



Refinement of the OECD regional typology: Economic Performance of Remote Rural Regions

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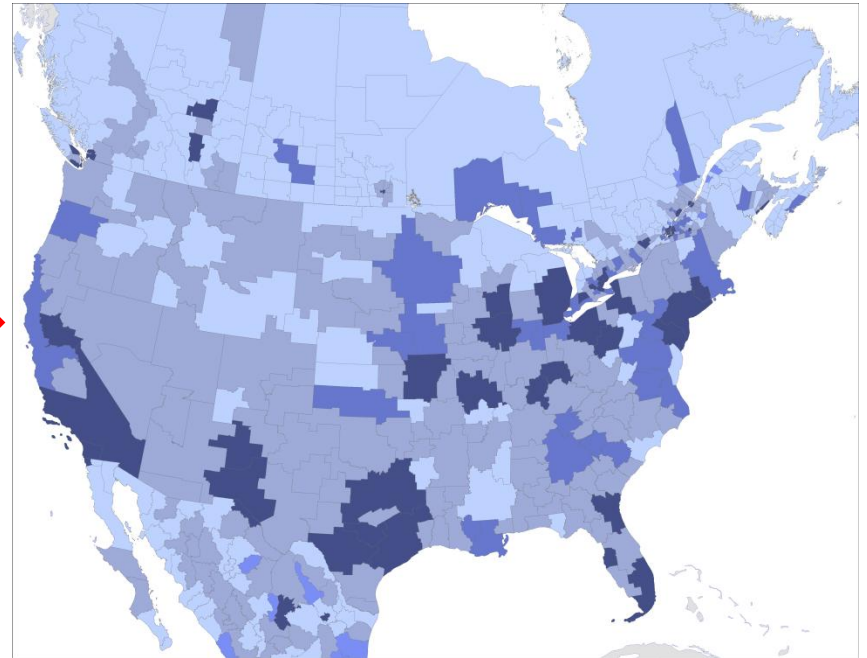
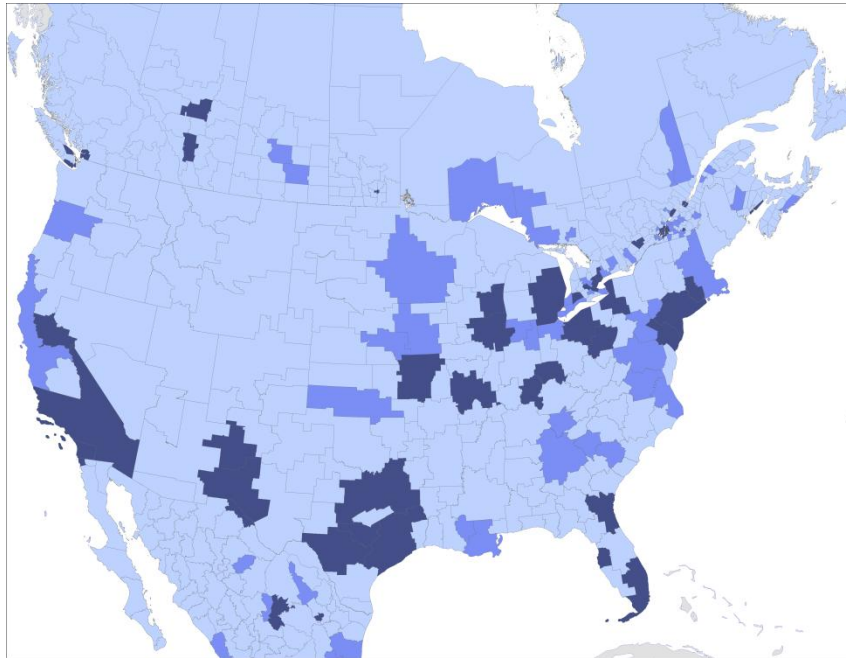
Introduction

- The OECD regional typology which classifies regions in urban/intermediate or rural has been extended to include a criterion on the accessibility to urban centres, following the methodology applied by the Directorate of Regional Policy of the European Commission to European regions.
- The accessibility is measured through the driving time needed for a certain percentage of the population of a region to reach a populated centre.
- The resulting classification consists of five types of regions: Predominantly Urban (PU), Intermediate Close to a city (INC), Intermediate Remote (INR), Predominantly Rural Close to a city (PRC) and Predominantly Rural Remote (PRR).
- This “extended” typology has been applied so far to European and North American regions, but in the near future it will also be applied to Japanese , Korean and Australian regions.
- Explore how this typology could be applied to emerging economies.

