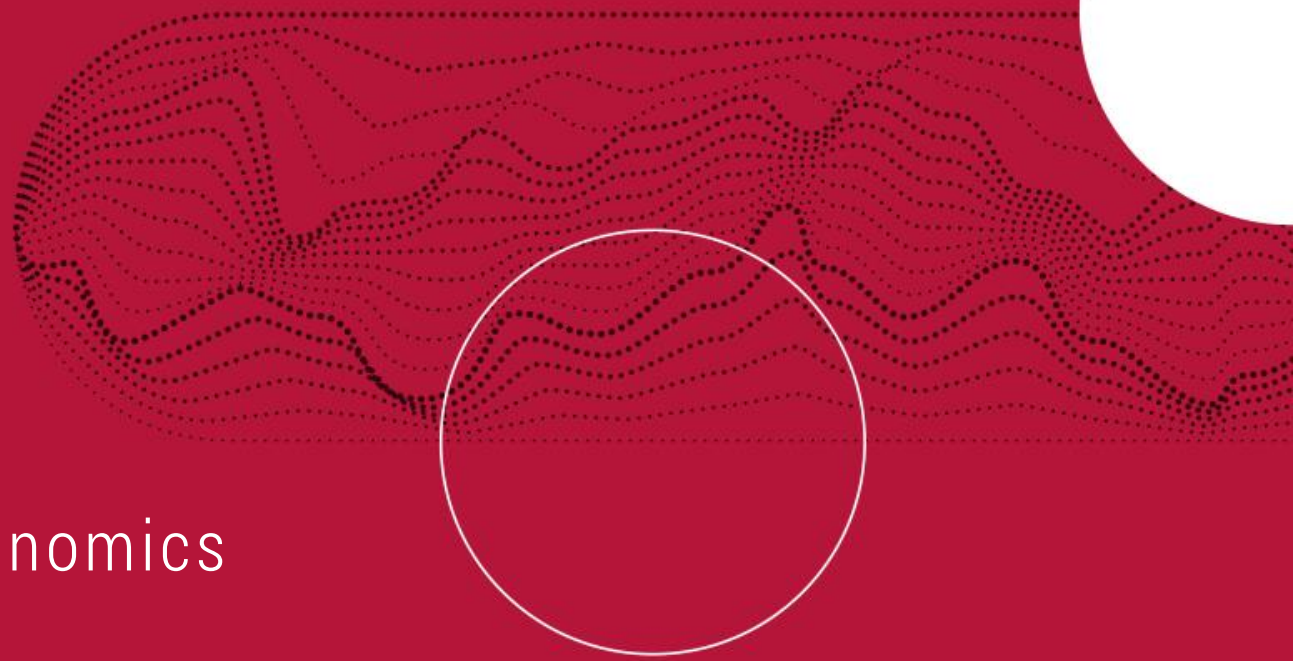
institute for structural research

INEQUALITY OF OPPORTUNITY IN CENTRAL AND EASTERN EUROPE



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Inequality of opportunity: the concept

- **Fair & unfair inequality** (from ethically acceptable factors) (Romer); for which people should be compensated by society (*compensation principle*), allowing outcomes (e.g. income) to be sensitive to differential efforts of individuals (*reward principle*)
    - Circumstances (childhood, family background, race, gender)
    - Effort (responsibility)

Questions asked

- Changes in inequality of opportunity over time in CEE countries?

- Micreconomic contributors to these changes & their heterogeneity
  - The role of assets (education, health)
  - The role of household characteristics
  - The role of labour market status
  - Composition or changes in the returns?

- Investigating correlates of differences/changes in IO has been relatively understudied so far – the only paper we are aware of is Checchi et al. (2015)

Data

- EU SILC, 2005 & 2011 ad-hoc modules (2004 & 2010 income data)
- 7 CEE countries (CZ, EE, HU, LT, LV, PL, SK)
- Outcome: hh disposable equivalized income, for individuals between 26 and 50 years old, expressed in real terms (2010 prices)
- Circumstances: parents' education, occupation, and data on migrant background
- The covariates include circumstances and standard demographic, labour market and health-related variables

Methodology

- **Ex-ante approach , inequality measured with variance**
  - *AIOP – absolute level of inequality of opportunity*
  - *RIOP – share of AIOP in total Inequality*

- **RIF regressions- based decompositions**
  - Composition effects
  - Price effects

Methodology: RIFs

- To account for the impact of covariates on a distributional index, v, we estimate a linear regression where Y is replaced by the so-called Recentered Influence Function (RIF) of v (v can be the mean, the Gini, variance, the headcount poverty index, etc.)

- RIF = v + IF(y, v), where y is observed outcome (e.g. income level) and IF is the influence function, which measures the contribution of each observation to the value of v.

