NATIONAL BANK OF ROMANIA

Macroeconomic disparities at regional level in Romania

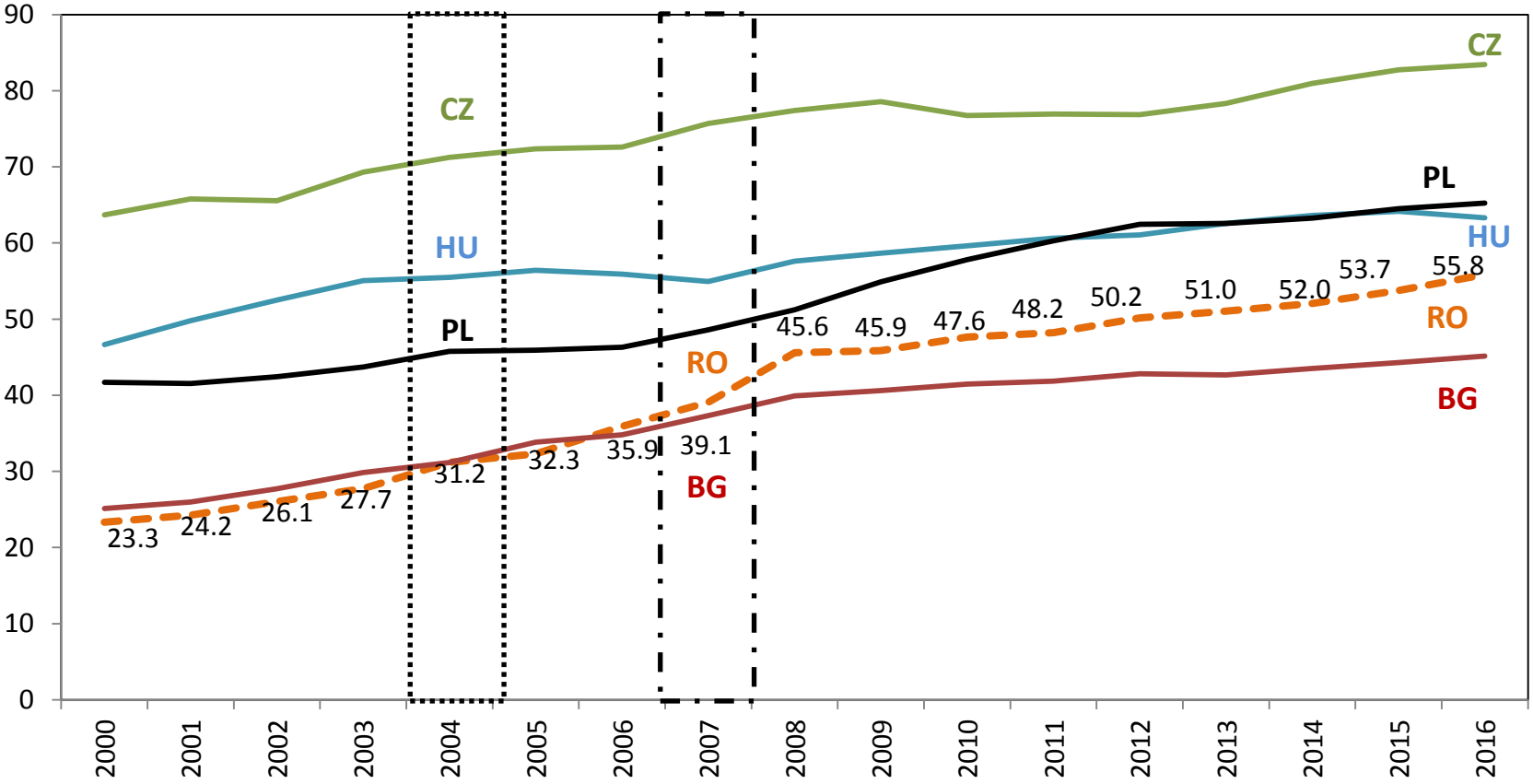
Liviu Voinea
Deputy Governor

Cluj, September 10th, 2017

I. Regional disparities in non-euro CEE countries

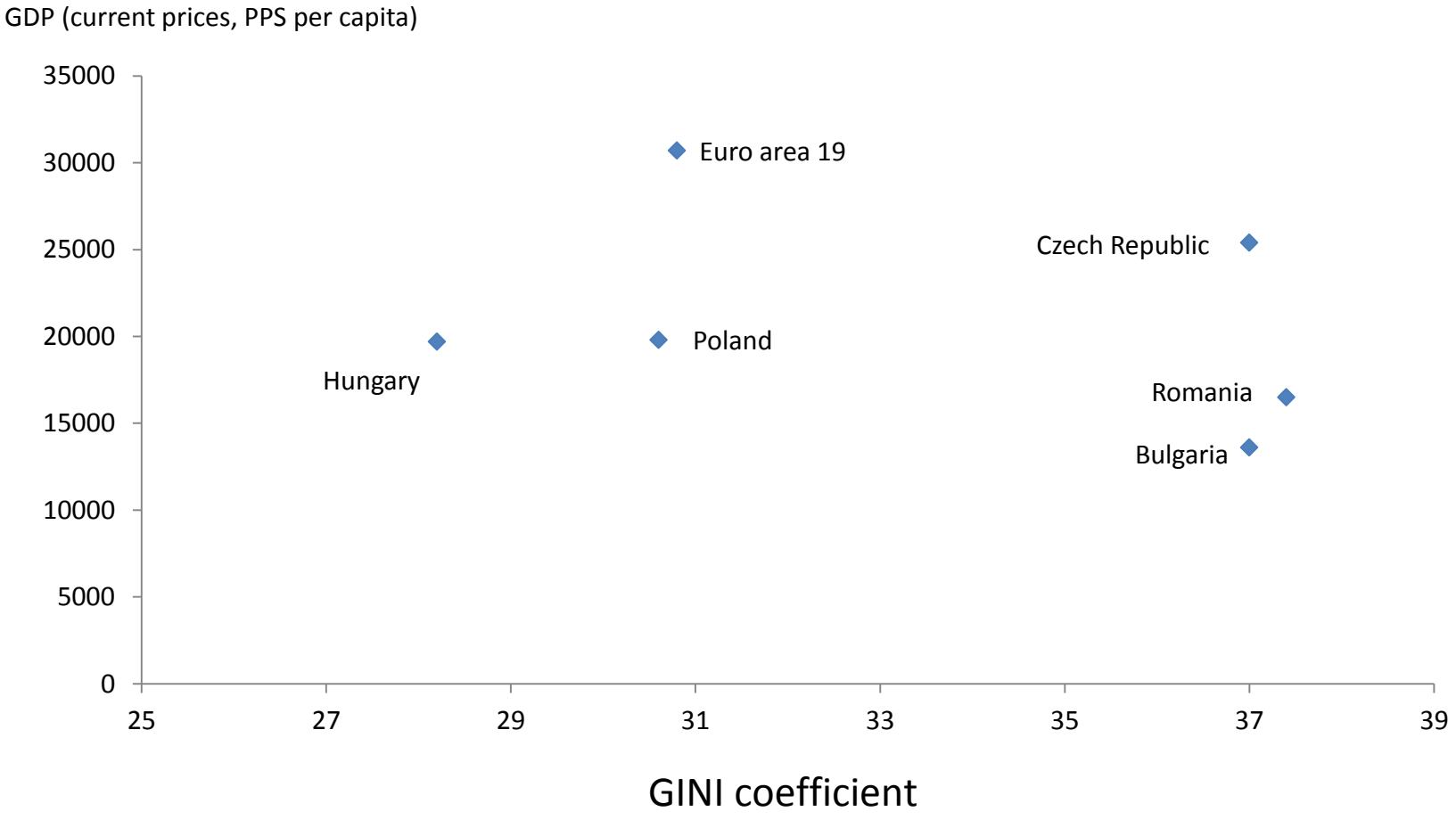
Real convergence…

GDP, % of Euro zone 19, PPS per capita



Source: Eurostat

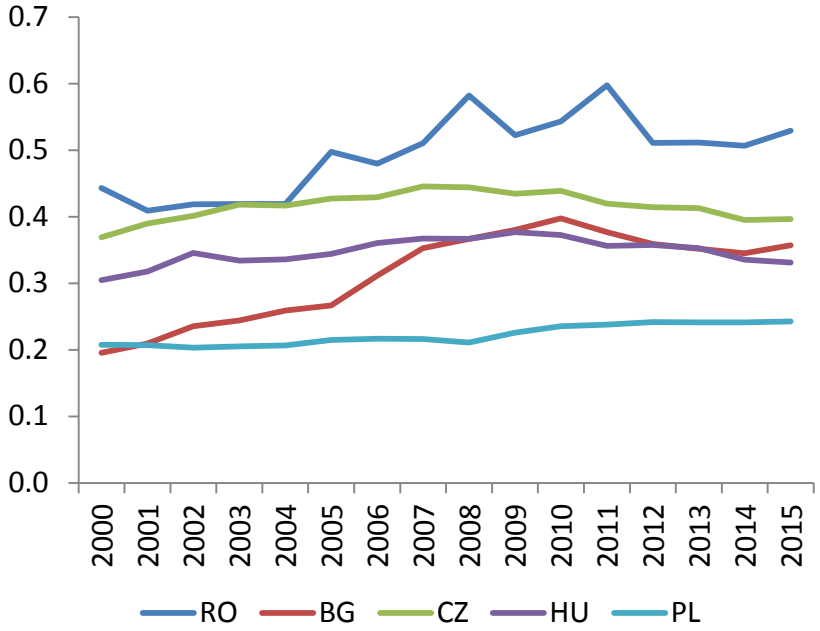
…but very uneven

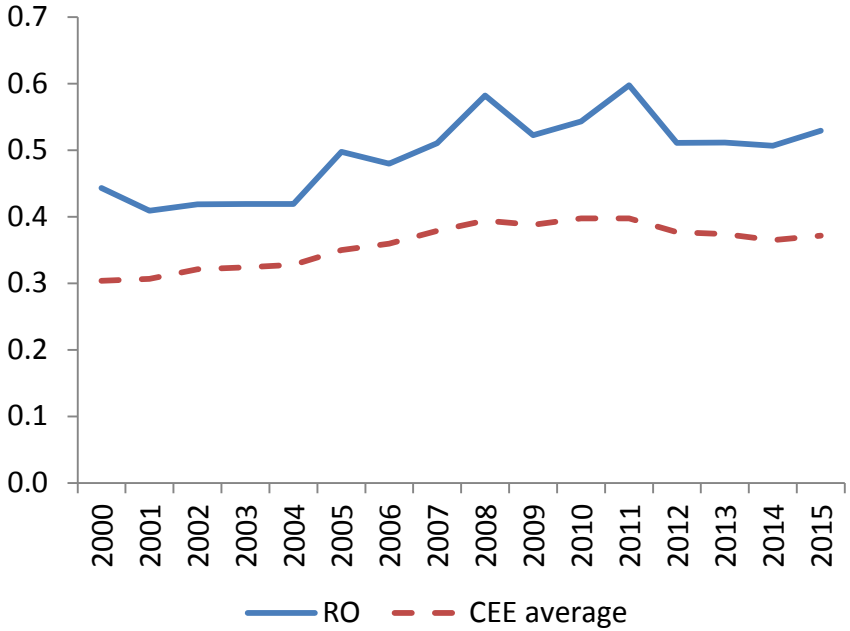


Source: Eurostat

Romania: Larger intra-regional differences than in CEE

Coefficient of variation for non-euro CEE countries

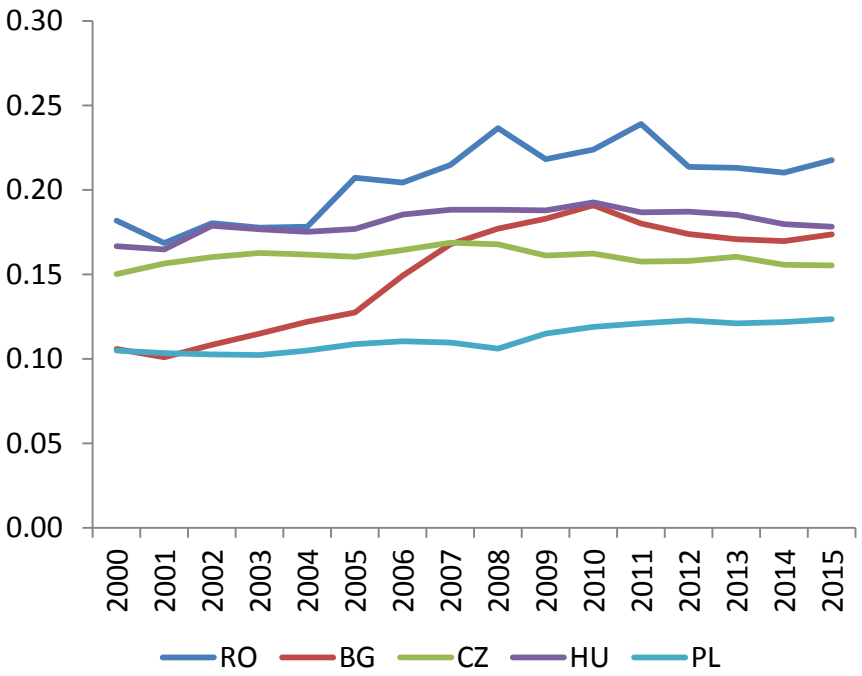


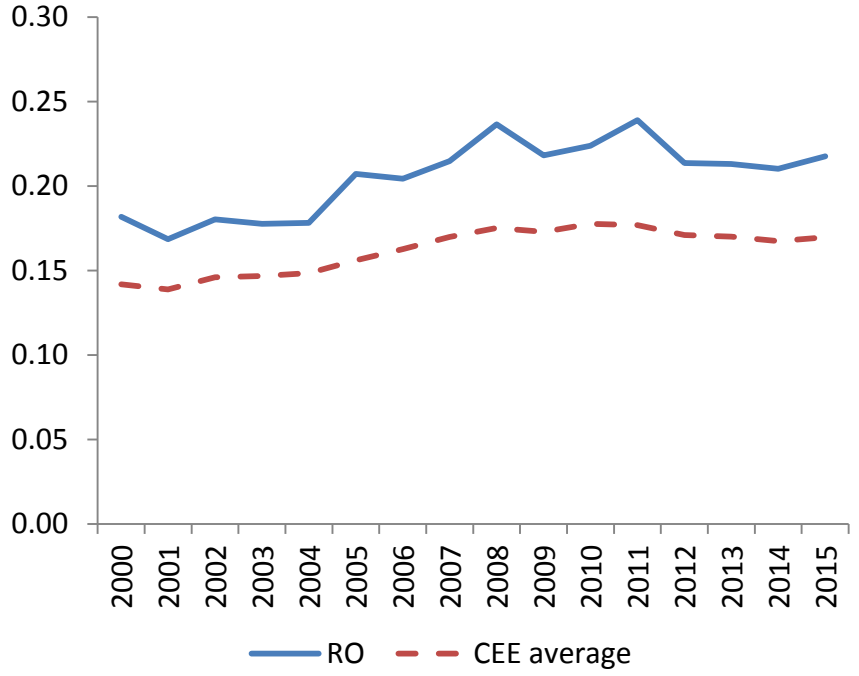


Note 1: $Coefficient\ of\ variation = \frac{\sqrt{\frac{\sum_{i=1}^{N}(y_i-\bar{y})^2}{N}}}{\bar{y}}$, *where* y_i *is the GDP per capita for region i,* $\bar{y}$ *is the country's average GDP per capita and N is the number of regions. For details see Lessmann (2011), "Regional Inequality and Descentralization – An Empirical Analysis" and Habanik, Hostak and Kutik (2013), "Economic and social disparity development within regional development of the Slovak Republic"*
Note 2: CEE countries: BG, CZ, HU, PL, RO; HR has been excluded because it has only 2 regions
Source: Eurostat, NBR calculations

