

Successes and tensions in the catching-up process:
Structural change and labour market adjustments

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Brussels Economic Forum, June 2007

Successes and tensions in the catching-up process: Structural change and labour market adjustments

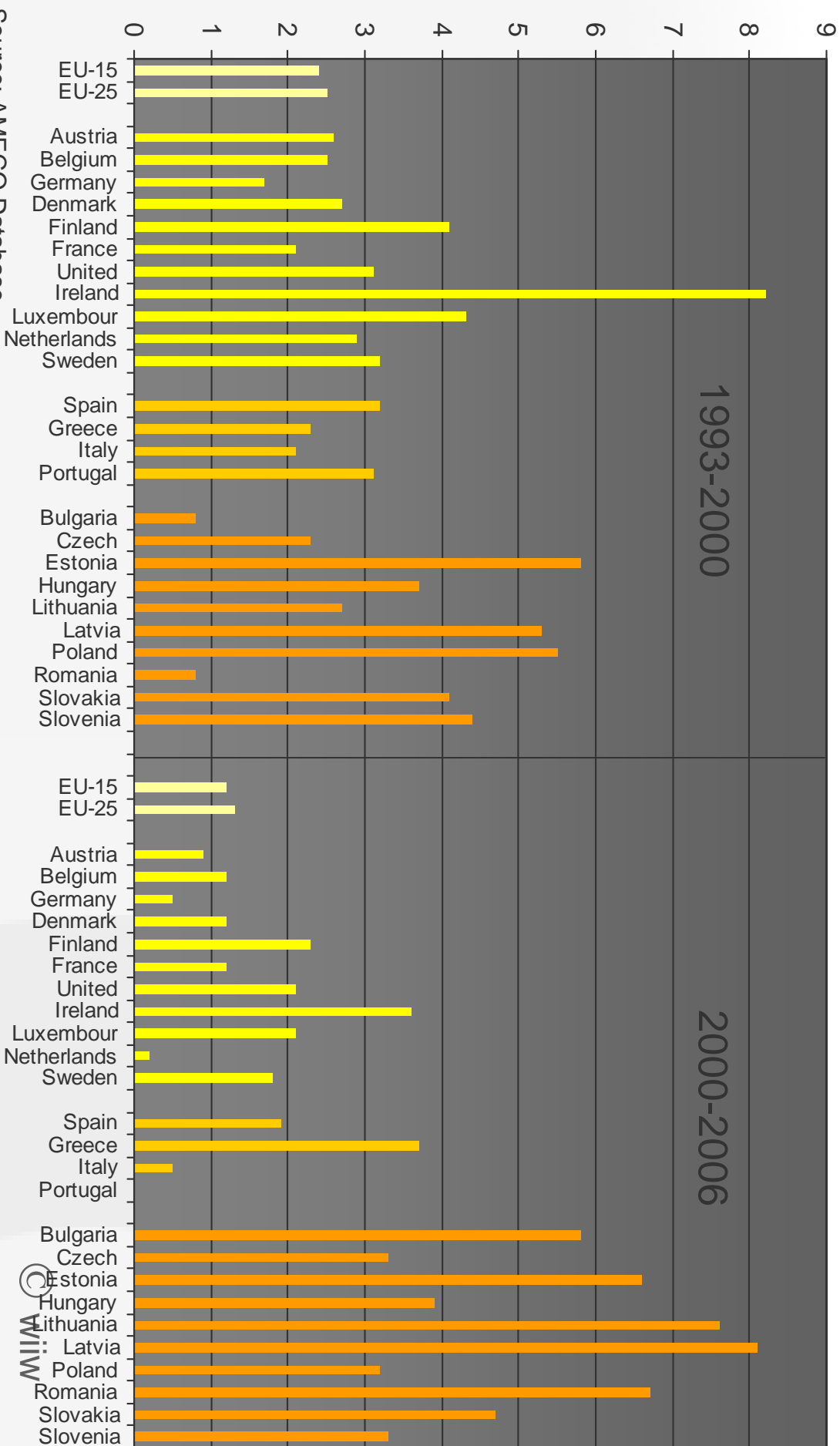
- Features of the catching-up process:
 - changes in output and employment structures
 - uneven productivity dynamics
 - U-shaped employment path
 - dynamics of international specialisation

- Labour market adjustments in a phase of catching-up:
 - sectoral reallocations
 - strongly changing skill demands
 - regional employment patterns
 - supply responses

The aggregate picture

GDP per head, real growth

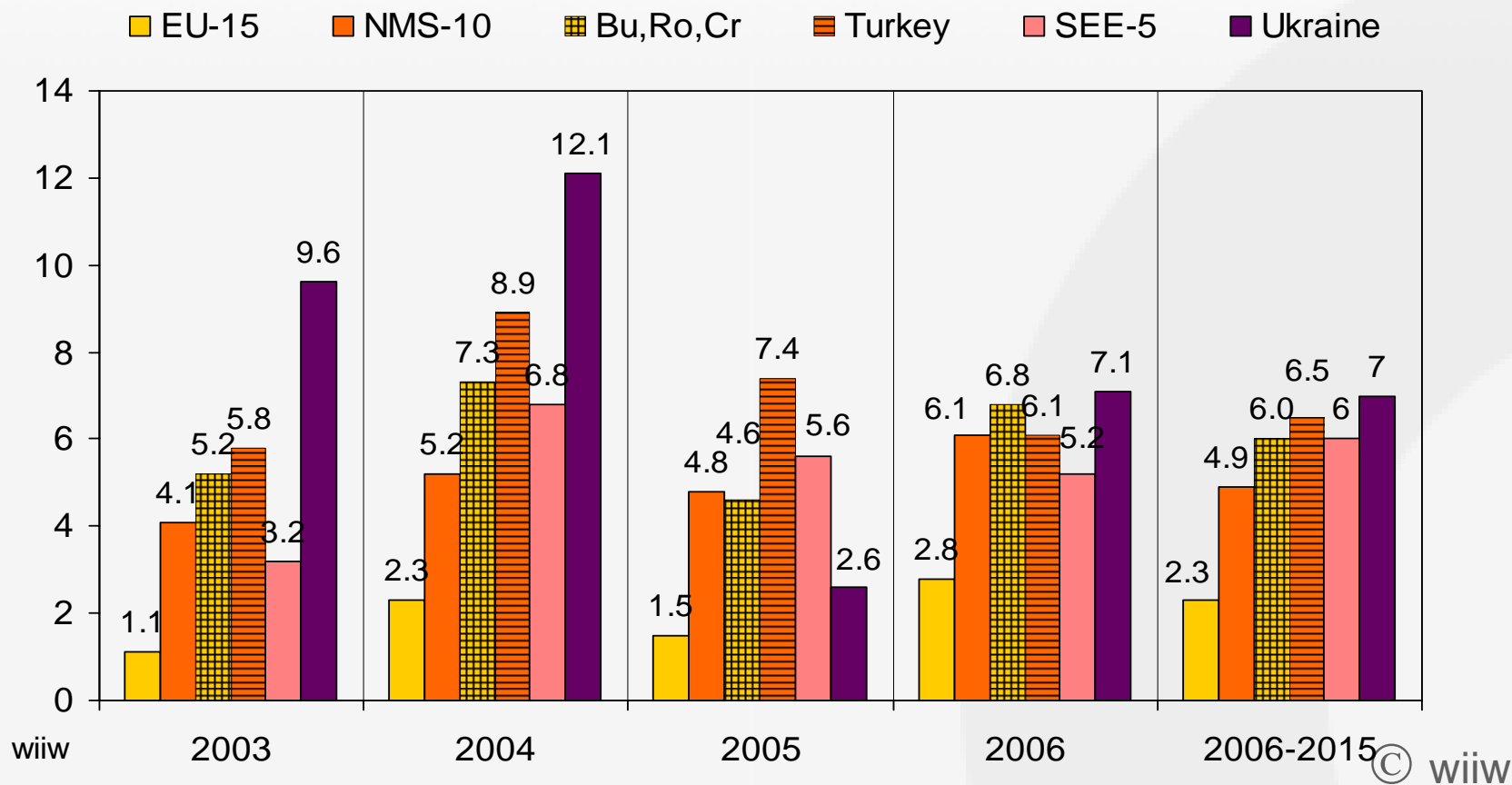
annual averages 1993-2000 and 2000-2006, in percent
EU-25 countries, incl. Bulgaria and Romania



