



Market opening and interoperability in the European Railway System

Ernest Godward and Torben Holvad

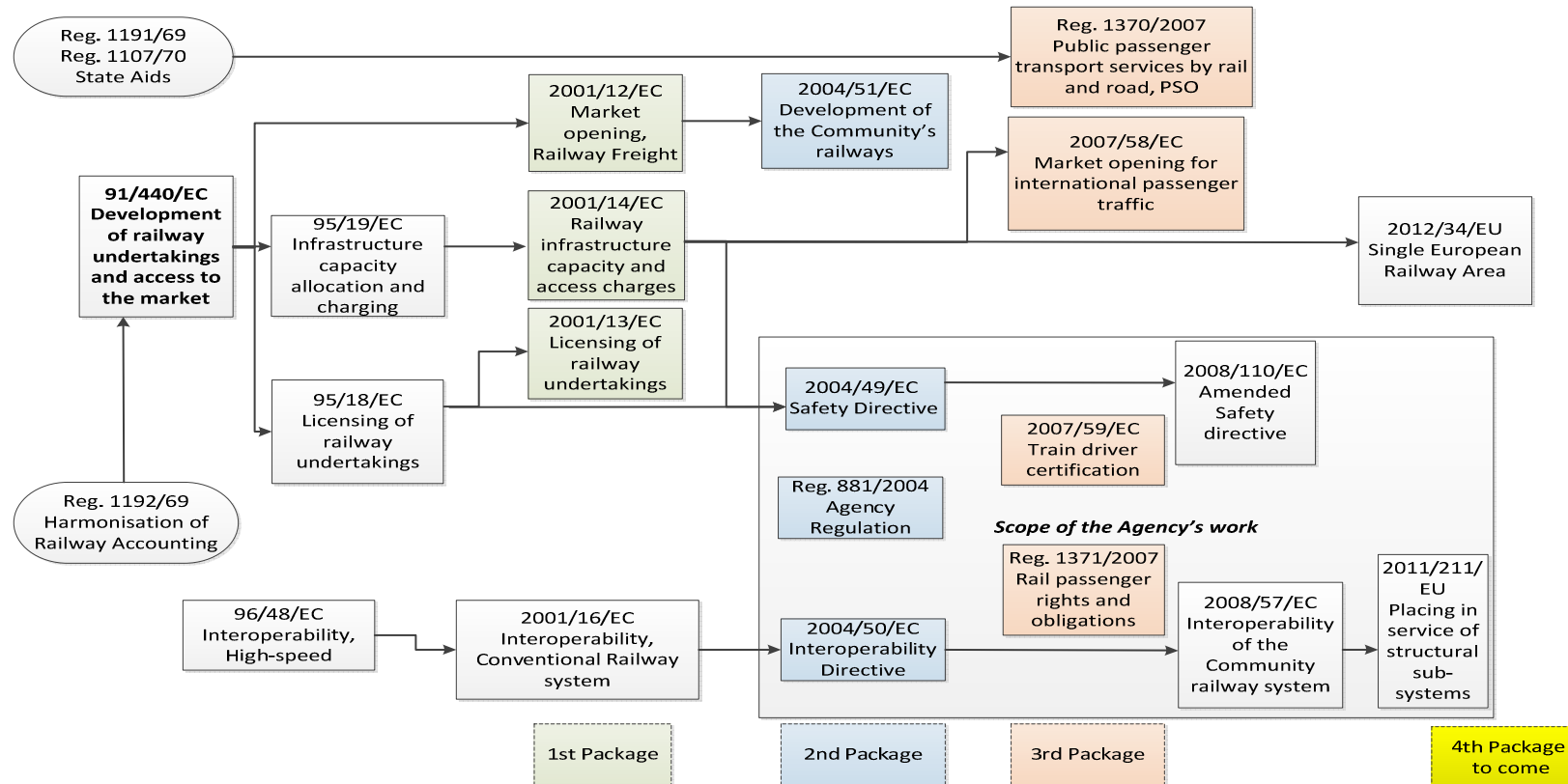
19th June 2014



Railway legislation in the EU

Prior to 1991 only PSO support 1191/69 & 1107/70

Diagram 1 European Railway legislation and regulations



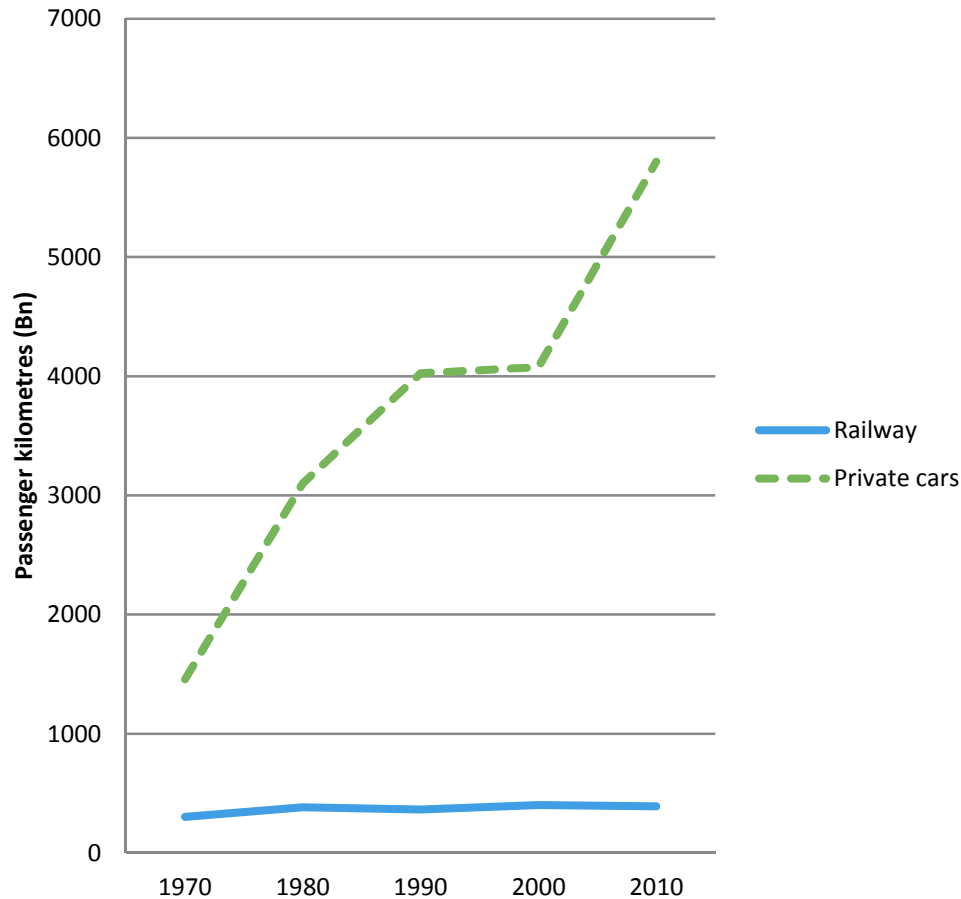
2016?

