Institute for Transport Studies
FACULTY OF ENVIRONMENT

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Measuring the market and its regulation: what do we need to know? Assessing the Efficiency of IMs

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Introduction

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- Focus on one of the main tasks of economic regulators – ensuring that regulated firms are efficient
- In rail, the British Office of Rail Regulation (ORR) has undertaken many studies
- EU legislation:
  - Financial equilibrium of the IM (regulation; multi-annual contract) plus pressure for cost reductions
  - Independent rail regulators set up
- Focus of this presentation – **how can we measure whether firms are efficient?**

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The background

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- Assessment of whether rail infrastructure costs are efficient has been a major issue in Britain

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Rail infrastructure costs in Britain

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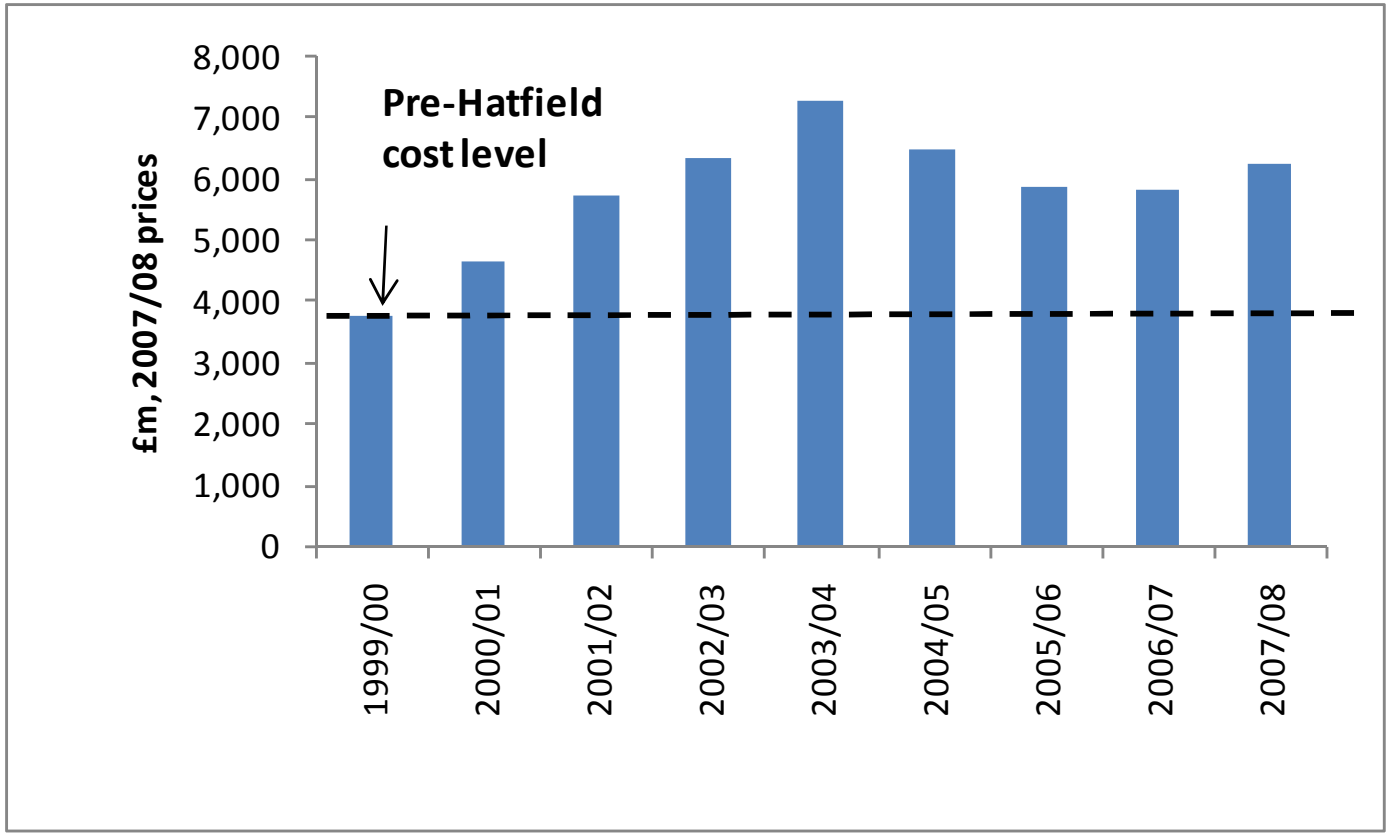