Source: AMECO Database

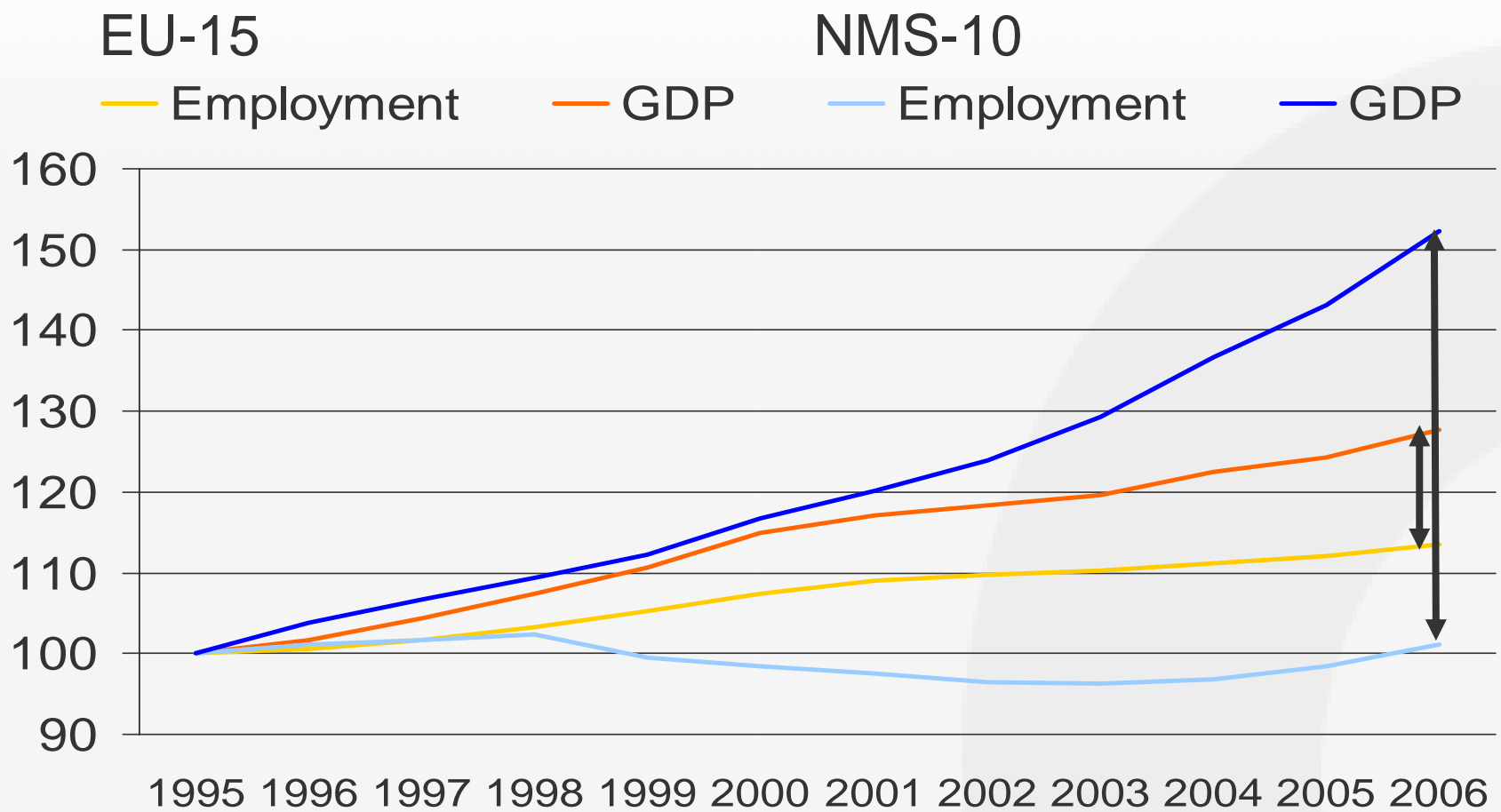
Growth of gross domestic product: Wider Europe

