EU Territorial Scenarios

By Lewis Dijkstra, PhD
Deputy Head of the Economic Analysis Unit,
DG Regional and Urban Policy
European Commission

Why is the Commission setting up territorial scenarios?

- *Create a central baseline scenario for EC territorial impact assessments*
- *Inform the discussion on the future of cohesion policy and the lagging regions project*
- *Stimulate a debate on the possible and desirable future spatial distribution of population, employment and economic activities*

What is the Commission doing?

- ***REGIO and JRC*** *are setting up a limited set of economic and demographic regional projections linked to national projections by ECFIN and regional projections Eurostat (EUROPOP2013).*
- *The economic regionalisation is based on a sectoral trend extrapolation*
- *The demographic regionalisation is done by Eurostat using regional demographic indicators*
- *A further disaggregation to LAU-2 and grid level*

Regionalisation - dissaggregation

Spatial level	Number of units
Member States	28
NUTS-2 regions	272
NUTS-3 regions	1300
LAU-2	+/- 130 000
Grid cells	> 4 000 000

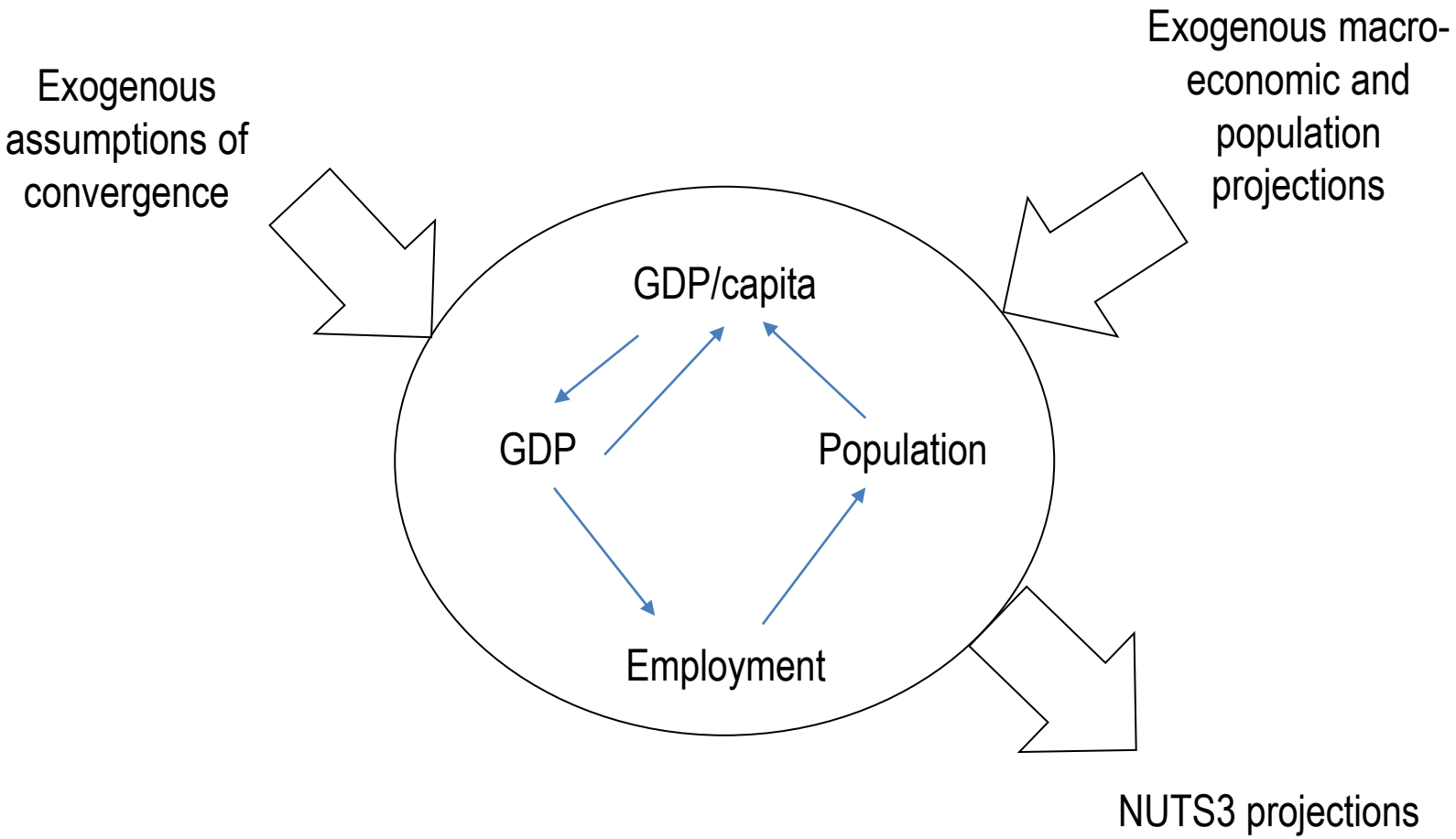
NUTS-3 vs LAU-2 & grid

- *Regional trends at NUTS-3 relatively well understood (economic & demographic)*
- *Trends at the LAU-2 level and grid level require more analysis to identify key determinants*
  - **Time series of population at the LAU-2 level**
  - **Population grid based on LandSat GHSL for 1990, 2000 and 2014**
  - **Econometric analysis**

