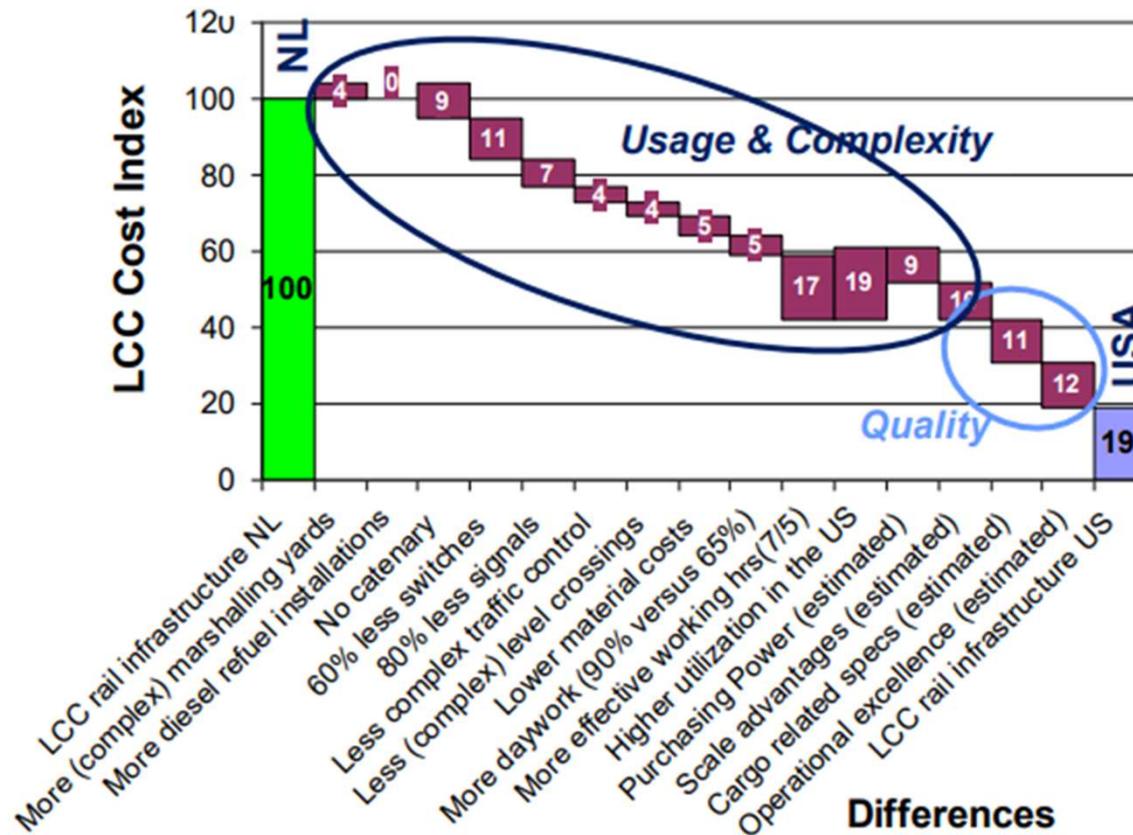


The cost of rail from a global perspective

Olaf Merk
Head, Transport Research Committee Secretariat

Danish Presidency of Council of the European Union
Cutting Cost in Rail, High Level Event
5 November 2025, Copenhagen