% annual change, 2006 and 2006-2020 forecasts



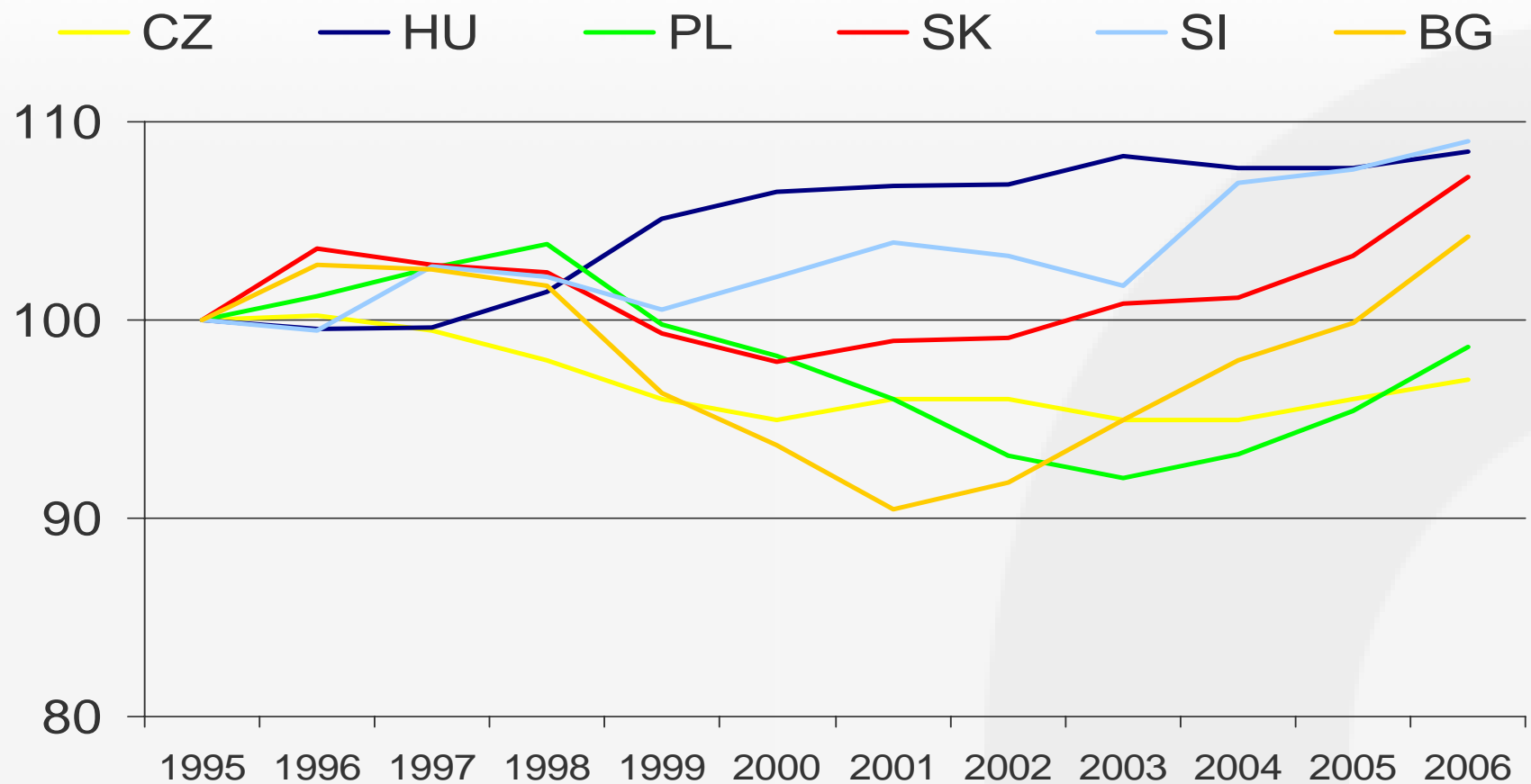
Employment and GDP growth

1995 = 100



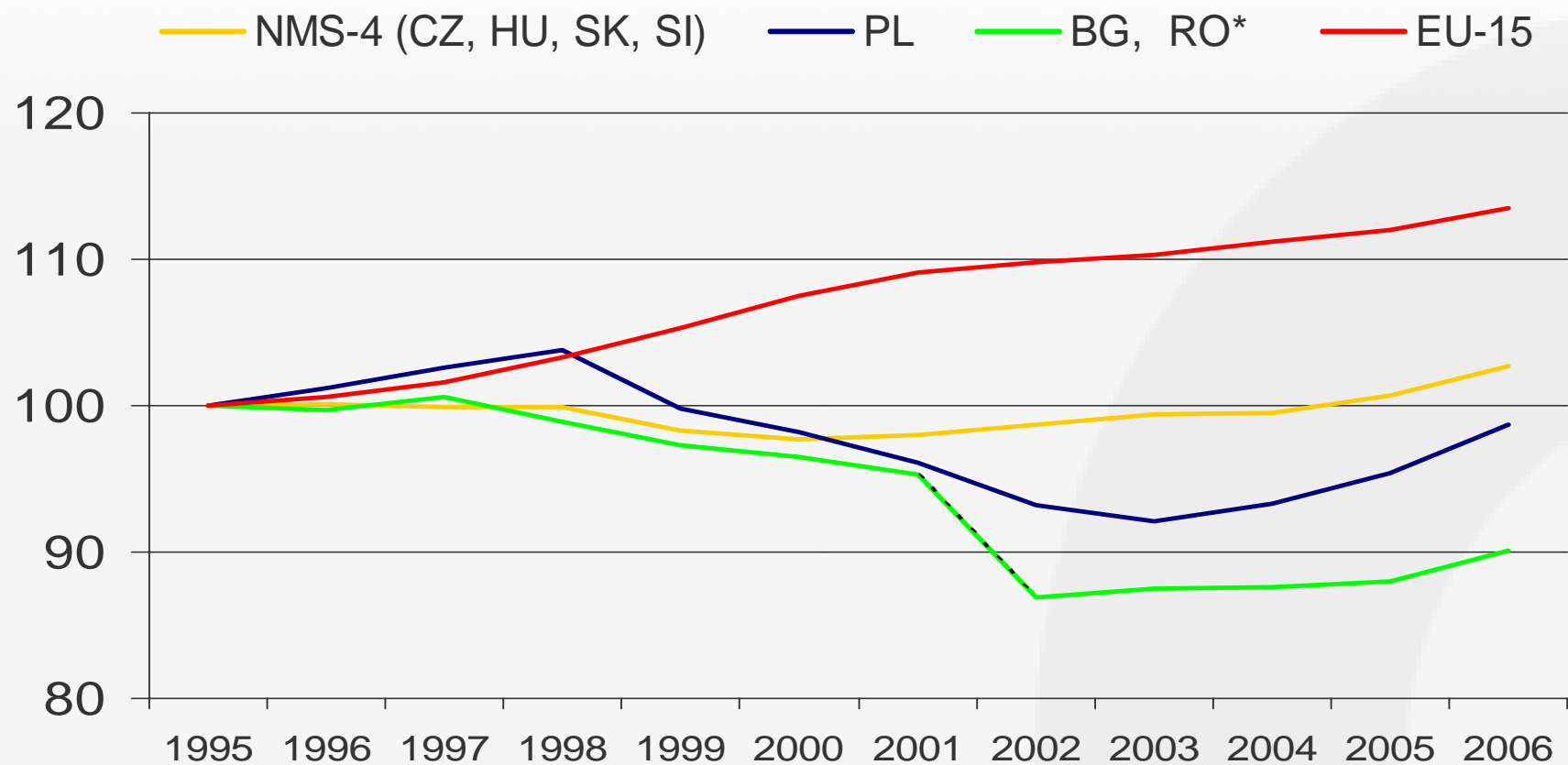
Employment trends, 1995-2006

1995 = 100



Employment trends, 1995-2006

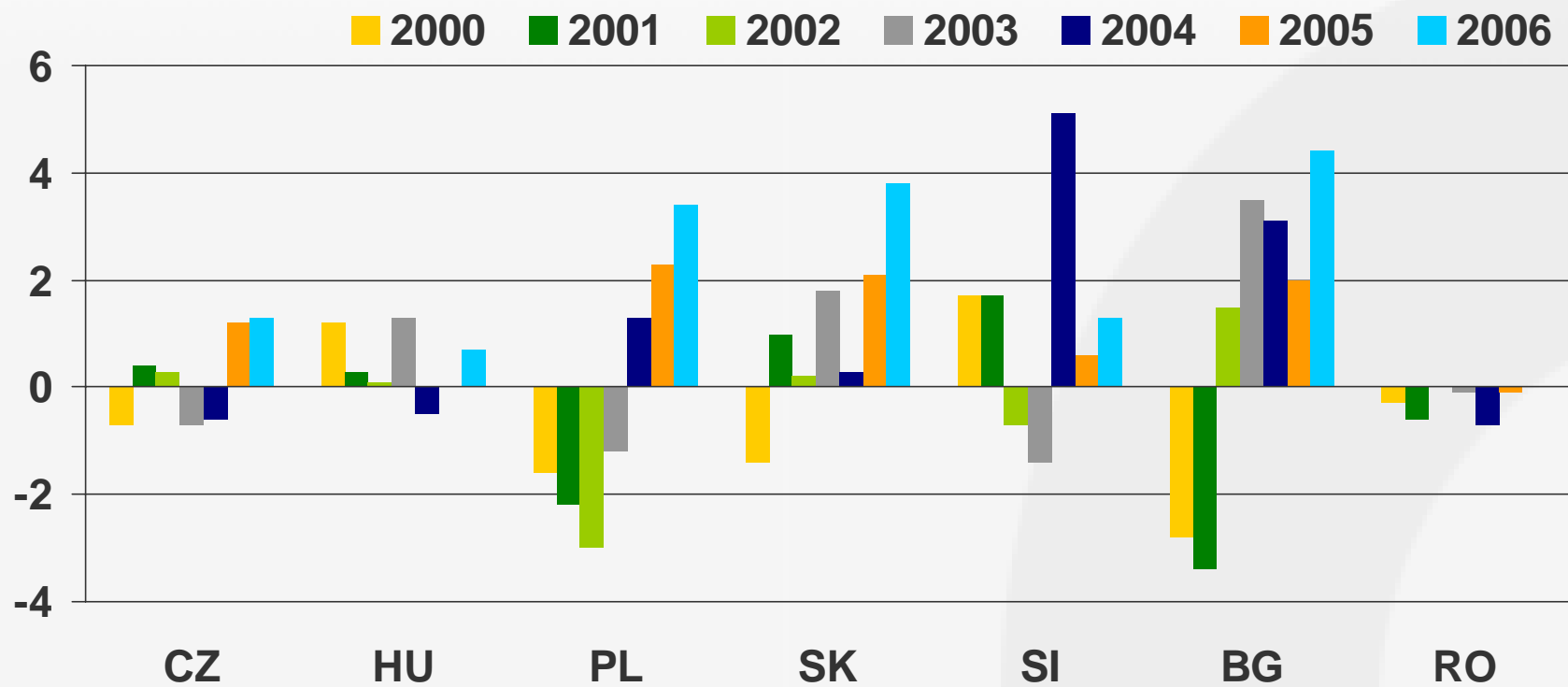
1995 = 100



* 2001/2002 new methodology in Romania.

