

# Competition and Regulation in Railways

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d'Economia  
de Barcelona

## *The Potential Impact of Open-Access on Prices and Investment The Case of the U.S. Rail Freight Industry*

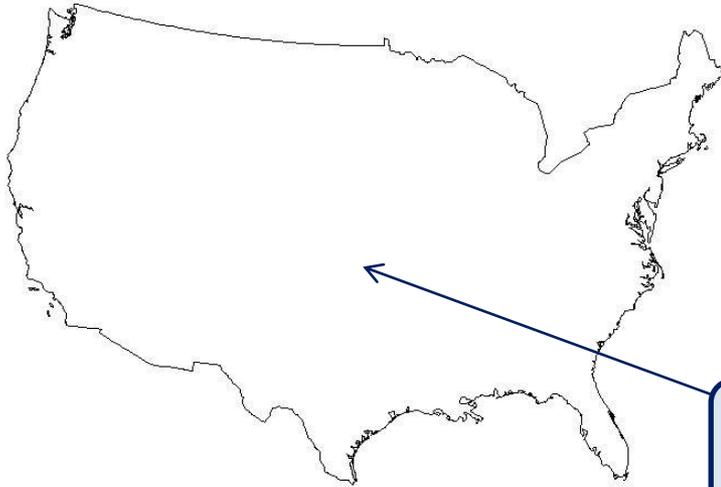
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**Paper discussion by Javier Campos (ULPGC)**

# A different context for rail transport...



**OPEN ACCESS  
to infrastructure**

## The US

A single concentrated market

2,469 billion ton-km

9,165 ton-km per capita

Rail freight share: 42% (2010)

7 large private companies

vertically integrated + competitive fringe

Competition *in the market*  
with regulated access fees

## The EU

A single market (really?)