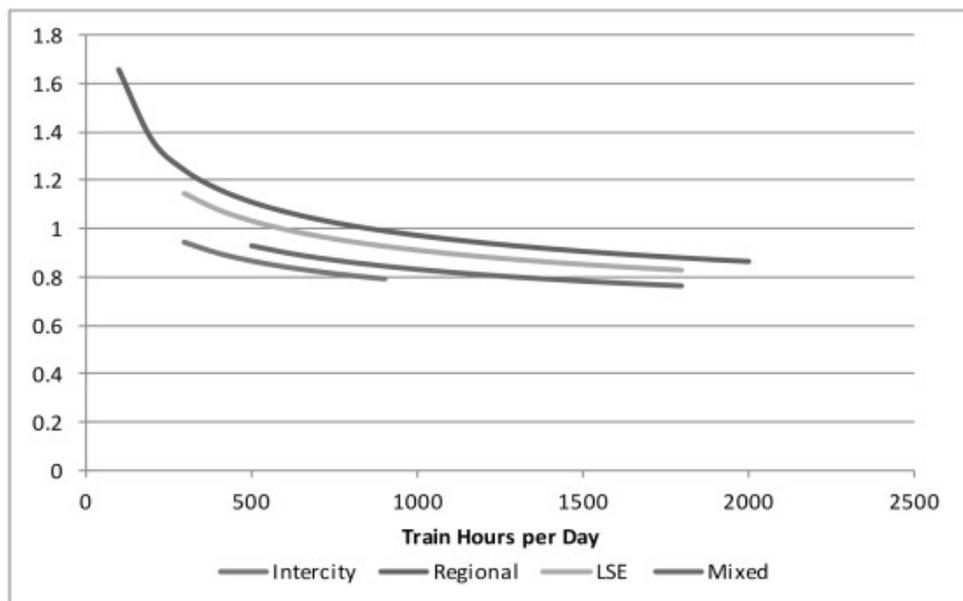
Huge differences in cost of rail between countries



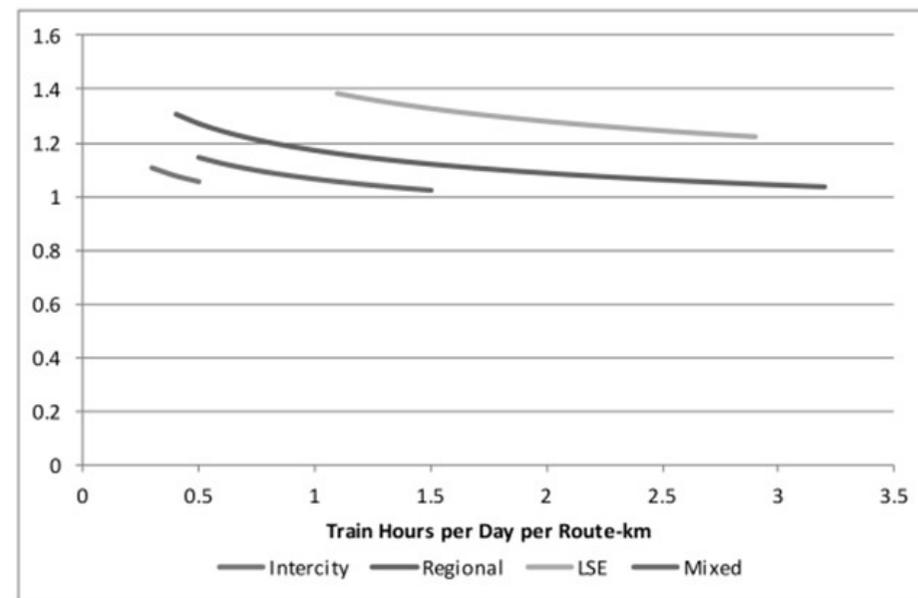
Source: ITF (2019), Efficiency in Railway Operations and Infrastructure Management, based on Swier (2014)

