Rail regulation in Europe: an industry-based survey

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Summary

1. Literature review on the impact of reforms

2. Regulation in railways

3. Measuring (and improving) the regulation index

4. Questionnaire

5. Links between works and future research

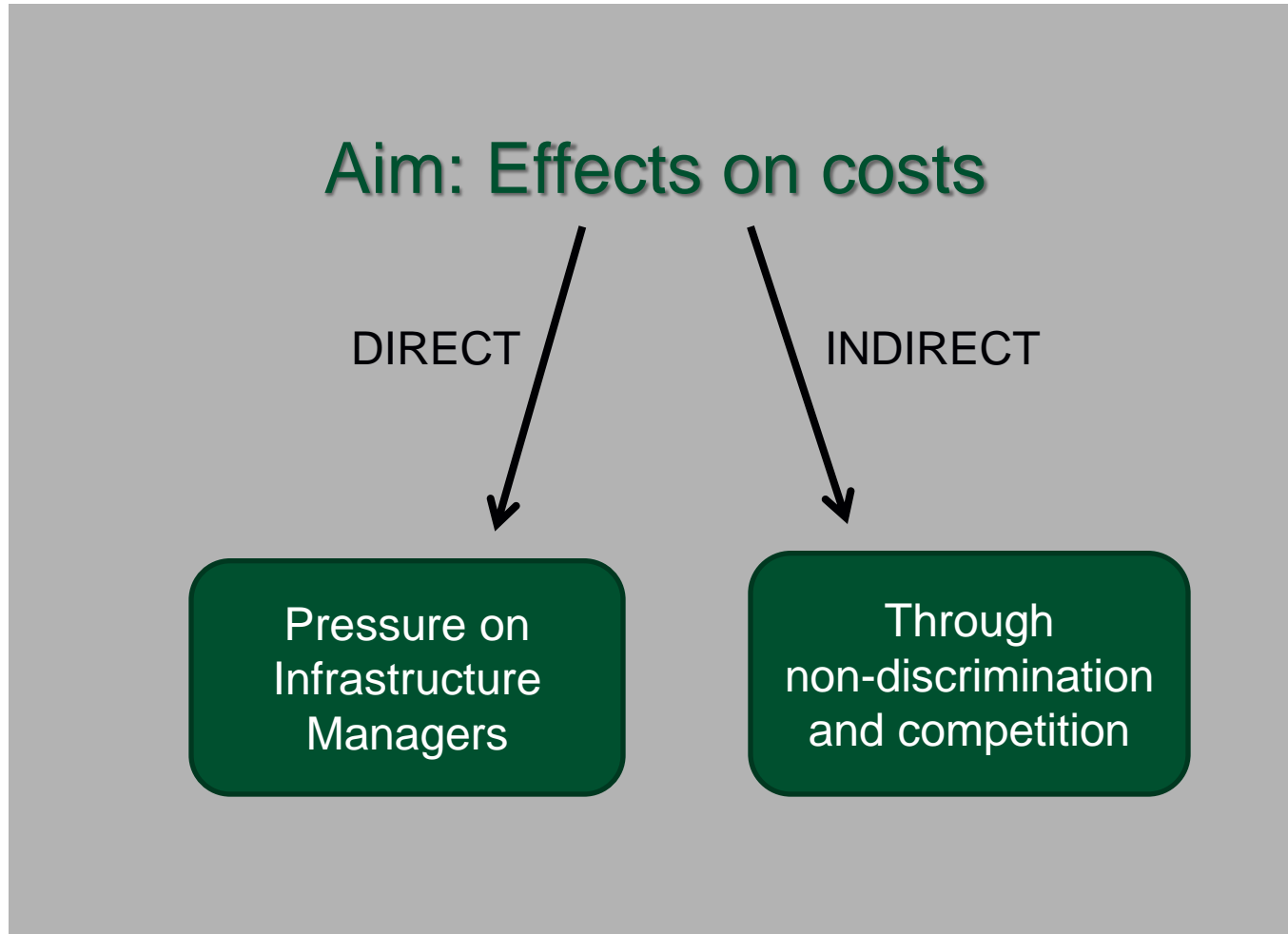# 1. Literature overview: impacts of reforms

