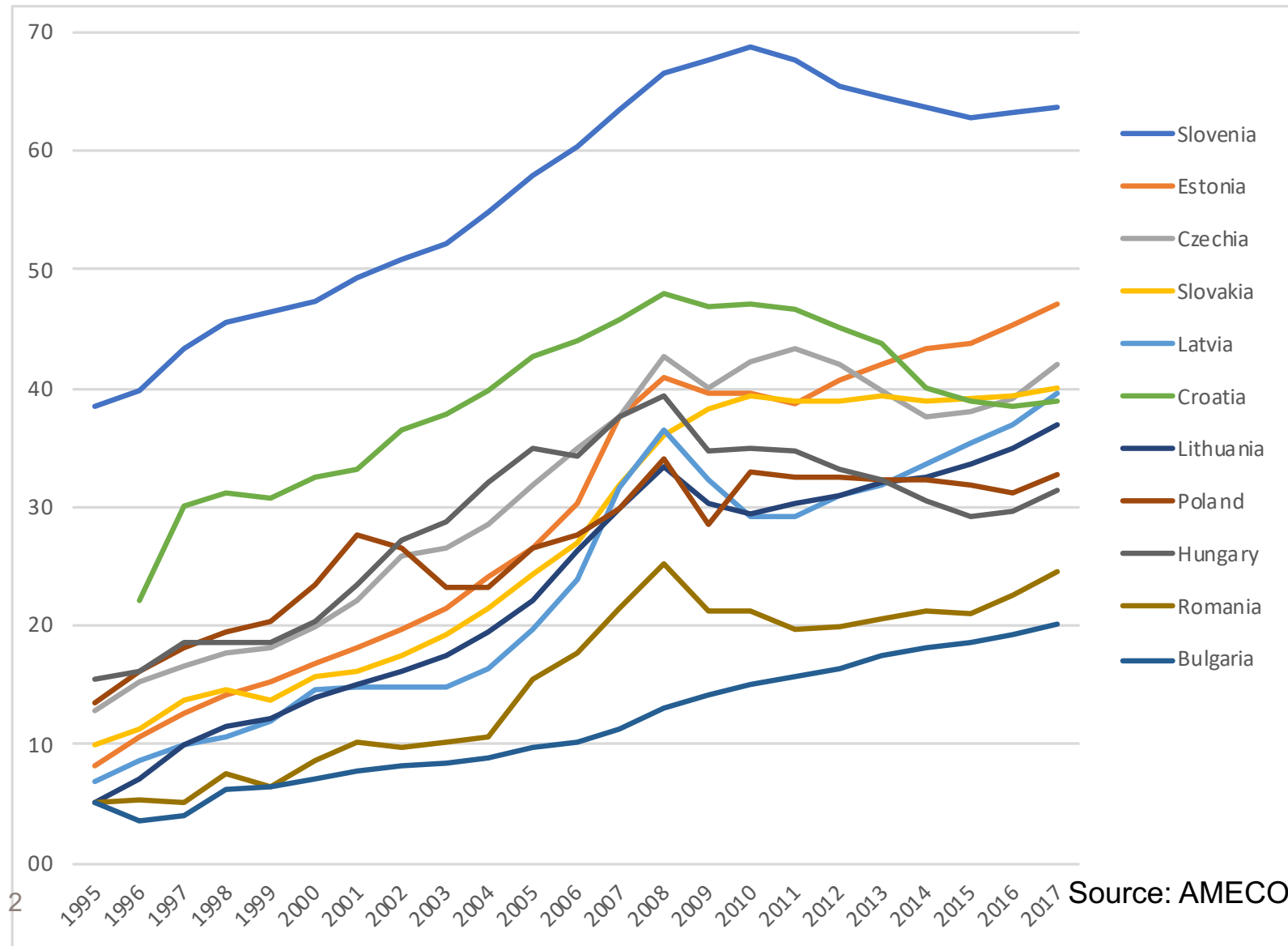