Railways, Competition, and Financing

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The views expressed are not purported to reflect the views of the U.S. Department of Justice.
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 $\rightarrow$ Higher costs imposed by complete vertical separation
  - Higher freight/passenger ratio $\rightarrow$ 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
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 (2\textsuperscript{nd} or 3\textsuperscript{rd} 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”

My paper on coal shipments 9/11/2018
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
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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!