WIFO

TEL. (+43 1) 798 26 01-0
FAX (+43 1) 798 93 86

ÖSTERREICHISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG
AUSTRIAN INSTITUTE OF ECONOMIC RESEARCH

WIEN 3, ARSENAL, OBJEKT 20 • A-1103 WIEN, POSTFACH 91
P.O. BOX 91, A-1103 VIENNA – AUSTRIA • http://www.wifo.ac.at

The Impact of Outward FDI in Central and Eastern Europe on Employment in the EU15-Countries

Martin Falk and Yvonne Wolfmayr

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Motivation

- Ongoing discussion of the effects in the literature, see the OECD economic study 2008:
  - "previous studies fail to provide a clear picture across countries and industries of the relationship between the expansion of activities abroad and total production/employment at home"
  - Desai, Foley and Hines (2008): foreign and parent company employment are complementary
  - In contrast: Harrison et al., (2007) parent company employment and foreign affiliates in low-wage countries are substitutes
- Examples for Austria (Pfaffermayr; Falk and Wolfmayr 2008; Onaran 2007)
- Research question:
  - Elasticity of substitution between parent company employment and foreign affiliate
  - Differences in the elasticities of substitution between parent companies operating in the CEEC and non-CEEC
  - Differences in the elasticities of substitution between services and manufacturing

Previous studies

- For the US
  - Brainard and Riker, 1997
  - Hanson et al., 2003
  - Desai, Foley and Hines, 2008
  - Harrison et al., 2007
- For EU countries
  - EU15 sample: Cuyvers et al. 2005; Konings and Murphy, 2006
  - For Austria and Germany: Marin, 2004
  - For Germany and Sweden: Becker et al., 2005
  - For Austria: Pfaffermayr 2001, Falk and Wolfmayr 2008
- OECD 2008 survey: some find evidence of substitution, other find that they are complements"reported effects are generally small"

Previous studies

- Possible explanations for the difference in the results
  - Choice of the dependent variable should be used: Domestic (total) or parent company employment
  - Parent company employment (defined as the ultimate owner) should be preferred but corrected for M&A effects, foundation of holdings
- Aggregation level
  - firm including data for parent companies and their affiliates vs industry level data
- Definition/Measurement of the elasticity of substitution
  - Some use both wages and employment to estimate the elasticity of substitution
  - Other only parent and foreign affiliate employment
- Data situation for Austria:
  - OENB direct investment database: large sample but limited information for the parent company

Empirical model

- Relative labour demand function (based on long differences)

$$\Delta \ln \frac{L_{1it}}{L_{2it}} = \sigma \Delta \ln \frac{W_{1it}}{W_{2it}} + ß \Delta \ln \frac{Y_{1it}}{Y_{2it}} + \sum_{j}^{J} \beta_j \text{dsec}_{ij} + \sum_{j}^{K} \beta_k \text{dco}_{ik} + u_{it}$$

