The 2012 European Railway Performance Index (RPI)

Boston Consulting Group
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What was before the RPI?

- A lot of data on many aspects of performance; no harmonization

- Performance as seen by the TOCs, infrastructure operators, regulators, ministries

- Some indicators are linked to service level agreements, concessions, or financing instruments

- …. or very sophisticated models without data to fill them

Ding et al., 2008

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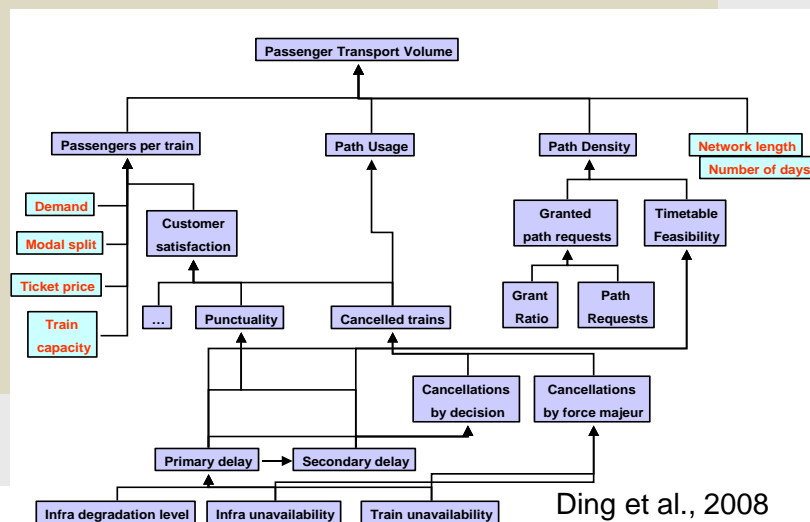
What is the RPI all about?

- A <u>comprehensive</u> view on performance:
  - assett utilization
  - quality of service
  - safety

- A <u>national</u> perspective aimed at measuring the performance of a national railway system

- A <u>policy-oriented</u> index

- An attempt to link the performance of a national railway system to … (so-called performance <u>drivers</u>)
  - its financing (e.g., public cost)
  - its degree of liberalization
  - its governance model