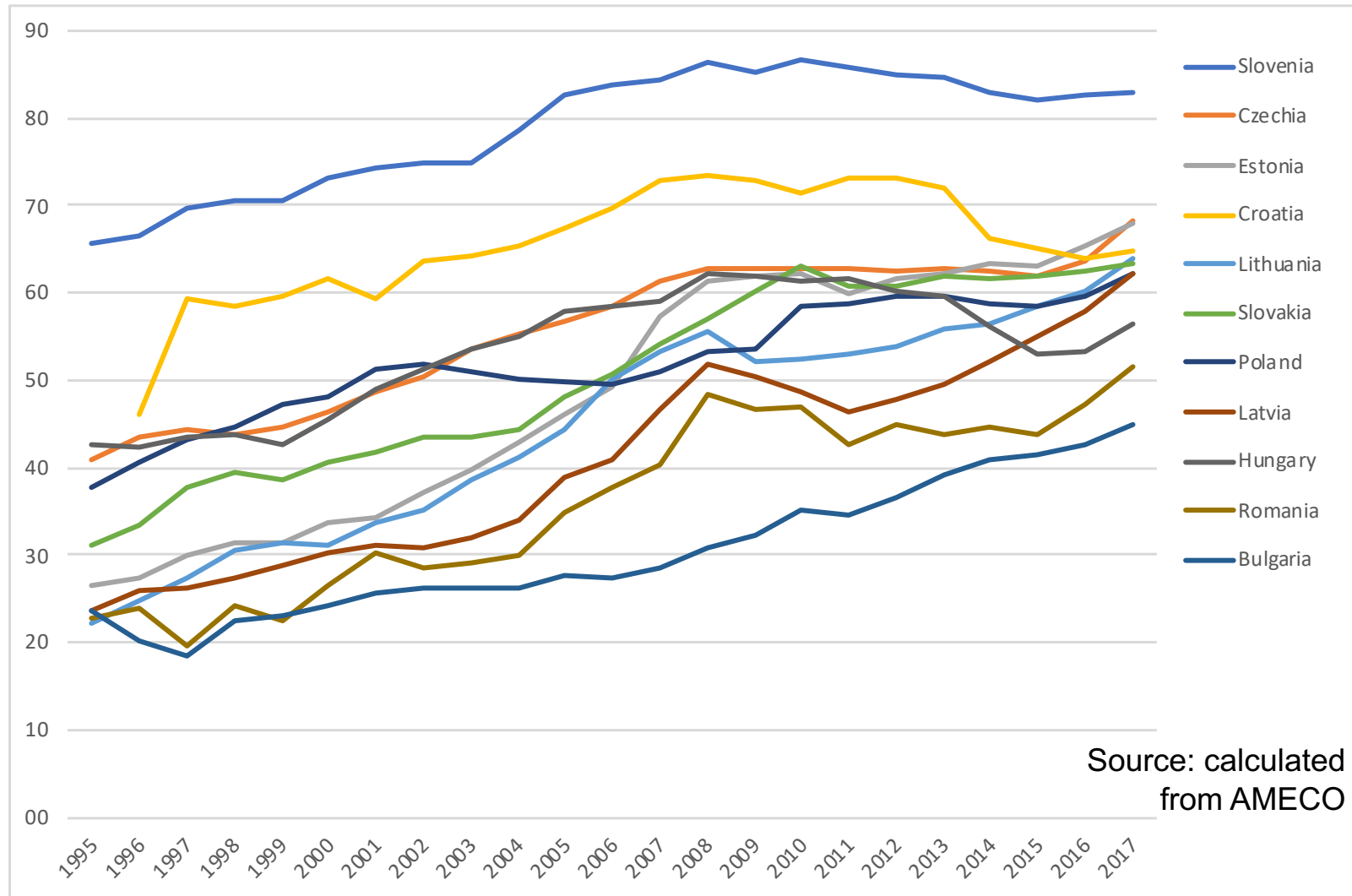# Wage gaps in Europe