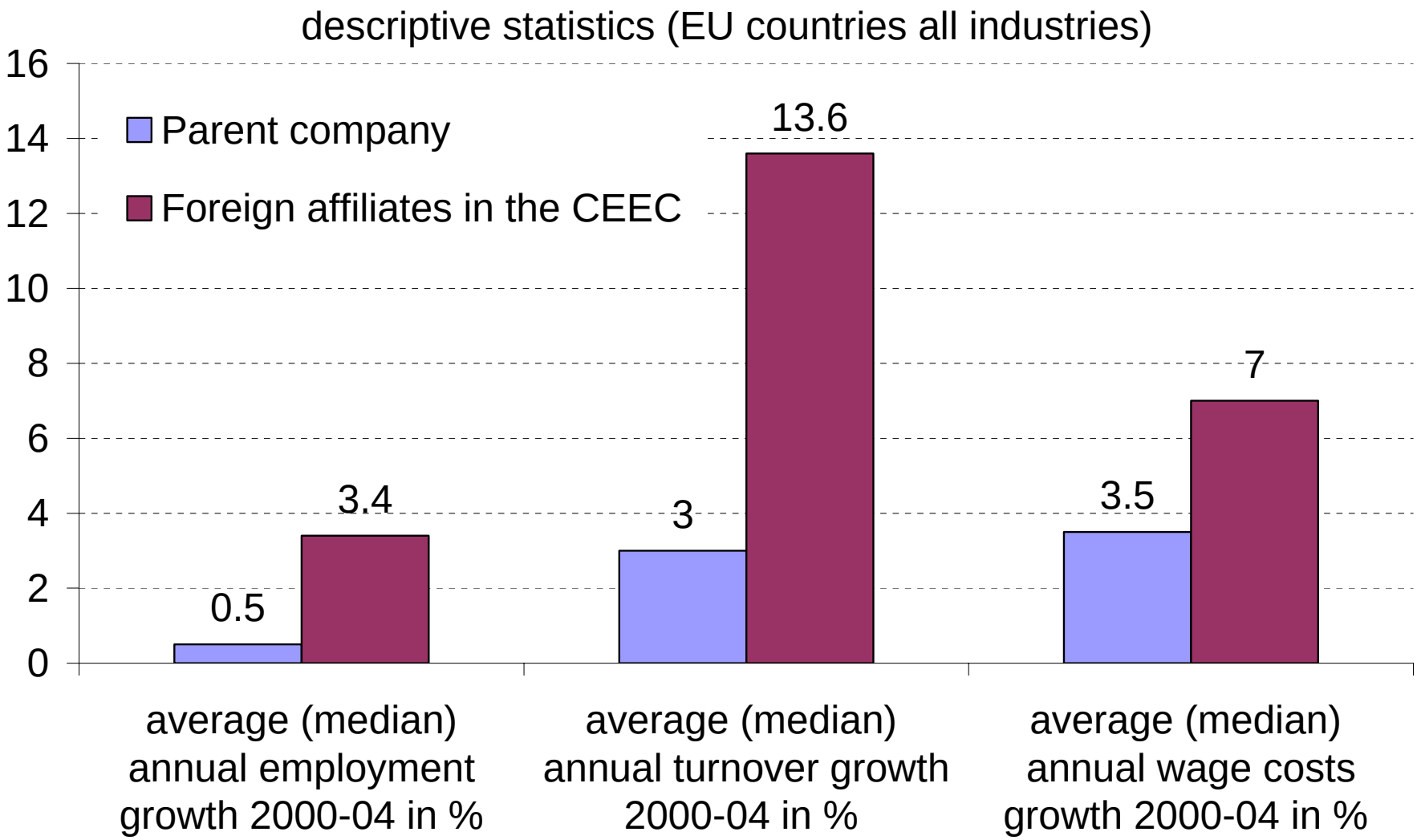
- 1: parent, 2 foreign affiliate, Sigma is the elasticity of substitution

- Relative labour demand function (based on cross-section data)

