

The Speeds of Europe – an analysis of regional disparities across the EU

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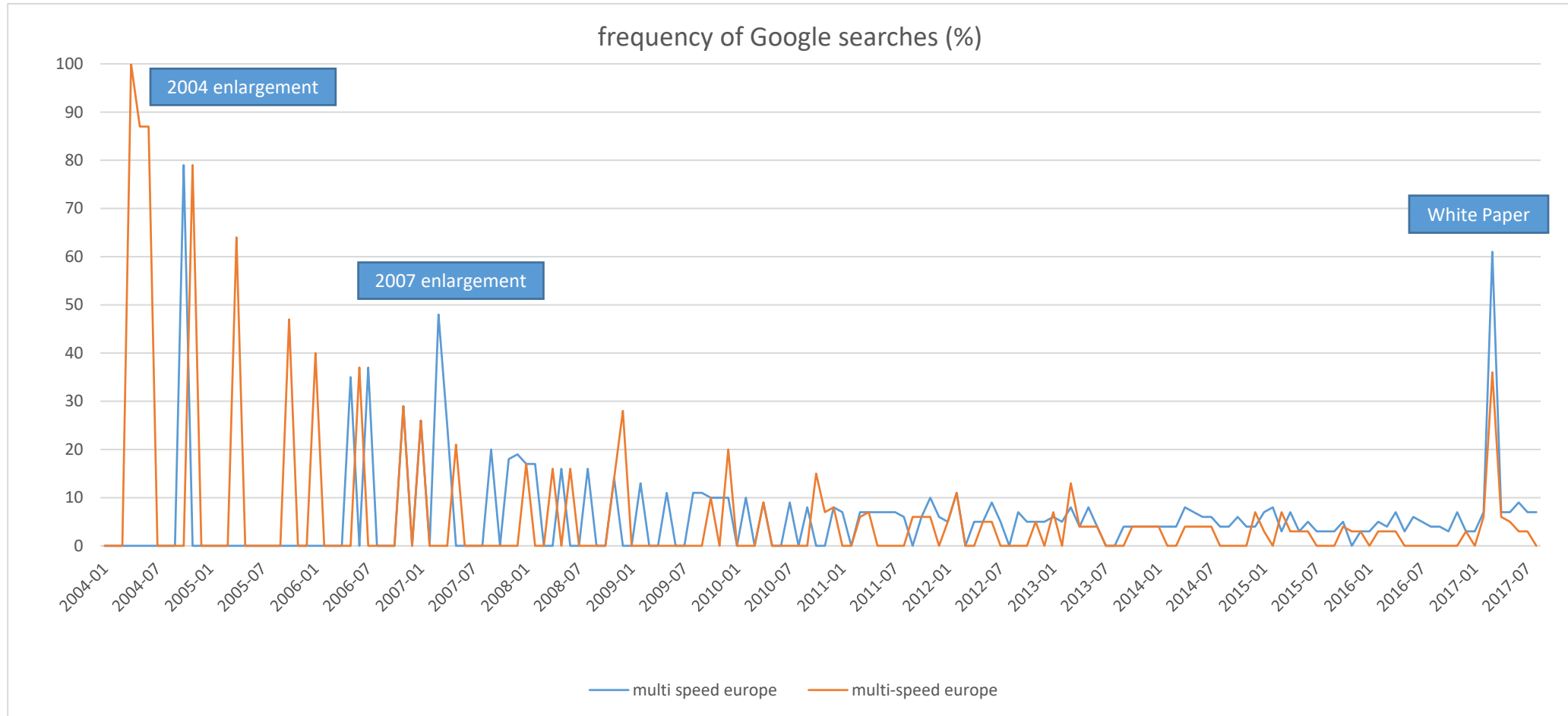
Europe at a Crossroads

The EU has been facing challenges in recent years

- Accession of new members (RO, BG, HR)
- Financial crisis
- Migration crisis
- Perceived rises in social inequalities
- Lack of confidence in EU institutions
- Rise of populism
- Brexit

Multi-Speed Europe: a solution? a reality?

Multi-Speed Europe



Frequency of the search terms „multi-speed europe“ and „multi-speed europe“ on Google since 2004. Google Trends data, own representation.

Multi-Speed Europe: a brief clarification

“Those who want to do more...” (Juncker, 2017)

→ closer cooperation on some issues (already existing in some cases: patent law, transaction tax, Euro)

The “core countries” narrative

- historically meant the North-South divide - reawoken in Euro crisis
- more recently used for East-West divide, contrasting older and newer member states
- often carries a normative component (“leaders and laggards”, “dutiful vs. lazy”, etc.)

Possible consequences of Multi-Speed Europe for newer Member States

- further alienation
- incentive for further integration (benefits increasing step-by-step)
- comply-or-opt-out: the “core countries” continue to set the direction of policies

EU27 - Economic realities

- *Developments in working life in Europe (2016)*: large discrepancies in nominal hourly earnings (ex. €28 in Denmark, Belgium, Luxembourg, less than €5 in Romania, Bulgaria, Lithuania)
- Full-time employment rate below 2006 levels until 2015, part-time employment has grown – in 2015 it was 14% above the 2006 level.
- Low-skilled workers especially affected by labour market developments
- Large disparities with respect to risk of poverty (household income below 60% of median national income), severe material deprivation (the inability to afford certain goods and services) or households with very low work intensity (less than 20% of full work capacity)

Convergence: Literature Review

- Broad picture: slow income convergence between countries, with regional income and employment disparities increasing
Rodriguez-Pose and Gill 2003; Terrasi 2000; Cappelen et al. 2003, Meliciani 2006, Maza and Villaverde 2004
- Criticism of conventional beta-convergence approaches: misspecification of the model, not taking into account distortionary factors, use of inappropriate data
Cheshire & Magrini, 2000, Petrakos, Rodriguez-Pose & Rovolis, 2005, Quah, 1996
- We supplement existing literature by providing an updated perspective on the distribution of inequality for all phases of EU expansion, thus taking a closer look at the core-periphery divide, and decomposing inequality into its determinants.

The Theil Index of concentration

Inequality indicator - part of Generalized Entropy Indicators

$$T = \sum_{i=1}^n \left[\frac{a_i}{A} \ln \left(\frac{\frac{a_i}{A}}{\frac{b_i}{B}} \right) \right]$$

a and b : value of some variable (e.g. GVA or population) for each group,
 A and B : sum of the respective variables over all the groups.

- **Additively decomposable** for different levels of spatial aggregation and determinants of inequality → combined decomposition (regions, countries, employment, productivity, etc.)
- Often used in spatial inequality analysis (e.g. Bracalente and Perugini 2010; Haughton and Khanker 2009; Faíña and López-Rodríguez 2004; Terassi 2000)

Contributions of the groups can be either positive or negative; equal share of both variables → ratio equals 1, contribution will be zero → values between 0 and infinity

Data

Variables:

