

**Lomonosov Moscow State University  
Economic Department**

**The Rail Transport industry as  
an economic factor: Germany.**

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# CONTENT

<b>I. Characteristics of the Railways Network .....</b>	<b>3</b>
<b>II. The macroeconomic situation.....</b>	<b>7</b>
<b>III. The configuration of the railway transport market and rail competition .....</b>	<b>13</b>
<b>IV. Outcomes of the rail reform .....</b>	<b>21</b>
<b>V. Development outlook .....</b>	<b>23</b>

# I. Characteristics of the Railways Network

# Development of the Rail Transport (1/2)

- Opening of the steam-hauled Bavarian Ludwig Railway between Nuremberg and Fürth **on 7 December 1835**.
- The first long distance railway was the Leipzig-Dresden railway, completed **on 7 April 1839**.
- By the 1840s, trunk lines did link the major cities; each German state was responsible for the lines within its own borders.
- German unification **in 1871** stimulated consolidation, nationalization into state-owned companies, and further rapid growth.
- **August 1924** transformed into Deutsche Reichsbahn-Gesellschaft (DRG, German State Railway Company), a private company, which was required to pay reparations of about 660 million Marks annually.

# Development of the Rail Transport (2/2)

- The more than 200 steam locomotive types of the different German Länderbahnen were grouped into Baureihen (BR).
- **On 11 May 1936** the streamlined steam locomotive 05 002 established the first railway speed world record above 200 km/h: 200.4 km/h, between Hamburg and Berlin. The record was finalized by Mallard in 1938 at 203 km/h.
- **In 1989**, the Wall fell. Train frequency rapidly increased on the existing East/West corridors; closed links which had formerly crossed the border were re-opened. **On 3 October 1990**, Germany was reunified; however, this was not the case with the railways.

# Statistics

First Nuremberg-Fürth railroad 82 cm in 1831

First long-distance line 120 cm in 1837

Length of railways in 1845 about 2000 cm

Length of railways in 1855 over 8000 cm

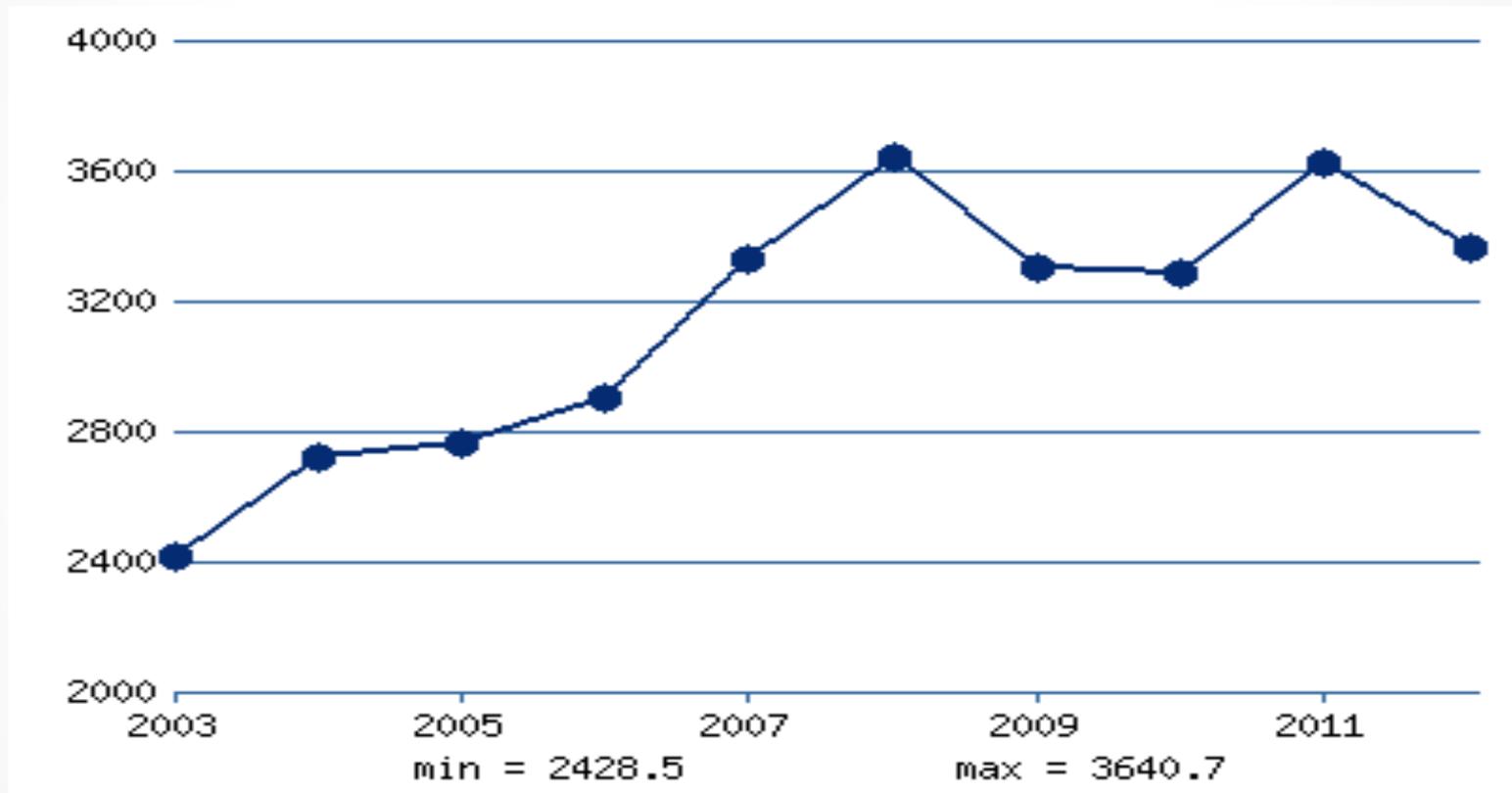
In 1880 there are 9400 locomotives, 43,000 passengers and 30,000 tons of freight