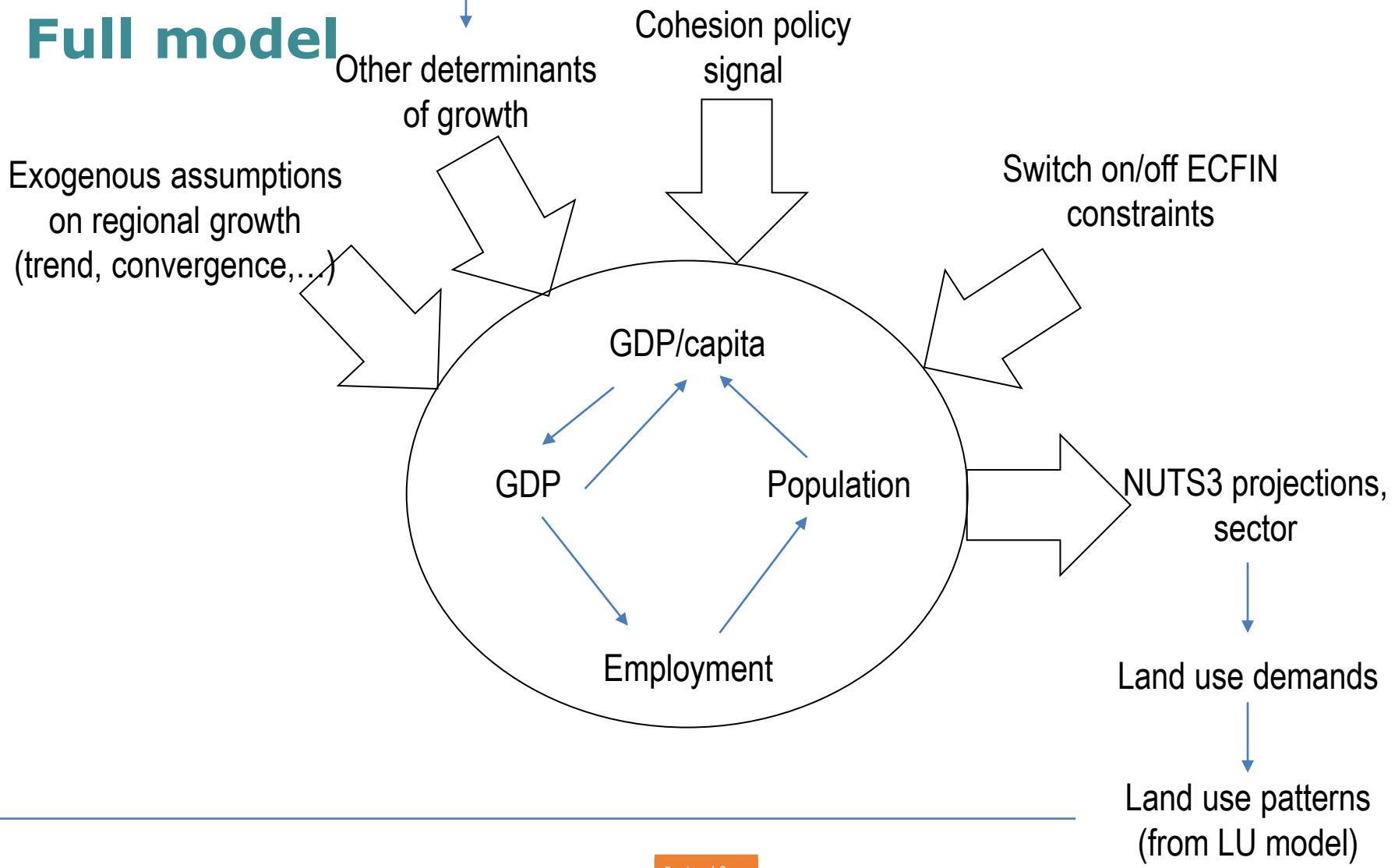
Scenarios

- *A central baseline scenario which corresponds to Eurostat regional population projection*
- *A convergence scenario, where productivity grows faster in low productive regions*
  - **But what about migration?**
- *Other spatial scenarios (to be developed)*
  - **Compact development vs business as usual**
  - **Large city population growth vs more dispersed growth**

Prototype convergence model



Full model


Other determinants of growth
Cohesion policy signal
Exogenous assumptions on regional growth (trend, convergence,…)
Switch on/off ECFIN constraints
GDP/capita
GDP
Population
Employment
NUTS3 projections, sector
Land use demands
Land use patterns (from LU model)

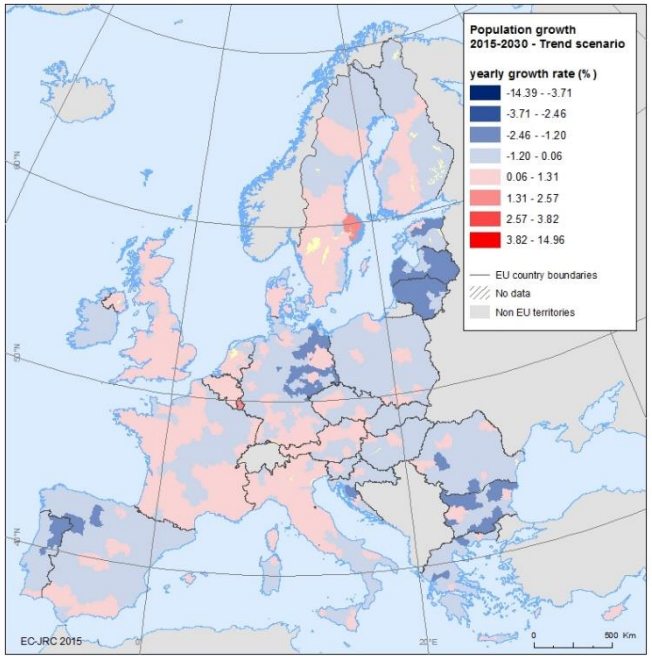
What will be projected until 2050?

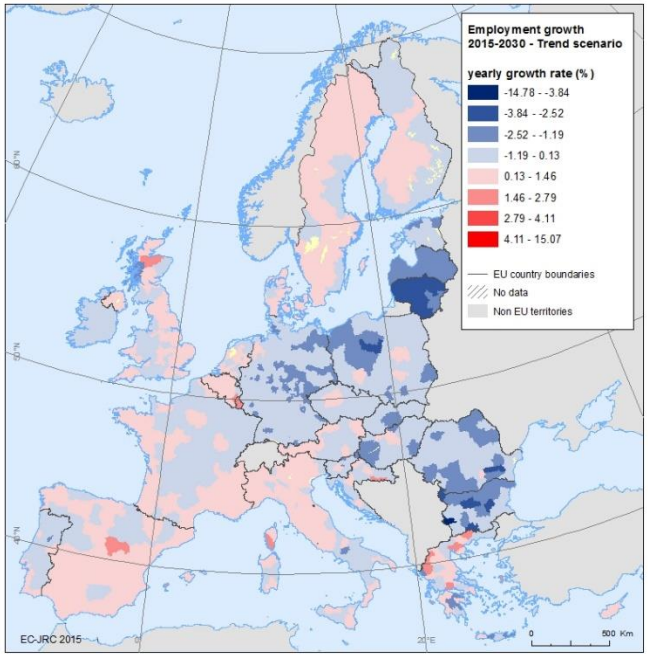
- *Population by age and sex*
- *Migration*
- *GDP*
- *Employment*
- *Land use*
- *Accessibility*

