

Within-firm and between-firm drivers of wage inequality in CEE

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Motivation



- Ongoing research & policy debate on income and wage inequalities
- Growing evidence on the role firms play in determining wage inequalities
 - (Blau and Kahn 2016; Card, Heining and Kline ,2013; Barth, Bryson, Davis & Freeman, 2016)
- Little evidence on recent developments in wage dispersion in CEE countries

Research questions



- Picture of wage dispersion in CEE:
 - How high wage inequalities are?
 - How do they differ across CEE? How do they compare to other European countries?
 - How did they evolve since 2000s?
- What is the role of firms?
 - Are wage differentials higher between or within firms?
 - How do these patterns change?
- What are the micro determinants of wage inequalities?

Data



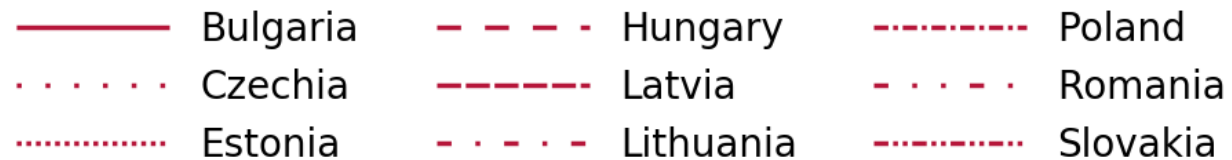
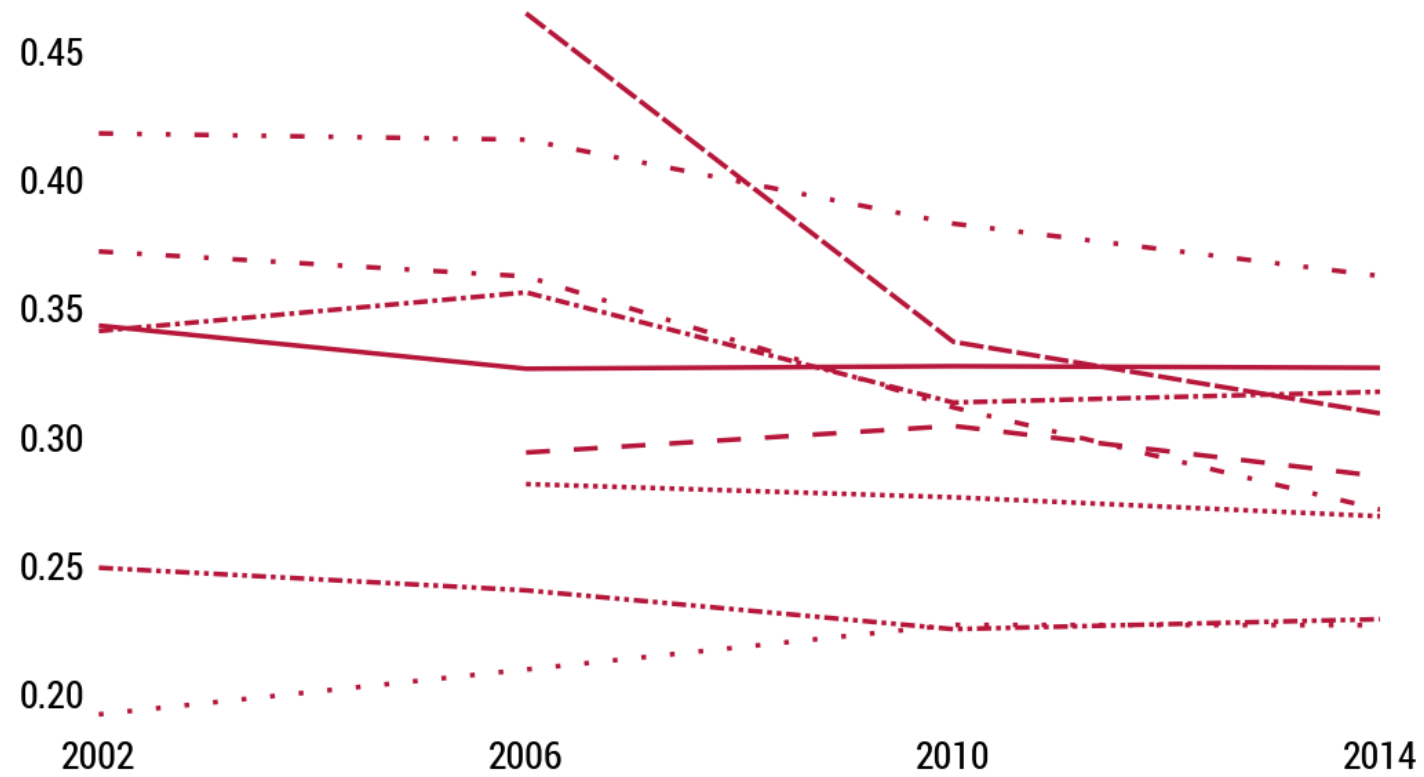
- European Structure of Earnings Survey (ESES), 2002, 2006, 2010 & 2014 repeated cross sectional data
- 9 CEE countries: CZ, BG, EE, HU, LT, LV, PL, RO, SK
- Sample size: 26 000 obs in LT in 2010 to over 2 million in CZ in 2014
- Wages normalized within country/year (average =100)
- Main variables of interest:
 - Ln(hourly gross wage) and its variance
 - Individual (age, education, gender, experience)
 - Job related (type of contract, occupation)
 - Firm (size, NACE sector, collective bargaining coverage, public/private)
 - Co-workers (share of <30, share of 50+, share of tertiary educated, share of females)