Fourth Railway Package

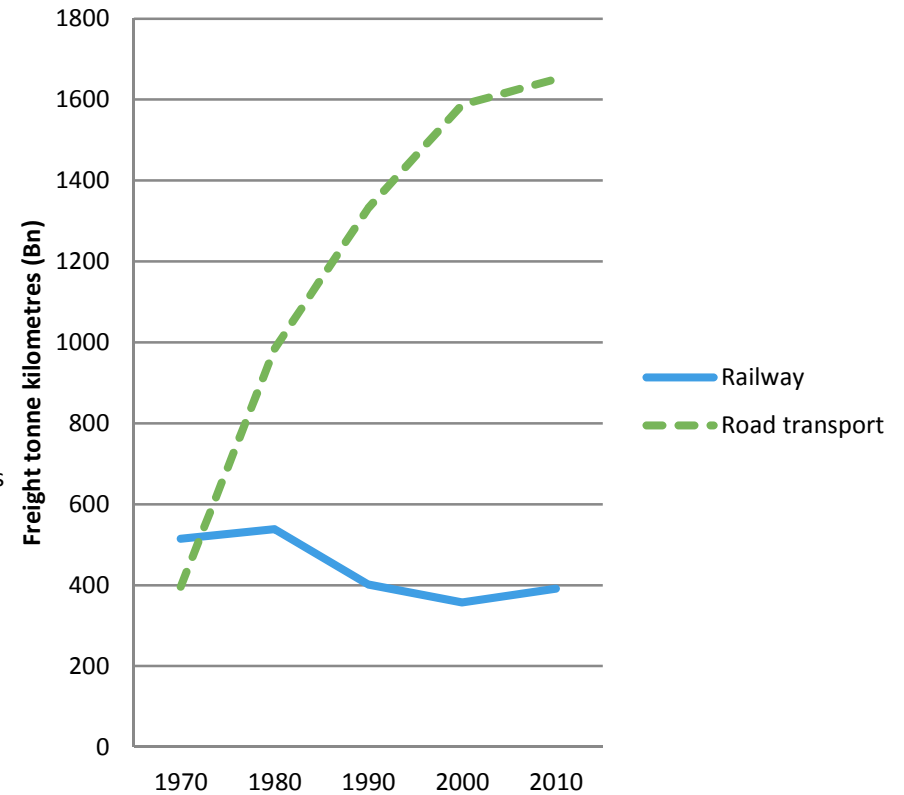


“Flatlining” Railways

EU26 Passenger transport 1970 - 2010



EU 26 Freight transport 1970 - 2010

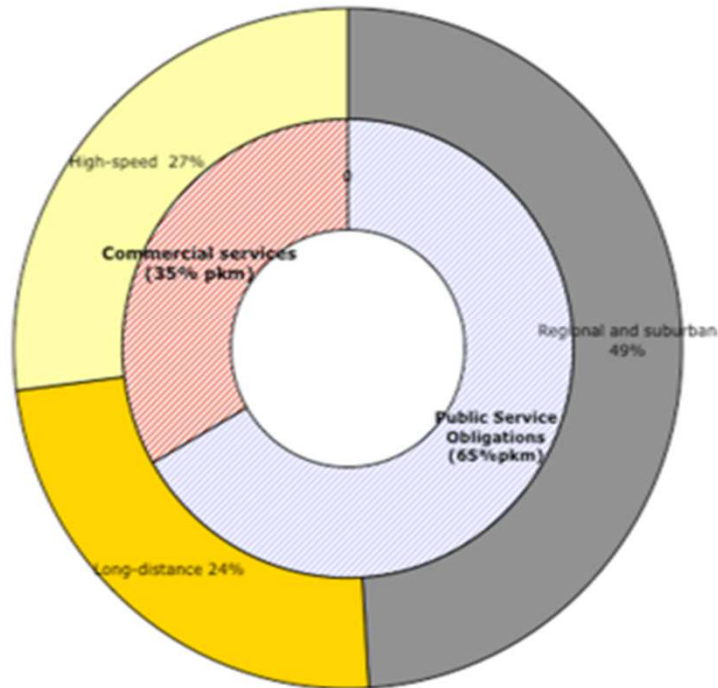


Perhaps some small recovery in freight since 2000



Rail passenger market and commercial segmentation 2012

Graph 38 - Rail segments and market structure in 2012
(% passenger-km)



Passenger sector (EU26)
Revenues €90 – 100 Bn
Costs €80 – 90 Bn

Whole sector (EU26)
Operators for Passenger and
Freight and Infrastructure
Managers

Revenues €180 – 200 Bn
Costs €170 – 190 Bn

Likely potential for efficiency
improvements (according to the
literature): 10% excluding
intervention by EC or ERA

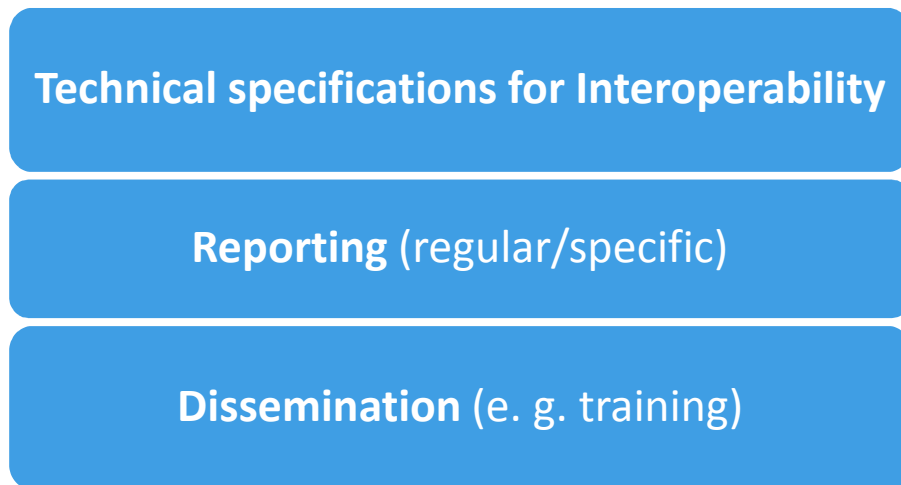
Source: RMMS (2014)



What is the Agency and what does it do?

- **European Railway Agency (ERA)**, Valenciennes (F)
- established **2004/2005**
- approx. 150 staff, core tasks: **Interoperability and Safety**

Services/products delivered



Customers/stakeholders (main)





ERA Decision-making principles

Proportionality

- Regulatory means should be *necessary* to reach the goal and *proportionate* to the expected benefits
- (counter) example: derailment detectors

Subsidiarity

- Do not regulate what can be regulated better at national level
- Limitation: interoperability should not be harmed
- Example: details of station accessibility (*not: train interface*)
- Best practice: high level functional requirements

No overlap

- ... with other pieces of regulation, e.g. 2001/14
- Example: rolling stock-side features beneficial to wayside maintenance should be handled via access charging, as far is reasonably practicable, or even not at all (flange lubrication, carbon strips, ...)



What is Interoperability?