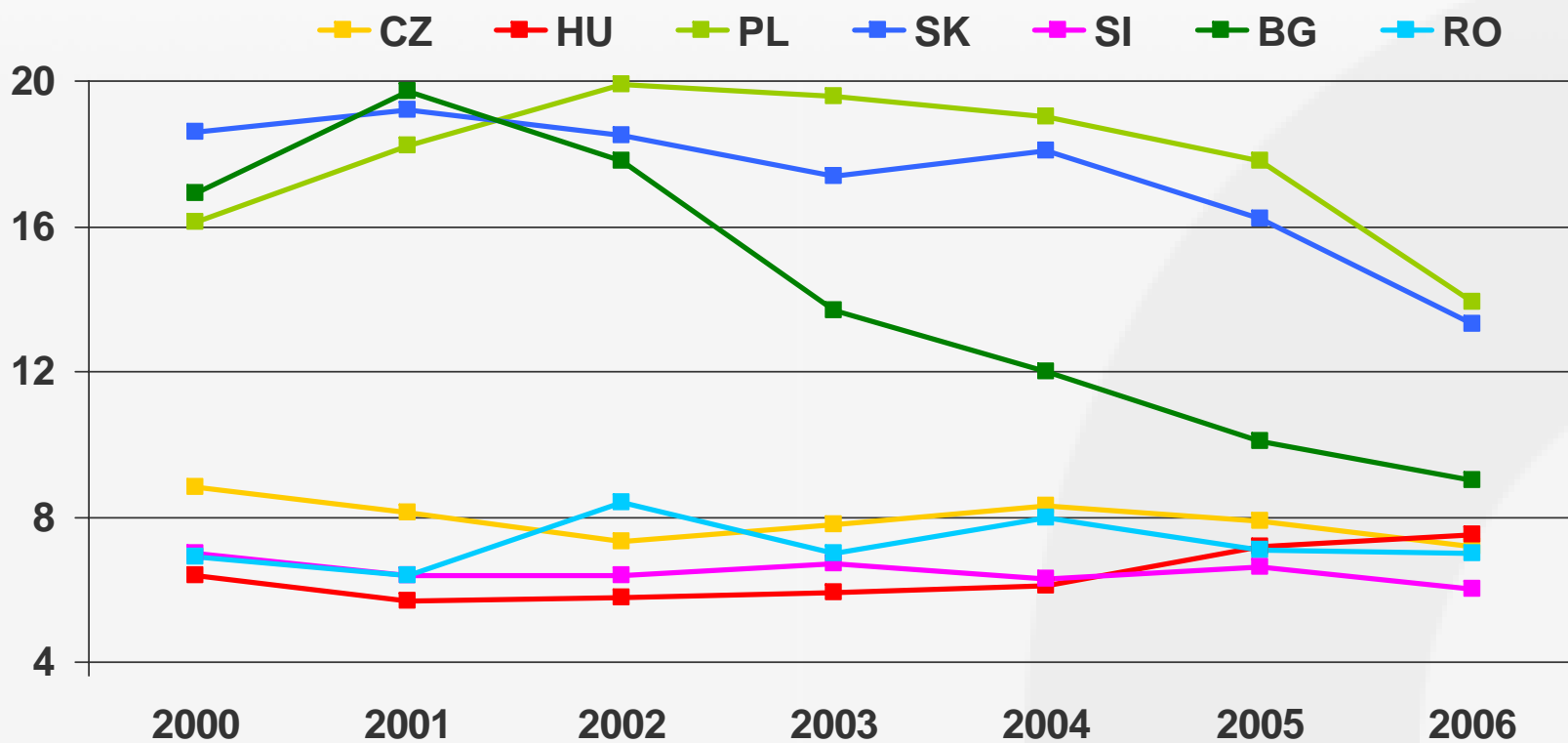
Employment growth rates 2000-2006

in %

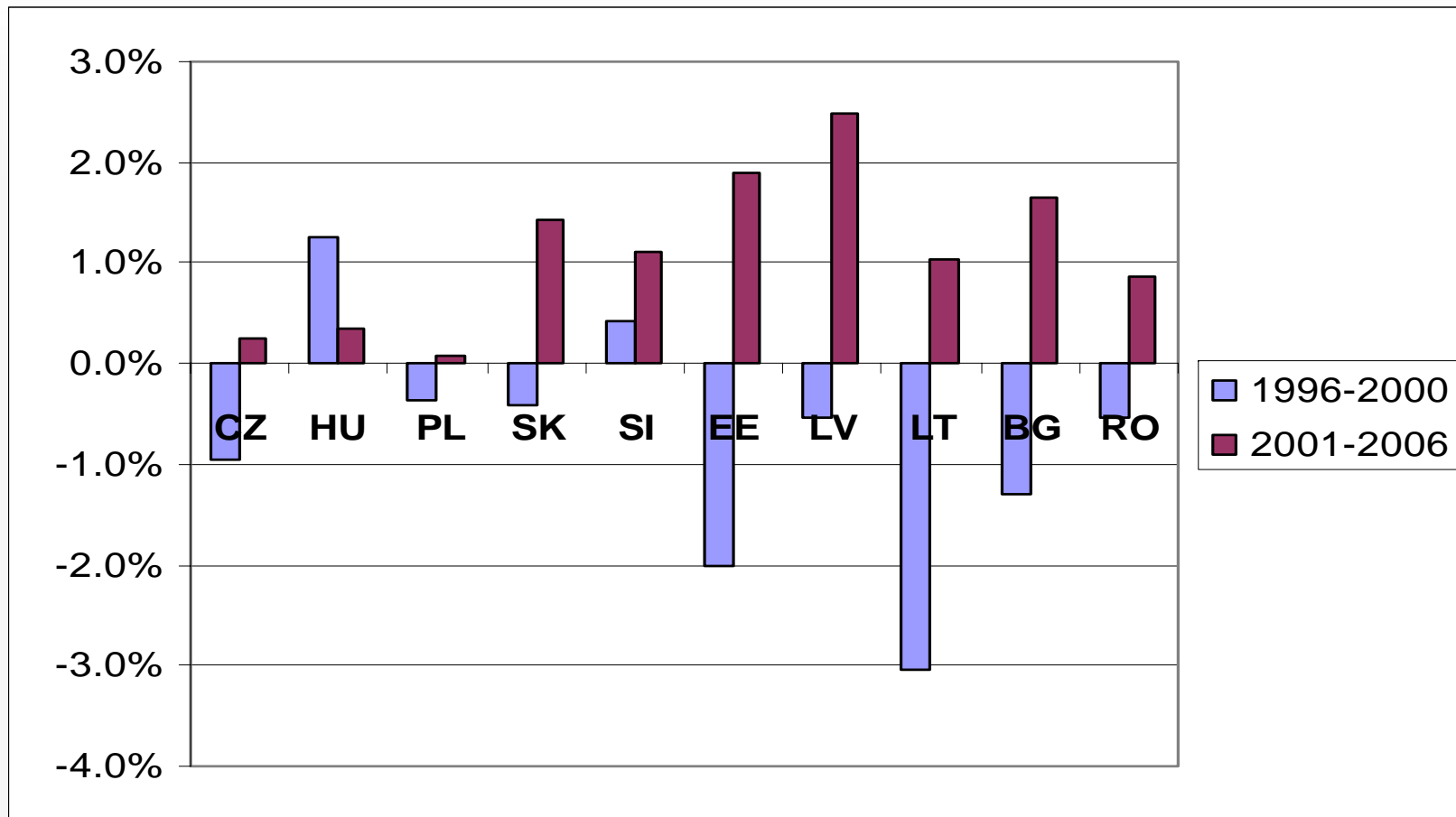


Unemployment rates 2000-2007

LFS, %, annual average



Employment growth rates



Structural break in employment-to-GDP relationship

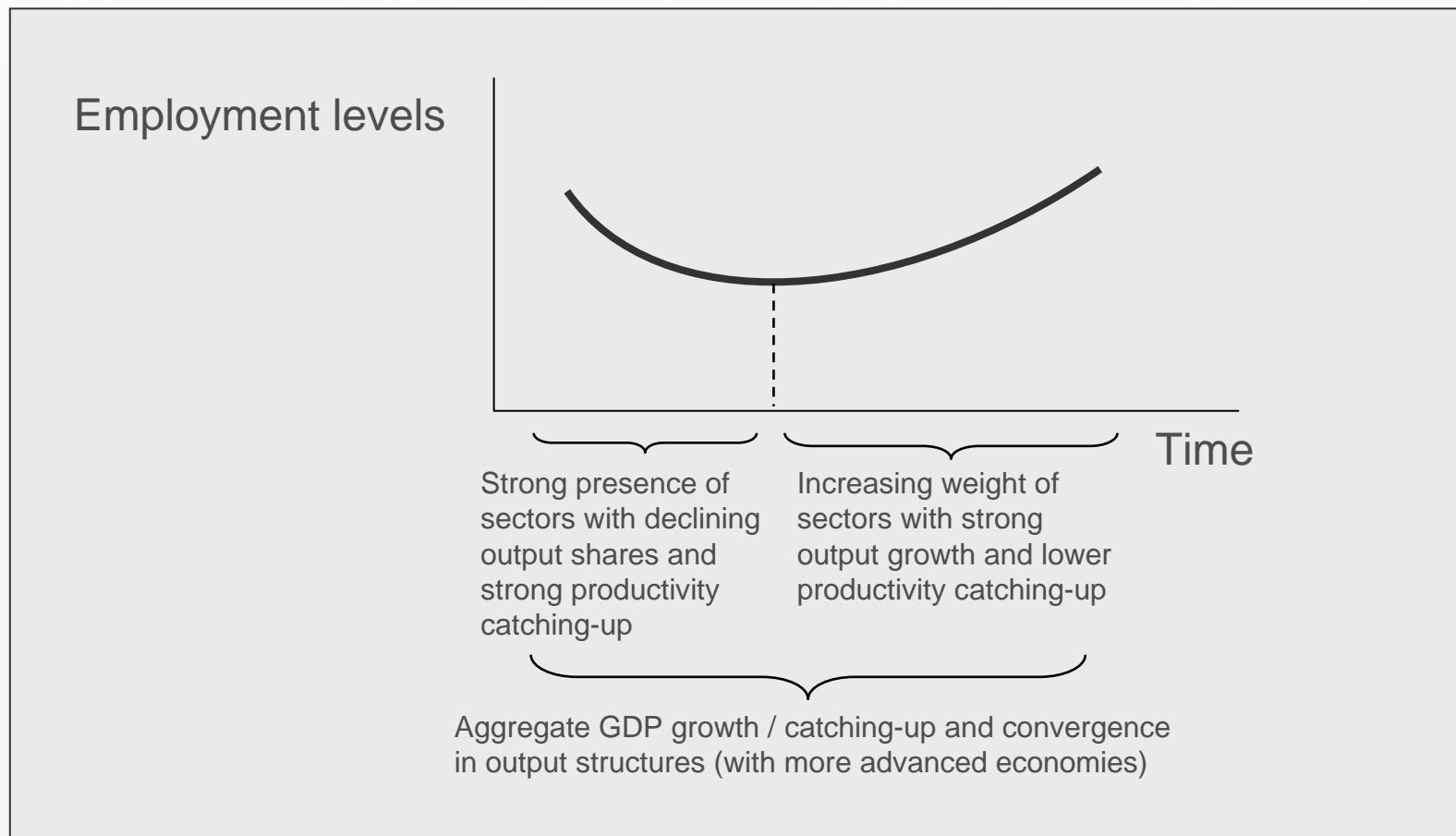
	1995-2000	2001-2006
CEE4	0.117	0.183
Other NMS	-0.261	0.199

Separate Fixed Effects panel regressions of log(employment) on log(GDP)

Note: CEE4 is CZ, SK, SI, HU; Other NMS are PL, EE, LV, LT, BG, RO

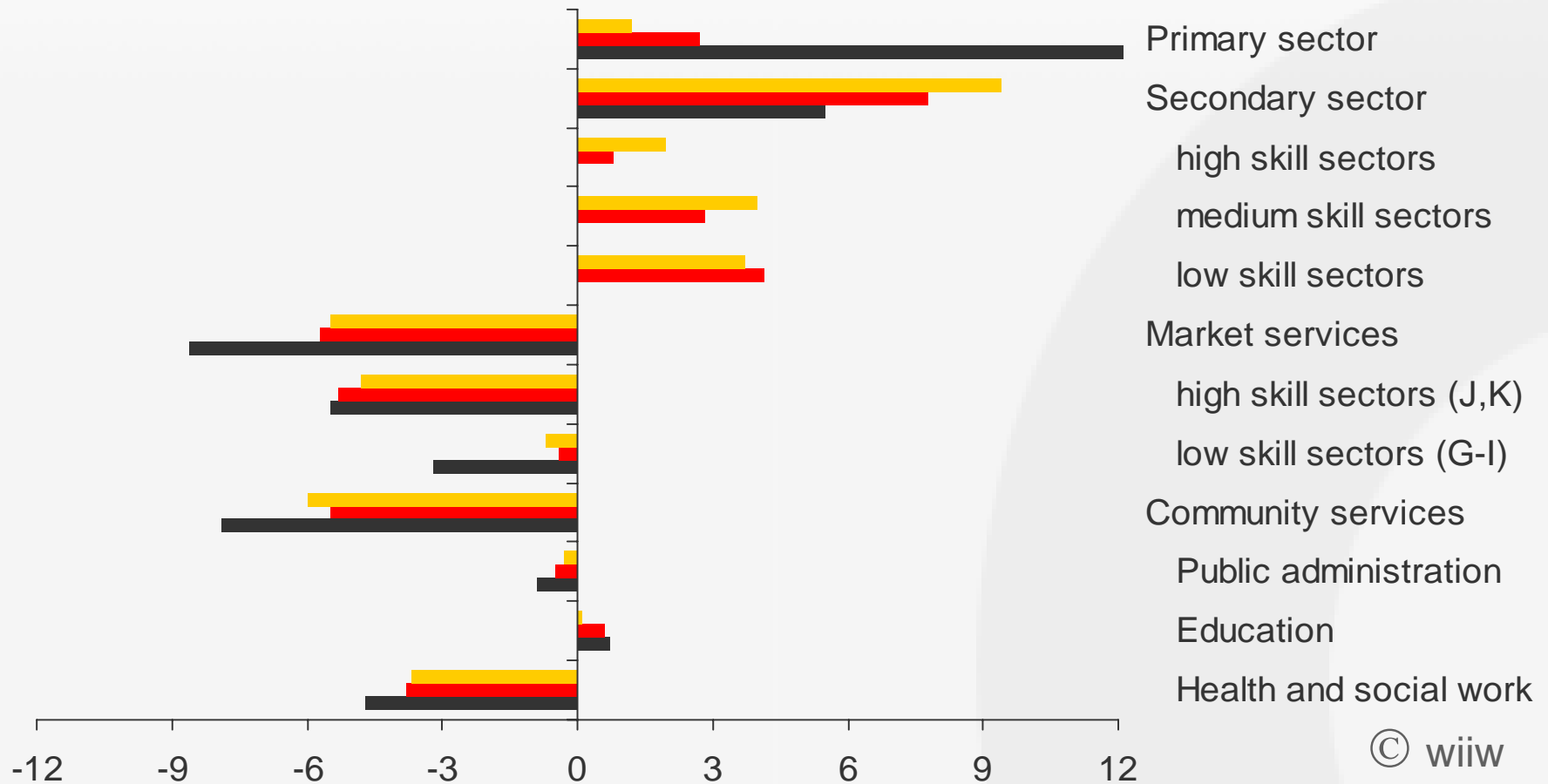
Structural change, convergence and the U-shaped pattern of employment growth