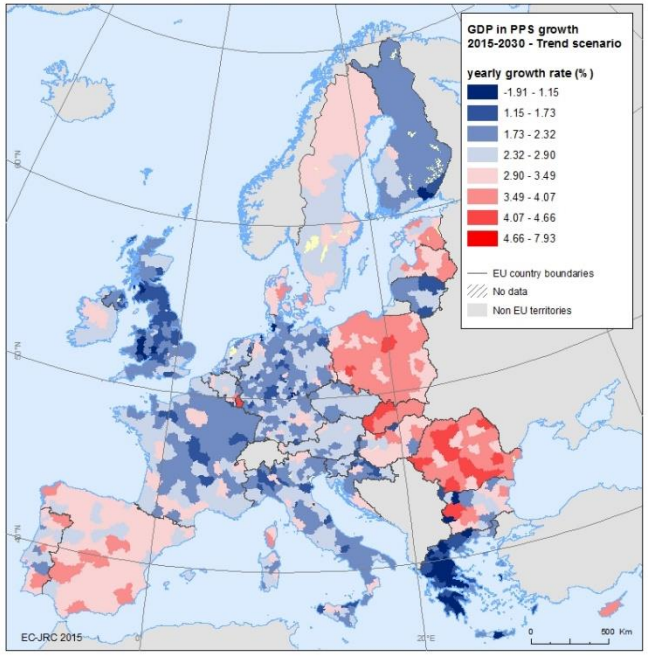
Spatial levels

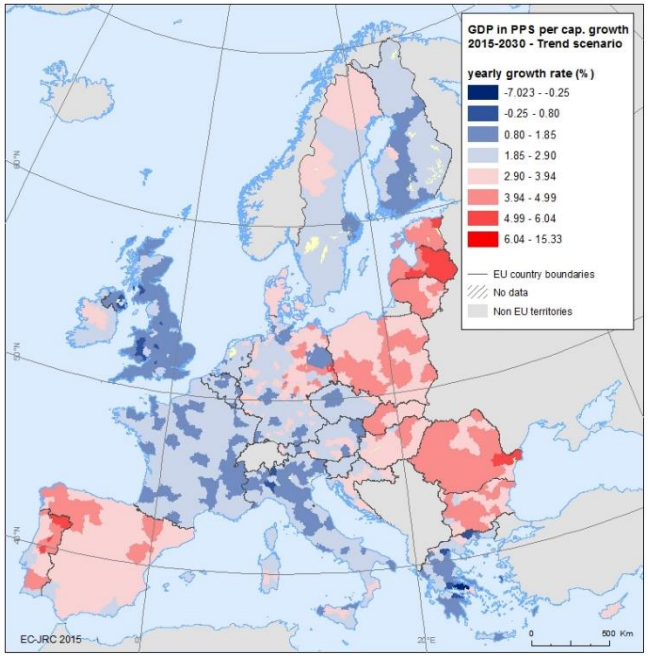
- *NUTS-2 and 3*
- *Local (LAU-2)*
- *1 km grid*
- *100m grid*

