Regional Rail Companies in Germany

Heike Link

Germany has a large number of railway companies in addition to the state-owned Deutsche Bahn AG (DB AG). This article describes the market and its latest developments after rail restructuring, focussing on the performance and problems of these smaller regional railway companies.

Structure and Ownership of Railway Industry

Germany has the largest railway network in the EU. In 2006, it totalled about 41,300 km of lines of which 34,100 km were operated by DB AG. The whole network is 23% electrified and DB AG's share of electrified lines is 19.5% (2005). The geography of Germany is less centred on one metropolis than France or Britain, and railways in Germany form a network of intercity high-speed passenger trains with new lines at bottlenecks and upgraded lines elsewhere. Furthermore, the S-Bahn serves suburban areas around the major cities and there are other regional passenger services.

International traffic is very important in the freight sector, which DB AG dominates with more than 80% (tonne-km) of freight traffic. Similarly, the company has 99% (passenger-km) of long-distance passenger traffic and 93% of regional passenger transport. Despite this overwhelming business presence, the German railway market is still characterized by the existence of other, non-DB companies offering regional passenger and freight services often on their own tracks.

The latest figures of the Federal Statistical Office indicate that there are about 150 non-DB rail companies but this figure only includes larger companies (for example, in freight transport, only companies carrying more than 10 million tonne-km annually). It excludes port railways as well as industrial lines inside company premises. According to the Bundesnetzagentur (the German regulator for electricity, gas, telecommunications, postal services and railways), which has supervised railway track access and charges since 2006, there are about 330 railway companies (excluding industrial lines in plants) operating a network of 7200 km connected to the main line network; the largest operates less than 700 km of tracks. In 2004, investments by non-DB railway companies totalled €234 million (2004 prices), a fraction of the €5.55 billion invested by DB AG in the same year. With the opening up of DB tracks to third parties, several of these companies run services over DB tracks, especially due to tendering in regional passenger transport.

There is little central data on the ownership structure of non-DB railway operating companies. The only source is the Bundesnetzagentur, which reports that about two thirds are privately owned and 16% owned by municipalities.

1990s Restructuring of German Railway Market

To understand the funding of non-DB companies and the functioning of the German railway market, we must revisit the following important features of the 1994 railway reforms:

- DB AG reorganization as a 100% state-owned, private-sector company (The expected partial public sell off in autumn 2008 was postponed due to the crisis in the financial markets.)
- Vertical separation of infrastructure and operations with DB AG organized as holding company with five major companies: DB Tracks, DB Stations & Services, DB Long-distance Passenger Transport, DB Regio, and DB Cargo (Subsequently, the organization was changed by merging DB Long-distance Passenger Transport and DB Regio into DB Mobility.)
- Network access for non-DB rail companies by payment of track access charges
- Rail infrastructure financed by Federal government
- State responsible for financial refloating (This included taking over debts, adjustments of opening balance, and acceptance of financial burden arising from former East German rail company Deutsche Reichsbahn.)
- Regionalization of suburban services from 1996 onwards

Although the 1994 reforms focused mainly on DB AG, some measures affected the rail market as a whole. Most important was the vertical separation of infrastructure and operations and the opening up of the rail network to third parties through payment of track access charges. Next, was the shift in financial and contractual responsibility for regional passenger services to Federal states (so-called regionalization), which gave non-DB companies new opportunities to operate in regional rail passenger markets.

Table 1 German Railway Market Indicators

Year	Number of Companies	Track Length (1000 km)	Employees	Passenger-km (billion)		Freight Tonne-km (billion)
				Long-Distance	Regional	
1994	100	44.6	337,340	34.8	30.3	70.7
1995	103	45.1	310,563	36.3	34.7	70.5
1996	102	44.5	278,125	35.6	36.1	70.0
1997	115	42.2	256,596	35.2	37.2	73.9
1998	116	41.8	241,806	34.6	38.1	74.2
1999	120	41.6	229,555	34.9	38.9	76.8
2000	130	41.7	209,355	36.2	39.2	82.7
2001	141	41.1	195,619	35.3	40.4	81.0
2002	153	40.6	238,741	32.7	38.2	81.1
2003	151	41.5	286,563	31.6	39.7	85.1
2004	n.a.	41.4	n.a.	32.4	40.5	91.9
2005	n.a.	41.3	n.a.	33.7	43.1	95.4
2006	n.a.	41.3	n.a.	34.5	44.5	107.0
2007	n.a.	n.a.	n.a.	34.2	45.1	114.6