Speed about 208 cm/h in 1938

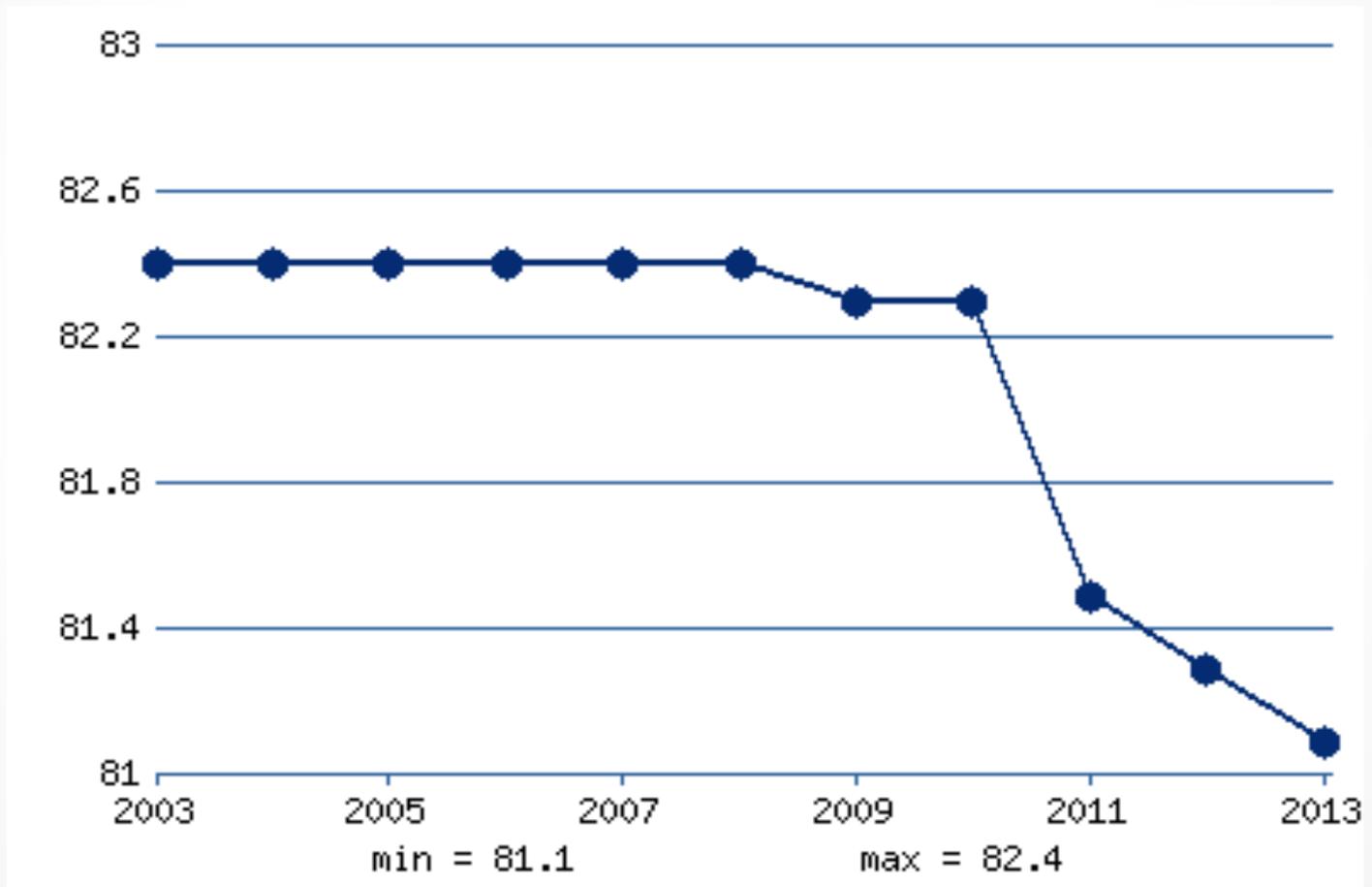
In present time about 43000 cm, 19000 cm electrified, 415,5 mln tonnes