How to measure performance?
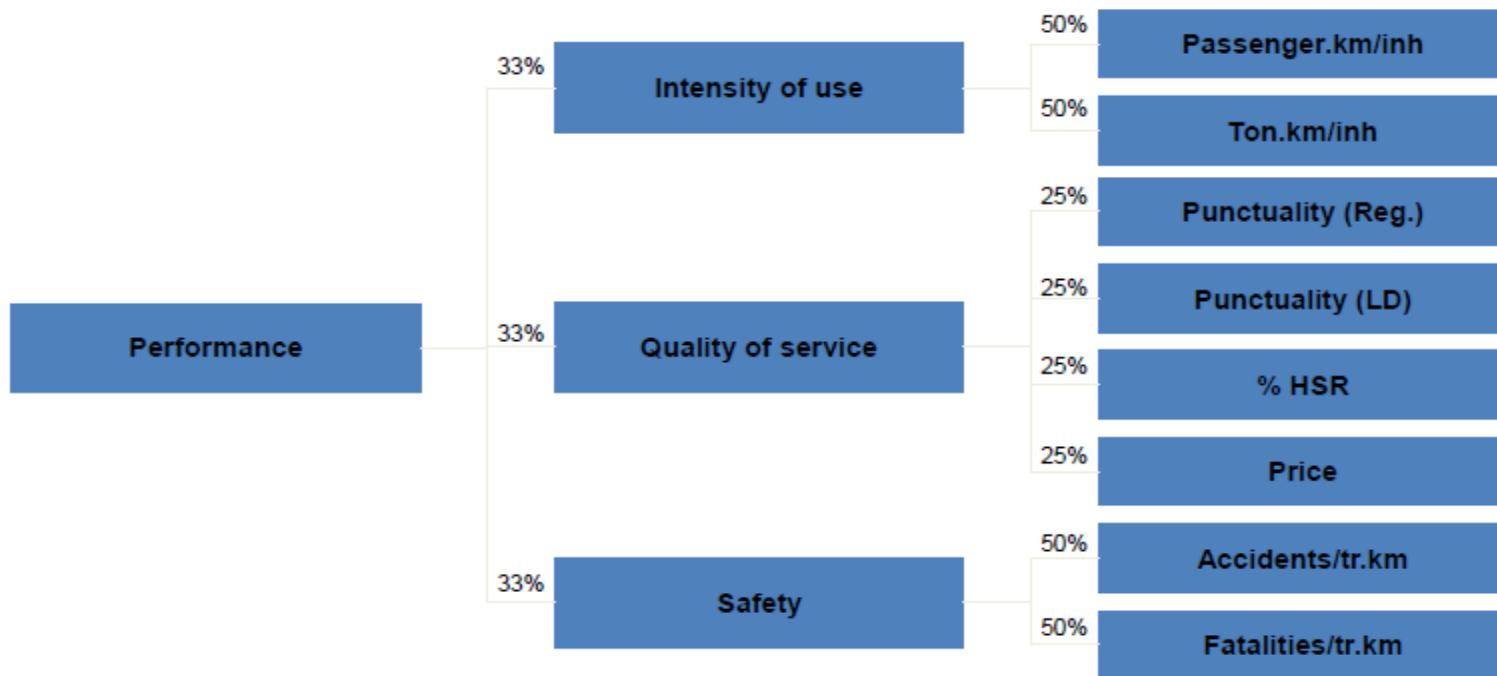
Passenger.km/inh: The number of passengers multiplied by the number of kilometers traveled. divided by the country's population
Ton.km/inh: Tons of goods multiplied by the number of kilometers traveled, divided by the country's population
Punctuality (Reg.): Punctuality of regional trains, computed as percentage of regional trains with less than a five-minute delay
Punctuality (LD): Punctuality of long-distance trains, computed as a percentage of long-distance trains with less than a 15-minute delay
%HSR: Percentage of "high-speed rail," computed as HSR's share of long-distance traffic (measured in passenger.km)
Price: Average fare, measured in euros per passenger.km
Tr.km: The number of trains multiplied by the number of kilometers travelled
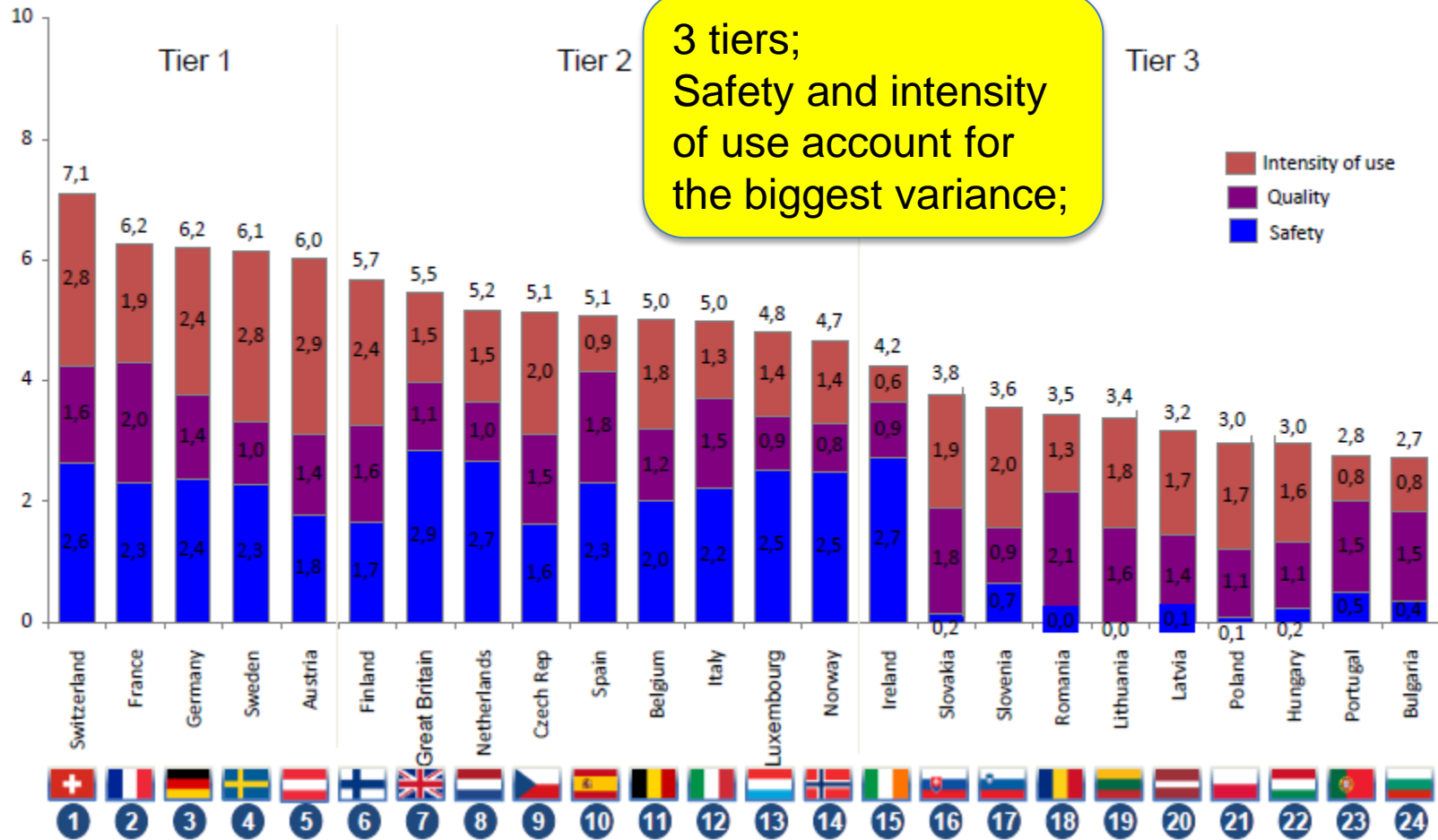
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Limitations of the RPI