Sources: Federal Statistical Office, Federal Ministry of Transport

Nord-Ostsee-Bahn (NOB) regional train (Martin Brosow, 2005)

Table 2 Base Charges in Access Charging Scheme 2007–08

Track Category		Base Charge (€/train-km)	Base Charge for High-use Tracks (€/train-km)
Long-distance Tracks			
Fplus	Tracks with high traffic importance, maximum speed >280 km/h	7.90	9.48
F1	Tracks for fast traffic with maximum speeds of 200–280 km/h	4.02	4.82
F2	Tracks for fast and mixed traffic, maximum speed 161–200 km/h	2.78	3.34
F3	Tracks for mixed traffic, maximum speed 101–160 km/h	2.47	2.96
F4	Tracks for inter-regional, fast traffic, maximum speed 101–160 km/h	2.36	2.83
F5	Tracks for mostly interregional, slow traffic, maximum speed <120 km/h	1.82	2.18
F6	Tracks mainly for short-distance passenger service with maximum speeds of 101–160 km/h	2.13	2.56
Feeder Tracks			
Z1	Tracks with maximum speed up to 100 km/h	2.21	2.65
Z2	Tracks without or with low-standard signalling equipment and maximum speed up to 50 km/h	2.29	2.75
S-Bahn			
S1	Tracks where mainly or exclusively S-Bahn trains operating	1.55	1.86
S2	Hamburg S-Bahn	2.09	2.51
S3	Berlin S-Bahn	2.51	3.01

Source: DB Netz AG

Network Access and Charges

Germany has achieved the most comprehensive opening up of a rail network in Europe. Since 1994, DB AG and all other rail companies offering public transport have opened up their routes through payment of access charges based on EU Directive 91/440, regulating access for EU railway companies in cross-border intermodal traffic and public-transport railway companies with their own network. However, German railway networks are open to (i) non-public-transport railway companies who grant—under similar terms—other public railway companies access to their infrastructure, (ii) railway companies from EU countries for cross-border intermodal traffic, (iii) foreign railway companies if mutual access to the rail network is guaranteed, otherwise on the basis of international agreements. In addition to the above-mentioned groups, DB AG even grants other companies, such as haulage contractors, travel companies and government bodies, access to its routes.

The current access charging is a one-part tariff, consisting of:

- Base charges differentiated by track category and use (Table 2)
- Product charges reflecting priorities in track allocation
- Several multipliers or surcharges for higher weights, special trains, etc.
- Regional factors

The pricing system distinguishes 11 track categories composed of 7 types of long-distance tracks, 2 types of feeder tracks and 2 types of rapid-transit passenger lines.

Furthermore, there are 9 types of track products for product charges. Link (2003) provides a detailed description. Note that there is also a charging scheme for using stations.

Although vertical separation of infrastructure and operations and the opening up of the large DB AG network provided better conditions for non-DB companies to run and extend services than most other EU countries, the lack of regulations to prevent monopoly abuse hampered competition in the rail market and growth of market share by non-DB companies for at least 10 years after the reforms. A major problem has been the lack of regulation of the track provider, DB Netz. For example, unlike other countries, there is no obligation to apply for approval of track charges, and pricing is not regulated by an independent authority. Furthermore, Germany has no sector-specific regulator with the same range of competences as the Office of Rail Regulation in the UK. Between 1994 and 2005, non-DB companies facing discrimination by DB AG when running trains on DB Netz's network could only make claims to the Antitrust Commission or the Federal Railway Office (Eisenbahnbundesamt–EBA) neither of which had powers to actively regulate the market and could only react on the basis of received claims. In 2005, Germany amended its Railway Law to meet the requirements of EU Directive 2001/14/EG. One amendment concerned rail regulation and gave Bundesnetzagentur responsibility (from 2006) for supervising the rail market, especially non-discriminatory access to rail infrastructure. The situation with network access and access charges has improved as a result, but some problems remain.