# II. The macroeconomic situation

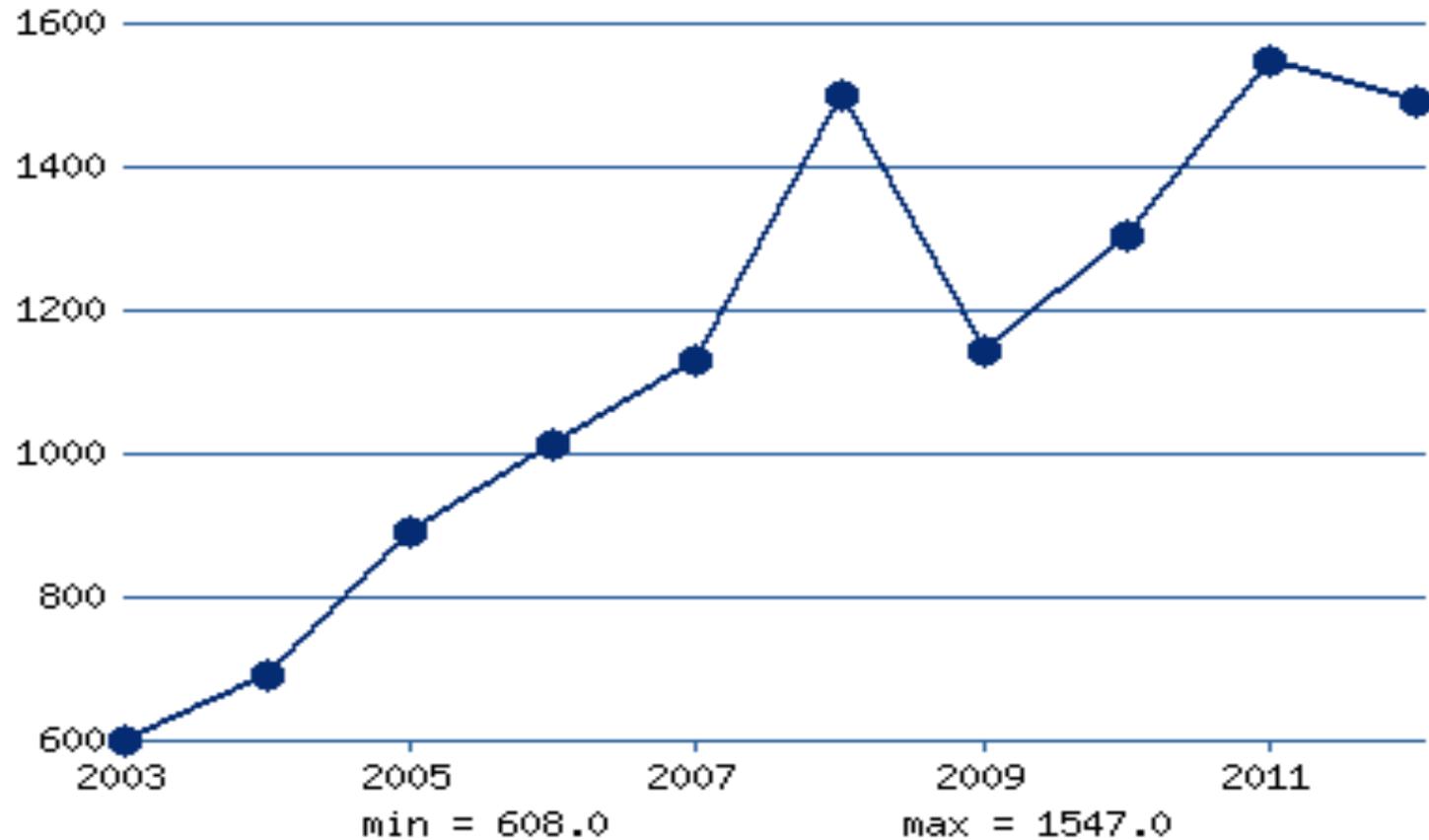
# GDP



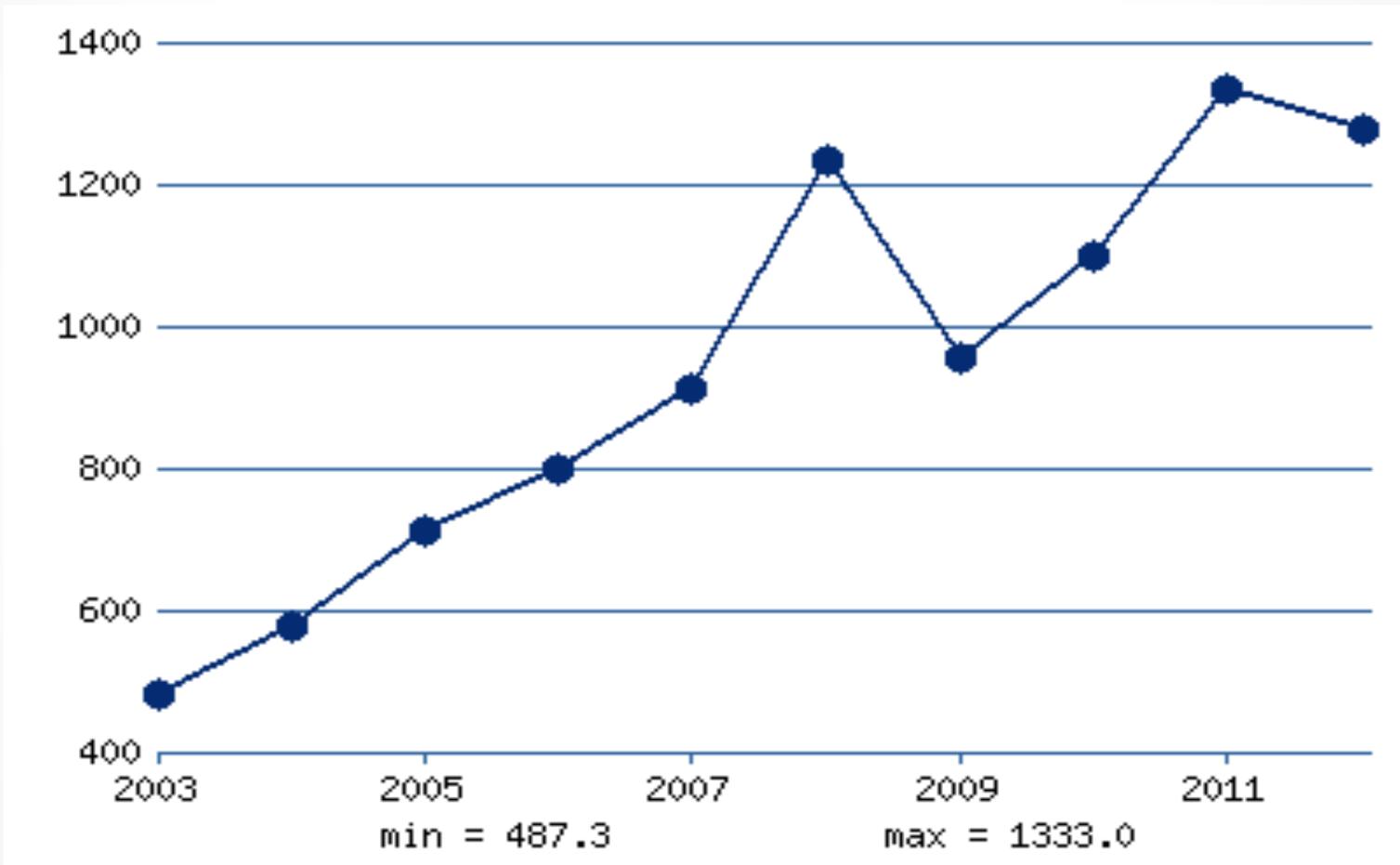
# Population



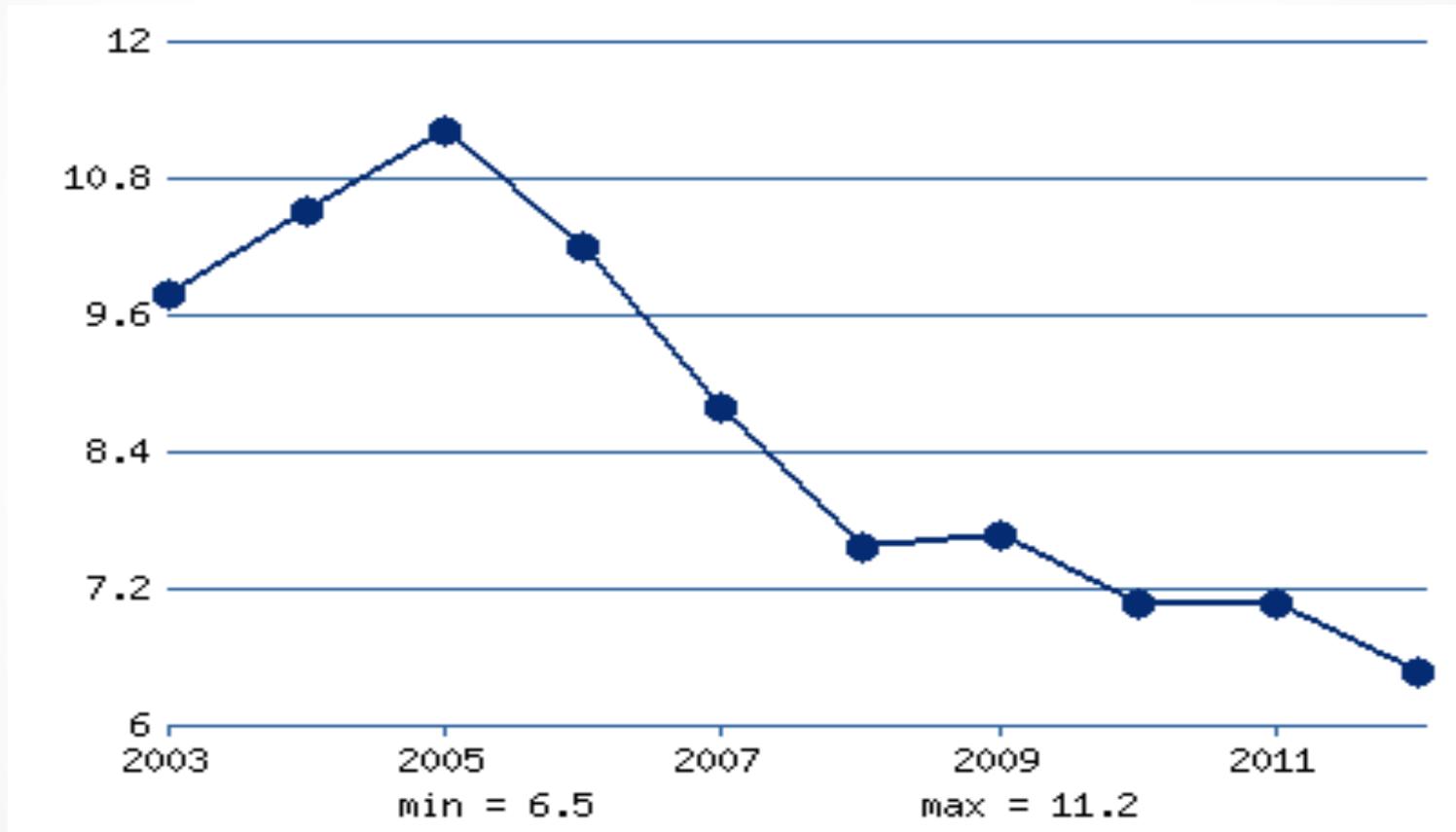
# Export



# Import



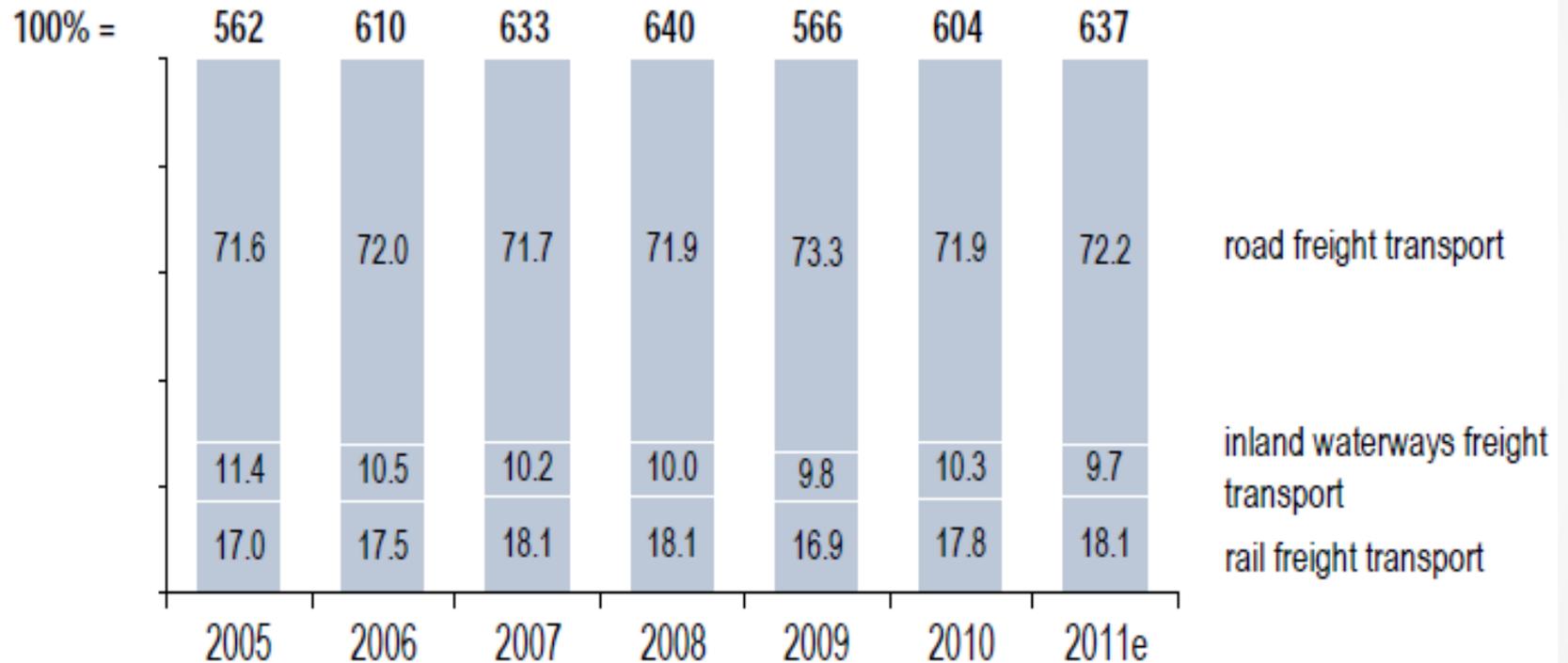