Why refining the current typology?

- Wide heterogeneity within groups of intermediate and rural regions.
- The current typology is essentially based on population density. Hence, it does not take into account the presence of economic agglomerations if they happen to be in neighbouring regions.
- Remote regions are considered to face different types of problems, compare to regions close a city.
- The access to populated centres implies, among other things, access to labour markets, services, education opportunities and a wide range of benefits coming from agglomeration economies.
- By including a remoteness criterion within the current typology, we can account not only for the effects of spatial differences among regions, but also for the impact of neighbouring agglomeration economies on regional performance.

Refinement of the OECD typology

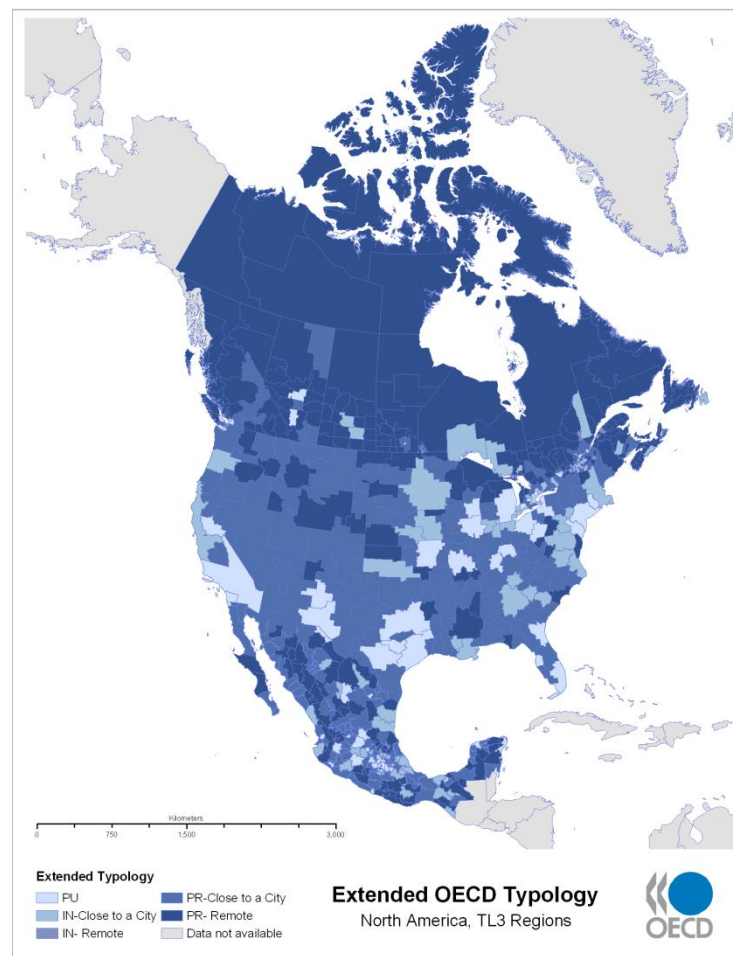
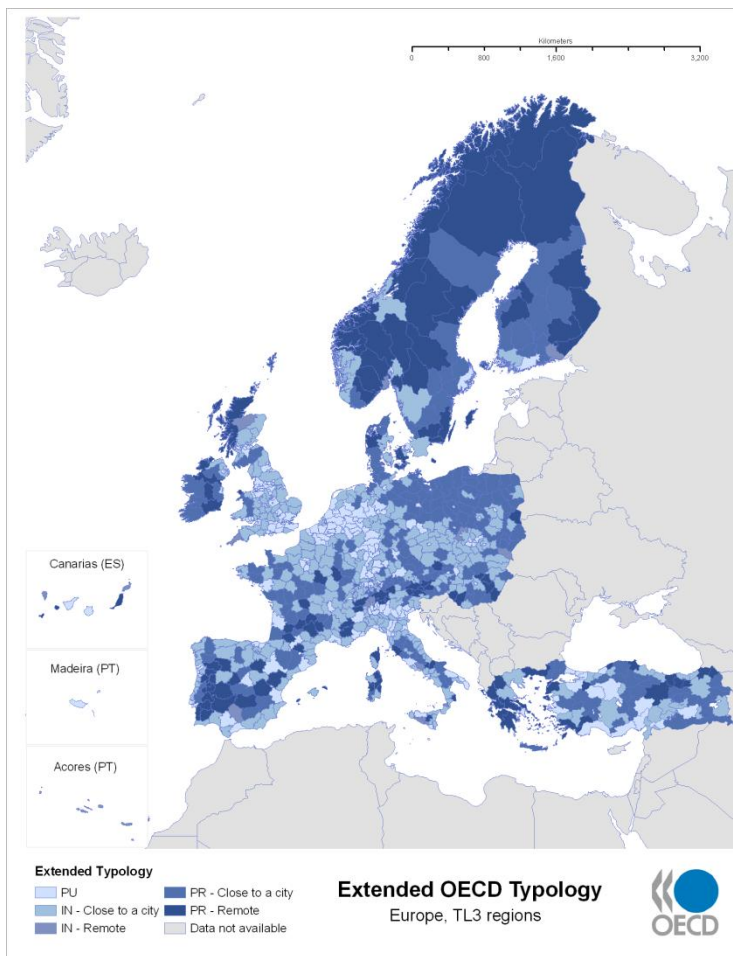