- <u>Passenger rail </u>is over-weighted relative to freight, because punctuality is only measured in passenger transport

- <u>Big countries </u>(size) are favoured relative to small countries, because of the share of high-speed travellers

- Data stem from the International Union of Railways (IUC): not enough data for DK, EE, GR

Ranking rail performance

Performance

Tier 1 — Switzerland 7,1; France 6,2; Germany 6,2; Sweden 6,1; Austria 6,0

Tier 2 — Finland 5,7; Great Britain 5,5; Netherlands 5,2; Czech Rep 5,1; Spain 5,1; Belgium 5,0; Italy 5,0; Luxembourg 4,8; Norway 4,7

Tier 3 — Ireland 4,2; Slovakia 3,8; Slovenia 3,6; Romania 3,5; Lithuania 3,4; Latvia 3,2; Poland 3,0; Hungary 3,0; Portugal 2,8; Bulgaria 2,7

3 tiers;
Safety and intensity of use account for the biggest variance;

Legend:
- Intensity of use
- Quality
- Safety

| Country	Safety	Quality	Intensity of use	Total
1 Switzerland	2,6	1,6	2,8	7,1
2 France	2,3	2,0	1,9	6,2
3 Germany	2,4	1,4	2,4	6,2
4 Sweden	2,3	1,0	2,8	6,1
5 Austria	1,8	1,4	2,9	6,0
6 Finland	1,7	1,6	2,4	5,7
7 Great Britain	2,9	1,1	1,5	5,5
8 Netherlands	2,7	1,0	1,5	5,2
9 Czech Rep	1,6	1,5	2,0	5,1
10 Spain	2,3	1,8	0,9	5,1
11 Belgium	2,0	1,2	1,8	5,0
12 Italy	2,2	1,5	1,3	5,0
13 Luxembourg	2,5	0,9	1,4	4,8
14 Norway	2,5	0,8	1,4	4,7
15 Ireland	2,7	0,9	0,6	4,2
16 Slovakia	0,2	1,8	1,9	3,8
17 Slovenia	0,7	0,9	2,0	3,6
18 Romania	0,0	2,1	1,3	3,5
19 Lithuania	0,0	1,6	1,8	3,4
20 Latvia	0,1	1,4	1,7	3,2
21 Poland	0,1	1,1	1,7	3,0
22 Hungary	0,2	1,1	1,6	3,0
23 Portugal	0,5	1,5	0,8	2,8
24 Bulgaria	0,4	1,5	0,8	2,7