- Gross Value Added (GVA) in 2005 constant EURO
- employment
- Population

Data source: European Regional Database (ERD) by Cambridge Econometrics

Sample: 189 regions

- Timeframe 1991-2014
- NUTS 2 level

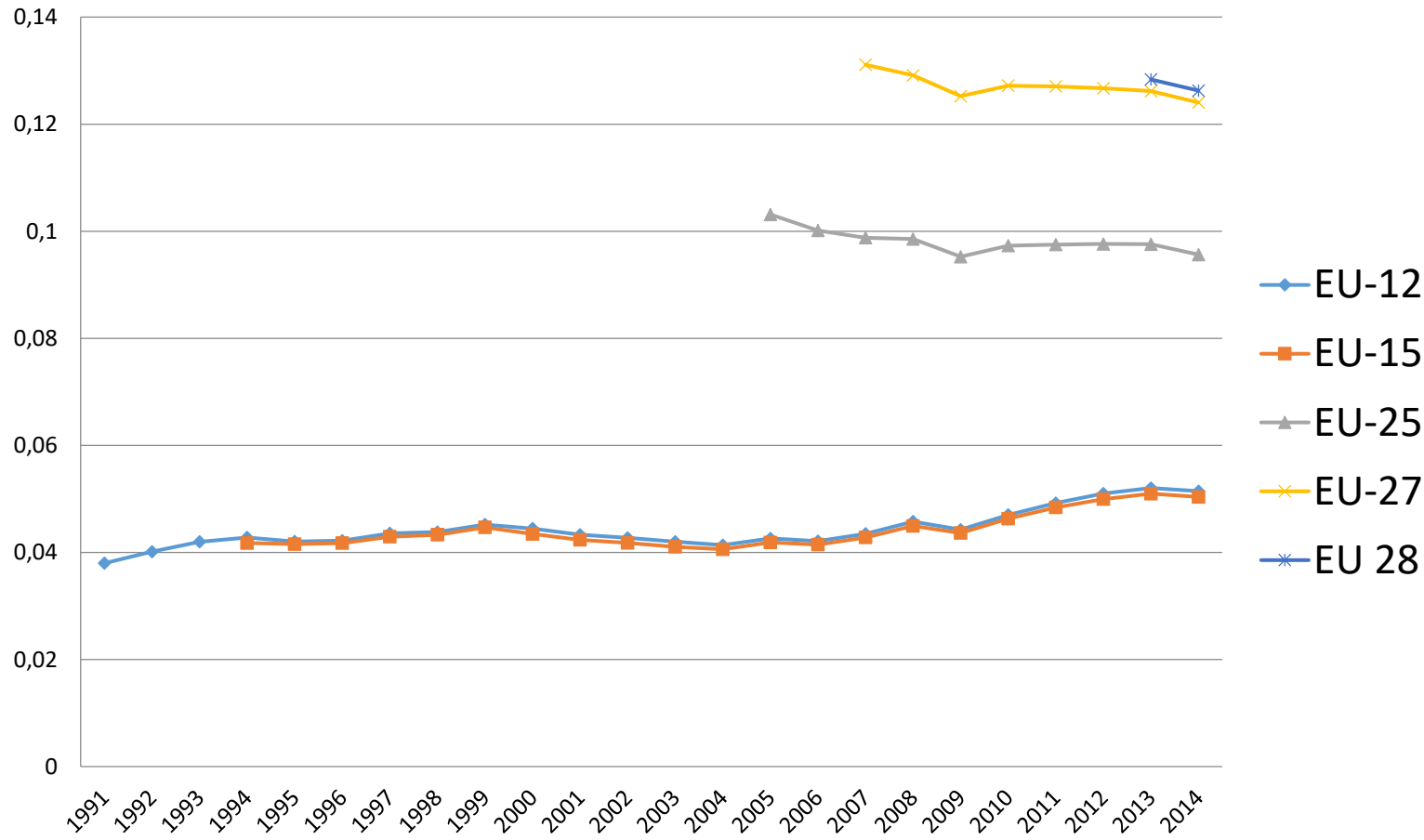
NUTS 1 data is used for Belgium, Germany, the Netherlands, Greece and the UK

NUTS 0 is used for Malta, Luxemburg, Latvia, Lithuania, Cyprus and Estonia

We eliminate a number of regions due to their remote geographical positions

Results

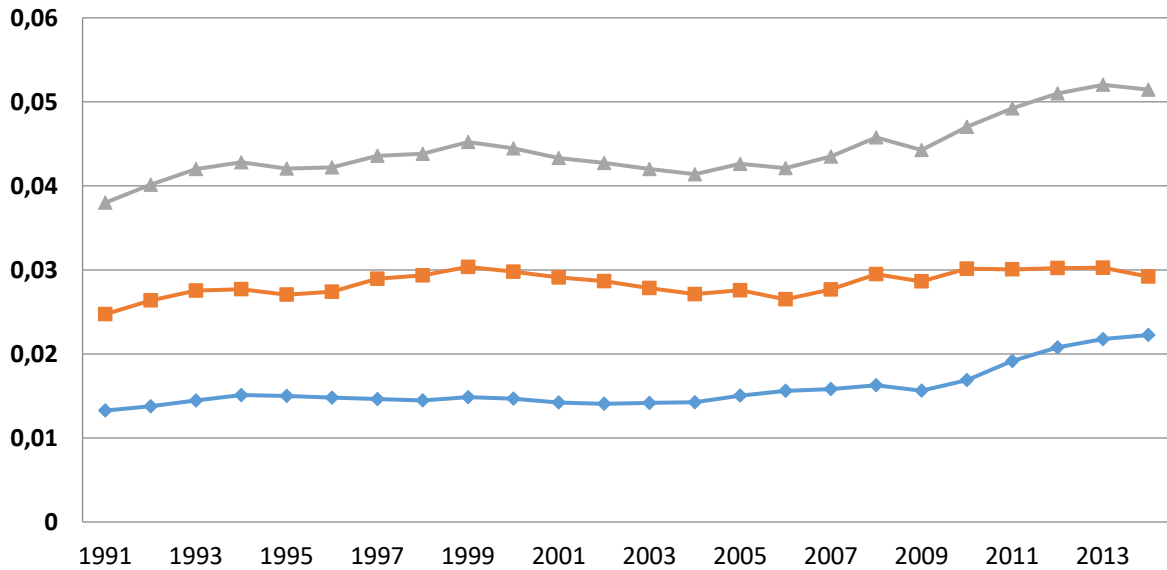
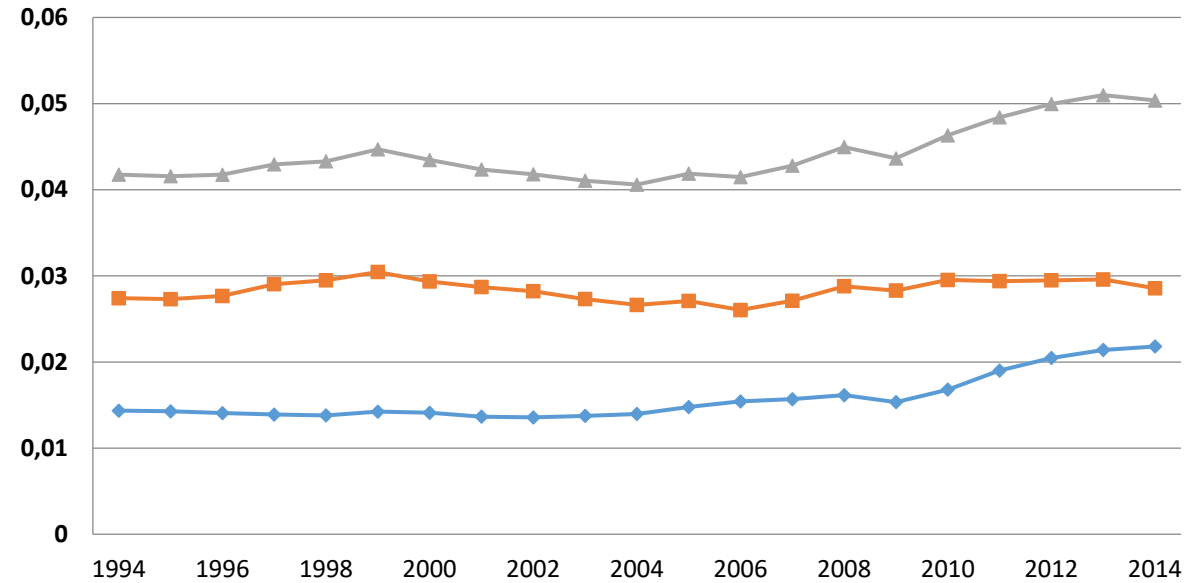
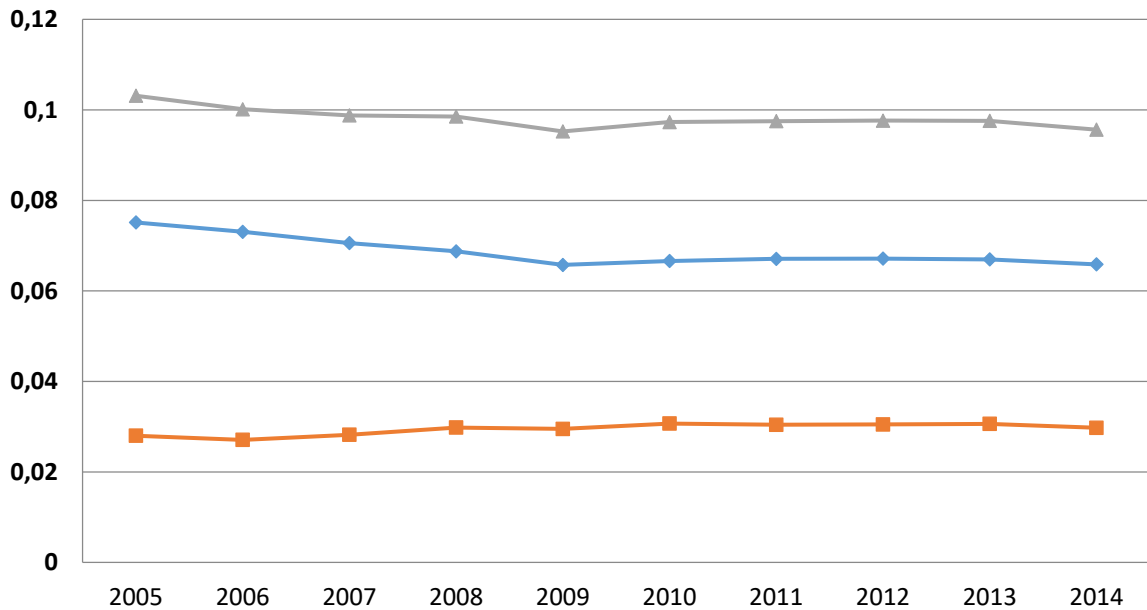
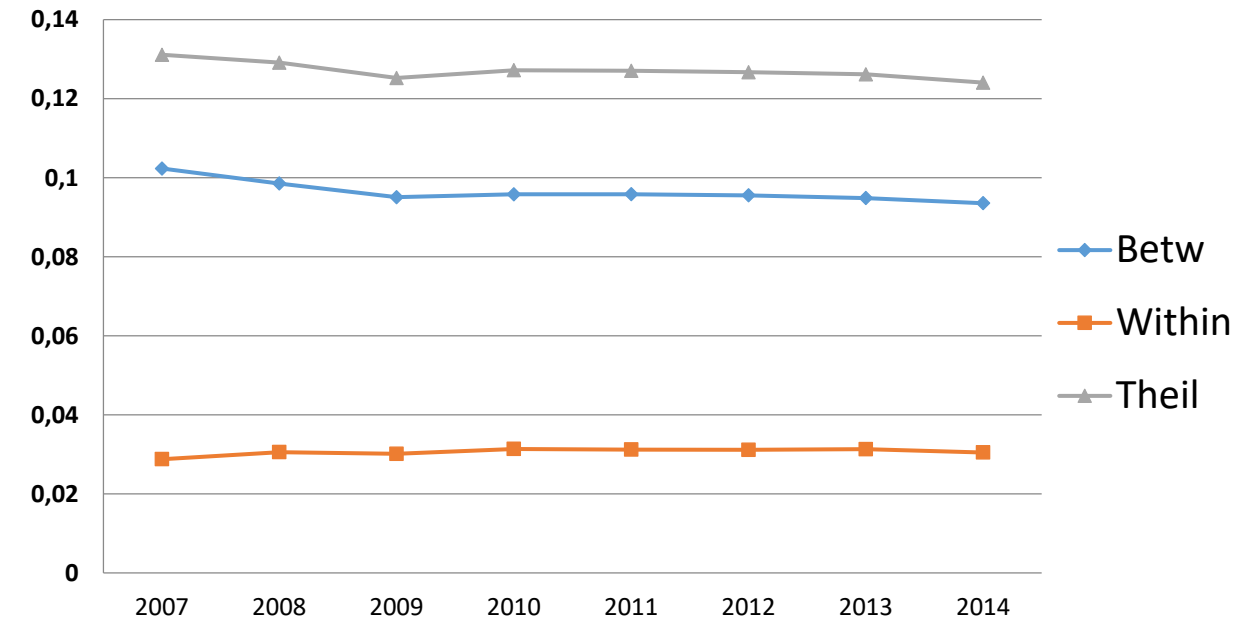
Theil Index