- By definition E[RIF(y, v)] = v, and EX(E[RIF(y, v)|X]) = v

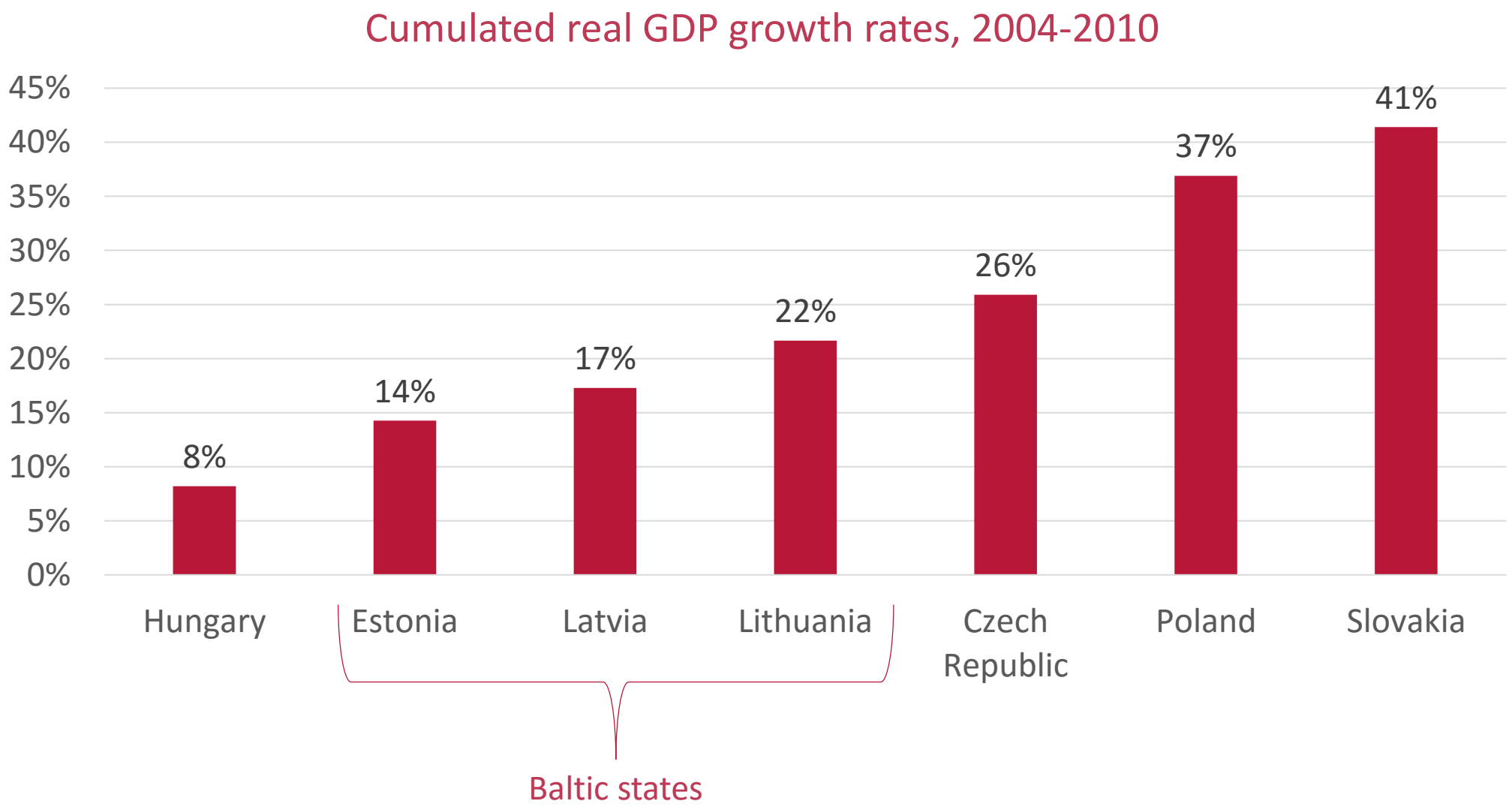
Methodology: RIFs

- The conditional expectation of the RIF(y, v) can be modelled as a linear function of covariates: $E[RIF(y, v)|X] = X\beta$, where parameters can be estimated using OLS.

- The estimated coefficients β represent marginal effects of X on *v* and they can be used to perform Oaxaca-Blinder like decomposition

- The RIFs for our IO measures can be derived easily as the measures rely on variance applied to predicted values. The RIF for variance is available in Firpo et al (2007).

