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## Regional Convergence-Divergence in Europe in the 2000s

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# The issue

- Regional convergence is a European issue since the Rome Treaty
- Massive funding was used for the purpose with meager results
- Uneven development is also a general (geographic) phenomenon
- Paul Krugman on Detroit's automotive industry: it is not granted it will stay there forever



# Real convergence

- Statistical interpretation:
  - Absolute convergence (catching-up, Barro and Sala-i-Martin, 1992)
  - Conditional convergence (convergence to long-term national growth potential, Sala-i-Martin, 1994)
  - Beta- and sigma convergence ( catching-up vs. more homogenous sample)
- Economic content:
  - Growth rate differentials: when do we reach the average level?
  - Homogeneity: condition for smooth functioning and efficient economic policy (also expressed in nominal convergence criteria of the Maastricht Treaty)
- Geographic dimensions: cross-country and regions (NUTS 2 and 3); EU cohesion policy



# Empirical facts 1.

- Accession rounds reduced homogeneity and cohesion (except the 1997 round)
- After accession new members' convergence was quick, later decelerated
- Cross-country convergence increased, regional convergence (within country convergence) declined after 2004, also in Core-Europe (contradiction with the neoclassical theory, and also with major EU ambitions – 174. paragraph of the Lisbon Treaty)
- Changes after 2008: EU convergence slowed down (divergence in Core-Europe, convergence only in high-growth new member states – Poland, Slovakia and Bulgaria); regional divergence in all new member states (during the whole transition period after 1989) e.g. NUTS 2 var. Increased from 0,15 to 0,4 in Romania btw. 1995-2005 (Monfort, 2008)



# Empirical facts 2.

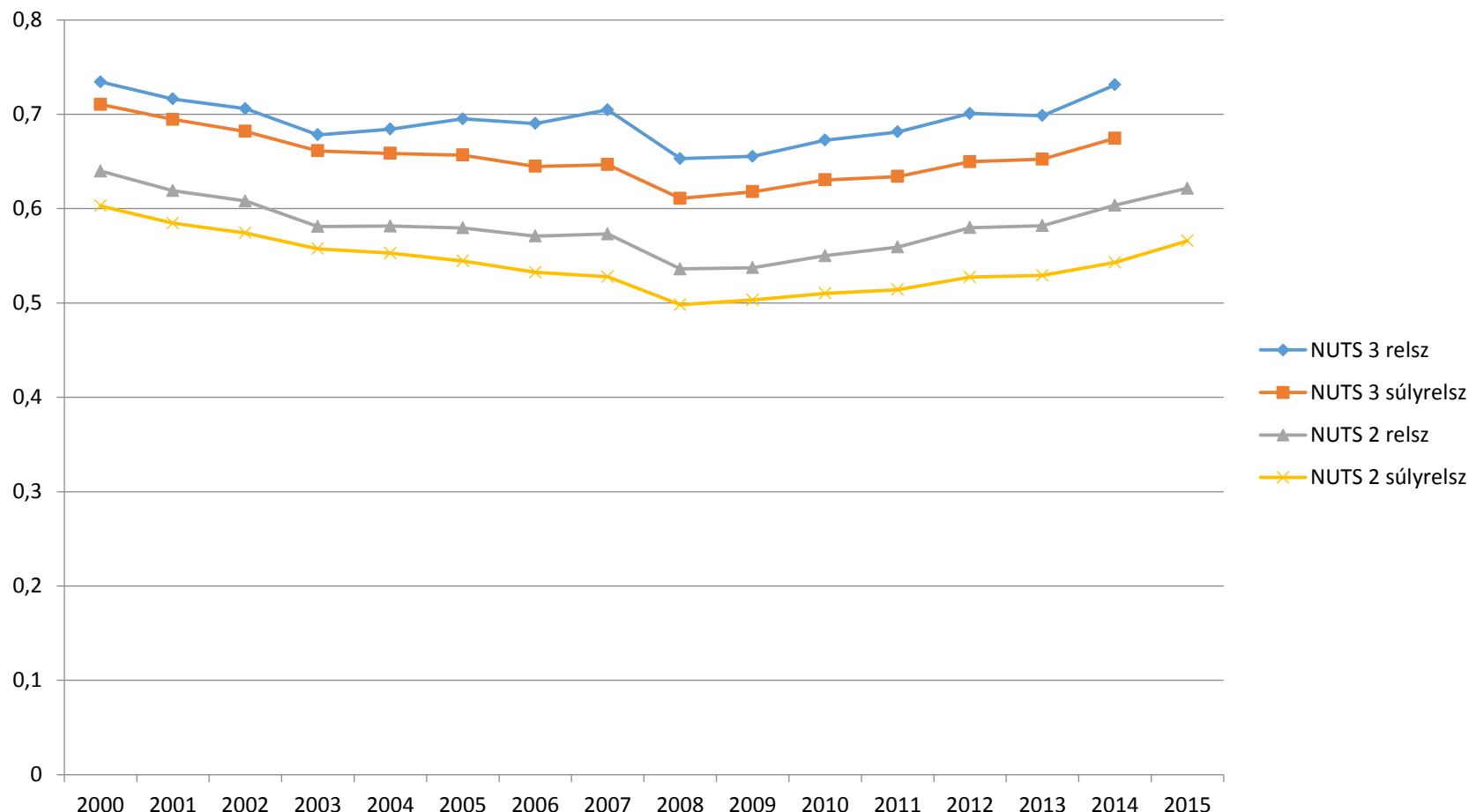
- Kramar (2016): Core-Europe's variance steady btw. 2000-2008 and increased in 2010-2011; new members' variance declined from 0,37 to 0,2 (convergence)
- More fine geographic decomposition increased variance (NUTS 2 nets out much of the difference in NUTS 3 level); new members convergence much slower on NUTS 3 level (within-country divergence); EU 28 overall divergence after 2008 (measured on finer NUTS 3 data)
- Consequence on EU cohesion policy, new category: slow growth regions (middle income trap?) besides low income regions.



