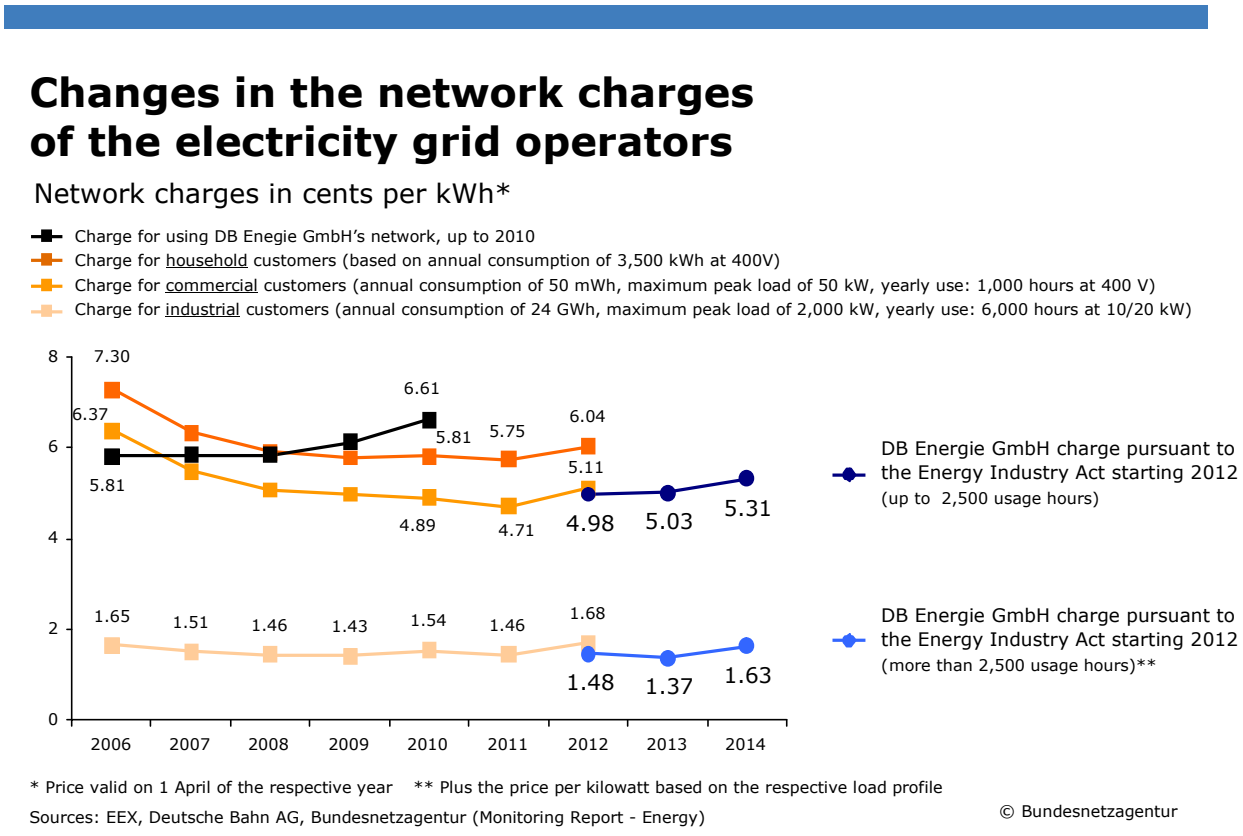


Figure 39: Changes in network charges of the electricity grid operators

Due to the technical particularities involved in supplying traction power, an access model was developed to go with the new pricing model. This access model is orientated to the general network access rules in order to ensure there are processes for changing suppliers. The market participants were consulted regarding this network access model until December 2012.[9]

In its survey, the Bundesnetzagentur asked market participants about the option of drawing their traction current from other electricity suppliers (purchase of traction current from a third party) via DB Energie's transmission network. This question was aimed at identifying obstacles that continue to make it difficult to switch suppliers. More than 60 non-federally-owned railway undertakings provide their services entirely or in part using electrical traction and all of them draw their traction power from DB Energie as part of their full power supply. Approximately two-thirds of the railway undertakings surveyed, however, are considering drawing their traction current from a third party in future.

[9] The results of the consultation can be accessed on the website of DB Energie GmbH.

Of the undertakings surveyed, 75% listed reasons which – in their opinion - currently speak against switching their traction current supplier. Financial reasons were cited by 22% of the railway undertakings. Any possible cost advantages arising from a switch would be offset by higher rates for transmission and for balancing energy.[10] The costs for balancing energy are a critical factor for rail freight transport which is less time-critical (compared to passenger rail transport); since freight transport scheduling is flexible while the timetable for drawing current at specific prices is inflexible, these costs cannot be reliably calculated in advance. Organisational reasons were also cited by 22% of the railway undertakings for not drawing traction current from a third party. In this case, the administrative costs, DB Energie's contractual conditions and the current network access model were the most important factors. Another 31% of the surveyed railway undertakings do not draw traction current from third party providers because there are no corresponding offerings in the marketplace or the respondent was not aware of any. Several enterprises assume that major utilities are not interested in abandoning their contracts with DB Energie just to be able to directly supply a few railway undertakings.

Several railway undertakings reported low consumption levels as another reason for not switching. As long as consumption does not exceed a certain level, the economic effect is minimal. In the face of high administrative costs combined with a lack of choice in the market, smaller railway undertakings will not give the option of changing their traction current supplier closer consideration in the future either.

5.6 Renewable energy surcharge in the rail transport market

The renewable energy surcharge ("EEG surcharge") has been a constant subject of public debate ever since the German government began propagating its new energy strategy and in the wake of the rapid expansion of renewable energies that has been underway for several years now. The primary points of criticism are the continual rise in the amount of the EEG surcharge and the provisions for limiting this surcharge for electricity-intensive enterprises. These provisions also apply to railway undertakings when the amounts of electricity they purchase reach certain levels.[11] Thus the problems and public criticism regarding the Renewable Energy Sources Act (EEG) also have a bearing on the rail transport market.

[10] Costs for balancing energy in this connection arise when the time when traction power is actually drawn deviates (e.g. due to delays) from the timetable for drawing current which is to be laid down in advance.

[11] Provided for in Section 40 ff, Renewable Energy Sources Act (EEG)

The Renewable Energy Sources Act superseded the Feeding Electricity from Renewable Energies into the Public Grid Act in the year 2000. It has been amended several times since then in order to bring it into line with, for example, new conditions, European regulations and current court rulings. To supplement this, the Ordinance on the Development of the Nationwide Equalisation Scheme was adopted in 2009. This regulation contains far-reaching provisions pertaining to the Renewable Energy Sources Act. The general purpose of the EEG surcharge is to pass on to all end consumers the difference between expenditure and revenue pursuant to the provisions of the Renewable Energy Sources Act to promote electricity produced from renewable energy sources. Thus DB Energie is obligated to pay the EEG surcharge in accordance with the legal provisions.

Railway undertakings whose annual consumption exceeds 10 GWh may limit the EEG surcharge when a corresponding administrative decision is issued by the Federal Office of Economic Affairs and Export Control (BAFA). Approximately one-third of the enterprises operating in the rail transport market could benefit from this limitation. Figure 40 shows the changes to the EEG supplementary charge for non-privileged railway undertakings[12] which has been levied by DB Energie and the changes to the EEG surcharge since 2005.