1. Predominantly Urban (PU)
2. Intermediate (IN)
3. Predominantly Rural (PR)



1. Predominantly Urban (PU)
2. Intermediate Close to a city (INC)
3. Intermediate Remote (INR)
4. Predominantly Rural Close to a city (PRC)
5. Predominantly Rural Remote (PRR)

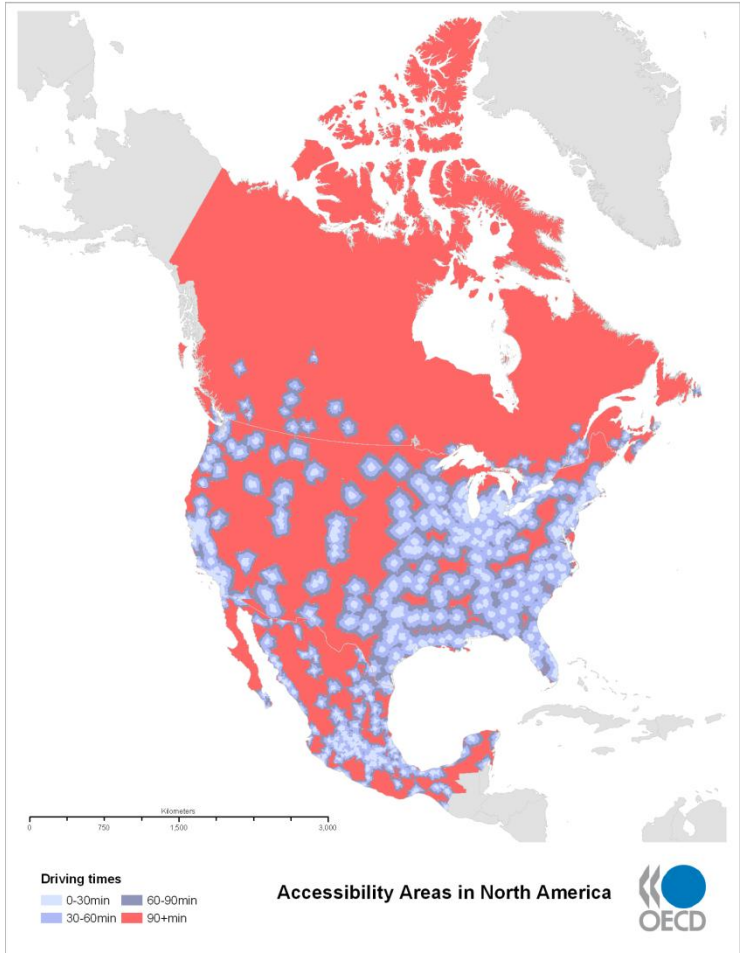
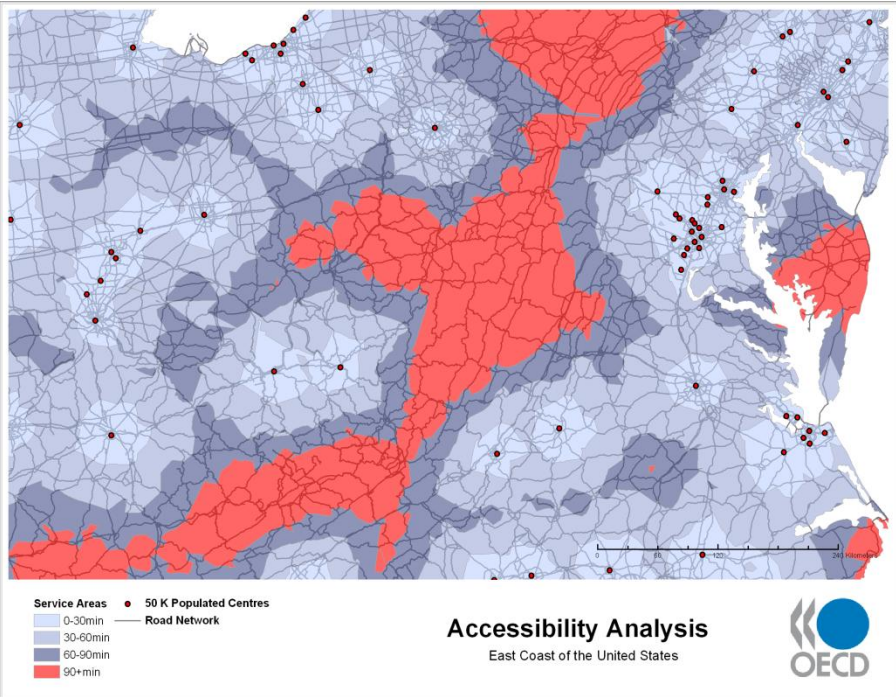
Extended Typology: Europe and North America