Background: GDP growth in CEE



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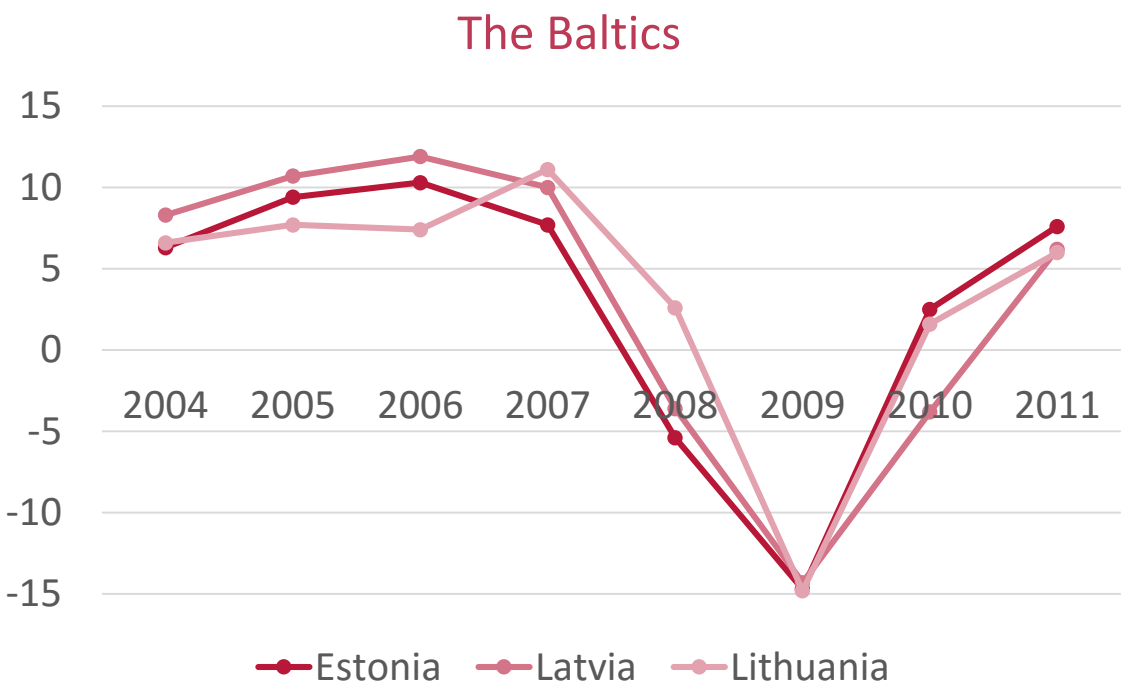