Jan Drahokoupil
European Trade Union Institute

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Wage gaps: Nominal compensation per employee, % of German level
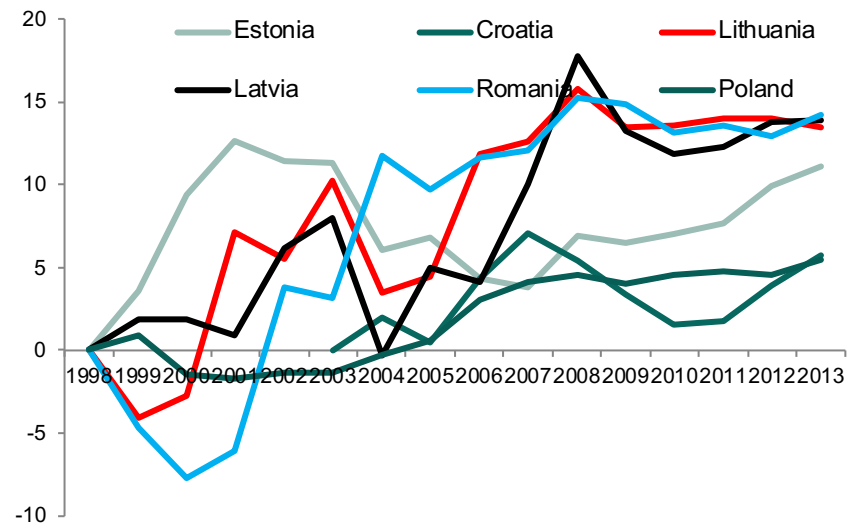

Source: AMECO etui.

Wage gaps: Compensation per employee, *adjusted for price levels*, % of German level

Source: calculated from AMECO

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Compositions of workforces: differ, convergence through upgrading, but also increase in routine-cognitive jobs

The evolution of routine cognitive tasks between 1998-2013
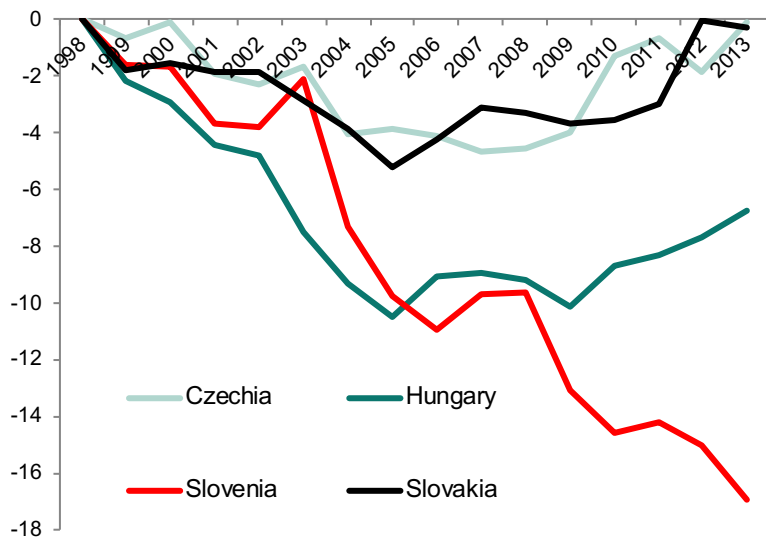
Source: Keister & Lewandowski, 2017, *Transfer: European Review of Labour and Research*, 23/3

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Beyond country averages: Actual wage gaps?

ETUI Working Paper 2017.04, with Agnieszka Piasna

- Large differences in average nominal wages in Europe, wages much lower in the East
  - But it costs much less to live in Slovakia than in Sweden
  - Some might well say *'well Slovak workers are less skilled and work in less complex industries and occupations'* (e.g. assembly workers vs. engineers)
  - *'Wages (must) reflect productivity differences'* (hence look at unit labour costs)
- Hence we
  - Adjust wages to reflect price differences (PPP)
  - Compare wages of similar workers in similar firms (control for differences in work and workplace characteristics)
  - These capture also some productivity differences (but not all)

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Once we account for structural differences, differences in wages between high-wage countries disappear.
However: **The wage gaps between high-wage and low-wage countries become bigger** once differences in worker, work and workplace characteristics are controlled for.

