

Regional unemployment and welfare effects of the EU transport policies: recent results from an applied general equilibrium model

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- ▶ Political concern here: possibly, higher transport costs induce undesirable unemployment effects in the peripheral areas of the EU
- ▶ Idea: to find a possibility to answer this question in the scope of a multiregional general equilibrium model

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- ▶ Inference method is comparative statics: a before-shock (benchmark) solution is compared to an after-shock (scenario) solution
- ▶ The basis for comparison is some generally understandable indicator, like GDP or real income

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- ▶ The regional system depends on data availability. In the largest version, we work with 1372 European regions + rest of the world
- ▶ Given the main task, do not need much sectoral detail. Assume only two sectors of economy: tradable and non-tradable (local) goods

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- ▶ These are hard to be specified for hundreds of regions.
- ▶ As shown by Blanchflower and Oswald (1994), an upward-sloping labour supply curve may be replaced by an empirical wage curve

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- ▶ After fixing benchmark prices, position parameter is calibrated such that benchmark regional unemployment rate (Eurostat) is reproduced

Firms technology

- ▶ Technology for production of local goods is Cobb-Douglas.
GDP is equal to primary factor income.

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- ▶ Price index is fixed to keep trade deficit constant in nominal terms

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- ▶ Price of labour ω_3 is calculated

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- ▶ Iteration until equilibrium condition for tradables market is achieved

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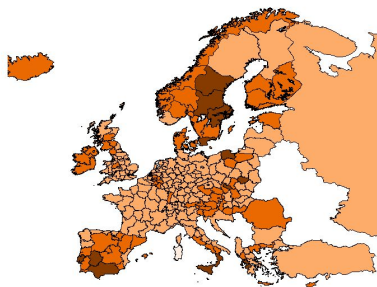
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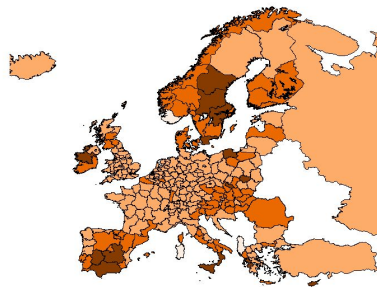
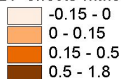
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- ▶ Distance and transport cost matrices are received from project partners

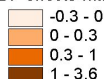
Modelling results: infrastructure scenario



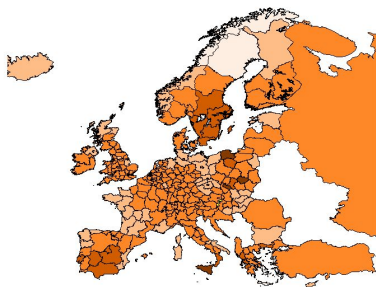
GDP effects without unemployment response, %



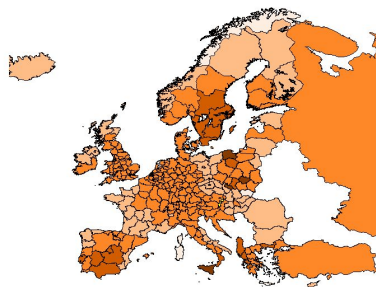
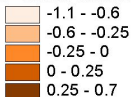
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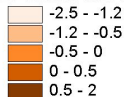
Modelling results: infrastructure and pricing scenario



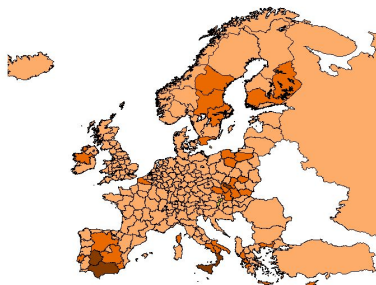
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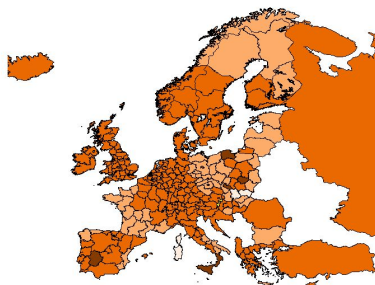
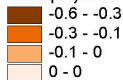
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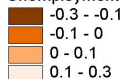
Modelling results: Unemployment rate response



Infrastructure scenario:
Unemployment response, %



Infrastructure and pricing scenario:
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- ▶ Allowing for certain degree of wage rigidity makes welfare and employment effects of transport policies stronger, both positive and negative
- ▶ The effects are not correlated with benchmark regional GDP and GDP per capita: no evidence for violation of cohesion course
- ▶ The effects on unemployment are moderate: mostly not larger than $\pm 0.5\%$

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4. Sensitivity and correlation analysis

Thank you for attention

Questions and comments are welcome