Between operators



Between rail systems

Between infrastructure



Between vehicles

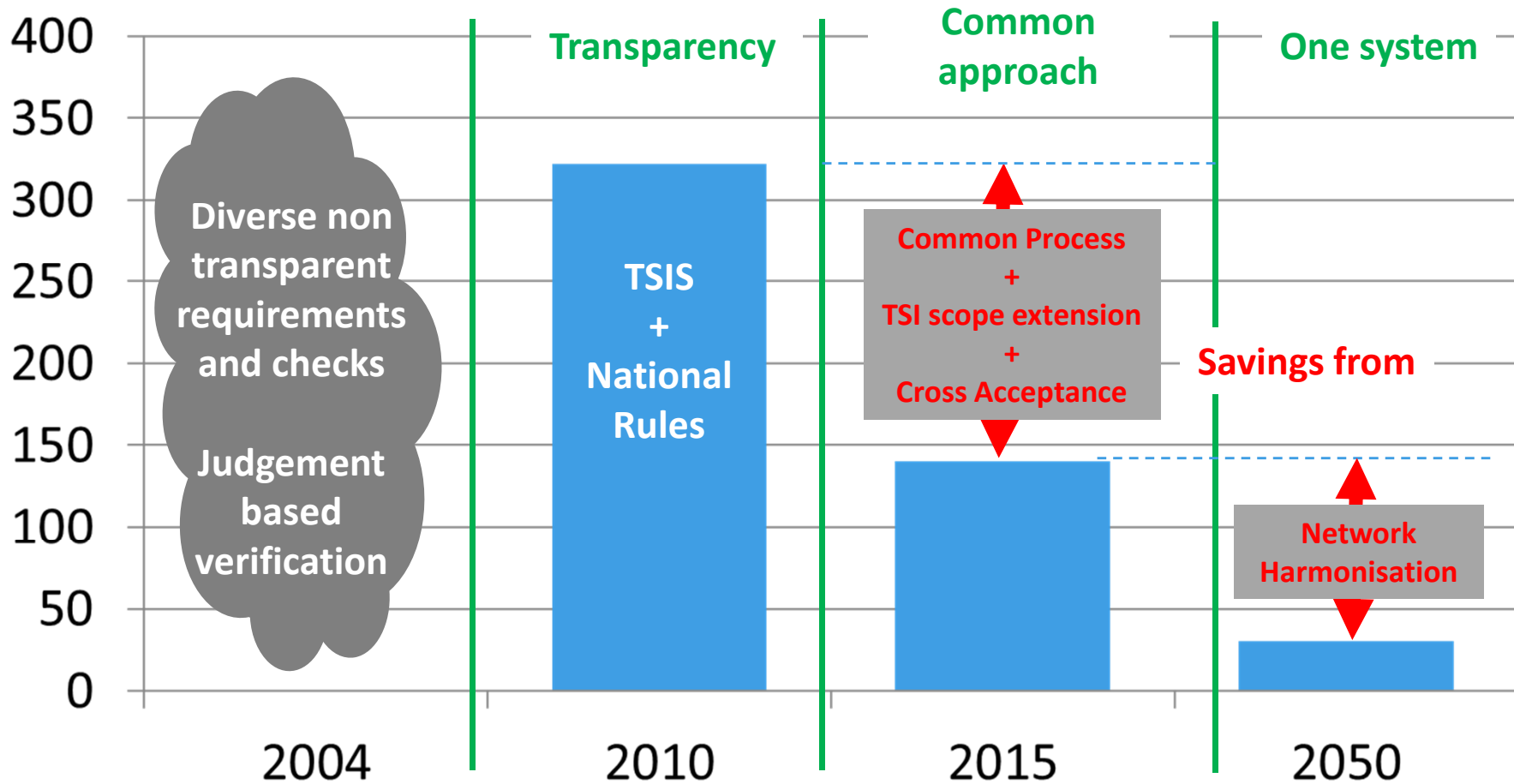




Economic benefits of simplification for vehicles and the potential of network harmonisation

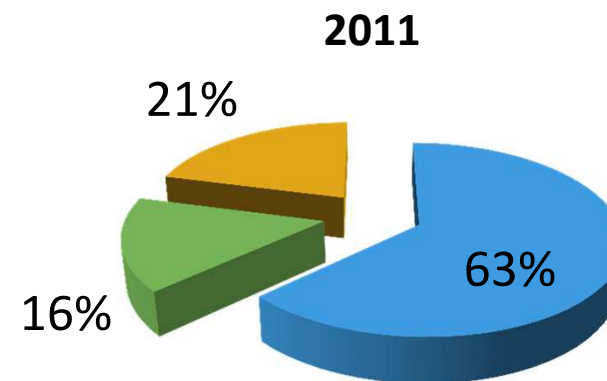
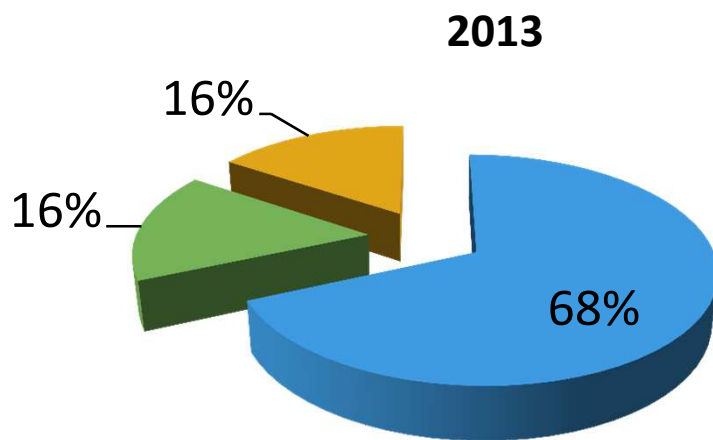
Mn EUR/ year for loco authorisation (EU total)

Each scenario ceteris paribus





Classified national rules Member States	2013		2011	
	22		13	
Total number	16381	100%	7883	100%
A	11204	68%	4979	63%
B	2618	16%	1254	16%
C	2559	16%	1650	21%





Number of National Technical Rules: RDD

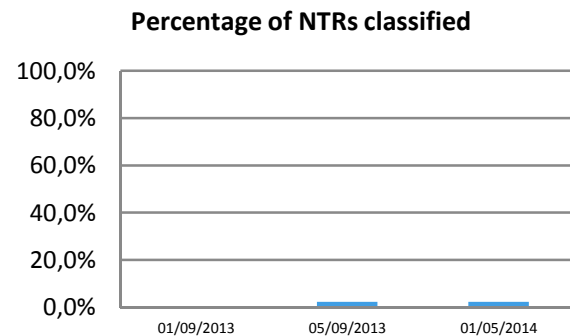
Published rules	4417
Draft rules	10290
Total rules at 11/04/2014	14707

