The Contribution of Transport Infrastructure Plans to European Integration (cross-border integration)

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Content

- Concept of *spillover* effects
- Cross-border integration: Key EU issue
- Methodological Framework- accessibility indicator
- Case study: *Spanish Infrastructure Master Plan*
  2005-2020 → impacts on Portugal and France
- Conclusions
**Concept of spillover effects**

- **Network effects**
  
  *contribution of a certain infrastructure improvement to the transport network as a whole:*
  
  - network integration — network efficiency

- **Spillover effects**
  
  *distributive impacts: distribution among regions or groups or individuals*
  
  - Transfer of costs / benefits

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**Cross-border integration: key EU issue**

  
  - EU will need to focus its co-financing from the Trans-European Networks budget on **critical border-crossing sections**…..
  
  - EU funds will be concentrate on those projects which offer the greatest **added value** for Europe.

  - To measure **spillover** effects serves to quantify:
    
    - effects generated out of national (state) territory
    
    - European **added value** = contribution to European integration

  - From a financing point of view:
    
    - To apply for European **Cohesion** Funds
    
    - To identify priority projects contributing to **Trans-European Networks (TEN-T)**
Methodological Framework: Accessibility

- **Accessibility indicator** – wide potential in strategic transport planning

\[
E_i = \sum_j \frac{I_{ij} \cdot P_j}{\sum_j P_j}
\]

**Network Efficiency Indicator**

Methodological Framework: Accessibility

Using the **Network Efficiency Indicator** we built:

**The Cross-Border Integration Index**

\[
CB_s = \frac{\left| \sum_i E_i \frac{P_i}{\sum_i P_i} - \sum_i \frac{P_i}{\sum_i P_i} \right| \cdot 100}{\sum_i E_i \frac{P_i}{\sum_i P_i}}
\]

It measures changes en NEI between:
- DO NOTHING scenario (0)
- PLAN scenario (S)

**Process:**
1. Study Area zones nodes centroids
2. GIS attributes networks Socio-economic
3. Accessibility travel time NEI scenarios CBI index
Impacts of Spanish Master Infrastructure Plan 2005-20
on Portugal and France

Design to provide higher accessibility levels:
inside Spain and inside EU
5,000 km of High Capacity Roads → €32 billion
6,000 km of High Speed Rail lines → €83 billion

20-30% from EU funds
TEN-T
### Impacts of PEIT on Portugal and France - Road

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**Portuguese average**: 2.03  
**French average**: 1.48  
**Portuguese and French average (CBPEIT)**: 1.80  
**Spanish average**: 2.60

Road accessibility improvements induced by PEIT in Portugal and Southern French Regions are almost of the level of the effects in Spain.

### Impacts of PEIT on Portugal and France - Rail

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**Portuguese average**: 17.23  
**French average**: 23.57  
**Portuguese and French average (CBPEIT)**: 20.21  
**Spanish average**: 34.52

Rail accessibility improvements induced by PEIT in Portugal and Southern French Regions are almost of the level of the effects in Spain – and much higher than road.
Impacts of PEIT on Portugal

Impacts of PEIT on France
Conclusions

- **NEI** useful tool to measure cross-border integration provided by new infrastructures, and to deliver EU cohesion funds properly.

- In the case of Spain and PEIT, **road accessibility** improvements over Spanish cities are 2.6%, while 2% for Portuguese and 1.5% for Southern French ones.

- **Rail accessibility** increases 34% Spain, 17% in Portugal and 23% in South France.

- It is possible to deliver benefits abroad.

*Who should pay? Where the road/rail is built or those that receive the benefits?*

Conclusions

- **We do not know. It is a political decision**

  But...

- Accessibility **benefits** located **outside borders** of country/state should not be left out of planning process.

- Cross-border benefits could justify **co-financing schemes**, or the use of international grants.