Trend Scenario

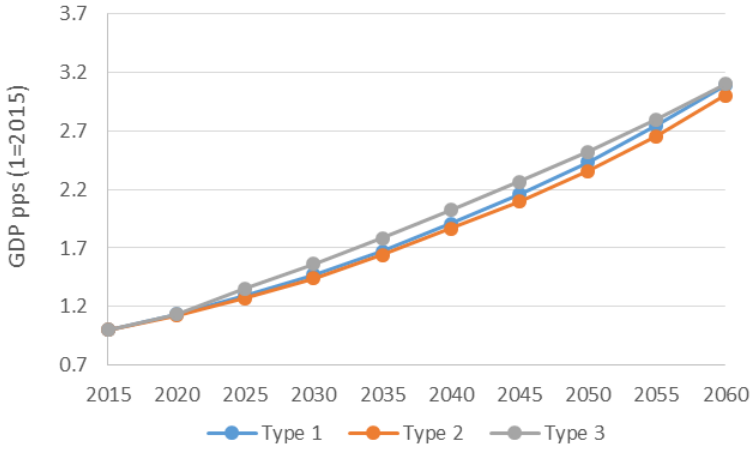


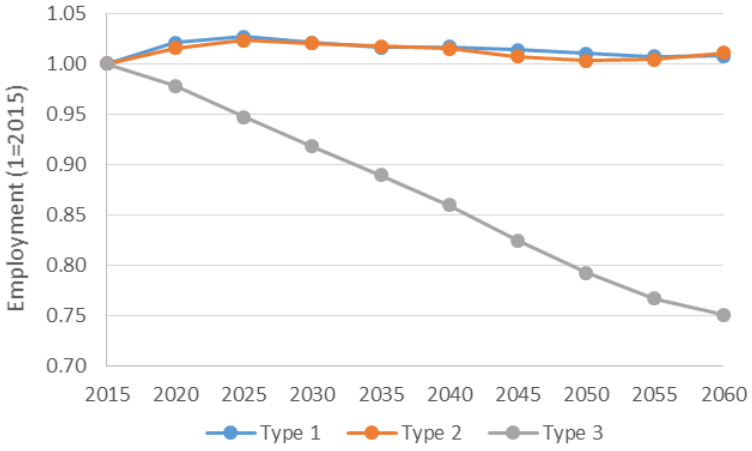


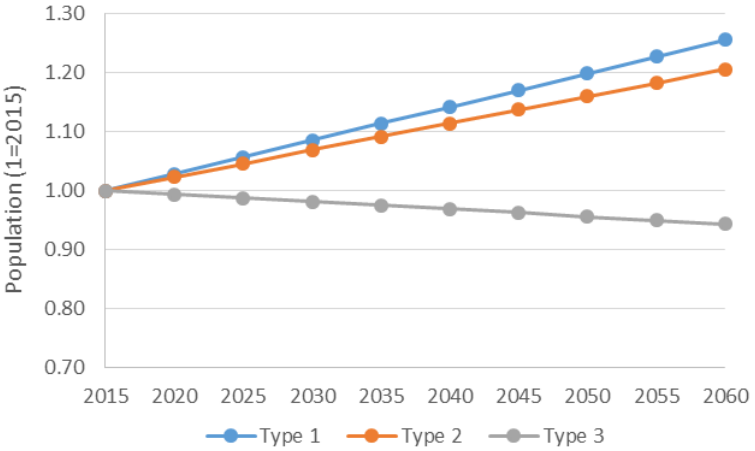




Trend scenario







Type 1 = > 90% average EU GDP/cap in 2010

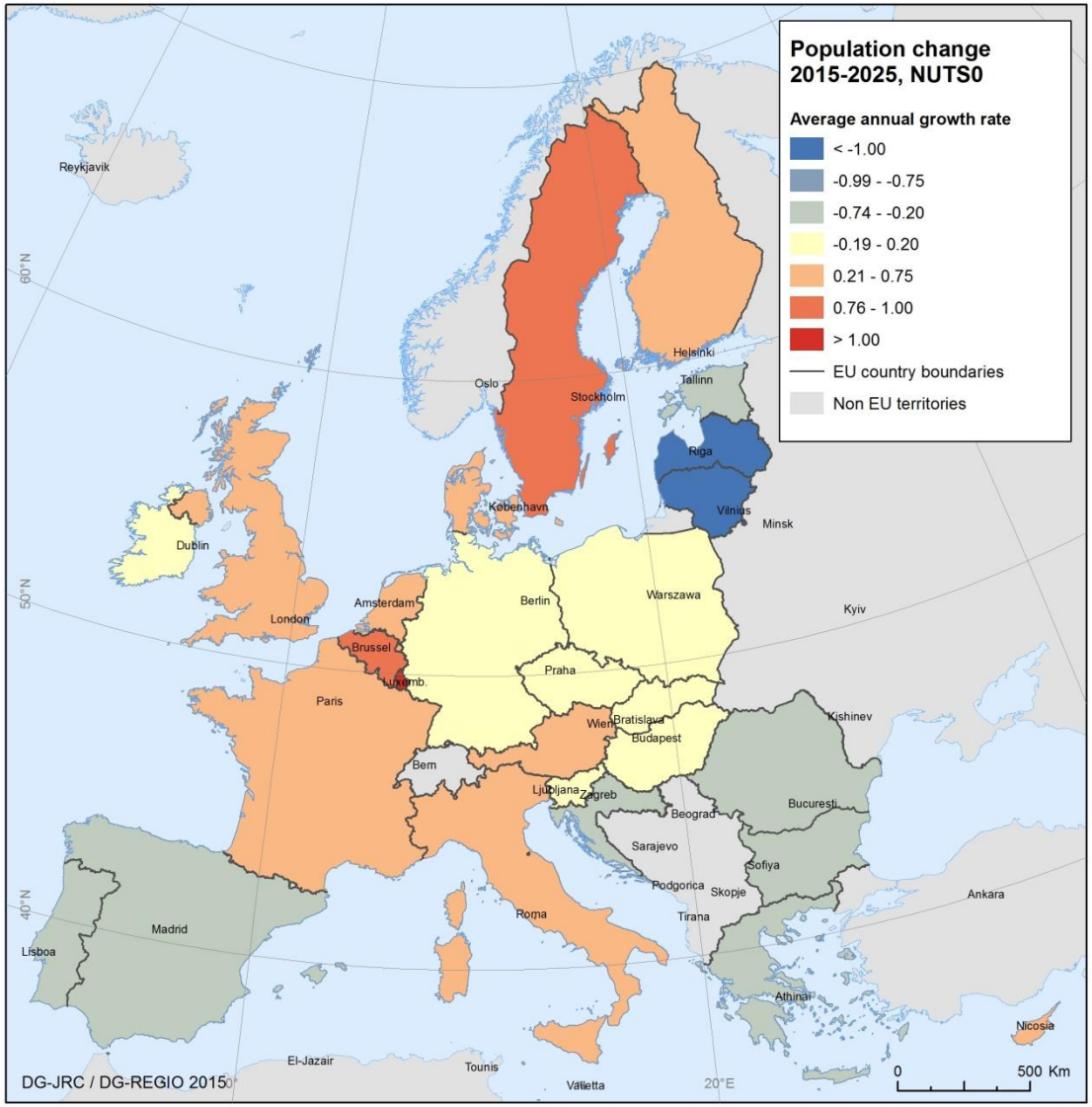
Type 2 = 75%:90% idem

Type 3 = < 75% idem