Methodology: variance decomposition



- $\text{Var}(\ln w_{ij}) = \text{Var}(\ln w_{ij} - \underline{\ln w}_i) + \text{Var}(\underline{\ln w}_i)$
 - we calculate total variance ($\text{Var}(\ln w_{ij})$) and the between- component $\text{Var}(\underline{\ln w}_i)$
 - within-variance derived as the difference (Lazear 2009, Barth et al. 2016)
- Absolute wage variance and residual variance

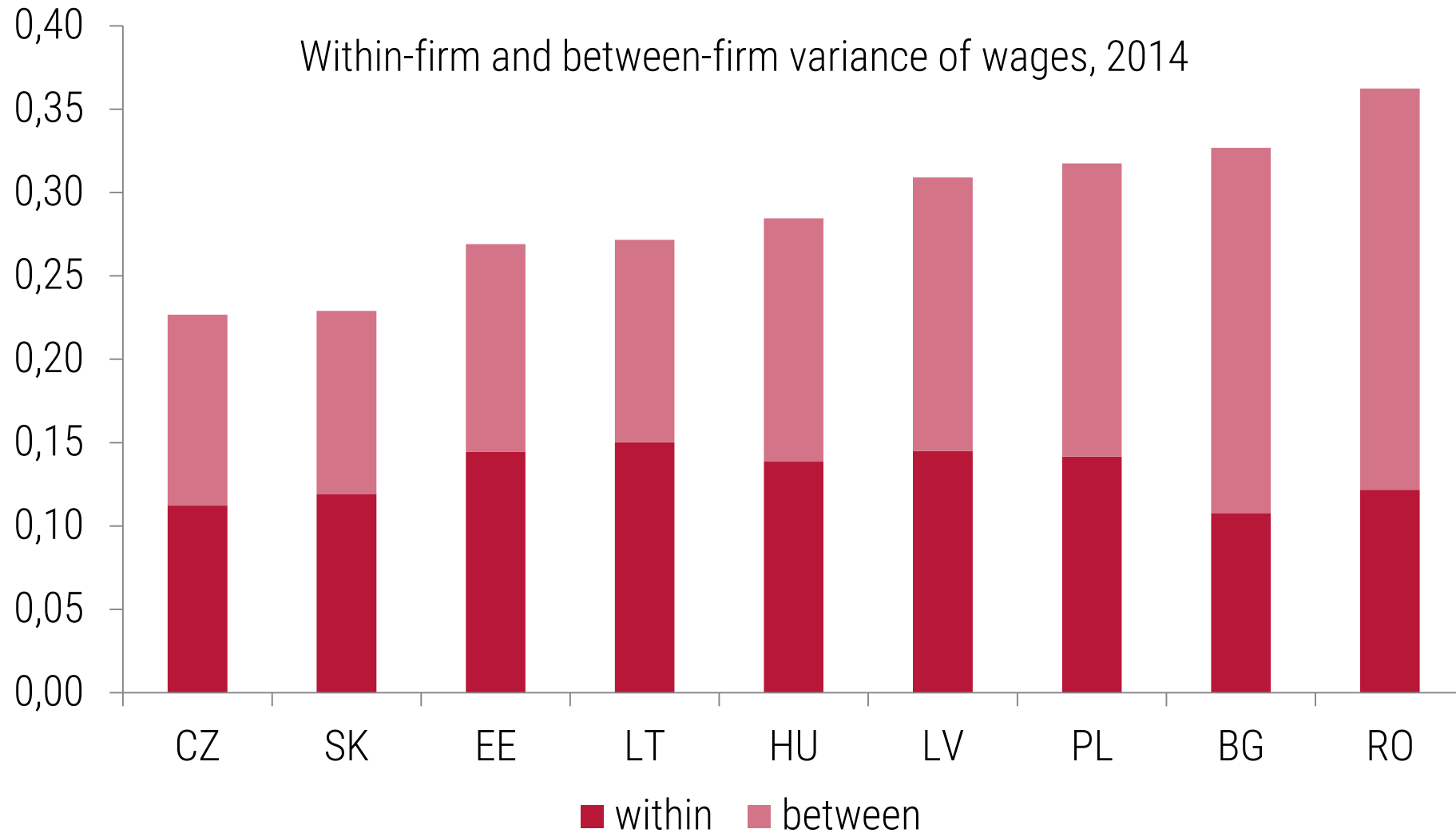
Variance of wages in CEE, 2002 - 2014 – a convergence?



