

Evolution of Railways and Network Structures in Europe

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Louis S. Thompson
Railways Adviser
The World Bank

Why does the World Bank care about Europe's railway experiences?

- ◆ **Some of the Bank's borrowers (Poland, Estonia) are near-term EU accession countries**
- ◆ **Others are later stage EU accession countries**
- ◆ **Most CEE and European CIS countries are affected by European Directives**
- ◆ **Europe furnishes models for elsewhere**
- ◆ **My remarks are to be seen from this perspective – I am not a European policy wonk**
- ◆ **Railway problems are not normally caused by – nor are they resolvable by – railways themselves. Problems and solutions are surprisingly common everywhere**

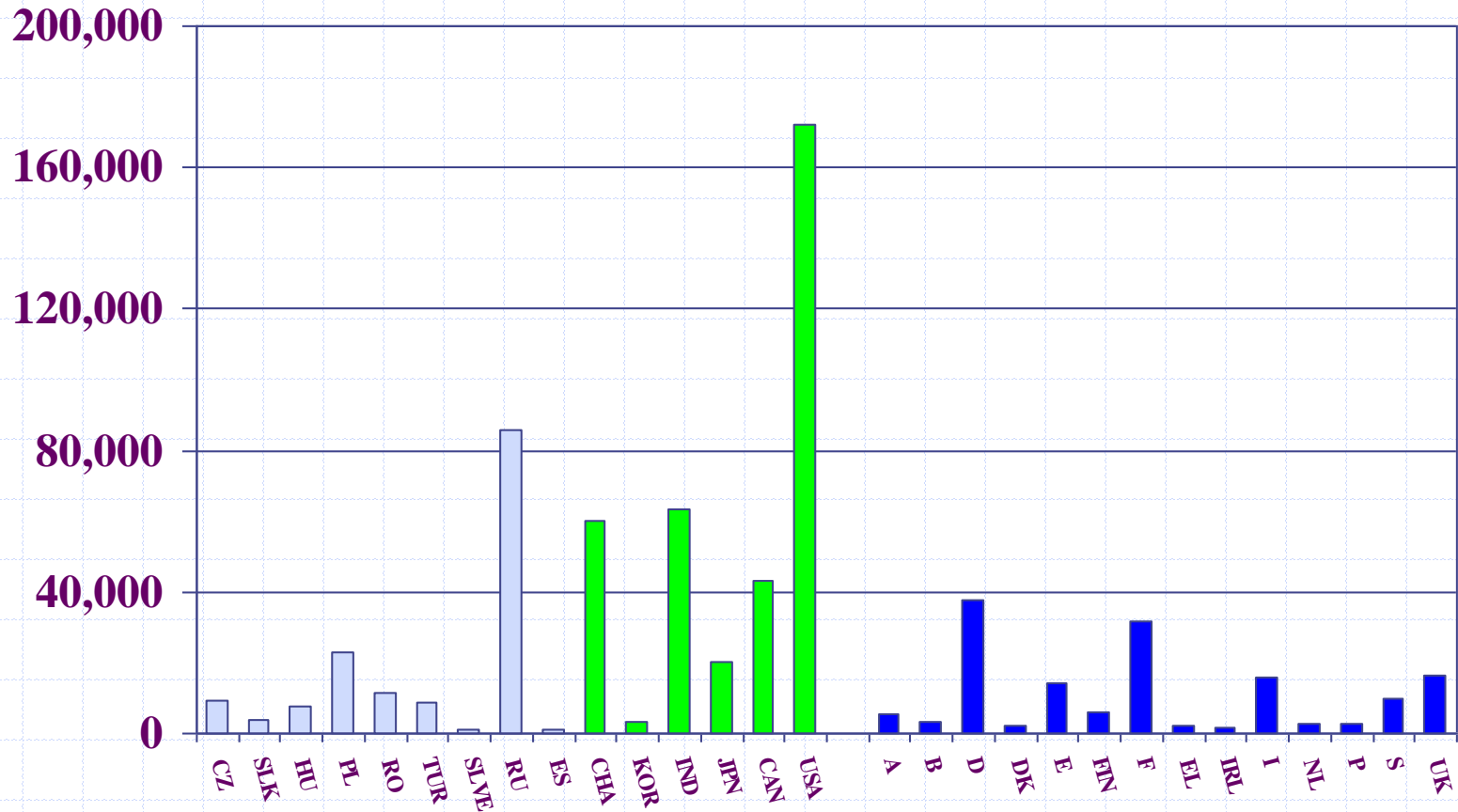
How do the European Railways look from outside?

- ◆ **The EU railways**
- ◆ **The CEE and European CIS railways**
- ◆ **How will the fusion of West and East change things?**

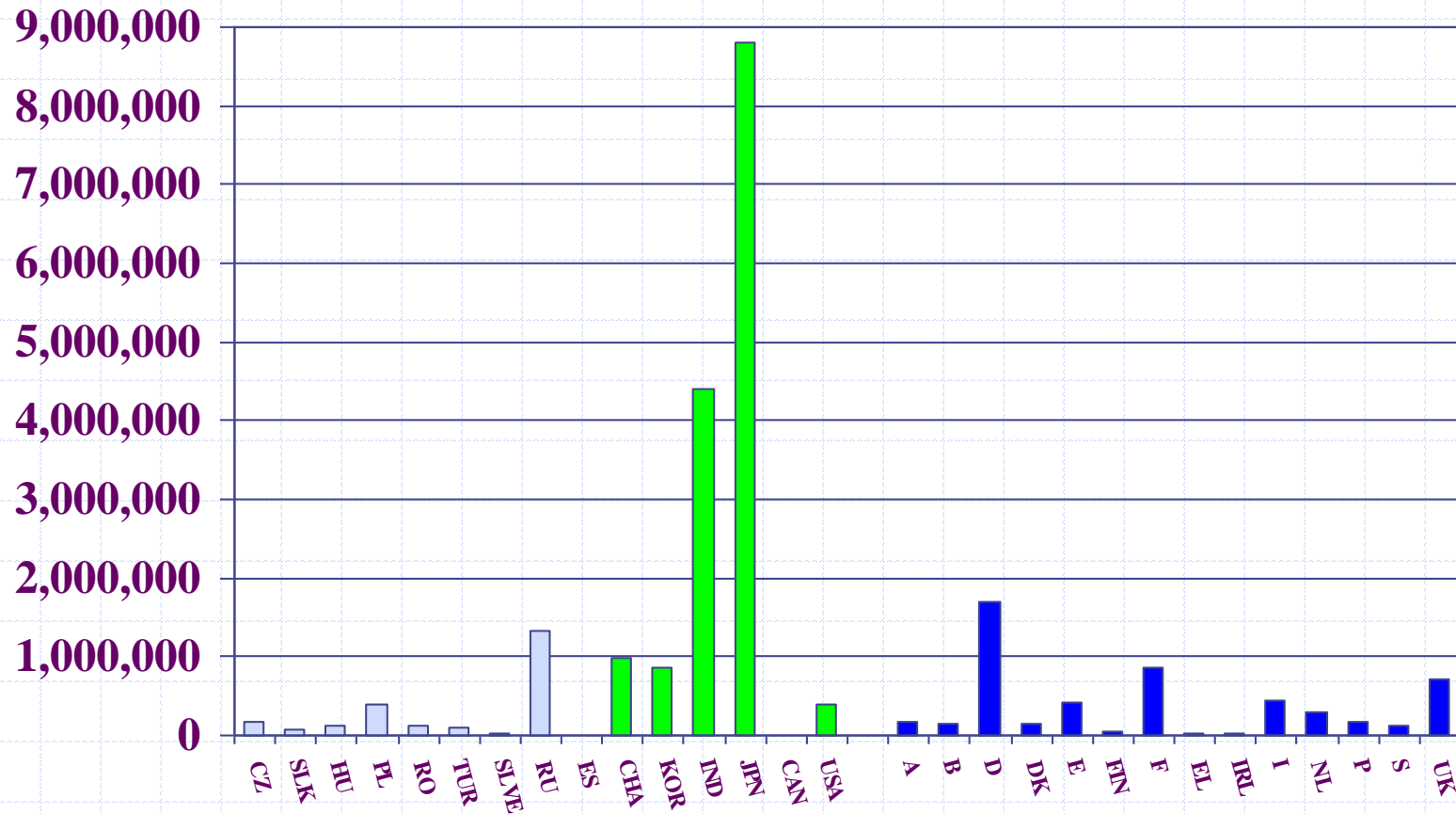
Comparisons of European railways with others

- ◆ High Speed Technology is superb, and not equaled except in Japan. BUT:
- ◆ Not large compared with other major railways (Km, Pass, P-Km, Tons, T-Km)
- ◆ Physical productivities not high (traffic density, wagon, coach, labor), and labor productivity is low and not growing very fast
- ◆ Relatively short trip or haul shows urban impact and weakens competitive position. Effect of borders for freight
- ◆ EU Rail market shares are low and falling further