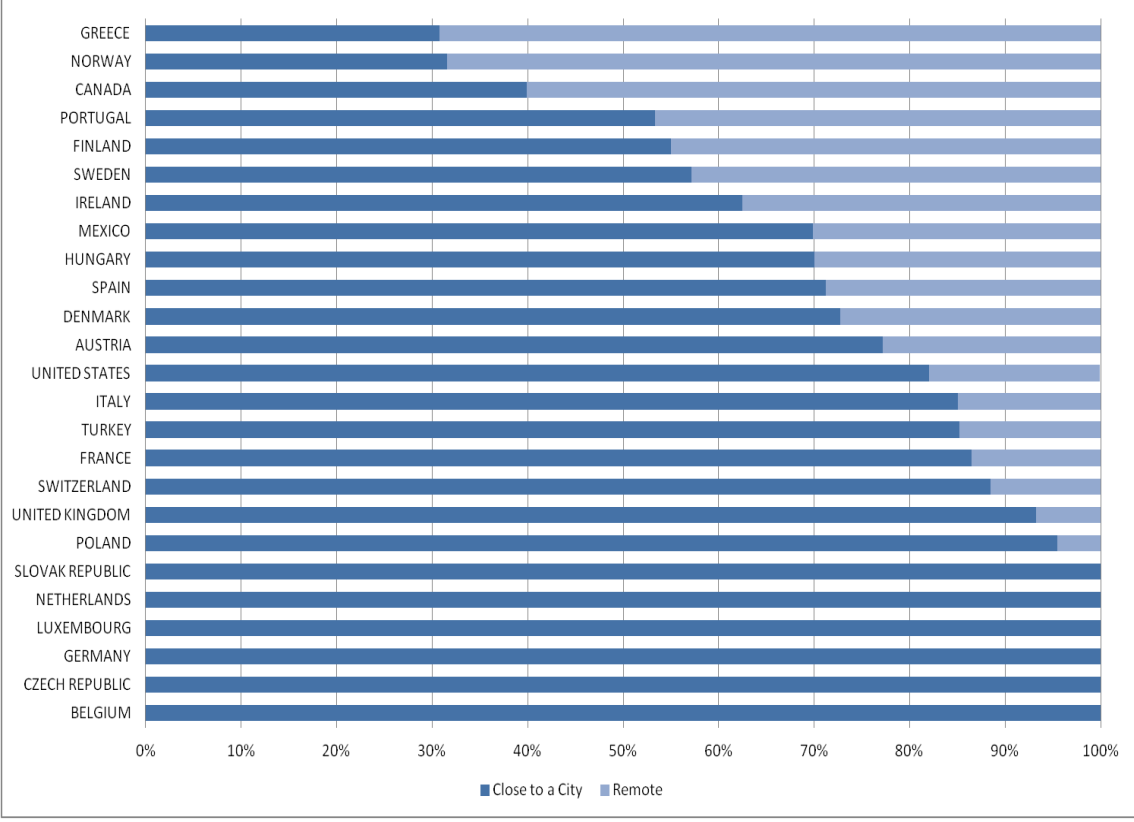
How we define a remote region?