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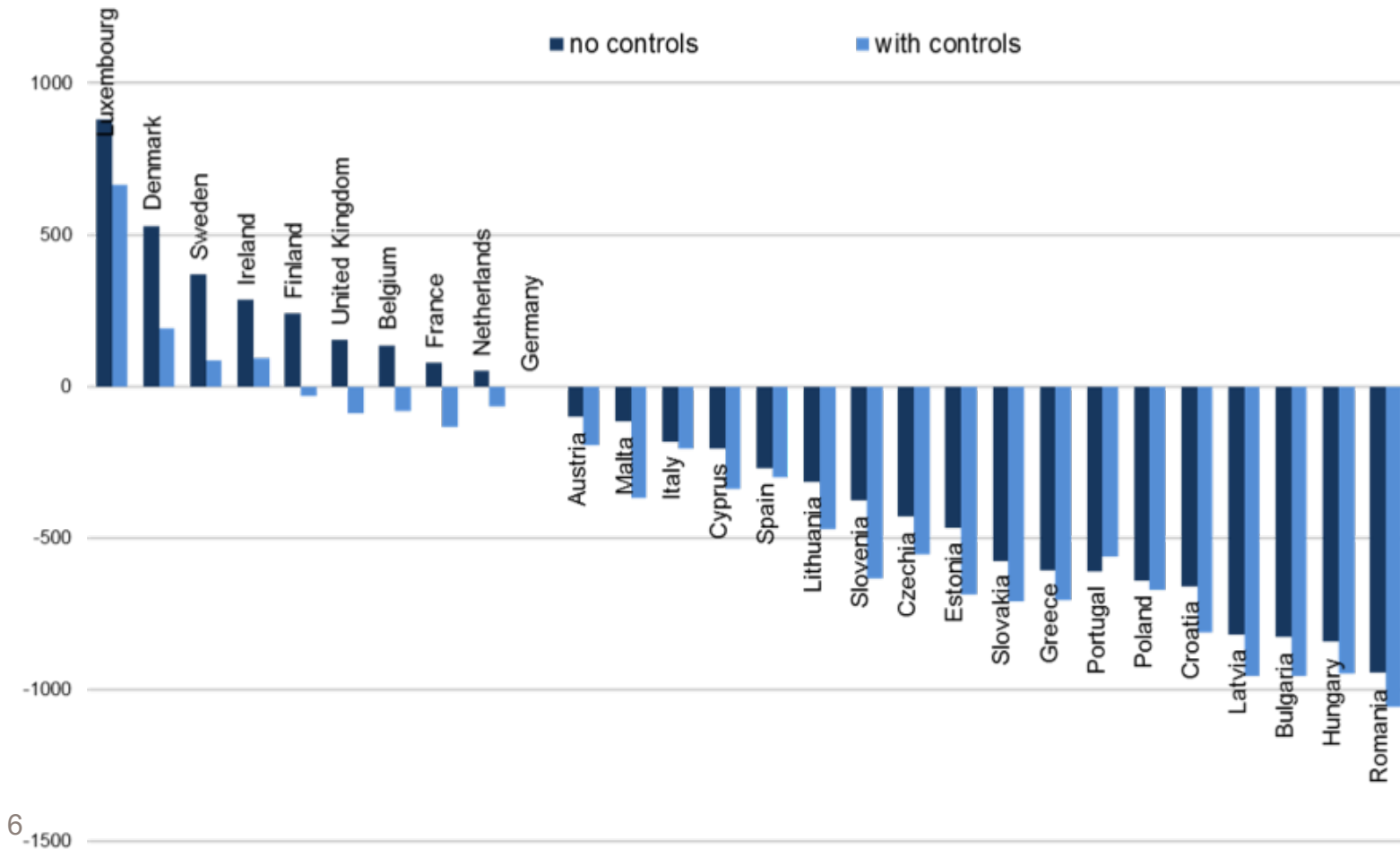