Stylized U-shaped pattern of employment growth in NMs

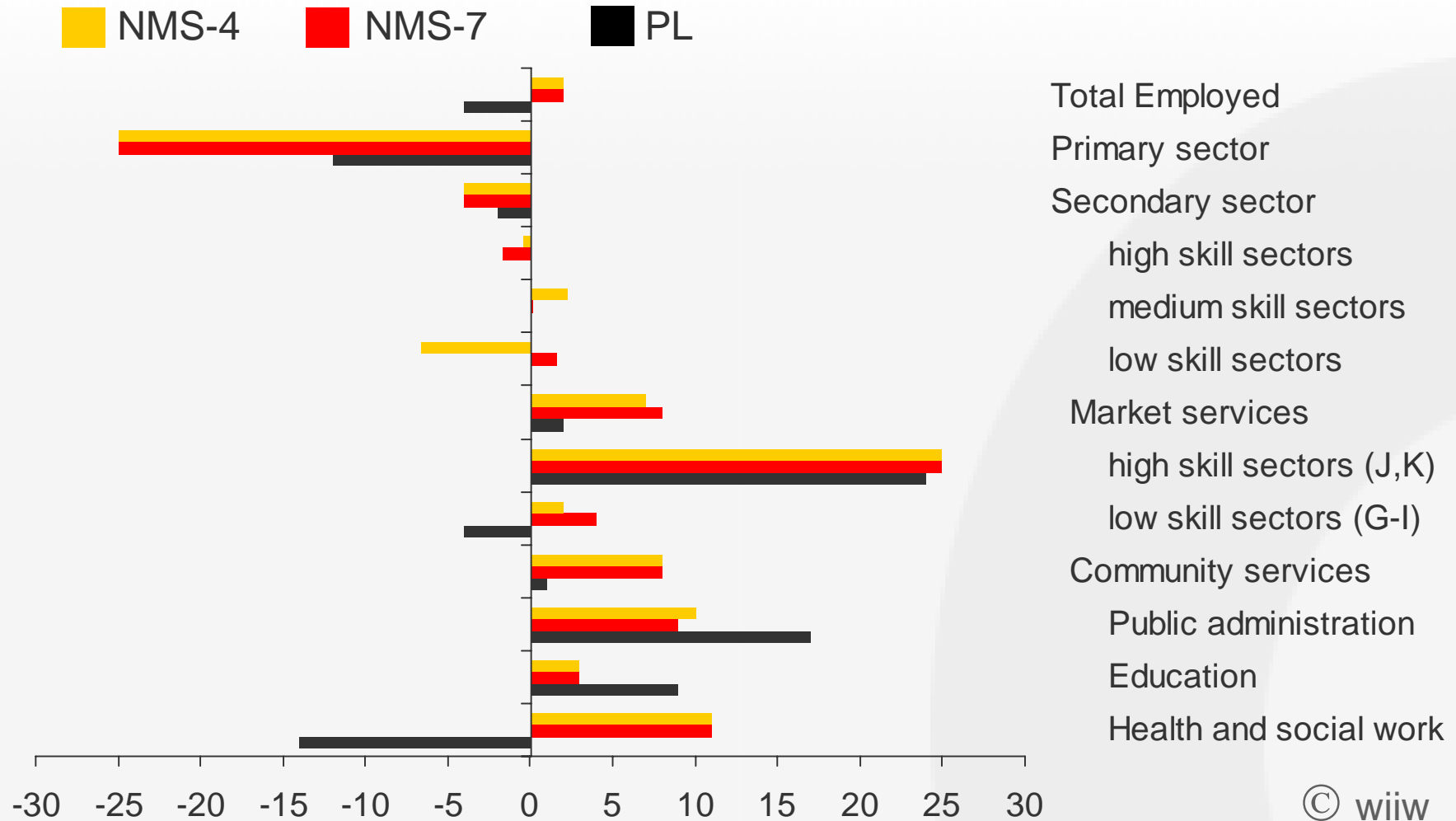


Divergence of employment shares from EU-15 structure, 2005

■ NMS-4
 ■ NMS-7
 ■ PL



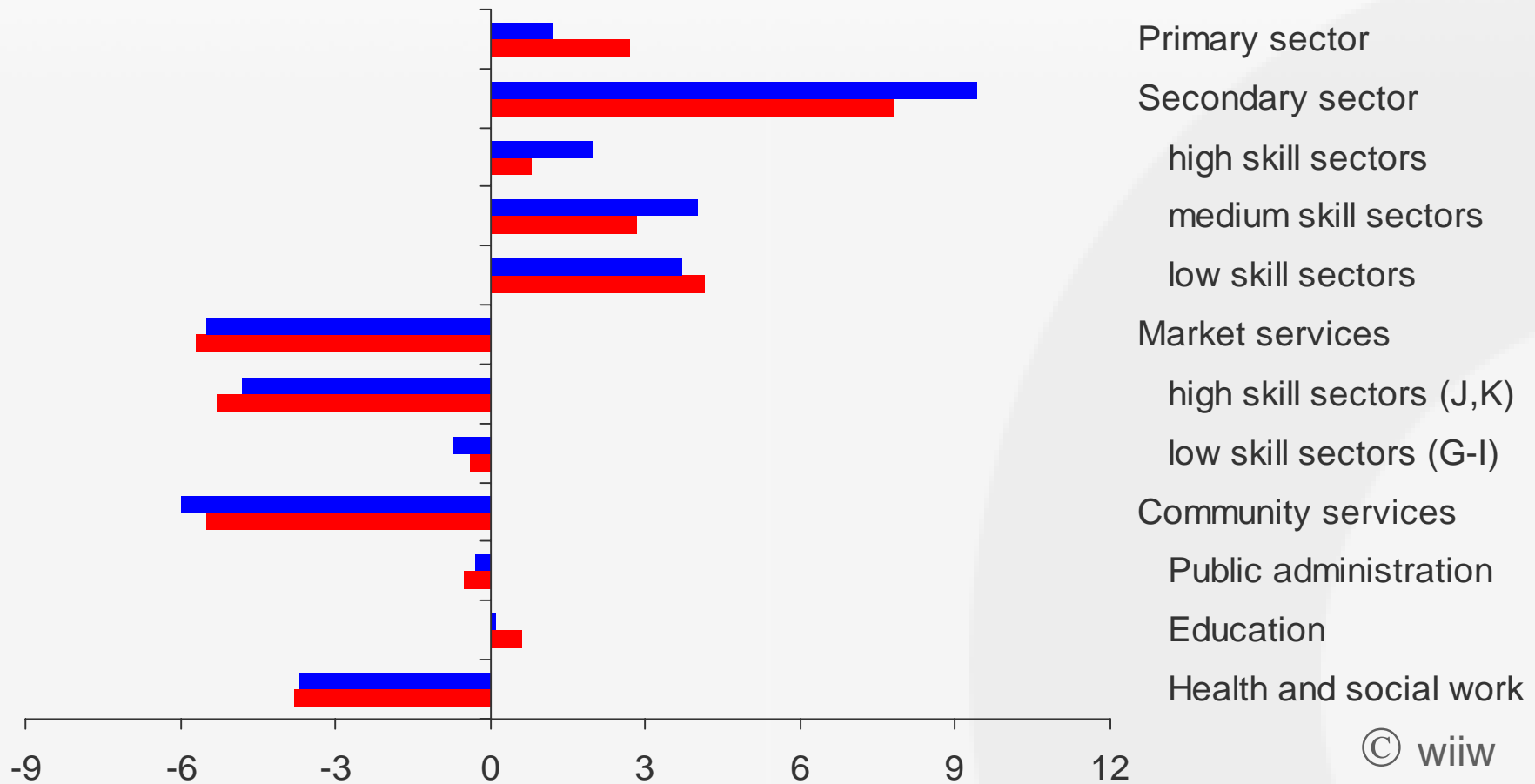
Employment growth in sectors, 1999-2005



Divergence of employment shares from EU-15 structure, 2005