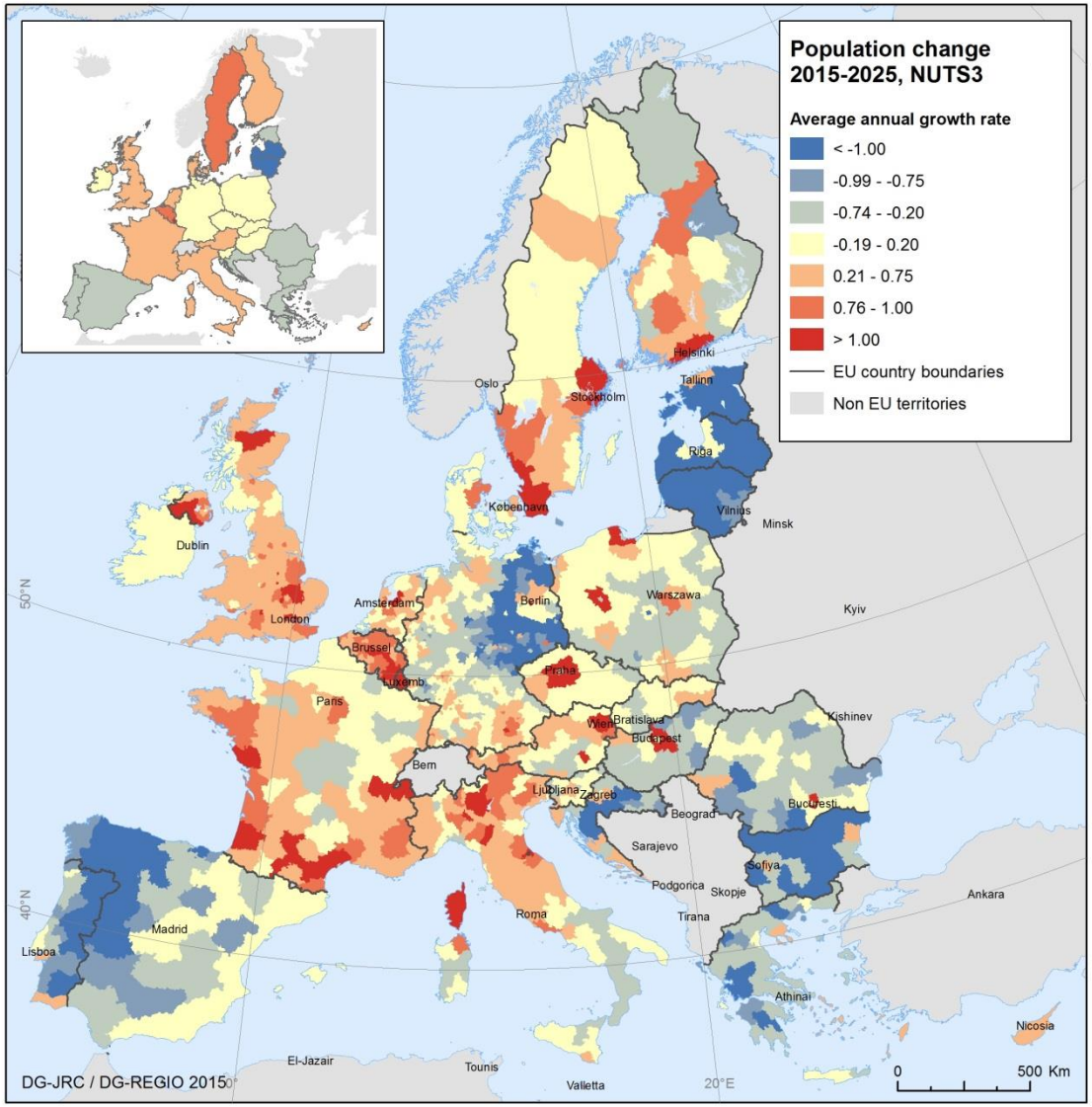
Timing

- *The draft trend scenario is ready*
- *Eurostat NUTS-3 population projections to be integrated (coming weeks)*
- *Convergence scenario ready by November*
- *NUTS-3 working paper by end 2015*
- *Disaggregation to the LAU-2 and grid ready by early 2016*