[12] Annual consumption of less than 10 GWh

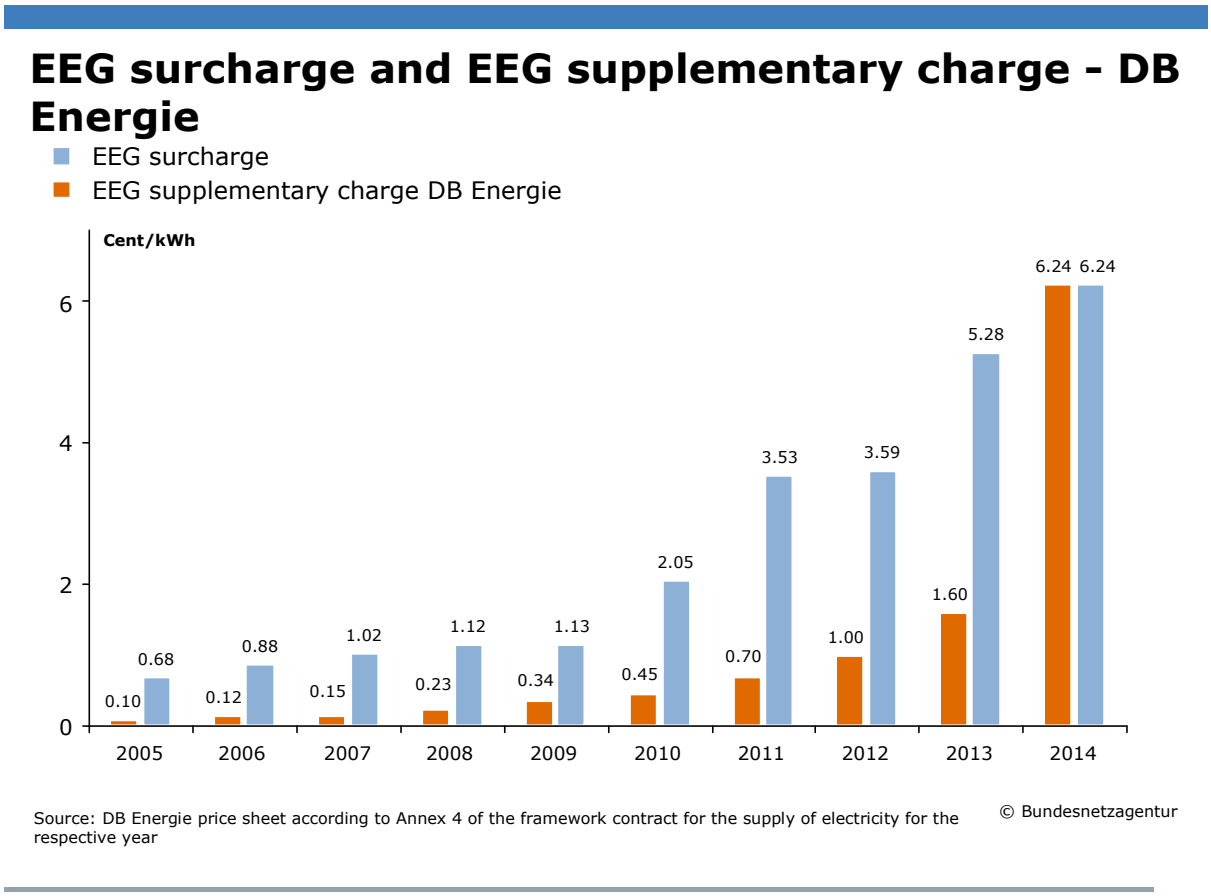


Figure 40: EEG surcharge and EEG supplementary charge for DB Energie

Being an additional financial factor, the EEG surcharge is increasingly problematic for railway undertakings that provide their services using electrical traction. In addition, the EEG surcharge in its present form puts smaller railway undertakings at a disadvantage vis-à-vis their larger counterparts and has a negative impact on their ability to compete. The traction power requirements[13] of non-federally-owned railway undertakings are typically some 7 kWh per train-kilometre in short-distance passenger rail transport using single-level rail cars and approximately 12 kWh for longer double-decker trains. Locomotive-hauled passenger trains in long-distance passenger rail transport need some 13 kWh per train-kilometre, a long-distance freight train requires approximately 18 kWh per train-kilometre on average.[14]

Railway undertakings in the short-distance passenger rail transport segment with an average consumption level of 7 kWh currently pay an EEG surcharge of 1.2 cents per train-kilometre when their annual demand exceeds 10 GWh. When annual consumption is less than 10 GWh, the EEG surcharge is approximately 11 cents per

[13] Three-phase drive, recovery and feeding of braking energy back into the grid taken into account

[14] Source: Bundesnetzagentur survey

train-kilometre. The EEG surcharge will increase to 4.7 cents and 44 cents per train-kilometre respectively for 2014. The following diagram shows the breakdown of the EEG surcharge per train-kilometre for the aforementioned average consumption levels.

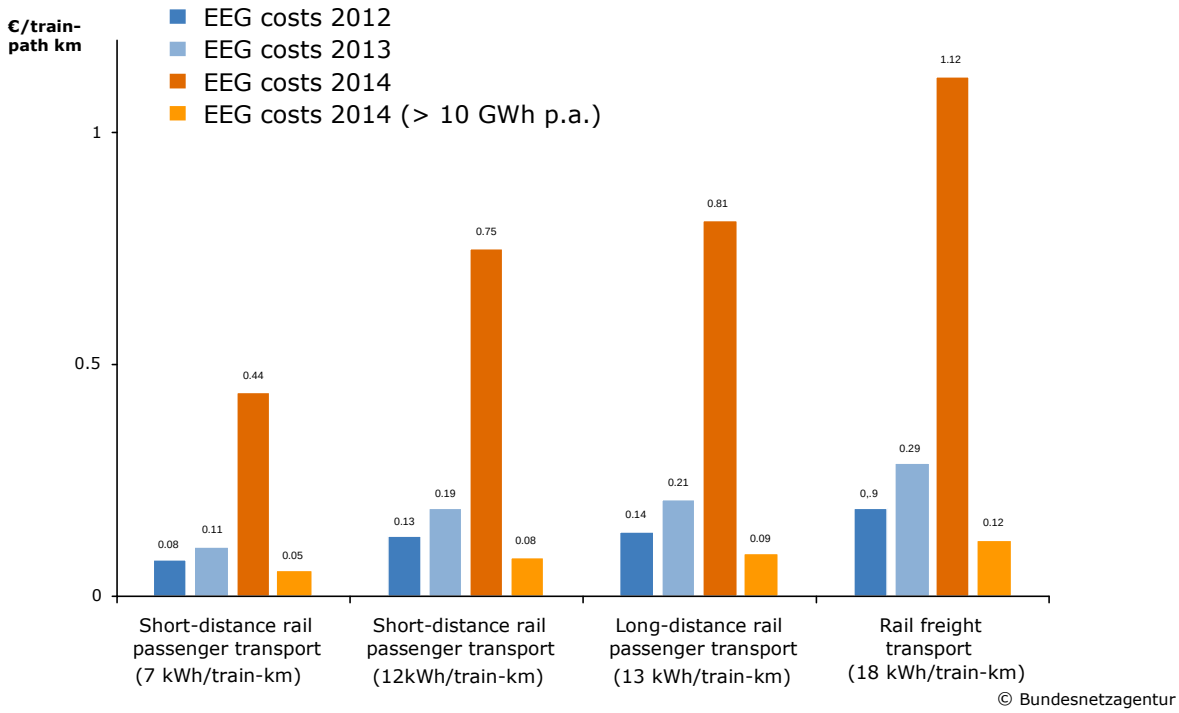


Figure 41: Changes in costs due to the EEG, per train-km

The differences per train-kilometre shown in the diagram add up to considerable amounts over the distance a train is to travel. For example, for a train that transports freight over a distance of 500 km, the additional costs will come to €415 in 2014. In the long-distance passenger rail transport segment, the current EEG surcharge already makes it more difficult for new companies to enter this market. Competitors in the long-distance passenger rail transport segment must cover approximately 770,000 train-path kilometres in a year with electrical traction in order to exceed the minimum requirement of 10 GWh and thus benefit from the limit on the EEG surcharge. However, the combined total number of train-path kilometres covered by all non-federally-owned railway undertakings in Germany did not exceed one million in 2012. The disadvantage to competitors will grow when the EEG surcharge increases effective 2014. This presents another high hurdle, particularly for railway undertakings wanting to win market share by offering low prices.

6. Economic situation of enterprises in the railway market

As part of the market analysis conducted by the Bundesnetzagentur, railway undertakings and infrastructure managers were asked for the first time for detailed business information in 2012. The collected data are being used to gain insights into the economic situation and the revenue and cost structures of the railway undertakings and the infrastructure managers operating in the German market and in turn enable a more precise assessment of the economic and financial stability of the German railway market. The evaluations and analyses presented in the following section are based for the most part on the feedback that the Bundesnetzagentur received from the market players and reflect the results of the evaluation of these chiefly non-federally-owned enterprises. Consequently, the quality of the statements is largely determined by the answers provided by the market players. The informational value is to be improved further in future.