Distribution of GVA relative to population.

→ recent EU enlargement waves **increased overall inequality** dramatically

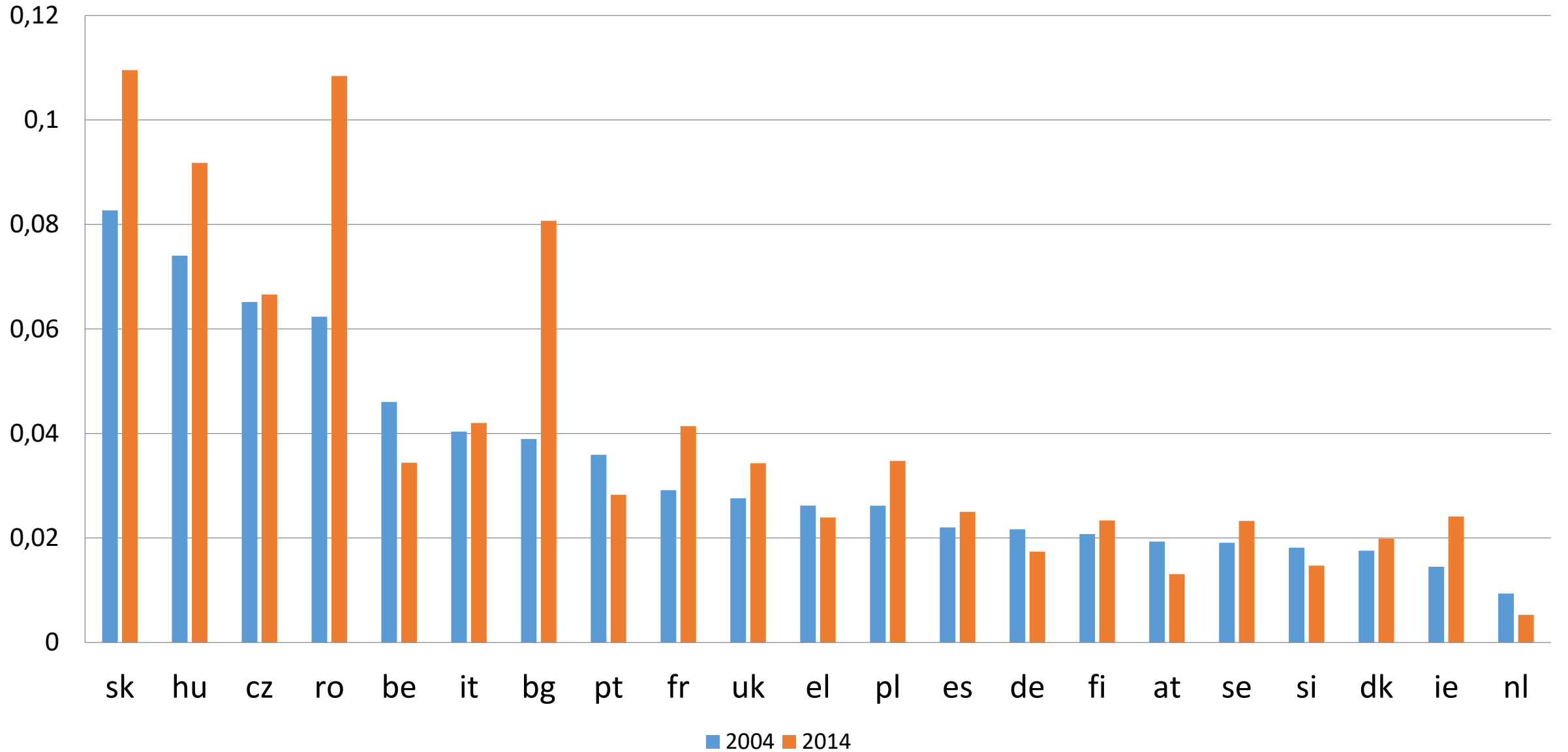
Can further be decomposed into a between-country and a within-country component.