Tendering for Regional Passenger Services

An important aim of the railway reforms was establishing a clear distinction between cost-covering (or even profitable) services provided at DB AG's own business risk, and loss-making services of public interest that must be subsidized. While all long-distance rail services were defined as profitable and not eligible for explicit subsidies, regional passenger services were classified as subsidized services. This blanket definition is certainly open to dispute and DB AG's subsequent strategy of abolishing long-distance Interregio trains (with no explicit subsidies) and replacing them with regional trains (with regional subsidies per train-km) indicates the scale of the problem. Since 1996, the Federal states have been responsible for ordering all regional passenger transport services (includes railway and buses, trams, subways). The Regionalization Law defines these services as those having a maximum distance of 50 km and a maximum travel time of 1 hour. Since then, several national regulations and court decisions as well as EU directives and legislation have attempted to clarify in which cases and under which conditions regional rail services must be tendered, or whether it is possible to choose the service provider without tendering. For a long time, EU regulation 1191/69 has been the legal basis for ordering and financing regional and urban public transport. Based on this regulation, EU member countries may exclude public transport services from the general rule of tendering if:

- There has been a clear agreement between the funding authority and the transport company ruling out compensation for the transport company operating the service.
- No over-compensation occurs.
- The transport company operates like an average well-organized company.

According to a 2003 European Court decision, regional passenger services must be tendered if financed or co-financed by public funds. However, the decision leaves open whether German public transport legislation allows exemption from the obligation to tender services as foreseen in EU regulation 1191/69. Most German Federal states consider the conditions for such an exemption as given but the Federal state of Hesse disagrees and obliges Hessian authorities to put regional and urban public transport services out to tendering. Meanwhile, a German court decision supports this minority position of Hesse.

The newest legislation covering this issue is EU regulation 1370/2007, which allows the responsible authorities to have so-called in-house businesses, meaning municipalities or other responsible authorities may operate public transport services through an internal operator who must be legally independent from the authority or municipality and who is not allowed to participate in tendering for other public transport services in this area. If the authority or municipality does not choose the in-house business but intends to grant a service contract to another company, these service contracts must be subject to public competitive tendering. However, direct awarding of contracts without tendering is possible for small contracts (maximum annual volume of less than €1 million or less than 300,000 passenger-km) or if contracts are awarded to small and medium companies with less than 23 vehicles. In the latter case, the maximum annual volume is less than €2 million or 600,000 passenger-km. In any case, authorities may grant contracts directly for regional rail transport without tendering.

The service contracts specify the amount and quality of rail services to be operated in the respective region for a specified time period, including the funding paid by the responsible authority to the service supplier. EU regulation 1370/2007 defines a maximum contract duration of 15 years for rail passenger services, which can be extended by 50% under certain conditions. A further element of the EU

Table 3 2007 Budget Cuts for Regional Rail Passenger Services

Federal States	Shortfall in 2007 € million	Federal States Compensation	
		€ million	Share (%)
Baden-Wuertemberg	58.20	0.00	–
Bavaria	83.18	0.00	–
Berlin	30.18	30.18	100
Brandenburg	31.88	9.50	30
Bremen	2.84	0.00	–
Hamburg	10.99	0.00	–
Hesse	41.46	24.20	58
Meckl.-West Pomerania.	18.56	5.00	27
Lower Saxony	47.98	0.00	–
North Rhine-Westfalia	87.21	0.00	–
Rhineland-Palatinate	29.34	15.00	51
Saarland	7.28	0.00	–
Saxony	40.02	11.95	30
Saxony-Anhalt	27.81	12.00	43
Schleswig-Holstein	17.21	11.97	70
Thuringia	22.25	0.00	–
Total	556.39	119.80	22

Sources: Niedersächsisches Ministerium für Wirtschaft, Arbeit und Verkehr, 3/2007

legislation is the obligation to publish an annual report on public-service obligations, fees paid, and chosen suppliers. Approval of the new EU regulation 1370/2007 giving a range of choices to the EU member states, might endanger the German market move towards less competitive tendering.

