

Institute for Transport Studies

FACULTY OF EARTH AND ENVIRONMENT



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# Regulation of rail track access charges – European experience

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# Outline

1. EU Legislation
2. Vertical Separation
3. Existing Infrastructure charges
4. Conflicting objectives
  - efficient use of existing infrastructure
  - efficient development of the infrastructure
  - encouraging track friendly rolling stock
  - financing the network
5. Conclusions



# The current legislation

1. Separation of the management of infrastructure, freight and passenger services at least into separate divisions
2. Non discriminatory setting of access charges and allocation of capacity
3. The establishment of a rail regulator
4. A performance regime to incentivise the infrastructure manager
5. Financial equilibrium of the infrastructure manager to be ensured – either through the regulatory system or by means of a multi-annual contract lasting at least 3 years – whilst maintaining pressure for cost reductions
6. Completely opened market for both domestic and international freight traffic
7. And opening the market for passenger traffic with international traffic in Jan 2010; domestic passenger market under review.



## Criticisms of implementation

- A failure to ensure adequate independence of the infrastructure manager from train operators where these were still part of the same company
  - Insufficient implementation of the charging framework set out in Directive 2001/14, including a lack of the required performance regime
  - A failure to establish an independent regulator with appropriate powers and accessibility and
  - Insufficient incentives for the infrastructure manager to reduce costs and the level of access charges
  - Problems with access to ancillary facilities
- Enforcement or a recast?

# Alternative Models of Rail Restructuring



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Complete Separation	Separation of key powers	Holding Company
(the Swedish model)	(the French model)	(the German model)
GB Finland Denmark Netherlands Norway Spain Portugal Slovakia Lithuania	Czech Estonia Hungary Slovenia Luxembourg	Austria Belgium Italy Latvia Poland Greece
(Ireland and Northern Ireland remain vertically integrated)		

## Directive 2001/14 on allocation of railway infrastructure capacity and levying of charges.



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Charges must be based on 'costs directly incurred as a result of operating the train service'.

They may include:

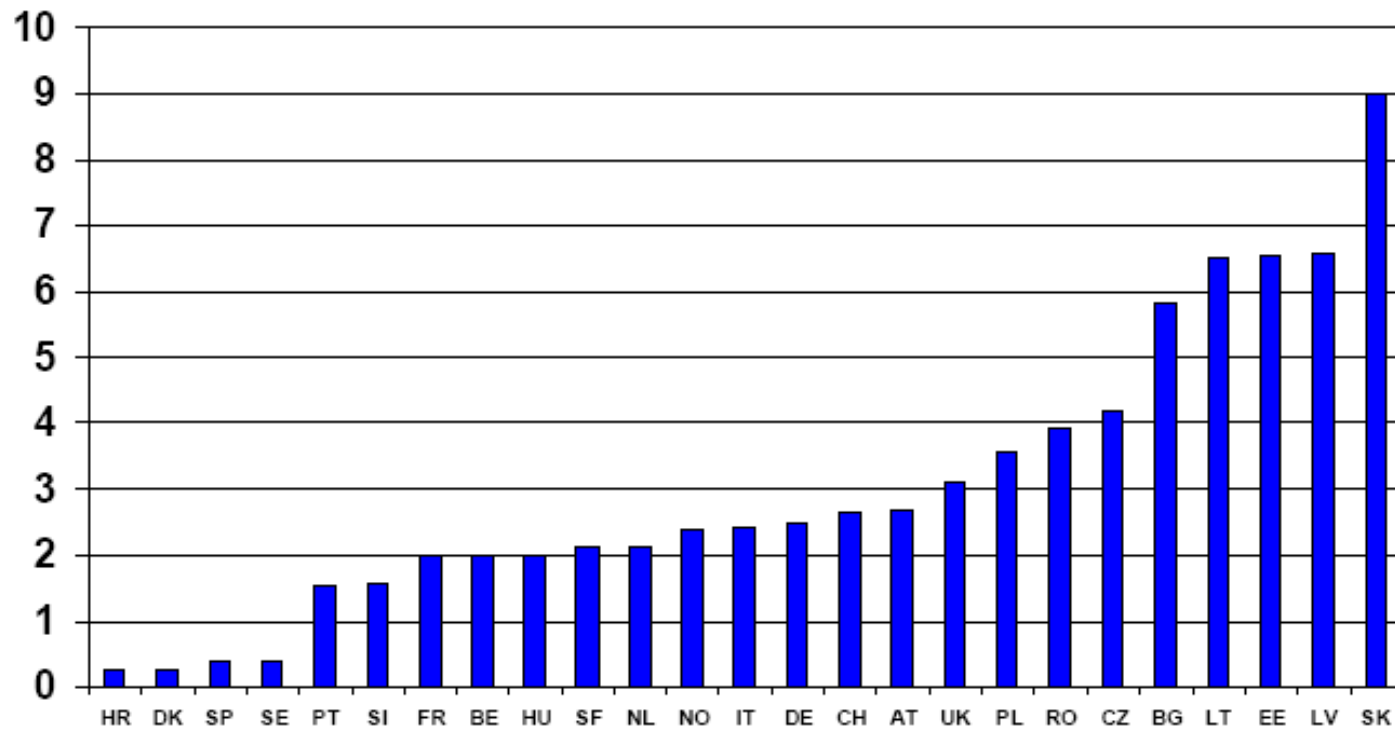
- Reservation charges for scarcity
- Environmental costs
- Recovery of the costs of specific investments
- Discounts but only where justified by costs
- Compensation for unpaid costs on other modes as time limited subsidies
- Non discriminatory mark ups