Romania: more skewed distribution of GDP at regional level…

Gini coefficient for non-euro CEE countries





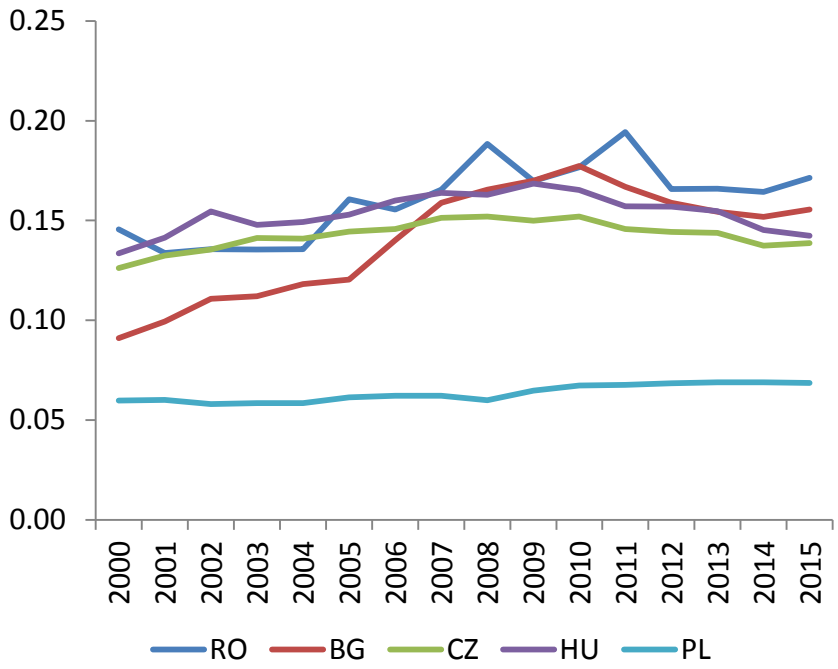
Note 1: $Gini = \frac{2\sum_{i=1}^{N} iy_i}{N\sum_{i=1}^{N} y_i} - \frac{N+1}{N}$ *, where* y_i *is the GDP per capita for region i* ($y_i \leq y_{i+1}$) *and N is the number of regions. For details see Lessmann (2011), "Regional Inequality and Descentralization – An Empirical Analysis" and Habanik, Hostak and Kutik (2013), "Economic and social disparity development within regional development of the Slovak Republic"*

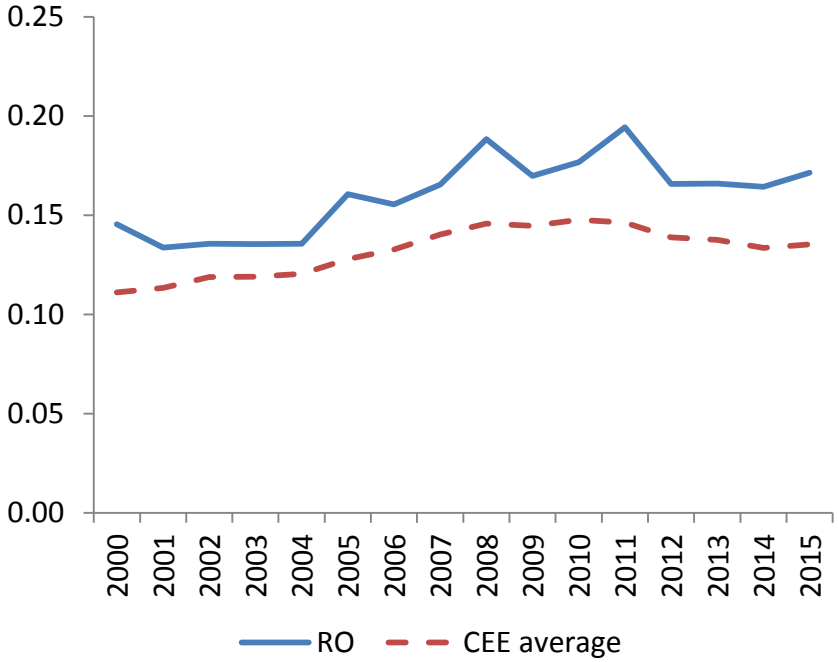
Note 2: CEE countries: BG, CZ, HU, PL, RO; HR has been excluded because it has only 2 regions

Source: Eurostat, NBR calculations

…even when GDP is adjusted for population

Population-weighted coefficient of variation for non-euro CEE countries





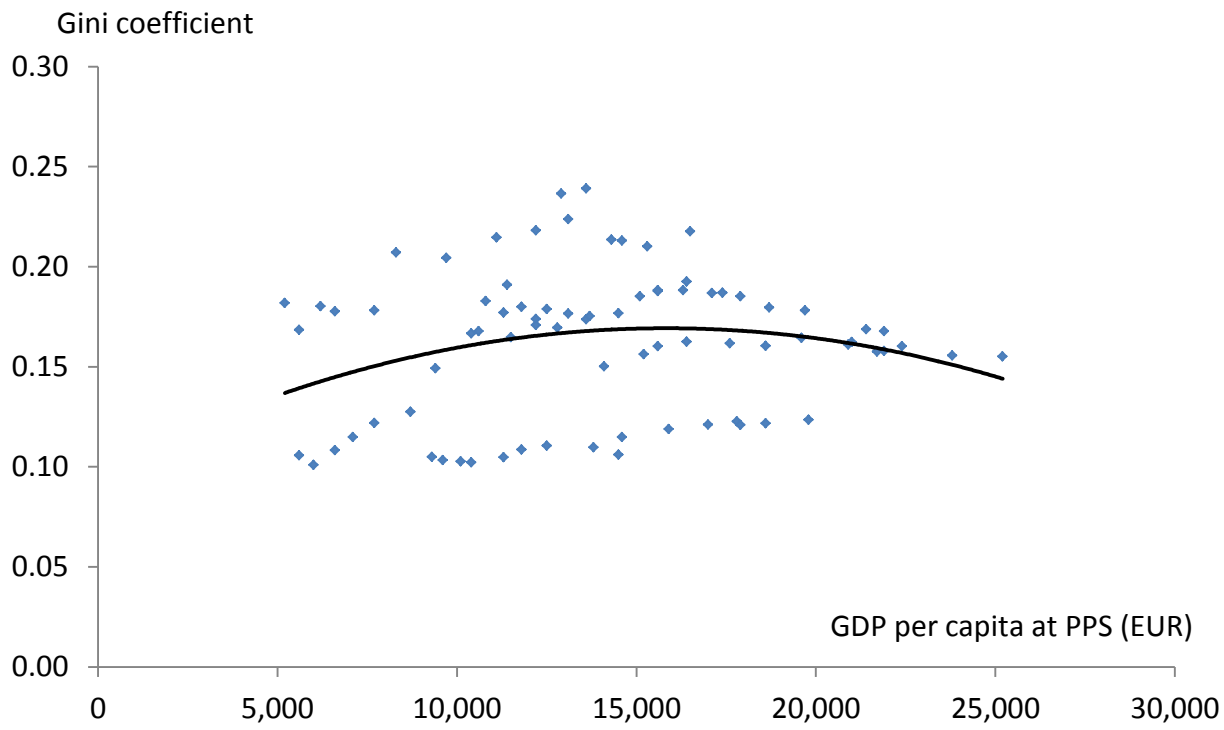
Note 1: $Population - weighted\ coefficient\ of\ variation = \frac{\sqrt{\frac{\sum_{i=1}^{N} p_i (y_i - \bar{y})^2}{N}}}{\bar{y}}$, *where* y_i *is the GDP per capita for region i, N is the number of regions and* p_i *is the share of population in region i in total country's population. For details see Lessmann (2011), "Regional Inequality and Descentralization – An Empirical Analysis" and Habanik, Hostak and Kutik (2013), "Economic and social disparity development within regional development of the Slovak Republic"*

Note 2: CEE countries: BG, CZ, HU, PL, RO; HR has been excluded because it has only 2 regions

Source: Eurostat, NBR calculations

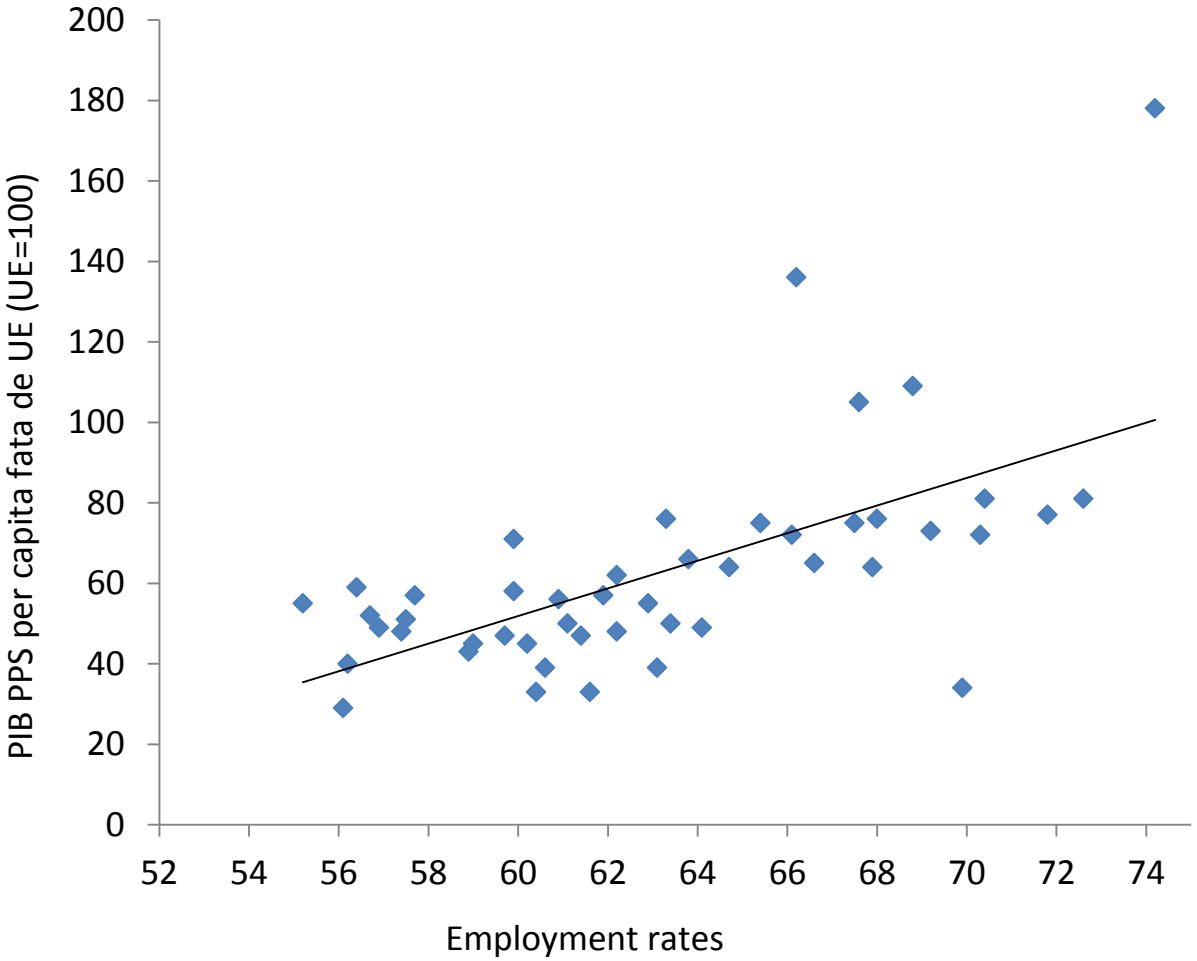
Inequality rises with development and it takes time and capital to adjust

Kuznets curve for selected CEE countries (annual data for 2000 – 2015)