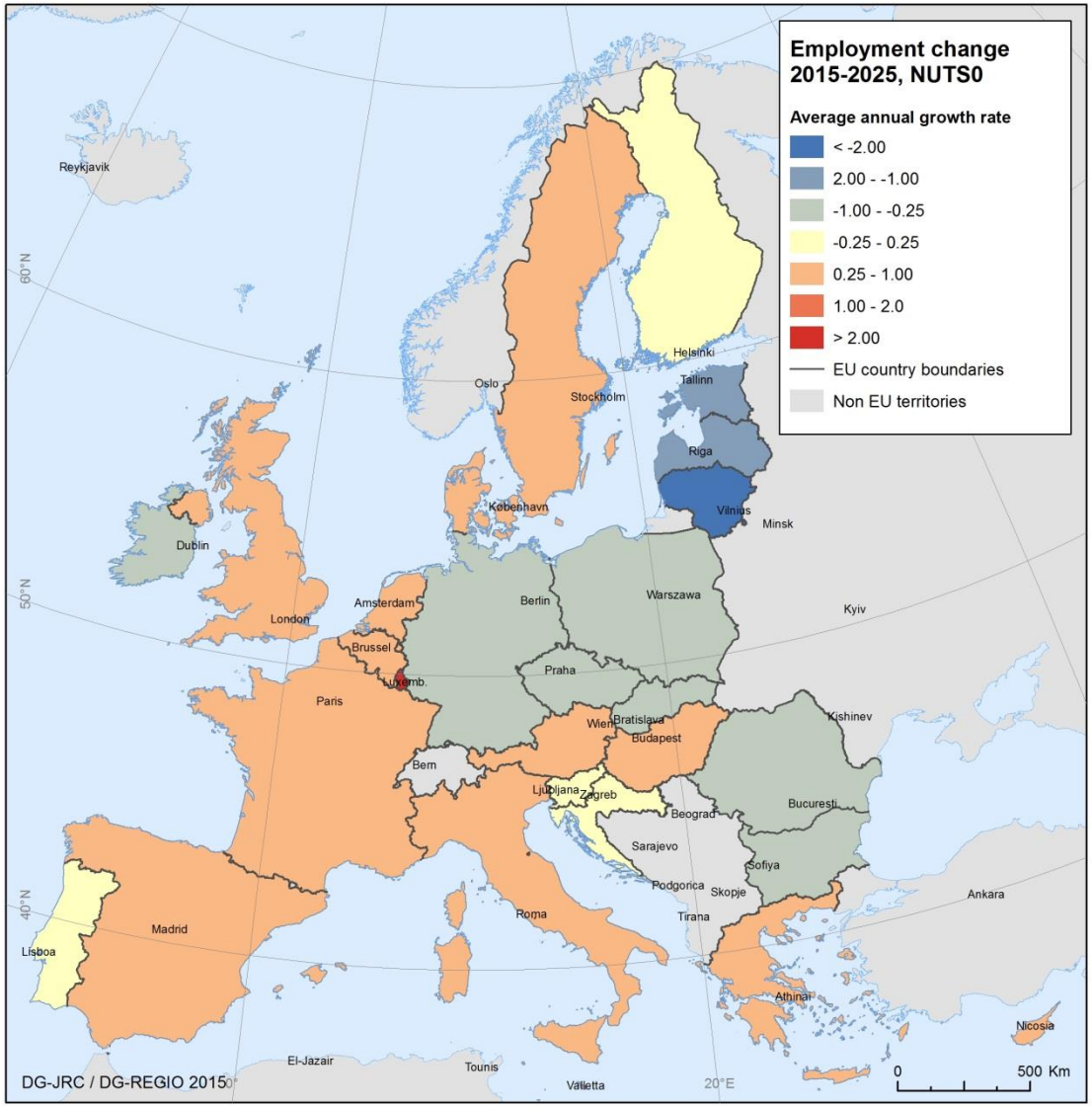
Population


Population change
2015-2025, NUTS0
Average annual growth rate
< -1.00
-0.99 - -0.75
-0.74 - -0.20
-0.19 - 0.20
0.21 - 0.75
0.76 - 1.00
> 1.00
EU country boundaries
Non EU territories
Reykjavik
Oslo
Stockholm
Helsinki
Tallinn
Riga
Vilnius
Minsk
København
Dublin
London
Amsterdam
Berlin
Warszawa
Kyiv
Brussel
Luxemb.
Praha
Paris
Wien
Bratislava
Budapest
Kishinev
Bern
Ljubljana
Zagreb
Beograd
Bucuresti
Sarajevo
Sofiya
Podgorica
Skopje
Tirana
Roma
Ankara
Madrid
Lisboa
Athinai
Nicosia
El-Jazair
Tounis
Valletta
60°N
50°N
40°N
20°E
DG-JRC / DG-REGIO 2015
0
500 Km

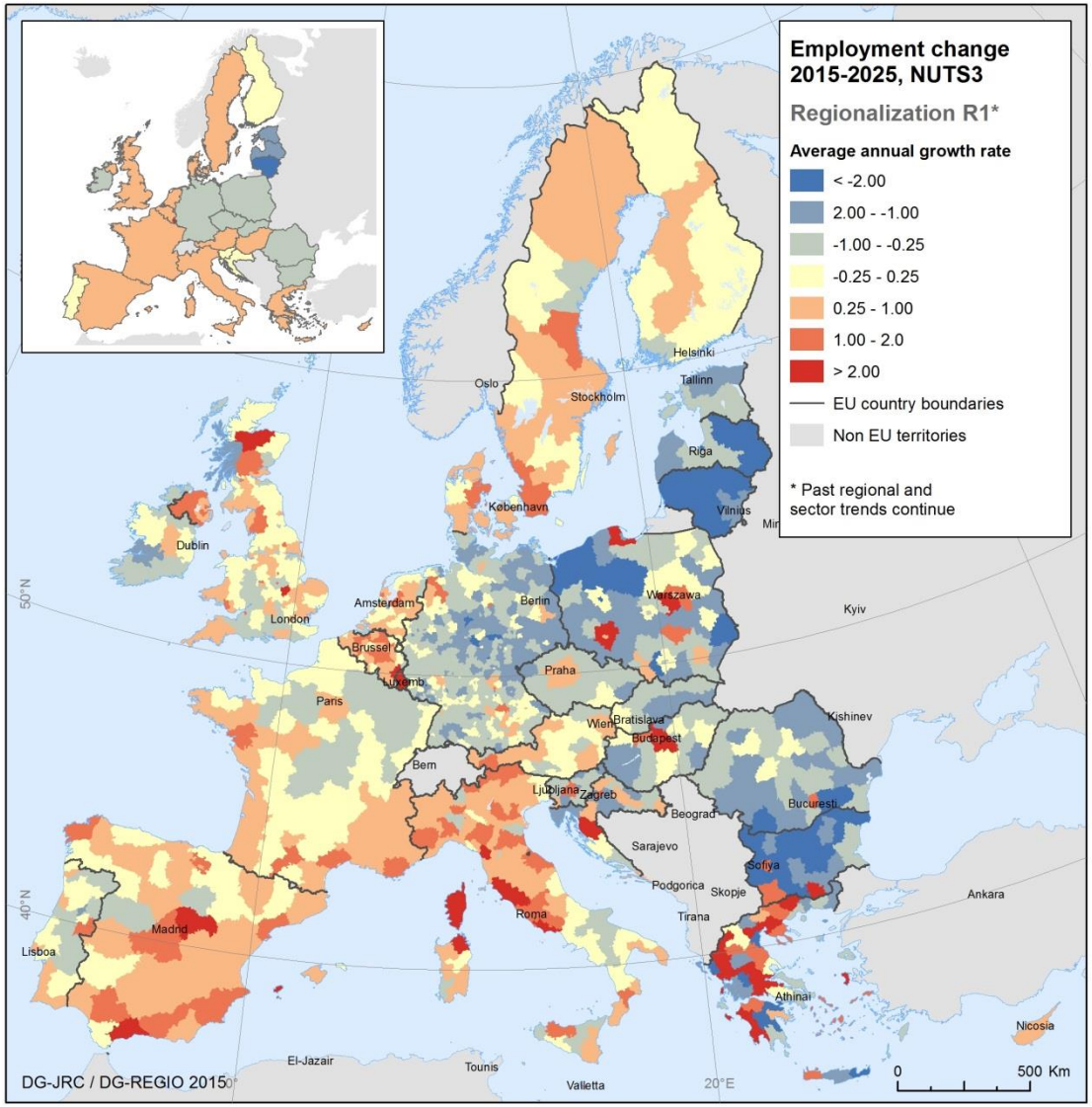
Population


Population change
2015-2025, NUTS3
Average annual growth rate
< -1.00
-0.99 - -0.75
-0.74 - -0.20
-0.19 - 0.20
0.21 - 0.75
0.76 - 1.00
> 1.00
EU country boundaries
Non EU territories
Helsinki
Oslo
Stockholm
Tallinn
Riga
København
Vilnius
Minsk
Dublin
Amsterdam
Berlin
Warszawa
Kyiv
London
Brussel
Luxemb
Praha
Paris
Wien
Bratislava
Budapest
Kishinev
Bern
Ljubljana
Zagreb
Beograd
Bucuresti
Sarajevo
Sofiya
Podgorica
Skopje
Ankara
Roma
Tirana
Madrid
Lisboa
Athinai
Nicosia
El-Jazair
Tounis
Valletta
50°N
40°N
20°E
DG-JRC / DG-REGIO 2015
0
500 Km