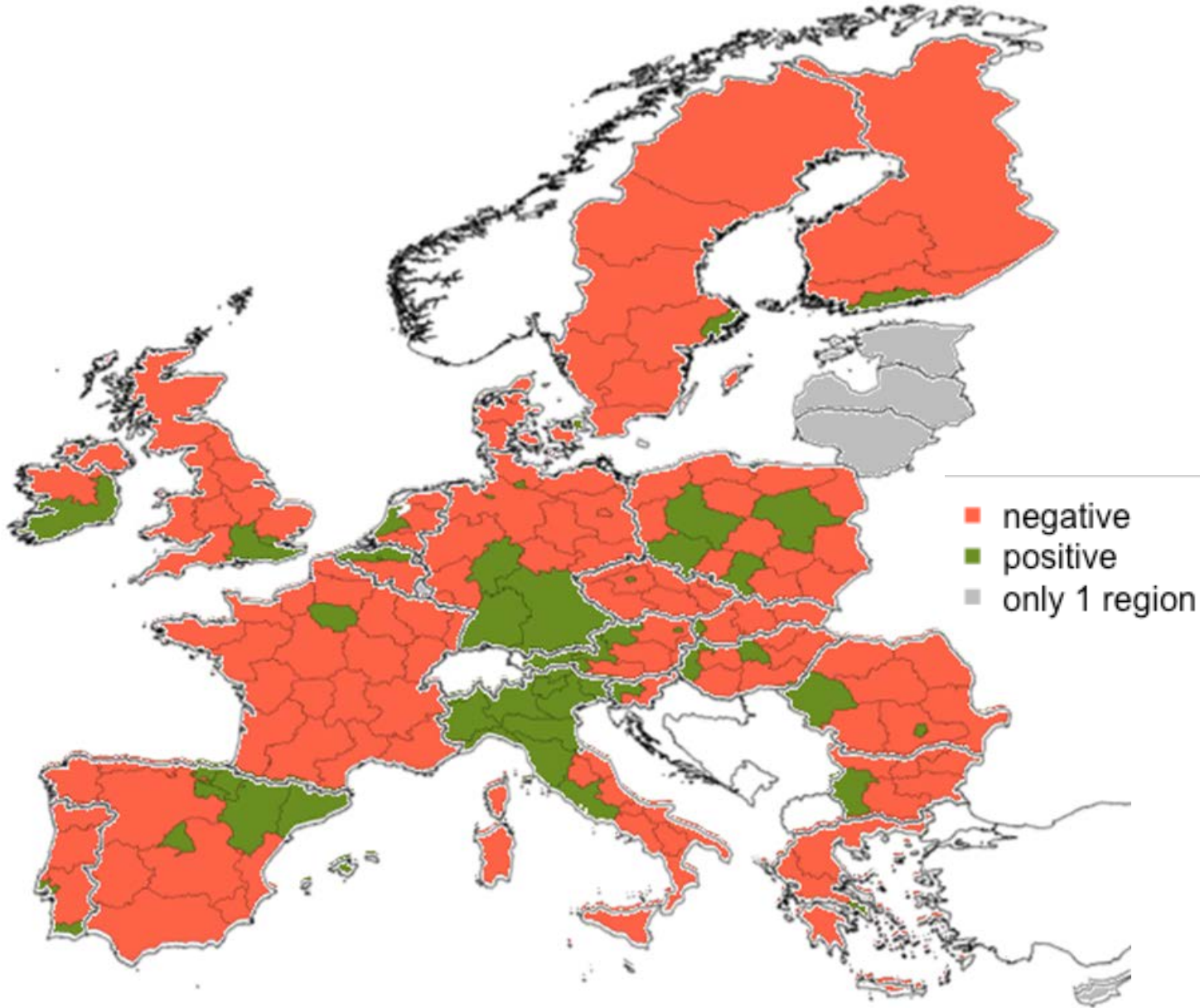
EU-12**EU-15****EU-25****EU-27**

Evolution of the Theil Index for different sets of countries – contribution of within and between country disparities

◆ Betw
■ Within
▲ Theil

Regional disparities within selected countries (values of Theil Index)





Regional contributions to each country's Theil index, 2014

Regions in green contribute positively to the index (regional share of total country GVA > population share)

Regions in red contribute negatively (higher share of population relative to share of GVA)

Takeaways I

- Trend of convergence for **EU27** halted in the post-recession period
- **EU12 & EU15**: separate trend of increasing inequalities
- **Differences between countries** are the main driver of aggregate EU inequality nowadays
- Production activities often **concentrated** spatially in a small number of regions within most countries (frequently the capital)
- Tendency towards increasing levels of regional inequality most dramatic in Eastern European countries, improvement in regional disparities for some, but not all core countries → **heterogeneous evolution**

Employment and Productivity

We can also decompose the Theil index by splitting it into shares of productivity and employment:

$$\frac{y_i}{n_i} = \frac{y_i}{l_i} * \frac{l_i}{n_i}$$

The following formulas apply:

$$T = T_{prod} + T_{emp}$$

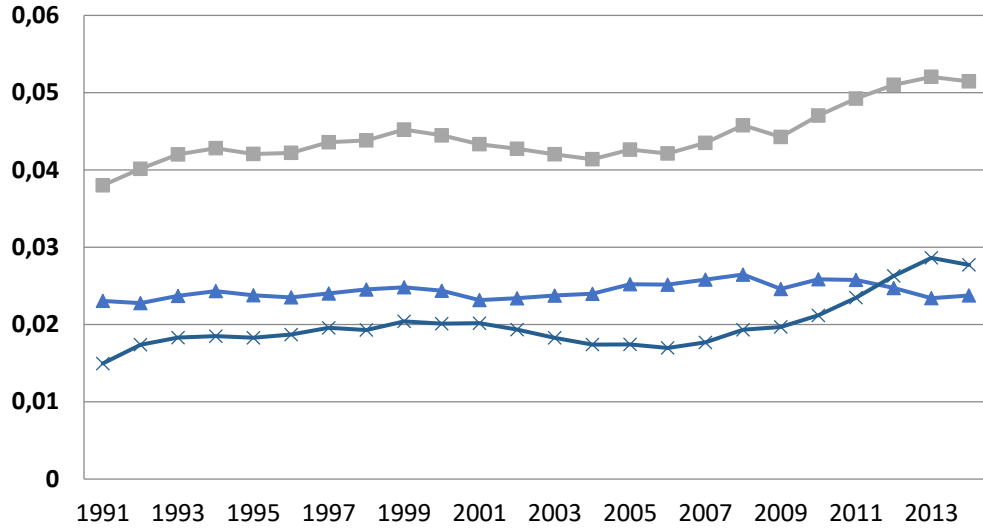
$$T_{emp} = \sum_{i=1}^n \left[\frac{y_i}{Y_c} \ln \frac{\frac{l_i}{n_i}}{\frac{L_c}{N_c}} \right]$$

$$T_{prod} = \sum_{i=1}^n \left[\frac{y_i}{Y_c} \ln \frac{\frac{y_i}{l_i}}{\frac{Y_c}{L_c}} \right]$$

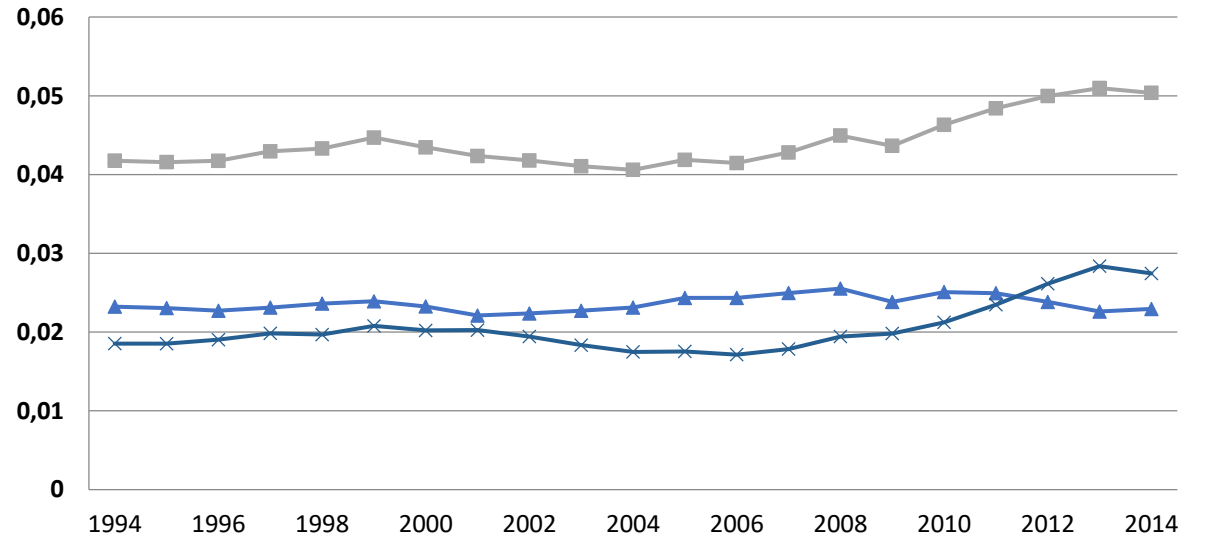
L_c total labour force of a country
 l_i active labour force in a region
 Y_c, y_i GVA

We combine the within-between decomposition with the productivity-employment decomposition in order to find out where the sources of disparities lie.