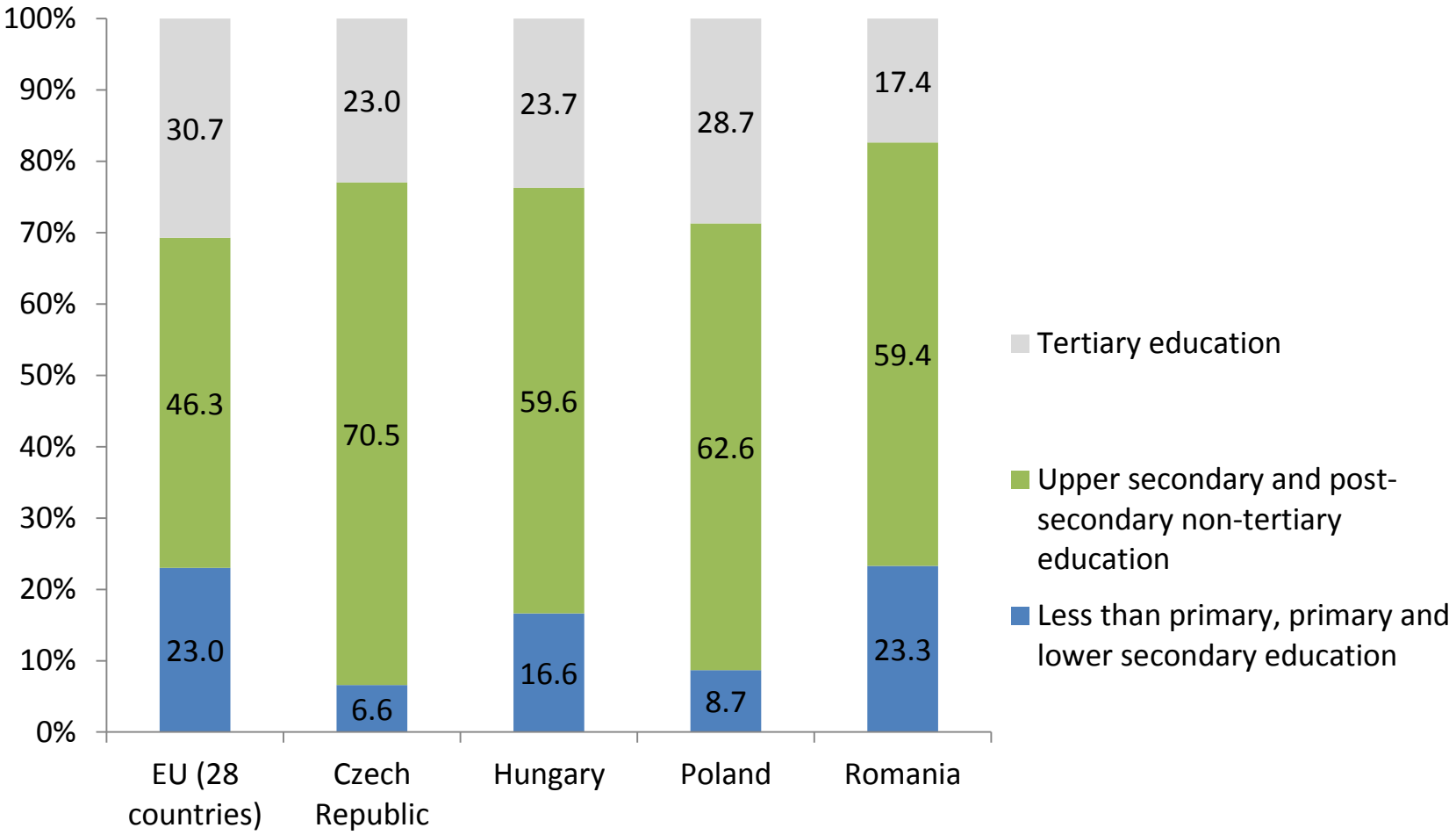
Note: CEE countries: BG, CZ, HU, PL, RO; HR has been excluded because it has only 2 regions
Source: Eurostat, NBR calculations

Higher employment rate, higher GDP per capita



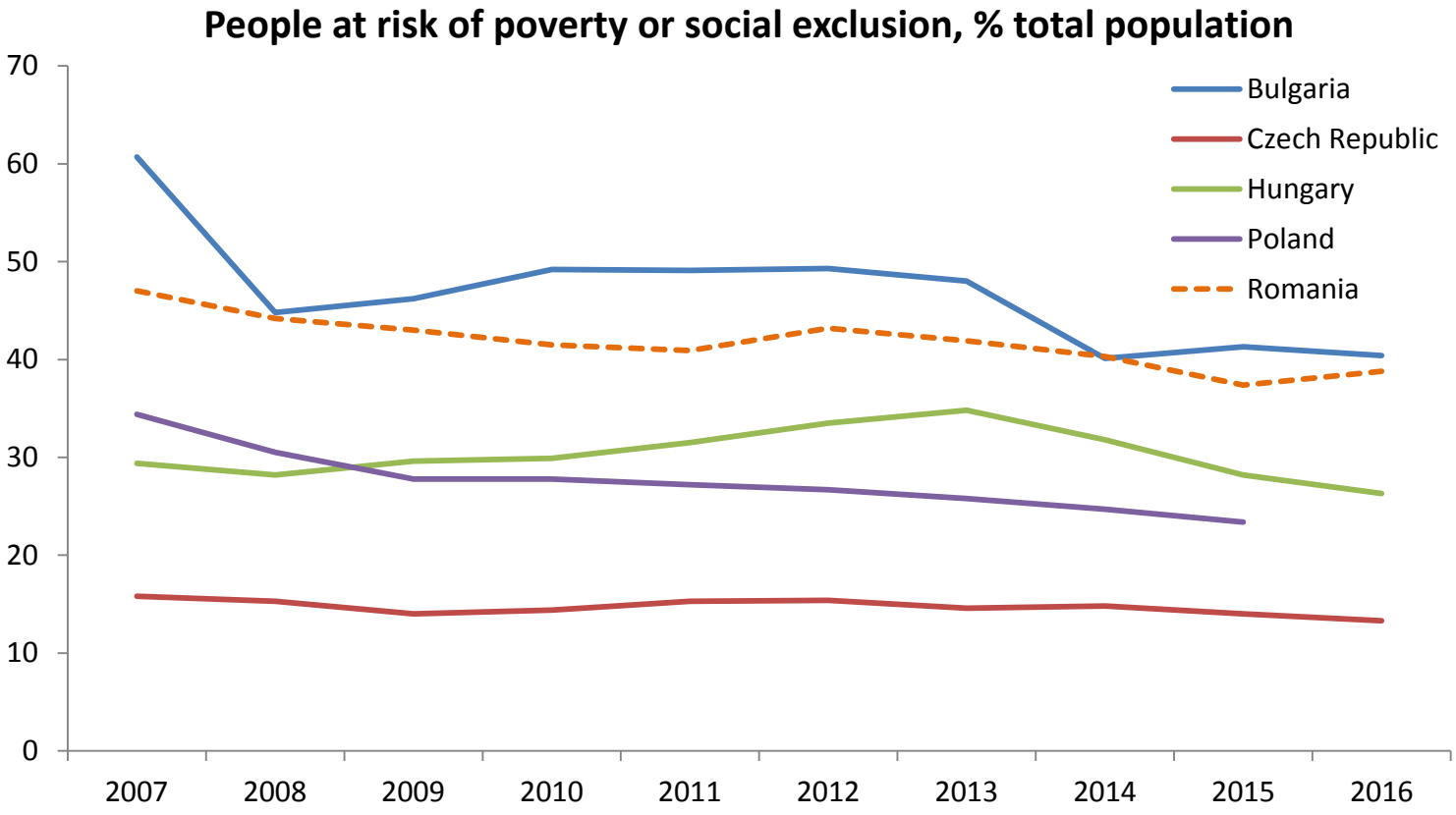
Note: data for BG, CZ, HR, HU, PL, RO regions - 2015
Source: Eurostat

Population aged 25-64 by educational attainment level



Source: Eurostat

Poverty and social exclusion: slight decline after EU accession, but still a national issue in many CEE



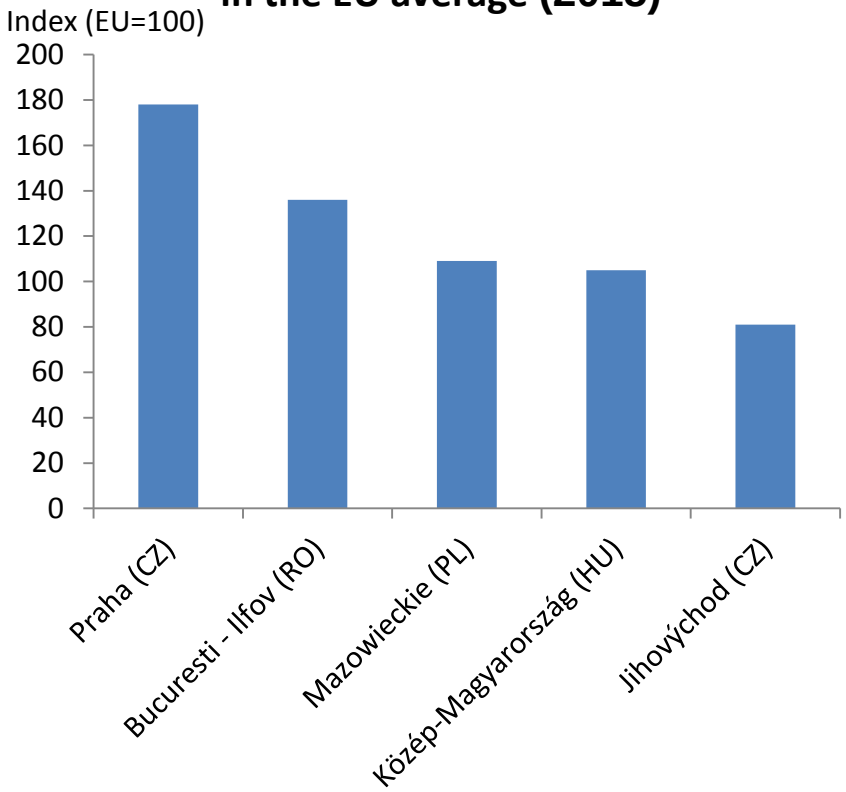
Definition: Persons who are at risk of poverty or severely materially deprived or living in households with very low work intensity. Persons are only counted once even if they are present in several sub-indicators. See **http://ec.europa.eu/eurostat/statistics-explained/index.php/People_at_risk_of_poverty_or_social_exclusion**

Source: Eurostat

II. Economic disparities at regional level in Romania

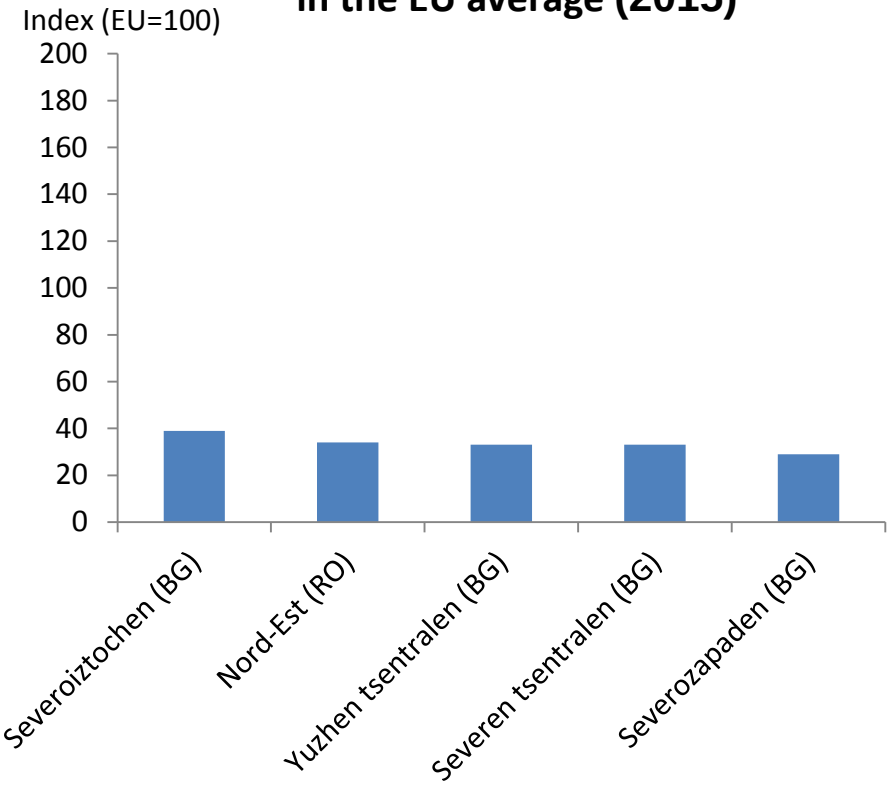
Regions in Romania amongst the richest, but also amongst the poorest in the non-euro CEE countries (cont.)