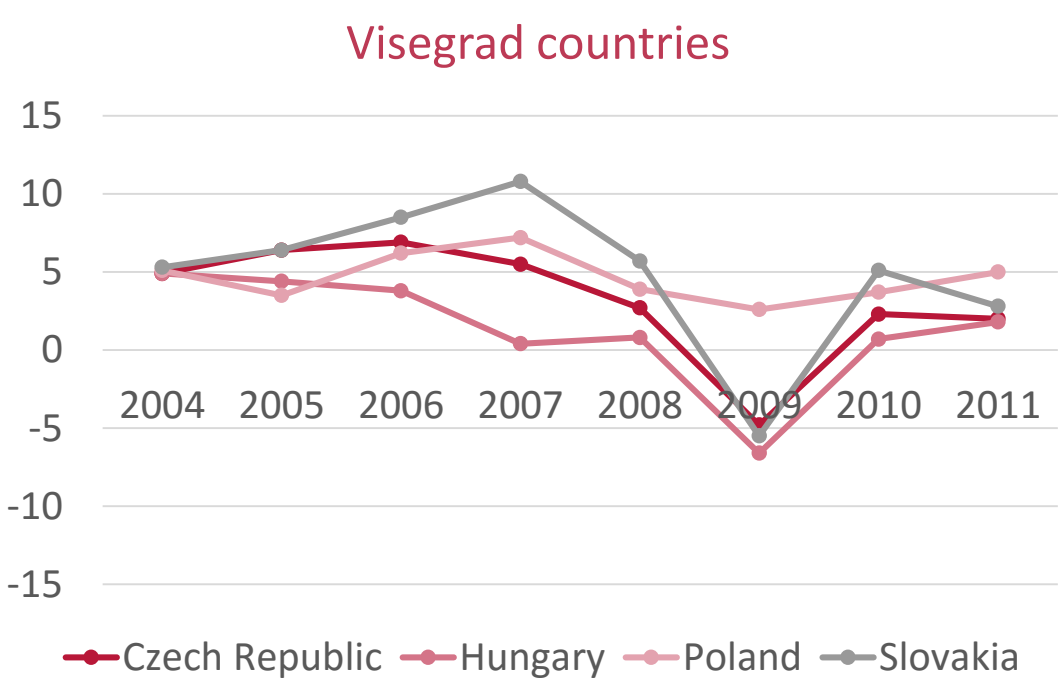
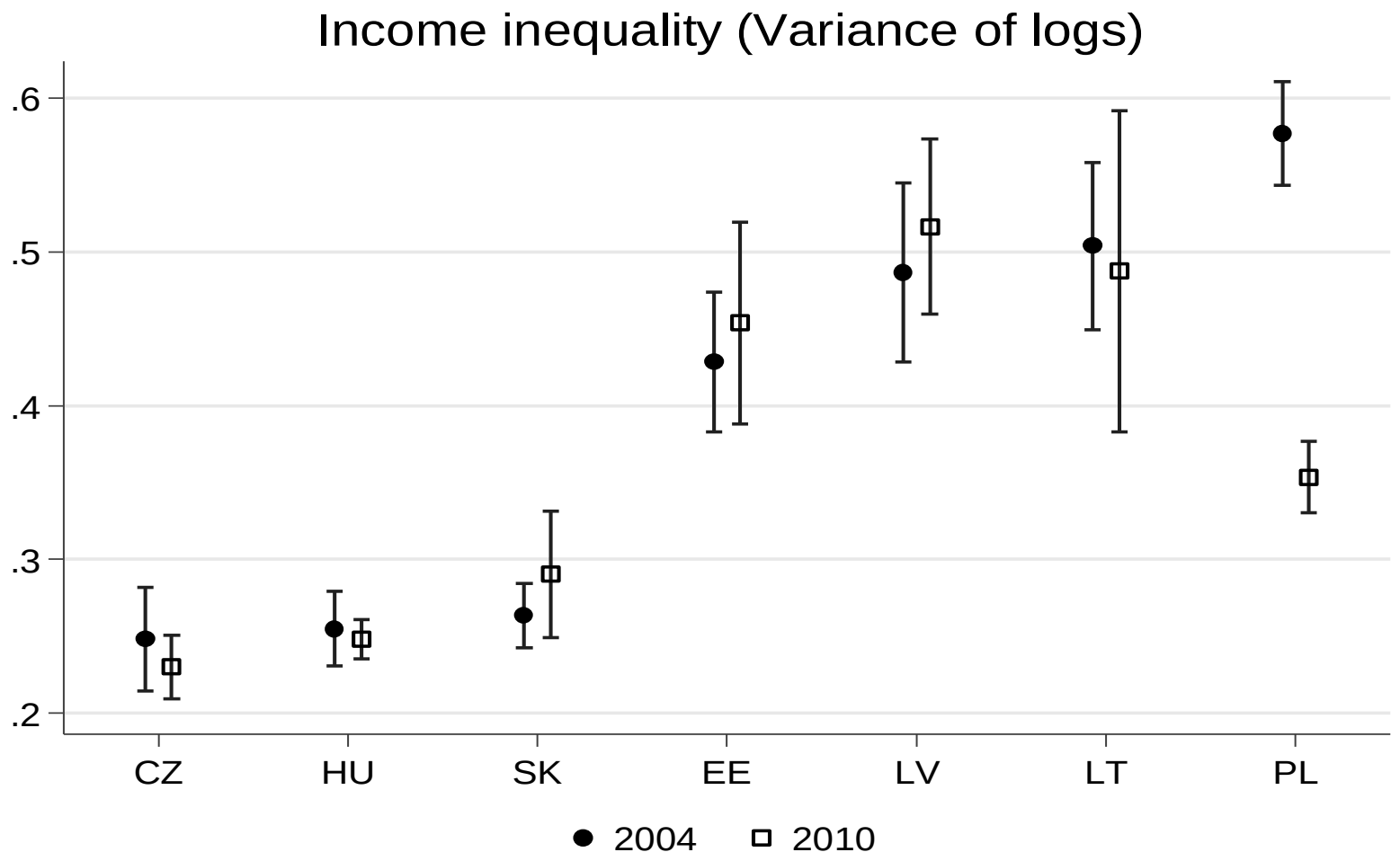
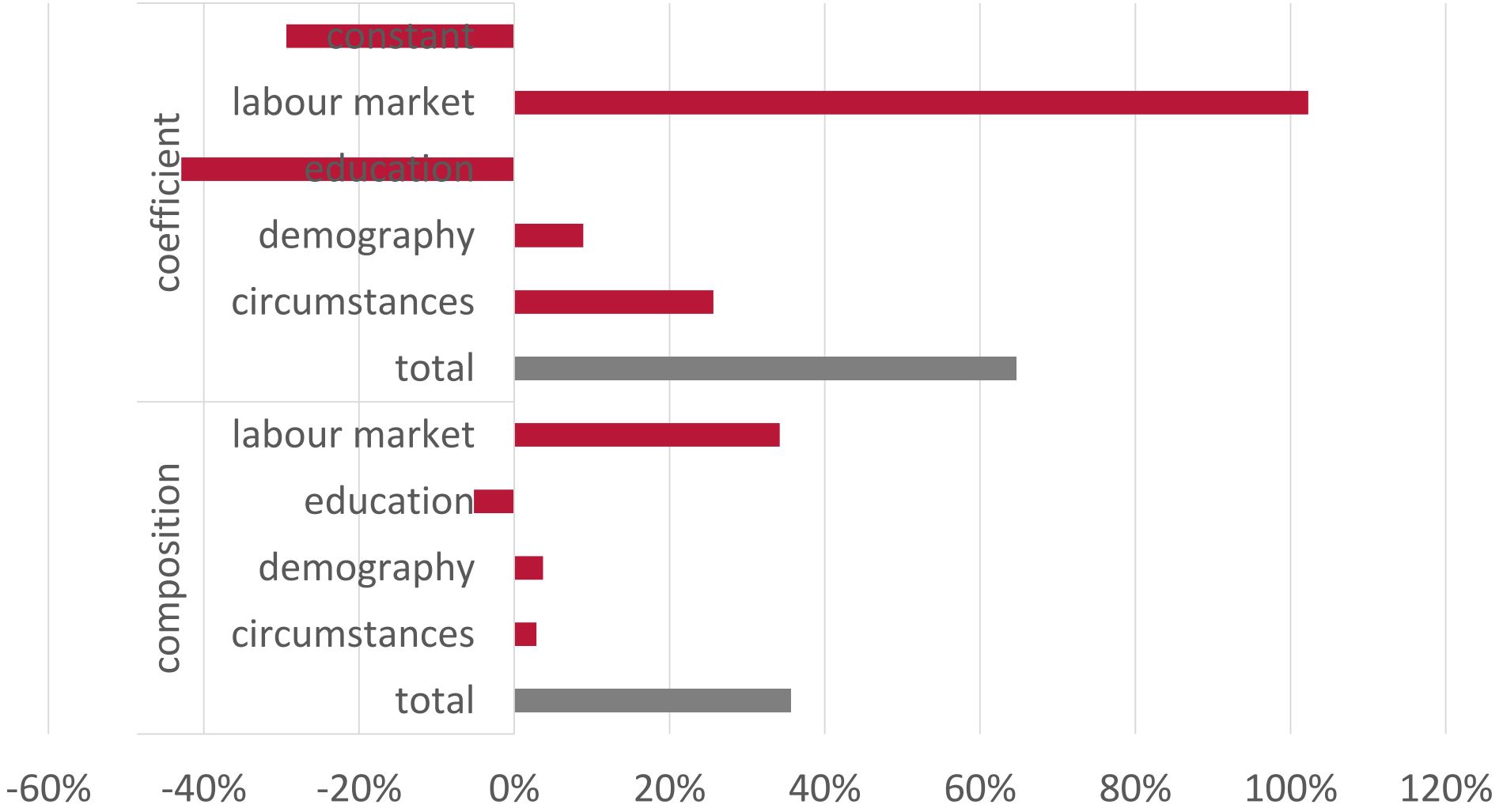