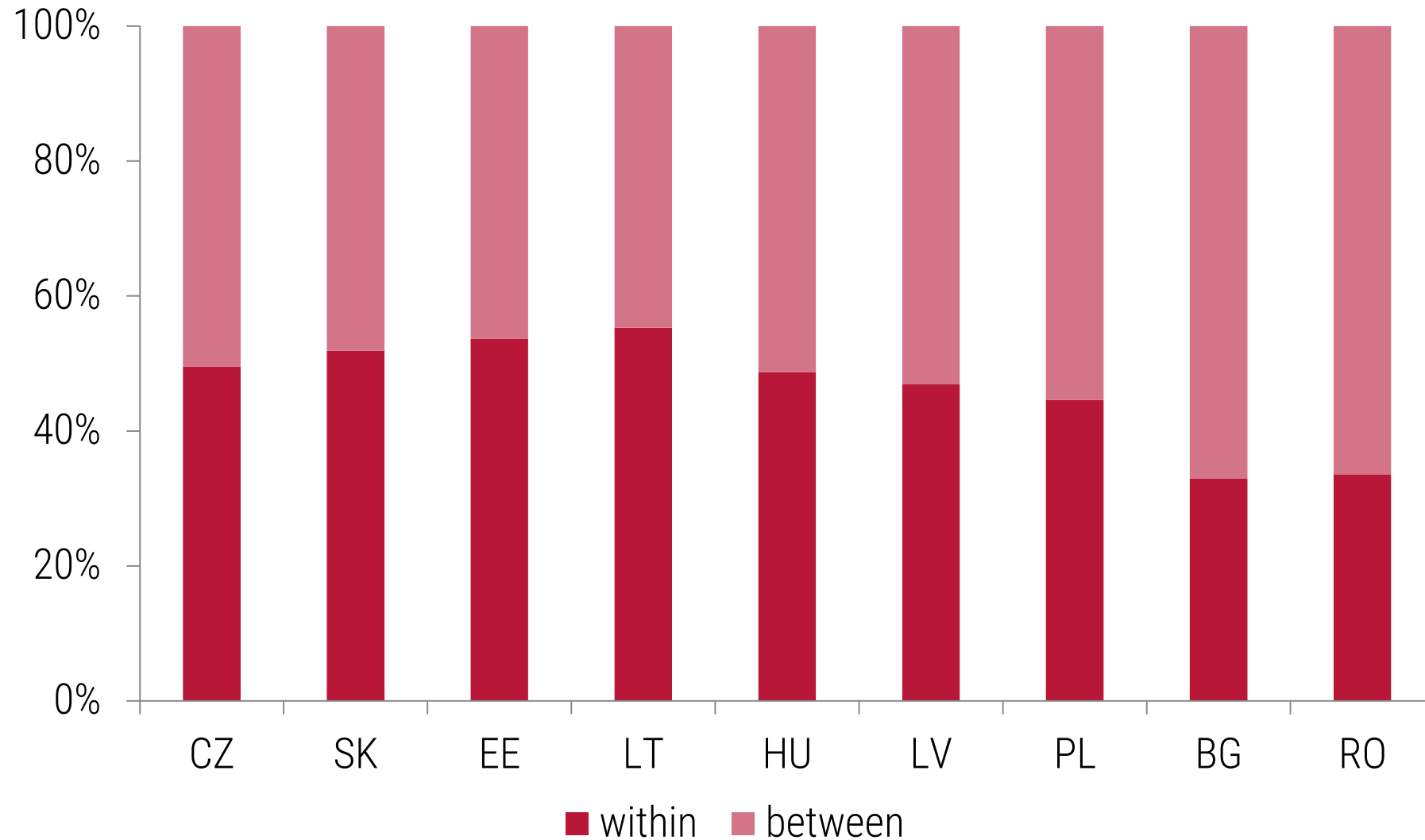
How do CEE compare to WE/ SE?



