

Stylized facts

- No consistent trend in the return to education (between group inequality)
- But there is an increasing wage dispersion
- Partly from
 - Higher wage dispersion *within* tertiary education than within secondary and primary
 - (composition effect)
 - Increasing *within group* wage dispersion over time during the last few decades
 - (trend)
- EXPLANATIONS?

The stability of the return to education

- No sign of drop in the private return to education, even with the large expansion of tertiary education
 - Strongly indicates that demand has kept pace with supply
 - Some sign of convergence in the private return to education between countries as a result of convergence in supply
 - But still: Differences between countries to a large extent a result of differences in bargaining regimes
- No clear pattern across countries when it comes to educational expansion and wage differences.
 - Some of the most expansive countries have been the ones with the lowest initial return to education.
 - Compressed wage structure does not seem to limit supply
- Policy Menu:
 - Other policy instruments provide incentives where wages are compressed - notably student support

Explanations for the Increase in Within Group Wage Dispersion

1. Expansion of the educational system
 - Changing ability distribution
 - Decreasing returns to scale in the educational sector.
 - Decreasing returns to human capital in production
 - → Expect widening for tertiary education
 - A drop in the bottom of the distribution
2. Changing institutions and management
 - Coordination in bargaining
 - Unions
 - Employment protection
 - Individualised and performance related pay
 - Changes in management strategies

Empirical Results

- Comparative analysis:
 - Using variations in trends between countries
 - 12 countries, EDWIN (minus Portugal) supplemented with ECHP (Austria, Belgium, Denmark and Spain)
 - 25 years (varying)
- Calculate predicted wage for the top ten decile and for the bottom ten decile *within* each educational group
 - Conditional on private sector, male manufacturing worker, and experience

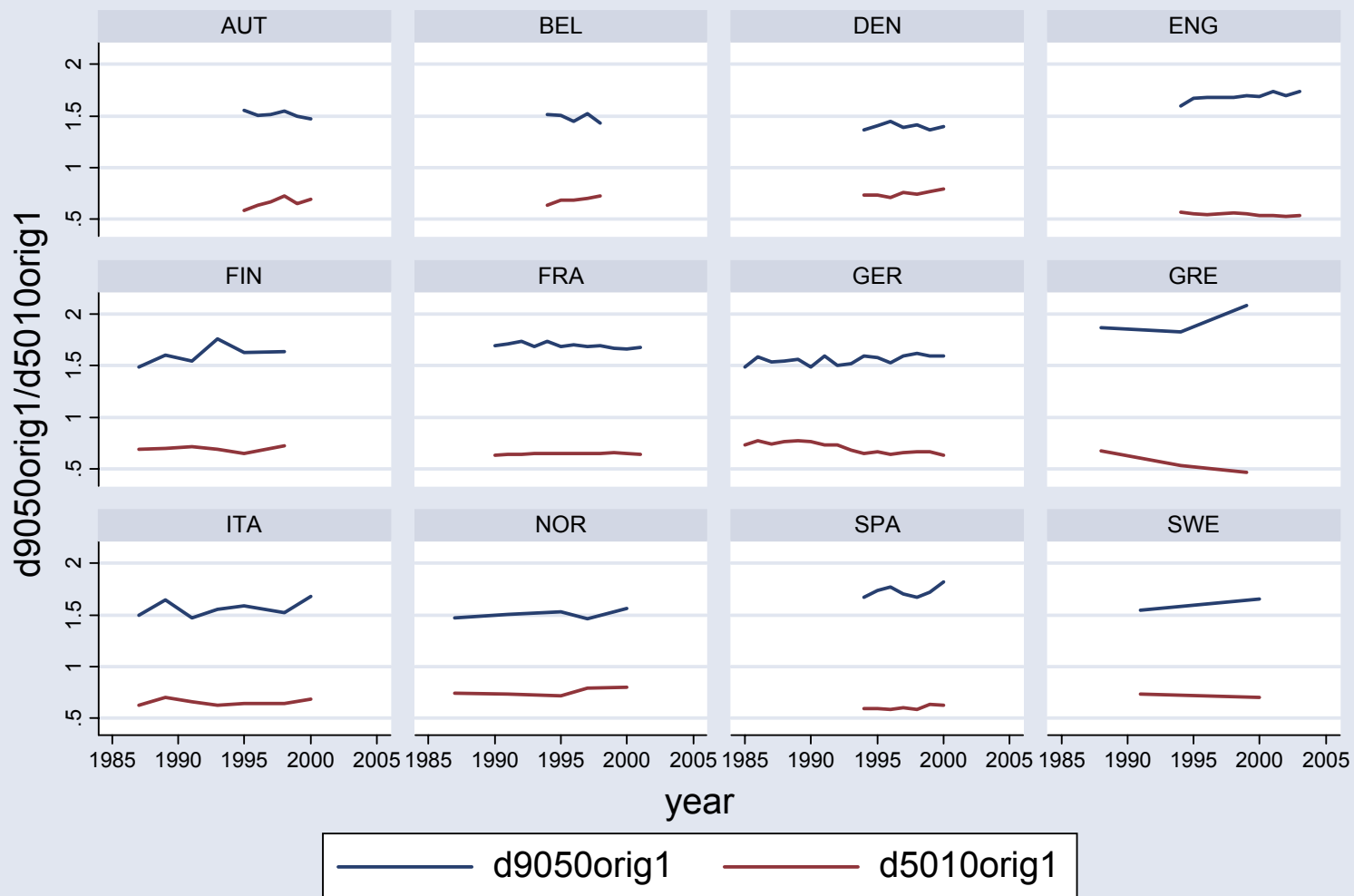
The size of the educational system?