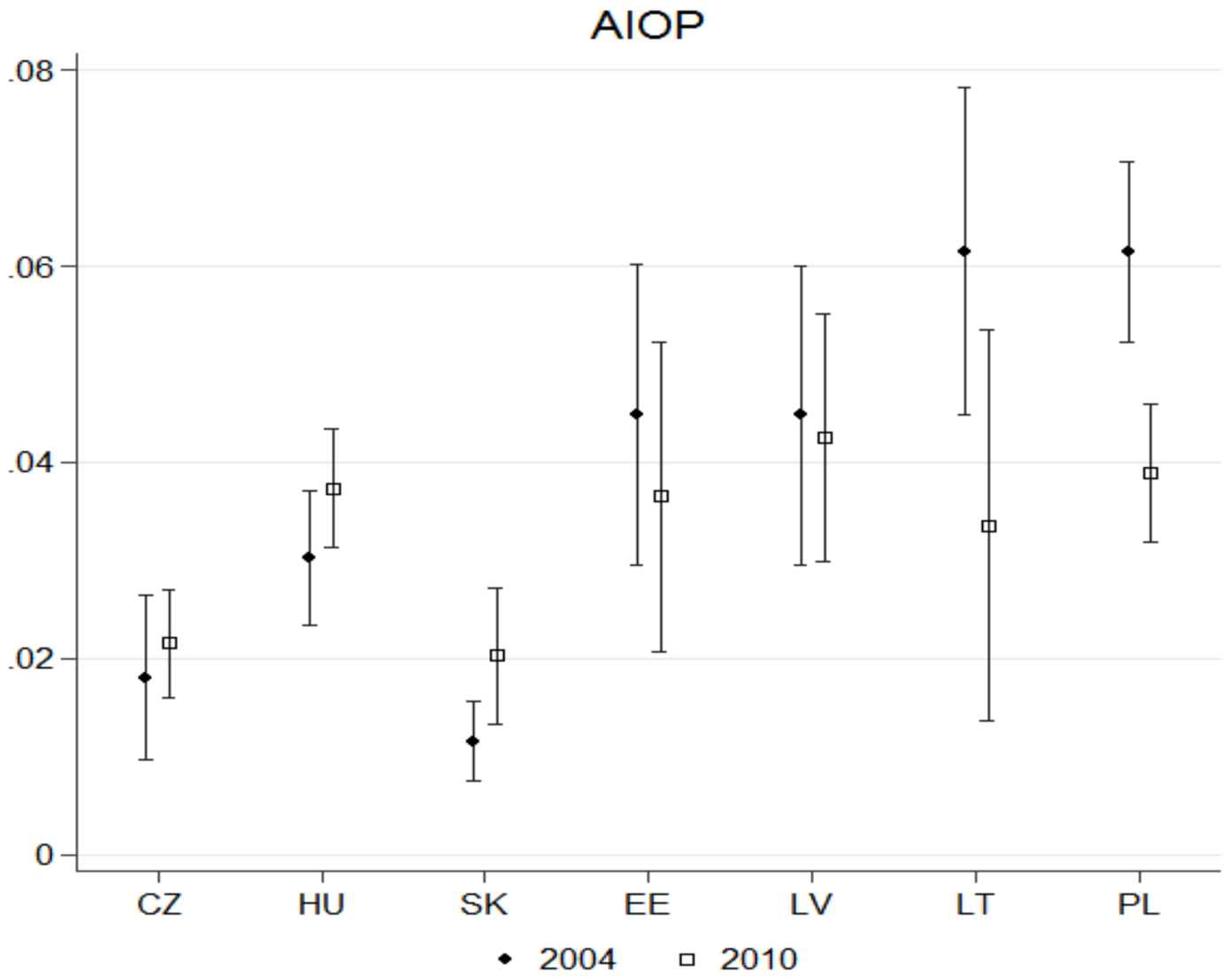
Results: Changes in total income inequality