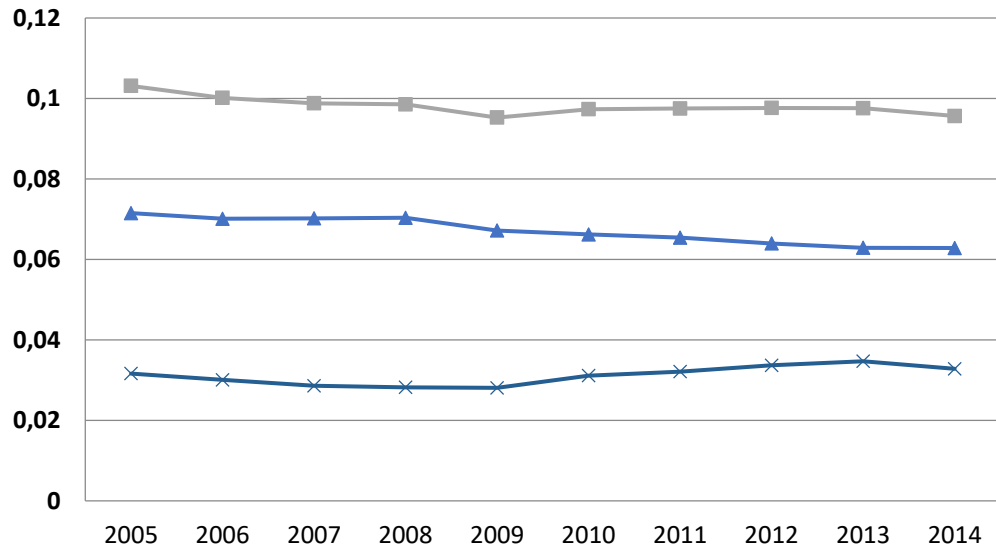
EU-12



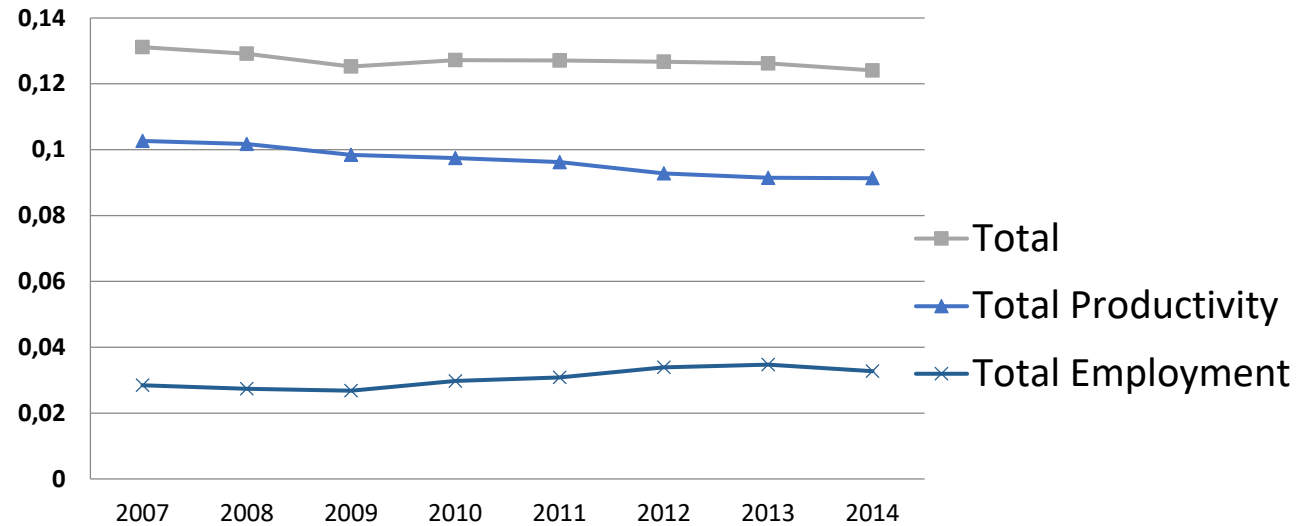
EU15



EU25

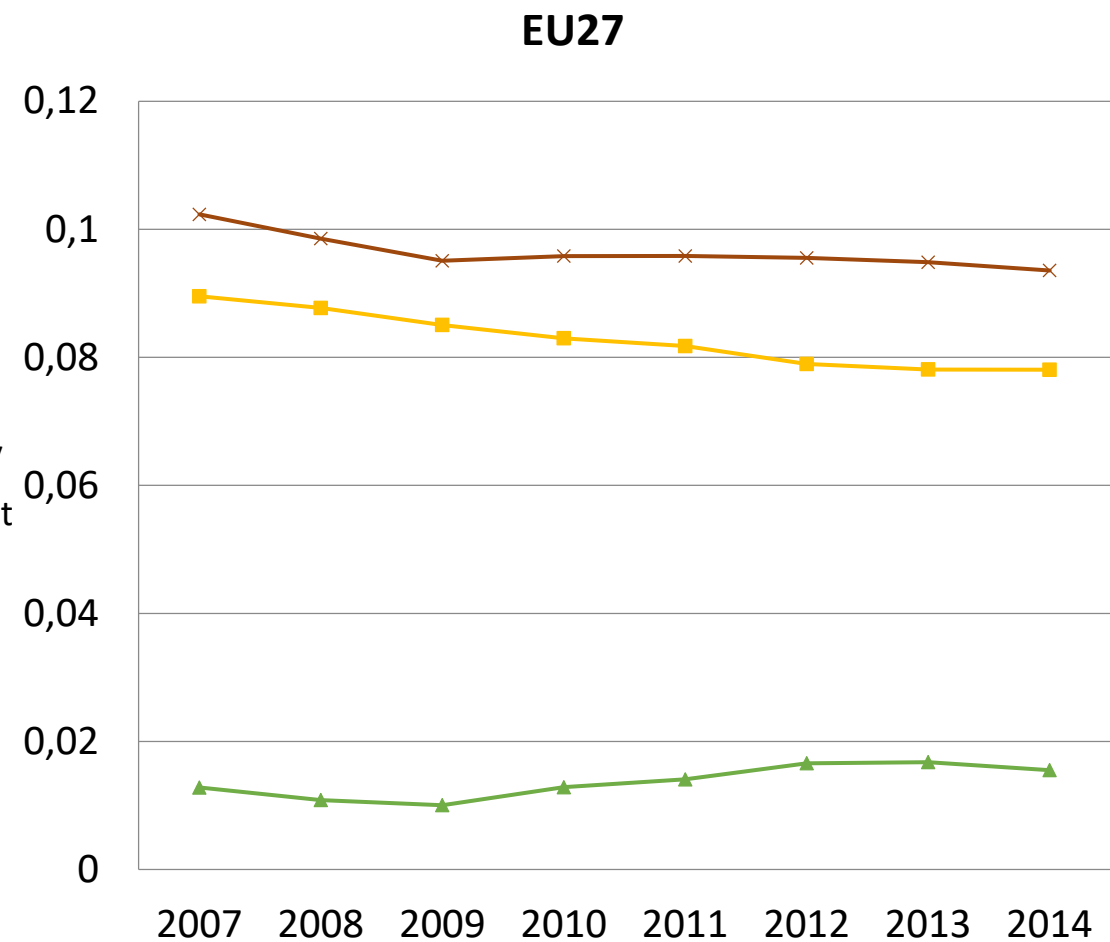
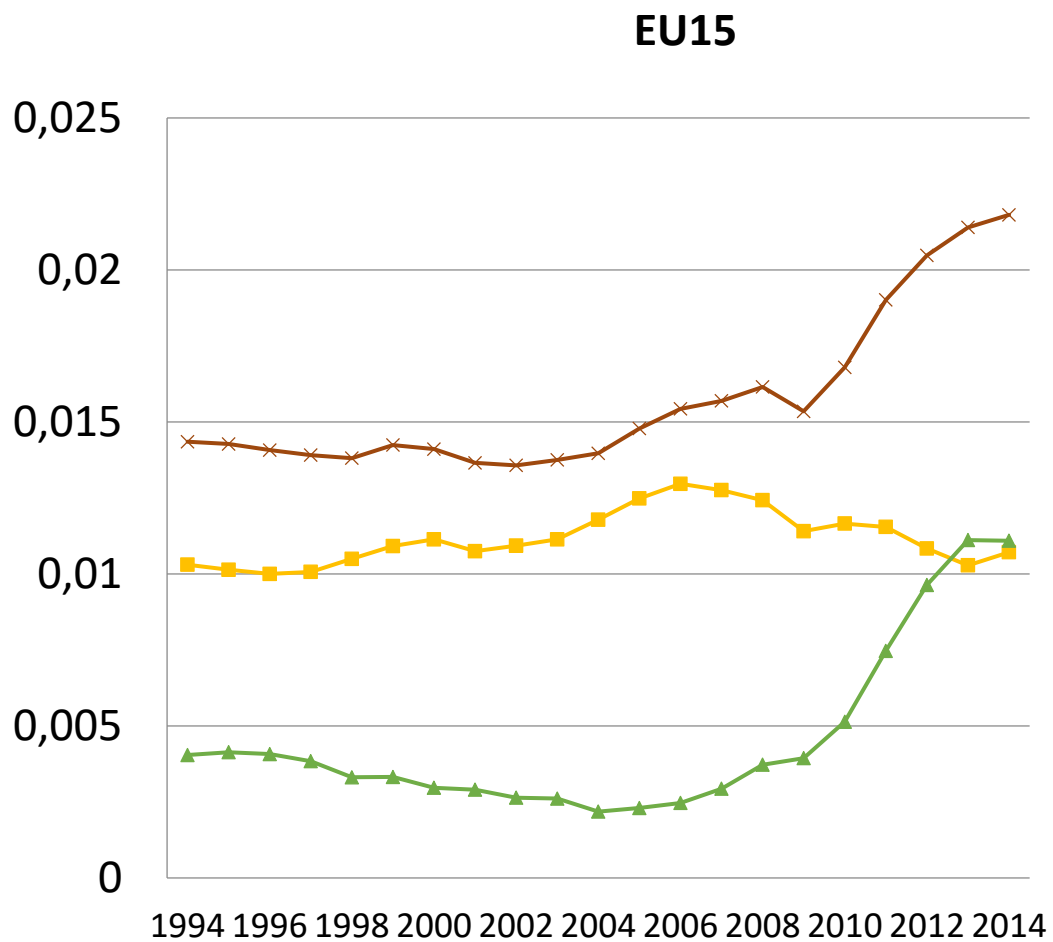