6.1 Infrastructure access charges as a percentage of railway undertakings' revenues

A portion of the revenues generated by railway undertakings is used to pay infrastructure access charges. The percentage share of the railway undertakings' revenue that these infrastructure access charges represent varies markedly between the transport segments. The short-distance passenger rail transport segment reports the largest share, with infrastructure access charges equalling 36% of revenue. Freight transport pays the proportionately smallest share of its revenue, 19%.

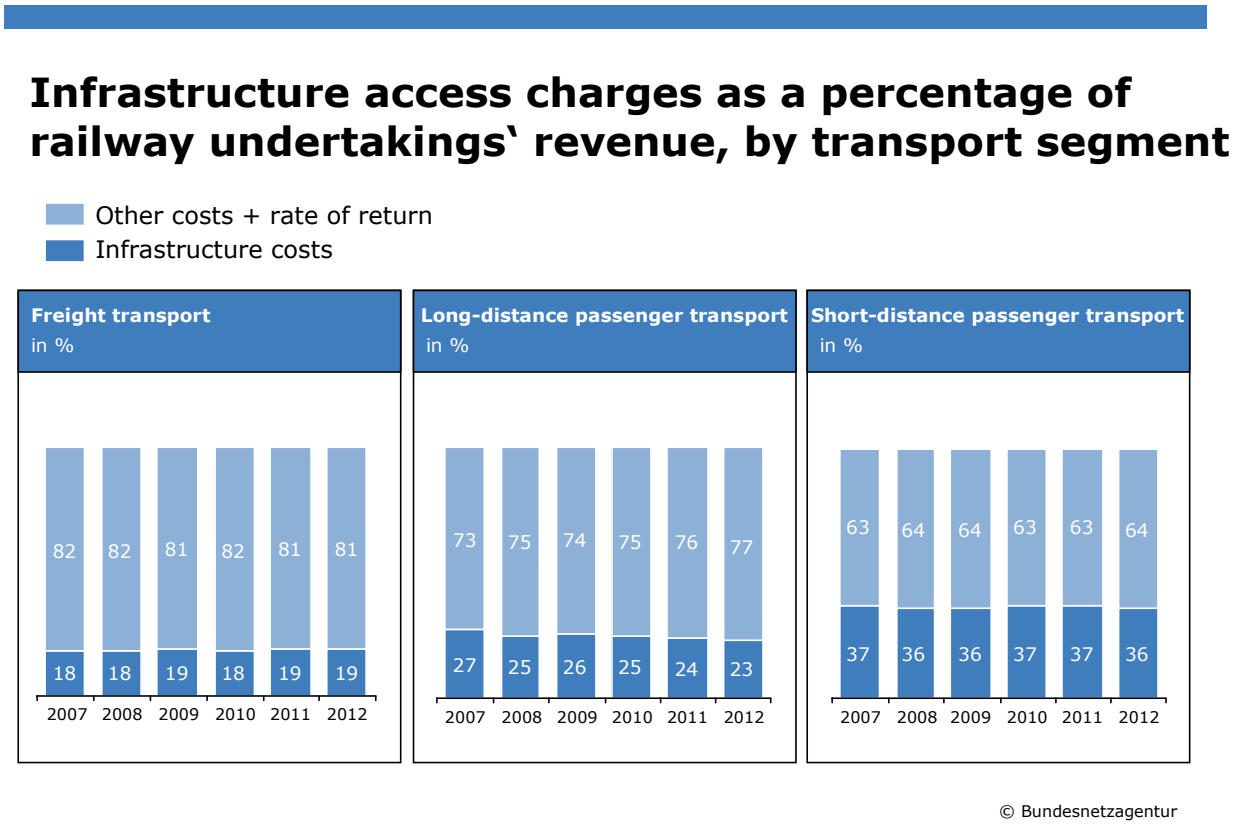
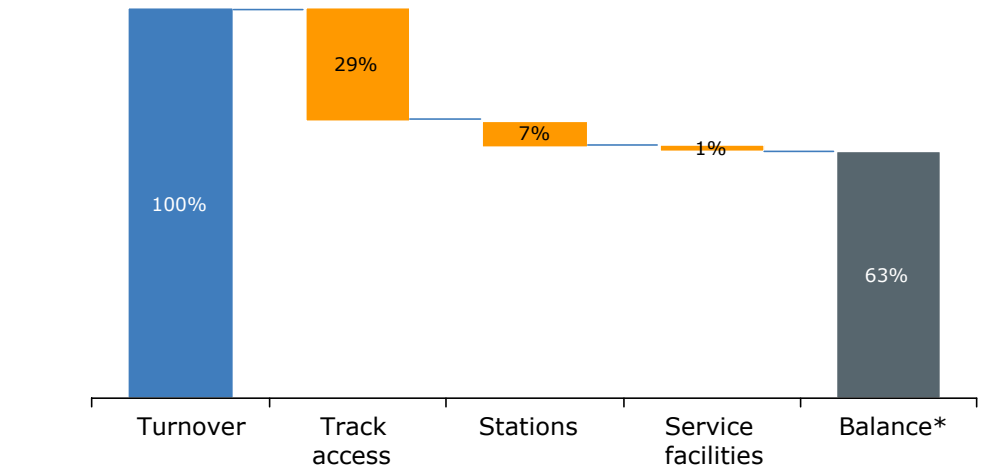


Figure 42: Infrastructure access charges as a percentage of railway undertakings' revenue, by transport segment

Despite rising access charges, railway undertakings have at least been able to keep the percentage of their revenue that infrastructure access costs represent stable over the 2011 level by increasing their receipts. The long-distance passenger rail transport segment has even succeeded in reducing the share of revenue that infrastructure access charges represent by four percentage points since 2007. Revenue development in this segment more than compensated for the increase in the infrastructure access charges to be paid.

Infrastructure access charges as a percentage of the revenue of all railway undertakings in short-distance passenger rail transport

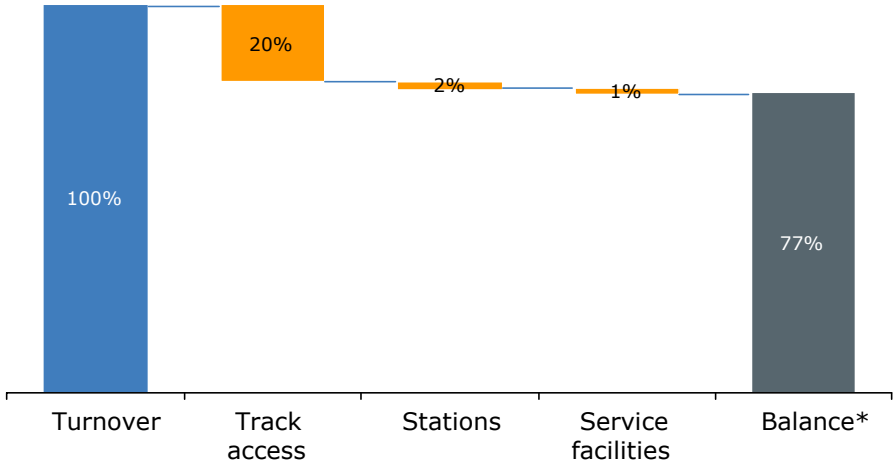


* Based on expenditure for infrastructure access charges

Figure 43: Infrastructure access charges as a percentage of revenue of all railway undertakings in short-distance passenger rail transport

Equalling 29% of revenue, track access charges were the largest infrastructure cost driver in the short-distance passenger rail transport segment. When only non-federally-owned railway undertakings in this segment are observed, track access charges come to 35% of revenue while total infrastructure costs equal 41% of revenue, both considerably higher than the levels seen for the market as a whole.

