Railways, Competition, and Financing

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Global railways sector: Movement toward restructuring

- Old system in most countries: State-owned monopoly, often overmanned and requiring continued subsidies
- Reform goals:
  - Private sector participation
  - Increased efficiency, reliability
  - Competition
  - Eliminate need for regular subsidies
- Reform advocates:
  - World Bank, EBRD
  - Finance ministers
  - Users – both freight and passenger

Restructuring experience so far

- Generally three options/"models" for competition-oriented railways restructuring:
  - Vertical Separation
  - Third Party Access
  - Horizontal Separation : competing vertically integrated train/track companies – perhaps across international boundaries?

Restructuring experience so far (continued)

- Each model has enjoyed some success and some disappointment; empirical literature suggests importance of specific local conditions:
  - Higher density → Higher costs imposed by complete vertical separation
  - Higher freight/passenger ratio → Higher costs imposed by complete vertical separation
  - Size of country
  - Overall, Third Party Access seems to achieve similar competitive result as Vertical Separation without imposing such high costs

Special issues in small countries, Baltic and otherwise

- Railway too small to achieve economies of system size (at individual country level)
- Importance of transit traffic
  - Latvia 2016: 32.1M/33.3M = 96.3% freight tons
  - Thus access charges a crucial source of revenues, regardless of reform model chosen
  - Thus multicountry access pricing a crucial determinant of competitiveness of route
  - Thus “unidentifiable goods” become a potential issue

Access pricing

- First two restructuring options – vertical separation and third party access – require setting of price and conditions for access to infrastructure
- Regardless of restructuring model, transit traffic requires the same
- Infrastructure access pricing asked to perform a variety of functions:
  - Encourage efficient usage
  - Cover costs
  - Price congestion
  - Price environmental externalities
  - Encourage competition via non-discrimination
- Australian BTRE Report (2003), Chris Nash (2017): Impossible!

How reach the best (or "least bad") solution for access pricing?

- P = MC
  - Efficient in the short run
  - But requires government subsidies, which a) have their own opportunity cost, and b) may harm efficiency in the long run
  - May include mark-ups for "externalities" (e.g. congestion, noise)
  - Used by most Western European countries
- P = AC (i.e., mark-ups over MC to take account of FC)
  - Remove need for government subsidies
  - But inefficiently deny access to traffic able to pay its MC but not more
  - Method of distributing mark-ups over MC inherently arbitrary
  - Used by most Eastern European countries

How reach the best (or "least bad") solution for access pricing? (Continued)

- P = Multipart tariffs or Ramsey pricing
  - Economists' preferred "second best" solutions
  - By definition, Ramsey pricing takes account of competitive alternatives, both intermodal and intramodal
  - Some regulators, including US Surface Transportation Board, encourage as a matter of policy
  - But by definition discriminatory (2nd or 3rd degree, respectively, by Pigou's criteria), so competition agencies may not approve
  - Used in varying degrees by France, Sweden, and the UK, as well as US, Canada, Mexico

Takeaway 1: Underappreciated virtues of Horizontal Separation

- Well known: Maintaining vertical integration preserves vertical economies
  - "Where steel meets steel"
  - Empirical estimates vary
- Less well known: Demonstrated success of Horizontal Separation in attracting private investment
  - US, Canada
  - Mexico and Brazil: US$100K per track-km *for the franchise rights* – massive investments afterwards

Takeaway 1 (continued): Underappreciated virtues of Horizontal Separation

- Even less well known: Demonstrated success of Horizontal Separation in institutionalizing discriminatory pricing with a minimum of distortion to competition
  - Integrated railway knows what is in cars, can discriminate by commodity
  - More difficult, less common when infrastructure separated
    - Thompson: only 3 European countries have commodity-specific access charges
    - Australian BTRE: in practice, less rent seeking with discrimination by integrated railway than with discrimination by infrastructure operator

Takeaway 2: Underappreciated virtues of alternative revenue sources

- Why are direct rail subsidies "normal"?
  - Chris Nash: "'Railway finances' is to a large degree about subsidies."
  - But private financing is not uncommon, including private financing for infrastructure
- In most of the world, freight rail is self-supporting, including infrastructure
- Are subsidies to passenger operations and/or passenger-centered infrastructure inevitable?