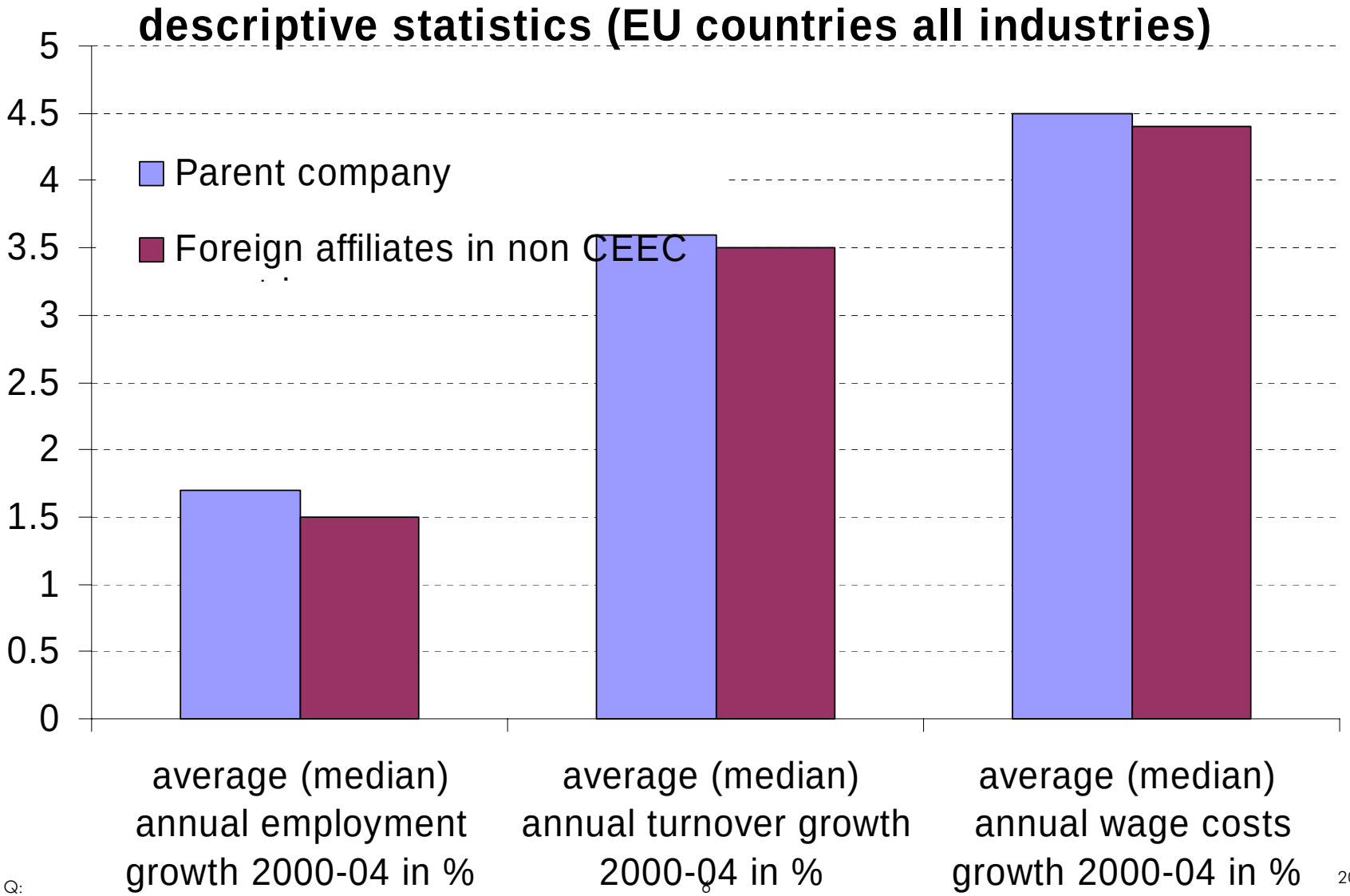
$$\ln \frac{L_{1it}}{L_{2it}} = \sigma \ln \frac{W_{1it}}{W_{2it}} + ß \ln \frac{Y_{1it}}{Y_{2it}} + country \,\&\, industry \;\; effects + \varepsilon_{it}$$

- Simple approach: elasticities of substitution between different types of labour is much higher than between labour and non-labour inputs (Hamermesh 1993)