# Unemployment



# III. The configuration of the railway transport market and rail competition

# Modal split of freight transport

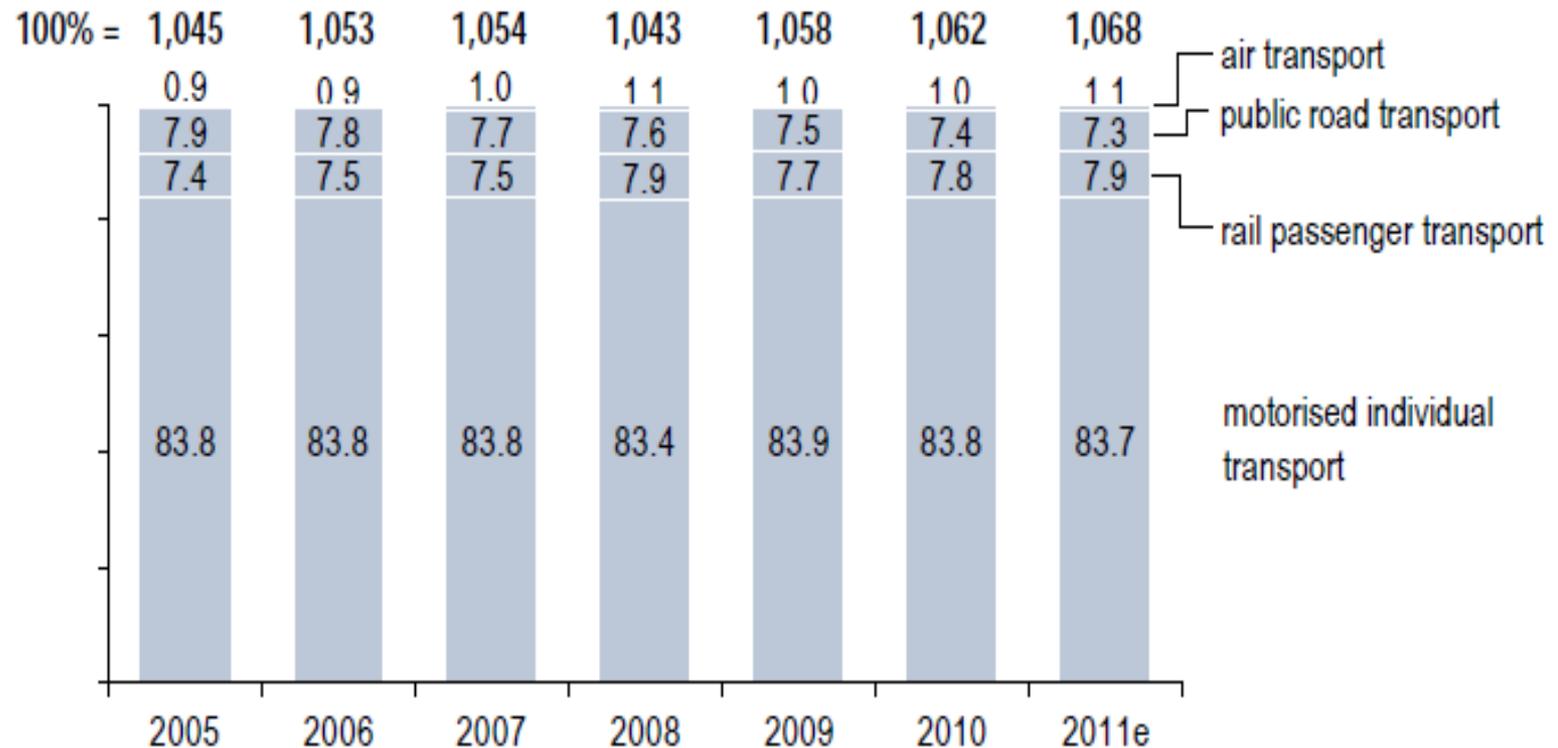
Figures in bn tkm, shares in %



Source: Federal Statistical Office

# Modal split of passenger transport

Figures in bn pkm, shares in %