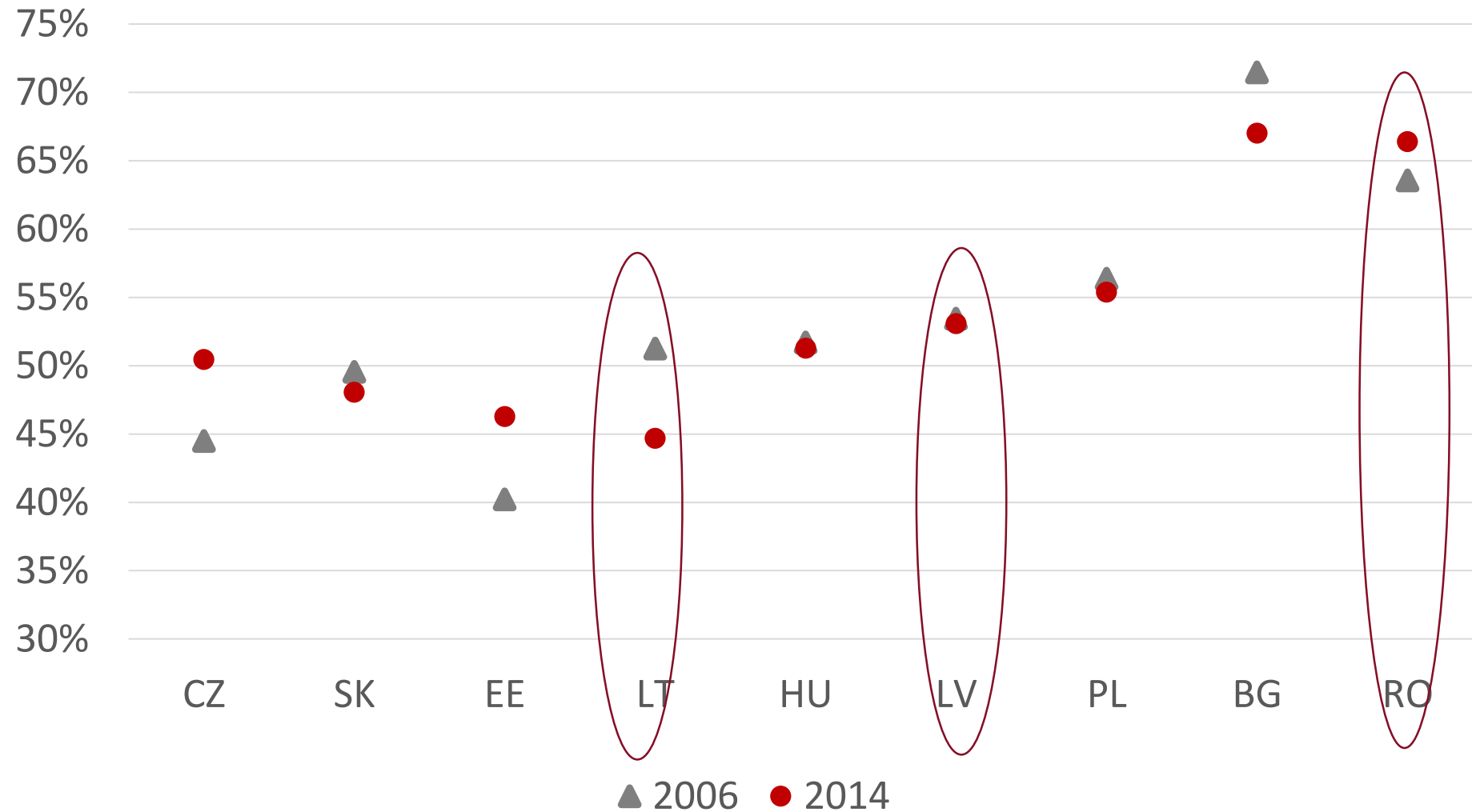
Between firm differentials drive the CEE differentials in wage inequality | :