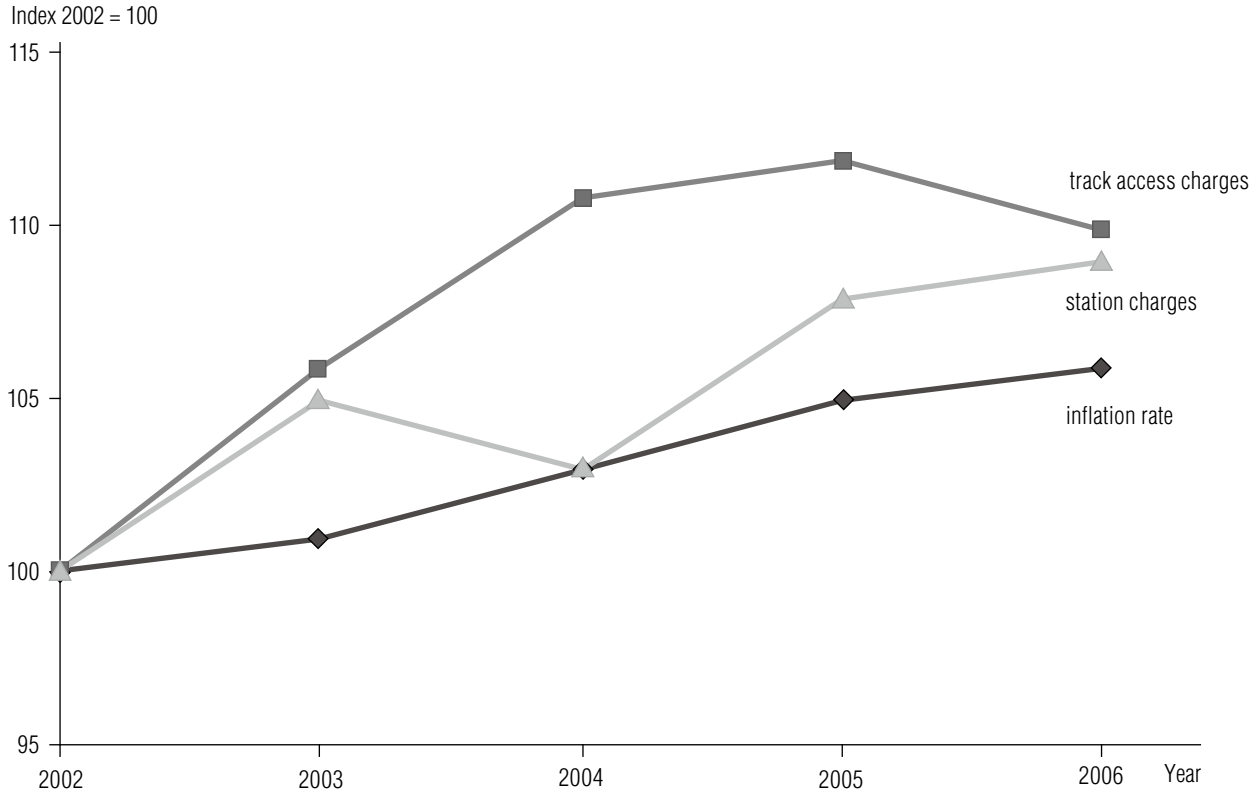
Financing Regional Rail Passenger Transport

There are two special funding mechanisms for regional rail services (and to some extent for regional public transport infrastructure and rolling stock).

The first is the so-called regionalization funds introduced in 1996 as part of the rail restructuring. The mechanisms are regulated by the Regionalization Act and the funding level is very secure. The regionalization funds transfer some of the Federal fuel-tax revenues to the Federal states and the Regionalization Act obliges these states to spend these funds on regional and urban transport with at least 20% allocated to rail. Since 2002, the annual transfers have amounted to €6.7 billion with an originally agreed increase to €7.3 billion in 2007. Budget cuts in 2006 and 2007 were a major problem in this context, leading to a lower amount of €6.641 billion in 2007. Another amendment of the Regionalization Act increased the amount of €6.675 billion for 2008 with annual 1.5% increases up to 2014. The reduced funding led to reductions in train-km within agreed service contracts and worsening rail supply for travellers. Table 3 overviews the Federal states' attempts to compensate for the budget cuts.