- Cost per train-km increase of 87% by the peak in 2003/04
- Unit costs in 2007/08 still 55% above pre-Hatfield peak

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Relationship between government and regulator: rail

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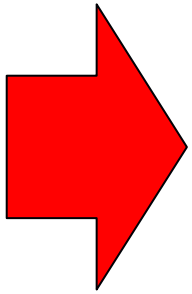
High level output specification (HLOS)

Statement of funds available (SOFA)



ORR costs the HLOS

Efficient costs

Regulatory RPI-X process

Transparent

Government cannot set both price and quantity

If cost is greater than SOFA, government must specify reduced outputs – cut services

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Efficiency assessment

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- You don’t know efficient level of costs
- How can you find out?

  - Trends in economy-wide productivity
  - Historic trends within the company
  - Other utilities (unit cost trends)
  - Other regulated firms in the same industry
  - International benchmarking
  - Internal benchmarks within the company
  - Bottom-up reviews (consultant; company)

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- **Internal benchmarks within the company**
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International benchmarking study: national data

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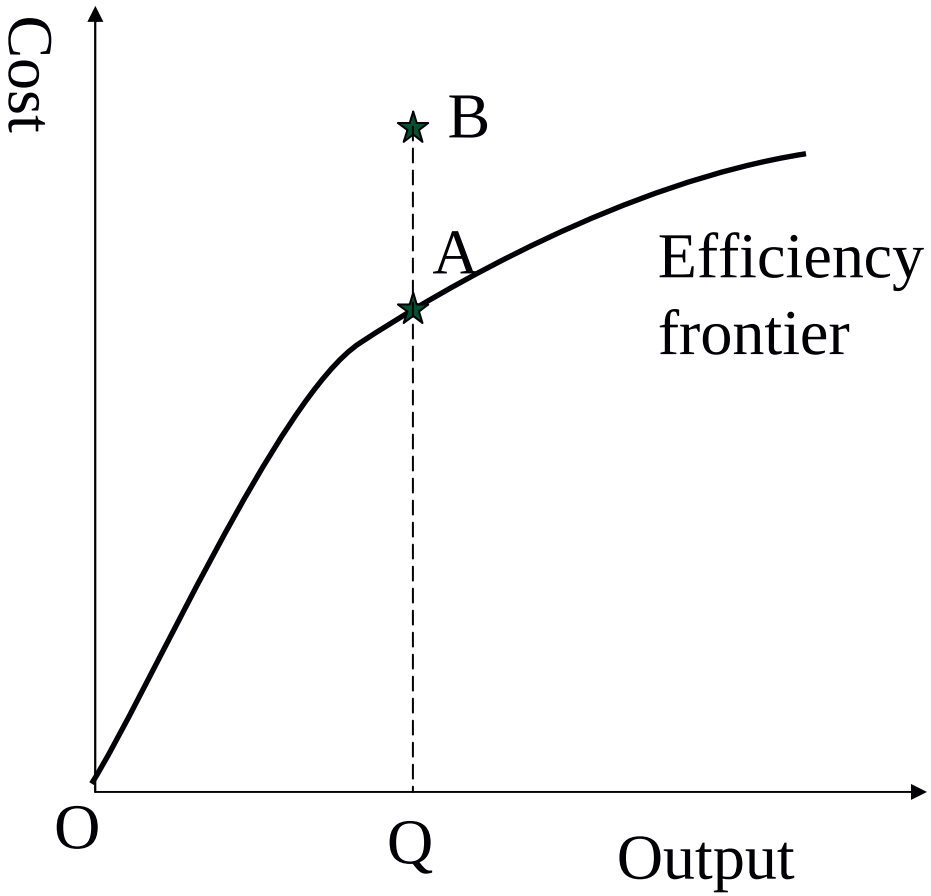
- Sample: 13 European IMs over 11 years (1996 to 2006)
- **Data: UIC Lasting Infrastructure Cost Benchmarking data**
- Aim: explain costs in terms of a set of explanatory factors, e.g.
  - Network size; traffic density and type; other characteristics (electrification; multiple track); potentially, others…
- Having accounted for these factors, and random noise, assess **relative efficiency**



