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New Horizons for Cities and Regions in a Changing World

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UNIVERSITATEA "ALEXANDRU IOAN CUZA" din IAȘI



The Importance of Transport Infrastructure Investments in EU's Low-income Regions: Empirical Evidences from Romanian Regions

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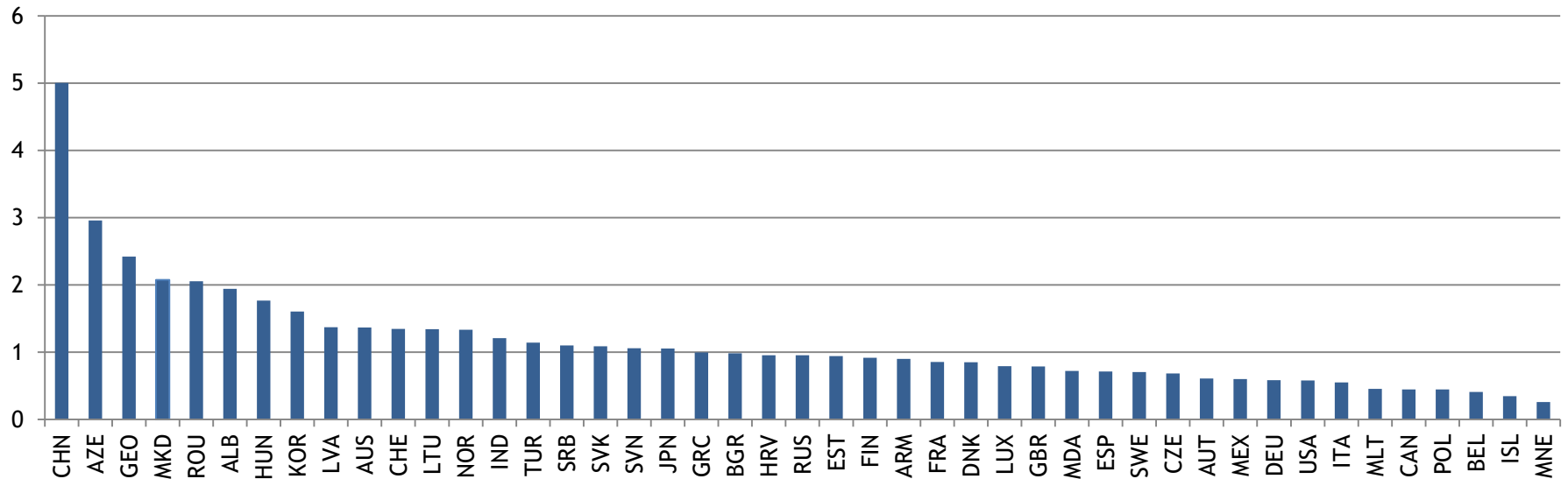
Context



Context and research questions

- Transport infrastructure investments absorb huge amounts of money -> their pressure is even more important in the case of developing countries