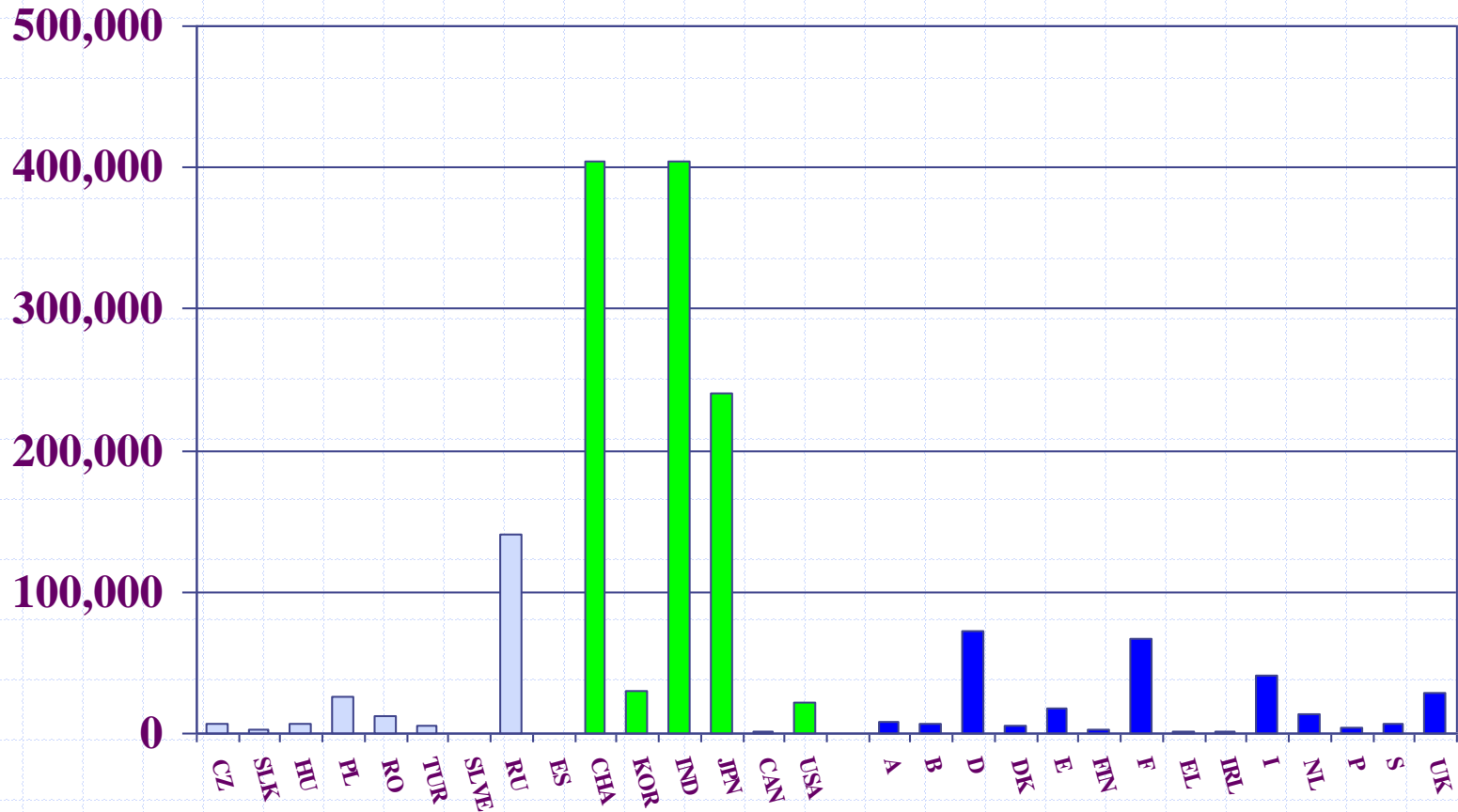
Rail route kilometers



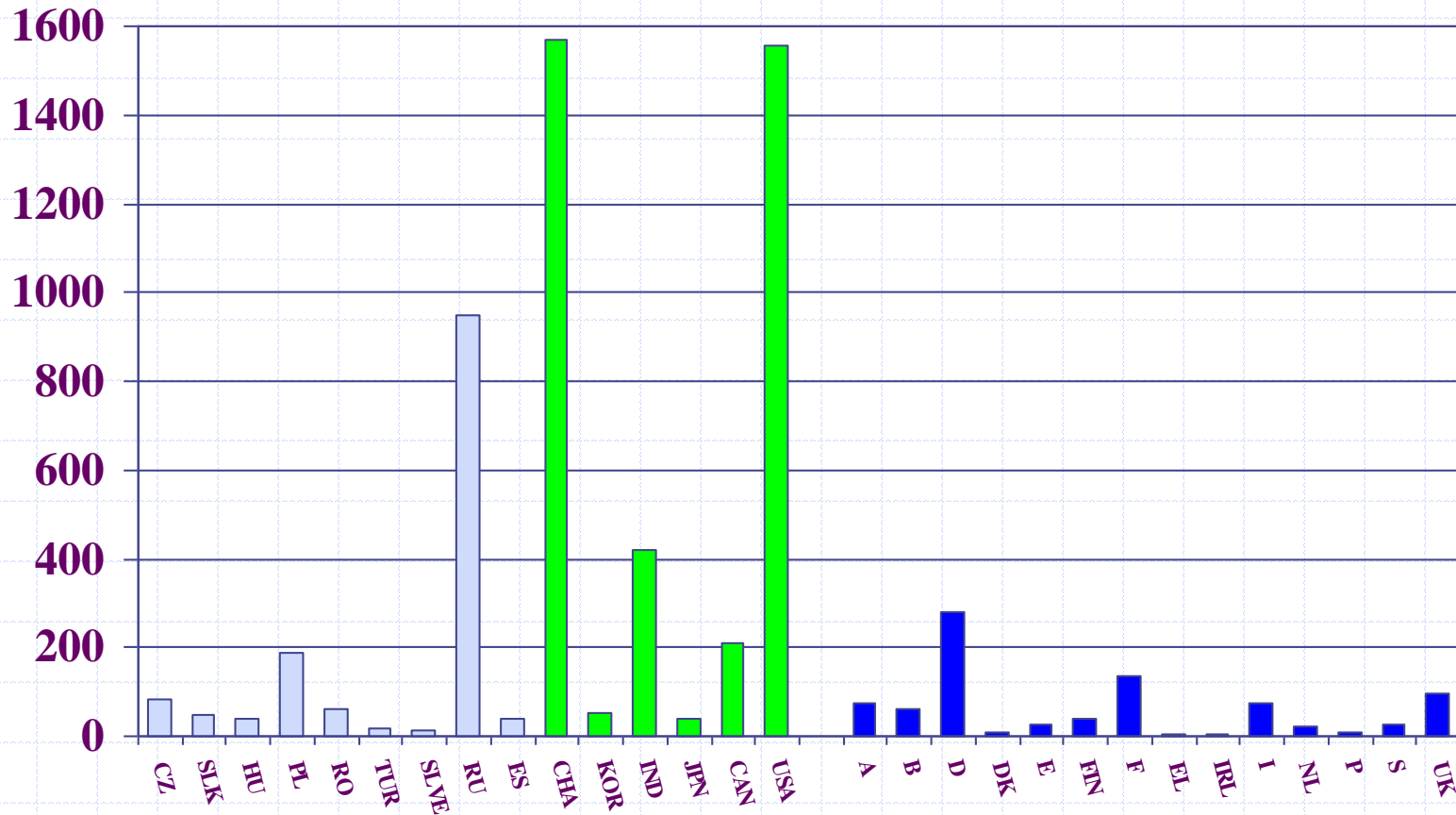
Rail passengers originated (000)



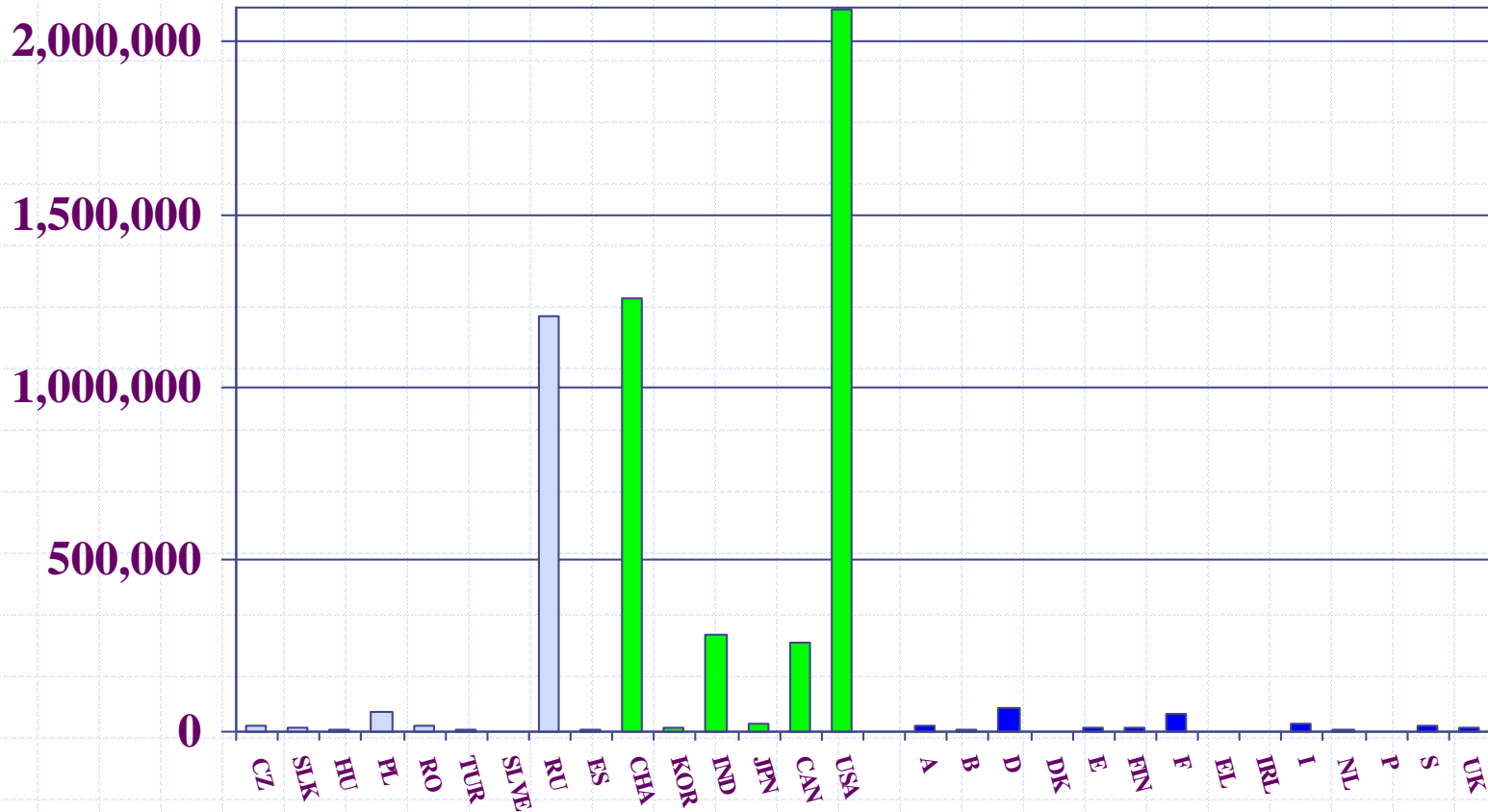
Rail passenger-km (000,000)



Rail tons of freight originated (000,000)

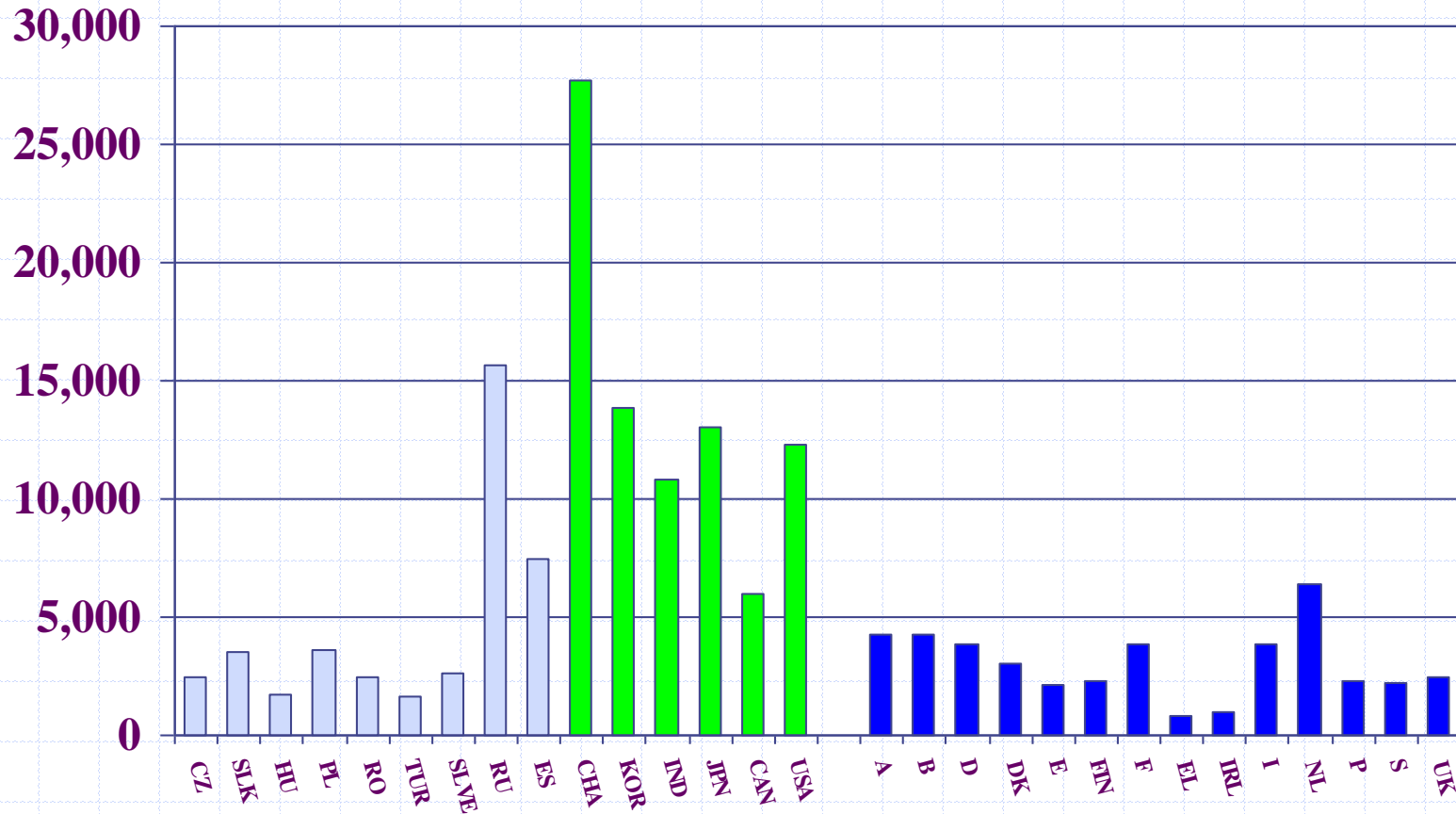


Rail ton-km (000,000)