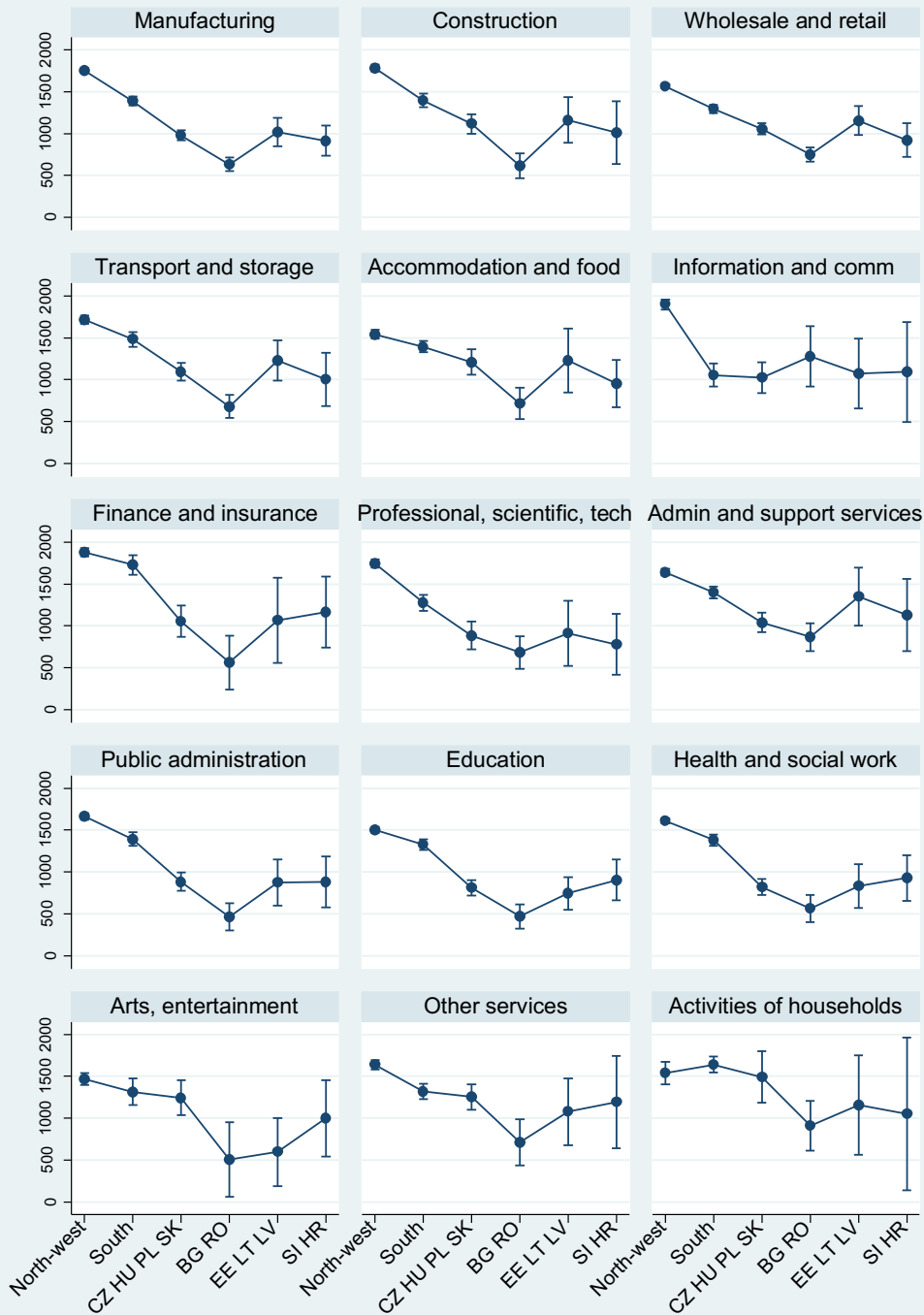
Occupations