Descriptive statistics



Descriptive statistics



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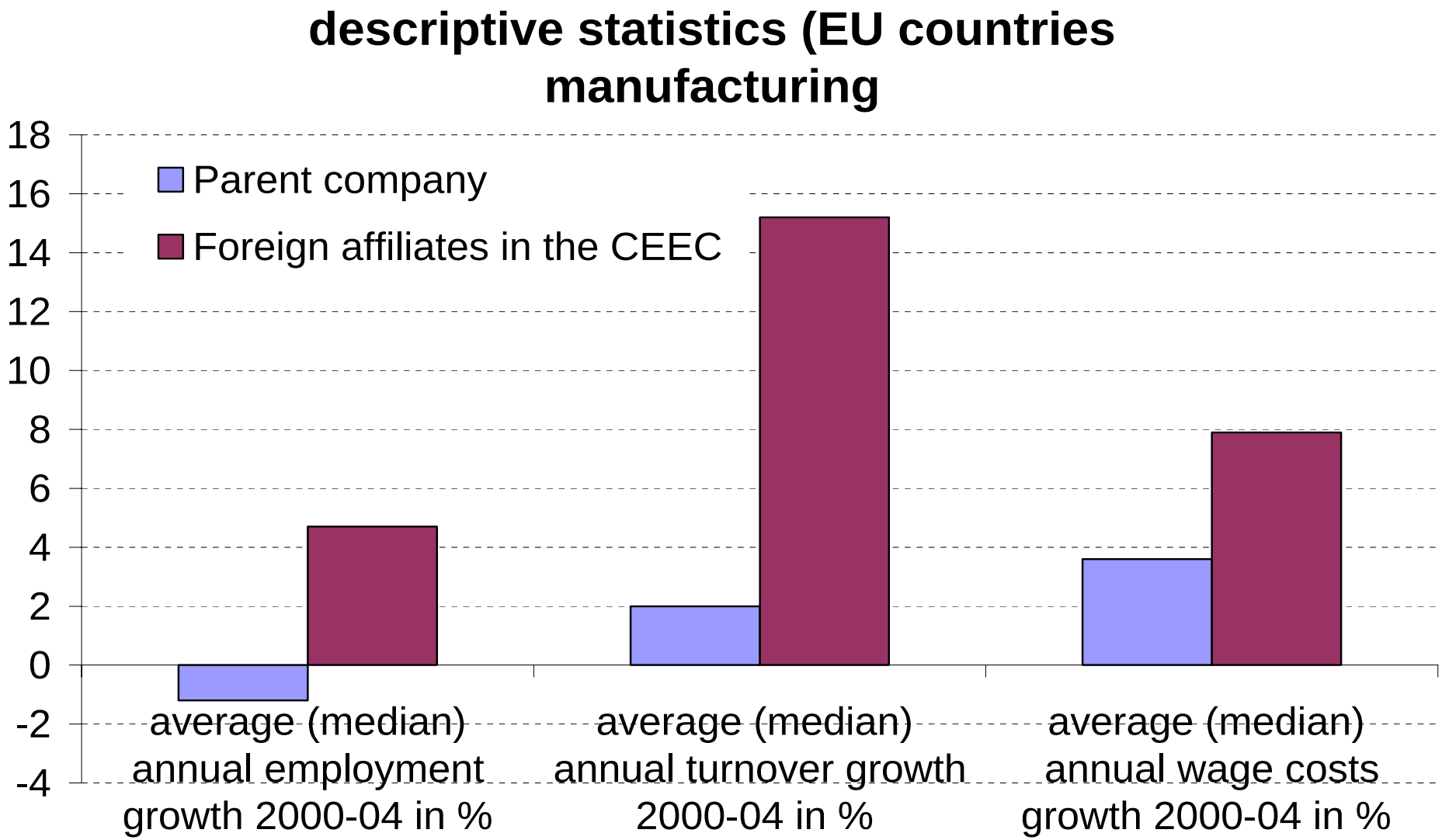
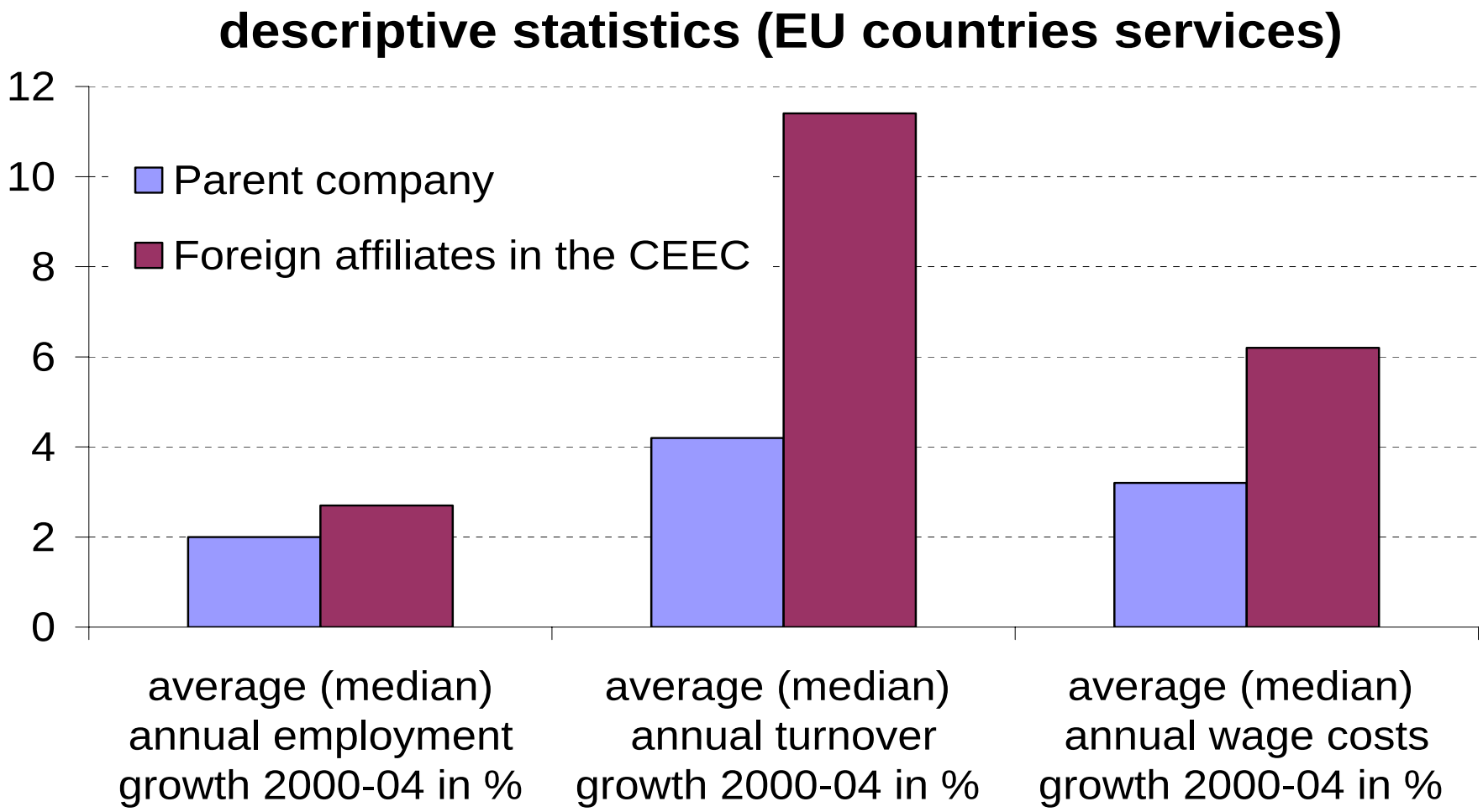
Descriptive statistics