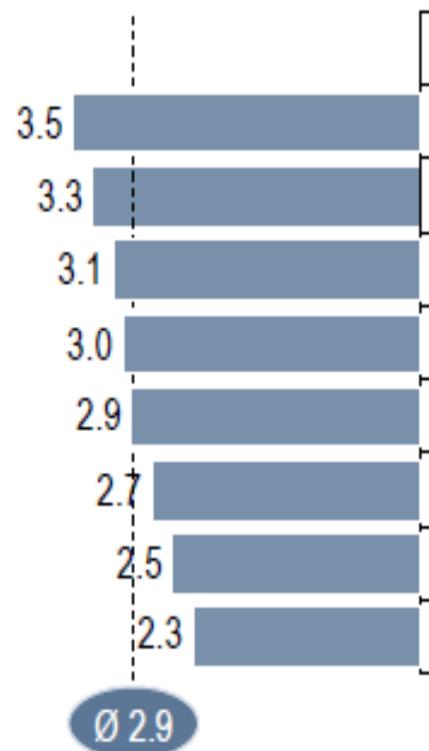


Sources: BMVBS, transport in figures 2009/2010

## Segment-related responses

### Rating by RUs operating in the freight transport segment\*

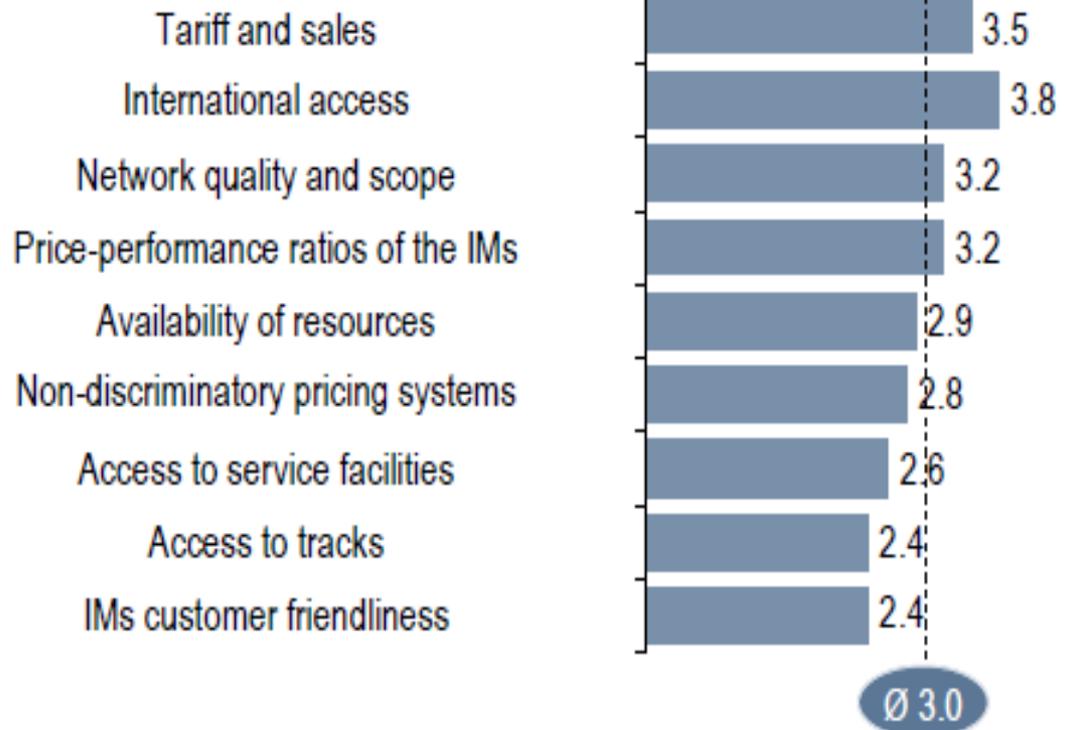
(1 = excellent, 5 = inadequate) better ▶