- Increase in within group wage dispersion is *not* associated with increases in the size of tertiary education
 - Point estimates are small
 - Wrong sign: For tertiary education, strongest effect is a compression in the bottom
 - But no effects statistically significant

Institutions

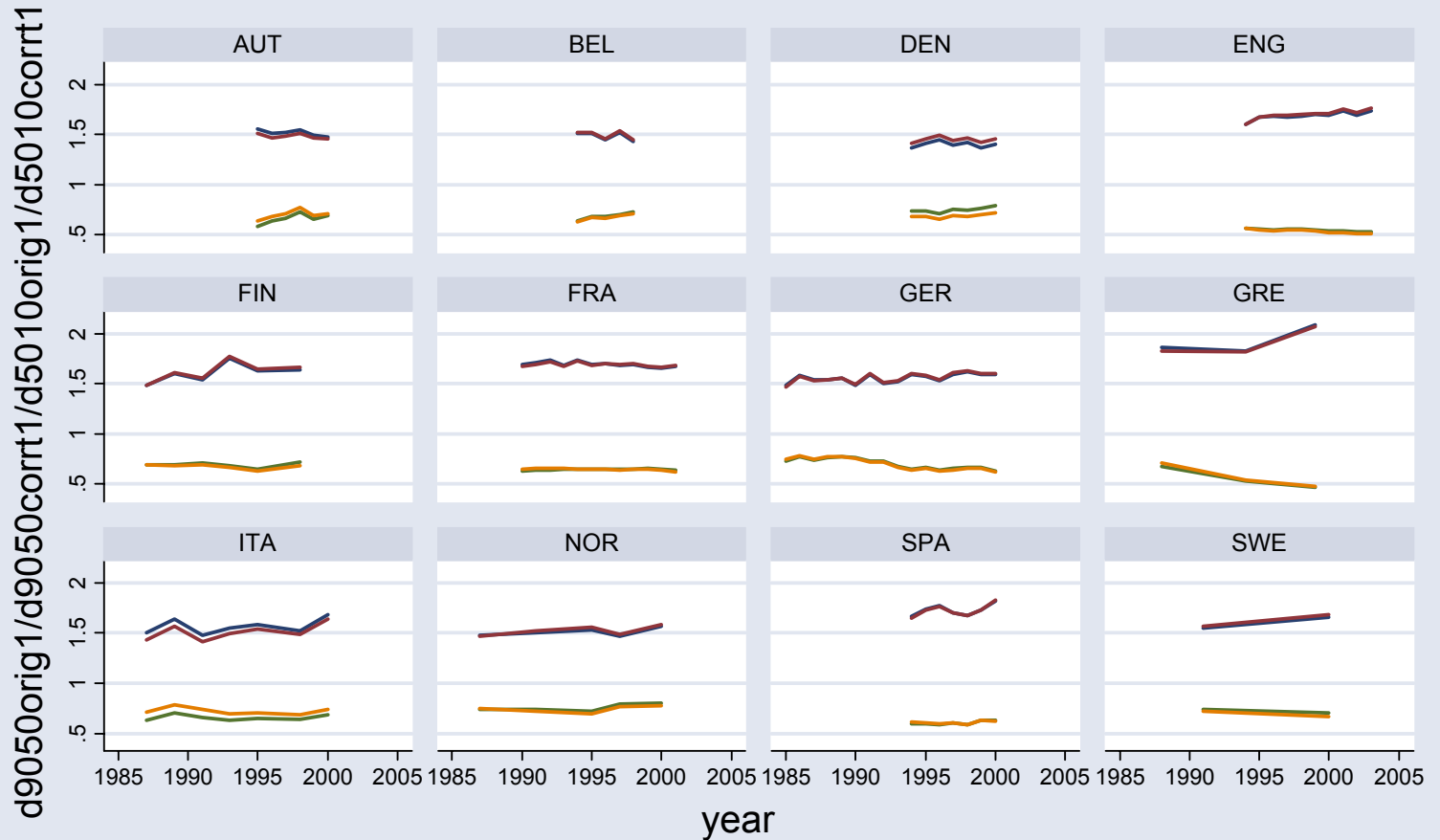
- Wage dispersion is lower with a higher degree of coordination in bargaining
 - Compression from the top (!)
 - Largest effect on tertiary education
 - Largest effect on 9050 vs. 5010
- Wage dispersion is lower with employment protection
 - Largest effect on 5010 vs. 9050