EU27



Evolution of the Theil Index for different sets of countries – contribution of productivity and employment disparities

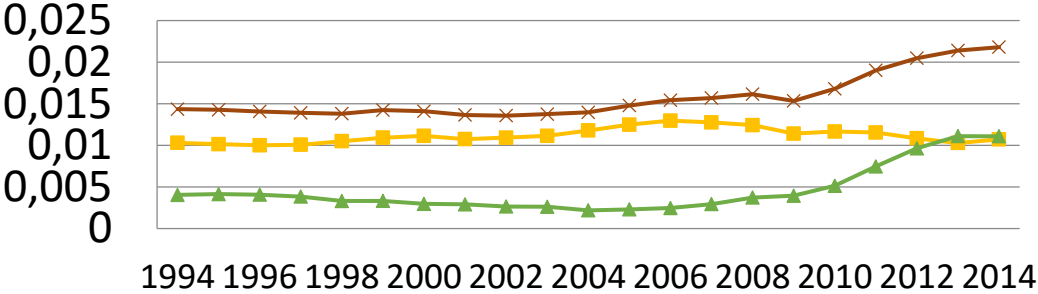
Inequality Between Countries



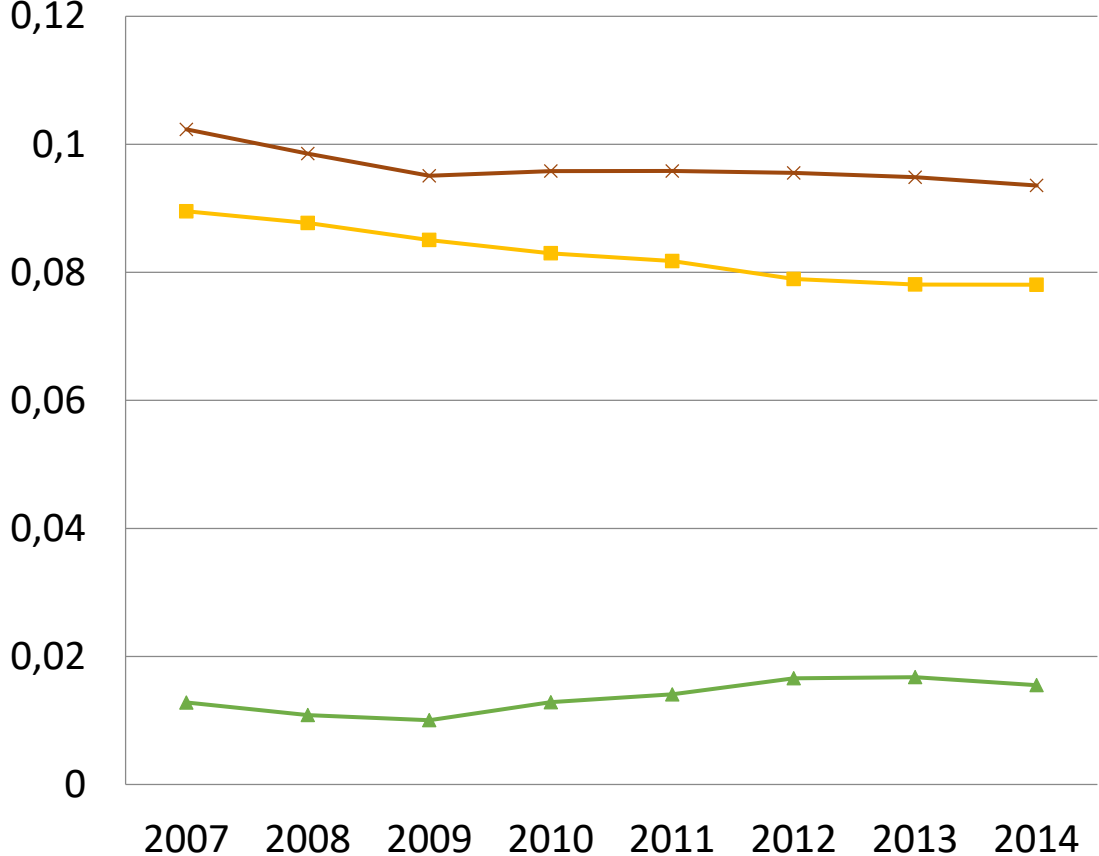
Evolution of the between-country share of the Theil Index for different sets of countries – contribution of employment and Productivity disparities