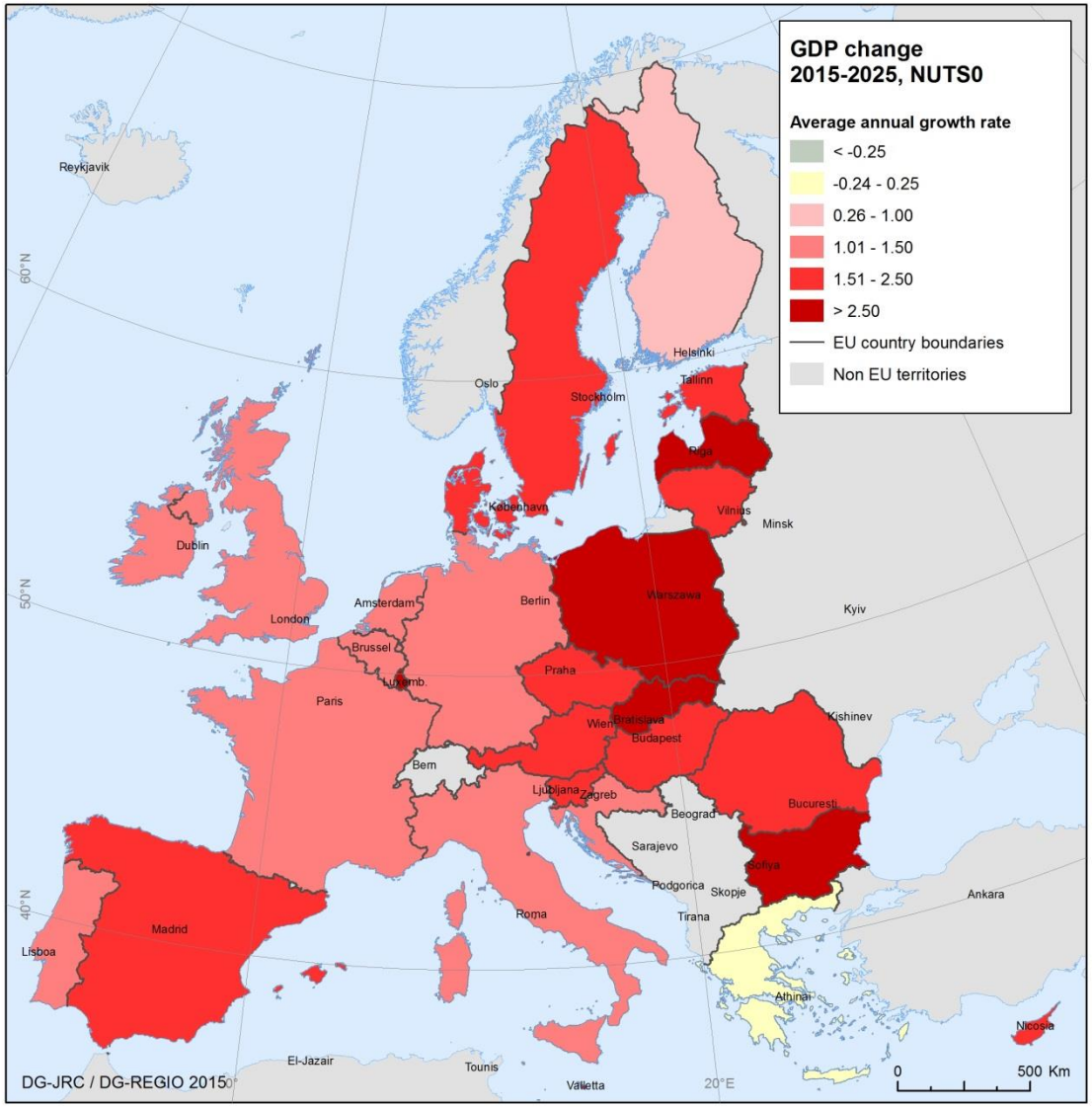
Employment


Employment change 2015-2025, NUTS0
Average annual growth rate
< -2.00
2.00 - -1.00
-1.00 - -0.25
-0.25 - 0.25
0.25 - 1.00
1.00 - 2.0
> 2.00
EU country boundaries
Non EU territories
Reykjavik
Oslo
Stockholm
Helsinki
Tallinn
Riga
Vilnius
Minsk
København
Dublin
London
Amsterdam
Berlin
Warszawa
Kyiv
Brussel
Praha
Paris
Wien
Bratislava
Budapest
Kishinev
Bern
Ljubljana
Zagreb
Beograd
Bucuresti
Sarajevo
Sofiya
Podgorica
Skopje
Ankara
Roma
Tirana
Madrid
Lisboa
Athinai
Nicosia
El-Jazair
Tounis
Valletta
60°N
50°N
40°N
20°E
DG-JRC / DG-REGIO 2015
0
500 Km