### Areas

### Rating by RUs operating in the passenger transport segment\*

◀ better (1 = excellent, 5 = inadequate)

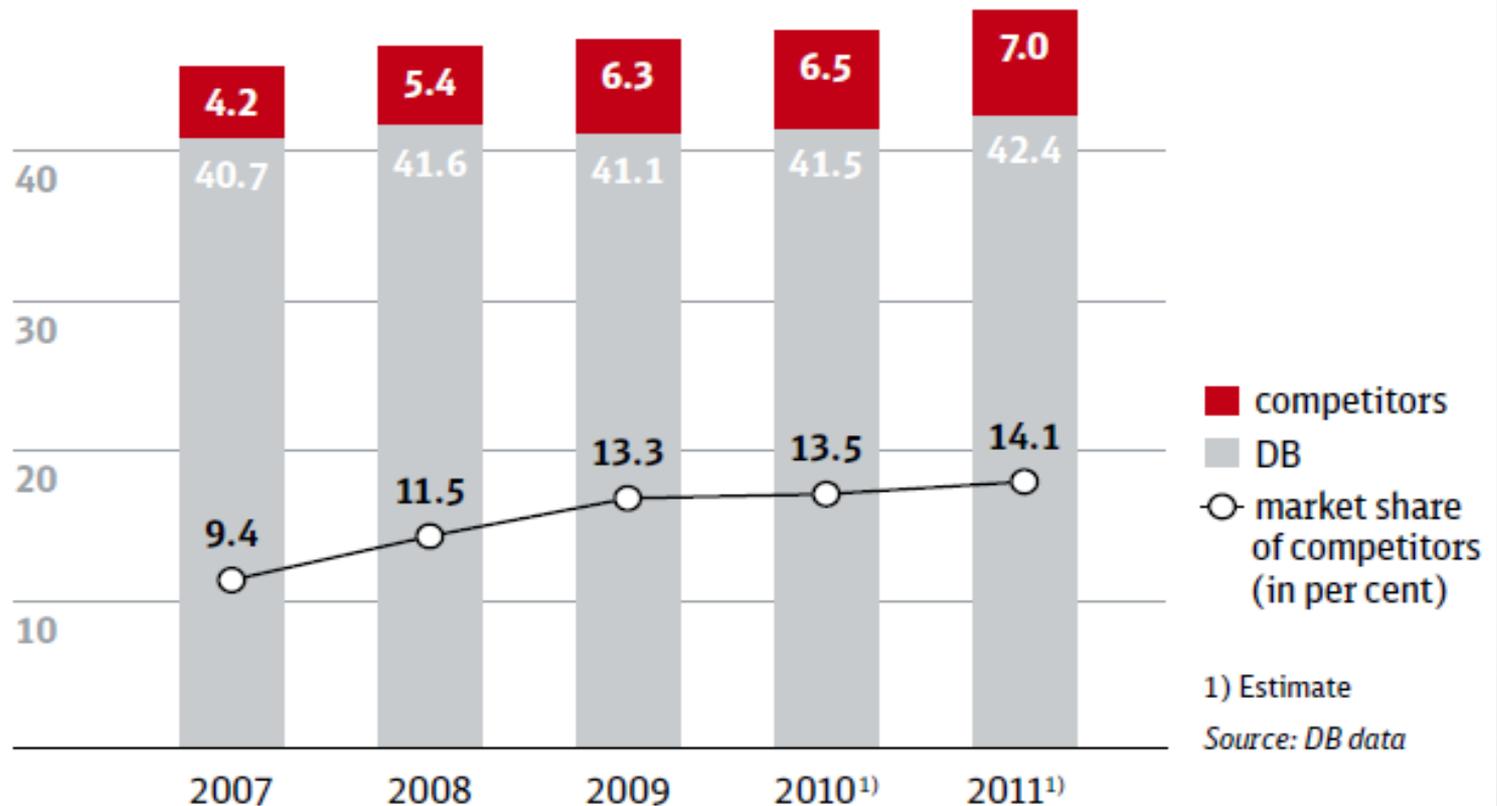


\*) These figures have been calculated as the mean value of the critical aspects (individual values) in the listed areas.