The 5 richest regions in the non-euro CEE countries, by share of GDP per capita at PPS in the EU average (2015)



Note: CEE countries: BG, CZ, HR, HU, PL, RO
Source: Eurostat

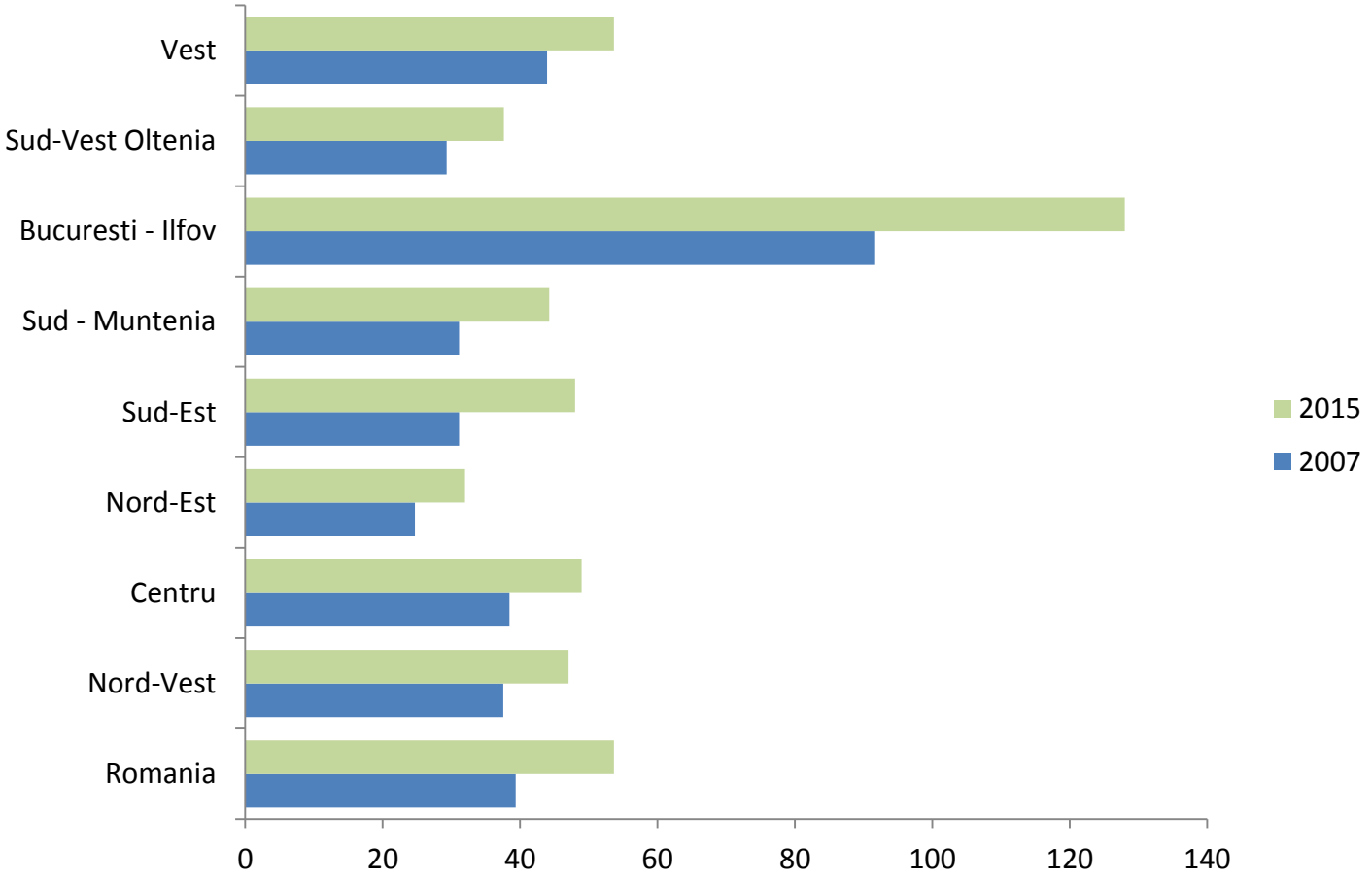
The 5 poorest regions in the non-euro CEE countries, by share of GDP per capita at PPS in the EU average (2015)



Note: CEE countries: BG, CZ, HR, HU, PL, RO
Source: Eurostat

All regions have been converging since EU accession, but at very different speed

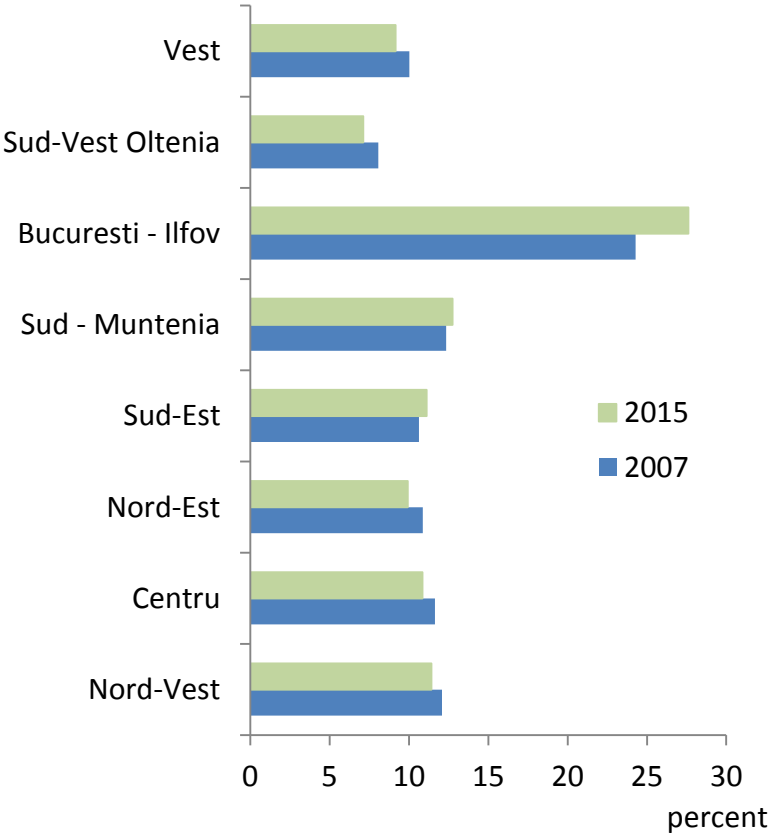
GDP, % of Euro zone 19, PPS per capita



Source: Eurostat

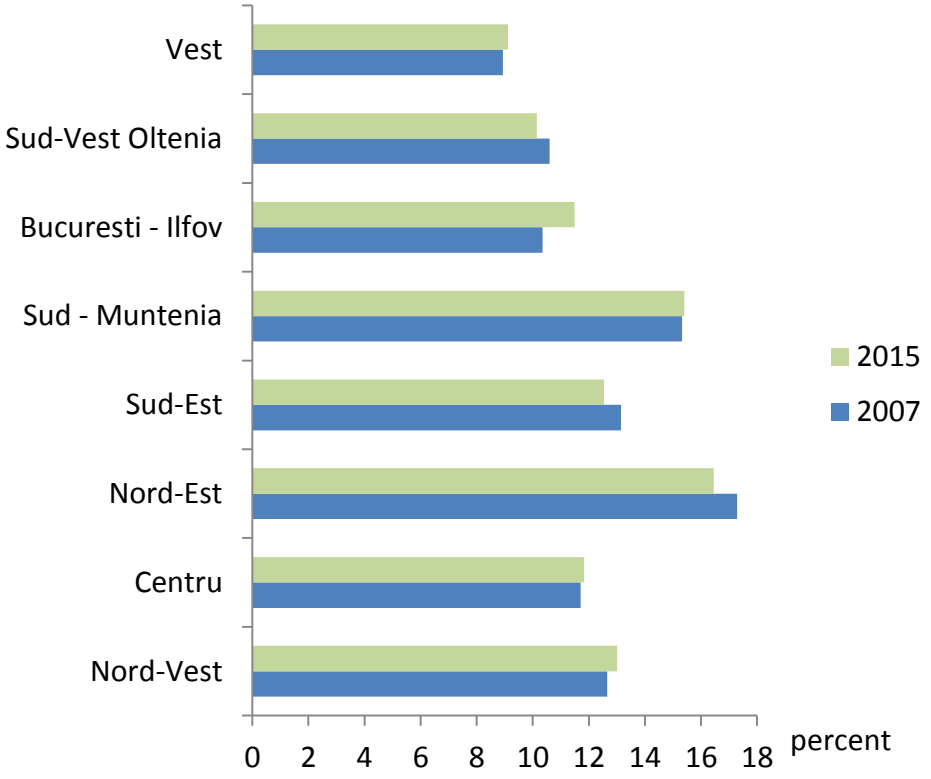
Bucharest and the rest: not enough for country-level convergence

Contribution to the national GDP



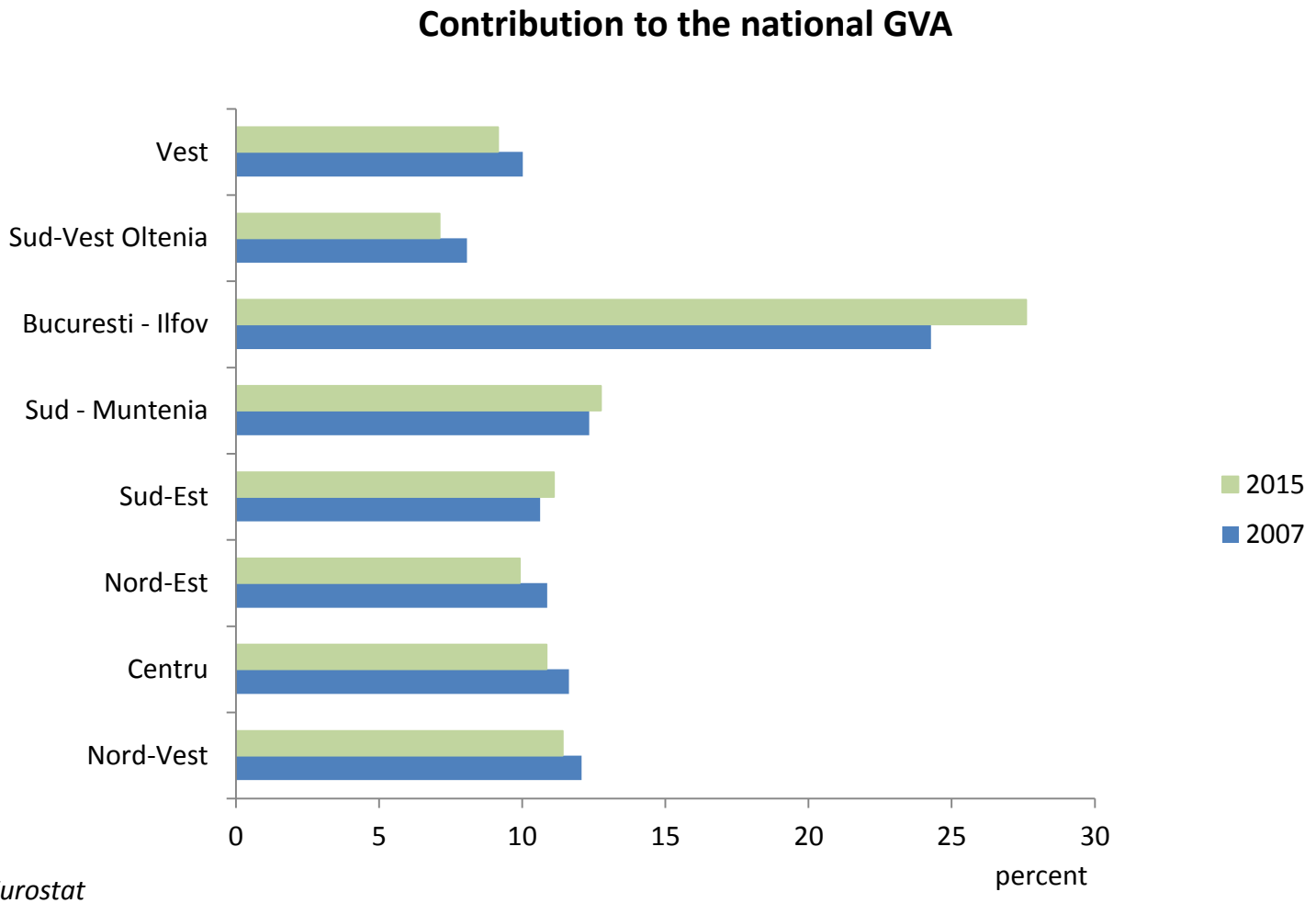
Source: Eurostat

Population by region



Source: Eurostat

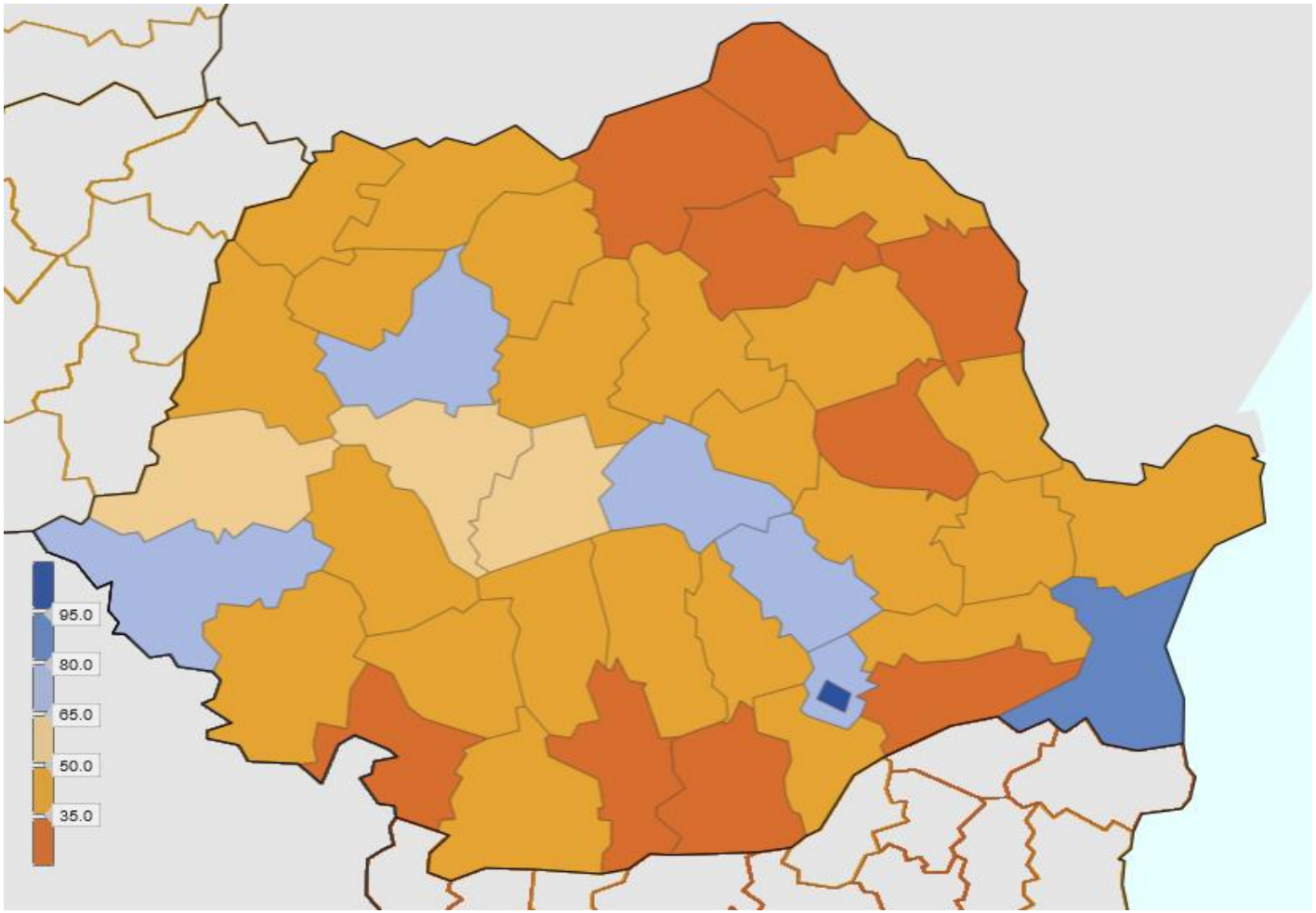
5 regions contribute now less to the national gross value added and GDP than in 2007