- Among other things, the extended classification depends on the size of the populated centres included in the analysis, and the driving time needed to reach them.
- **Driving time:** 60 minutes (North America) and 45 minutes (Europe)
- **Populated Centres:** 50,000
- **Rule:** A region was considered to be remote if at least 50% of its population needs to drive 60 minutes or more to reach a populated centre with more than 50,000 inhabitants.
- Due to the lack of data, Hawaii, Alaska and Puerto Rico have not been included in the analysis.

How long does it take to get to a populated centre?

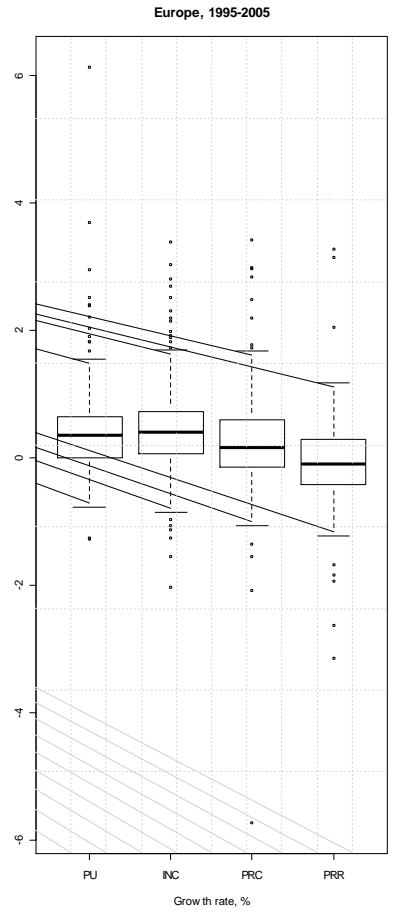
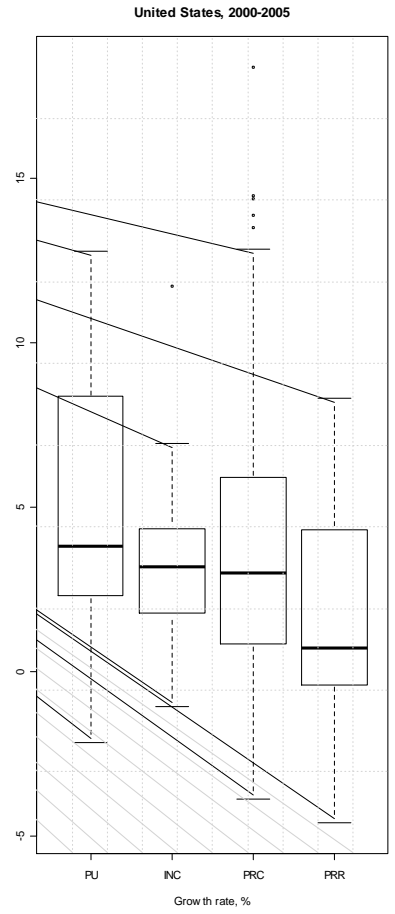
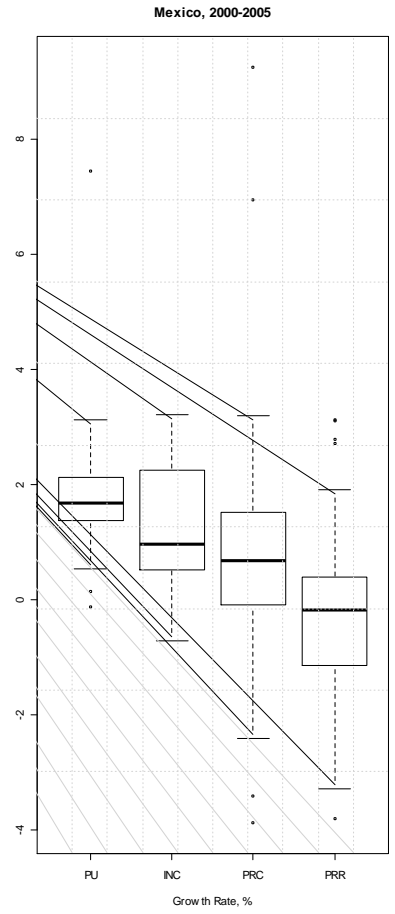
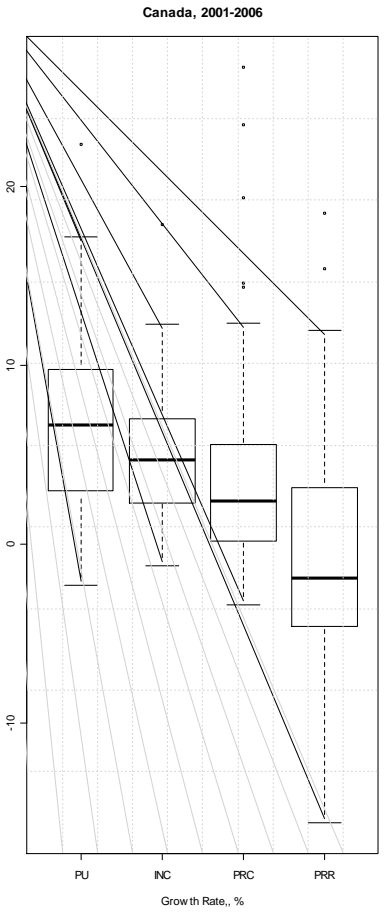