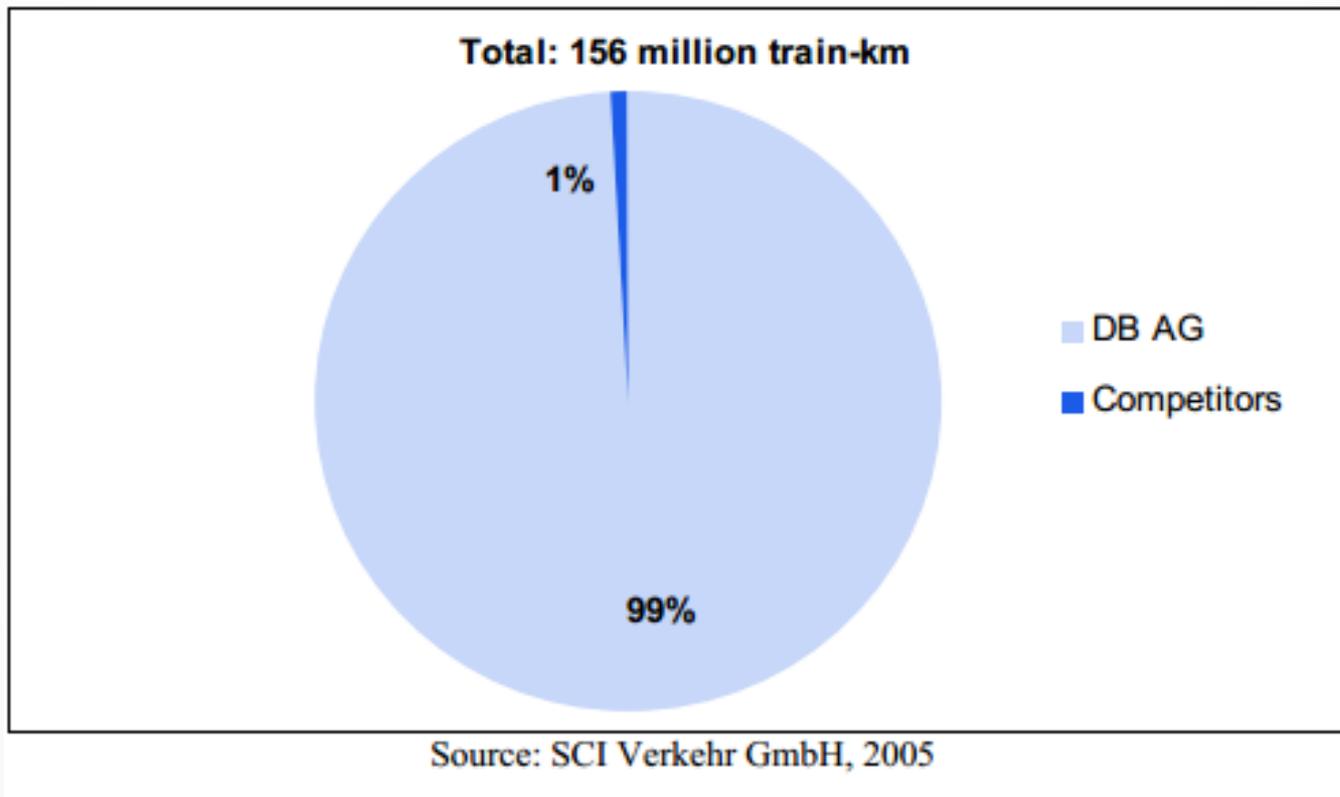
Source: Bundesnetzagentur

# Competitors

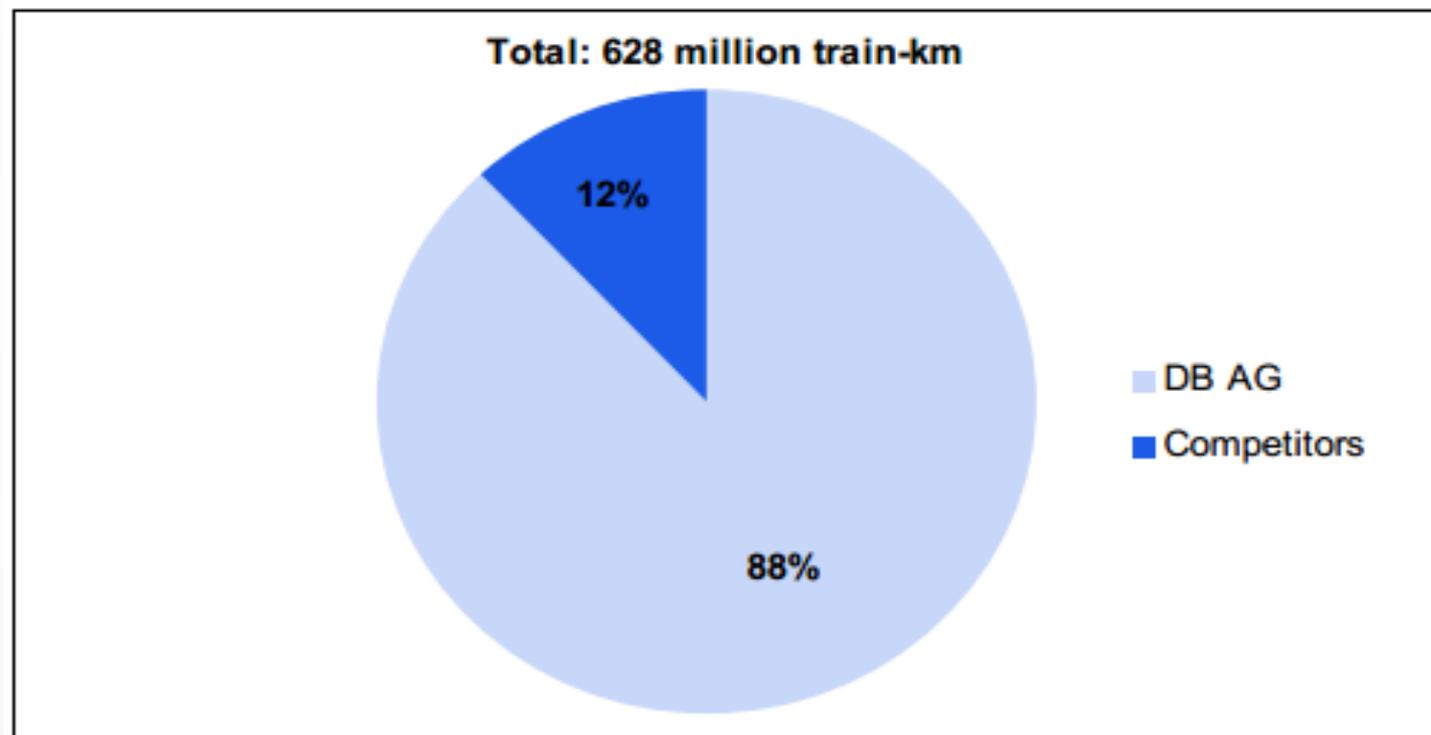
**Railways achieve year-on-year increase in traffic performance**  
(billion passenger-kilometres)