Only 1 MS have so far classified rules and in one direction only

FI 432 rules
SE 319 rules



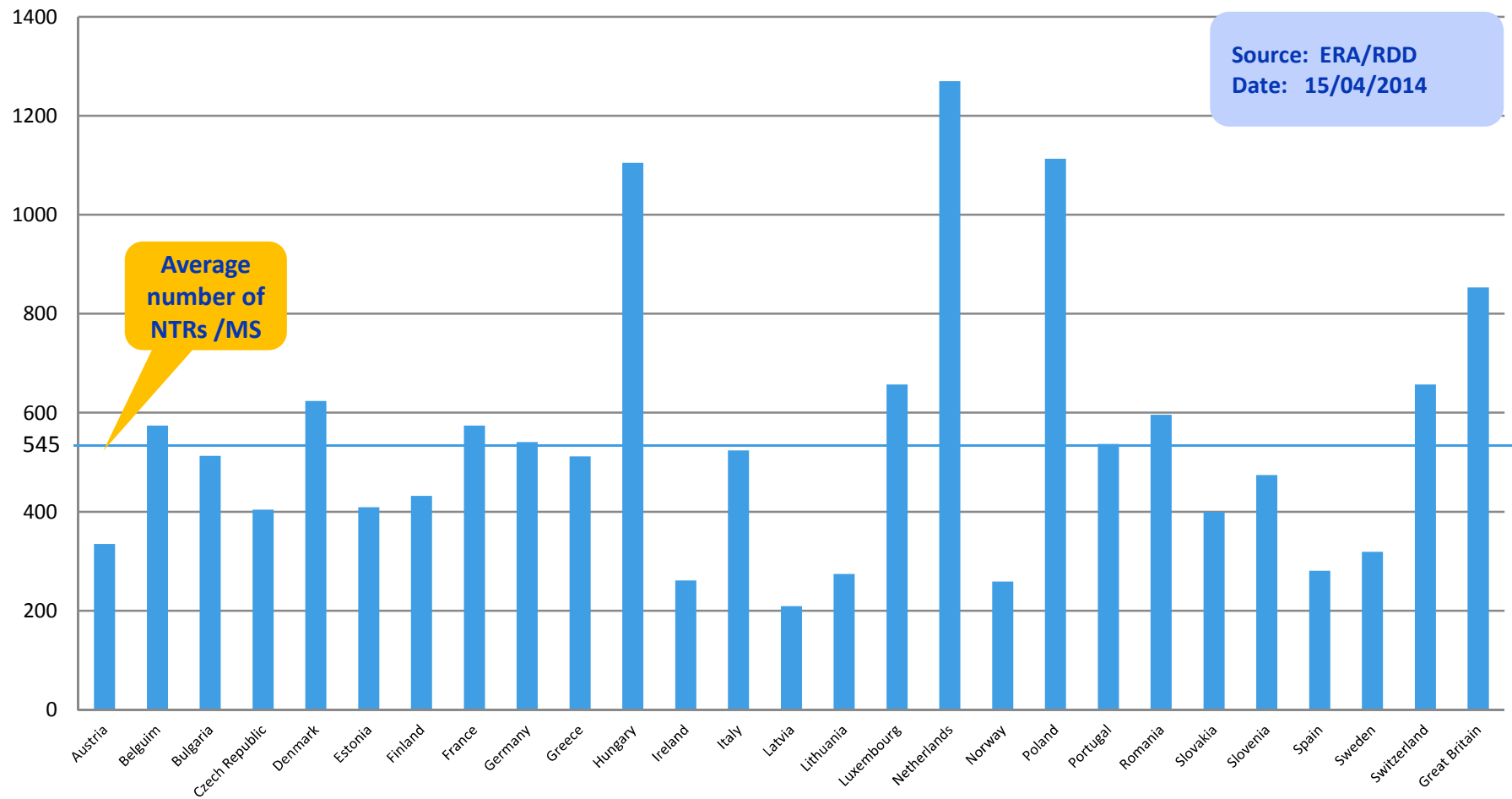
FI has classified
319 rules of SE





National Technical Rules in RDD – total 14707

Number of National Technical Rules





What is the Agency's response to this

The estimate of the total number of NTRs for 26 MS is between 18500 – 20000

In the RDD we would expect to see about 16000 NTRs likely to be notified in the EC's NOTIF – IT system.

We would have transparency of the “Regulatory Burden” of the old closed systems.

To classify all the rules would take a long time. So given that we got a full set of TSIs now in place should we do this?

From January 2015 the scope of the TSIs is extended to the whole of the European Railway Network – therefore the regulatory requirement would fall to somewhere between 3000 and 5000 NTRs (TSI parameters + Open points + MS Specific Cases)

New project has started to see whether we can achieve this quickly.



Achieving interoperability

Achieving interoperability means:



Moving from state controlled monopoly to open and shared markets



Allowing the safe uninterrupted movement of trains



And giving appropriate economic signals to the players





Over-riding need for more efficient railways

This is probably a better approach to actually answering the questions relating to railways structural forms:

- 1. ERA's Benchmarking Study shows that railways in Europe can be more efficient – either through reduced state intervention or increased railway outputs.**
- 2. Back in the 1980's there were incumbents, guaranteed their budgets by Governments and failing to capture the growth taking place in the transport markets. They required an excess of resources whilst failing to provide what customers wanted with a soft budget constraint. How could the EC take action to address these points?**

The critical areas of concern were to:

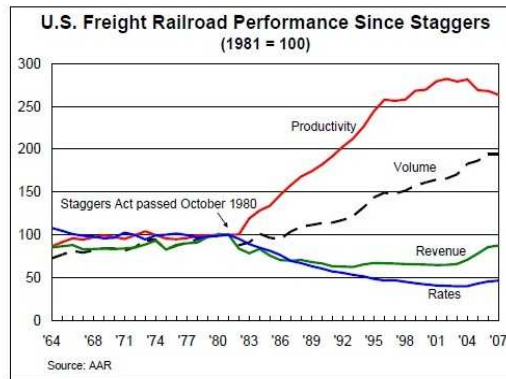
Introduce competition to bring about customer orientation while reducing costs with a more difficult budget constraint.

However, without substantial progress on interoperability (and harmonised safety regulatory frameworks) the full benefits of market opening will not be realised.

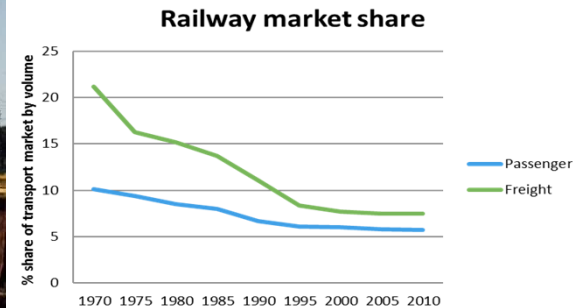


The search for analogies

The classic approach has been to use the experience in the US in the Post Staggers period



This is always contrasted with the EU situation



Norfolk Southern diverting over UP(SP) in SE USA (FL - LA - TX - CA) double stack

But it is probably not the correct analogy. The US situation refers to the deregulation of an already interoperable freight market – not passenger!

The burning question: Why was it easier to achieve interoperability in the US?

A possible answer: Common standards were already in place prior to deregulation. This has not been researched, so far.



The European Railway Sector – Freight Operating Companies 1

Freight operating companies – Fully open market but with some barriers to entry and exit. Observation suggests that competitive situations are emerging:



**Observation at Mainz Bischofsheim 20/04/2013 12:42 – 13:14 (32 Minutes)
1 SBB, 2 x DBS, 1 x Railpool and 1 x Crossrail**

OK, this is the most densely populated part of Europe and the goods have to flow into this region, so it not surprising that competition is taking place.



Contestable and competitive markets

Economics 101 teaches us that contestable markets have:

- Absence of entry and exit barriers (also no sunk costs);
- Pool of potential entrants;
- Perfect information;
- Incumbents vulnerable to “hit and run” competition, and
- The market is defined by “normal” profits

Competitive markets are characterised by:

- Many buyers and sellers
- Reasonably homogenous product
- No single buyer or seller can affect the price
- Free entry to and exit from the market