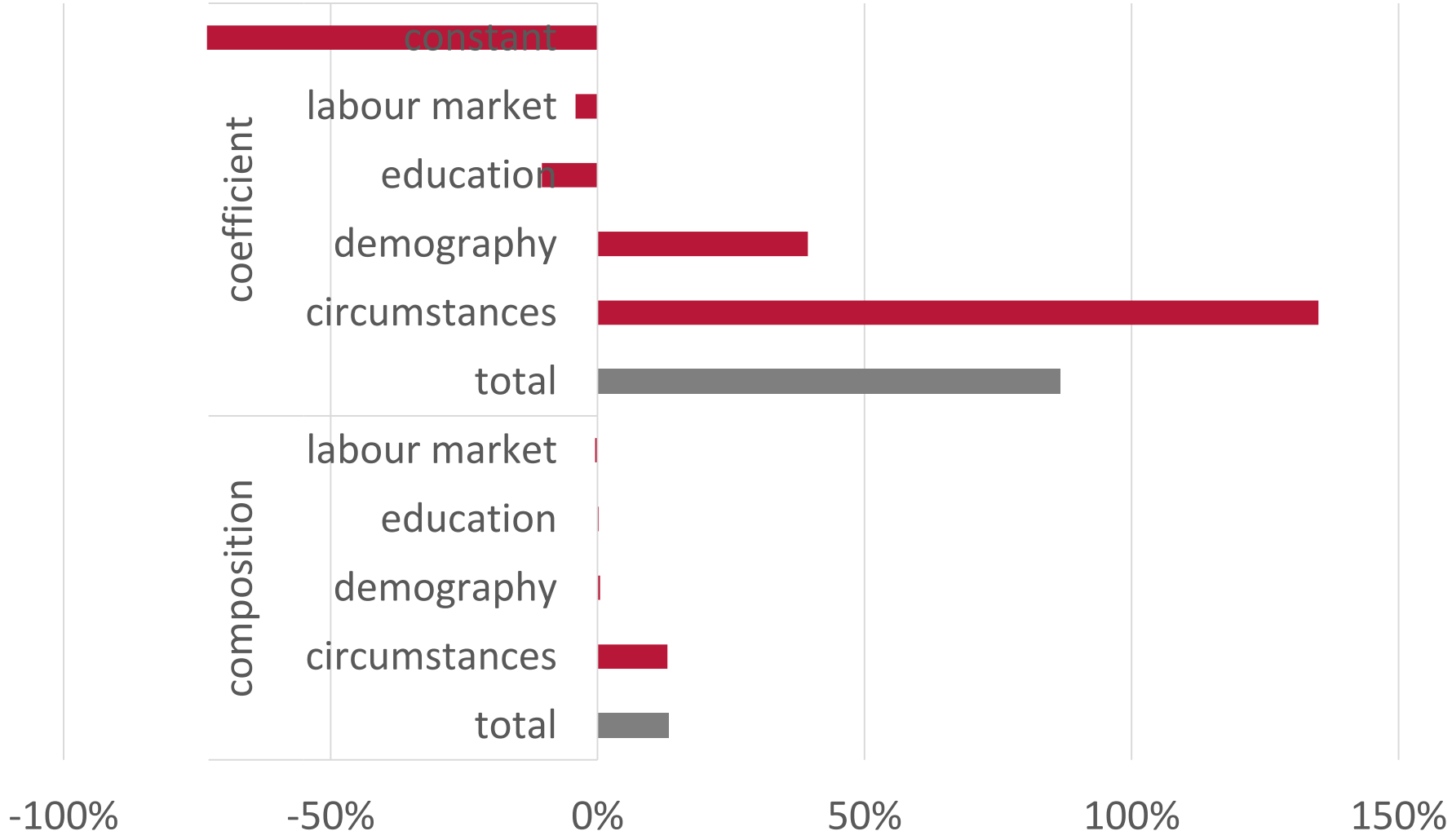
The decomposition of the fall in total inequality: Poland