Descriptive statistics



Empirical results I

- estimated elasticity between parent company employment and foreign affiliate employment: -0.50.
  - =>consistent with Becker et al. (2005)
- elasticity of substitution CEEC < elasticity of substitution non-CEEC
  - =>consistent with Becker et al. (2005)

Robust regression results for the relative labour demand equation (log differences)

	Relative wages			# of obs
	Coeff.		t-value	
All industries				
All destinations	-0.51	***	-173.5	34415
CEEC	-0.35	***	-21.4	813
Non-CEEC	-0.51	***	-170.9	33602
Manufacturing				
All destinations	-0.65	***	-120.8	9284
CEEC	-0.52	***	-25.5	347
Non-CEEC	-0.65	***	-113.4	8936
Non-manufacturing				
All destinations	-0.46	***	-128.6	25130
CEEC	-0.33	***	-12.9	465
Non-CEEC	-0.47	***	-128.3	24665

All countries include industry, country effects and relative output change

Empirical results II

- Empirical results based on cross-section data
  - Elasticity of substitution is close to 1
  - Elasticity of substitution is slightly higher for the CEEC region
  - For Austria: quite similar but lower elasticities

Robust regression results for the relative labour demand equation (cross-section)

	Coef	t	obs
all EU countries all industries, all foreign affiliates			
relative earnings 2000	-0.81	-132.0	42604
relative earnings 2001	-0.80	-116.0	42725
relative earnings 2002	-0.77	-117.4	45519
relative earnings 2003	-0.76	-131.0	47232
relative earnings 2004	-0.79	-159.6	58817
relative earnings 2005	-0.77	-101.1	29938
all EU countries all industries, CEEC affiliates			
relative earnings 2000	-0.97	-32.6	1029
relative earnings 2001	-0.93	-31.3	1093
relative earnings 2002	-0.98	-30.8	1254
relative earnings 2003	-0.93	-31.7	1396
relative earnings 2004	-0.94	-39.0	1826
relative earnings 2005	-1.05	-23.1	894
Austrian parents, all industries, all destinations			
relative earnings 2004	-0.65	-9.09	247
Austrian parents, all industries, CEEC affiliates			
relative earnings 2004	-0.76	-4.37	67

Conclusions

- Parent company and foreign affiliate employment are substitutes
- Small differences in the substitution possibilities between parent and affiliate employment in high-wage countries and that in low-wage countries
- Results are somewhat sensitive
- Future work:
  - more studies at the firm level are needed to better understand the home market effects of FDI
  - Missing information about wages => use of wages at the two-digit industry level?
  - Extensions: three equation labour demand model with parent company employment, foreign affiliate employment in the CEEC and developed countries and the corresponding wages