Observed wage differences tertiary education



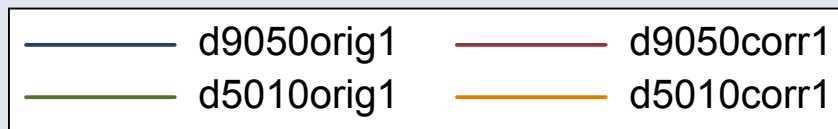
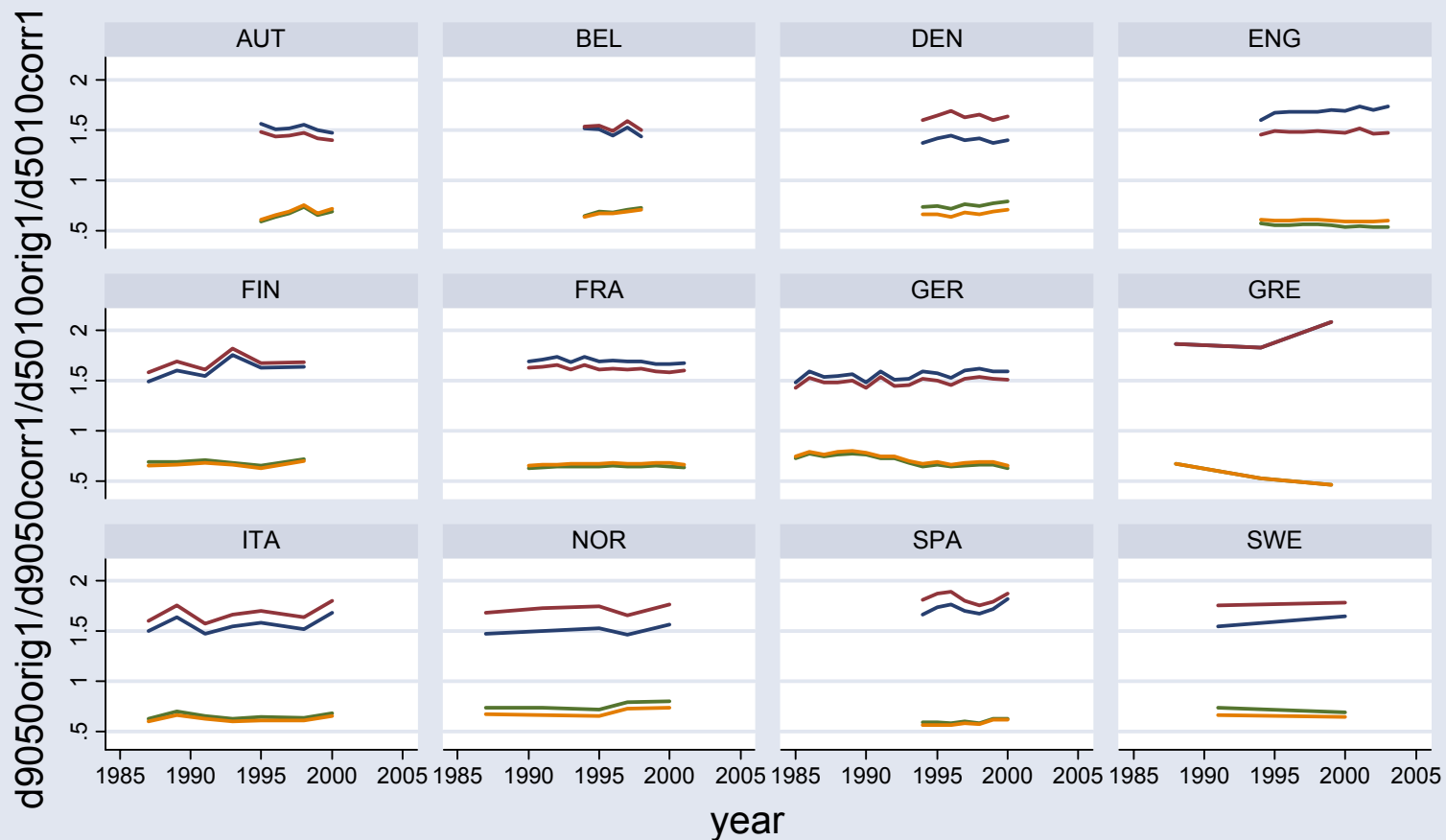
Graphs by country