	North-west	South	CZ HU PL SK	BG RO	EE LT LV	SI HR
Managers	0.0	-410.3	-932.1	-1014.0	-640.8	-893.8
Professionals	*0.0*	*-360.1*	*-893.1*	*-1164.5*	*-796.7*	*-727.3*
Technicians and associate professionals	0.0	-362.9	**-719.4**	**-1080.9**	-761.5	-791.2
Clerical support workers	0.0	**-245.8**	**-559.9**	**-906.6**	-484.4	-643.6
Services and sales workers	0.0	**-190.4**	**-496.2**	-838.1	**-565.0**	-617.5
Skilled agricultural, forestry and fishery workers	0.0	-451.8	**-712.6**	-1145.1	-984.7	-956.9
Craft and related trades workers	0.0	-361.3	**-653.8**	-1073.3	-611.5	-765.4
Plant and machine operators, and assemblers	0.0	-269.2	**-644.1**	**-1000.9**	**-465.8**	-711.3
Elementary occupations	0.0	**-64.4**	**-453.5**	**-757.0**	**-396.9**	-583.6

Note: Marginal means estimated from the regression model, adjusted for all control variables. In bold differences from the negative return for professionals that are statistically significant ($p \le 0.05$). Armed forces occupations not displayed because of the low numbers of respondents in this category.

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Conclusions

- Perfect LM competition/productivity explanation: not supported
- Low relative returns in manufacturing & higher returns in some nontradeable services seem to support the importance of international wage competition
- But public sector undervaluated as much as manufacturing
- Moreover: nontradeable complex services also undervalued
- In fact: differences with north-west driven by relative position of sectors in north-west
- Hence: a generalized low-wage model, with returns particularly low on higher skills

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APPENDIX

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Our approach: wages = *f*(work, worker, and workplace characteristics, sectors, occupation, & country effect)

- EWCS 2015 (and 2010)
  - Detailed information on worker and workplace, recent data, wide coverage of income data (structure of earnings survey not public sector, not small firms)
- Net monthly wage in PPP
- Regression (OLS [MLM]): EU wide controls + country dummies
  - Controls for composition/structural differences
  - **Country dummies** capture average return on skills in a country (= institutional & market-power differences between countries) + differences in unobservable variables
- Controls 1: work and workplace characteristics
  - Occupation (ISCO2), sector (NACE2), size of establishment, professional status, weekly working hours, tenure at current employer, supervisory role, use of new technology at work, complex tasks
- Controls 2: individual worker characteristics
  - gender, age, educational attainment
- Second step: interactions sectors, occupations and country groups
  - decompose returns effect for country groups

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Theory

1. *What value created?* The perfect LM competition model

- Marginal productivity of labour (separable from the marginal productivity of capital)
- Informs much of policy discussion (ULC)
- Productivity not directly measurable (payroll enters into value added)
- Hence typically operationalized as worker skills and tasks

2. *How value distributed?* Institutionalist, bargaining, and structural models (Value measurement problem still there)

- Bargaining, institutional and political factors
    - Non-political factors should still influence factor shares (e.g. capital intensity)
- Oligopolies and market power (division of rents)
- The dependent market economy model

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State of the art: Empirical research

1. Wage differences across countries (Behr/Pötter 2010, Brandolini et al 2011, Pereira/Galego 2016)
   - Workforce composition vs. **return on skills/attributes**
   - Decomposing wage functions in individual countries, omitted variables?, explanation?
2. Differences between sectors (within countries) (e.g. Martins 2004, Magda 2008, Du Caju et al. 2010)
   - Workplace and workforce characteristics
   - Large residuals, hierarchy between sectors even after endowments controlled for
   - role of profits (+), import competition (-), export intensity (+), product market regulation (+)
3. Inequality within countries (Blau/Kahn 1996, 2001, Devroye/Freeman 2001, Simón 2010)
   - Endowments (**workplace** and workforce characteristics) vs. **returns on endowments**
   - Leuven et al 2004: net supply
   - Equivocal, but use of cognitive tests produces support for supply factors
4. Industry studies in CEE (e.g. Onaran/Stockhammer 2008, Faggio 2001, Egger/Stehrer 2003)
   - Productivity 0, unemployment -, FDI +(/-), trade 0, intermediate goods exports
5. Literature on wage share
   - Autor et al. 2017 on 'superstar firms'

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