Source: Eurostat

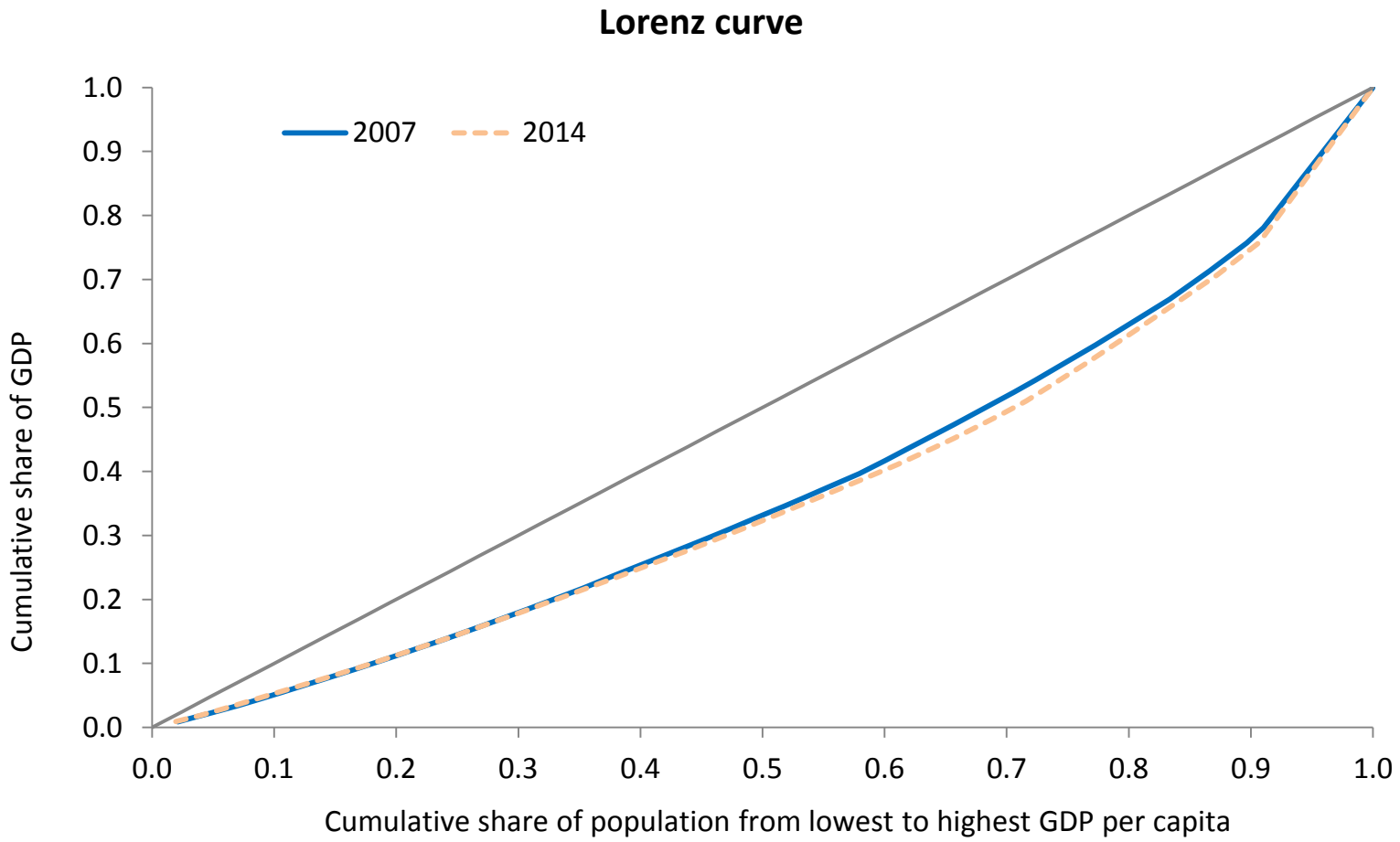
Strong spatial imbalances between metropolitan areas and non-metropolitan/rural areas…

County-level GDP per capita in 2014, EU=100



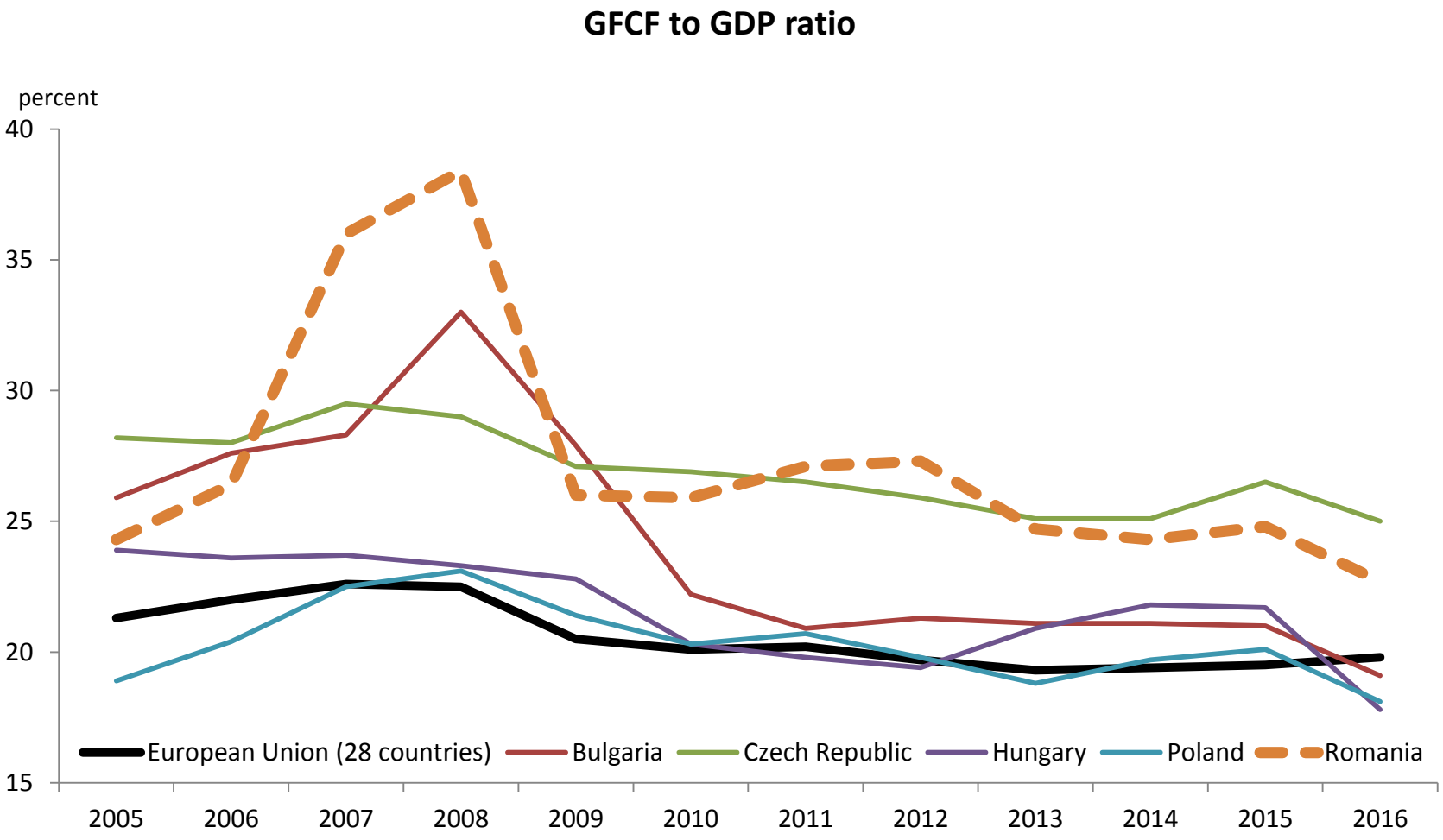
Source: Eurostat

… reflected in higher income inequality: lower middle class affected



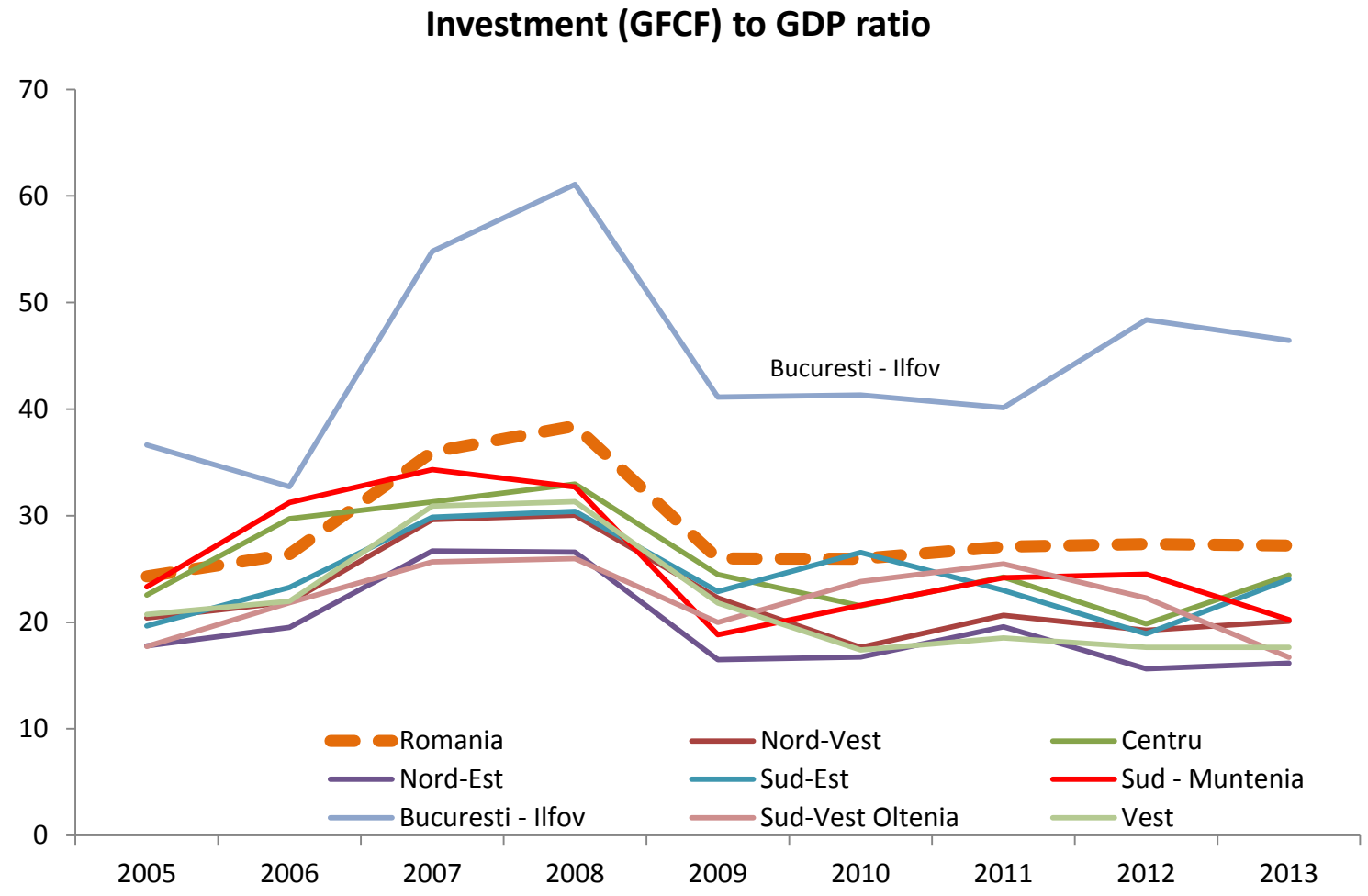
Source: Eurostat, NBR calculations

Share of investment in GDP is higher than in EU and most peers, …



Source: Eurostat

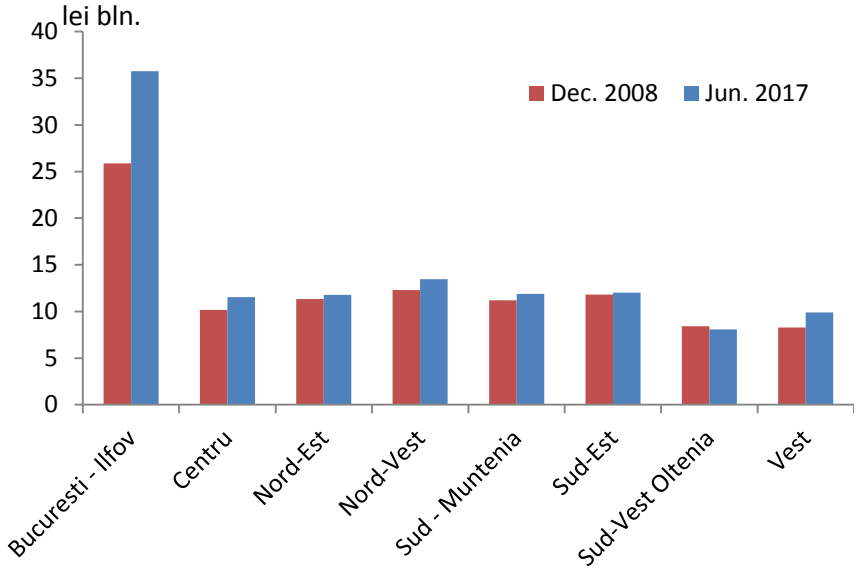
… but it is driven mostly by the *Bucharest-Ilfov* region. There is a strong polarization of investment