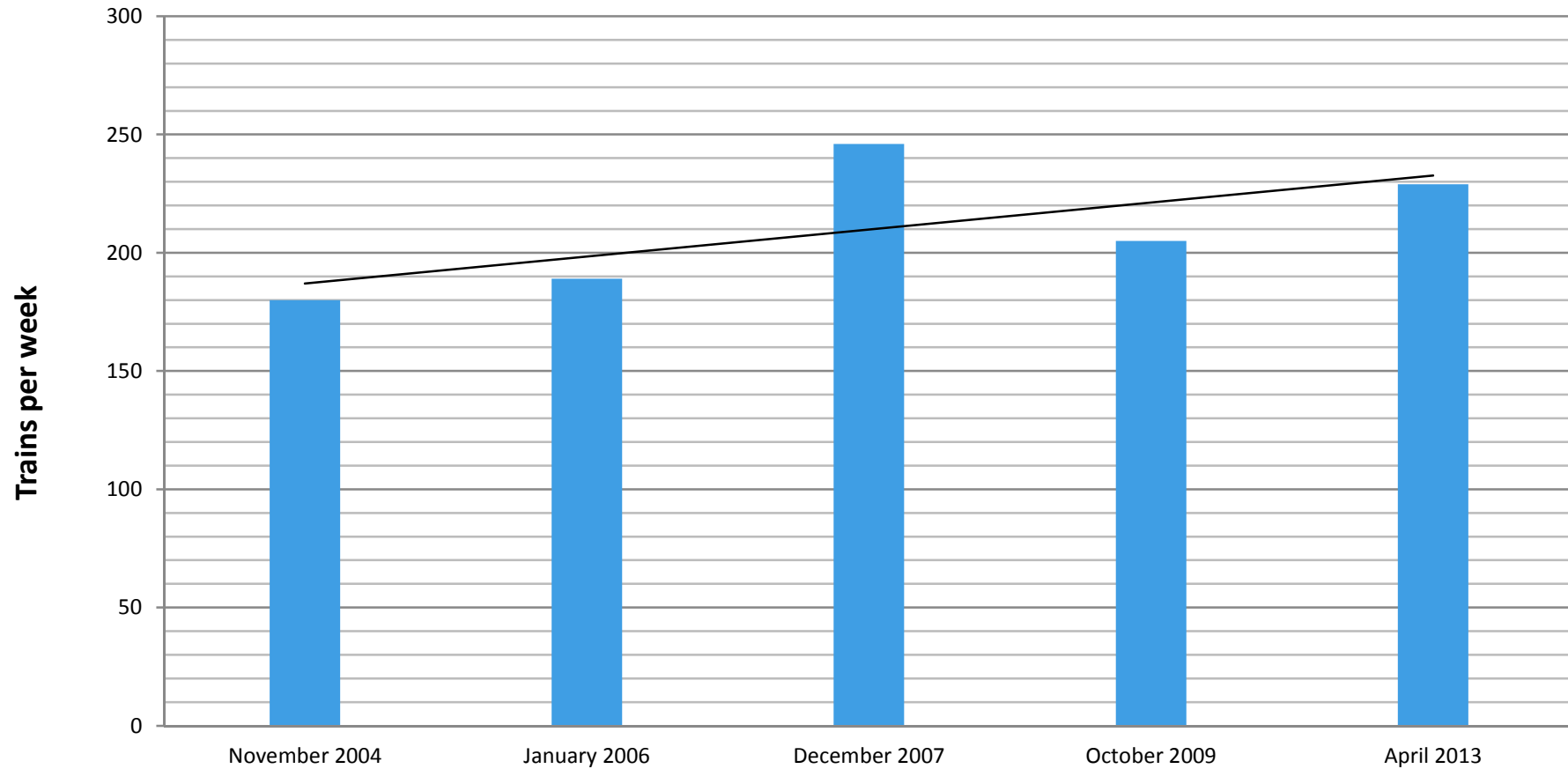


Contestable and competitive rail markets

Market characteristic	Theoretical contestable market	Current EU railway market	Market characteristic	Theoretical competitive market	Current EU railway market
No Entry barriers	Yes	No (Safety licensing, staff competence)	Free entry to market	Yes	Mainly no
No Exit barriers	Yes	No, because there are sunk costs that cannot be recovered	Free exit from market	Yes	No
Pool of new entrants	Yes	Limited	Many buyers	Yes	Yes
Perfect information	Yes	Partial	Many sellers	Yes	No
Incumbents vulnerable to hit and run competition (to remove or diminish monopoly profits)	Yes	No (because of barriers to entry – licensing and access conditions)	Homogenous product	Yes	No
Market defined by 'normal' profits	Yes	No	Single buyer can affect the price	No	No
			Single seller can affect the price	No	Yes