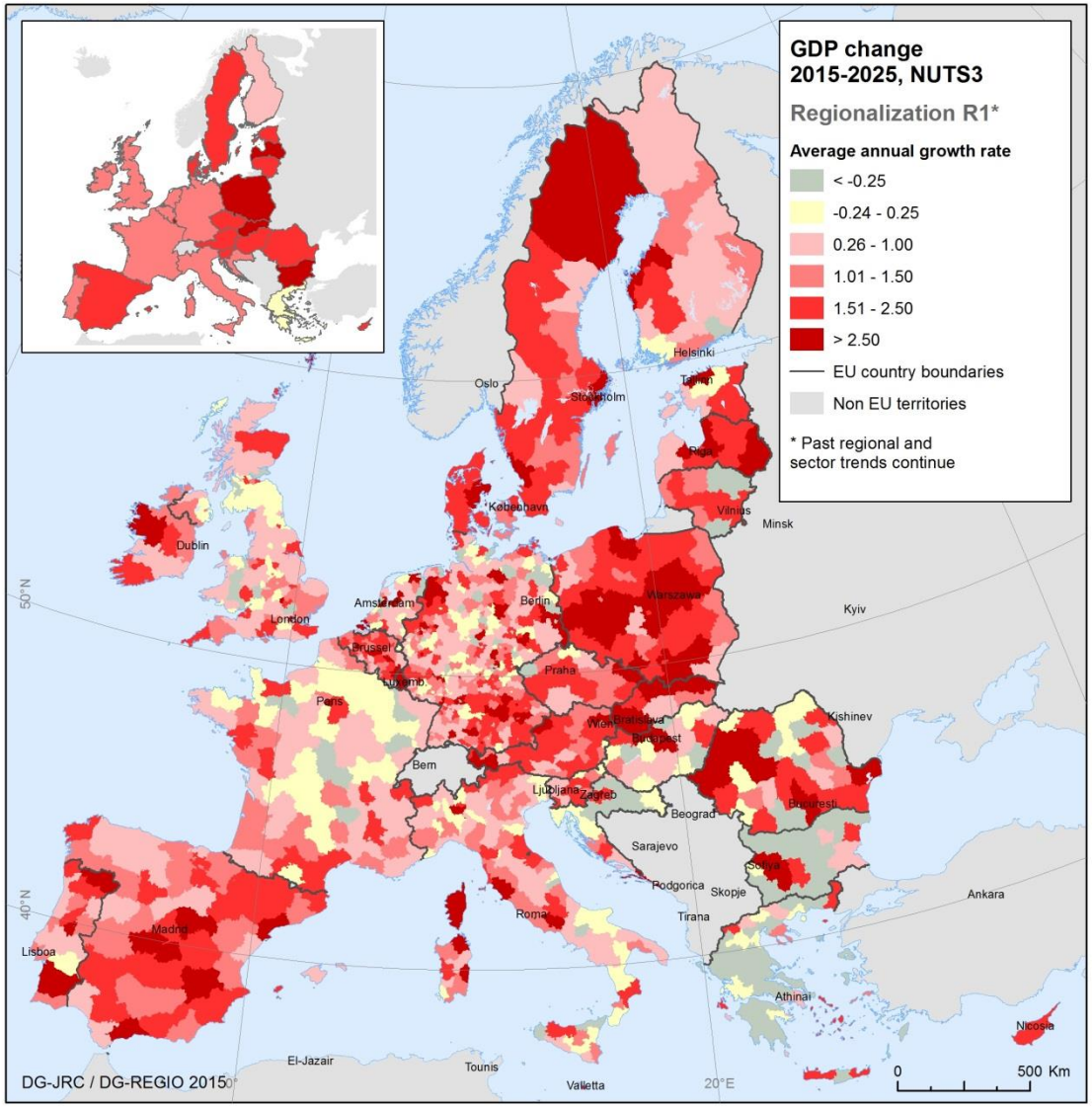
Employment


Employment change 2015-2025, NUTS3
Regionalization R1*
Average annual growth rate
< -2.00
2.00 - -1.00
-1.00 - -0.25
-0.25 - 0.25
0.25 - 1.00
1.00 - 2.0
> 2.00
EU country boundaries
Non EU territories
* Past regional and sector trends continue
Helsinki
Tallinn
Oslo
Stockholm
Riga
København
Vilnius
Dublin
Amsterdam
Berlin
Warszawa
London
Kyiv
Brussel
Praha
Paris
Wien
Bratislava
Budapest
Kishinev
Bern
Ljubljana
Zagreb
Beograd
Bucuresti
Sarajevo
Sofiya
Podgorica
Skopje
Ankara
Roma
Tirana
Madrid
Lisboa
Athinai
Nicosia
El-Jazair
Tounis
Valletta
50°N
40°N
20°E
DG-JRC / DG-REGIO 2015
0
500 Km

GDP growth


GDP change
2015-2025, NUTS0
Average annual growth rate
< -0.25
-0.24 - 0.25
0.26 - 1.00
1.01 - 1.50
1.51 - 2.50
> 2.50
EU country boundaries
Non EU territories
Reykjavik
Oslo
Stockholm
Helsinki
Tallinn
Riga
Vilnius
Minsk
København
Dublin
London
Amsterdam
Berlin
Warszawa
Kyiv
Brussel
Luxemb.
Praha
Paris
Wien
Bratislava
Budapest
Kishinev
Bern
Ljubljana
Zagreb
Beograd
Bucuresti
Sarajevo
Sofiya
Podgorica
Skopje
Tirana
Roma
Madrid
Lisboa
Athinai
Nicosia
El-Jazair
Tounis
Valletta
Ankara
60°N
50°N
40°N
20°E
DG-JRC / DG-REGIO 2015
0
500 Km

GDP growth


GDP change
2015-2025, NUTS3
Regionalization R1*
Average annual growth rate
< -0.25
-0.24 - 0.25
0.26 - 1.00
1.01 - 1.50
1.51 - 2.50
> 2.50
EU country boundaries
Non EU territories
* Past regional and sector trends continue
Helsinki
Oslo
Stockholm
Tallinn
Riga
København
Vilnius
Minsk
Dublin
Amsterdam
Berlin
Warszawa
London
Kyiv
Brussel
Praha
Paris
Wien
Bratislava
Budapest
Kishinev
Bern
Ljubljana
Zagreb
Beograd
Bucuresti
Sarajevo
Podgorica
Skopje
Ankara
Roma
Tirana
Madrid
Lisboa
Athinai
Nicosia
El-Jazair
Tounis
Valletta
50°N
40°N
20°E
0
500 Km
DG-JRC / DG-REGIO 2015

Grid population projection

- *Allows an analysis of urbanisation over time*
- *This will be based on local population projections AND changes in degree of urbanisation (cities appearing/disappearing)*
- *Can support cost benefit analysis of transport infrastructure investment*

Conclusions

- *Challenging work requiring more data, new methods and new sources*
- *Can contribute to many important discussions within the Commission, between the MS and globally*
- *Will be disseminated freely as a public good*
- *Will be maintained, updated and improved over time*