Infrastructure access charges as a percentage of revenue of all railway undertakings in long-distance passenger rail transport

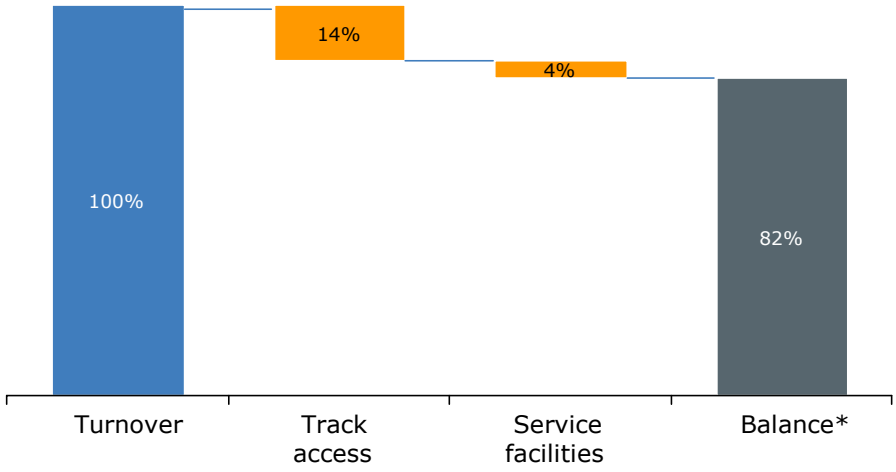


* Based on expenditure for infrastructure access charges

Figure 44: Infrastructure access charges as a percentage of revenue of all railway undertakings in long-distance passenger rail transport

The sum of the infrastructure costs in the long-distance passenger rail transport segment equalled 23% of revenue generated in this category, some 14 percentage points less than the figure seen in the short-distance segment. Equalling approximately 2% of revenue due to the fewer number of stops, the share represented by station costs was five percentage points smaller than in short-distance passenger rail transport. Here too, the track access charges were the largest pool of costs at 20% of total revenue, approximately nine percentage points less than in the short-distance passenger rail transport segment.

Infrastructure access charges as a percentage of the combined revenue of all railway undertakings in rail freight transport



* Based on expenditure for infrastructure access charges

Figure 45: Infrastructure access charges as a percentage of the combined turnover of all railway undertakings in rail freight transport

In the rail freight transport segment, track access charges equal approximately 14% of the railway undertakings' revenue. This figure is 19%, markedly higher, in the case of non-federally-owned railway undertakings. On the other hand, non-federally-owned railway undertakings have to expend a somewhat smaller share – some 3% – of their turnover for service facility access charges. This is probably attributable to non-federally-owned railways making less use of marshalling yards.

6.2 Results of the railway undertakings

Seventy per cent of the railway undertakings reported a positive operating result for the year 2012.[15] The picture is similar with regard to results from ordinary business

[15] Operating result in accordance with Section 275 of the Commercial Code (difference between operating performance and operating costs)

operations,[16] where 66% of the railway undertakings achieved a positive result in 2012. Interest income, interest payments and any investment income appear to have little impact on the enterprises. The percentage of undertakings in passenger rail transport and rail freight transport that achieved a positive operating result was good at 67% and 76% respectively. This was also the case for results from ordinary activities (passenger rail transport: 64%, rail freight transport: 71%).

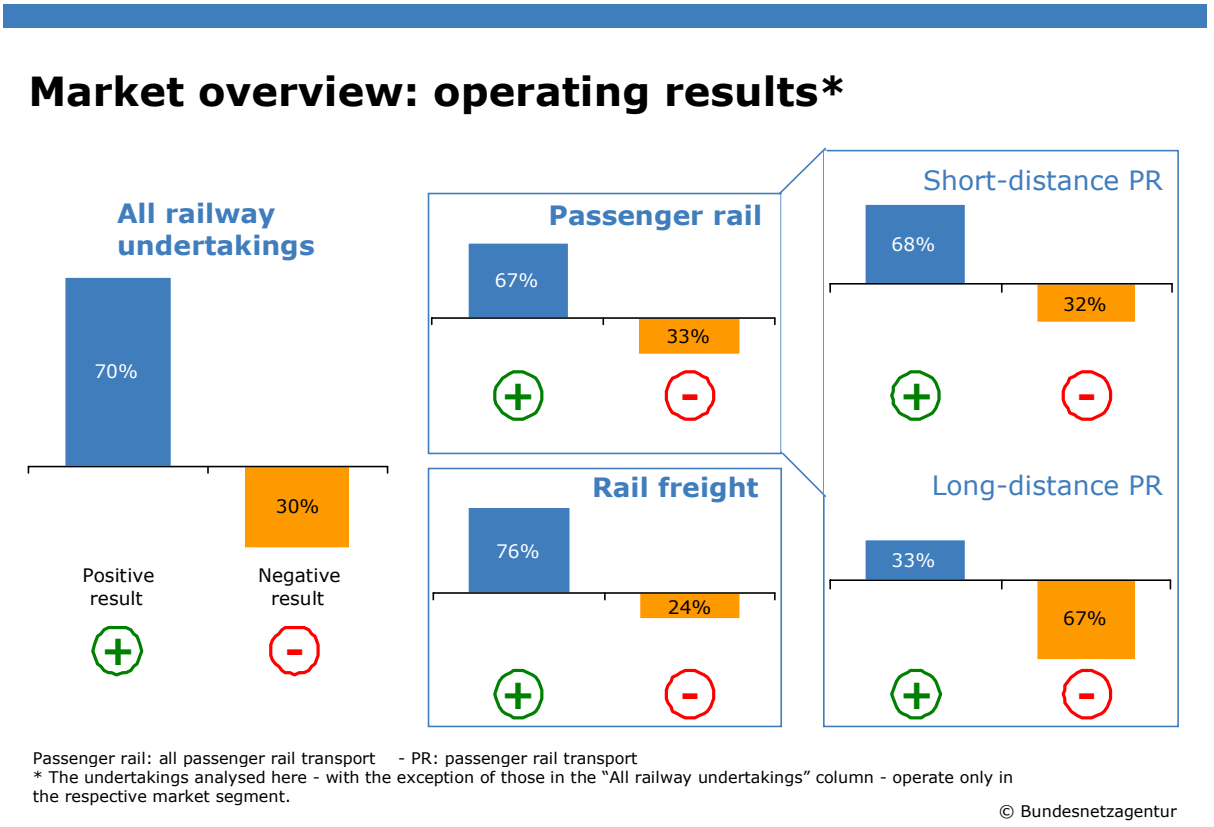


Figure 46: Railway undertakings: market overview by operating results

A differentiated examination of the passenger rail transport segment shows however that the positive operating results / results from ordinary activities were primarily generated by enterprises providing short-distance passenger rail service (68% as compared to 33% of the enterprises in the long-distance passenger rail transport segment). It should, however, be noted that the number of enterprises in the short-distance passenger rail segment is far greater than the number in the long-distance segment. As a result, the results of the individual enterprises have a much greater

[16] Results from ordinary activities according to Section 275 of the Commercial Code (difference between operating performance and operating costs and the financial results, i.e. of the net interest income and net result from investments)

influence on the outcome of the analysis in the long-distance passenger rail transport segment.

Looking at non-federally-owned railway undertakings, 70% report a positive operating result. Even in the case of results from ordinary activities, this figure was 65%.