The second is the so-called GVFG funds provided by the Urban Public Transport Law, which earmarks part of fuel-tax revenues for financing rolling stock and to some

Figure 1 DB AG Track Access and Station Charges



Sources: Bundesnetzagentur Referat 702, DB AG, Statistisches Bundesamt

extent financing infrastructure for urban transport. This mechanism has been used since 1967 and the annual amount was about €1.667 billion of which 80% was allocated directly to the Federal states who co-financed projects with the municipalities. The other 20% was fed into a Federal programme of the Ministry of Transport to improve passenger transport in urban areas. However, the federalism reforms led to amendment of the GVFG and although the Federal programme (about €333 million) still continues, the Federal states now receive direct funding (€1.335 billion annually) from the Federal government with no obligation to provide co-financing. Most of this funding goes to bus, tram and subway services.

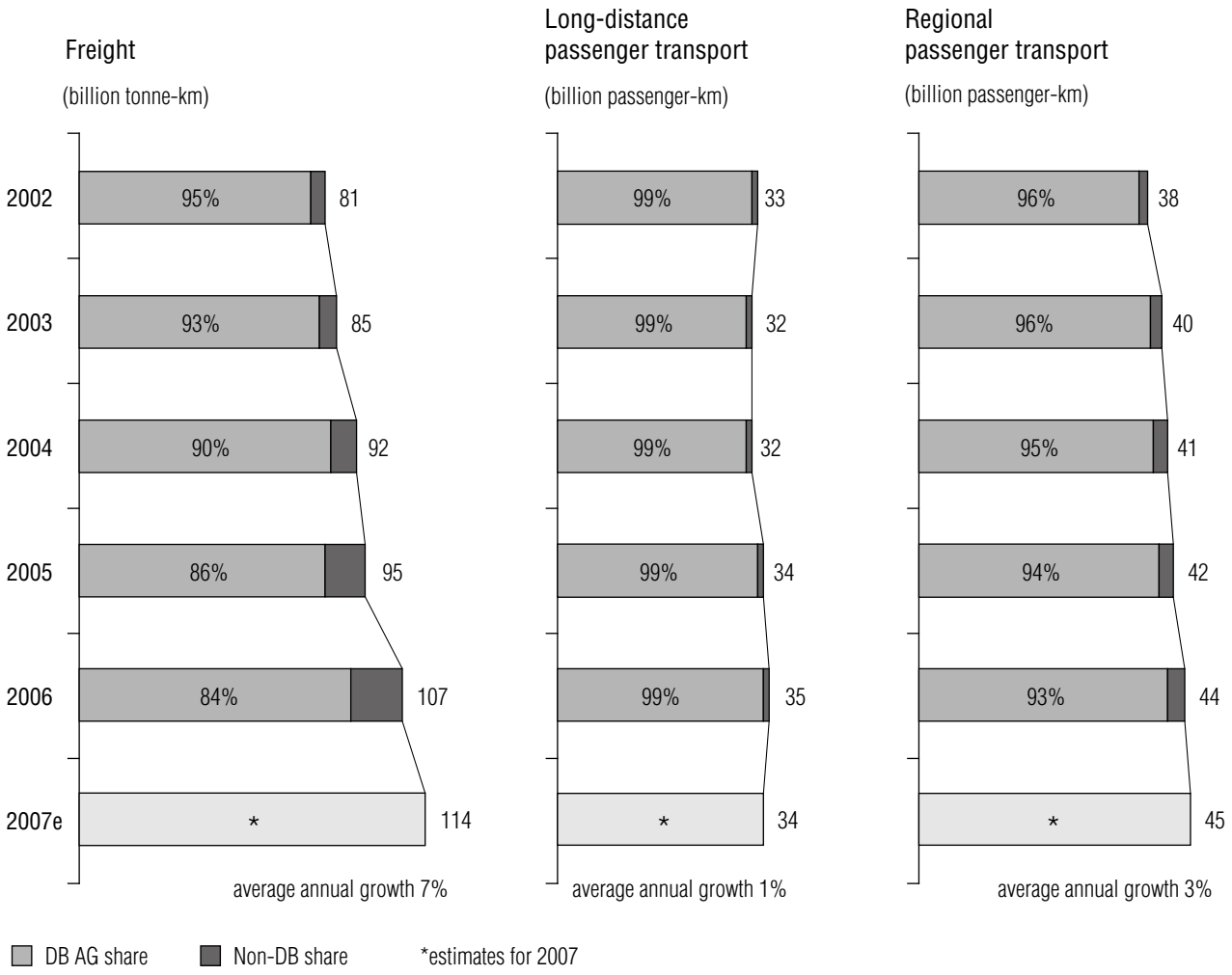
Performance of Regional Railway Companies