Inland transport infrastructure investment as percentage of GDP in 2014

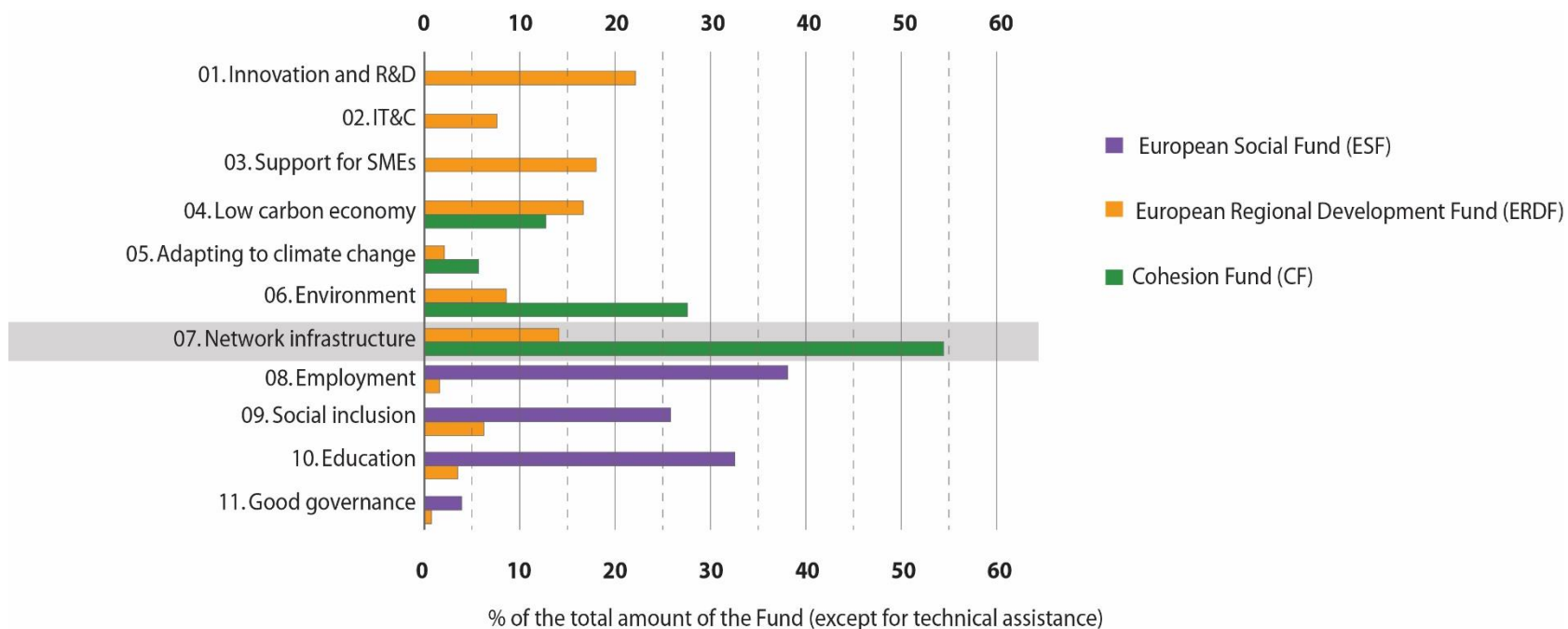


Data source: OECD (2018), Infrastructure investment (indicator). doi: 10.1787/b06ce3ad-en (Accessed on 14 November 2018)



Context and research questions

- More than half of the 2014-2020 Cohesion Fund is supposed to be invested in network infrastructures



Commission européenne (2014), « Investissement dans l'emploi et la croissance. La promotion du développement et de la bonne gouvernance dans les régions et villes de l'UE. Sixième rapport sur la cohésion économique, sociale et territoriale. », p. XXIII.



Context and research questions

Place-based (targeted) investments vs place-neutral investments

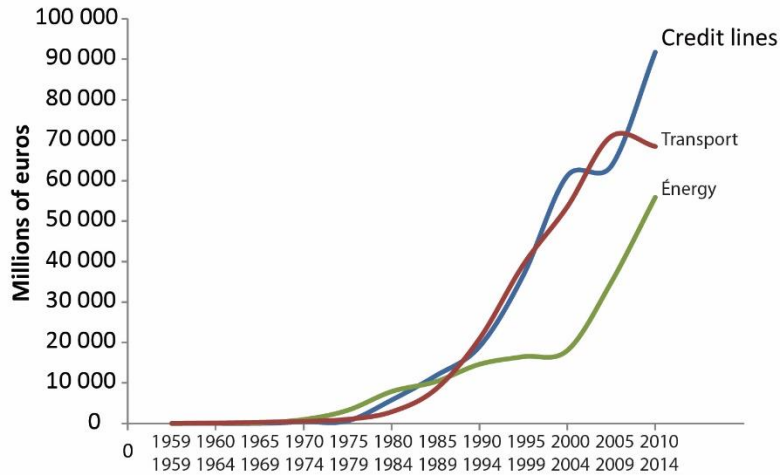
« One thing is common to the policy debates on urbanization, area development, and globalization. In their current form, they overemphasize geographic targeting—what to do in rural areas or in slums, what to do in lagging states or remote areas, and what to do in the most poor or landlocked countries. [...] The reality is that the interaction between leading and lagging places is the key to economic development. The reality is that spatially targeted interventions are just a small part of what governments can do to help places that are not doing well. The reality is that, besides place-based incentives, governments have far more potent instruments for integration. They can build institutions that unify all places and put in place infrastructure that connects some places to others. »

(Banque Mondiale, 2009, p. XXIII).