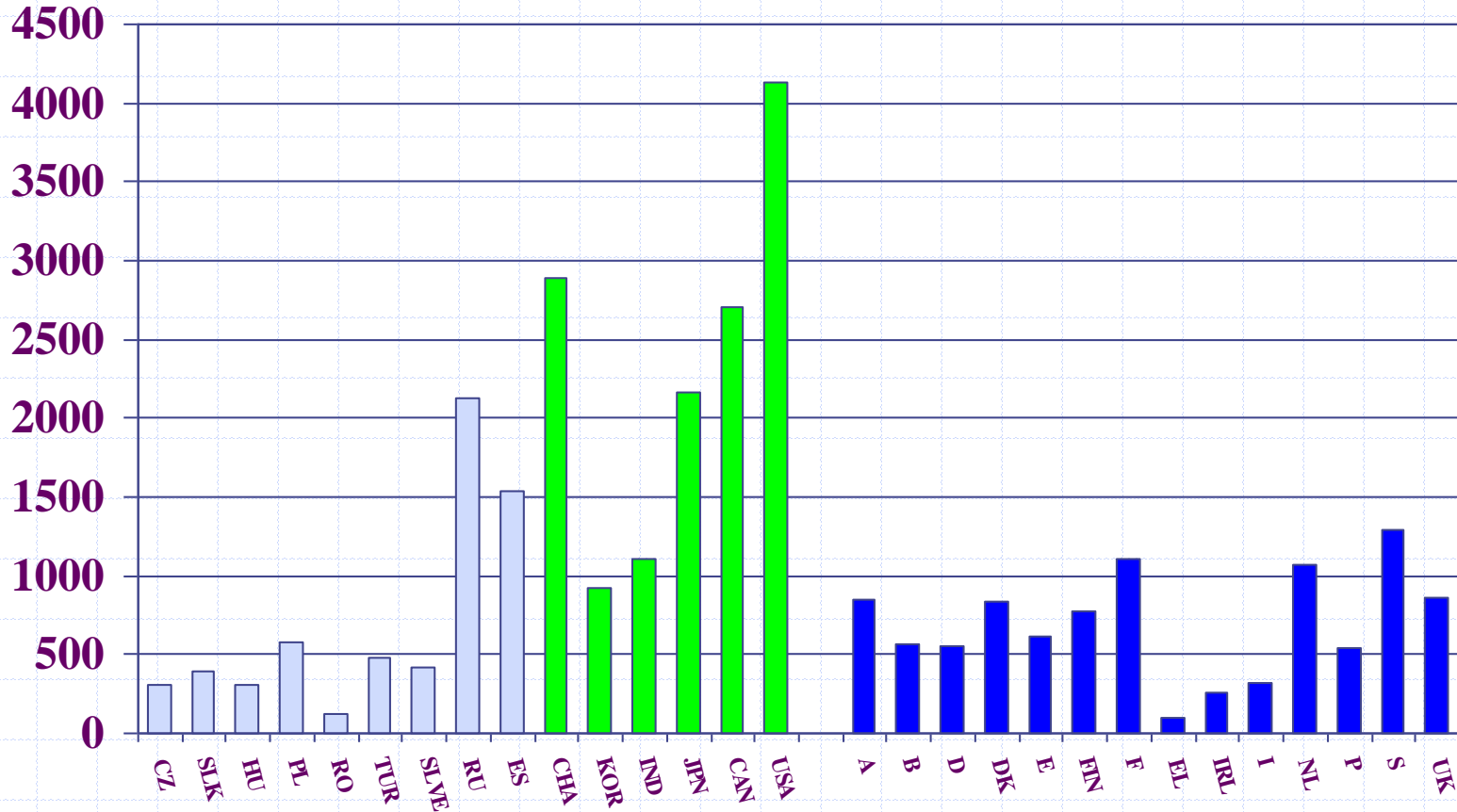


Rail traffic density

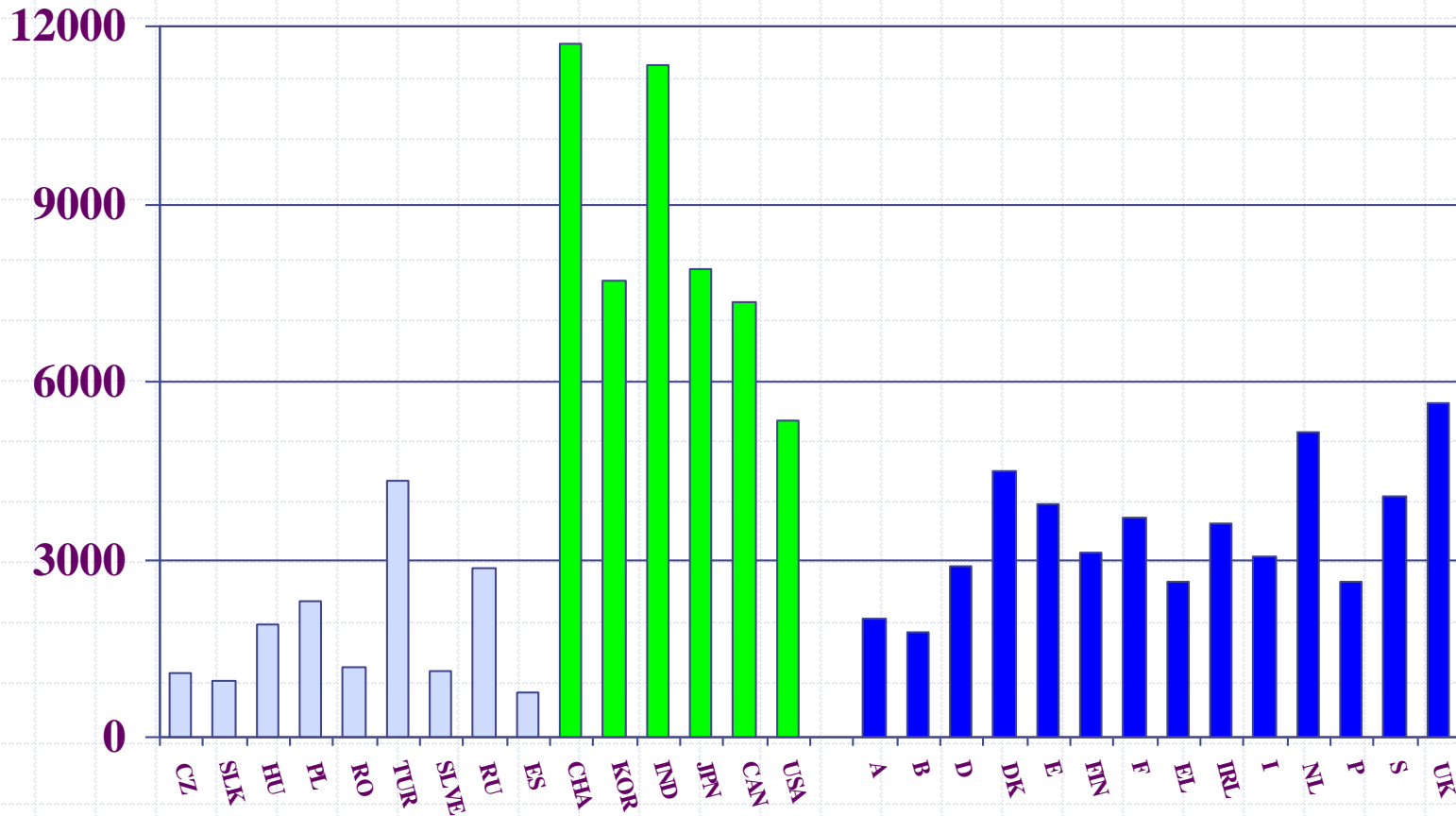
$(T\text{-km} + P\text{-Km}) / \text{Km}$



Annual rail t-km/wagon

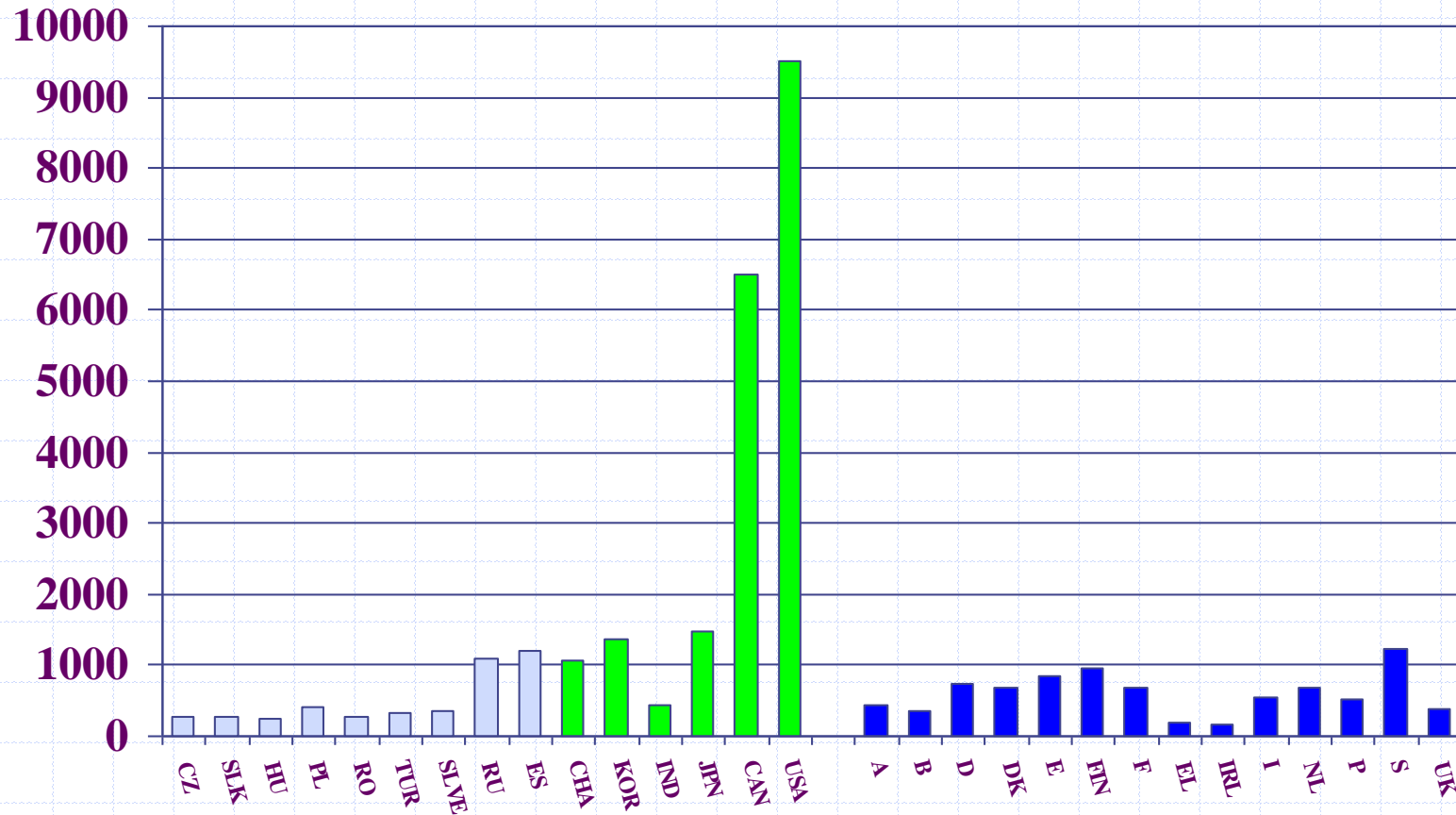


Rail coach productivity (P-Km/Coach+MU)