BG & RO stand out with high between-firm shares of inequality | :



Changes over time? Share of between-firm inequality



Residual wage variance: lowers the *between* component



But it still
highest in
BG & RO
(58%)

What determines variance of wages?



RIF regression (Firpo, Fortin, Lemieux 2018)

- Calculate the recentered influence function value for each observation y :

$$RIF(y; \sigma^2) = \sigma^2 + IF(\sigma^2)$$
$$RIF(y; \sigma^2) = \sigma^2 + (y - \int z * dF_Y(z))^2 - \sigma^2$$

- Run OLS regression of the RIF values on the explanatory variables
- Interpretation: the impact of explanatory variables on variance of log wages

Micro level analysis of wage variance (RIF reg, 2014)



	Bulgaria	Romania
female	-0.096***	-0.074***
tertiary edu	0.014**	0.151***
secondary edu	-0.050***	-0.038***
old age	0.117***	0.145***
prime age	0.110***	0.113***
Fixed term contract	0.062***	-0.039***
public sector	-0.057***	-0.020***
NACE: manuf. & constr.	0.196***	0.182***
NACE: market services	0.206***	0.208***
High skilled	0.189***	0.084***
Medium-high skilled	-0.060***	-0.007*
Medium-low skilled	-0.089***	-0.080***
Firm level variables:		
Share of workers 50+	-0.417***	-0.260***
Share of short-tenured workes	0.073***	0.104***
Share of tertiary edu workers	0.284***	0.429***
Share of women	-0.093***	-0.049***