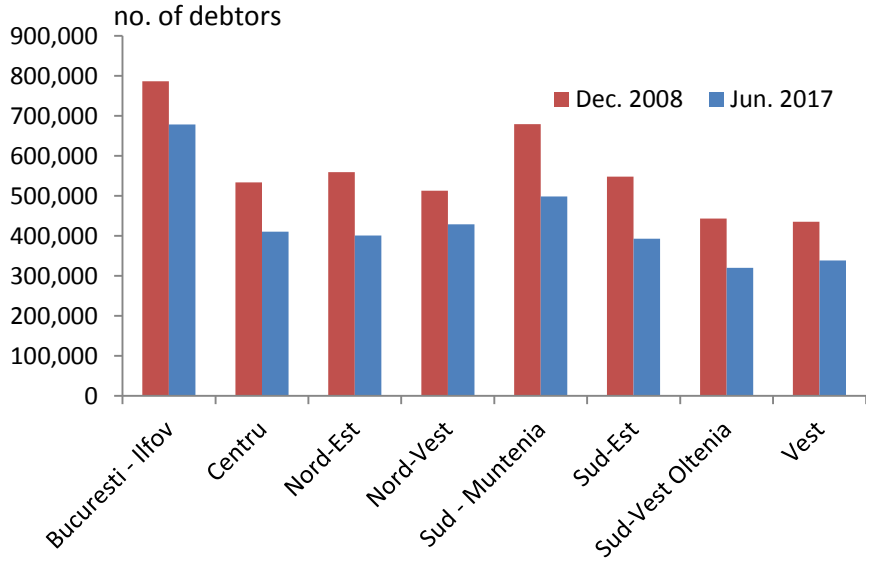
Source: Eurostat

Regional disparities: households' access to loans

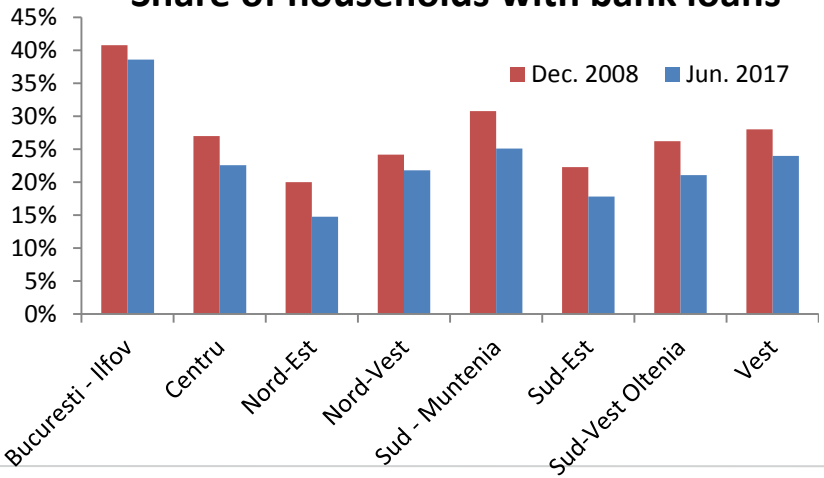
Total bank loans to households



No. of households with bank loans



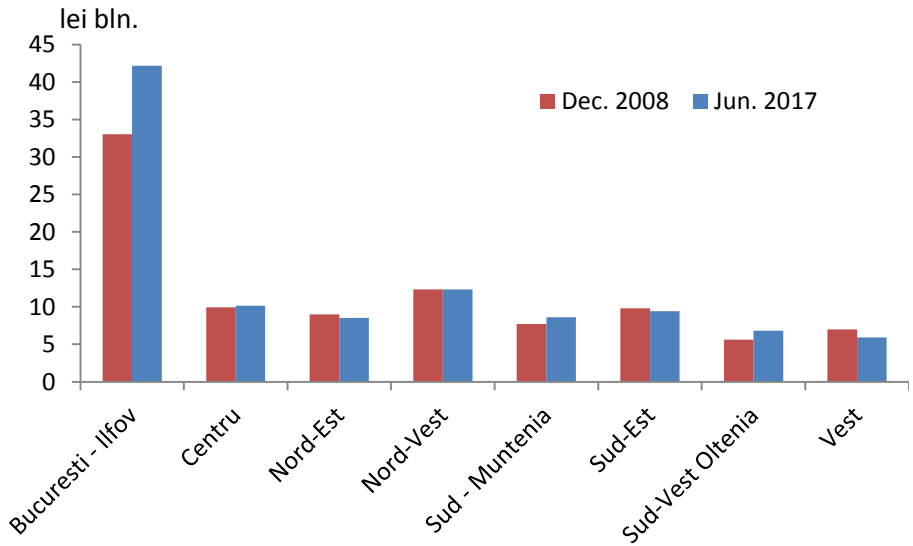
Share of households with bank loans



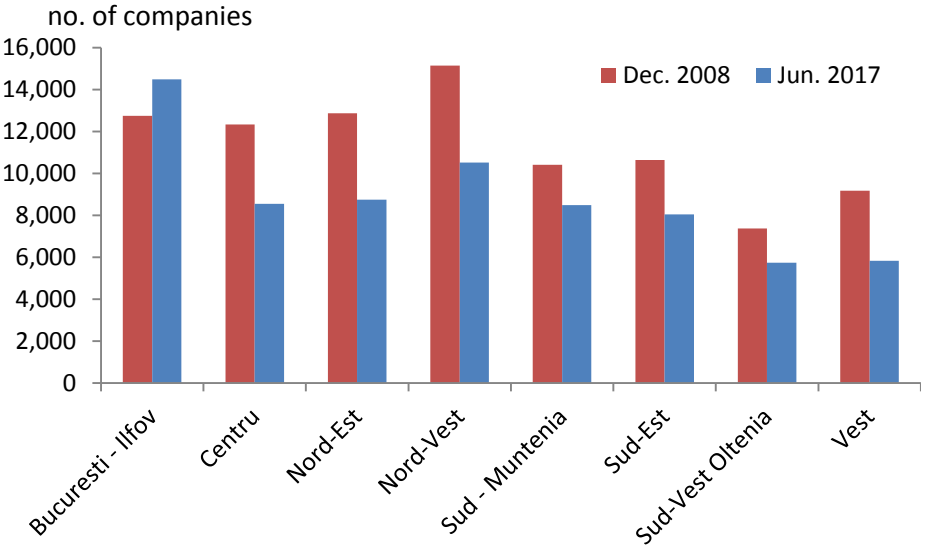
Source: NBR, NIS

Regional disparities: companies' access to loans

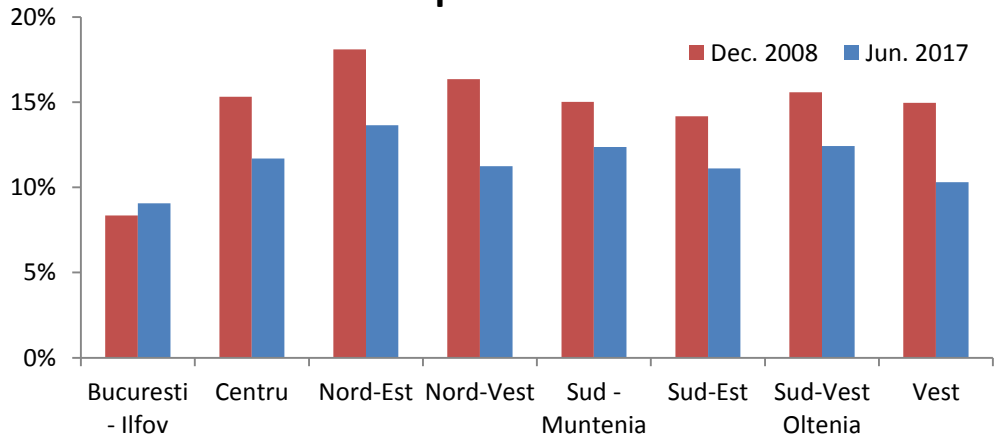
Total bank loans to companies



No. of companies with bank loans



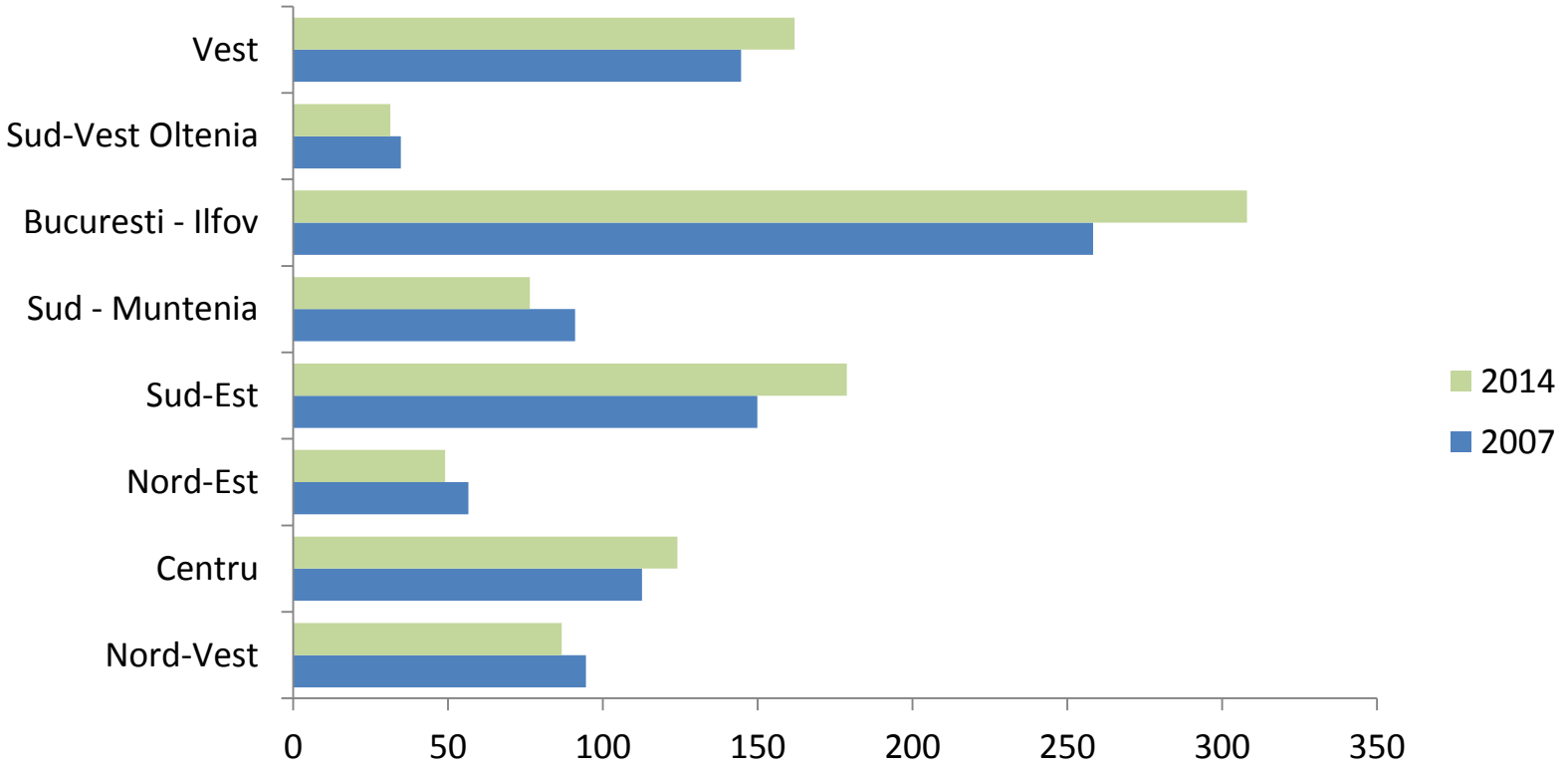
Share of companies with bank loans



Source: NBR, NIS, MPF

Regional disparities in terms of labour income widened

Compensation of employees per employed person, relative to national average (%)