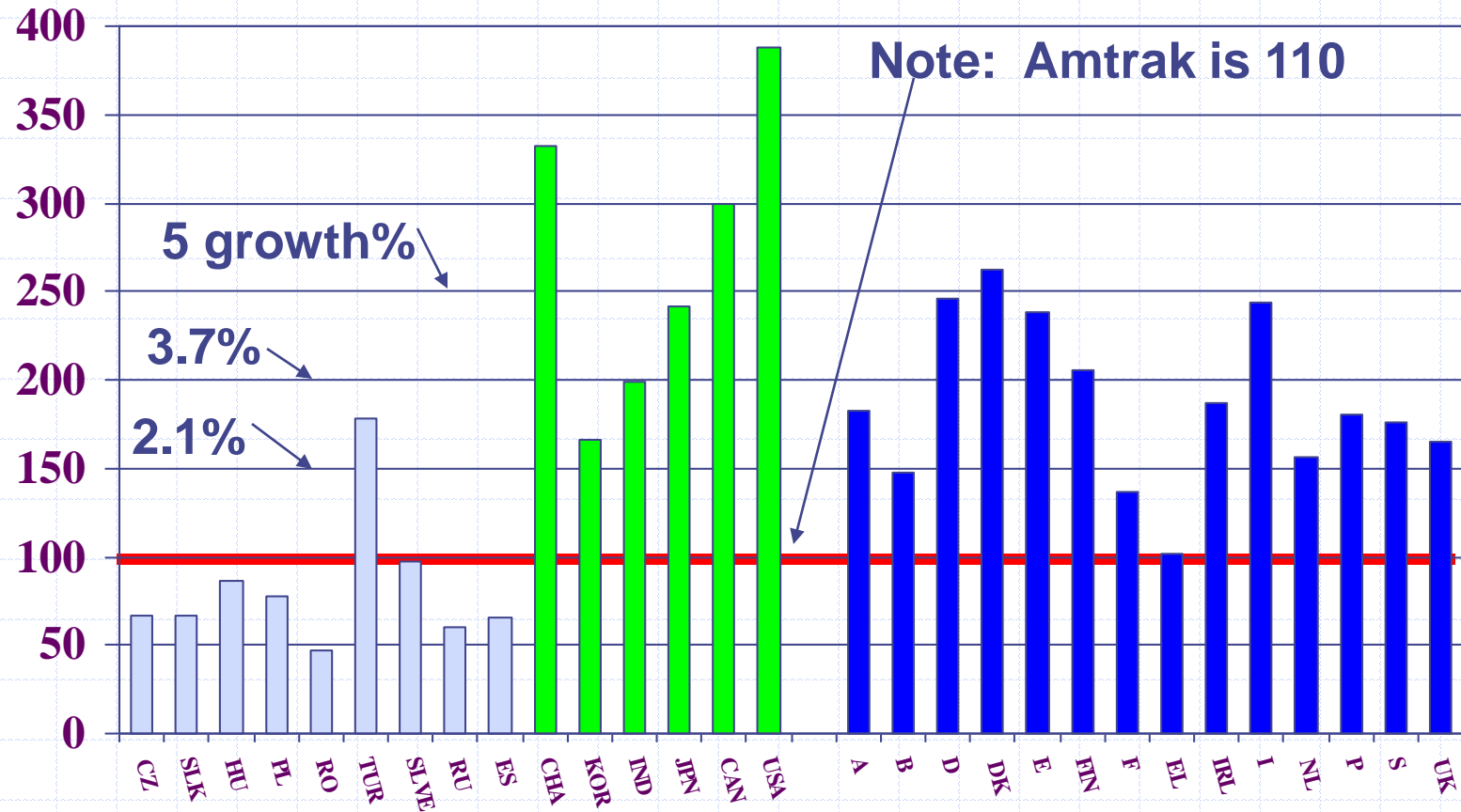


Rail output/employee

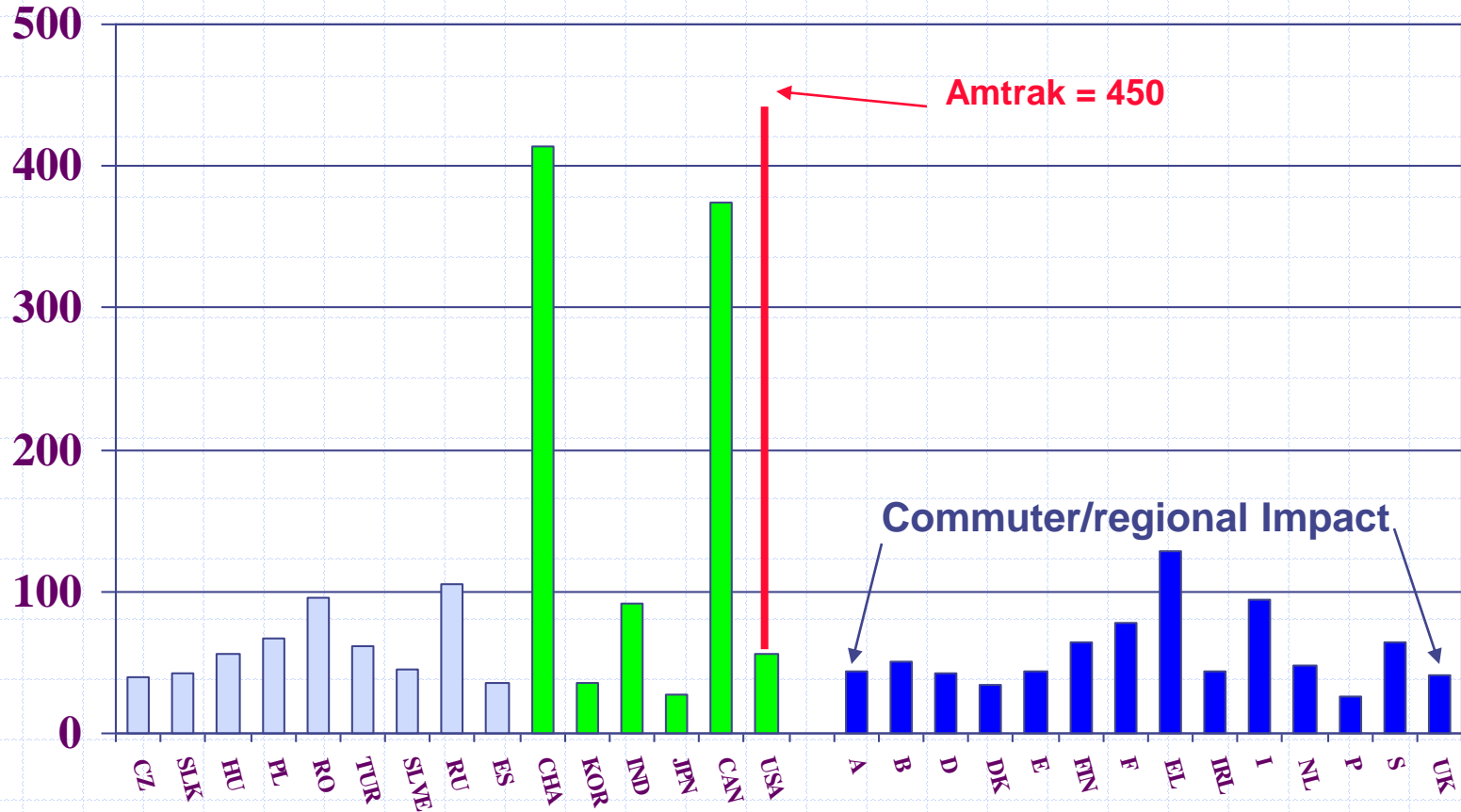
(T-km+P-km)/Employee



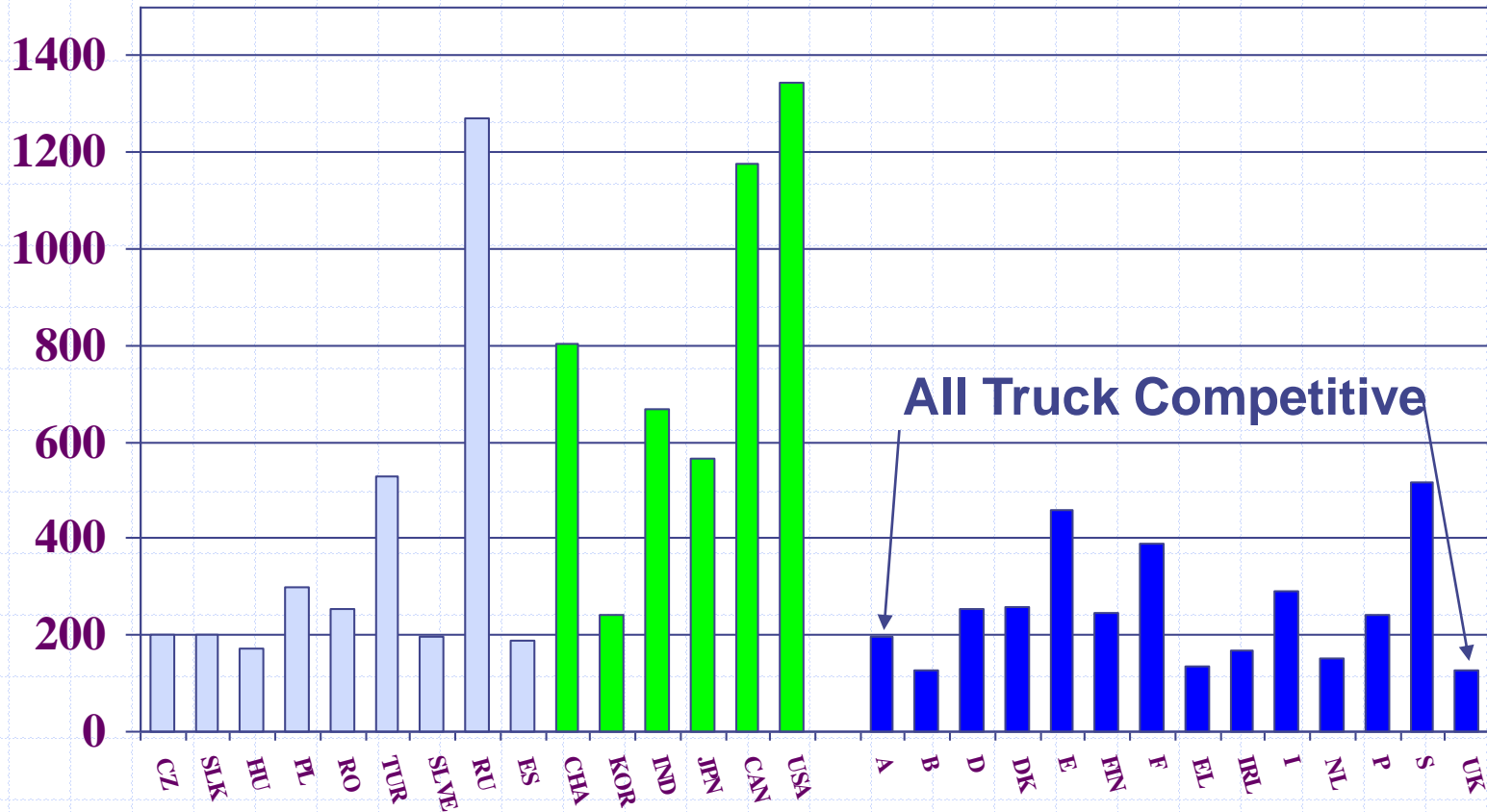
Ratio of rail labor productivity 1999 to 1980



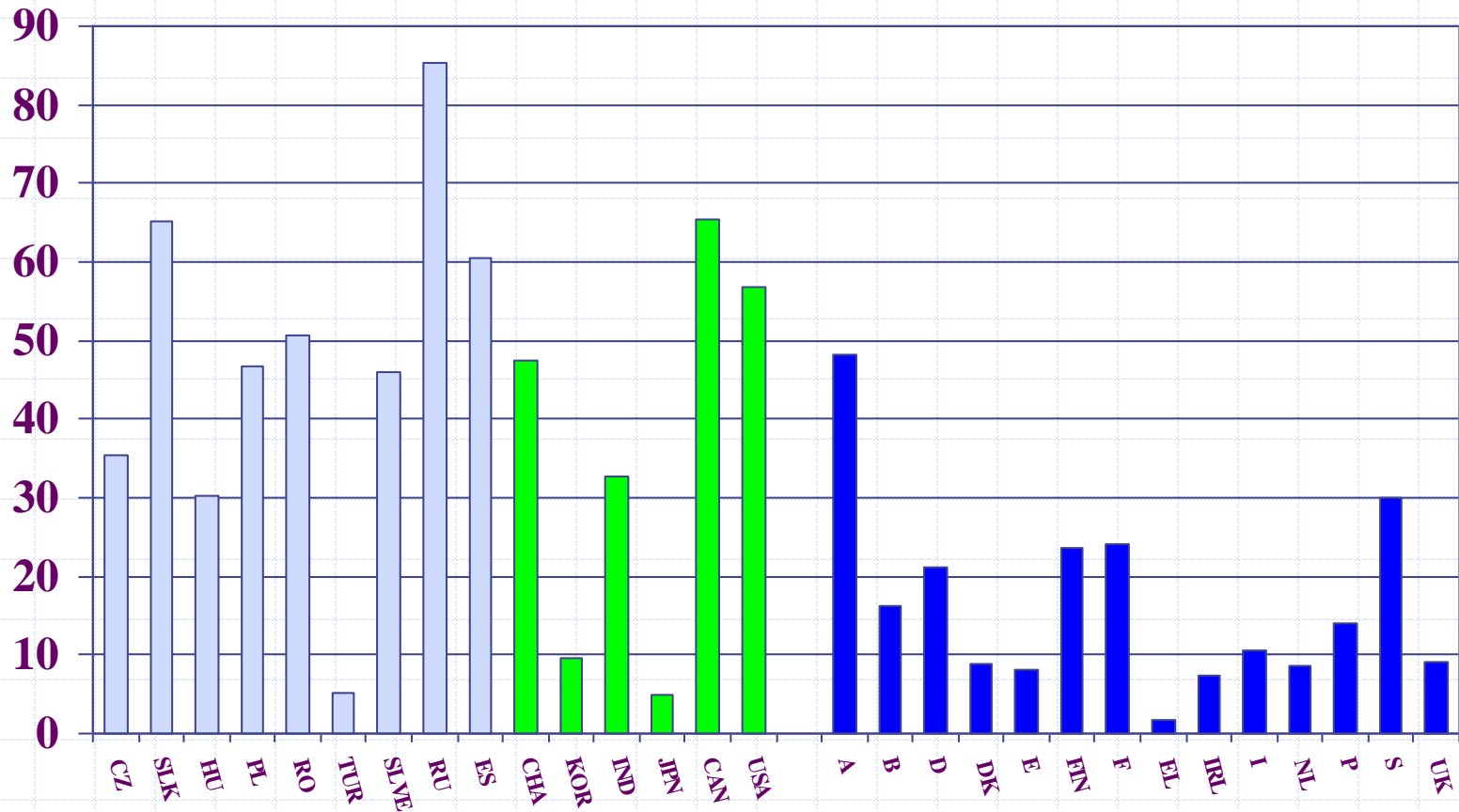
Average length of rail passenger trip (Km)