Percentage of regions by remoteness criteria

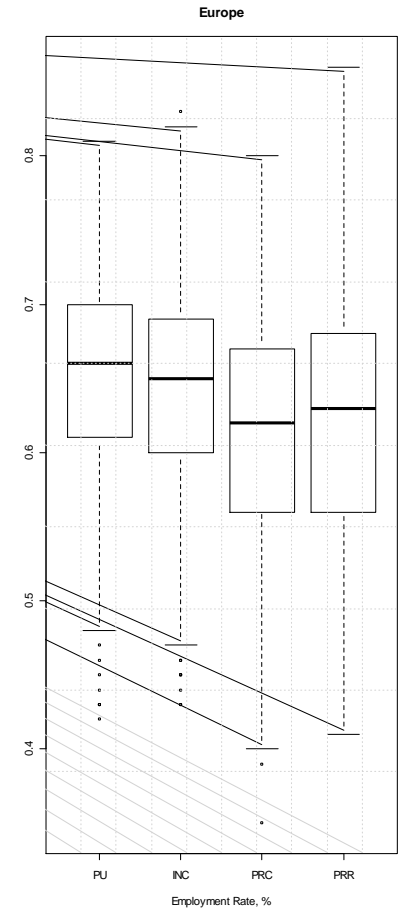
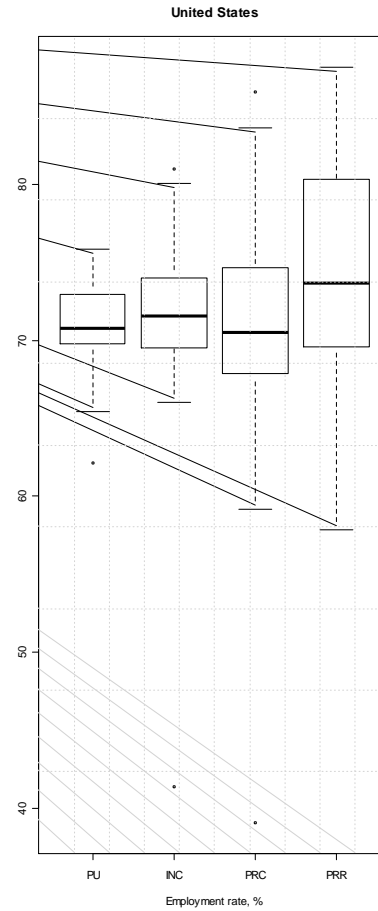
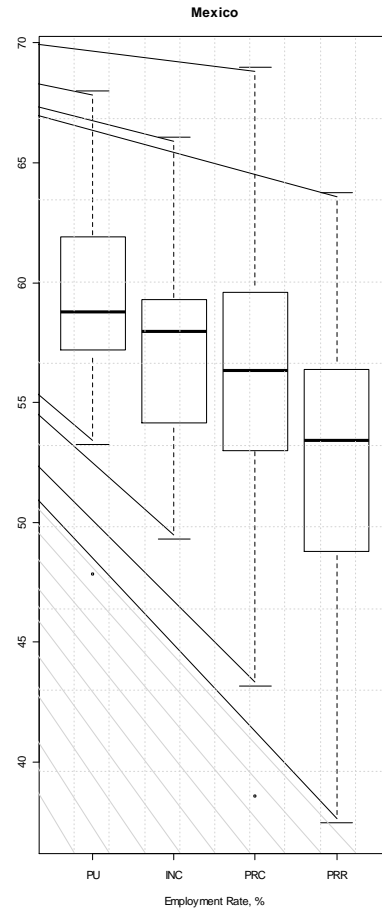
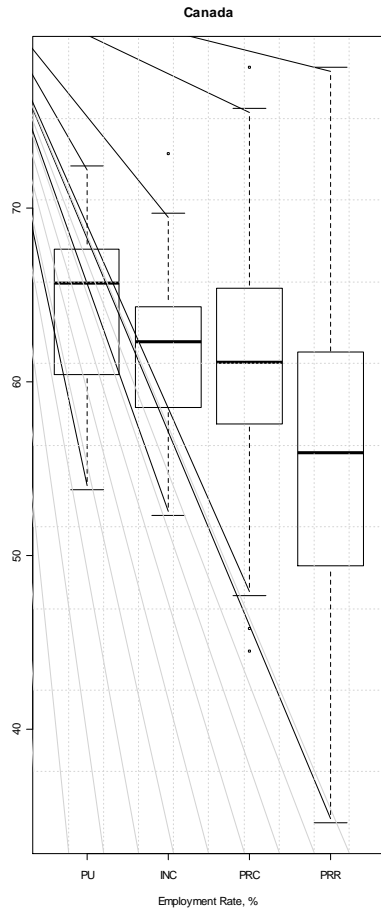