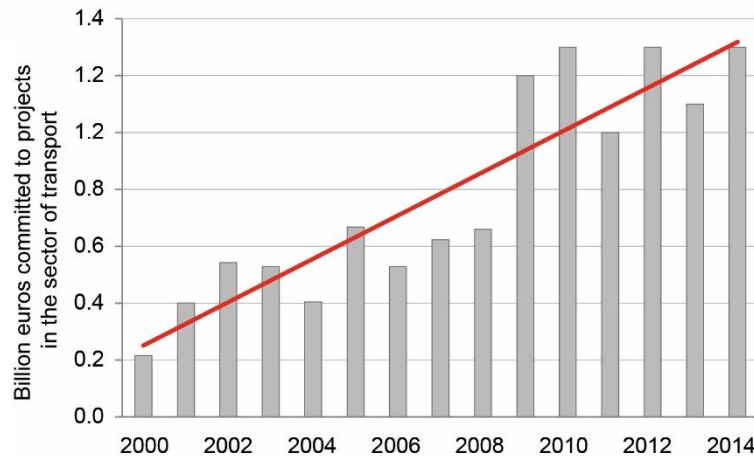
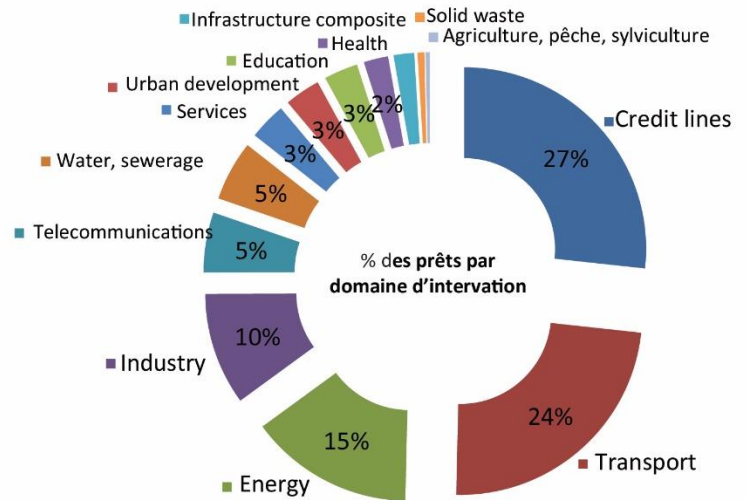


Context and research questions

A Evolution of loans offered by the European Investment Bank between 1959 and 2014



B Loans by sector of intervention (period taken into consideration: 1959-2015)



European Bank for Reconstruction and Development (EBRD)



Research questions

To what degree best connected regions perform better than the rest of the regions?

Does spatial accessibility/connectivity (which are the main products of the transport system) have the same importance for regional economic performance when we control for the human capital and the initial level of development of the region?

Methodology



A proxy for the importance of transport infrastructure investments?

Two main approaches in the literature:

1. Density approach

- Infrastructure endowment approach (eg. km of highways/100 kmsq; the changes that occur following some investments)

2. Network approach

- Functional approach (e.g. the cost or the time needed to reach a set of destinations; the changes that occur following some investments)



Which set of destinations?



Origin of Romanian imports in 2014



Destination of Romanian exports in 2014



Source of statistical data:
World Trade Organisation (2016)



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Potential accessibility to the EU27 by road, rail and air computed by Spiekerman and Wegener within the ESPON framework (data for 2001, 2006, 2011, 2014)



Dependant variable:

Growth rate in GDP/inh between 2000 and 2015

Independent variable

Potential accesibility by road to the EU market in 2001

Changes in potential accesibility by road to the EU market (2001-2014)

Potential accesibility by rail to the EU market

Changes in potential accesibility by rail to the EU market (2001-2014)

Potential accesibility by air to the EU market

Changes in potential accesibility by air to the EU market (2001-2014)

The initial level of the GDP/inh (2000)

Percentage of persons with tertiary education (2011)