277 billion ton-km

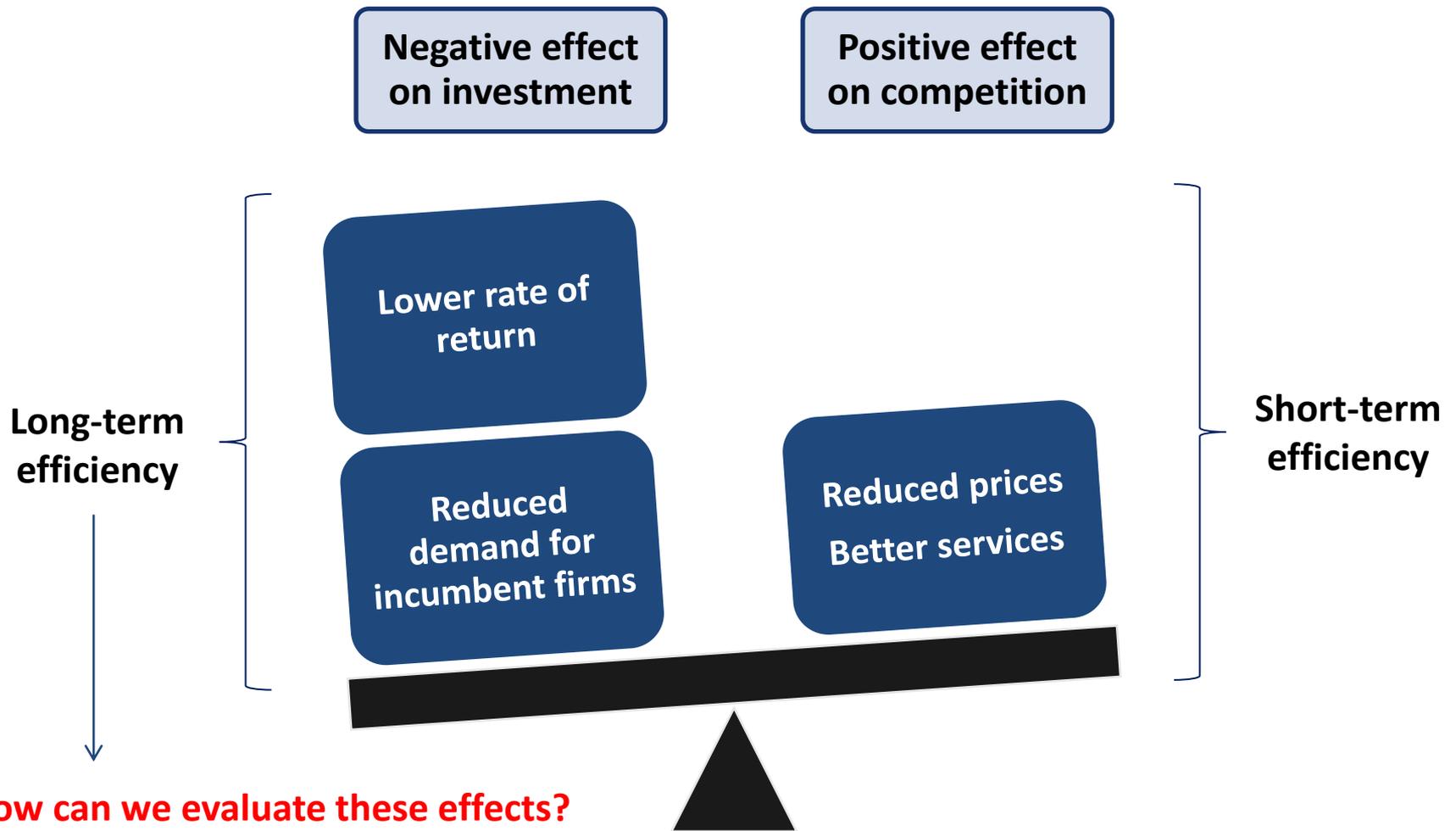
782 ton-km per capita

Rail freight share: 18% (2008)

30+ large and small companies

(mostly) vertically disintegrated and (many) government-owned

# The (potential) impact of open access



# The proposed methodology

## Demand equation

Panel model from nested *logit*

$$\textcircled{1} \left[ \begin{array}{c} \text{Change} \\ \text{in market} \\ \text{share} \end{array} \right]_{jt} = f \left[ \begin{array}{c} \text{Prices} \\ \text{Investment} \\ \text{Attrition effects} \\ \text{Technical change} \\ \text{Cost shifters} \\ \text{instruments} \end{array} \right]_{jt}$$

$\textcircled{2}$  Simulation of  
Profits in t+1, t+2,...

## Investment equation

Dynamic inventory model

$$\left[ \begin{array}{c} \text{Investment} \\ \text{in } t \end{array} \right]_{jt} = f \left[ \begin{array}{c} \text{Profits in } t+1, t+2, \dots \\ \text{Prices} \\ \text{Number of firms} \\ \text{Haul length} \end{array} \right]_{jt}$$

$\textcircled{4}$  [Contrafactual simulation]  
Impact of open access on  
investment and prices