Economies of scale and economies of density

Returns to scale

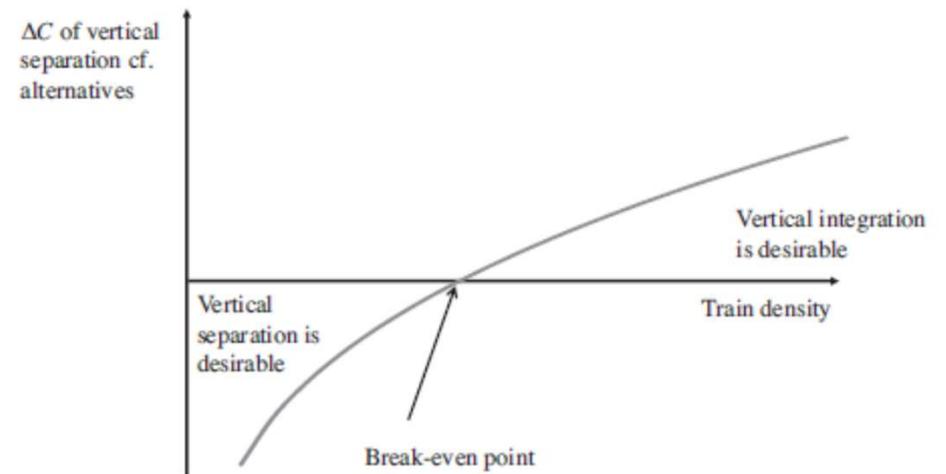
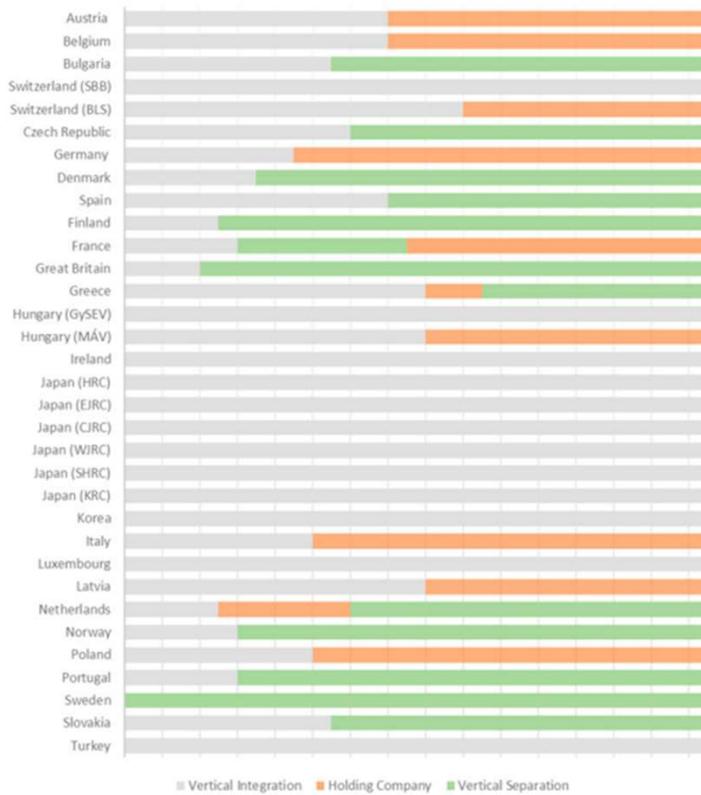


Returns to density



Source: ITF (2019), Efficiency in Railway Operations and Infrastructure Management; Wheat and Smith (2014)