Inequality Between Countries

EU15



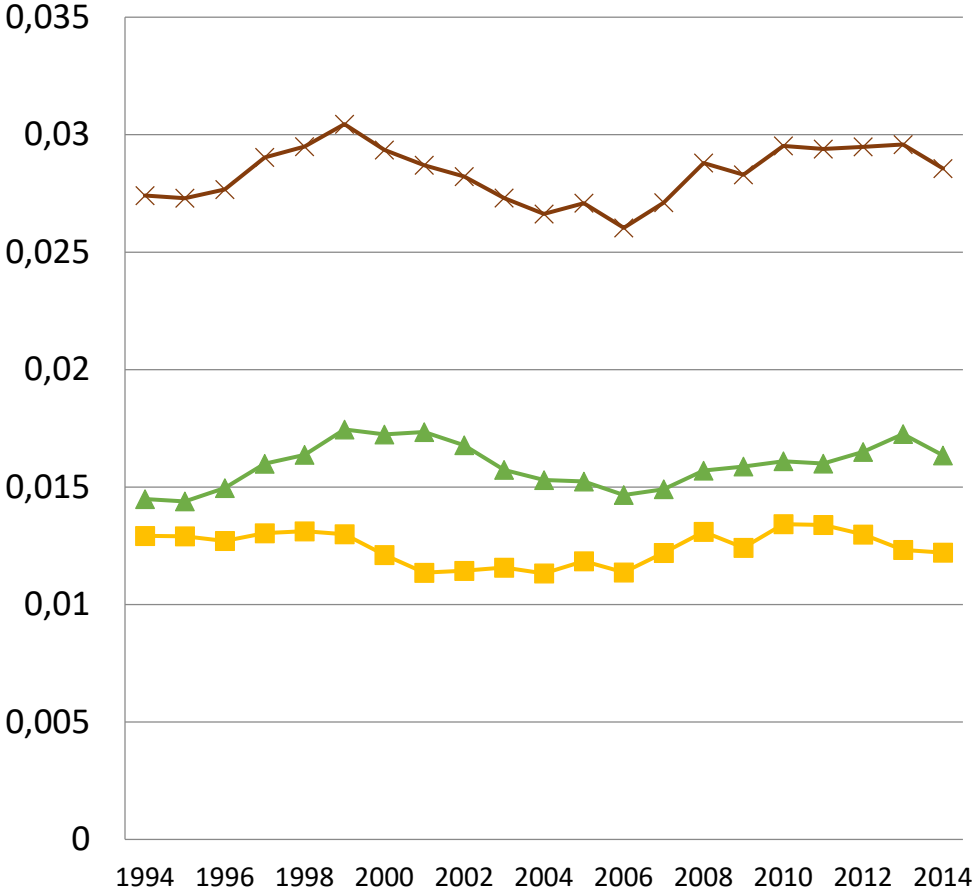
EU27



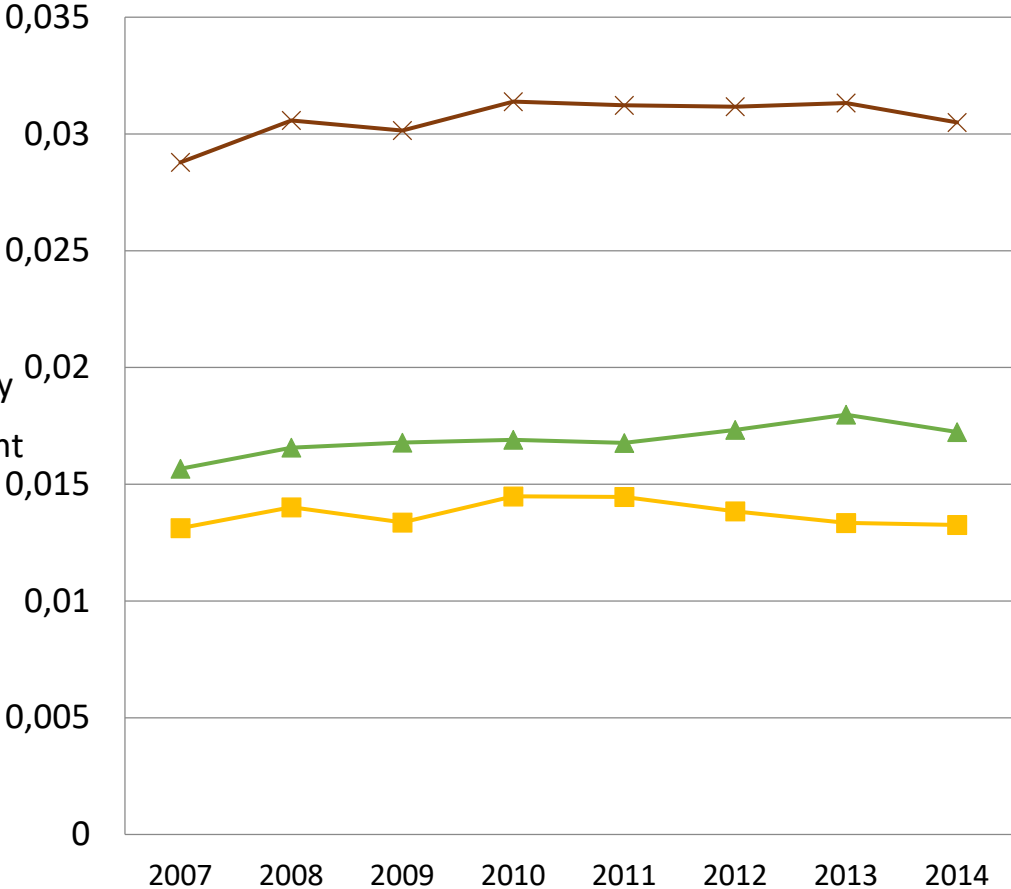
Evolution of the between-country share of the Theil Index for different sets of countries – contribution of employment and productivity disparities

Inequality Within Countries

EU15



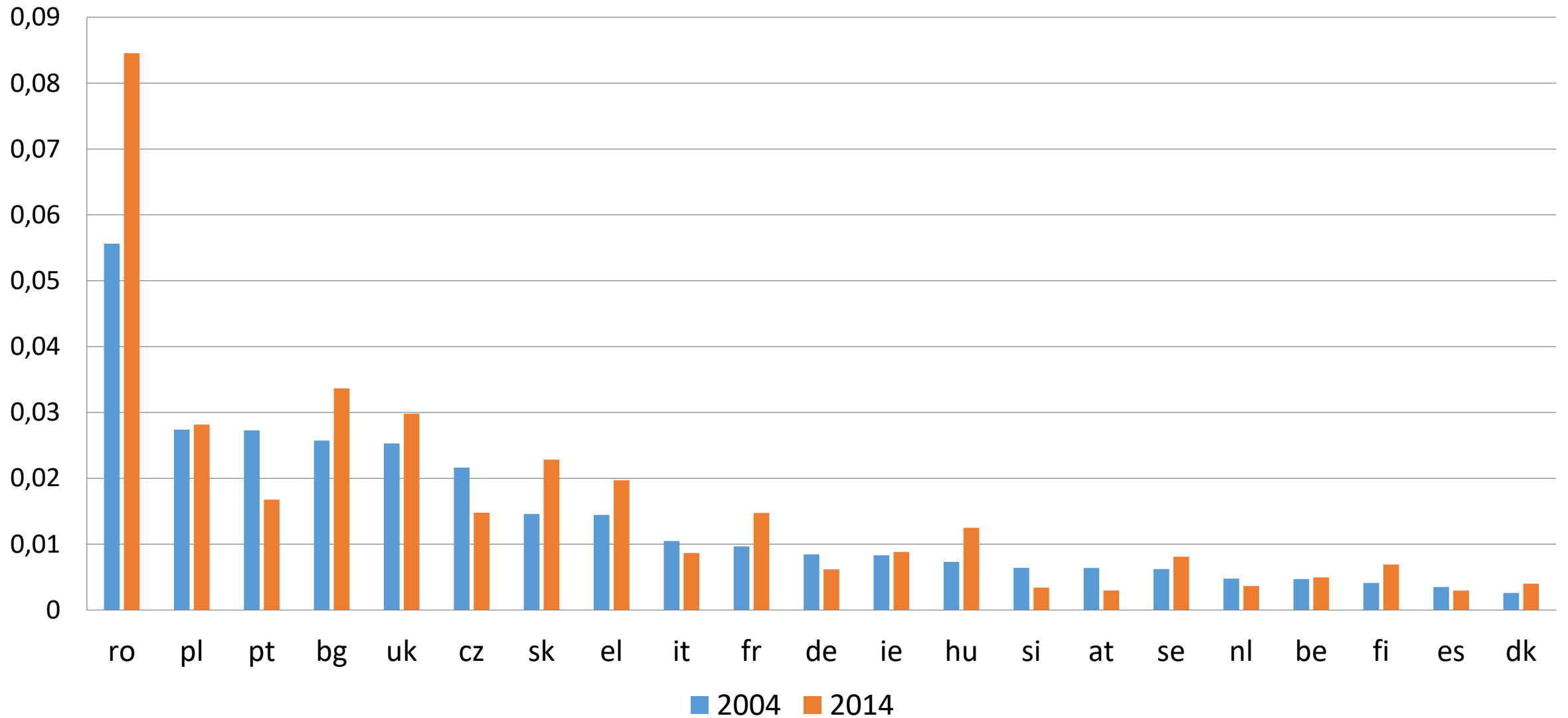
EU27



- Productivity
- ▲ Employment
- × Total

Evolution of the within-country share of the Theil Index for different sets of countries – contribution of employment and productivity disparities

Regional labour productivity differences within selected countries (Theil)



Takeaways II

Traditionally, **productivity differences** have been the main driver of disparities **between** countries and **employment differences** main source of inequality **within** countries.