# Long-distance passenger transport, market share



# Short-distance passenger transport, market share



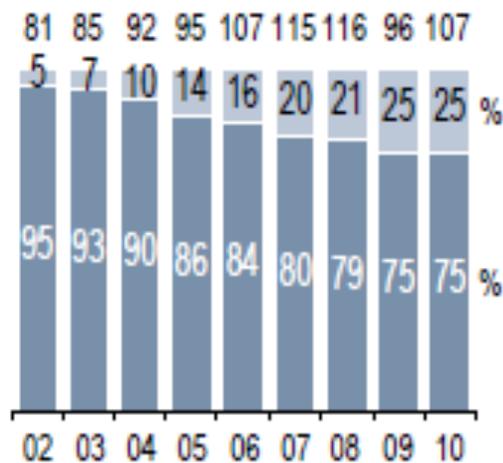
Source: SCI Verkehr GmbH, 2005

# Competitive trends in the various segments

- Competitors
- Deutsche Bahn AG

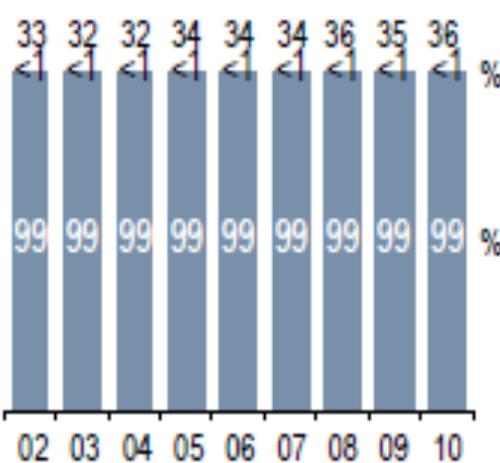
## Freight transport

In bn tkm, shares in %



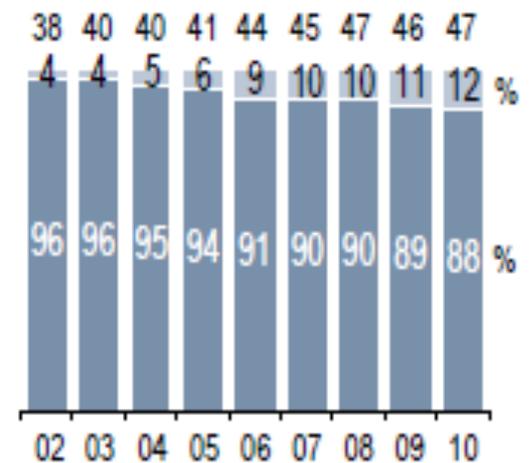
## Long-distance pass. transport

in bn pkm, shares in %



## Short-distance pass. transport

in bn pkm, shares in %

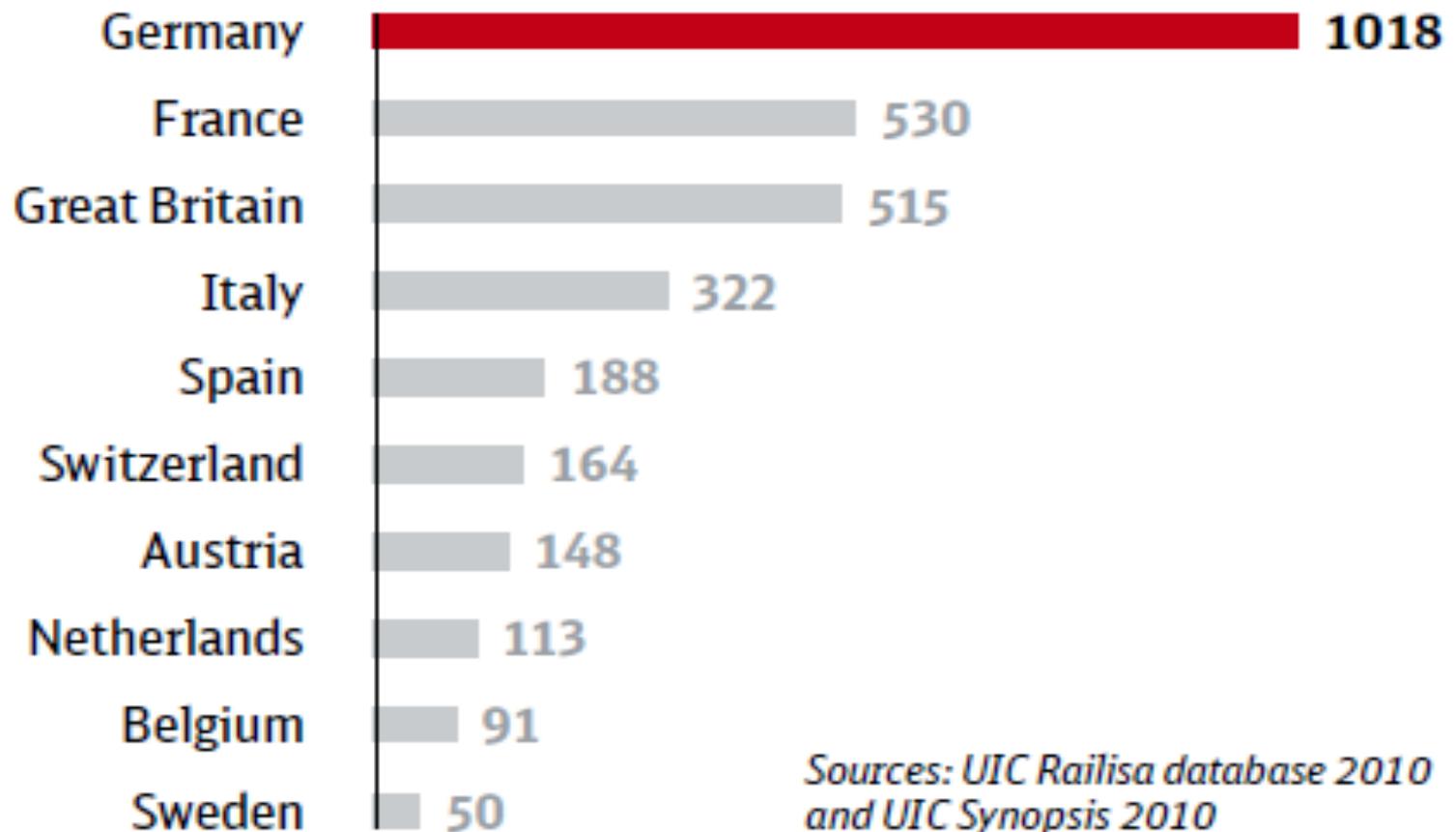


Sources: Bundesnetzagentur, Deutsche Bahn AG, Federal Statistical Office

# IV. Outcomes of the rail reform

## Germany has highest operating performance in Europe

(Comparison of 10 countries in 2010; billion train-path km p.a.)



# V. Development outlook

# Trends and prospects

- **the types of the lines:**
  - Traditional lines – 160 km/h
  - Reconstructed lines – prior to 200 km/h
  - New lines – 250-300 km/h.
- **Incentives for introduction of innovations**
  - Rationalization
  - High demands on the technology of the future
  - Ensuring interoperability of trans-European high-speed rail network
- **Technical innovations**
  - Path on a rigid base
  - Digital radio GSMR
  - Microprocessor centralization
  - Remote management of large units
  - ETCS - European Train Control System

# Future steps

- The idea of a trans-European network.
- First steps: Paris - Brussels - Cologne – Amsterdam.
- High speed lines are very effective at long distances.
- For long distance destinations important: price, duration, regularity trips.
- The German company ICE is increasingly competing with the French company TGV.
- Germany will reduce number of segments with speed limits.
- Germany can to reduce duration of trips.
- There is a problem of financing and investment.

Thank you for your  
attention!