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Driver: **public cost**

Performance

Performance correlates with <u>public cost</u>:
- public contribution (recurring subsidies for operations and infra maintenance
- public investments (6yr annual average)
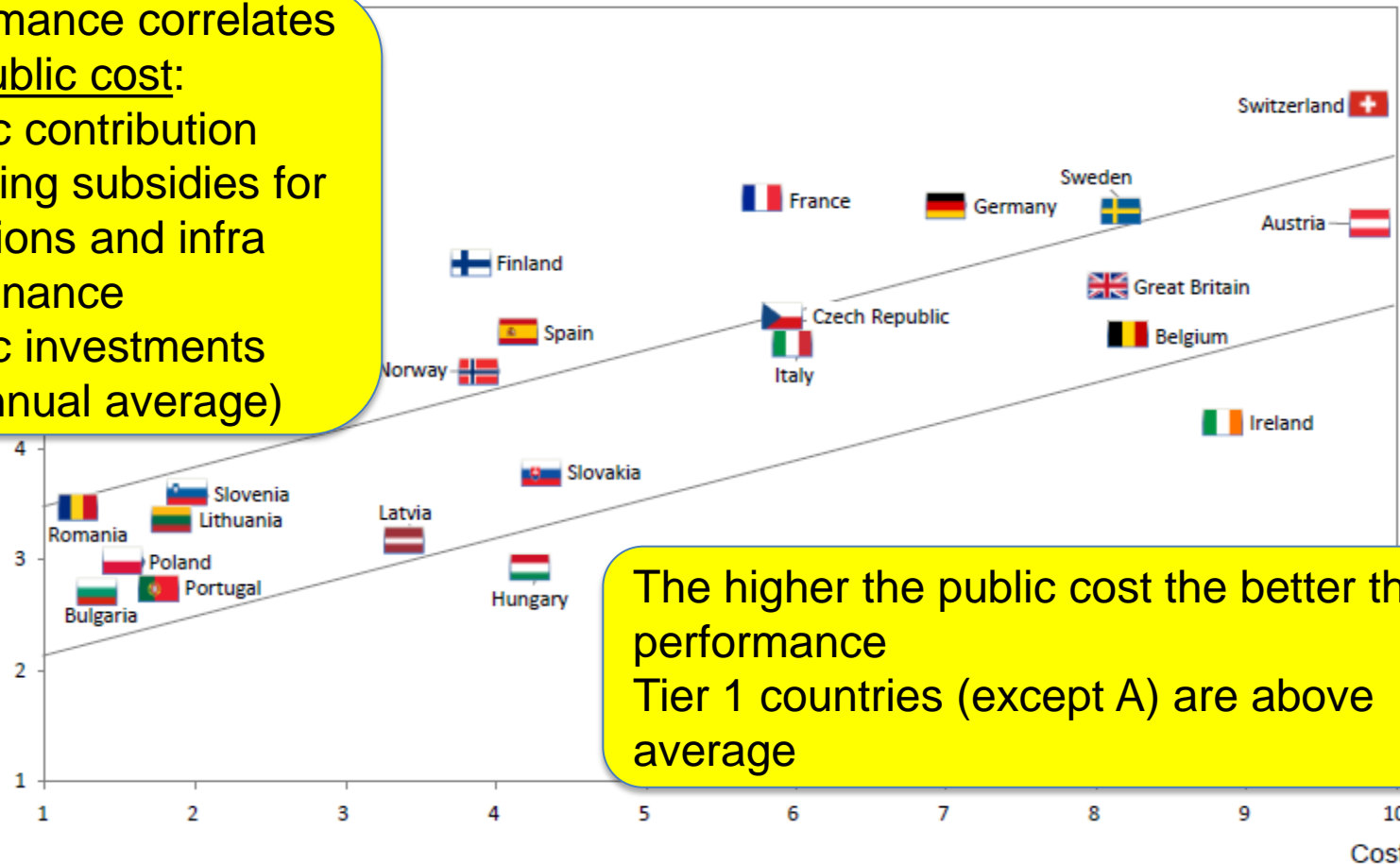
The higher the public cost the better the performance
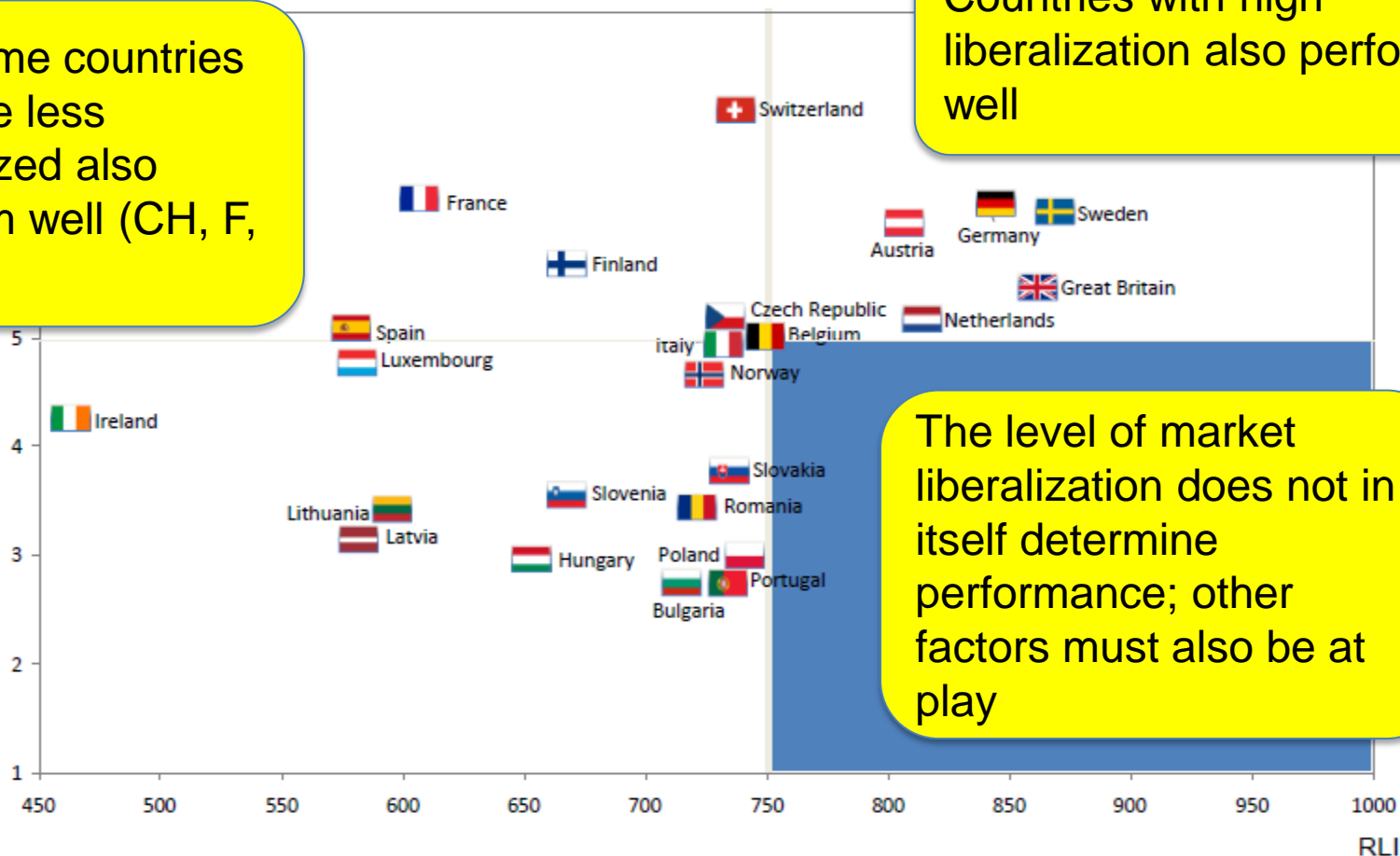Tier 1 countries (except A) are above average

Driver: liberalization

But some countries that are less liberalized also perform well (CH, F, SF)

Countries with high liberalization also perform well

The level of market liberalization does not in itself determine performance; other factors must also be at play

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Driver: governance model

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