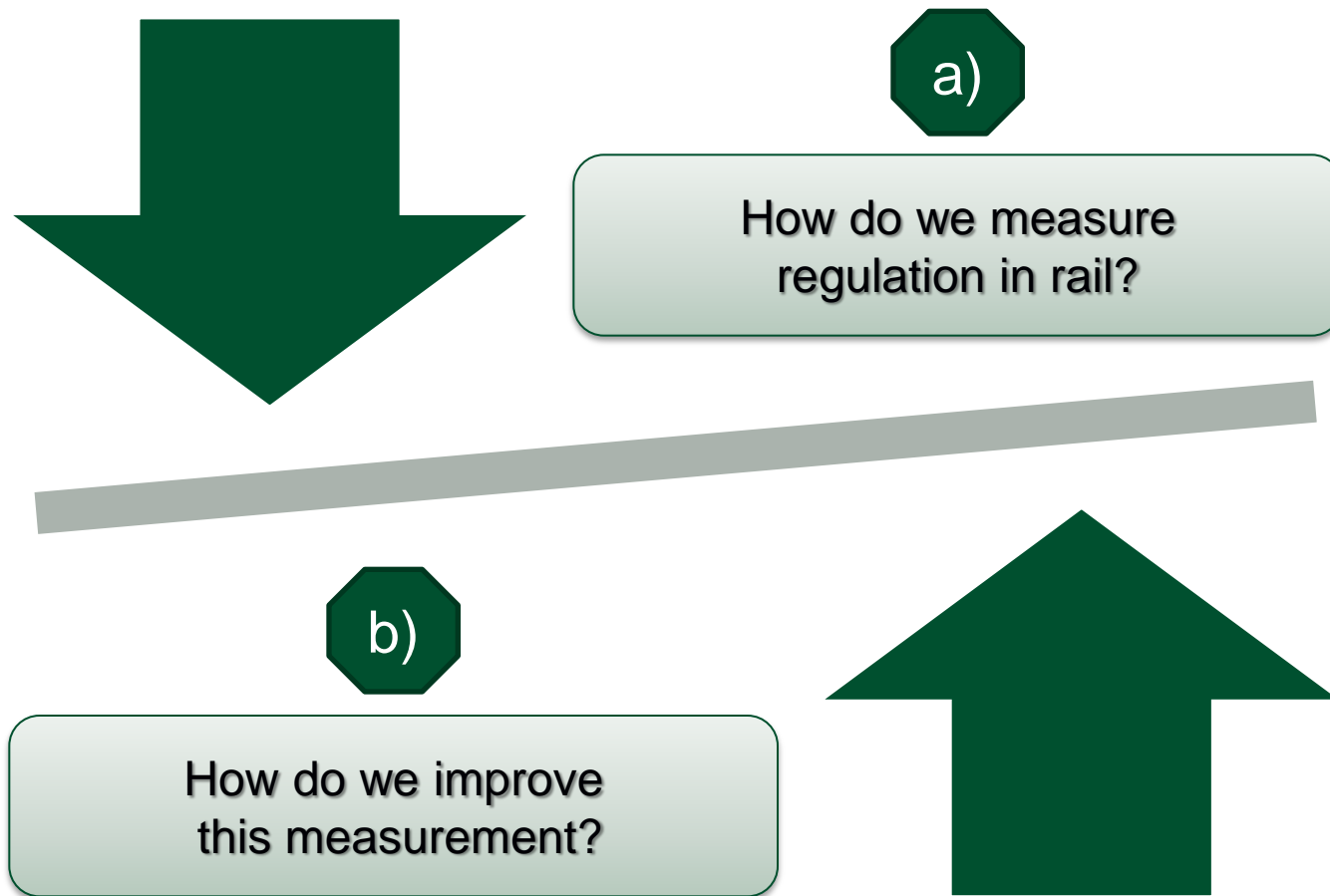| Paper	Vertical separation	Horizontal separation	Competition	Independent regulator
Mizutani and Uranishi (2013)	Positive with low train density	Positive		
Wetzel (2008)			Positive for domestic freight. Negative for international and domestic passenger services	Positive
Cantos et al. (2011)	Positive with horizontal separation (low influence)	Positive with vertical separation	Positive for passenger and freight services (high influence)	
Growitsch and Wetzel (2009)	Negative for most countries analysed			
Cantos et al. (2010)	Positive with openness of freight market and horizontal separation	Positive with vertical separation (high influence)	Positive for freight market with vertical separation	
Friebel et al. (2010)	Positive (if full package implemented gradually)	Positive (if full package implemented gradually)	Positive (if full package implemented gradually)	Positive (if full package implemented gradually)
Jensen and Stelling (2007)	Negative		Positive	
van de Velde et al. (2012)	Positive with low train density and freight traffic's share	Positive	Insignificant	