Railway reforms and costs of rail

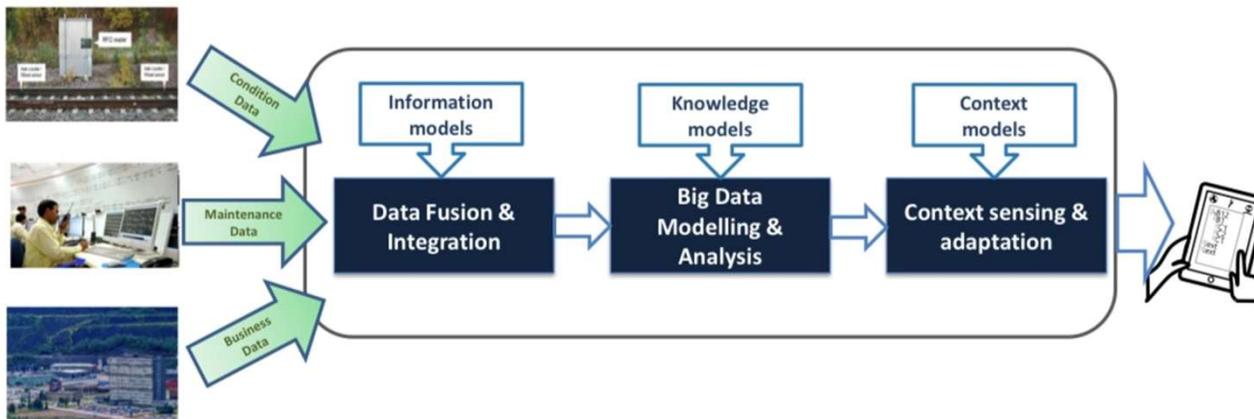


Minimise risk premiums of contractors

- When faced with uncertainty (e.g. geological risk, demand risk), contractors will embed risk premia in their bids to shield against unforeseen circumstances.
- Governments can help reduce uncertainty by strengthening procurement processes and institutional capacity. This requires:
 - Strengthening national units for geotechnical expertise, project appraisal, and cost-risk modelling;
 - Improving the quality of information available to bidders ahead of time;
 - Integrating risk management across the procurement cycle to reduce inefficiencies.
 - Collecting and publishing data on cost overruns to inform better project design and governance.

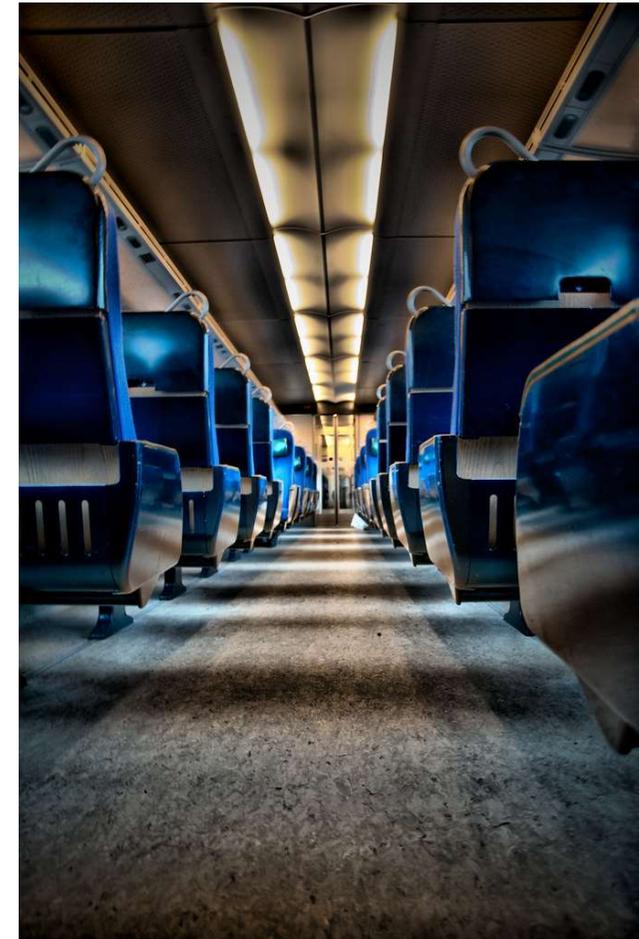


Data-driven maintenance and costs of rail



Merits of mixed passenger-freight rail models

- Integrating freight operations can generate steady revenue to offset subsidies and share infrastructure expenses with passenger rail.
- Elements:
 - **Shared Infrastructure:** Dual-use tracks, compatible signalling, and capacity planning to enable mixed traffic efficiently.
 - **Cross-Subsidisation:** Freight income can contribute to maintaining and upgrading lines used by passenger services.
 - **Resilience:** Freight demand can be used as a cushion against downturns in passenger ridership.
- Contrast – the US Case:
 - Highly profitable, but freight-dominated.
 - Passenger services (Amtrak) run as tenants with limited network control and weak profitability.
 - Europe's challenge: achieving balanced coexistence that captures freight's economic strength and ensures passenger accessibility.



Thank you

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