# New qualities of the exercise

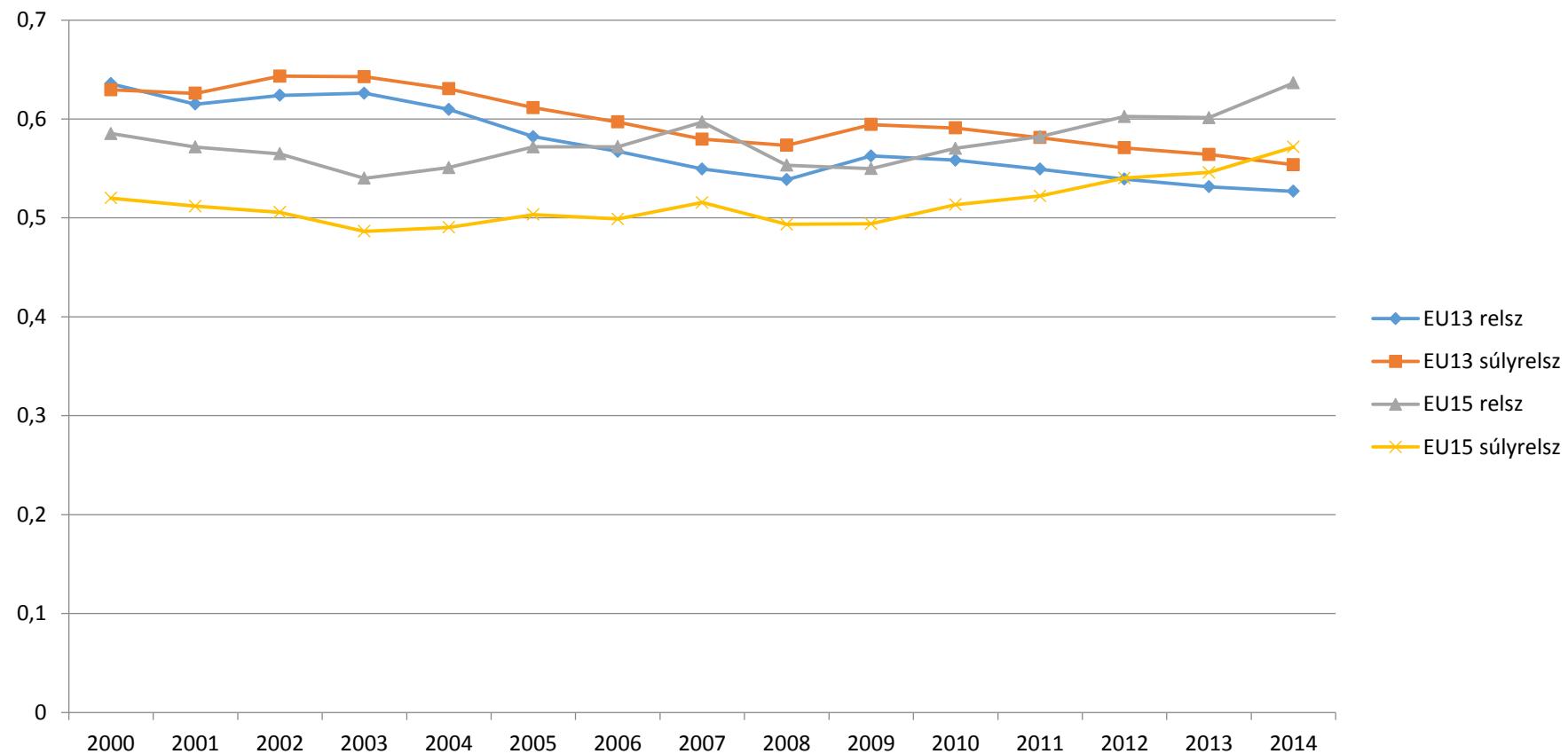
- Calculation of sigma convergence (homogeneity)
- Calculation with standard deviation not variance (relative std and population weighted relative std)
- Refinement of the geographic decomposition (identification of high growth hot spots, separation from the data of other regional units – mainly capital cities and a few other towns, e.g. Győr in Hungary) NUTS 3 data
- Variable: per capita GDP (ppp), available for all NUTS 3 geographic units of EU 28 (Source: Eurostat)

# Relative std and weighted relative std (EU 28, NUTS 2 and NUTS 3)





# Rel. std for EU 13 and EU 15, NUTS 3





# Conclusions

- EU 28 convergence after 2008 was maintained by EU 13 country averages
- No increasing divergence was found in EU 13
- 2000-2008 stagnating convergence, after 2008 strong divergence in EU 15
- Main cause is the lack of growth: there is no excess income
- EU 13 convergence based on capital cities' and major hubs' performance: not proved (big differences were preserved)
- Lack of convergence during the 2000s contradicts the neoclassical theory and shows disappointing results of EU cohesion policy