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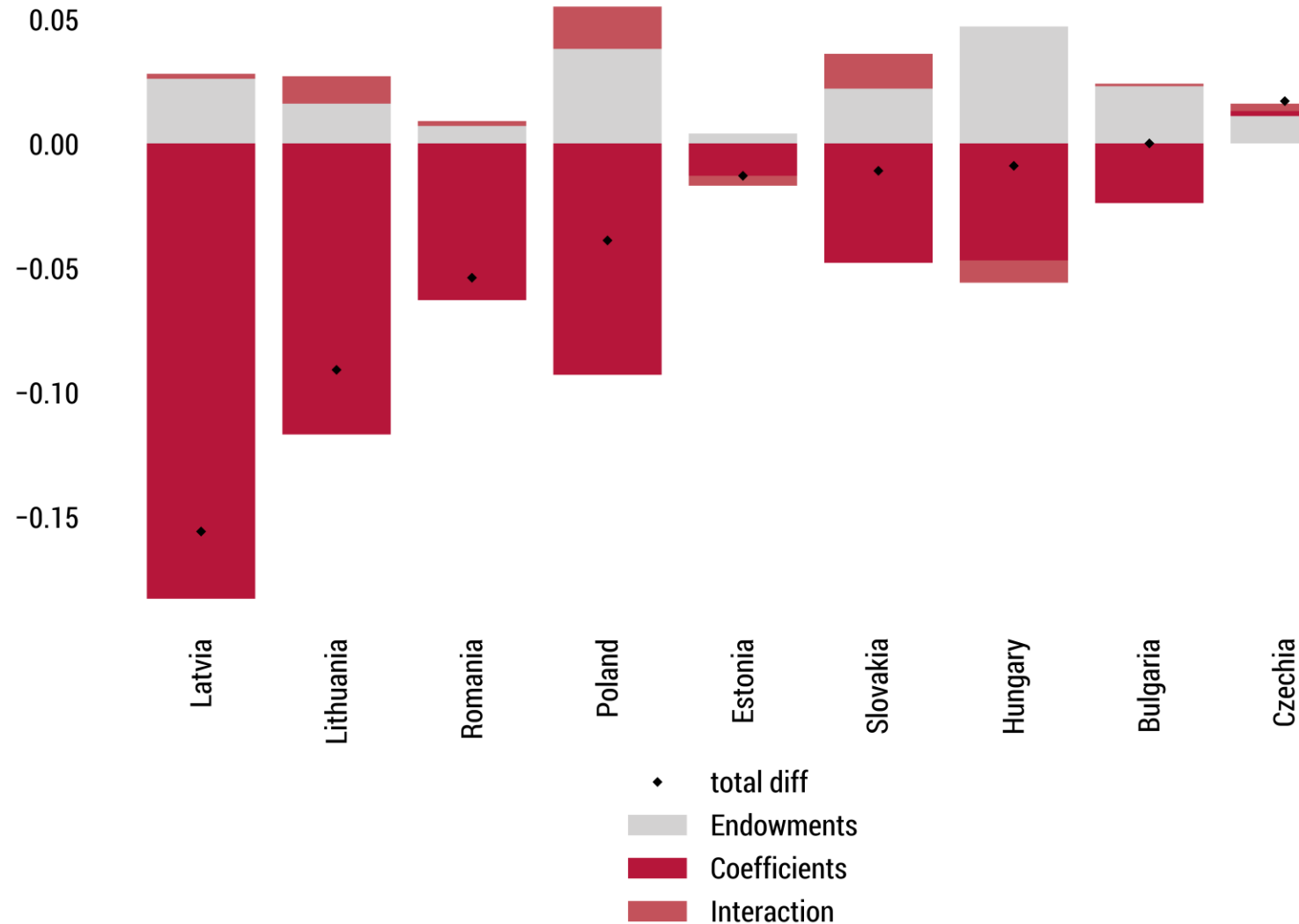
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tertiary edu	0.133***	0.043***
secondary edu	-0.070***	-0.103***
old age	0.127***	0.130***
prime age	0.113***	0.115***
Fixed term contract	-0.027***	-0.004***
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Share of tertiary edu	0.072***	0.105***
Share of women	0.040***	0.019***

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Decomposing changes in variance of wages (2006-2014, OB) . | :



Summing up



- CEE's wage inequalities have decreased over time in most of the countries
- A slight increase in CZ only -> overall a narrowing of the differentials
- Between firm wage inequalities drive most of differences in the level of wage inequalities among the CEE
- BG & RO stand out with high levels of between-firm variance of wages

Summing up (2)



- Wage inequality strongly (positively) associated with:
 - Sector: market services, manufacturing & construction (weak in EE, LT)
 - Occupation: high skilled (BG, RO)
 - Co-workers: tertiary educated, young and prime aged
 - Tertiary education
 - Older age

- And weakly with
 - Gender (males)
 - Private sector

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