Container trains per week NL 2004 - 2013

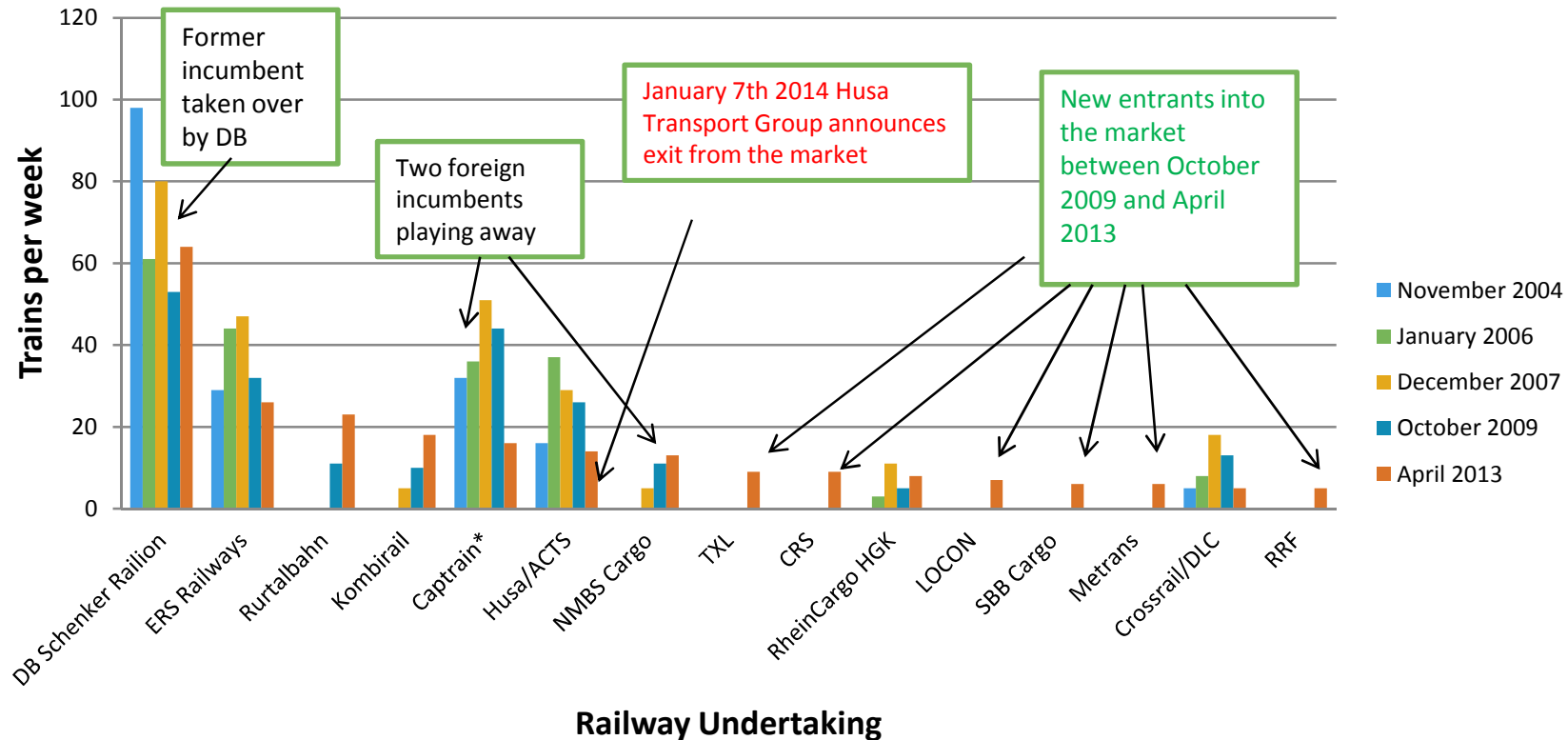


Container trains per week in NL 2004 - 2013



The European Railway Sector – Freight Operating Companies 2

Development of the NL container train market 2004 - 2014

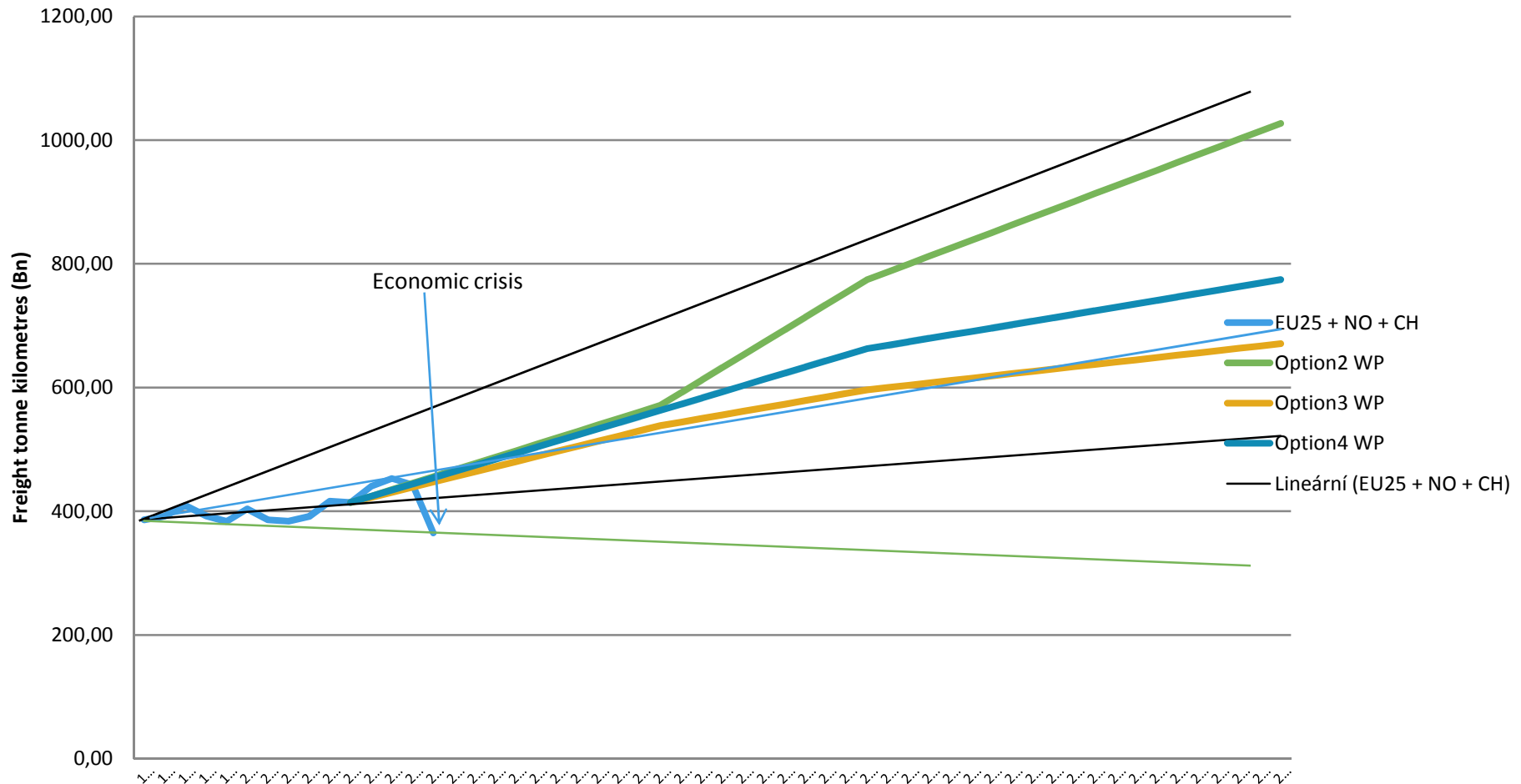


We see the emergence of a more contestable and more competitive market and in a market that has grown by just over 27% over the decade and an increasing number of players from 5 to 15



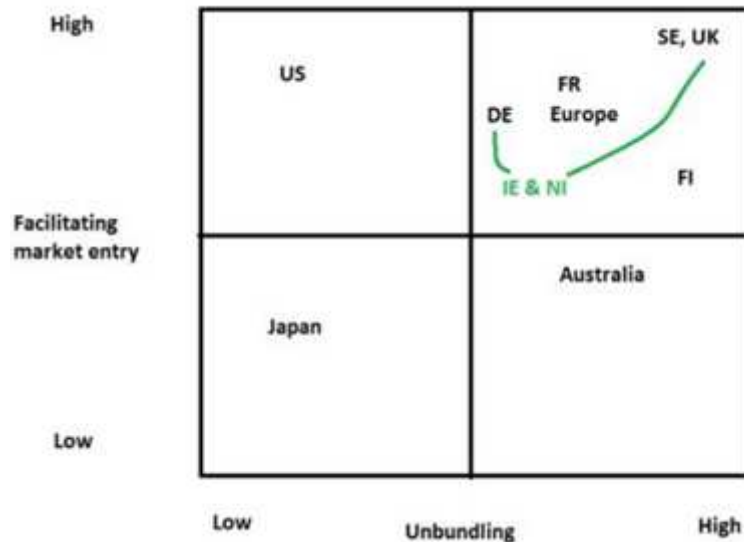
Forecasts arising from the EU White Paper – Achievable or not?

Freight tonne kilometres - actual and forecasts 1995 to 2050



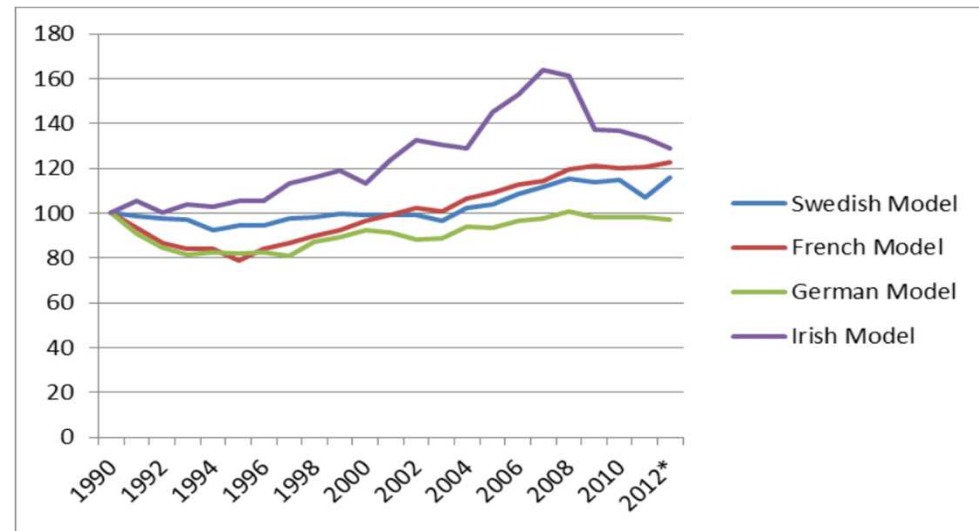


Market entry and unbundling and EU global impacts



Europe has had to search amongst its own sub-models for the analogy it is seeking.

None of the models have performed especially well at the grouped level (passenger growth has been relatively modest) and compared to the volume increase experienced in the US (for freight) the outcome in Europe is behind what might have been expected.





A further critical set of questions:

- 1. What should Europe do to achieve similar changes to those which occurred in the US in the freight sector.**
 1. Do nothing – case studies show competition is happening
 2. Intervene further – S2R, CEF and other technical financial support - €1 Billion support to 2020 to try and realise cost reducing applications
- 2. What targets should Europe adopt for changes to the passenger sector – given that there is no US (or for that matter world) analogy?**
 1. White Paper horizons 2030 and 2050 adopted
 2. See example for of freight actual and forecasts.