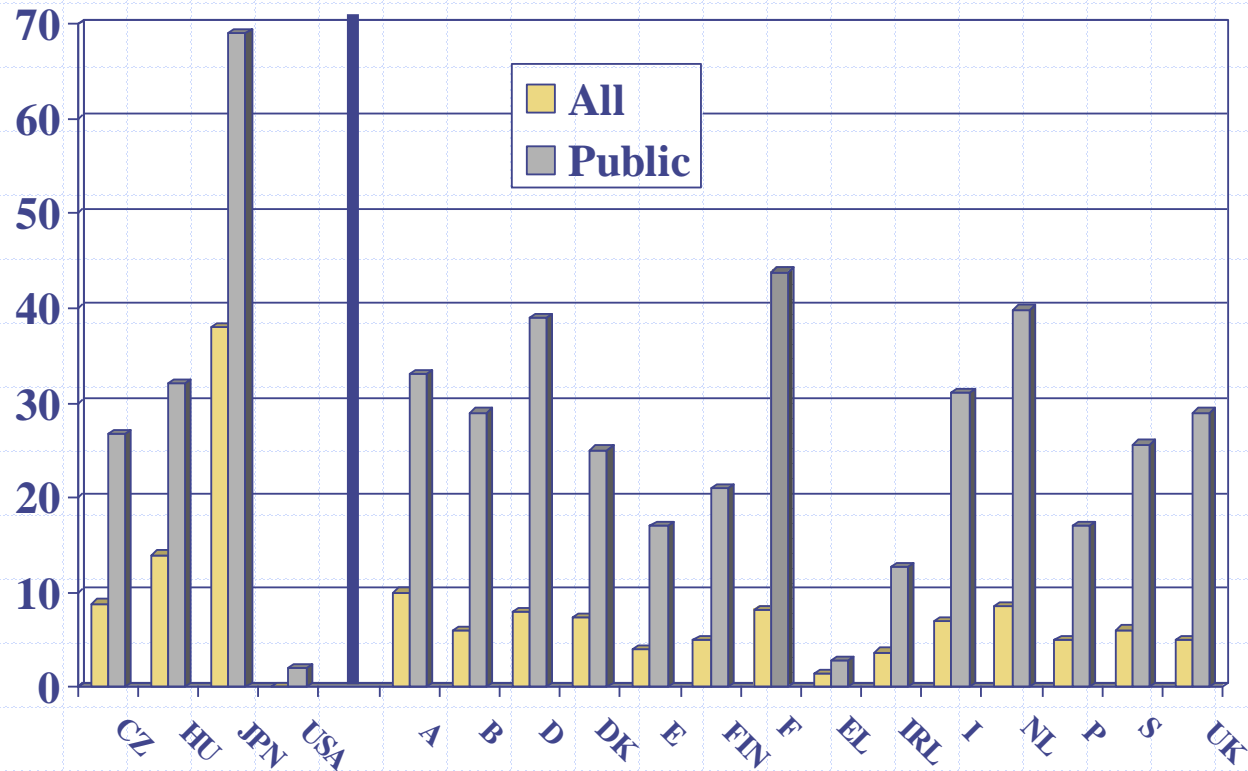
Average length of rail freight haul (Km)



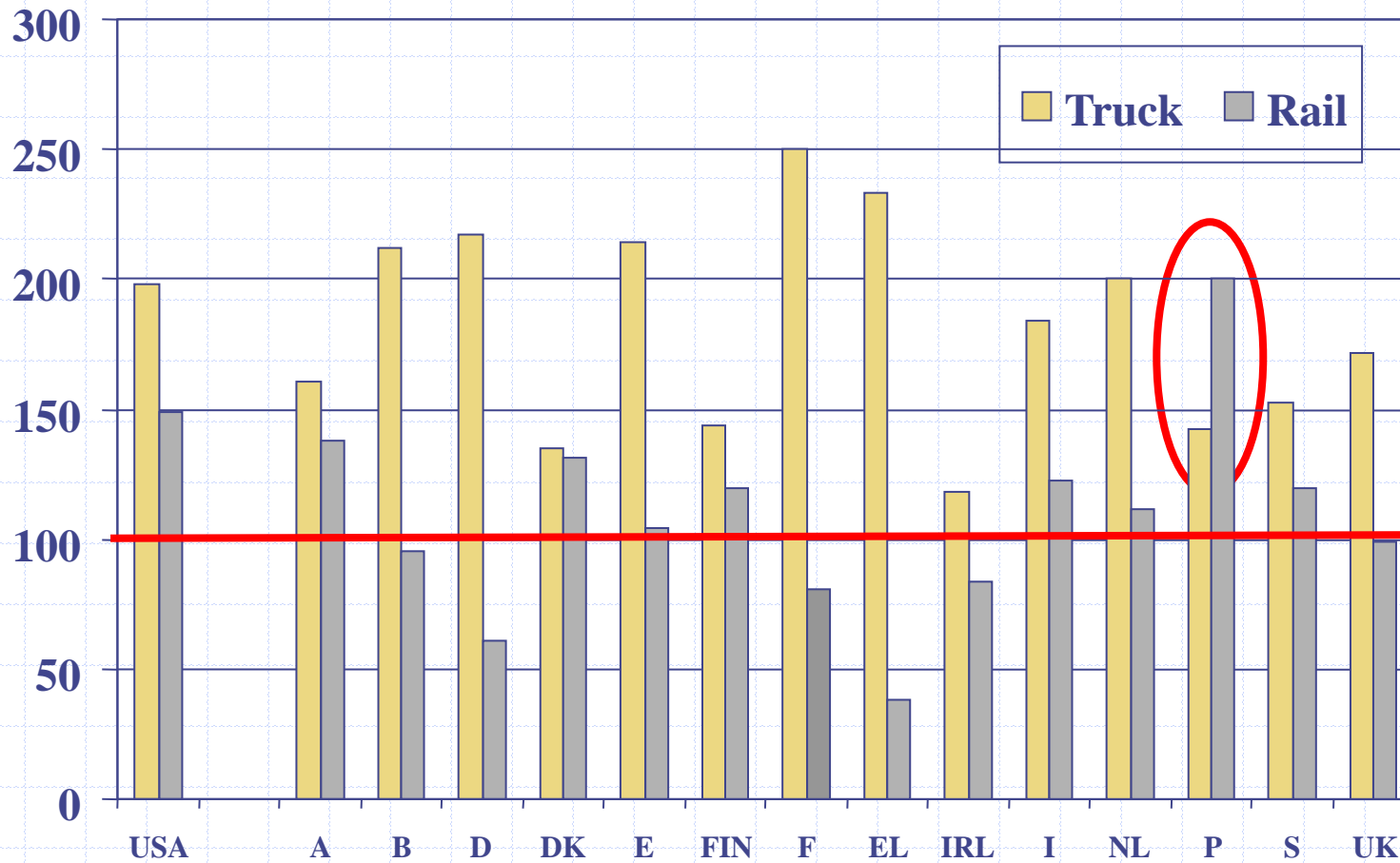
Rail ton-km as percent of all surface ton-km



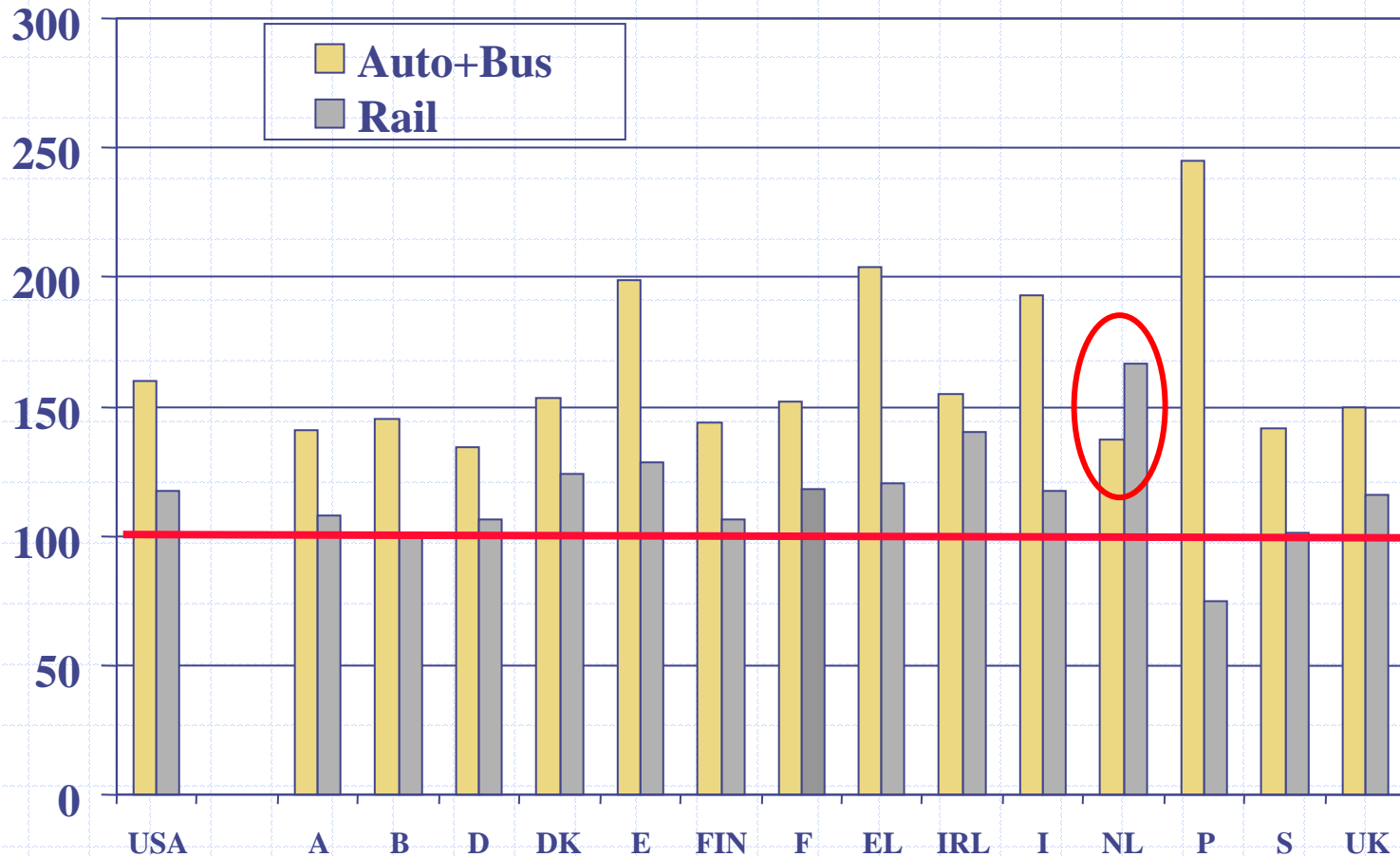
Rail p-km as percent of all passenger transport and of public transport only