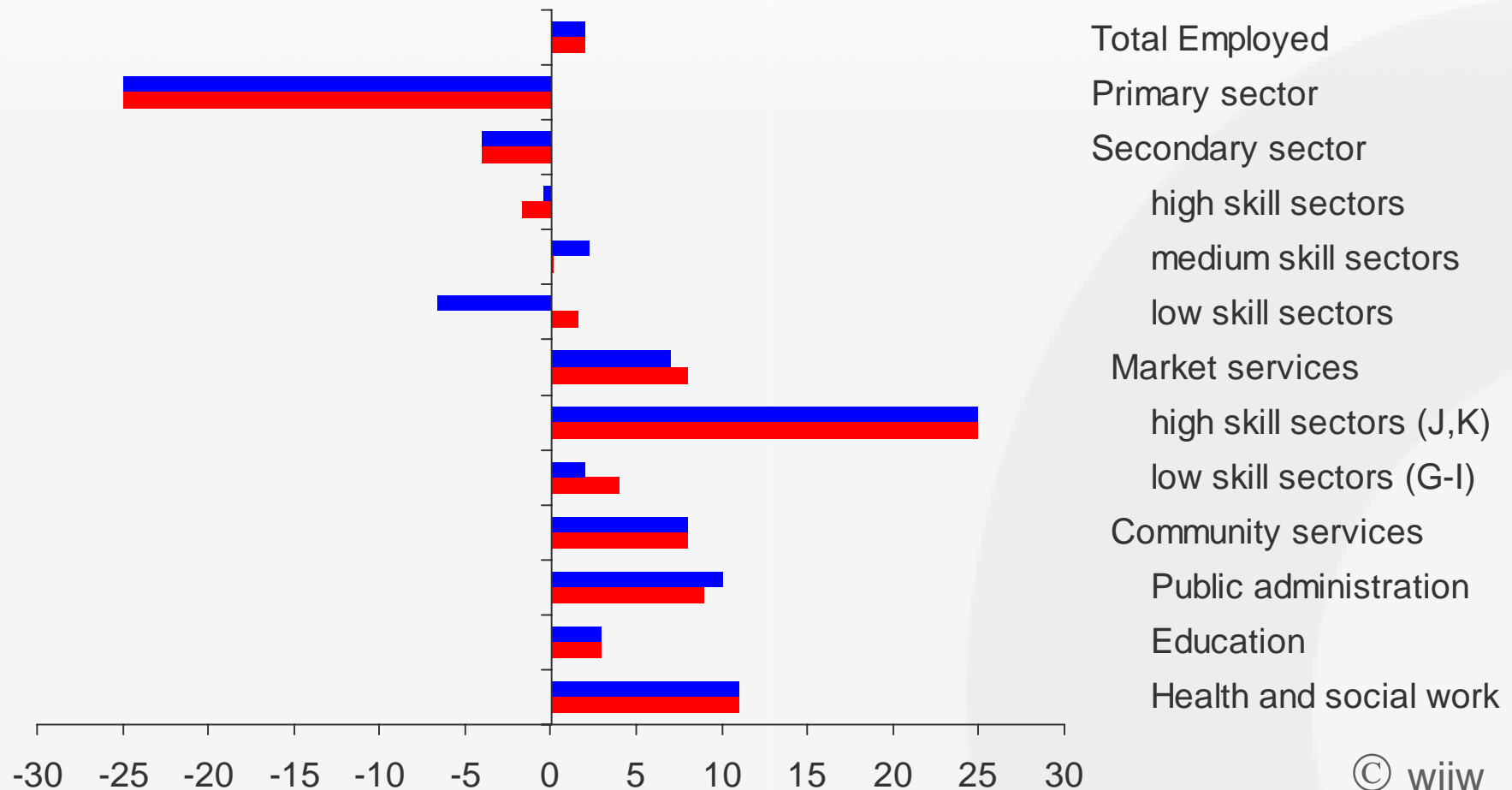
NMS-4

NMS-7



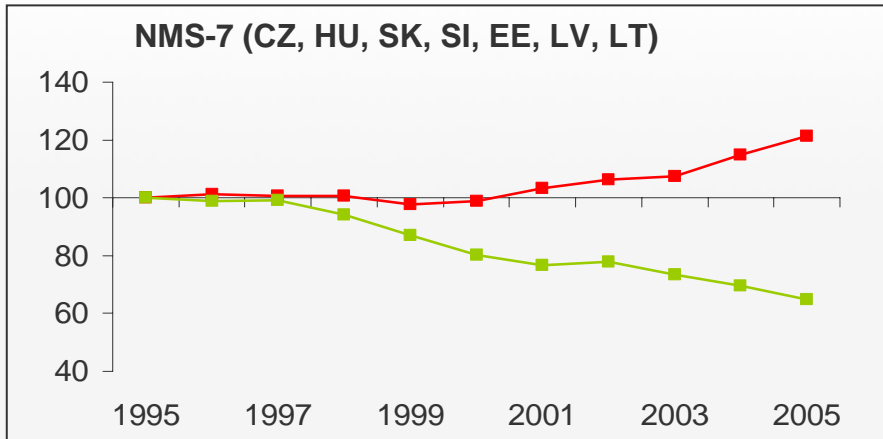
Employment growth in sectors, 1999-2005

■ NMS-4 ■ NMS-7

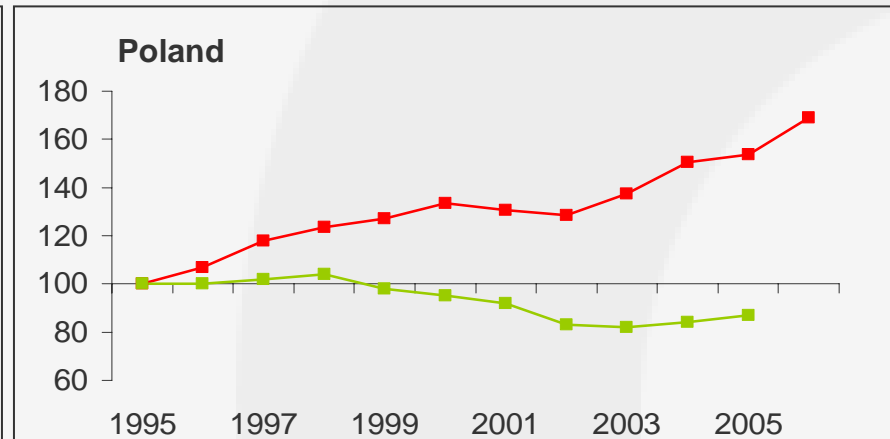
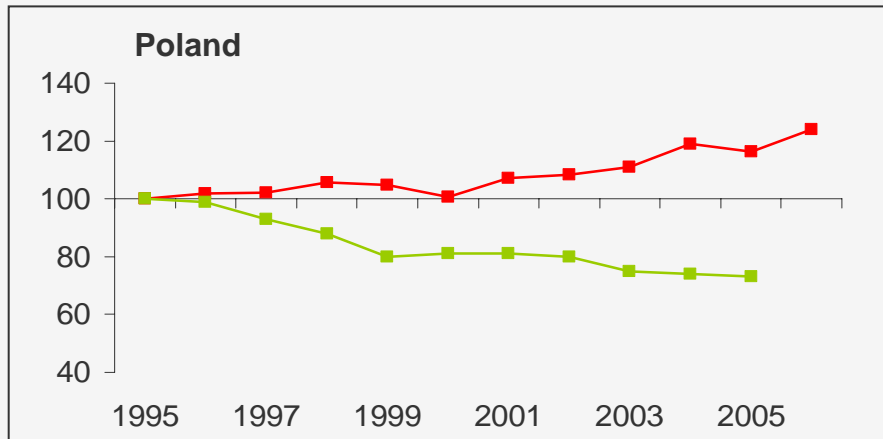
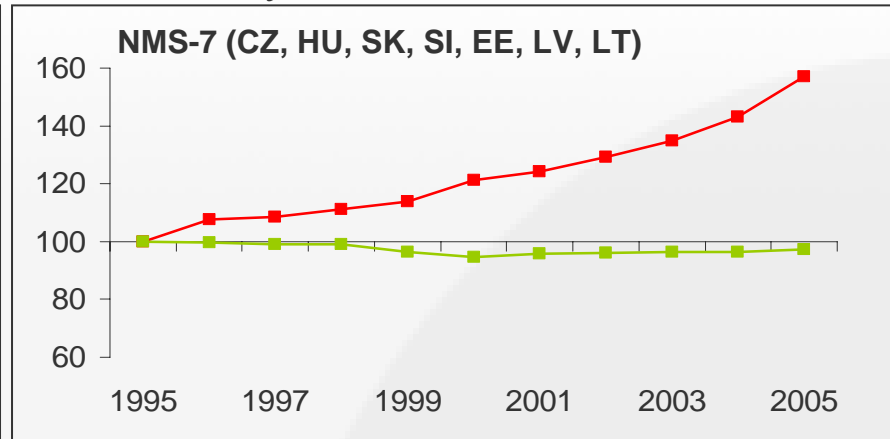