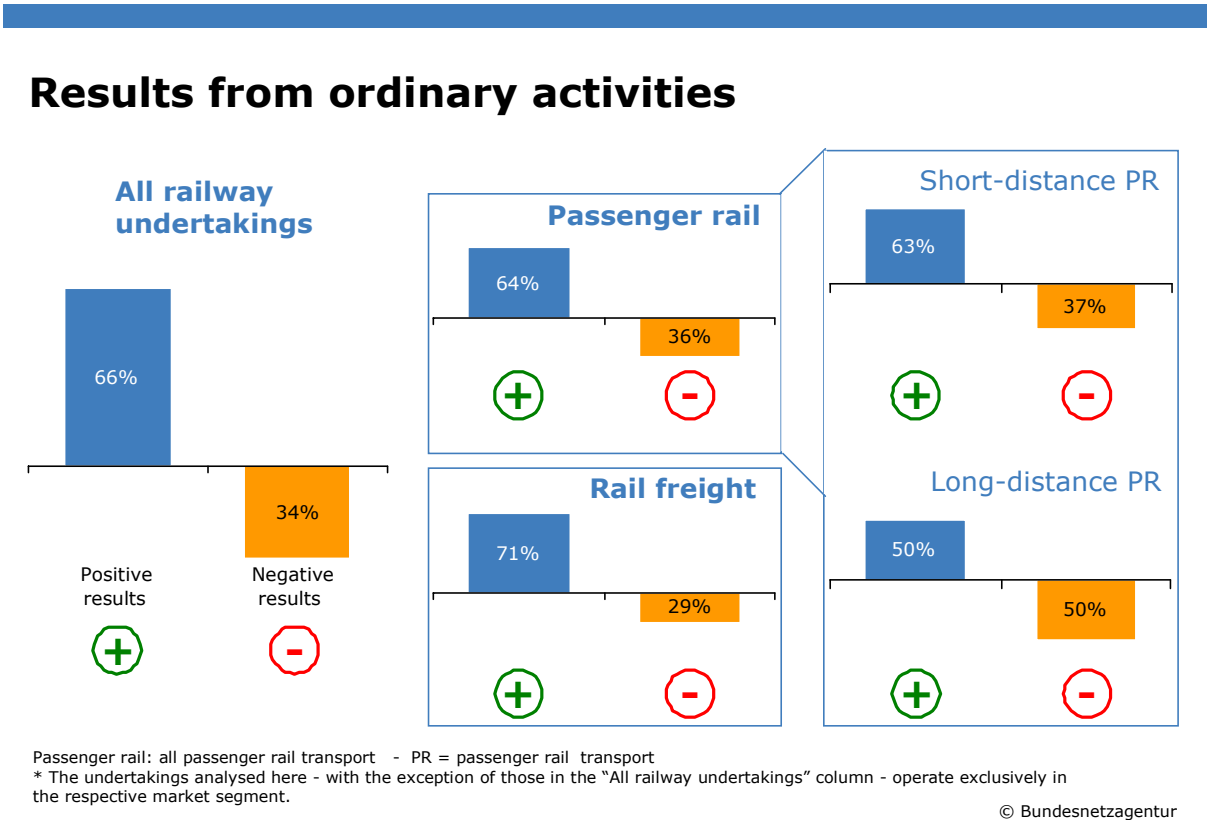


Figure 47: Railway undertakings: results from ordinary activities

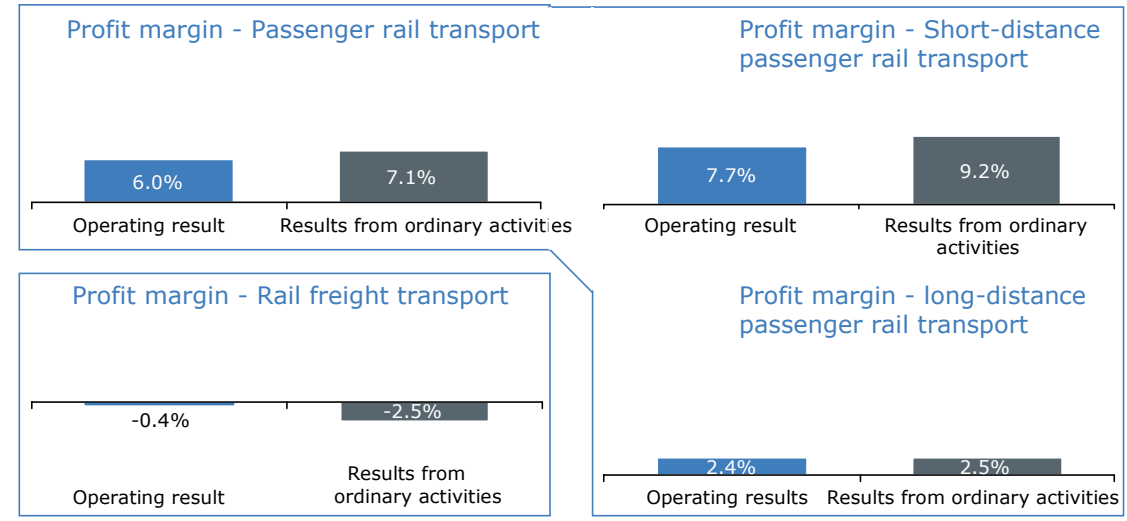
In the passenger rail transport segment, railway undertakings reported a profit margin[17] of 6% with respect to their operating results for 2012. The average profit margin for results from ordinary activities was even 7.1%. The fundamental difference between these two margins lies in the inclusion of the financial results (net interest income and net investment income) in the results from ordinary activities. The larger profit margin here then actually means that the financial results[18] – when the entire passenger rail transport market is taken into consideration – have a

[17] Profit margin as the ratio of a performance variable to revenue (in this case the operating results / results from ordinary activities to the revenue generated).

[18] Financial result (net interest income and net investment income) as the difference between operating results and results from ordinary activities.

positive effect on the results, in other words: the financial yield more than compensated for the financial expenditure. This effect is all the more noteworthy in light of the fact that including the financial results in the examination of the number of undertakings with positive results in passenger rail transport (see Figures 46 and 47) led to a 1.1 percentage-point decline in the share of these enterprises.

Market overview: profit margins*



Passenger rail transport: all passenger rail transport
* The undertakings analysed here operate only in the respective market segment.

Figure 48: Market overview: profit margins

The positive profit margins observed in passenger rail transport are attributable for the most part to the short-distance passenger rail transport segment. In this segment, the profit margin based on the operating result is 7.7%, and even reaches 9.2% when based on the result from ordinary activities, compared to 2.4% (operating result) and 2.5% (result from ordinary activities) in the long-distance passenger rail transport segment.

When only those undertakings that had a positive result are examined, the profit margins in the passenger rail transport segment based on the operating result and based on the result from ordinary activities are both slightly more than one percentage point higher than when all undertakings are examined (Figure 49). Here as well, this is driven by short-distance passenger rail transport.

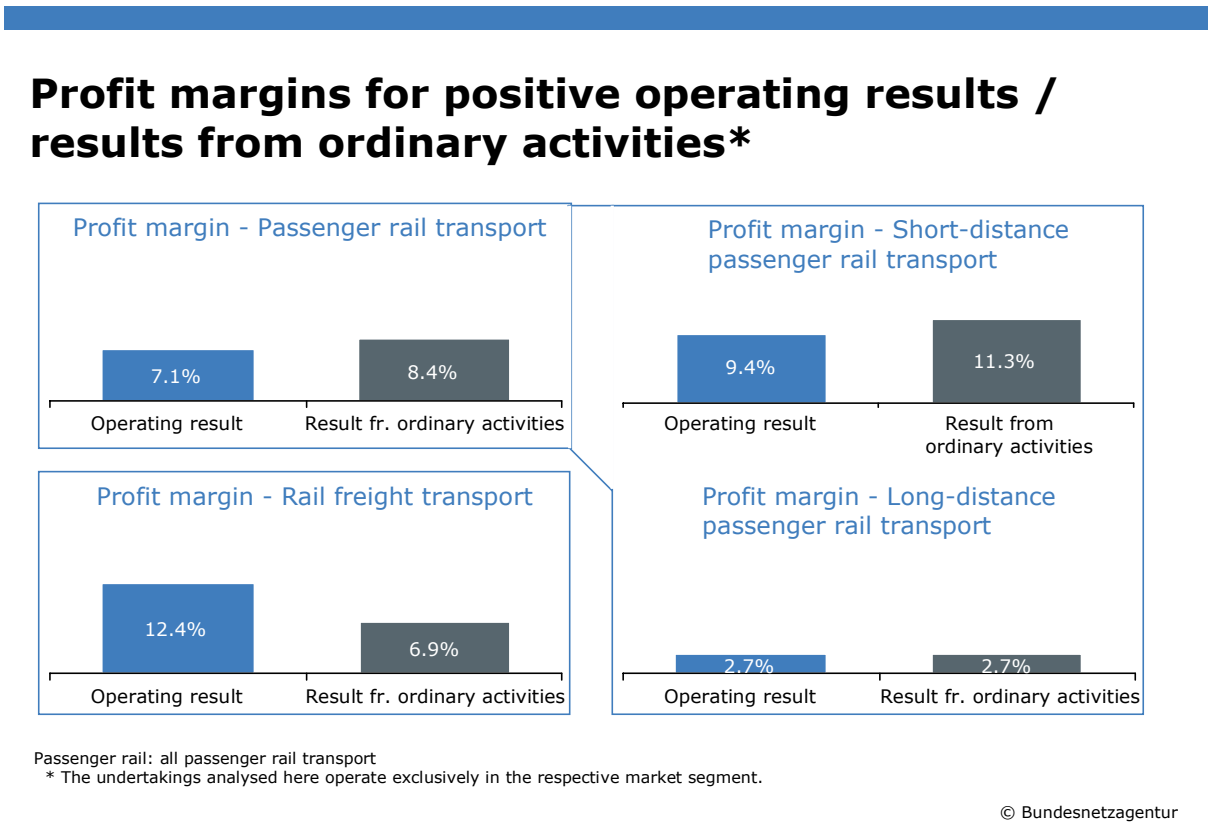


Figure 49: Profit margins for positive operating results and positive results from ordinary activities