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Aim: Effects on costs

DIRECT

INDIRECT

Pressure on Infrastructure Managers

Through non-discrimination and competition

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> **IBM reports: overview on rail liberalisation processes across Europe**

Macro-areas

1. **Legislative transposition of E.U. directives and regulations** →

2. **Effective implementation of these policies** →

3. **Competitive characteristics of the market** →

Selected drivers

1a. General aspects of regulatory body

1b. Object of regulation

1c. Authority's powers

2a. Licensing

2b. Safety certificates

2c. Homologation of vehicles

2d. Train path access conditions

2e. Infrastructure charging system

3a. Volume of accessible market for RUs in specific segments

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Is the regulatory index **capturing all the relevant themes**? Can it be **improved**?
→ Which are the characteristics of an **ideal rail regulator**?
→ **8 key areas** found in literature

I.   Positioning in the market

II.   Stability and predictability

III.   Non-discrimination

IV.   Distinct responsibilities

V.   Human and financial resources

VI.   Transparency

VII.   Pro-activity and effectiveness

VIII. System efficiency

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- This process has led to the formalisation of a **questionnaire** on the ideal rail regulator characteristics in order to assess the **current European scenarios** in this field

- Two versions of this questionnaire:

a) **For regulators**

b) **For infrastructure managers and railway undertakings**

- Responses collected from **14 countries**

- Specifically, **12 regulators** and **6** between **infrastructure managers and railway undertakings** have participated

- Response rate: **50%**

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10 out of 12 REGs with more than 5 years of experience

Fixed-term contract in 9 countries (out of 12), with average duration of 5 years

No discrimination issues according to IMs and RUs

No collusive relationship between RUS and REGs in 5 countries (out of 6)

6 countries out of 12: 100% direct awards for PSC

On average 5 members in the boards, chosen by GOVT in 8 countries (out of 12)

REGs prompt when need arises (4 countries out of 6)

All IMs and RUs deny GOVT influence over REGs

Only in 4 countries (out of 12) open access actually happens for non-PSC

No REG needs to take into account GOVT guidance

But 8 REGs receive less than 5 complaints per year (on average)

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4b. Questionnaire results: main findings

261.8 employees (FTE) work for economic regulation, more than doubled compared with 2006

REGs processes and decisions are transparent

5 REGs out of 12 approve all track access charging schemes

Only 4 REGs (out of 12) monitor and enforce quality and efficiency of IMs

But only 4 REGs (out of 12) have more than 10 employees

Only 2 REGs out of 6 produce an annual report

Decisions are legally binding for all REGs

Only 3 REGs can require data on efficiency and quality of service

Financial resources for 2 REGs (out of 12) are not considered sufficient

Penalties are imposed by 9 REGs (out of 12)

In only 2 countries REGs regulate the performance and efficiency of IMs

5a. Links between works: main econometric results

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$$Total\ Rail\ Industry\ Cost =$$
$$Function\ (Outputs;\ Outputs\ Hedonic\ Characteristics;$$
$$Input\ Prices;\ Control\ Variables;\ Policy\ Variables)$$

Variables	Coefficients	Standard errors
Labour	0.3296***	0.0082
Energy	0.0433***	0.0028
Material	0.2618***	0.0072
Capital	0.3653***	0.0079
Passenger output	0.3516***	0.0741
Freight output	0.2567***	0.0549
Network length	0.4663***	0.0936
Electrification	0.4665***	0.0873
Vertical separation	-0.0169	0.0932
Vertical integration	0.0635	0.0411
Horizontal separation	-0.3041***	0.0617
Regulation index	0.0741	0.0527
Passenger competition	-0.0684***	0.0210
Freight competition	0.0584*	0.0336
Regulation index * Vertical separation	-0.2143**	0.1041
Density * Vertical separation	0.3258**	0.1469

- Regulation has impact when associated with vertical separation
- With vertical separation, regulators can monitor network managers (direct effects) and improve efficiency
- Regulation may be more ineffective with more integrated models
- Effects of regulation may be diluted when competition is included (indirect effects)
- Modest role played by freight competition
- Density is a critical factor

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Quantity
- New operators
- Governments

Quality
- New key areas
- New drivers

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Thank you

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