EU12 & EU15: employment effects gained importance from 2007 onwards, **replaced** productivity disparities as the main source of between country inequality in recent years

EU25 & EU27: labour productivity levels remain main source of inequality between countries, slight convergence trend

Regional productivity disparities within countries:

- dramatic increases in Romania, significant increases also in Slovakia, Bulgaria, Hungary, the UK and Greece
- decreases in Portugal, Czech Republic, Italy, Germany, Slovenia, Austria and the Netherlands
→ very **heterogeneous evolution**

Implications for policy

Regionally varying challenges call for differentiated policies:

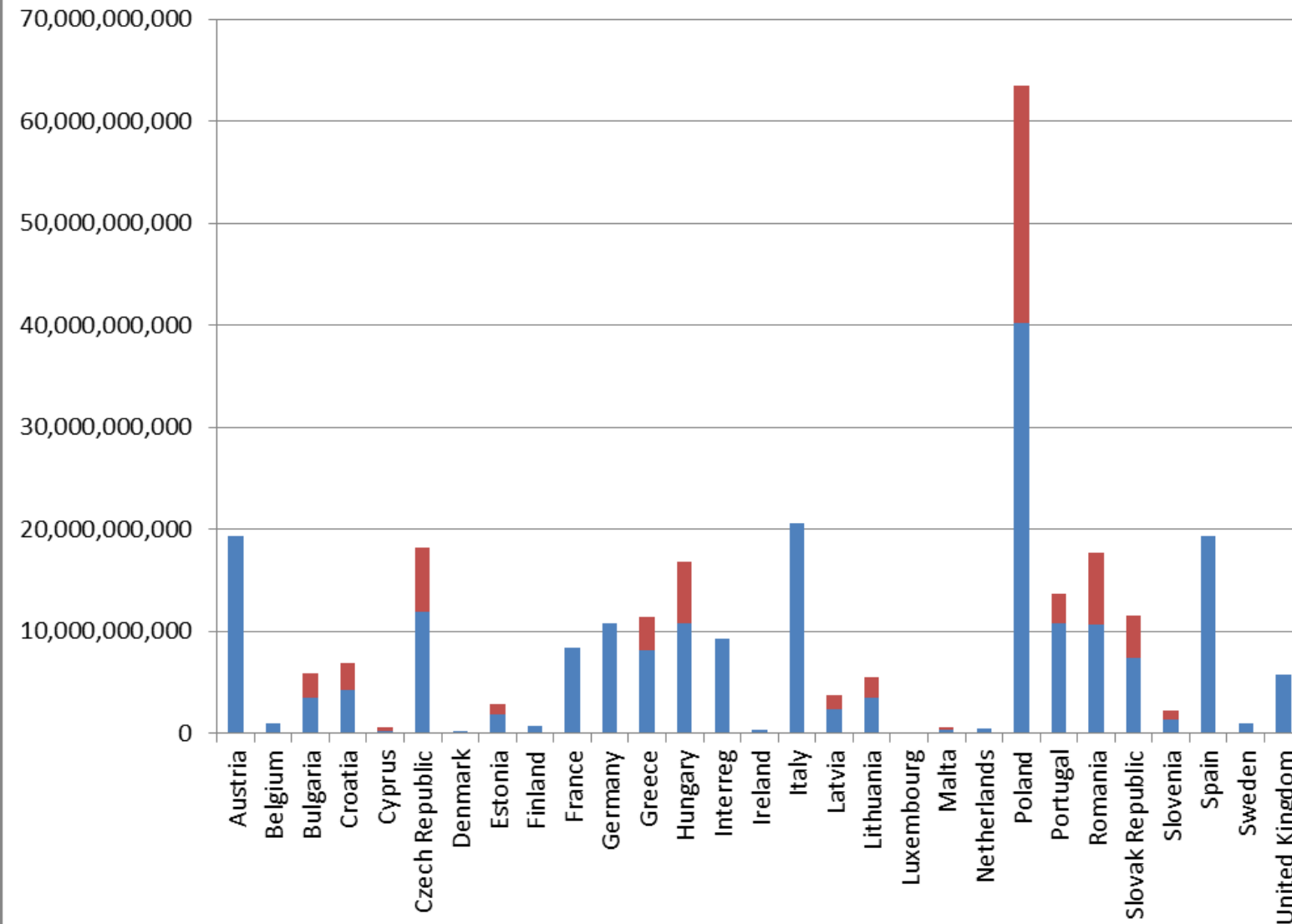
- recently high unemployment in the older Member States
- lasting productivity disparities between older and newer Member States
- Within-country disparities are exacerbating in many cases

→ different developmental paths and determinants with respect to inequality

- Lived realities in Europe are very diverse → political agendas are heterogeneous, common policy is a challenge
- Direction of funds towards
 - poorest regions
 - countries with large within-country disparities

Actual Policies

ERDF and CF Allocations by country (2014-2020)



European Social Fund (ESF)
available to all regions

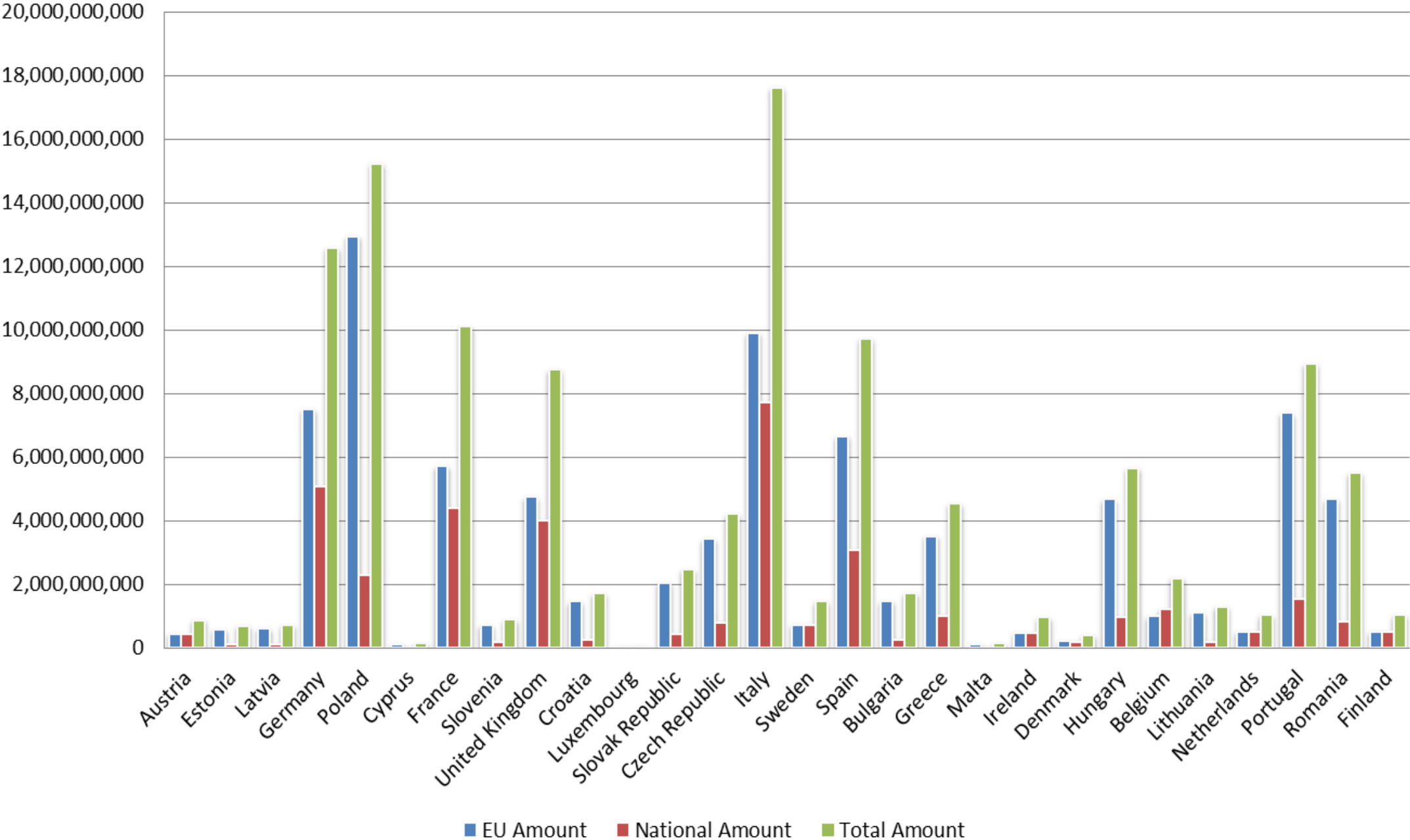
European Regional Development Fund (ERDF)
available to all regions, aimed at „correcting imbalances between regions“

■ CF
■ ERDF

Cohesion Fund (CF)
available for regions in less developed Member States, defined as having a GNI per capita that is less than 90% of the EU average

➔ Ability to propose, co-finance and implement programs

ESF Budget Allocations by Country (2014-2020)



Conclusions

- Descending trend in inequality cannot keep pace with the EU expansion process; **convergence** may be happening, but at a comparatively much **slower** speed and in many cases at the cost of **rising inequality within countries**
- **EU12 and EU15:** aggregate regional inequality responsible for a higher share of total inequality than between-country component → **increasing importance of regional policy**. Differences between countries driven by **employment disparities**

Conclusions (cont.)

- **EU25 and EU27:** inequality mainly explained by the between-country component and **large variations in productivity levels between countries**
- Startling increases in within-country productivity disparities, especially in Eastern Europe, suggesting that the **catching-up process is spatially concentrated** in selected regions with a high level of production activities, whereas the remaining regions are lagging behind

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