Ratio of 1998 ton-km to 1980 ton-km

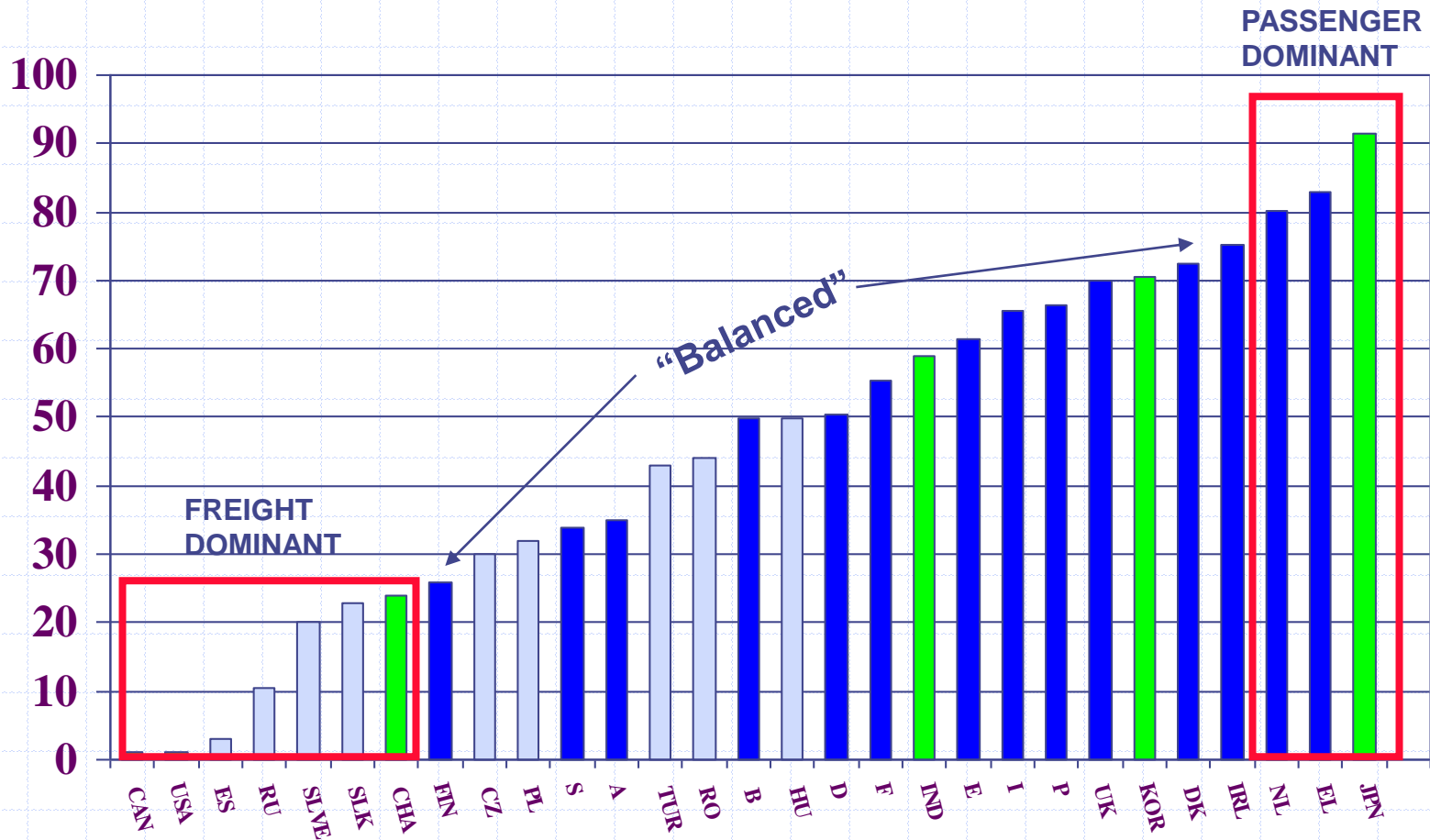


Ratio of 1998 p-km to 1980 p-km



Percent of rail passenger traffic to total rail traffic

$P\text{-Km}/(P\text{-km}+T\text{-Km})$



Why change anything?

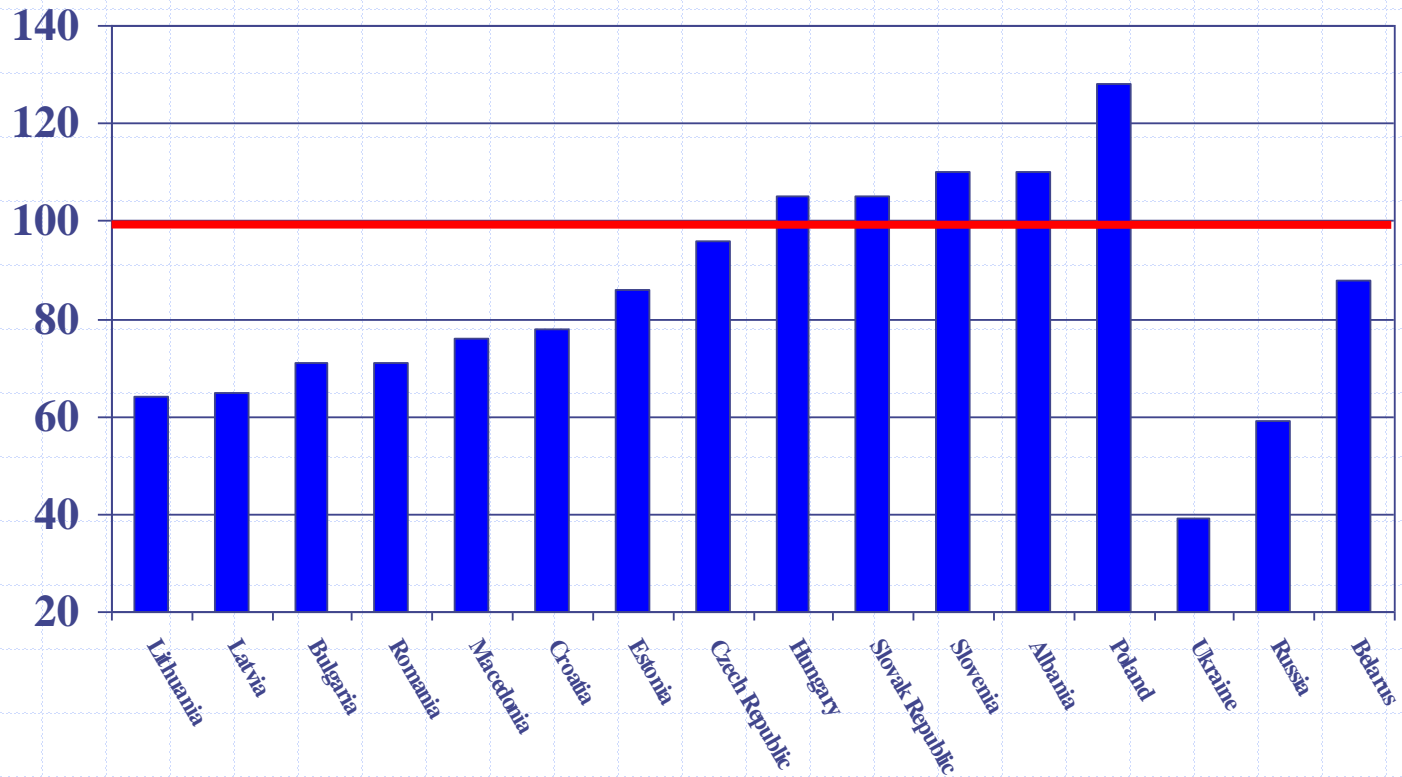
- ◆ **Loss of market share, loss of traffic**
- ◆ **Low productivities**
- ◆ **Railways are inward looking and resistant to change**
- ◆ **EU rail services are fragmented and unable to serve customers well (only 11% of tons are interchanged!)**
- ◆ **The threat of very expensive irrelevance**

What is driving change?

- ◆ **Budgetary priorities, East and West**
- ◆ **Changes in economic structure in the East**
- ◆ **Pressures for economic integration**
- ◆ **The Commission**
 - **The White Paper**
 - **91/440, 95/18 and 95/19 and related Commission Orders 2001/12, 2001/13 and 2001/14, *inter alia***
- ◆ **The current state of play: transition incomplete. Some of the costs and risks are clear, but the benefits are not yet fully defined and are not yet in hand**

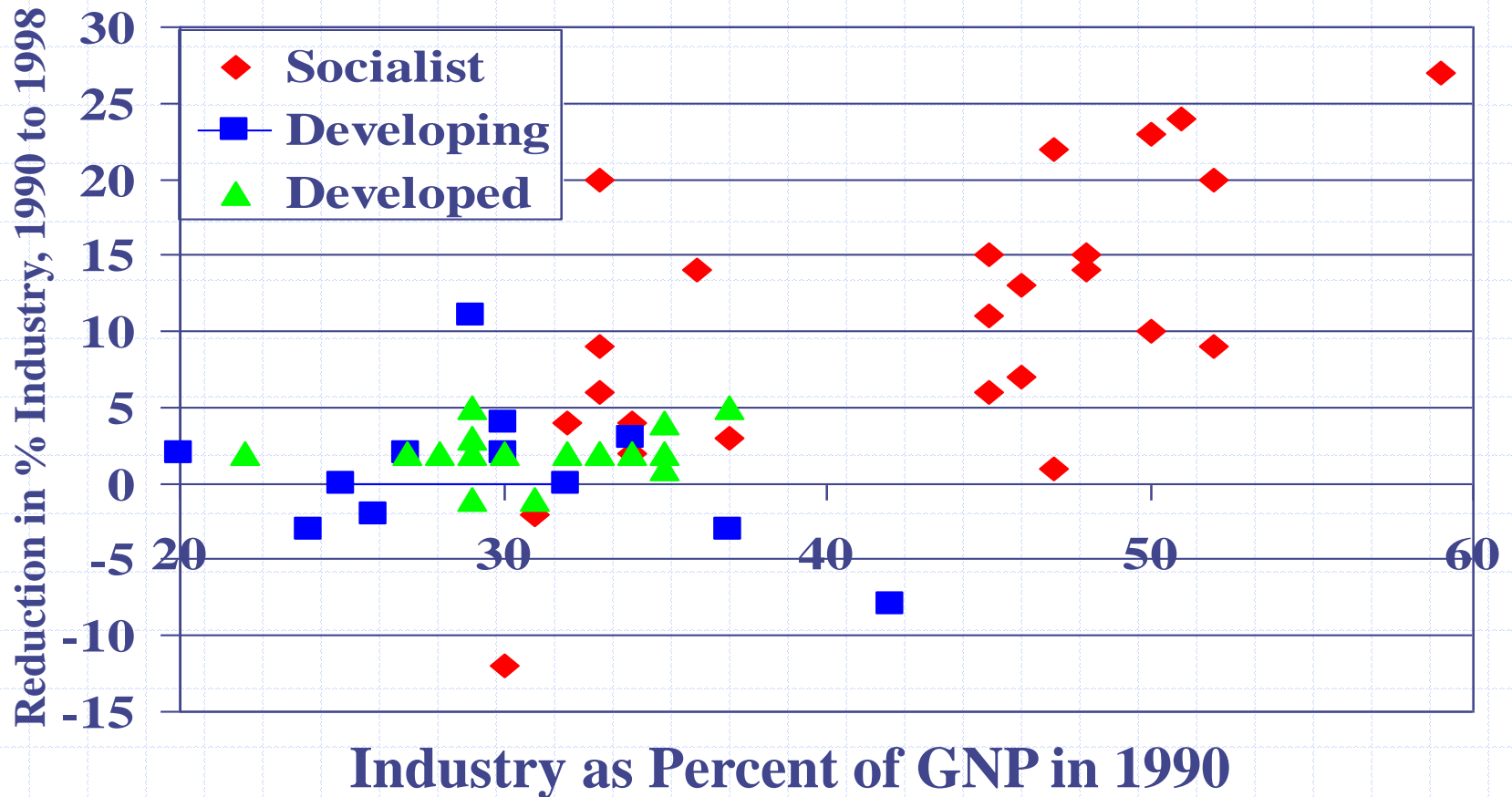
The Eastern economic transition is still underway

GDP: 2000 vs. 1988 (%)



The shift in economic structure

(Industry as Percent of GNP: Change 1990 to 1998 versus percentage in 1990)



Conclusion: socialist countries had the highest percent of GNP as industry in 1990, and they showed the highest reduction in industry percentage between 1990 and 1998

Is the evolution in structure working?