# Typical Freight Access Charges € per train-km in 2008



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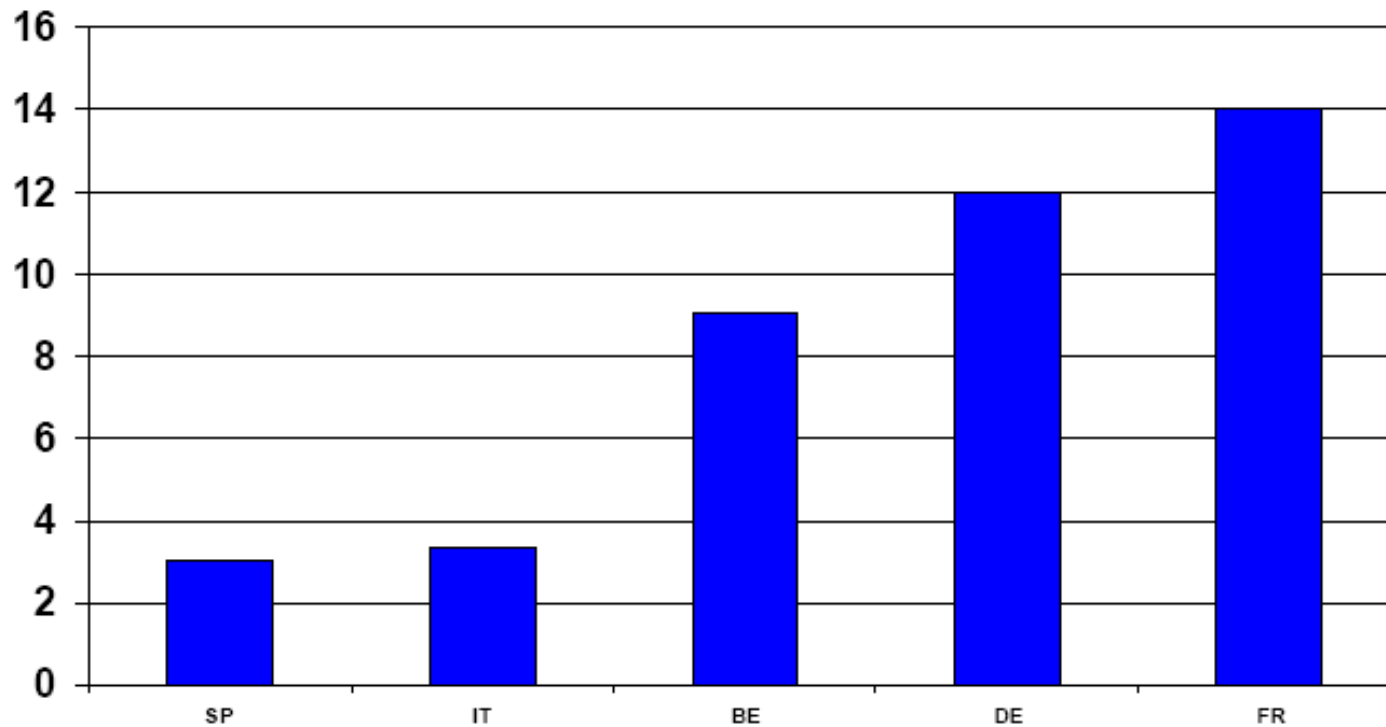
Access Charges For Typical 960 Gross Ton Freight Train  
(Euros/Train-Km)



# Typical Access Charges for high speed passenger trains € per train-km in 2008



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Source: ITF (2008), based on the approach of ECMT (2005)



## Efficient use of the network

Requires charges based on marginal social cost

### Key elements

- Wear and tear costs
- scarcity costs

re wear and tear costs

latest evidence on percentage variability of the sum of maintenance and renewal costs

between 0.28 and 0.35.