The average profit margin of rail undertakings in the rail freight transport market in 2012 was only -0.4% based on operating results (Figure 48). This means that the rail freight transport market as a whole generated a loss in its operating results in 2012. Possible further expenditure arising from financing or investment activities is not yet covered. This manifests itself in the fact that, at -2.5%, the average profit margin based on the results from ordinary activities is even lower and the loss is more apparent. Unlike the situation in the passenger rail transport segment, the financial results and net results from investments do not improve results in the rail freight transport segment. However, when only undertakings with positive results are examined, the profit margin is definitely positive, averaging 12.4% based on operating results and 6.9% based on results from ordinary activities. The profit margin based on the operating results even exceeds its counterpart in the short-distance passenger rail transport segment.

To enable a better assessment of the different profit situations of the railway undertakings in the respective type of transport, the following overview (Figure 50) shows the cumulative operating results and results from ordinary activities in relation

to the respective measure of performance (passenger-kilometres and train-kilometres).

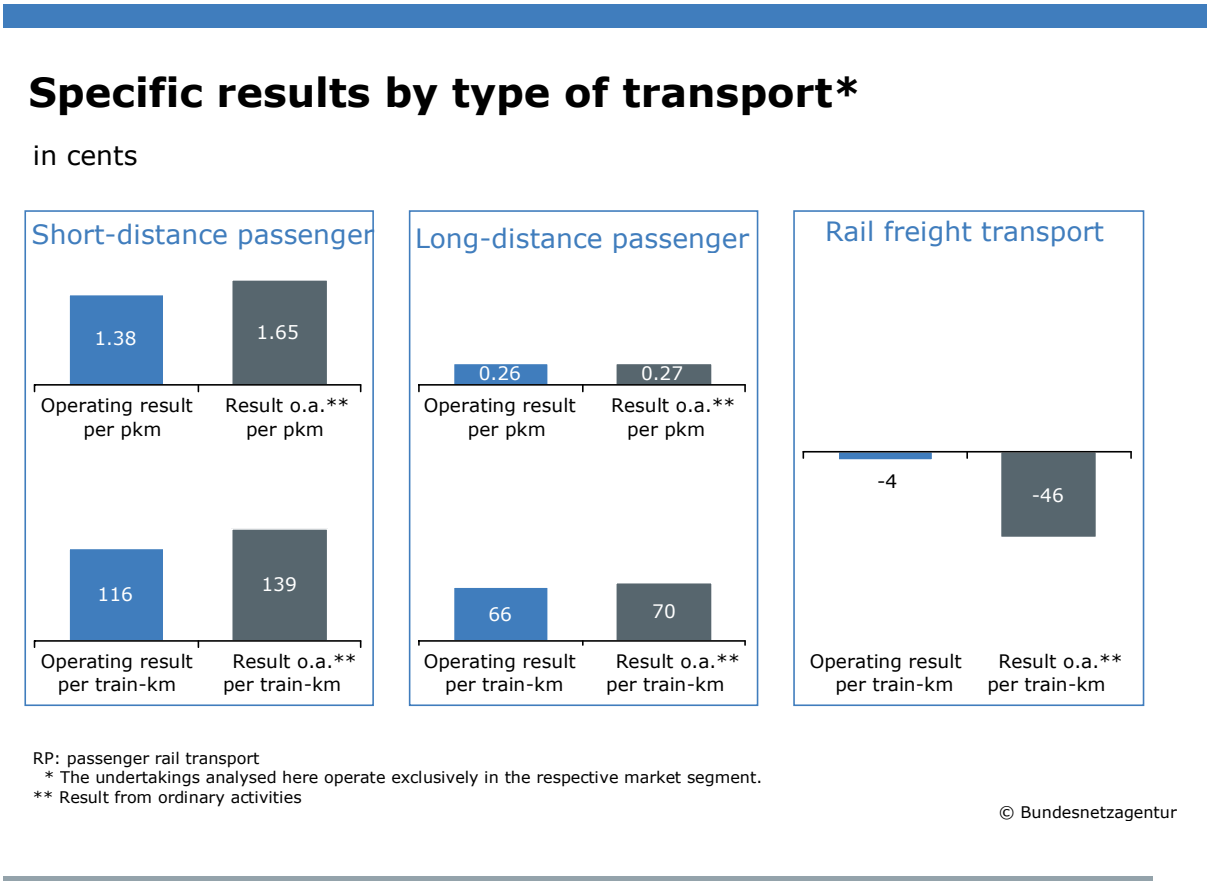


Figure 50: Specific results by type of transport

A comparison of short-distance passenger rail transport with its long-distance counterpart particularly shows that the results are markedly more stable in the short-distance passenger rail transport segment. This is largely due to the government subsidies for local and regional passenger rail services that constitute a stable source of revenue for railway undertakings in the passenger rail transport segment.

However, the profit margins of the non-federally-owned railway undertakings in the passenger rail transport segment are significantly lower. Undertakings in this segment report a profit margin of only 0.2% based on operating results. They even reported a negative profit margin of -0.4% for their results from ordinary activities in 2012, and thus generated a loss for the year.

Non-federally-owned railway undertakings in the rail freight segment reported a profit margin based on operating results of 3.4%, exceeding the average margin for the overall market. This means that the non-federally-owned railway undertakings provided their services in 2012 on a more profitable basis than federally-owned

undertakings did. However, an examination of the profit margin based on results from ordinary operations (i.e. including financial results and net results from investments) shows that it is -2.6% for non-federally-owned railway undertakings, almost the same as the average reported for the overall market. Looking at financial results, federally-owned railway undertakings operate more economically than non-federally-owned railway undertakings.

6.3 Results of the railway line infrastructure operators

From the perspective of the overall market, non-federally-owned operators of railway line infrastructure did not generate any profits in connection with their provision of train paths during the period 2010 to 2012. The operational losses here are marked. It should be noted, however, that many non-federally-owned undertakings cannot be assumed to be operating on a for-profit basis. Some of these operators of railway line infrastructure are part of an enterprise or group whose core business is not railway operations. The shortfalls arising in the area of railway infrastructure therefore have to be offset elsewhere such as in connection with financing activities or through the company's primary business activities.