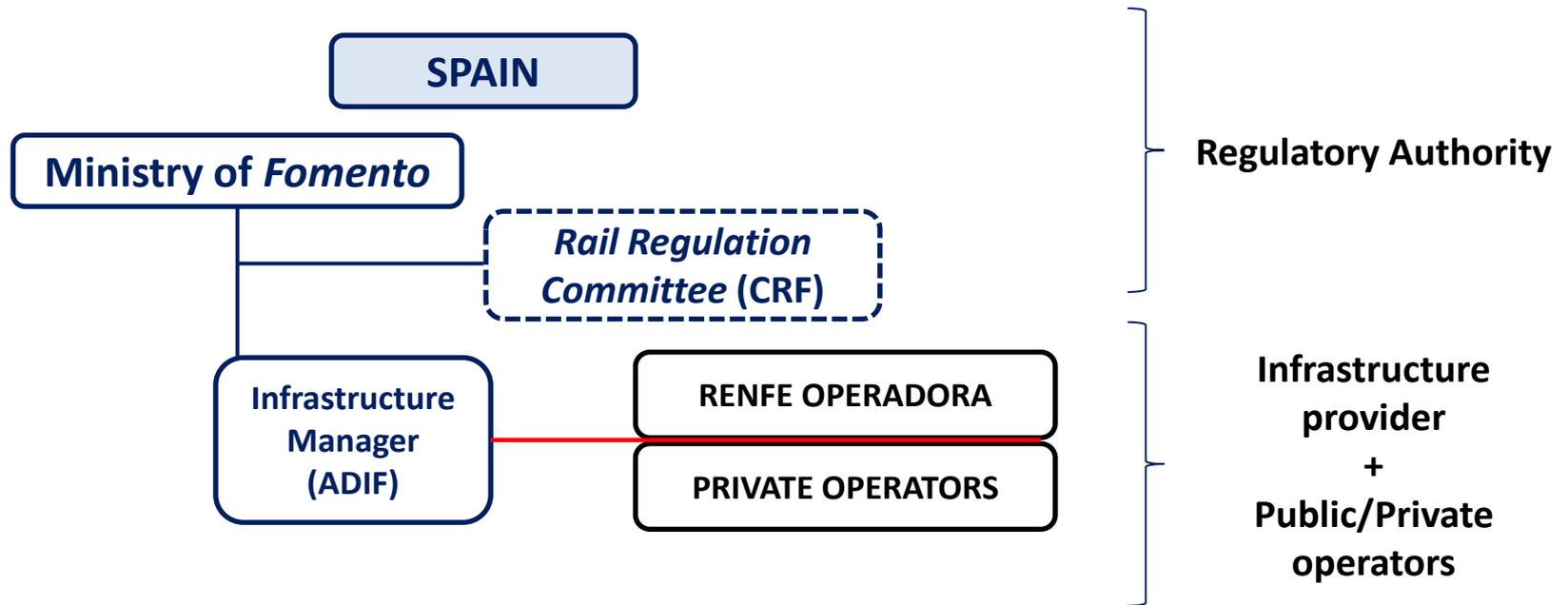
# Data and results

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- A few issues on the dataset...
  - $j$ : 42 Class I railroads  $\rightarrow$  merge into 7;  $t = 1986-2006$
  - Aggregated Prices, calculated considering freight as homogeneous. If a Class I railroad specializes on a particular traffic, prices could play a differentiation role after open access...
  - Capital stock estimation depends some arbitrary assumptions. Is it feasible a sensitivity analysis?
- Interesting results, but...
  - Prices decrease  $\rightarrow$  Investment decreases
  - Limited definition of open access: Burlington Northern and Union Pacific... and the others?
  - Constant marginal cost assumption (economies of density?)
  - Limited role of access charges to affect investment

# Can we replicate the analysis in EU? (1/2)

- A vertically disintegrated context... (e.g., Spain)



- ...and 27 different national approaches...



# Can we replicate the analysis in EU? (2/2)

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- The **demand side** of the model can be possibly adapted to the European reality:

$$\left( \begin{array}{c} \text{Shares (in} \\ \text{a potential} \\ \text{EU market)} \end{array} \right)_{jt} = f \left( \begin{array}{c} \text{Prices} \\ \text{Investment} \\ \text{Technical change} \\ \text{Cost shifters} \\ \text{National characteristics} \end{array} \right)_{jt}$$

- But **investment decisions** are hardly endogenous when made by separate infrastructure managers...
  - Investment decisions may be affected by political & social reasons
  - Regulated access fees differ (not always marginal cost)
  - Lower relevance of freight transport; not a (real) high priority in EU today as compared to passenger services (HST).

**Will the results in Europe be the same?**

# A final summary

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1. Complex (highly technical)...but on a **very relevant issue**: the measurement of the impact of open access in rail markets.
2. Proposed **methodology** (estimation + simulation) is adequate, but some assumptions could be seen as slightly arbitrary.
3. Provides useful insights on **one** of the potential effects of open-access: **a negative effect on investment incentives** (firms = 😊), but does not fully measure the (positive?) effects from enhanced competition (shippers = ☹️).
4. Very difficult to translate to the **European context** due to: (1) vertical disintegration and (2) national boundaries. Investment policy by public-sector infrastructure managers may be different...

Thank You!