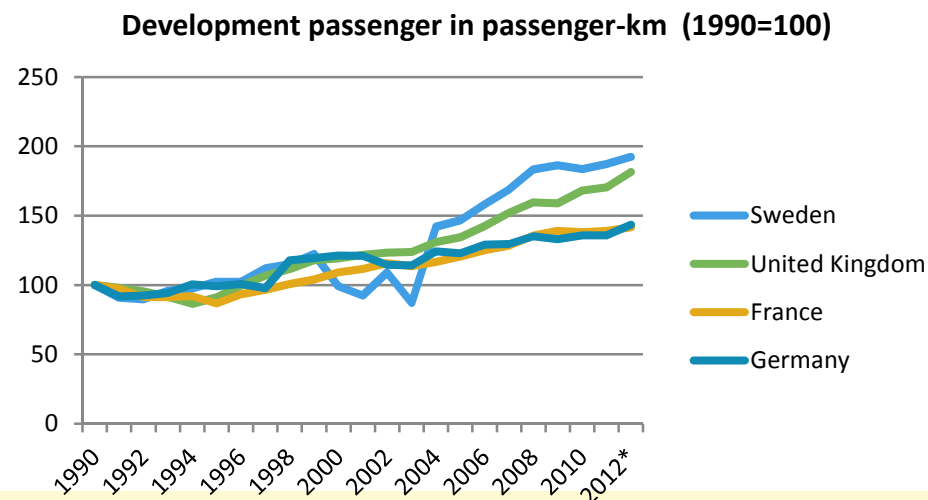


Individual MS passenger performance

Nash, C. Nilsson, J-E. and Link, H. (2013) Compared Three Models for Introduction of Competition into Railways. The paper compared the experience of competition in Britain, Germany and Sweden. They concluded that while Britain and Sweden had the highest growth, Germany offered better value for money and further in-depth research would be required.

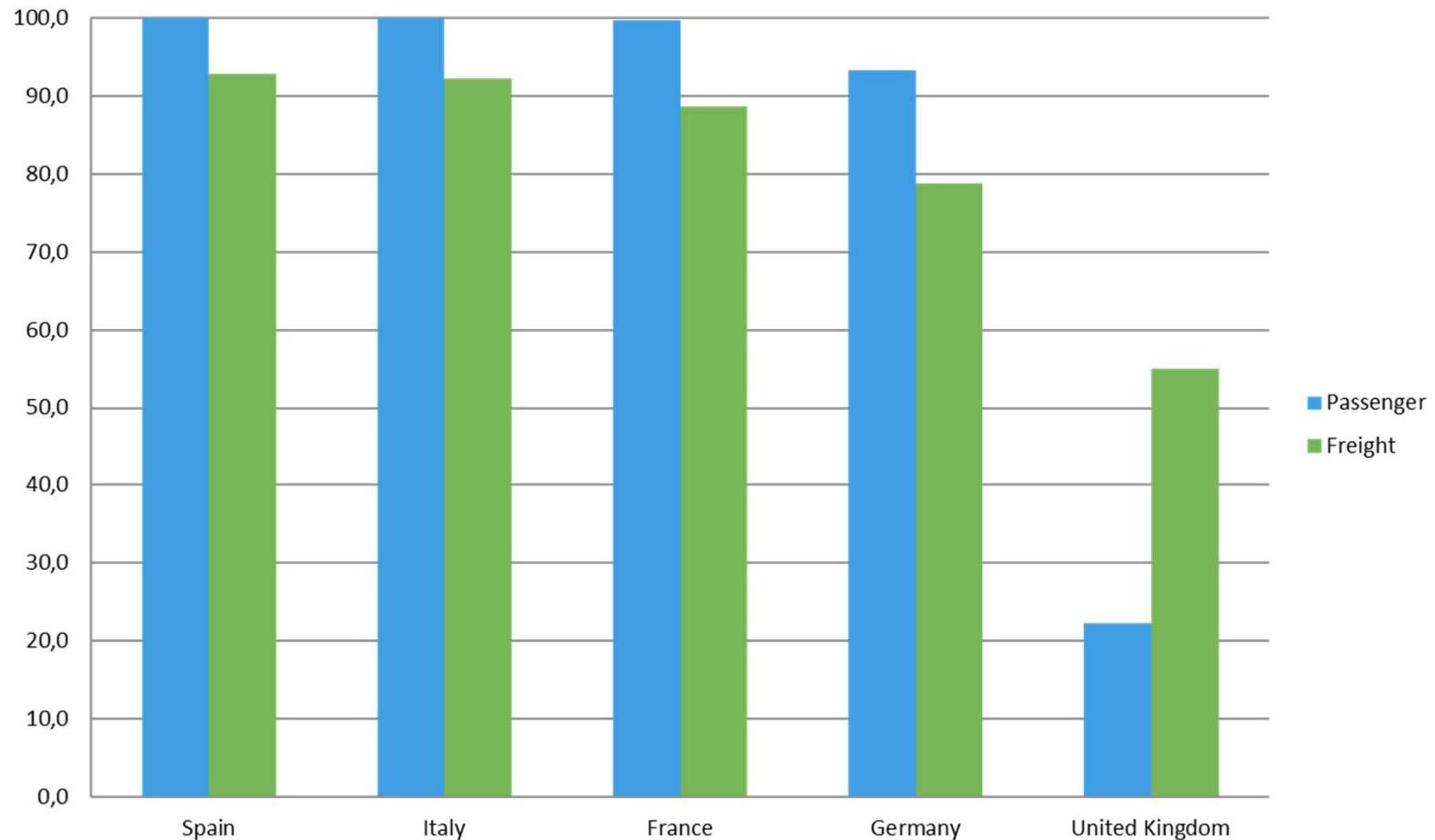
Our own analysis – Holvad & Godward (2013) also added in France. We concluded that faster growth will come in those markets with complete separation between operation and infrastructure and that interoperability will be easier to achieve and issues of market dominance reduced.

If we take UK as an example we have a broadly interoperable system, albeit with a few problems, e.g. Channel Tunnel (Access rights being addressed), Third rail energy system and rolling stock incompatibilities – therefore an important fact in generating US like growth in a mixed traffic market.





Examples of market share of the incumbent/largest operator companies 2008 ?



Source EC



Opening markets 1

The Passenger markets remained closed except for those MS voluntarily opening until 2010 – International with the proposal to open all domestic markets by 2019. [Check 4RP for details]

Tendering (What rights can you give to the winning tenderer?)

Open access

**Other issues: Distinguishing between markets? Long distance, High-speed, Commuter, Regional?
Where are the railways efficient and where can they improve**

Commuter – can you solve the problem of the peaks – yield management pricing?

**Regional – gaining co-operation between regional sponsors and that reflected in efficient operation.
Also integration between public transport modes.**

The way forward might be to look at markets from this sort of perspective and solve the markets problems rather than from the global point of view.



Winning tenderer



Sometimes you have to insist and it might take along time - > 5 years

These are examples of on-rail competition!