Output and Employment, 1995-2005

Agriculture



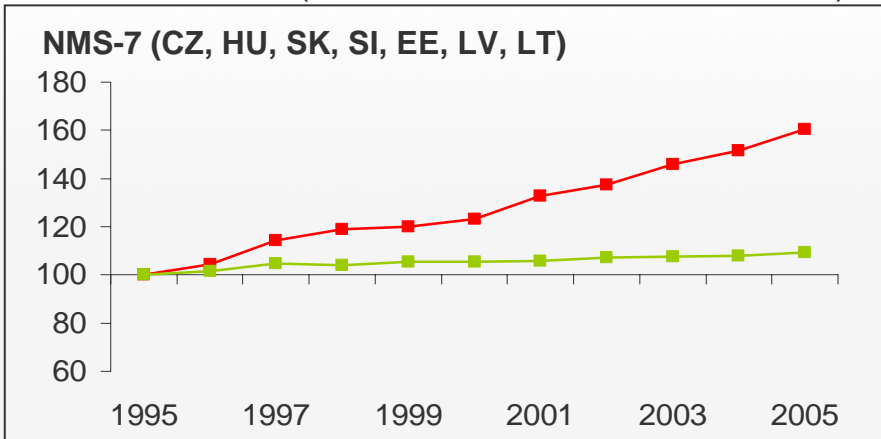
Industry



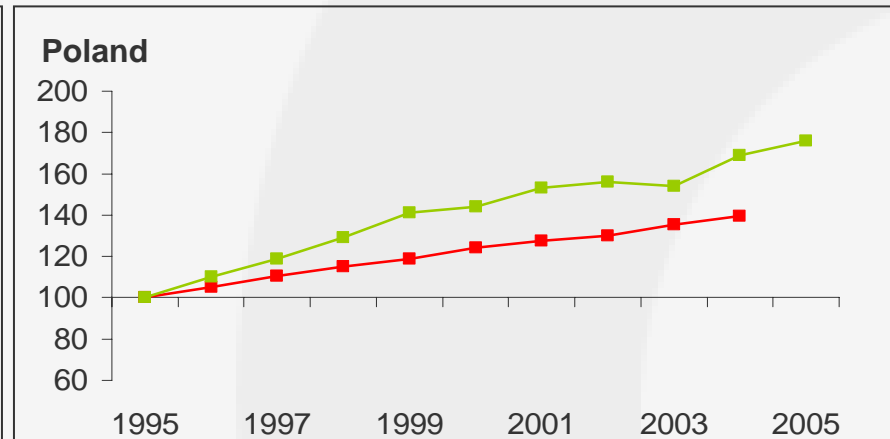
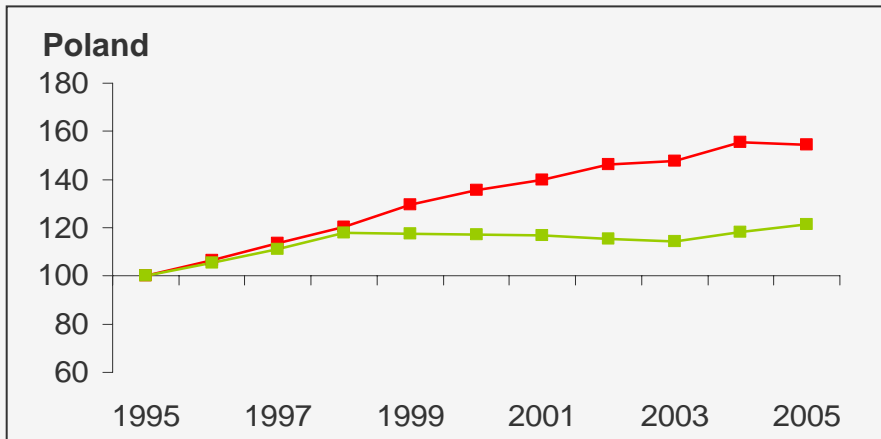
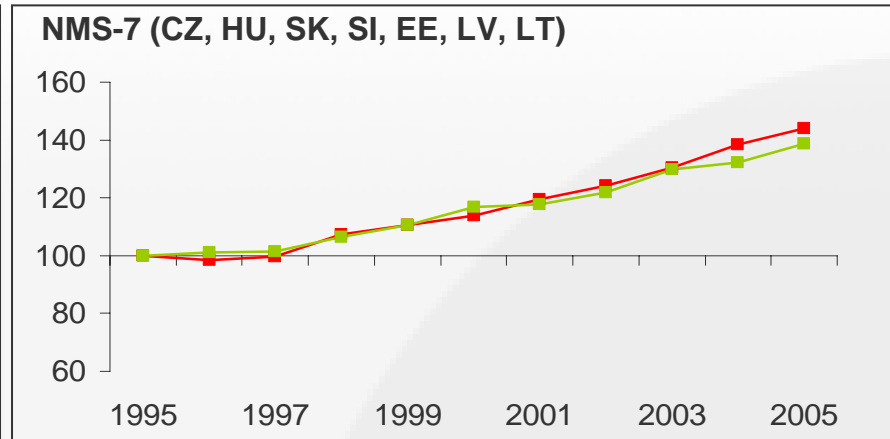
— Output — Employment

Output and Employment, 1995-2005

Basic Services (Trade, Restaurants, Hotels, etc.)



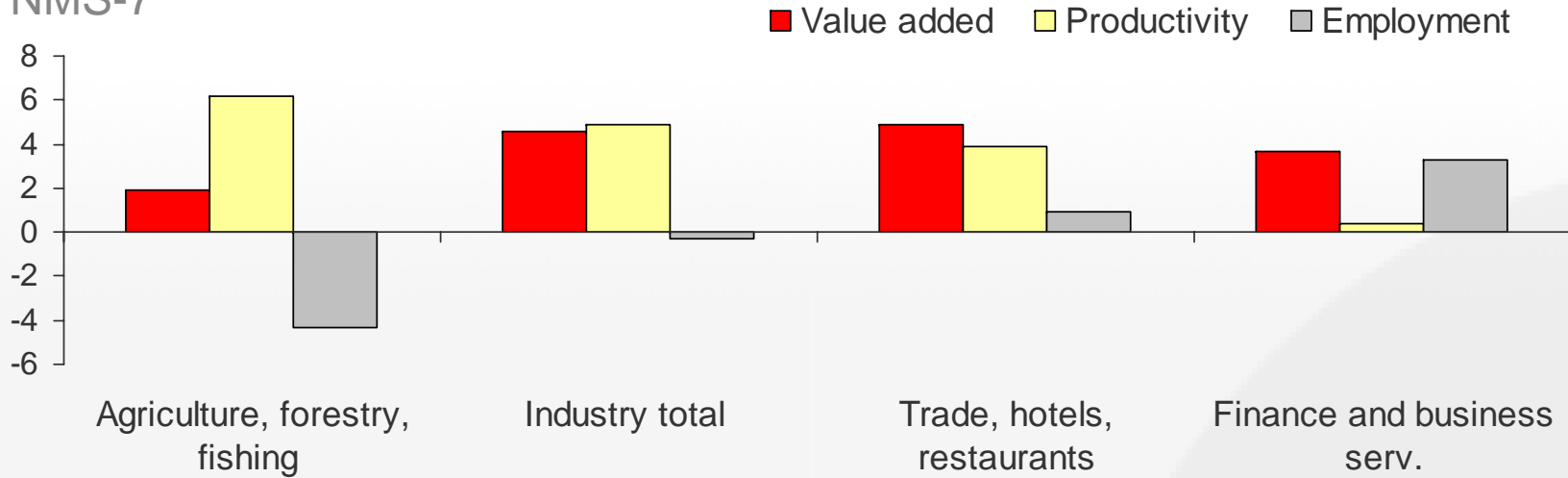
Financial and Business Services



— Output — Employment

Growth by sectors, 1995-2005 in % p.a.