Takeaway 2 (continued): Underappreciated virtues of alternative revenue sources

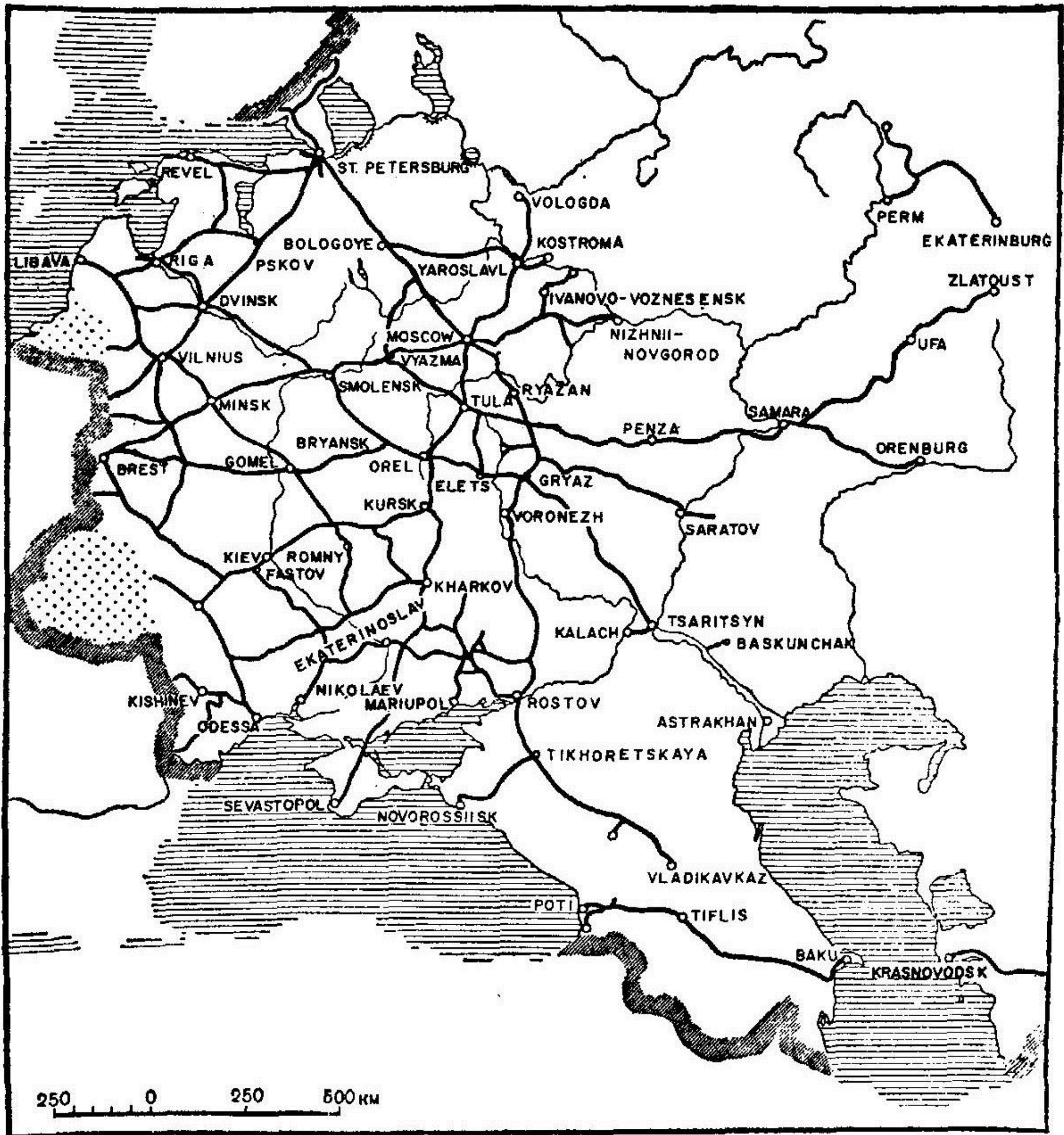
- Japanese solution: Make roads pay for themselves – “road pricing”
  - High road user charges, with some intramodal cross-subsidization
  - As a result, most passenger rail not directly subsidized
- UK, elsewhere solution: Land Value Capture
  - London: Tax on property sales and new rentals in “zone of influence” around new or upgraded transport facilities

Multicountry access pricing

- Transit cargo may involve 2 (Belarus, Ukraine) or more (Russia, Central Asia, China) foreign railways
- If each sets charges independently, result is inefficiently high
  - Economists: "double marginalization"
- Necessity for long-term cooperation for mutual benefit
- US example of interline traffic
  - Still commodity-based mark-ups
  - Miles-based "rules of thumb"

Let’s fantasize: What if economists ran the world? Arguably first best solutions

- Option 1: Horizontal separation. Freight rail competition among vertically integrated firms
  - Long-term success in the US and Canada
  - More recent success in Mexico, Brazil
  - Generally some regulatory protection for “captive shippers”
  - Serious discussion in Russia and China
  - Why not cross-border firms in Europe? Cross-border TOC’s already
  - History of Russian Empire: Privately owned, vertically integrated railways to Baltic ports competed for Black Earth grain traffic with privately owned, vertically integrated railways to Black Sea ports



Railways,

What if economists ran the world? (Continued)

- Option 2: Both road and rail charge MC+
  - Surcharges for both to reflect congestion, noise, air pollution, carbon emissions, oil import dependence
  - Require some intramodal or intermodal cross-subsidization to provide low-cost passenger alternatives?
  - Continue government subsidies for low-income passengers? But often bus service is more efficient.
  - Could combine with Land Value Capture to support infrastructure funding
- Option 3: Transit traffic access pricing
  - Cross-country vertical coordination, where necessary
  - Cross-country horizontal competition

Paldies par jūsu uzmanību!