Temporal scale of the analysis

- Broadly 2001 - 2015

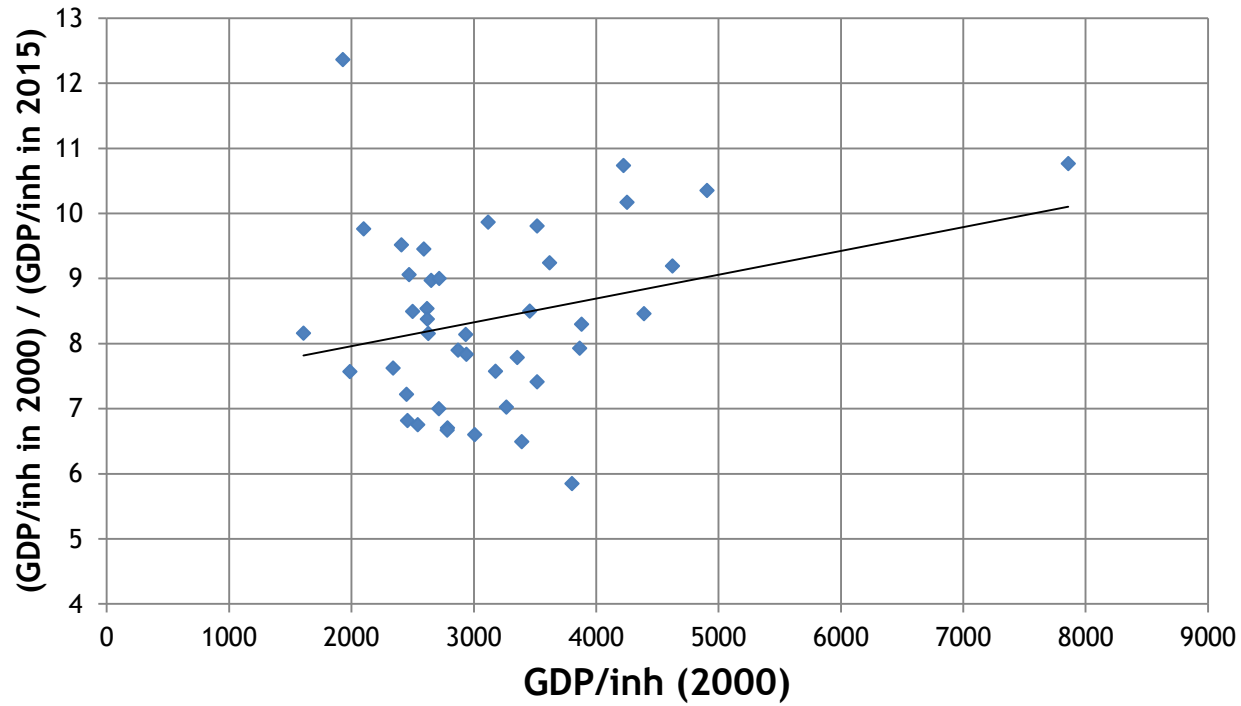
Spatial scale of analysis

- NUTS 3 (which means 42 administrative divisions in Romania)

Results



A divergence process (as in most eastern EU countries)



**Standardized coefficients (GDP_change_00-14):**

Source	Value	Standard error	t	Pr > t	Lower bound (90%)	Upper bound (90%)
GDP in 2000	-0.844	0.200	-4.217	0.000	-1.182	-0.506
Tertiary education_%	1.080	0.258	4.191	0.000	0.645	1.516
Highschool_%	-0.330	0.136	-2.422	0.021	-0.560	-0.100
Road_accessibility to the EU market in 2001	0.101	0.152	0.665	0.511	-0.156	0.359
Rail_accessibility to the EU market in 2001	-0.141	0.126	-1.118	0.271	-0.355	0.072
Air_accessibility to the EU market in 2001	0.565	0.158	3.565	0.001	0.297	0.833

Standardized coefficients (GDP/inh_change):

Source	Value	Standard error	t	Pr > t	Lower bound (90%)	Upper bound (90%)
GDP/inh (2000)	-0.568	0.375	-1.514	0.139	-1.200	0.065
Tertiary education_%	0.934	0.379	2.467	0.019	0.295	1.573
Road_relative change 2001-2014	0.018	0.190	0.097	0.923	-0.303	0.340
Rail_relative change 2001-2014	0.099	0.218	0.452	0.654	-0.270	0.467
Air_relative change 2001-2014	-0.145	0.171	-0.849	0.402	-0.433	0.143

Conclusion and implications for

European Cohesion Policy and the Future of European
Regional Policy



Conclusion

The model and the results are not yet robust, but preliminary results pinpoint to the fact that the quality of human resources (in this case education) explains better regional (NUTS3) economic performance than transport infrastructure (spatial accessibility to the EU market) **even in low-income countries from the eastern EU (whereas EU cohesion fund is mainly dedicated to investments in transport infrastructure)**



Thank you for your attention!

Any suggestions are wellcomed!