- Source: CATRIN final report



## Scarcity

Reservation charge based on the opportunity cost of scarce capacity

- Vary with type of traffic and degree of scarcity  
(and thus location and time of day)

e.g. French reservation charges

Type of track	Traffic level	Time of day:
Suburban	High	Peak
Inter city	Medium	Normal
High speed	Low	Off peak
Regional		



## Value of slots - example

	<b>Operators' Profit</b>	<b>Net social benefits</b>
5.05	953	1829
6.05	823	2361
7.00	-432	310
8.05	756	3363
9.05	-852	3550
10.05	296	1495

# Efficient development of the network



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- Is it enough that a government agency undertakes this using cost-benefit analysis?
- Or does pricing have a part to play?
- Should commercial operators or franchising authorities pay for the quality and quantity of capacity they order under long term framework agreements?
- A two part tariff?

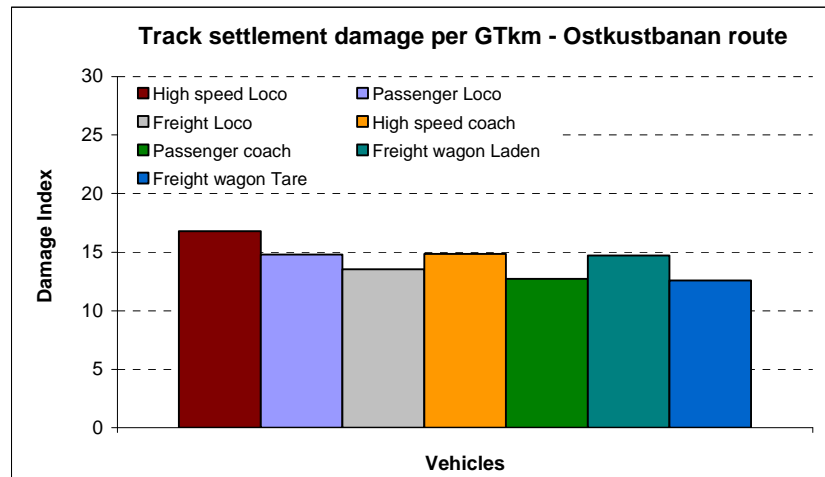
But

- joint costs?
- What should open access operators pay?

# Encouraging the use of track friendly rolling stock



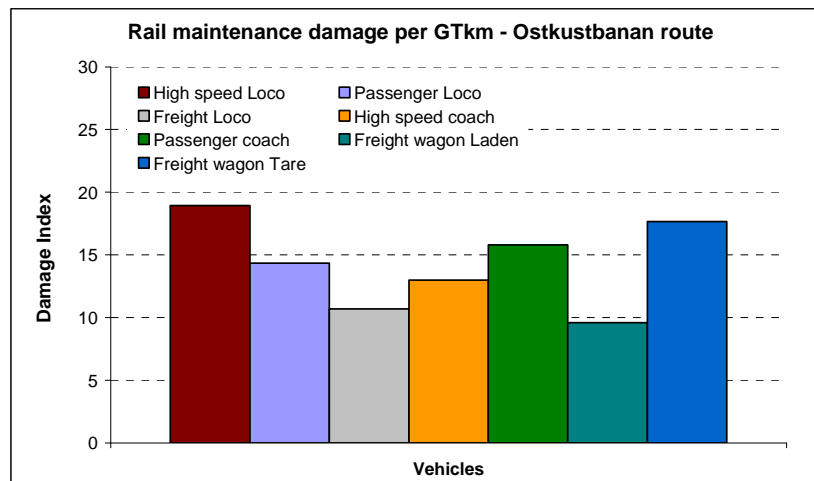
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# Rail damage per GTkm by vehicle



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## Financing the network

- Two part tariffs?
- Ramsey pricing
- (i.e. raise charges most where traffic most incentive to price)

# Estimated Impact of an Increase in Track Access Charges on Rail Freight Traffic



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<i>Impact of a track access charge increase (%)</i>	<b>+20%</b>	<b>+50%</b>
• <b>Maritime Containers</b>	-6.4	-15.2
• <b>Power station coal</b>	-0.4	-1.1
• <b>Iron Ore</b>	0	0
• <b>Construction</b>	-10.5	-17.7
• <b>Automotive</b>	-3.2	-8.5
• <b>Petroleum and chemicals</b>	-1.8	-5.9
• <b>Waste</b>	-0.1	-0.2
• <b>Domestic intermodal</b>	-5.4	-13.5
• <b>Spent nuclear fuel</b>	0	0
• <b>Mail/premium logistics</b>	-2.3	-5.8
• <b>Channel Tunnel</b>	-2.1	-5.0
• <b>Total</b>	-3.9	-7.9

Source MDS Transmodal (2006)

# Impact of mark-ups on track access charges on rail traffic volumes on high speed routes



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- France 5 - 38
- Spain 22 - 28
- Germany 6 - 14
- Italy 7 - 12
- Belgium 29
- Source: Sanchez – Borrás et al (2009)



Key problems in the rail sector are:

- Relationship between infrastructure manager and railway undertakings
- Price and access conditions for rail related services
- Reconciling conflicting objectives for rail track access charges