As described earlier, Germany's rail market is characterized by a high market concentration, especially for provision and use of rail infrastructure, underlining the importance of non-discriminatory access for third parties to DB AG's infrastructure. In contrast, the companies in the DB AG group use DB AG's tracks and stations almost exclusively (about 99%). Furthermore, within the group of non-DB companies, about 35% run services on infrastructure of other non-DB companies, while their share of services on DB AG's tracks is less than 15%.

Apart from the need to access competitive routes at the right time to offer competing services, non-DB companies require access charges supporting economically feasible services. According to the Bundesnetzagentur report, charges to access tracks and stations comprise about 35% of the total costs of non-DB companies. Therefore, access price levels and increases over time play a critical role. As shown in Figure 1, the increase in access charges between 2002 and 2006 exceeded inflation by 10% for tracks and 6% for stations. The average DB AG access charge was €3.59 per train-km and €4.54 per stop.

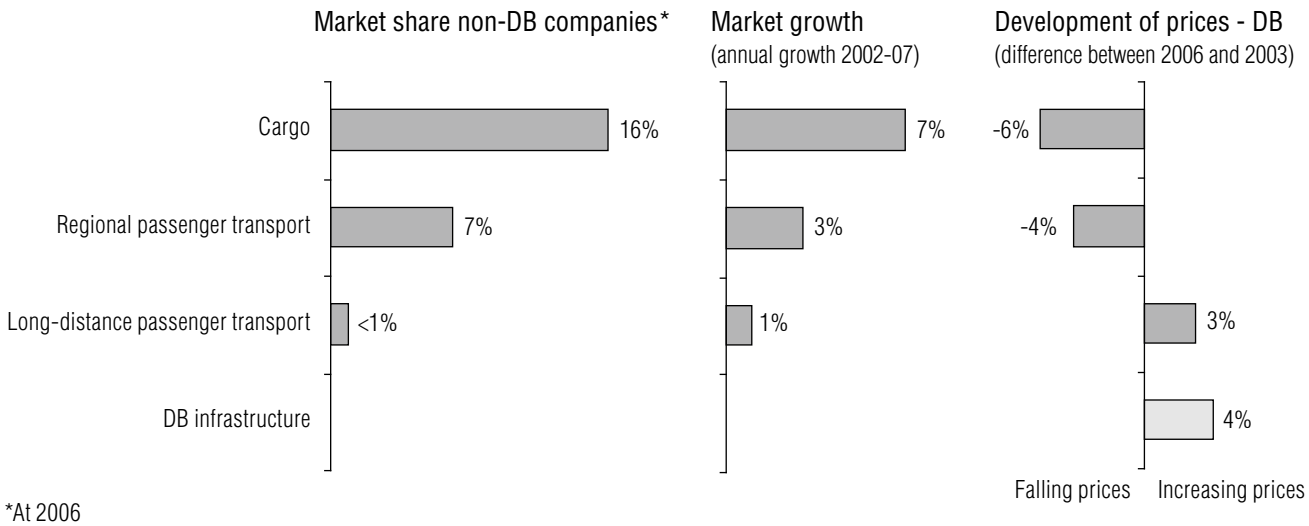
As shown in Figure 2, rail freight has the highest annual growth rate (7% from 2002 to 2006), followed by regional rail passenger transport (3%) and long-distance passenger transport (1%). At the same time, the freight and regional passenger transport market segments are those where non-DB companies have grown considerably. For example, the tonne-km carried by non-DB companies increased by 45% annually on average and the market share increased