Correction for tertiary education



Graphs by country

Correction for bargaining institutions



Graphs by country

Underlying trends

- About half of the positive trend in wage dispersion was explained by changing policies and labour market institutions
- Remaining trends
 - Management strategies
 - Changing norms
 - Within firm wage inequality

New management strategies in the knowledge society?

- Evidence from Norway
- Increasing education gives
 - Pressure on traditional bargaining system
 - National coordination
 - Less unionism
 - More performance related pay
 - More individualised pay schemes
 - More flexible work practices
 - More autonomy

Bargaining institutions and pay schemes

Marginal effects of the share of tertiary education

Collective agreement	-0.359***
Union density	-0.167***
Central agreement only	-0.359***
Individual bonus	0.196***
Individual performance related pay schemes	0.339***

Organisational Change

Marginal effects of the share of tertiary education

Atonomy	0.286 ^z
On-the-job Training	0.296 ^{**}
Product innovation	0.296 ^z
Reorganisations	0.259 ^{***}
Flatter organisations	(-0.143)
Numerical flexibility	0.541 ^{***}
Functional flexibility	(-0.019)

More dynamic work places

- Higher levels of R&D and training with more education
- Positive association between organisational change and higher education
- Shifting power towards the individual both in terms of autonomy and of individual bargaining power
- → Higher growth, more rapid changes, higher turnover, more individualised management strategies

Summing up

- Growth in demand for education has kept pace with supply
- No causal effect of increasing supply on within group wage dispersion
 - No drop in the bottom of the distribution for higher education
- Differences between countries largely attributable to differences in bargaining institutions
 - Coordination in bargaining tends to compress the top
 - Employment protection compressed the bottom
- About half of the increase in wage dispersion may be attributed to these factors
- Higher wage dispersion within tertiary education
- Higher education puts pressure on the bargaining system – less coordination, unionism and collective agreements. More individualised pay.
- Higher education stimulates R&D and organisational change: More dynamic work places