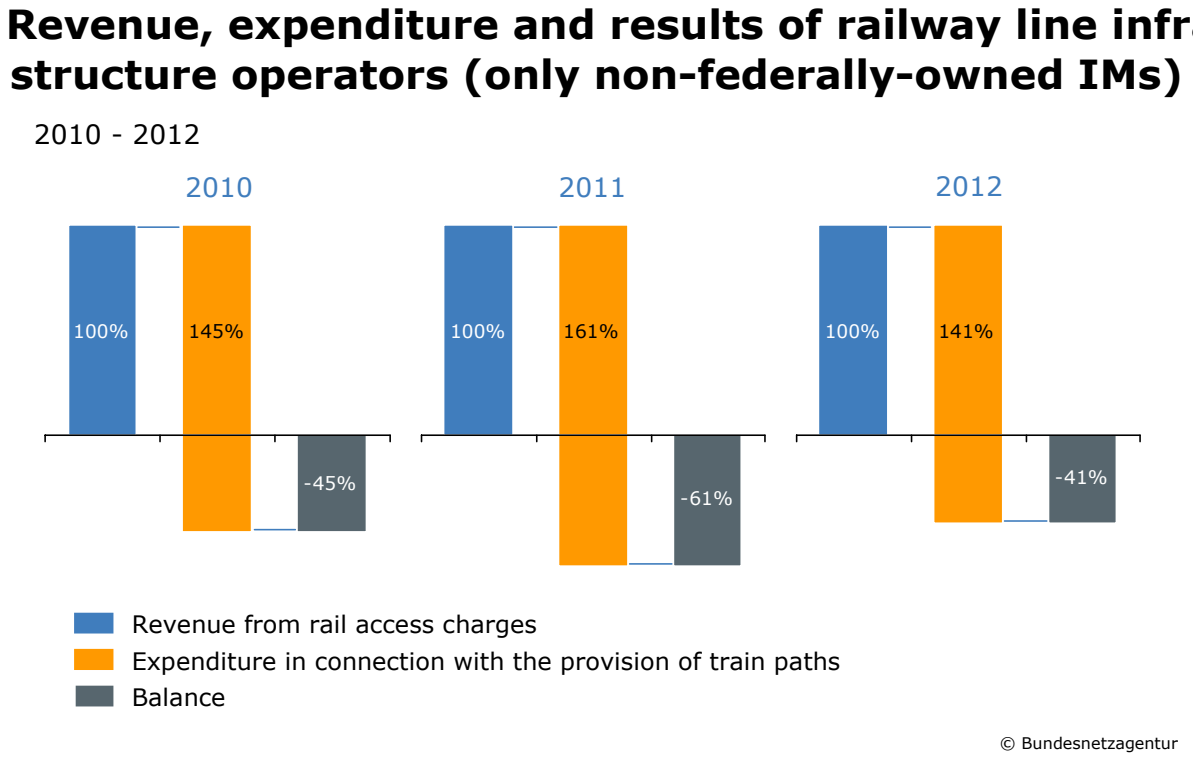


Figure 51: Revenue, expenditure and results of railway line infrastructure operators (only non-federally-owned infrastructure operators)

With regard to financing the railway network, the market survey conducted by the Bundesnetzagentur shows that the equity ratio of the railway undertakings to meet

their railway network financing needs is about 35%.[19] At 36%, the average equity ratio of non-federally-owned railway line infrastructure operators is comparable to the equity ratio of DB Netz AG which was estimated on the basis of its 2012 Annual Report.

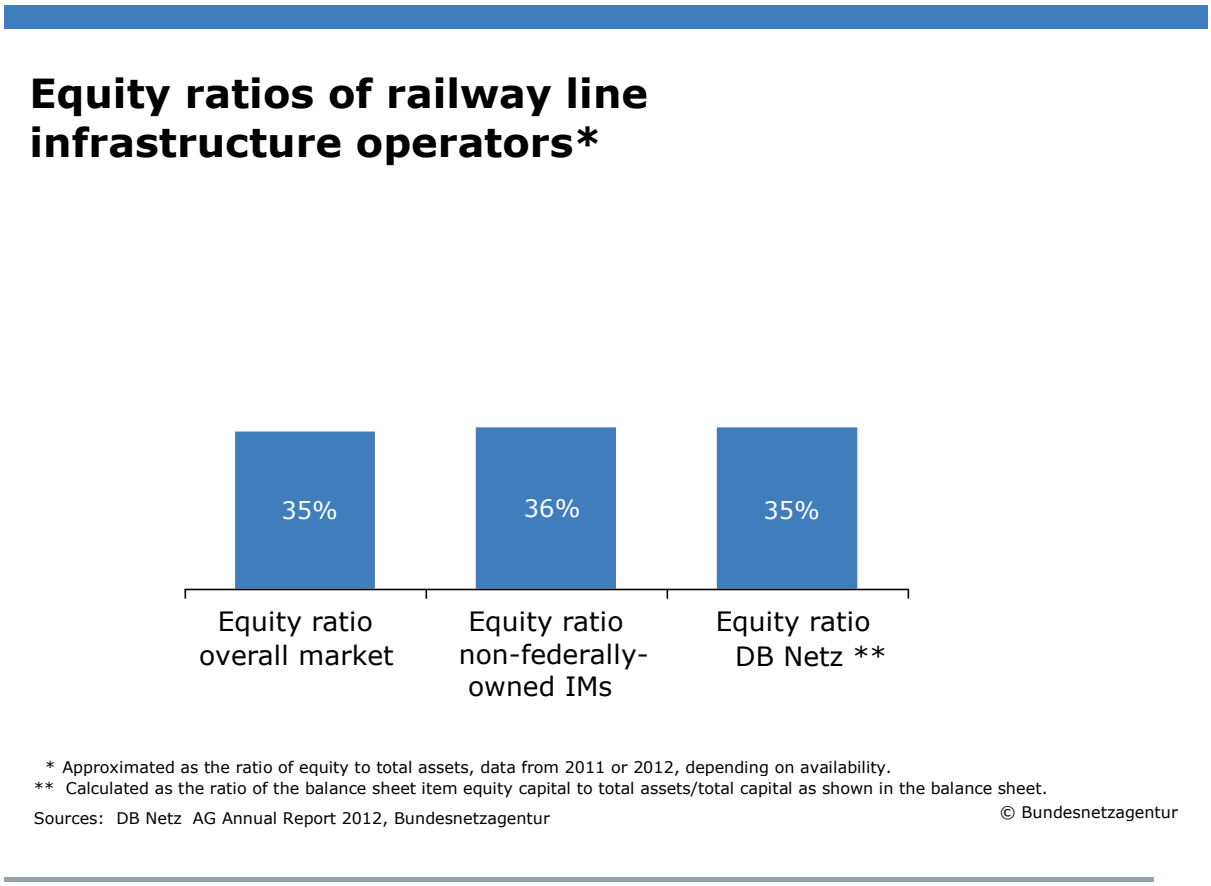


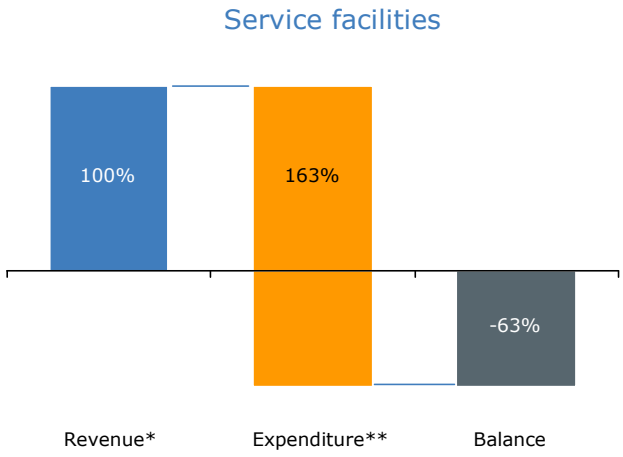
Figure 52: Equity ratios of railway line infrastructure operators

[19] Equity ratio approximated as the ratio between equity capital and total assets.

6.4 Results of the service facility operators

Taken together, the non-federally-owned service facility operators[20] did not generate a positive result from railway infrastructure access charges in 2012. Expenditure for maintenance, depreciation and the operation of service facilities exceeded revenue by some 63% (see Figure 53).

Revenue, expenditure and results of service facility operators (only non-federally-owned IMs)



* Consists of total revenue from usage charges for service facilities, not including refuelling facilities
** Expenditure for maintenance, depreciation and operation of service facilities

Figure 53: Revenue, expenditure and results of service facility operators of non-federally-owned infrastructure managers

The analysis of the information the respondents provided in connection with the market survey shows that the negative results reported by the non-federally-owned service facility operators were primarily generated in the facility categories main private-sidings lines, feeder tracks/factory sidings, railway sidings and the rail infrastructure in ports (see Figure 54). It should be noted that service facilities of undertakings whose core business is not railway operations were also taken into account. This latter category of service facility serves to support the respective

[20] Without light maintenance depots and refuelling facilities

company's primary business operations or object. Any shortfalls must then be offset elsewhere, such as through financing activity from other areas of operation.

Non-federally-owned service facility operators generate substantially positive contributions to their results solely through their passenger and freight yards. These are precisely the type of service facility that imply or would indicate that the operator's primary business purpose is railway-related.