Source: Eurostat

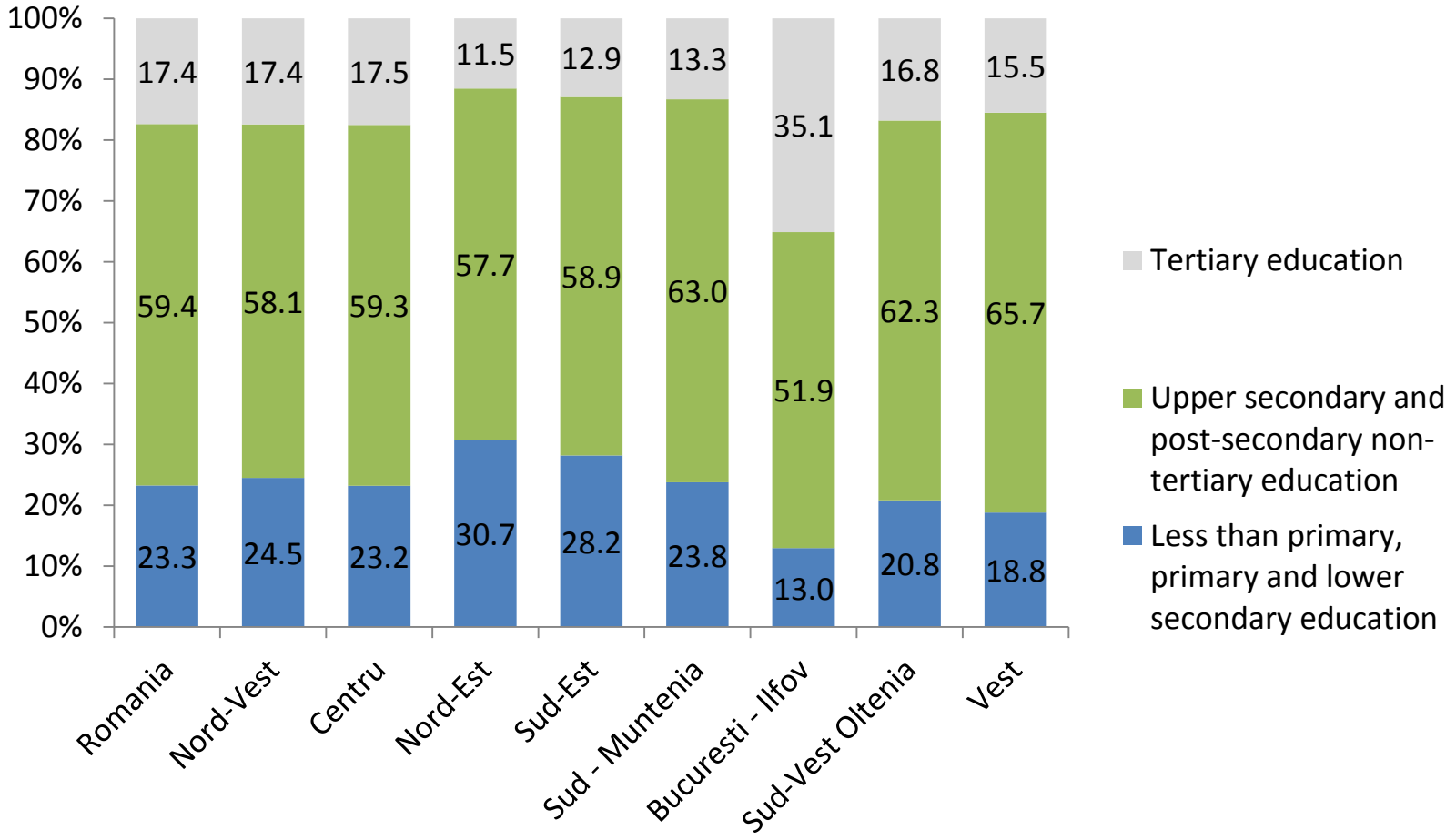
Metropolitan areas are specialized in industry and services while predominantly-rural areas in agriculture

Distribution of employment by activities and regions in 2014



Source: Eurostat

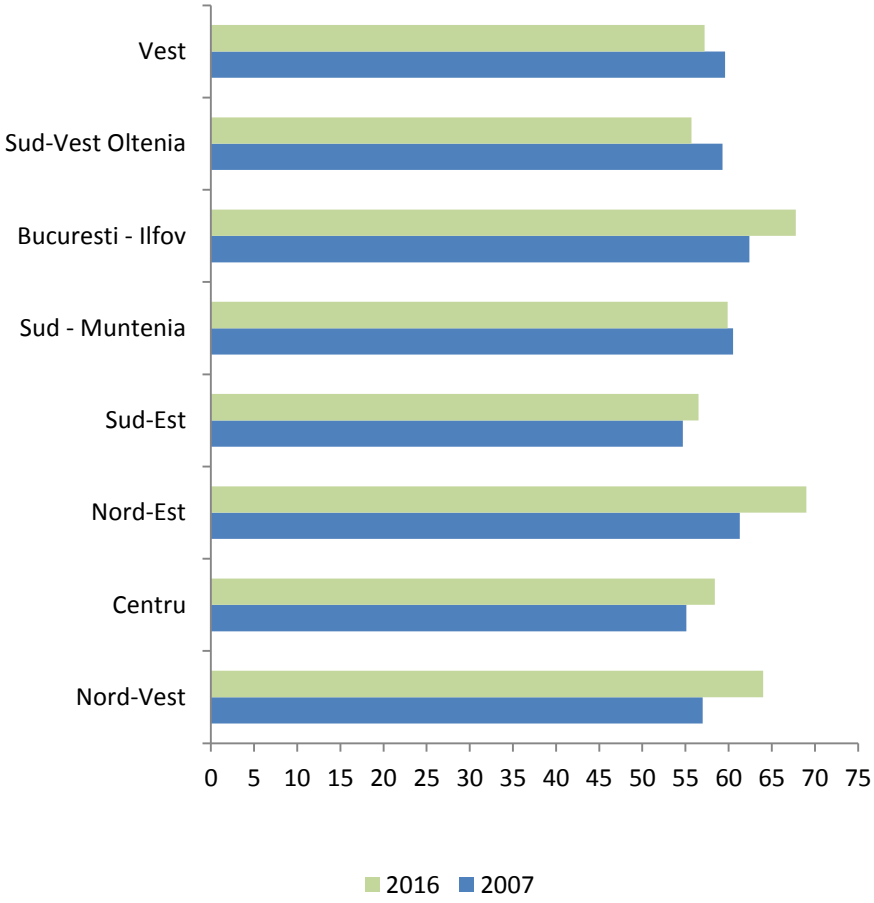
Population aged 25-64 by educational attainment level



Source: Eurostat

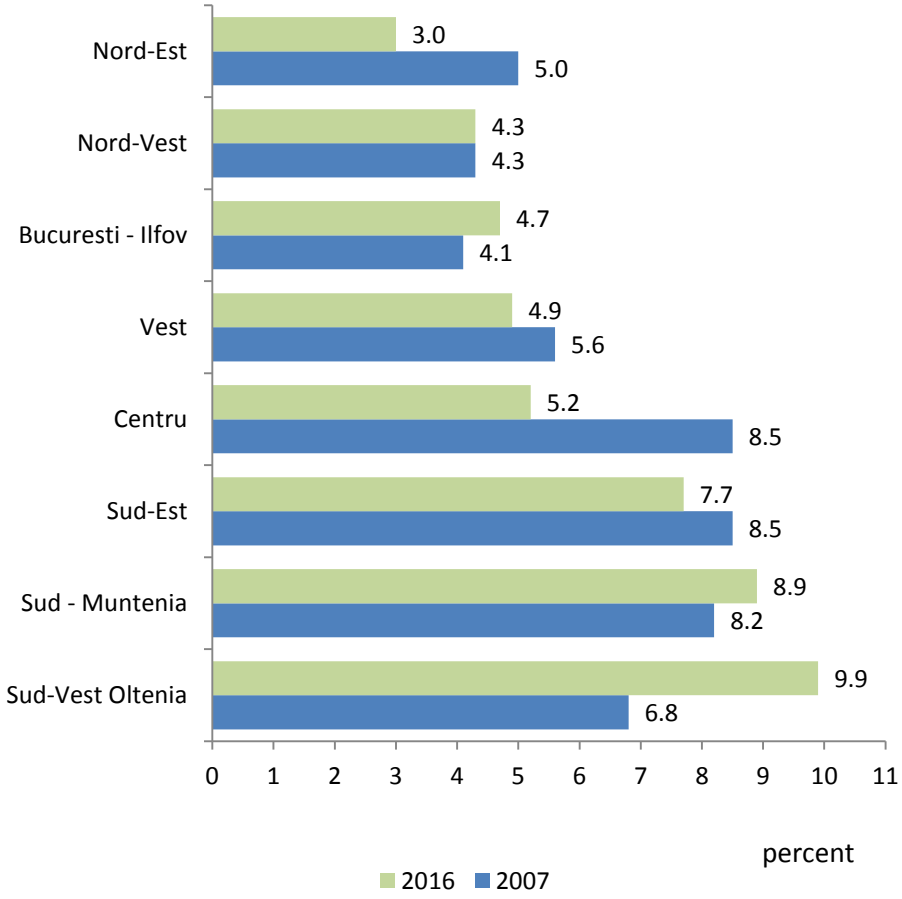
Strong variations in unemployment rate across regions

Employment rate



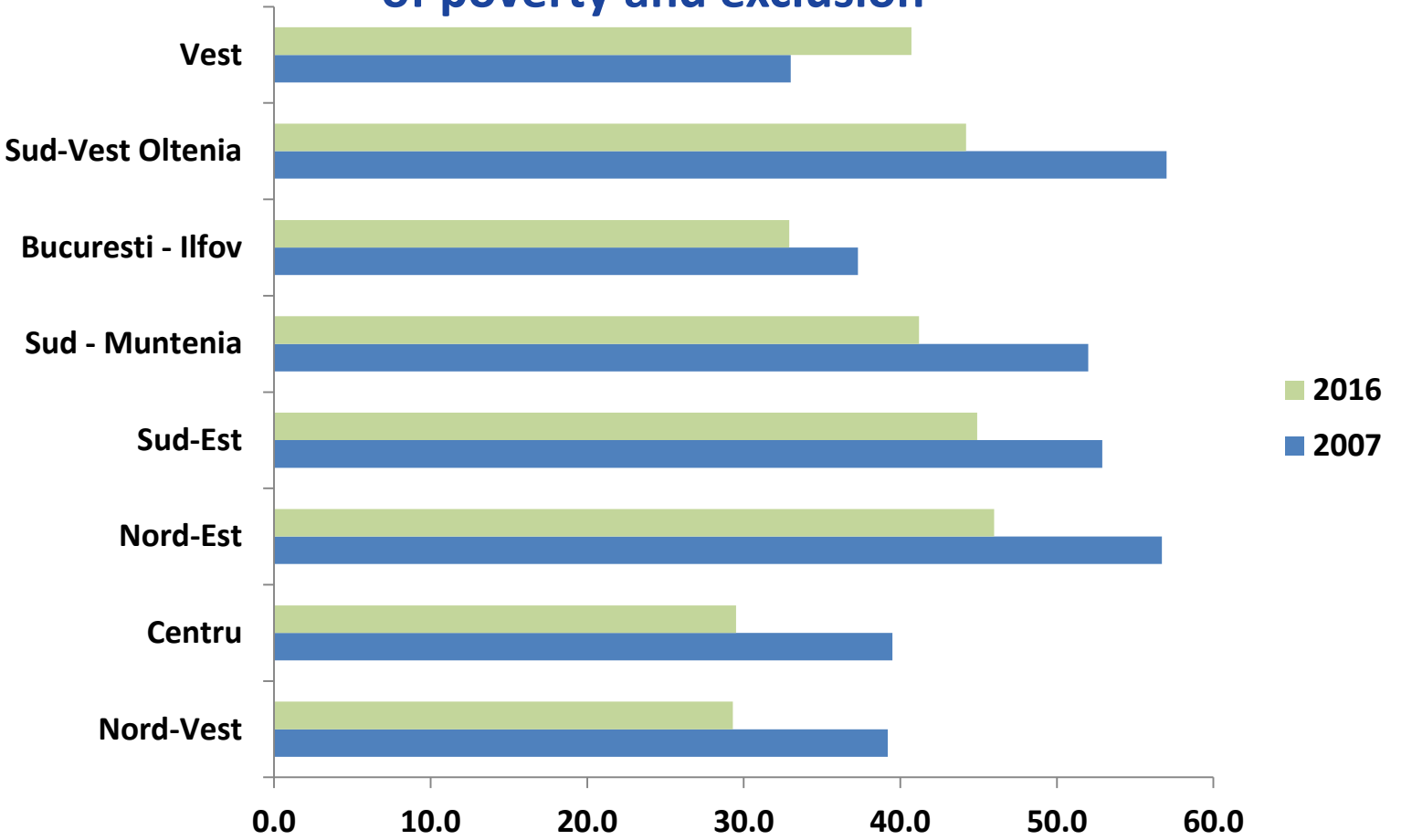
Source: Eurostat

Unemployment rate



Source: Eurostat

People at risk of poverty or social exclusion: improvements in 7 regions, but 5 regions are still above 40%; North-West has lowest risk of poverty and exclusion

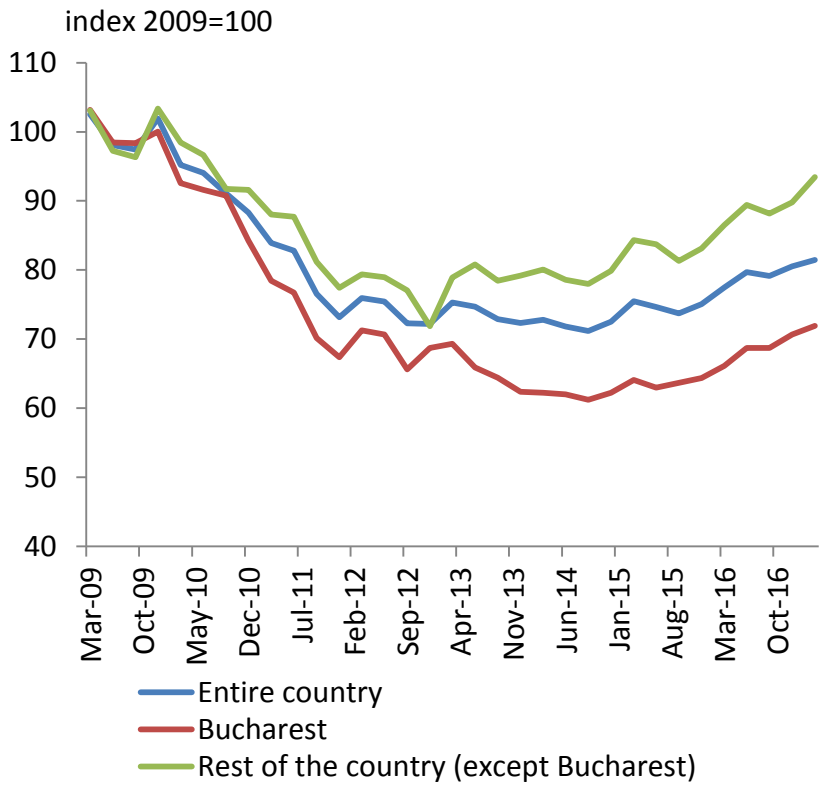


Definition: Persons who are at risk of poverty or severely materially deprived or living in households with very low work intensity. Persons are only counted once even if they are present in several sub-indicators. See **http://ec.europa.eu/eurostat/statistics-explained/index.php/People_at_risk_of_poverty_or_social_exclusion**