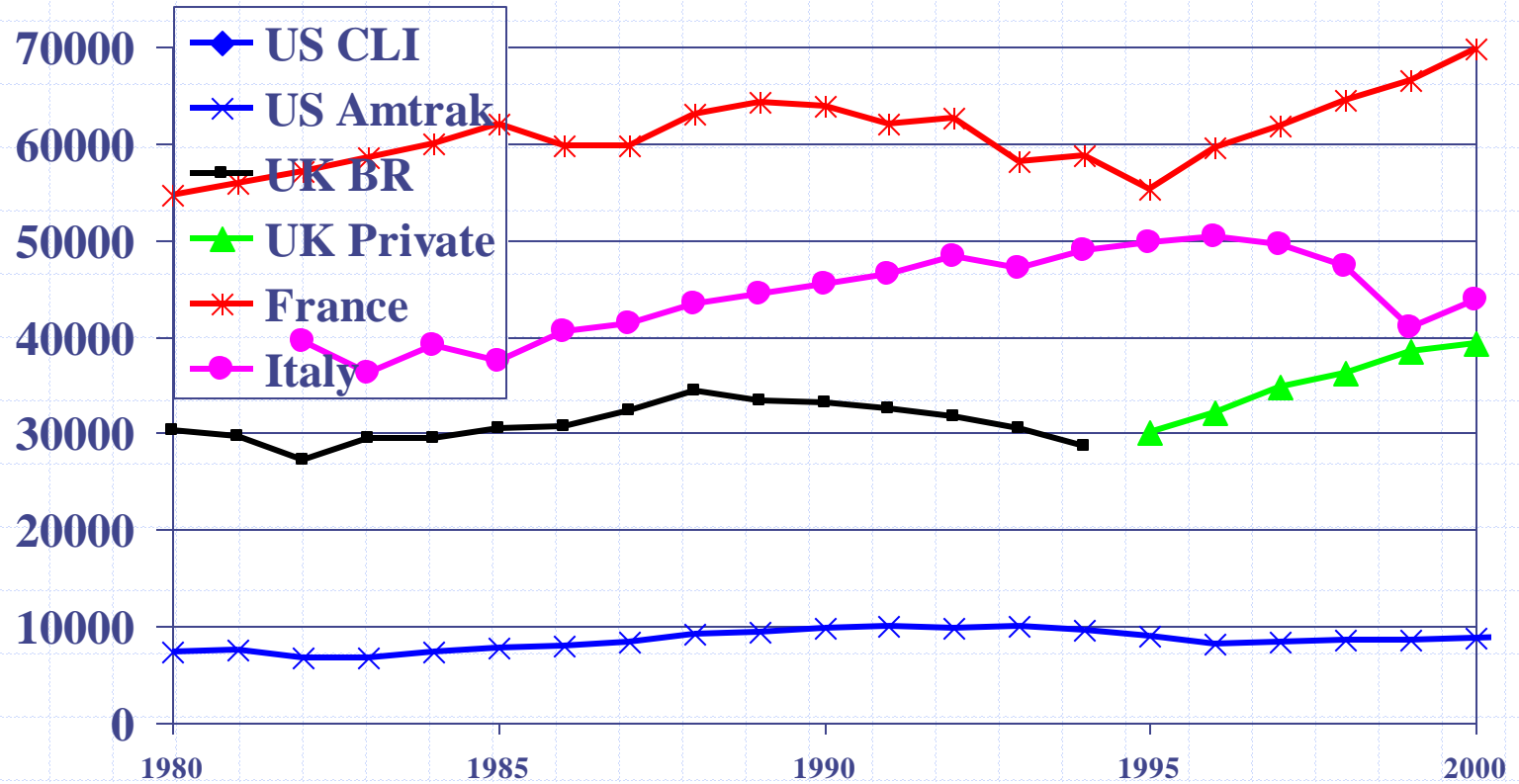
◆ Massive and determined resistance

- Political (and labor)
- Typical of issues in economic integration – a little more extreme because railways are still heavily “national”...

◆ Two interesting cases to think about

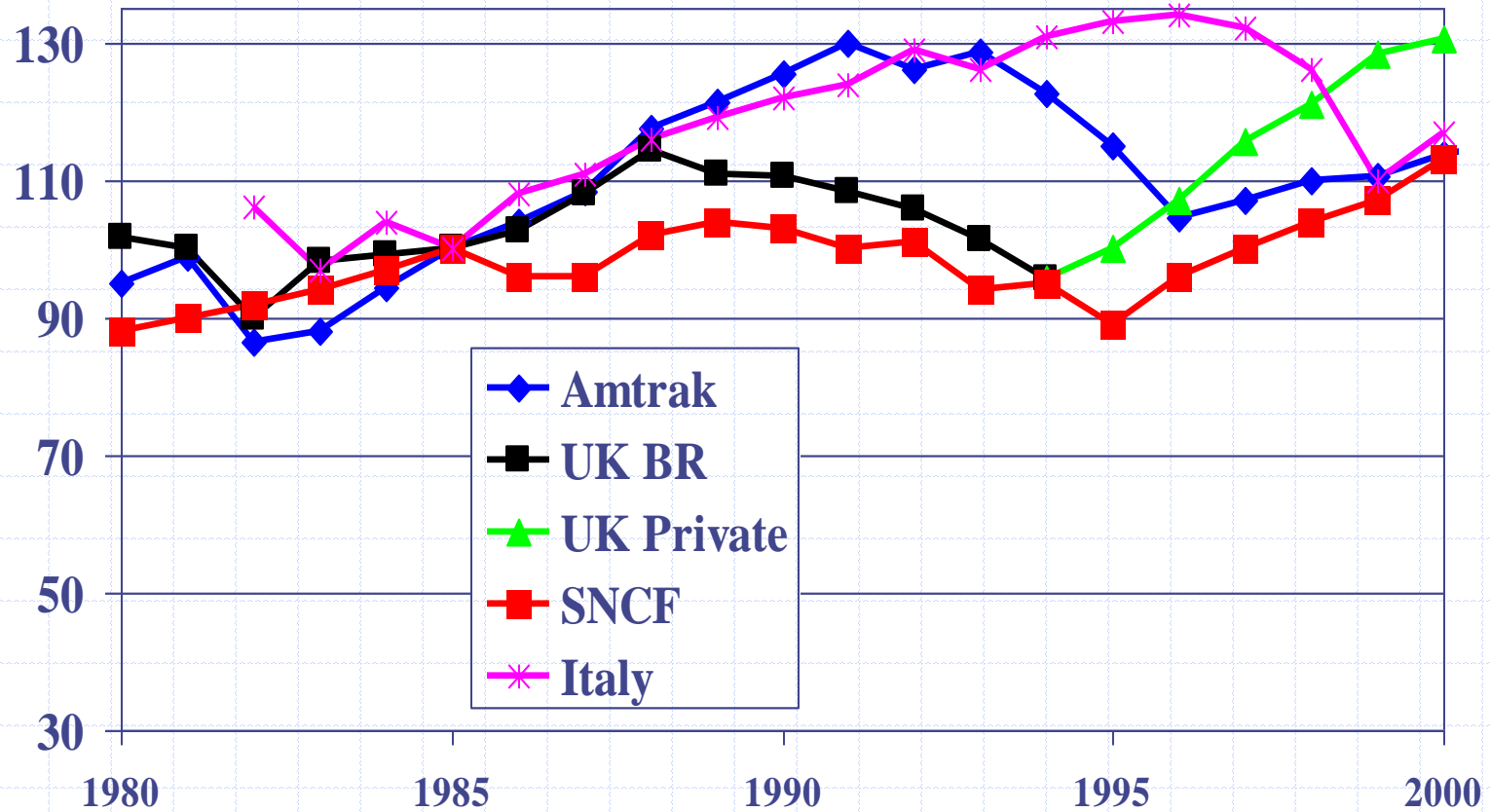
- U.K. privatization
- Sweden’s infrastructure separation
- Observation -- neither was an EU product!