Some countries are composed exclusively by regions close to a populated centre

Population Growth Rate

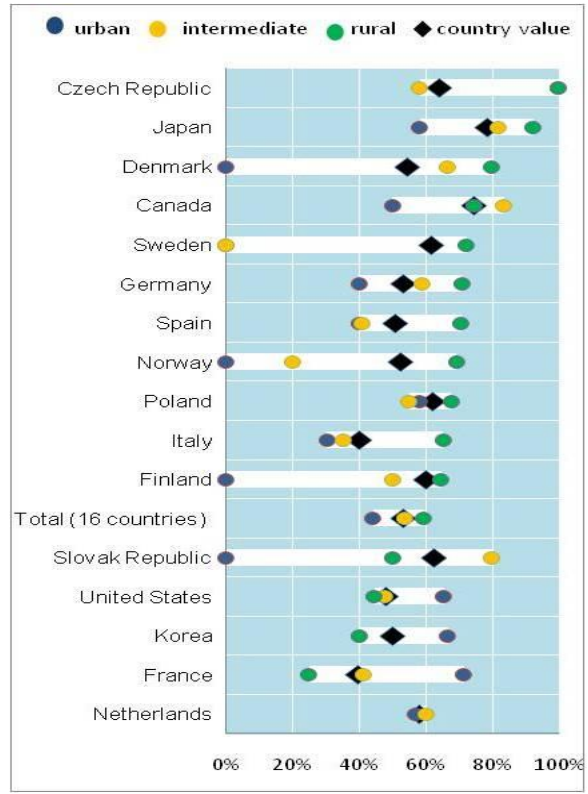


Employment Rate

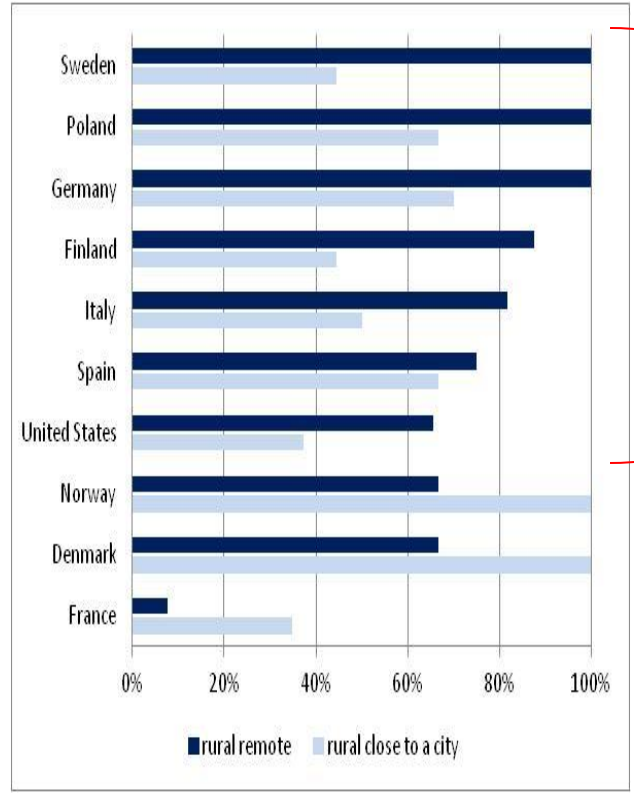


Migration Flows

A) Percentage of regions with negative inflows by type of region



B) Percentage of rural regions with net negative inflows by remoteness



In seven out of the ten countries considered, more rural regions display higher negative net flows than rural regions close to a large urban centre

Explaining Migration Outflows

Results from a regression model on OECD small regions (1998-2008),
where the endogenous variable is the net inter-regional migration

VARIABLES	Model 1 Net inter- regional migration	Model 2 Net inter- regional migration	Model 3 Net inter- regional migration	Model 4 Net inter- regional migration
Rural region	-1.348*** (-0.497)		-0.522 (-0.481)	
Urban region	0.139 (-0.999)		0.526 (-0.94)	
Prop. Agriculture		-18.42*** (-3.967)	-24.88*** (-4.073)	-26.98*** (-4.225)
Prop. Manufacture		-3.654 (-2.662)	-7.029** (-2.909)	-14.41*** (-2.375)
Prop Construction		40.79*** (-6.528)	46.01*** (-6.969)	47.11*** (-7.533)
IN remote				-1.530*** (-0.421)
Rural close region				-0.328 (-0.023)
Rural remote region				-2.783*** (-0.56)
Urban region				1.594** (-0.792)
Population	-1.22e-06** (-5.94E-07)	-2.54e-06*** (-5.57E-07)	-2.74e-06*** (-5.90E-07)	-3.56e-06*** (-5.10E-07)