Source: Eurostat

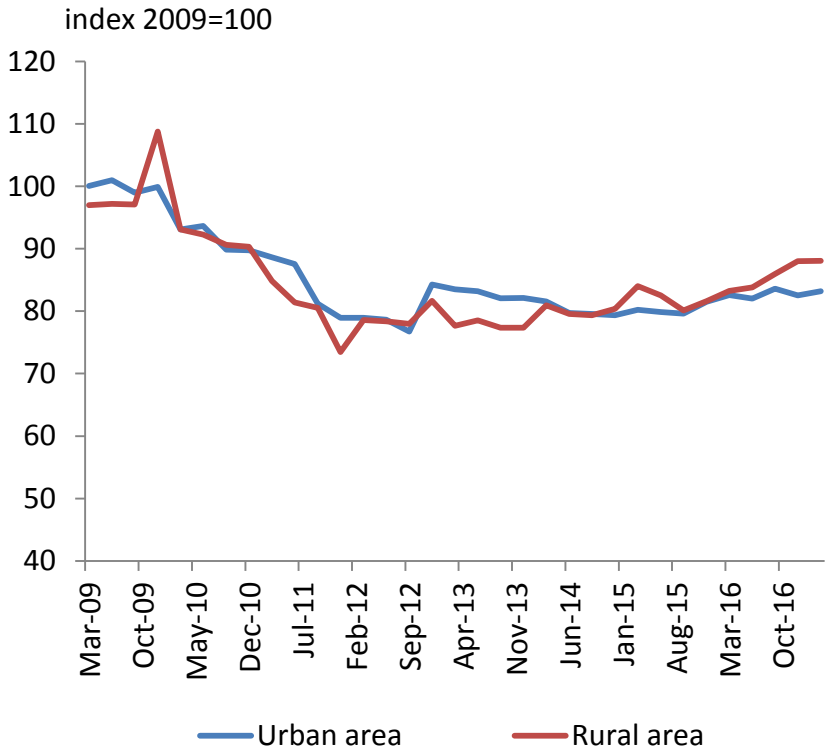
Real estate prices are recovering, yet Bucharest is lagging behind the rest of the country

Real estate prices by region



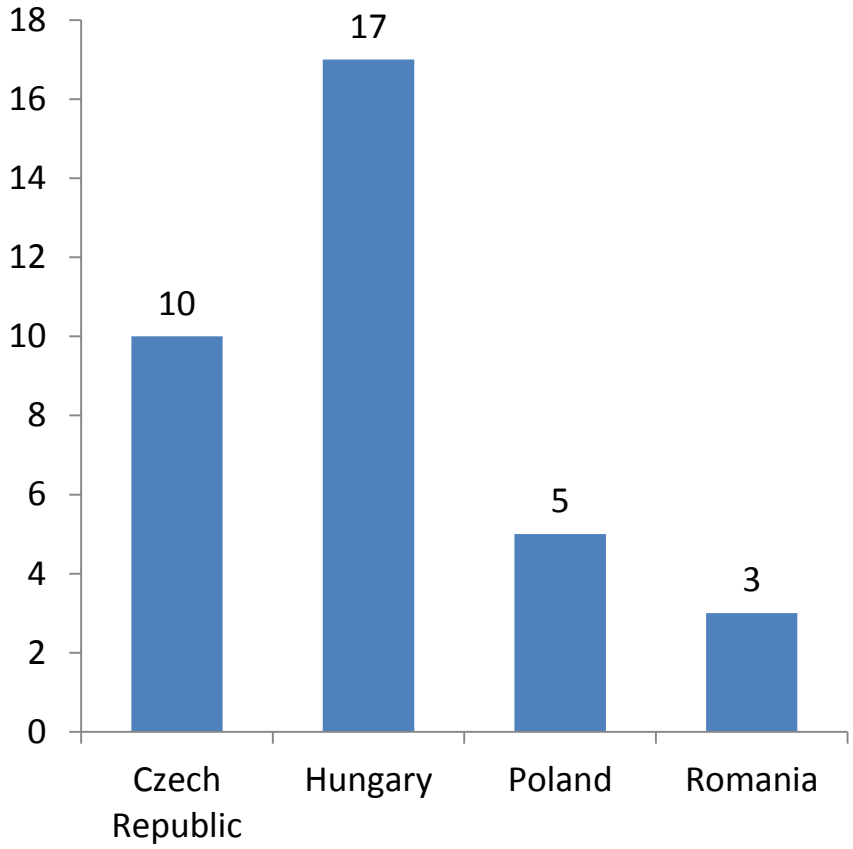
Source: NIS

Real estate prices by residential area



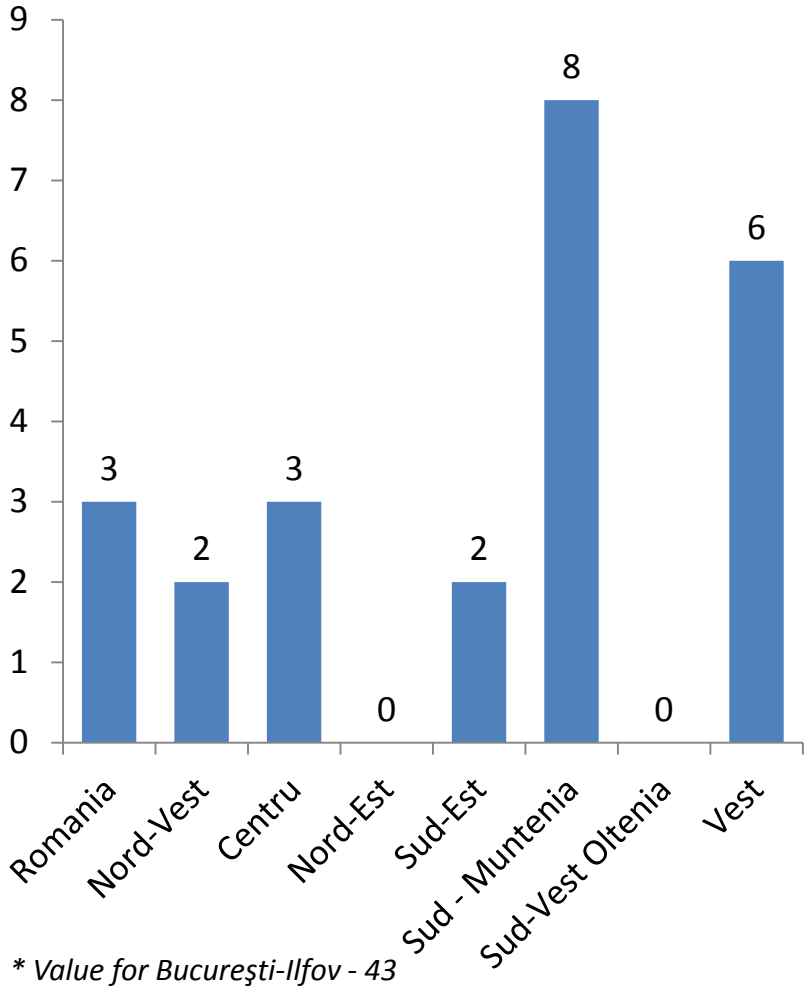
Source: NIS

Motorways (Kilometers per thousand square kilometer), 2015



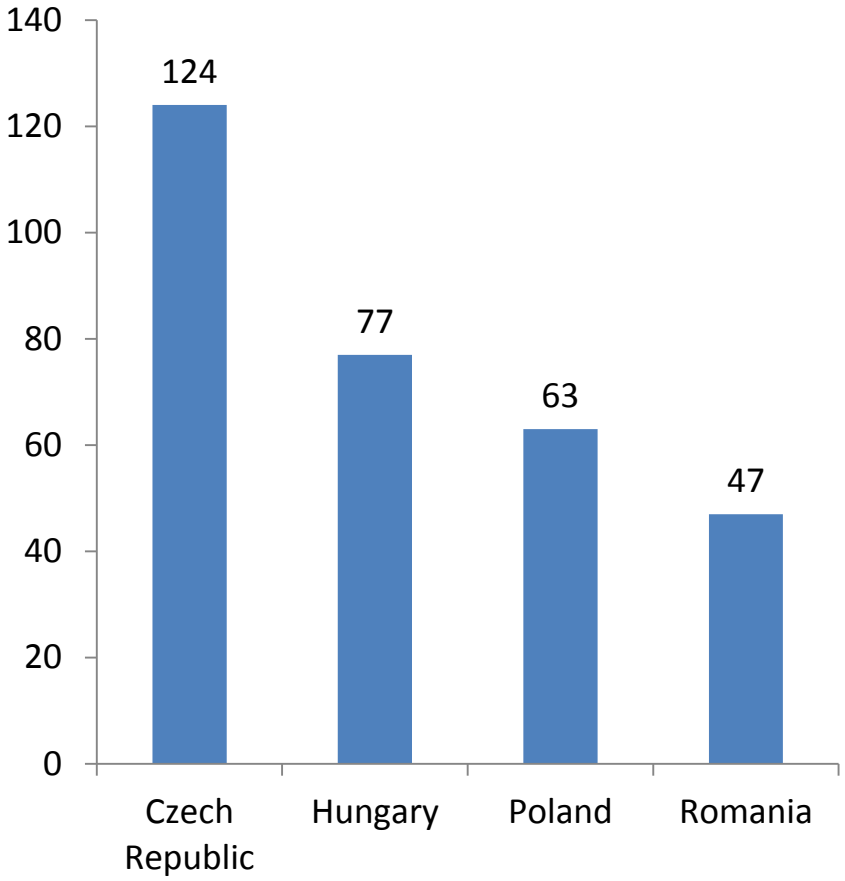
Source: Eurostat

Motorways (Kilometers per thousand square kilometer)*,2015



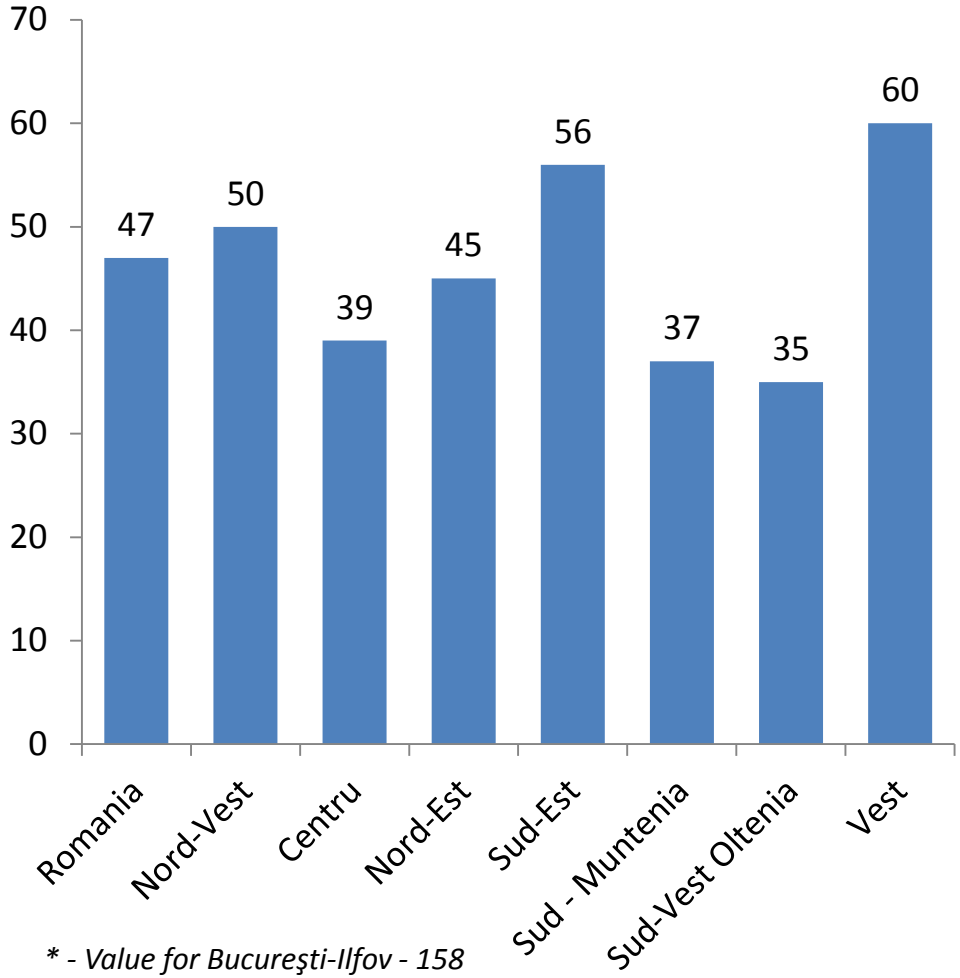
** Value for Bucureşti-Ilfov - 43*
Source: Eurostat

Total railway lines (Kilometers per thousand square kilometer), 2015



Source: Eurostat

Total railway lines (Kilometers per thousand square kilometer)*, 2015



** - Value for Bucureşti-Ilfov - 158*

Source: Eurostat

III. Main takeaways

- Since EU accession, convergence has been taking place, but at very different speed across regions.
- Imbalances and inequality have grown.
- Benefits of growth are unevenly distributed. Employment and investments vary a lot between regions.
- Poverty and risk of social exclusion has diminished, but with large cross-regional variations.
- Risk of middle income trap and persistence of high inequality.
- Bucharest is almost 30% of national GDP and advancing.
- 5 regions have diminished their contribution to national GVA and GDP since EU accession.
- More integration is needed, through cross-regional investments, in particular in infrastructure.
- Intra-regional workforce mobility should be encouraged: access to work and to a more developed region also increases access to finance.
- Think national and European.
- Economic and financial stability benefits from less inequality and more inclusive growth.