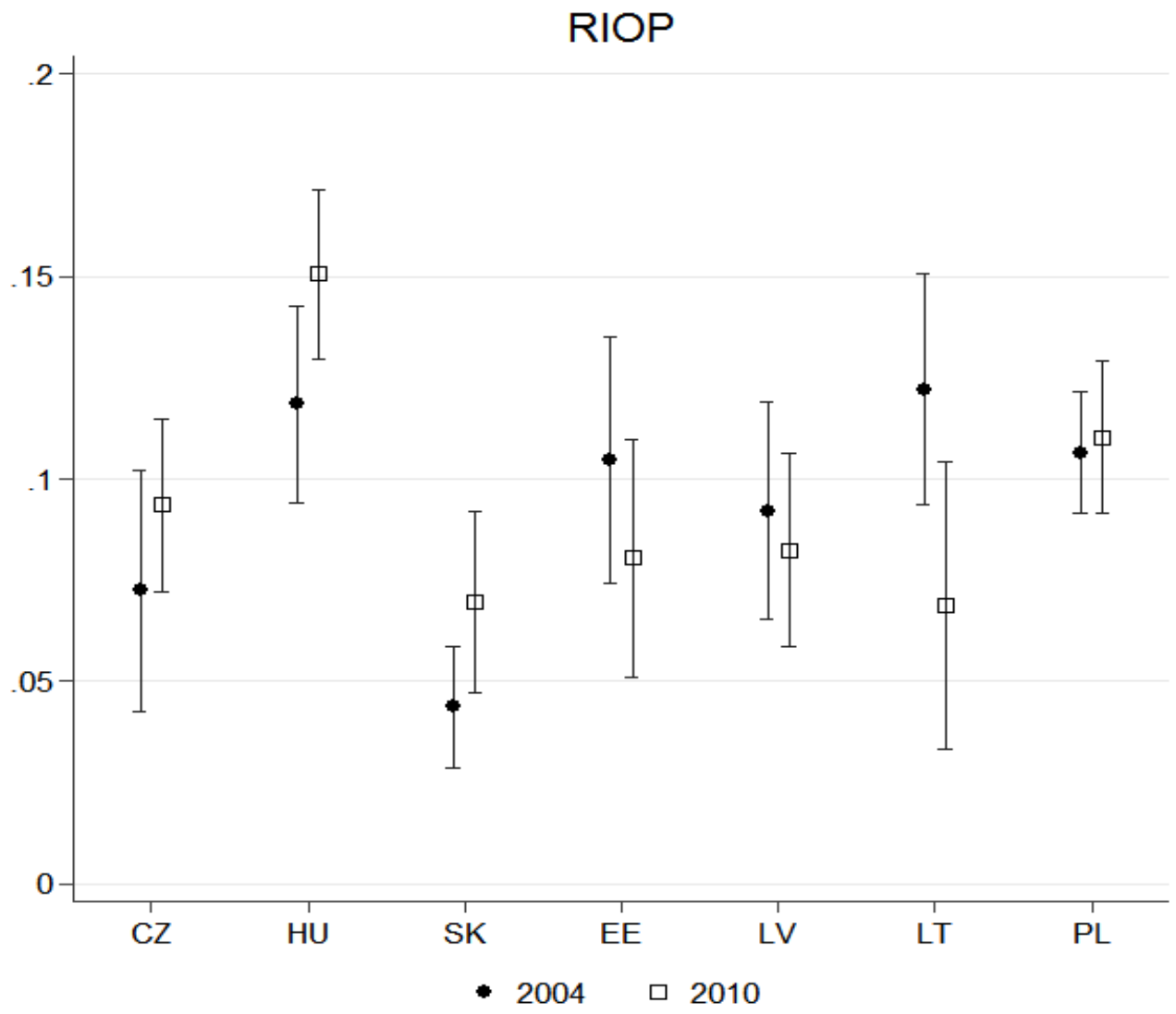
AIOP – changes in absolute levels of IO



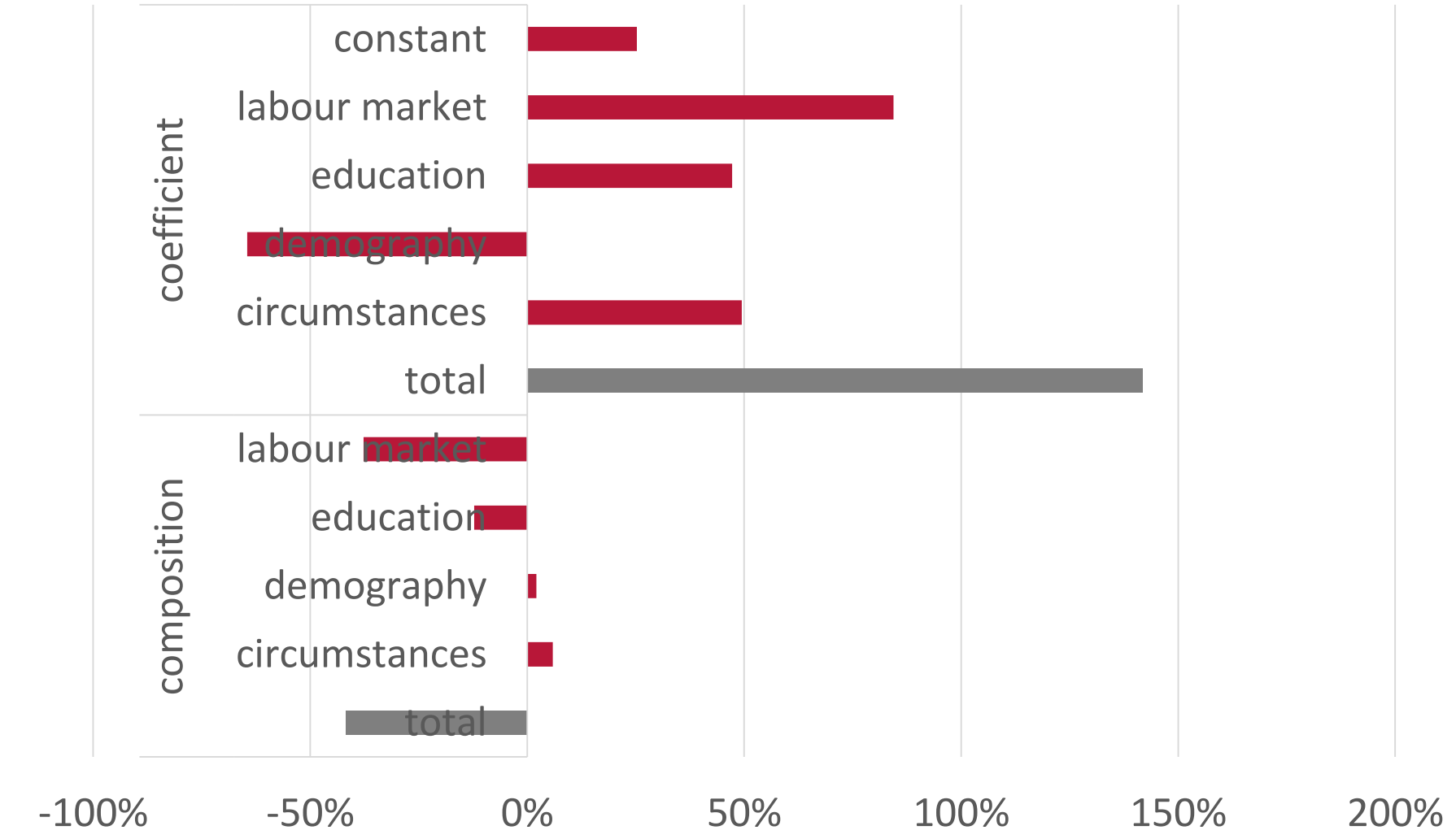
The decomposition of the fall in AIOP Poland



RIOP: relative inequality of opportunity



The decomposition of the rise in RIOP in Hungary



Conclusions

- Large degree of heterogeneity in the levels of IO among CEE
- Towards convergence? IO decreased in PL and LT; increased in HU and SK, no clear link to changes in overall Inequality
- Changes in income inequalities related mostly to changes in the returns to individual and household characteristics, not their composition
  - Importance of labour market status for income inequality and RIOP
  - Narrowing of returns to circumstances variables

Conclusions

- We have adopted income inequality decomposition methods to decompose IO indices over time

- These methods can be applied to other countries and periods (possibly longer so that IO changes/differences are larger and easier to decompose than in case of our application).

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Questions, comments?

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