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Efficiency estimates for NR

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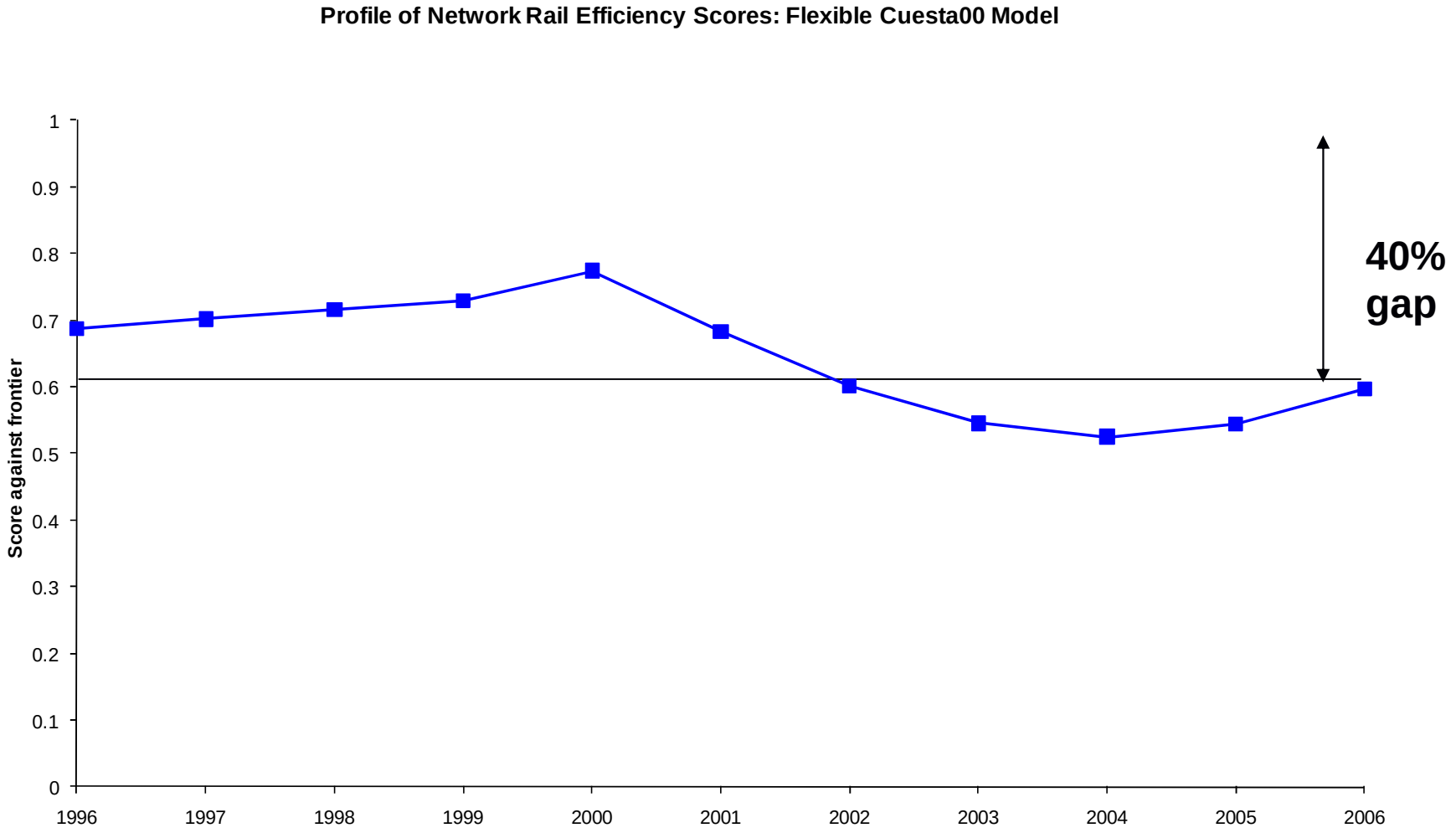

Implies a gap against the frontier of 40% in 2006

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International regional benchmarking study: illustrative outputs

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OE = IE x EE

Overall efficiency (OE)
Internal efficiency (IE)
External efficiency (EE)

See Smith and Wheat (2009)

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Some issues

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- Data definitions
- Taking account of differences in price of inputs (e.g. Labour)
- Potential omitted variables
- Under or over-renewal?
- Ultimately some uncertainty – but regulators and companies in Britain use wide range of other studies as well
- The approach can be improved over time and with more countries

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Conclusions

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- Technical methods exist for assessing efficient costs in rail
- Internal and international benchmarking the most applicable
- Challenge is to enhance modelling of heterogeneity
- And possible under / over-investment is a key issue
- Strong interest – so scope for international collaboration
- Developing benchmarking takes time and commitment over time
- Scope to understand performance gaps and the reasons why
- Benefits to companies taking the initiative

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