Population density	-0.00104 (-0.00087)	3.56E-06 (-0.00065)	-0.0004 (-0.00068)	-0.00159*** (-0.00055)
Unemployment rate	-0.183*** (-0.03)	-0.188*** (-0.0297)	-0.194*** (-0.0308)	-0.183*** (-0.0263)
Share of old population	-0.134*** (-0.0358)	-0.0973** (-0.0397)	-0.139*** (-0.0422)	-0.146*** (-0.0431)
Year Fixed effects	Yes	Yes	Yes	Yes
Constant	7.135*** (-2.075)	5.503*** (-1.405)	7.237*** (-1.794)	9.589*** (-1.793)
n. of observations	5,425	4,338	3,982	3,258
R-squared	0.037	0.147	0.159	0.279
Robust standard errors in parentheses				
*** p<0.01 ** p<0.05 * p<0.1				

Remote regions are significant in explaining the migration outflows among regions

Conclusions

- A clear distinction between rural regions close to a city and remote rural regions can be identified in the population dynamics.
- In the case of Canada and Mexico the former distinction can also be found while comparing employment rates. However, due to the complexity of labour markets, more information is needed to make further inference about regional labour dynamics.
- Results from the European countries at NUTS3 territorial level indicate that, on average, remote rural regions show also lower economic performance.
- Results of econometric modelling, explaining inter-regional outflows, suggest that the distance to markets is a stronger driver for mobility than population density.
- Next step: extend the analysis to Japan, Korea, and Australia. Further explore the consequences of remoteness on regional development.