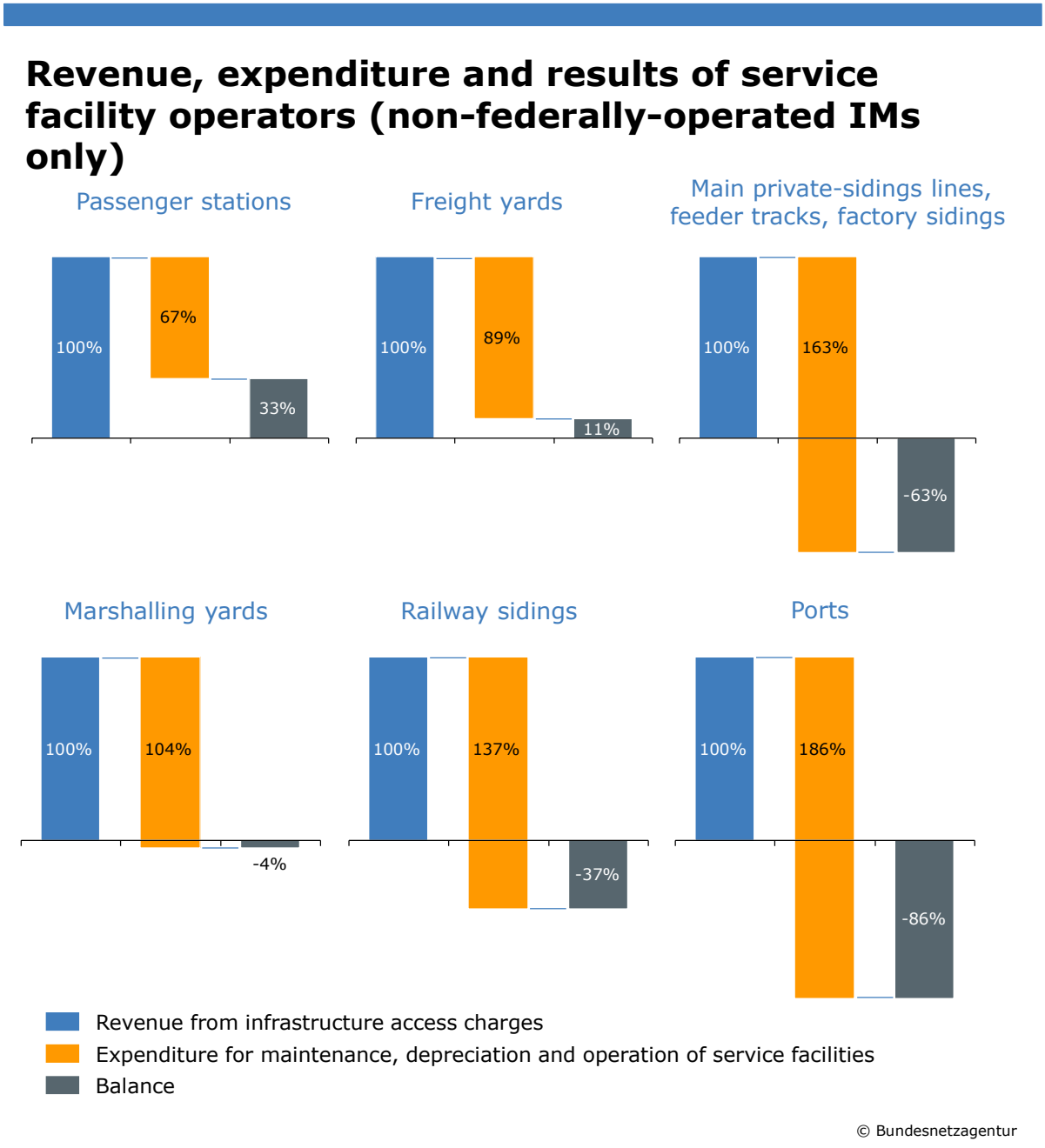


Figure 54: Revenue, expenditure and results of service facility operators of non-federally-owned infrastructure managers, by type of service facility

DB Station & Service AG also generated a positive result in 2012; here the profit margin in terms of the operating result was some 18%.[21]

[21] Calculated as the ratio of the positions revenue and operating results in the profit and loss account; source: 2012 Annual Report of DB Station & Service AG

7. International market monitoring

The Bundesnetzagentur is a member of the Independent Regulators' Group Rail (IRG-Rail), a network of independent rail regulatory bodies whose objective is to promote the establishment of a single, competitive market in Europe on a sustainable basis. The Group serves national regulatory bodies as a platform where they can share information and best-practice methods with one another so that uniform and effective approaches can be taken to the regulatory challenges in Europe.

The Market Monitoring Working Group was established as part of IRG-Rail. The Bundesnetzagentur is actively involved in this working group. Its members have jointly developed a market survey for identifying and assessing important factors that influence railway undertakings' business operations.

The results from IRG-Rail's international market monitoring activities are published in the Annual Market Monitoring Report that is released at the start of every year on the IRG-Rail website (http://www.irg-rail.eu/public-documents/).

8. Annex

8.1 Train path pricing system of DB Netz AG, 2002 to 2013

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Base price (€)												
Fplus		8.30	8.30	8.30	8.30	7.90	8.09	8.30	8.38	8.55	8.76	9.00
F1	3.38	3.38	3.51	3.68	3.79	4.02	4.12	4.21	4.29	4.38	4.48	4.60
F2	2.25	2.24	2.53	2.53	2.50	2.78	2.85	2.91	2.98	3.04	3.11	3.19
F3	2.17	2.12	2.28	2.29	2.26	2.47	2.53	2.61	2.68	2.73	2.80	2.88
F4	2.12	2.07	2.20	2.21	2.17	2.36	2.42	2.50	2.57	2.62	2.68	2.75
F5	2.05	2.02	2.03	1.74	1.76	1.82	1.86	1.90	1.90	1.94	1.99	2.04
F6	1.93	1.92	2.00	2.05	2.06	2.13	2.18	2.25	2.31	2.36	2.64	2.71
Z1	2.12	2.11	2.13	2.13	2.14	2.21	2.26	2.34	2.40	2.45	2.74	2.81
Z2	2.20	2.19	2.20	2.20	2.21	2.29	2.34	2.42	2.48	2.53	2.82	2.89
S1	1.48	1.45	1.46	1.46	1.46	1.55	1.59	1.64	1.70	1.73	1.77	1.82
S2		2.09	2.09	2.09	2.09	2.09	2.14	2.20	2.26	2.31	2.37	2.43
S3				2.51	2.51	2.51	2.57	2.64	2.70	2.75	2.82	2.89
Product factors												
Passenger transport train paths												
Express train path	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
Long-distance regular-interval train path	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Local transport regular-interval path	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Economy train path	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Light-running engine train path (passenger transport)			1.00	1.00	1.00	0.65	0.65	0.65	0.65	0.65	0.65	
Freight transport train paths												
Express train path	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Standard train path	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Feeder train path	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Light-running engine train path (freight transport)			0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Other surcharges												
Utilisation factor	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	
Deviations from the minimum speed (factor)							1.50	1.50	1.50	1.50	1.50	1.50
Load component rail freight + 3.000 t (in €)*	1.33	1.33	1.33	0.59	0.53	0.90	0.92	0.92	0.92	0.94	0.96	0.98

*Prior to 2007 surcharge already payable for
1,000 t; surcharge shown for 3,000 t
Source: Train path pricing systems of DB Netz AG

Abbreviations

AEG	Allgemeines Eisenbahngesetz (General Railways Act)
AG	Aktiengesellschaft (public limited company)
BAFA	Bundesamt für Wirtschaft und Ausfuhrkontrolle (Federal Office of Economic Affairs and Export Control)
BAG	Bundesamt für Güterverkehr (Federal Office for Goods Transport)
bn	billion
DB	Deutsche Bahn
ECR	Euro Cargo Rail
EEG	Erneuerbare-Energien-Gesetz (Renewable Energy Sources Act)
EEX	European Energy Exchange
EIBV	Eisenbahninfrastruktur-Benutzungsverordnung (Rail Infrastructure Usage Regulations)
EnWG	Energiewirtschaftsgesetz (Energy Industry Act)
EU	European Union
GDP	gross domestic product
GmbH	Gesellschaft mit beschränkter Haftung (limited liability company)
GWh	gigawatt hour
HKX	Hamburg–Köln–Express
IM	infrastructure manager
IRG-Rail	Independent Regulators' Group – Rail
km	kilometre
kWh	kilowatt hour
pkm	passenger kilometre
RU	railway undertaking
t	tonne
tkm	tonne-kilometre
VDV	Verband Deutscher Verkehrsunternehmen (Association of German Transport Companies)