But is this? Probably not



East Coast UK: Complex summary history

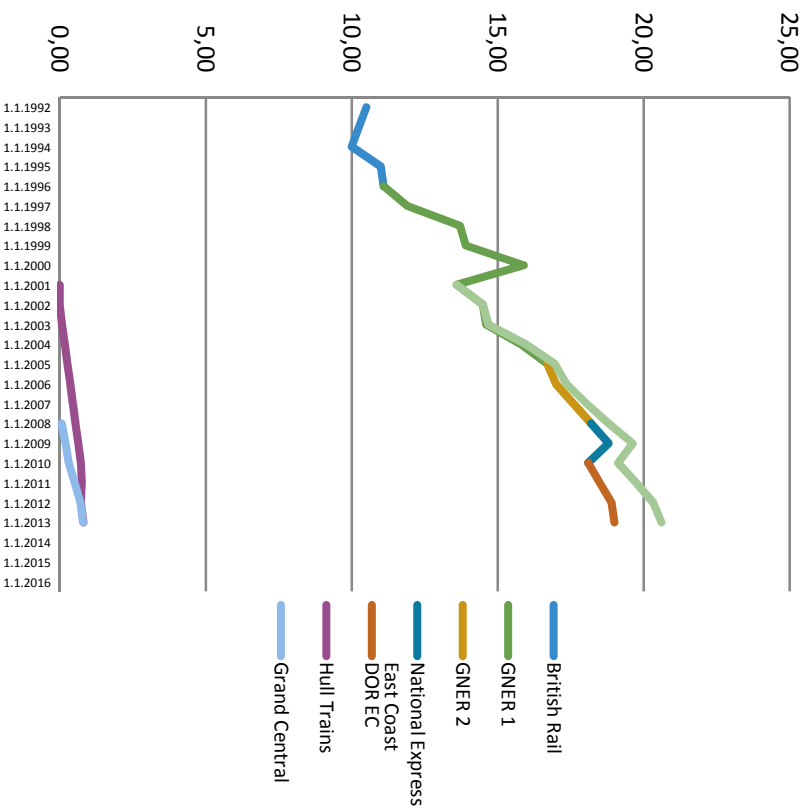
- 1996 ECML services franchised to Sea Containers through GNER Franchise
- 2000/P6 Ending of MoC sees entry of Hull Trains with 3TP/day
- 2000/10/17 Hatfield rail accident – cause GCC
- 2003/P5 Hull Trains bought by First Group
- 2004 Sea containers retains franchise
- 2006 Sea Containers (Parent goes into administration) . National Express wins new franchise
- 2007/P10 Grand Central start Sunderland service with 3TP/day. Equipment problems leads to patchy start.
- 2008 National Express hands back franchise. DfT appoint Directly Operated Railways – East Coast
- 2010/P2 Grand Central starts Bradford via Non EC West Yorkshire routes 3TP/day
- 2011/P9 Grand Central taken over by Arriva due to financial losses
- 2013 Both open access operators secure access right to 2016/P10. DOR EC contributing premium to DfT, FHT profitable, AGC seeking profitability
- 2014 DOR EC to be refranchised



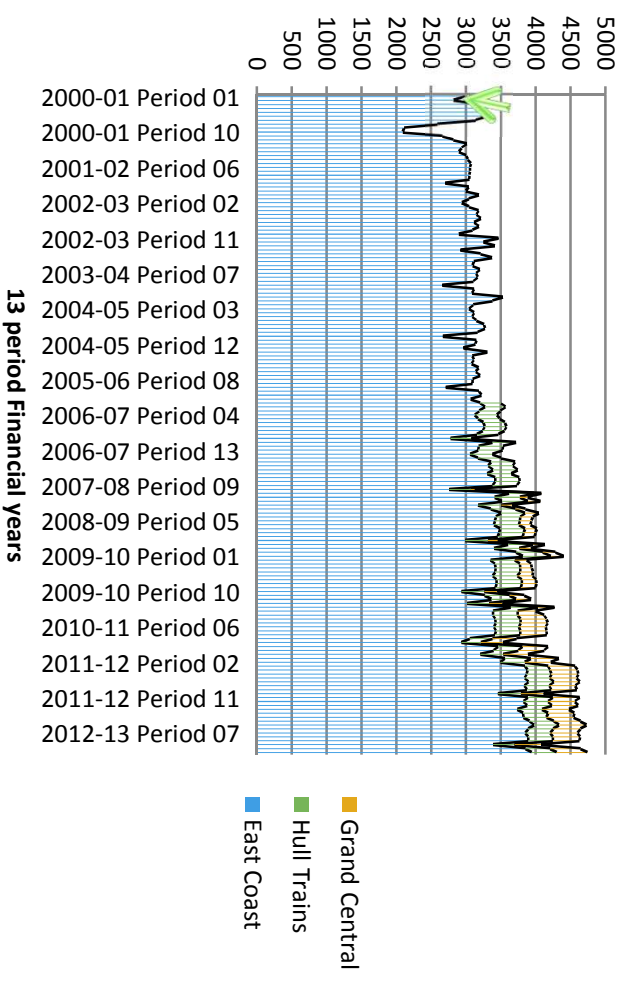


East Coast UK performance PJs and Trains operated

A PJ history of the East Coast UK rail services



East Coast competition: Timetabled trains April 2000 - March 2013





Some findings

1. **Test for entry – “Not primarily abstractive” – if we (the regulator) let you into the market – it is about growing the market. In the UK – it seems to have worked.**
2. **At the beginning it was “Rich guys”, “Polemicists – we believe in the market” but now it is other franchisees competing with Government controlled franchised which is being franchised back to one of them.**
3. **At the East Coast stations where competitive services are provided prices for travel increase at lower rates compared to similar franchises where there is no directly competitive services. With competition there are more fare offers, e.g. “Carnets”, various yield management systems, but also “Inter-available tickets valid on all operators”.**
4. **Minimal air competition.**



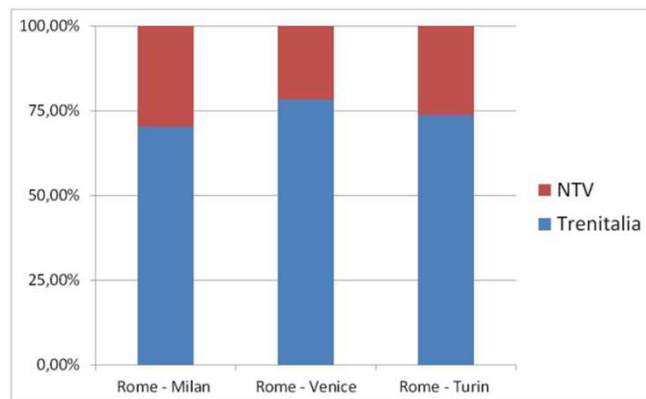
Italian high-speed competition

Italy is being seen as a test case for Europe. HS services in Italy are provided by **Trenitalia** (incumbent) and by **Nuovo Trasporto Viaggiatori** (new entrant), which started operation in April 2012.

The entry of a new railway operator in the high - speed market stimulated intra-modal competition regarding service level (notably quality of the service, fares and punctuality) but also inter-modal competition between rail and air.

See: Angela Stefania Bergantino, Claudia Capozza, and Mauro Capurso. L'effetto della liberalizzazione ferroviaria sulle politiche di prezzo delle compagnie aeree e ferroviarie. Evidenze preliminari sui principali collegamenti ad Alta Velocità in Italia. Rivista di Economia e Politica Dei Trasporti (2013), n° 3, articolo 6, ISSN 2282-6599 See: <http://www.openstarts.units.it/dspace/handle/10077/9565> for the analysis

Market shares on selected routes



Source: Own calculations based on services frequency.





The 4th Railway Package

Builds on previous legislation (Directive 2012/34/EU – the recast – and Regulation (EC) No 1370/2007)

Objectives – supporting White Paper agenda (increased market share for public transport)

- **A more competitive and innovative EU rail market**
- **Introduction of greater competition “in” and “for” the market**
- **A level playing field through independence of infrastructure management**
- **Simplification of vehicle authorisation – ERA to become a “one stop shop”**

Four main elements

- **Rail safety/Interoperability**
- **Market opening**
- **Unbundling**
- **Development and protection of the workforce**



Concluding remarks

EC has been trying to liberalise the market for passenger rail since 1991: Conclusion: like the labours of Sisyphus it has been difficult to achieve the desired turn around in rail markets overall. However, progress is now being made.

Interoperability: the free movement of train services in a single market for rail transport can assist. It is achieved through the TSIs – all complete and many already having effects – which sets the minimum required standards by replacing many differing national technical rules with fewer harmonised European rules.

“In-market” competition has emerged in 6 member states. Early results indicating that such competition can be beneficial; growing markets and addressing cost issues. There is evidence from the UK that new entrants restrain “monopoly profits” of the main operator. However, small new entrants with open access rights tend to get swallowed up by the larger groups. In Europe former incumbents fighting in each others markets.

The 4RP offers the possibility, if agreed, of enhancing the opportunities for access (domestic passenger markets). Freight market opening in Europe would suggest that once clear access rights have been established significant market entry is likely to follow.



Thank you for your attention. Any questions?