Passenger-km: U.S., U.K. and SNCF

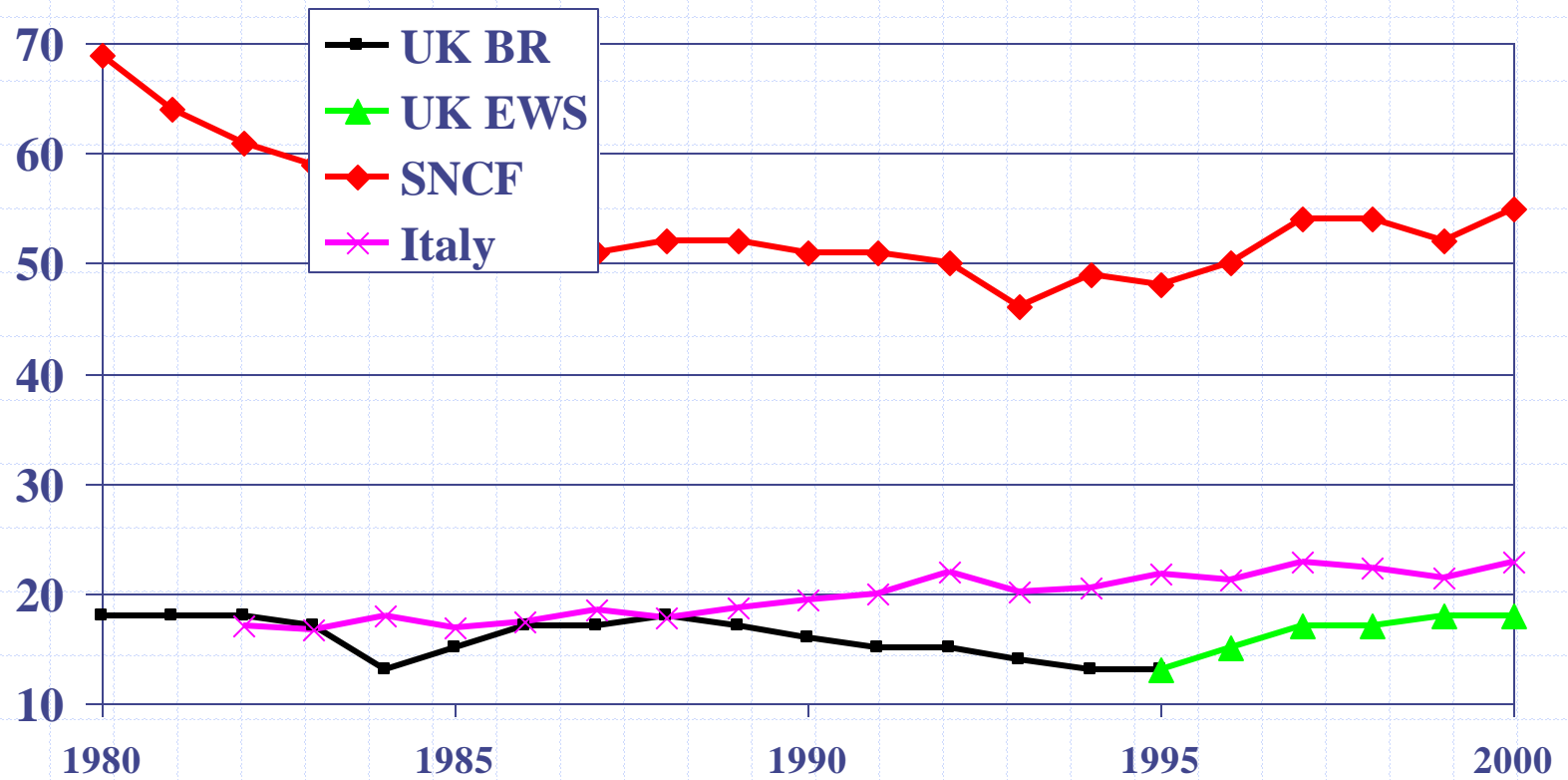


Passenger-km Index: U.S., U.K. and SNCF

1985=100

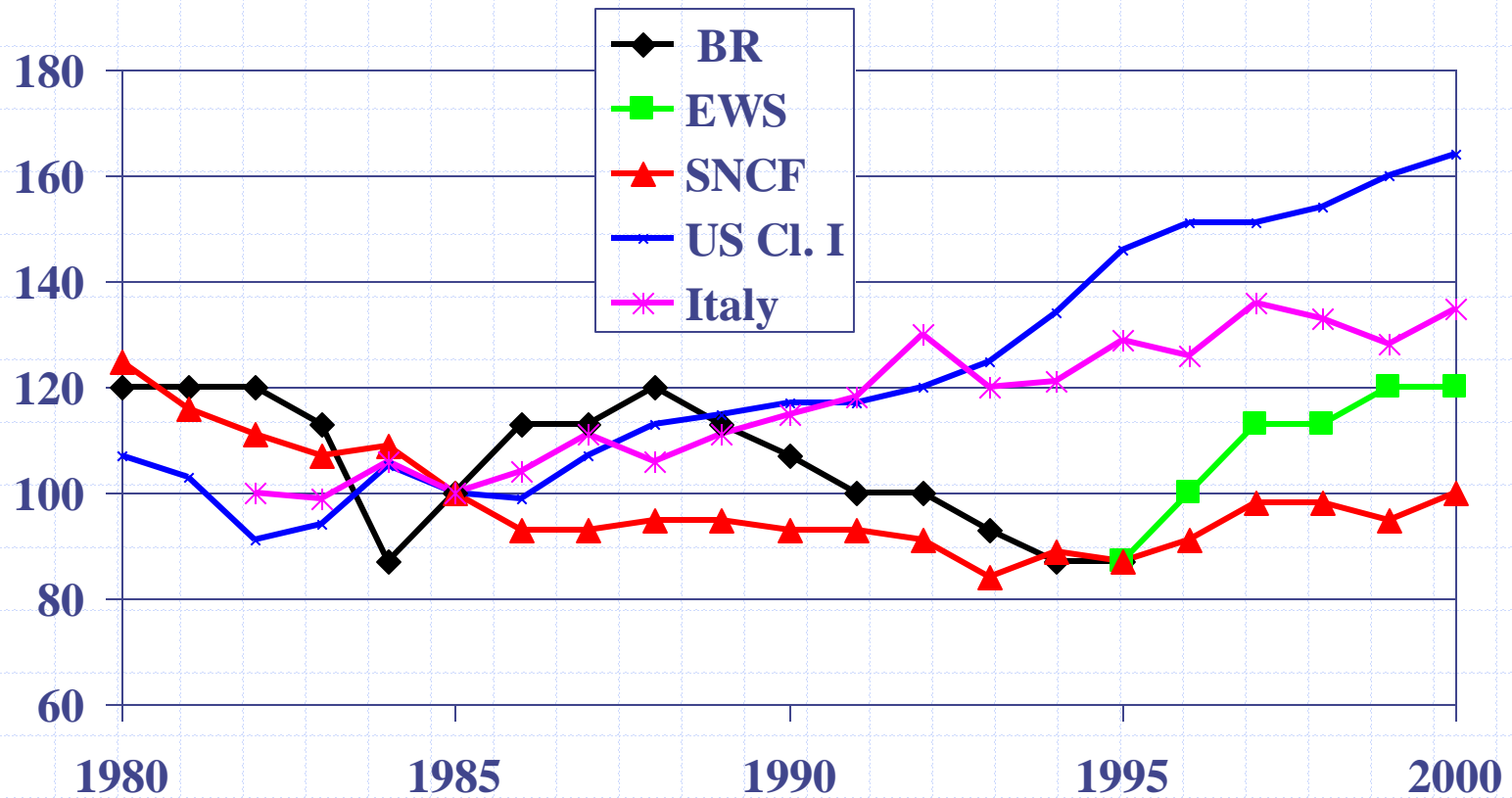


Freight ton-km: U.K. and SNCF

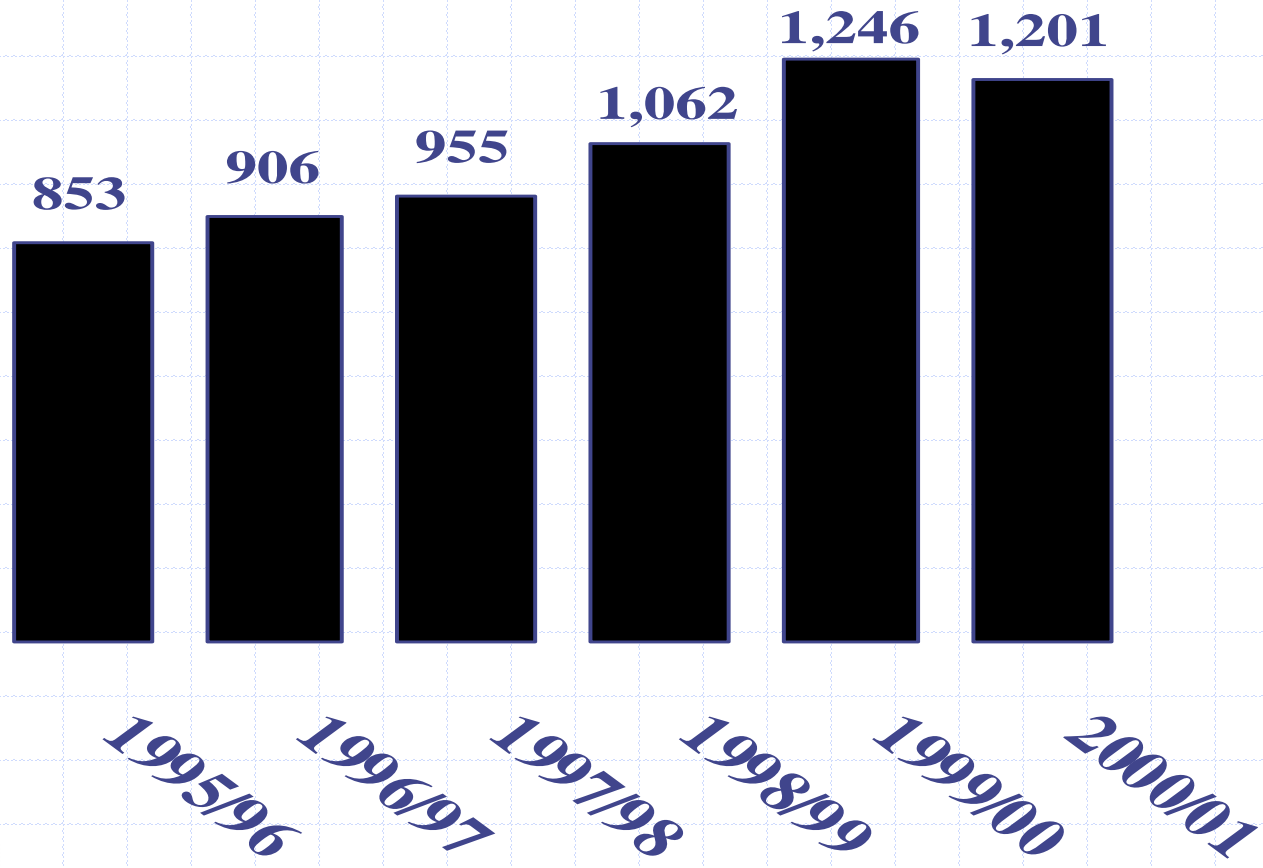


Source: Strategic Rail Authority, National Rail Trends, Dec, 2001

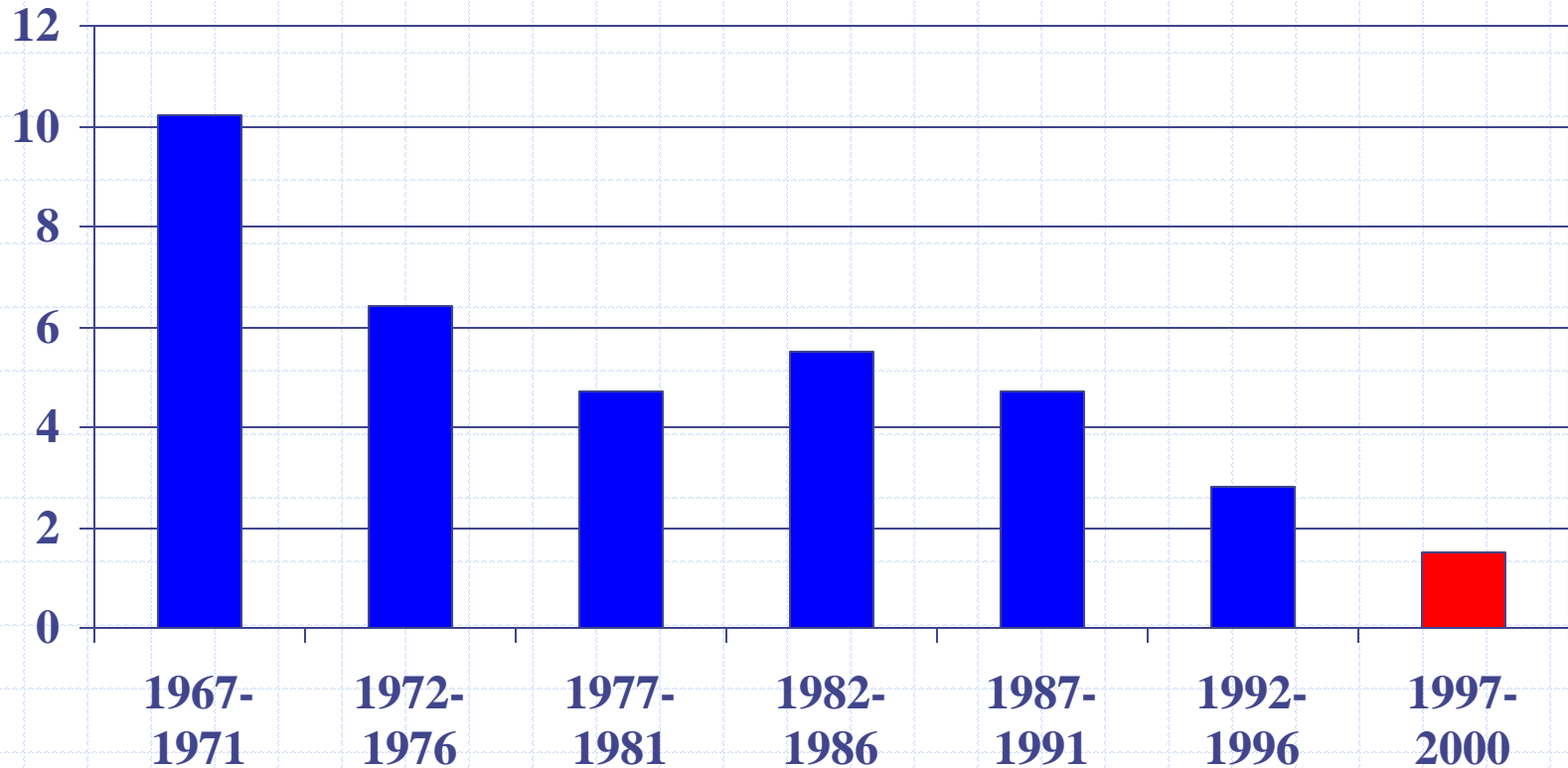
Ton-km index: 1985=100



Railtrack investment by year



U.K. fatal accidents per billion train-km since 1967



Note: series averaged over 5 year intervals to smooth year-to-year variation

Source: Andrew Evans, "Estimating Transport Fatality Risk From Past Accident Data", University College London, January, 2002

U.K.: the major negatives

- ◆ **Railtrack management: too little rail expertise, impossible contracting structure. Inefficiencies.**
- ◆ **Adversary relationship: Railtrack and ORR, and (to a lesser extent) TOCs and Railtrack**
- ◆ **System in worse shape than realized by anyone**
- ◆ **Incomplete Government concept**
 - **Did not expect or provide for success**
 - **Early on, no concept of public role**
 - **Labor party opposed privatization, then had to manage it**
- ◆ **Access pricing regime created perverse incentives**
- ◆ **Complexity**

UK: what are they doing now?

- ◆ **Much stronger strategic vision (SRA)**
- ◆ **A lot more public money (\$50 billion in next ten years)**
- ◆ **Reducing number of franchises and adjusting franchise periods**
- ◆ **Strong pressure on the new infrastructure company management, and stronger contacts with users for coordination**
- ◆ **Readjusting access charges (lower fixed, higher variable, total recovery?)**
- ◆ **No re-nationalization. Emphasis on fixing the problems, not major change in direction**
- ◆ **Railtrack placed in “railway reorganization”**
- ◆ **Created non-shareholding “private company”**
- ◆ **Final status under consideration: being sold to Network Rail (?)**

Are there promising developments?

- ◆ **European Rail Infrastructure Managers (EIM) group – glimmerings of the idea that infrastructure should have a distinct voice**
- ◆ **European Railway Agency – someone to work **with** the Commission? Will CER or UIC evolve a constructive policy role like AAR?**
- ◆ **Growth of private service providers**
 - **PSO-based (UK, Sweden, Germany)**
 - **Profitable (EWS in UK, Spain?)**
- ◆ **Clearer view of the public vs. private roles**

The critical challenges

- ◆ Completing the infrastructure separation
 - Capacity as a **product** – getting access charges and price signals right. What do EIMs maximize? Selling slots?
 - **Harmonizing access** – making the infrastructure borders transparent to operations
 - Government support to infrastructure: **level and commitment?**
- ◆ Enhancing **private** roles
 - Competition for regional/suburban services
 - Why not privatize freight companies?
 - Infrastructure management
- ◆ Does Europe **want** rail vs. rail competition? Does Europe **really** want rail versus **truck** competition in freight? If YES to both, then separation must be completed and new freight company structure must emerge – no national (or international) monopolies in freight
- ◆ Financing new – **and the right** – capacity
- ◆ **Labor** – cost and politics
- ◆ Can there be a **European** solution?