Figure 2 Transport Performance and Competition in German Railway Market



Sources: Bundesnetzagentur Referat 702, DMVBS, Statistisches Bundesamt

Figure 3 Market Share of Non-DB Companies, Market Growth and Transport Prices in 2006



*At 2006

Sources: Bundesnetzagentur Referat 702, DB AG, BMVBS, Statistisches Bundesamt

from 5% to 16%. In regional rail passenger transport, the market share of non-DB companies was 7% of passenger-km and 15% of track-km because non-DB companies mostly won tenders for low-use lines. Responsible authorities have just started to put lines with higher passenger volumes out to competitive tendering. In general, the development of this market segment is very dependent on the strategy of authorities and municipalities, and it is debateable whether EU regulation 1370/2007 will lead to changes in awarding service contracts.

The long-distance passenger transport market segment is where non-DB companies have only a marginal share because such services require higher investment in rolling stock, and sales and distribution systems, as well as high labour costs without subsidies. A further aspect is that European legislation foresees the opening up of markets for cross-border passenger transport only from 2010 onwards. This includes the right of foreign rail companies to carry passengers between stations within another EU country within the cross-border passenger transport service (cabotage). This market opening might attract larger foreign rail companies to serve lines in Germany.

The performance of non-DB companies in single market segments and the related competition also had considerable impact on the development of DB AG's rail prices. As shown in Figure 3, DB AG's turnover per tonne-km as an indicator of freight prices decreased by 6% from 2003 to 2006 and amounted to 3.3 cents/tonne-km in 2006. In regional rail passenger transport, DB AG's turnover per passenger-km (including subsidy payments) has fallen by 4% to 19 cents per passenger-km. The only segment where DB increased prices is in long-distance passenger transport, a segment where non-DB companies have only a marginal share. The turnover per passenger-km in this segment has increased by 3% to 9.4 cents per passenger-km. On the other hand, prices for accessing DB AG's infrastructure, a market segment where no competing providers can offer infrastructure services due to high sunk costs, also increased.

Conclusions

As described, the German rail market is asymmetric with many smaller market actors and DB AG—the market-dominating company. Non-DB companies have succeeded in increasing their market share especially in freight transport, a traditional field of non-DB companies, and in regional passenger transport where more competitive tendering for services has occurred. Non-DB companies play a marginal role in long-distance passenger transport where investments in rolling stock, and sales and distribution systems, are higher than in regional passenger transport. Another reason for the lack of non-DB companies in this segment is difficulty in obtaining physical and temporal track access with traveller-friendly departure/arrival times and good connections to regional services. Finally, the current lack of international opening of cross-border passenger services giving foreign companies rights to carry passengers within another EU country is another reason for DB AG's monopoly of this market segment.

While rail-freight development will be very dependent on Germany's general economic performance after the 2008 financial crisis, development in rail passenger transport will be influenced by two factors. First, by the impact of the new EU legislation governing tendering in regional rail passenger transport, which might endanger progress towards more competition. Second, by the opening of international passenger rail markets from 2010, which might lead to the advent of large foreign companies competing with DB AG on cross-border long-distance passenger lines.

The success of non-DB companies will also depend on progress in introducing regulatory measures and providing the Bundesnetzagentur with more regulatory powers. Since this body started supervising network access, the situation of non-DB companies has improved. The suggested incentive regulation of track access charges could be another step forward. ■

Further Reading

Bundesnetzagentur 2007: Report of the Bundesnetzagentur on rail market development according to §14b/4 AEG. Bonn 2007.

Link, H. 1994. Structural Reform of Germany's Railways—Could Japan serve as a model? Bulletin of DIW, Vol 31 No.11, Gower Publishing.

Link, H. 2003. Rail infrastructure charging and on-track competition in Germany. International Journal of Transport Management 2(2004), pp 17–27.

Heike Link

Dr Link has been a researcher at the Department of Energy, Transport and The Environment at the German Institute for Economic Research in Berlin since 1992. From 2001 up to 2005, she was a member of the Board of Directors of the Association for European Transport. She has taught at various universities, including the University of Economic Science, and the Technical University in Berlin.