NMS-7



Poland

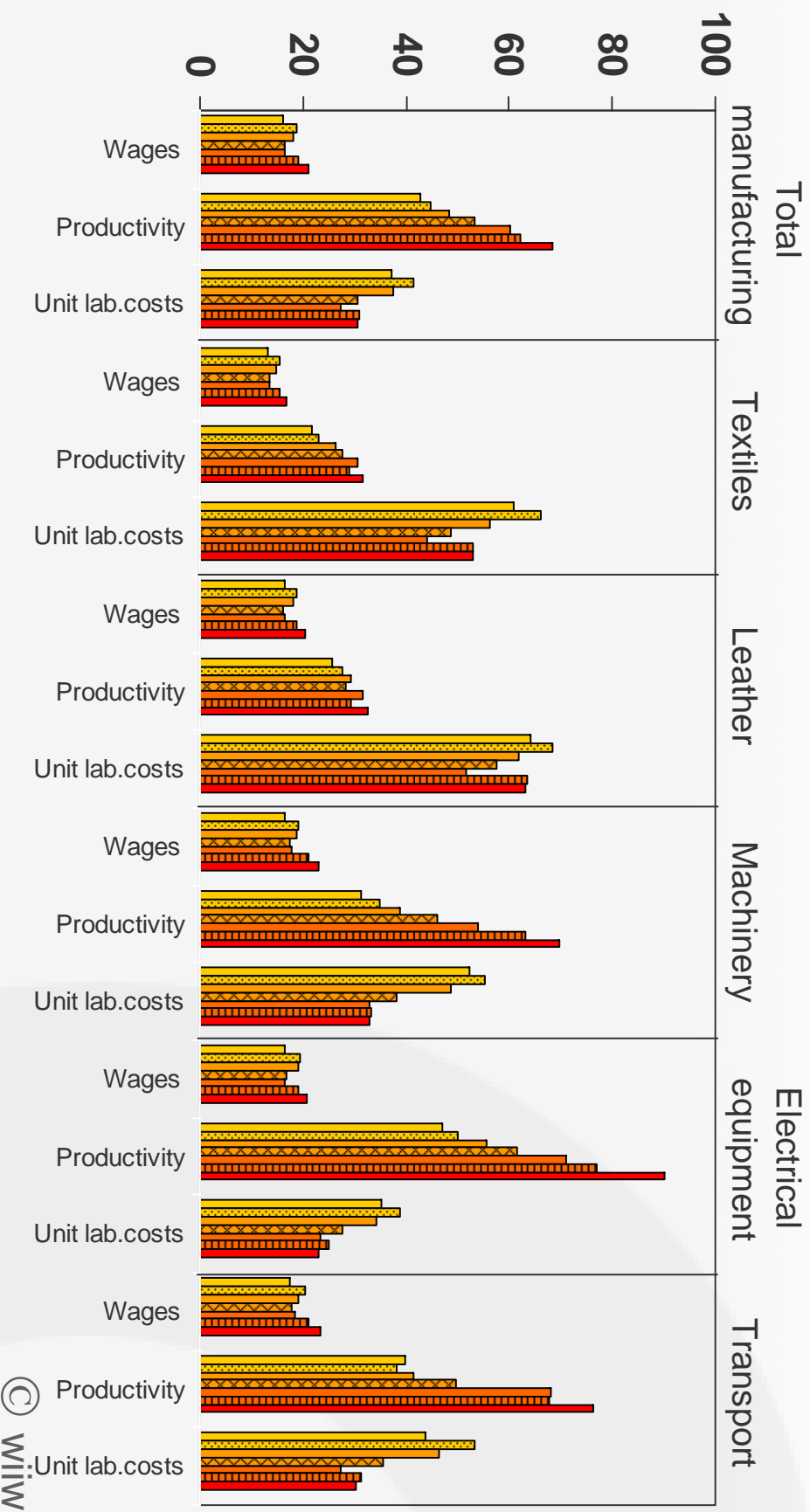


Uneven productivity dynamics, wage growth and the changing pattern of specialisation

Poland: Dynamics of wages,

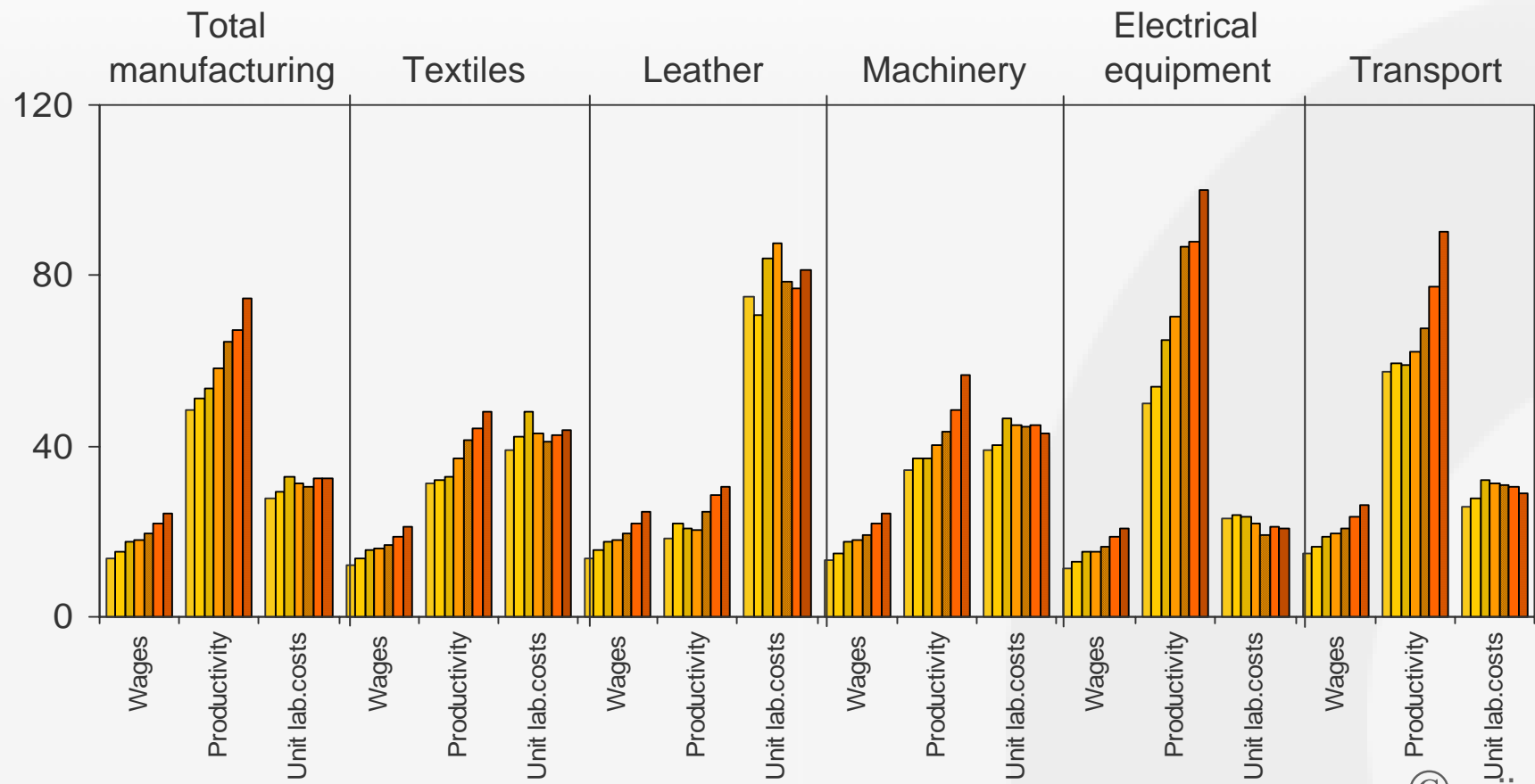
productivity and unit labour costs, 2000-2006

Relative to Austria (2002=100)



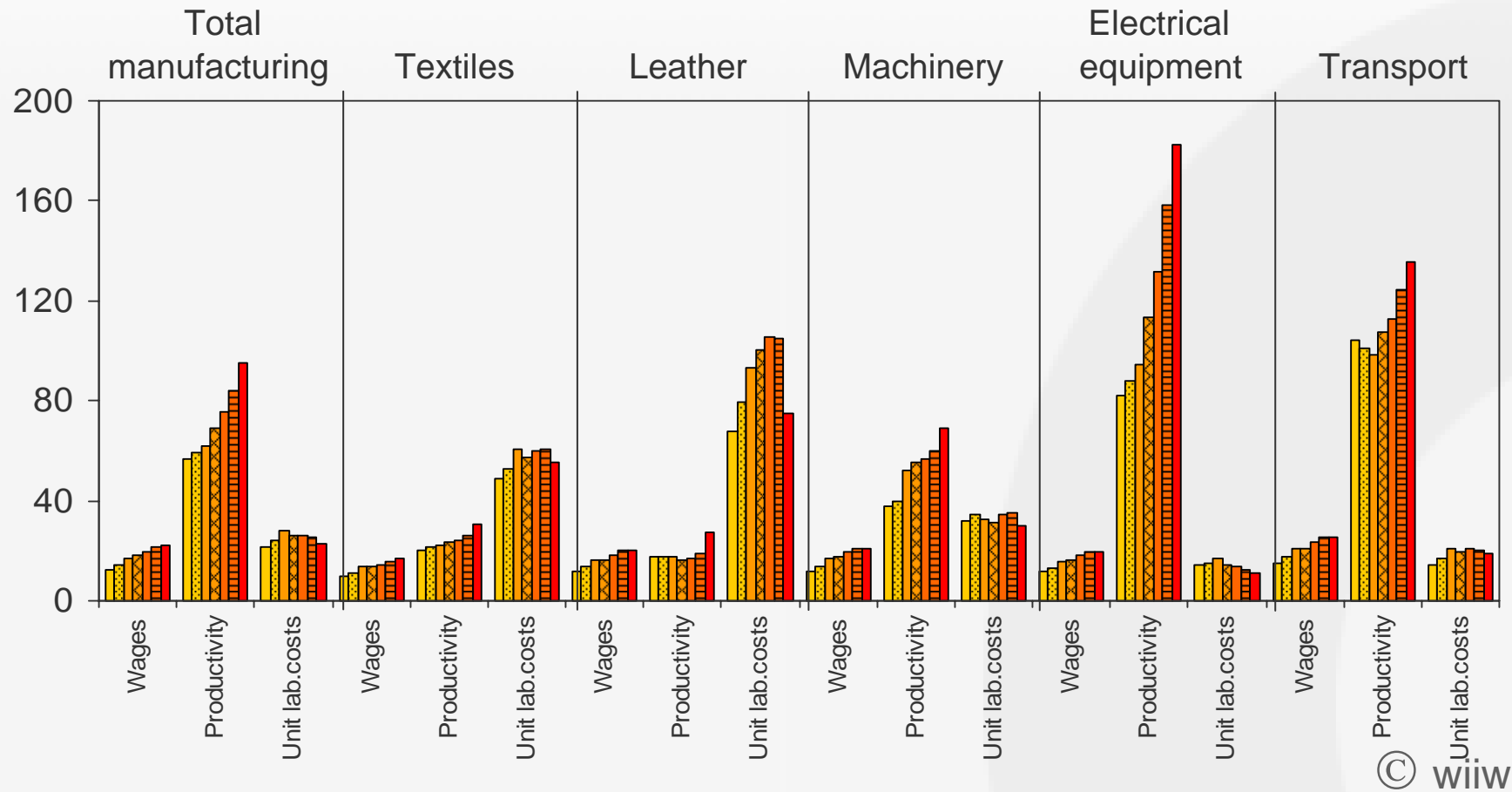
Czech Republic: Dynamics of wages, productivity and unit labour costs, 2000-2006

Relative to Austria (2002=100)



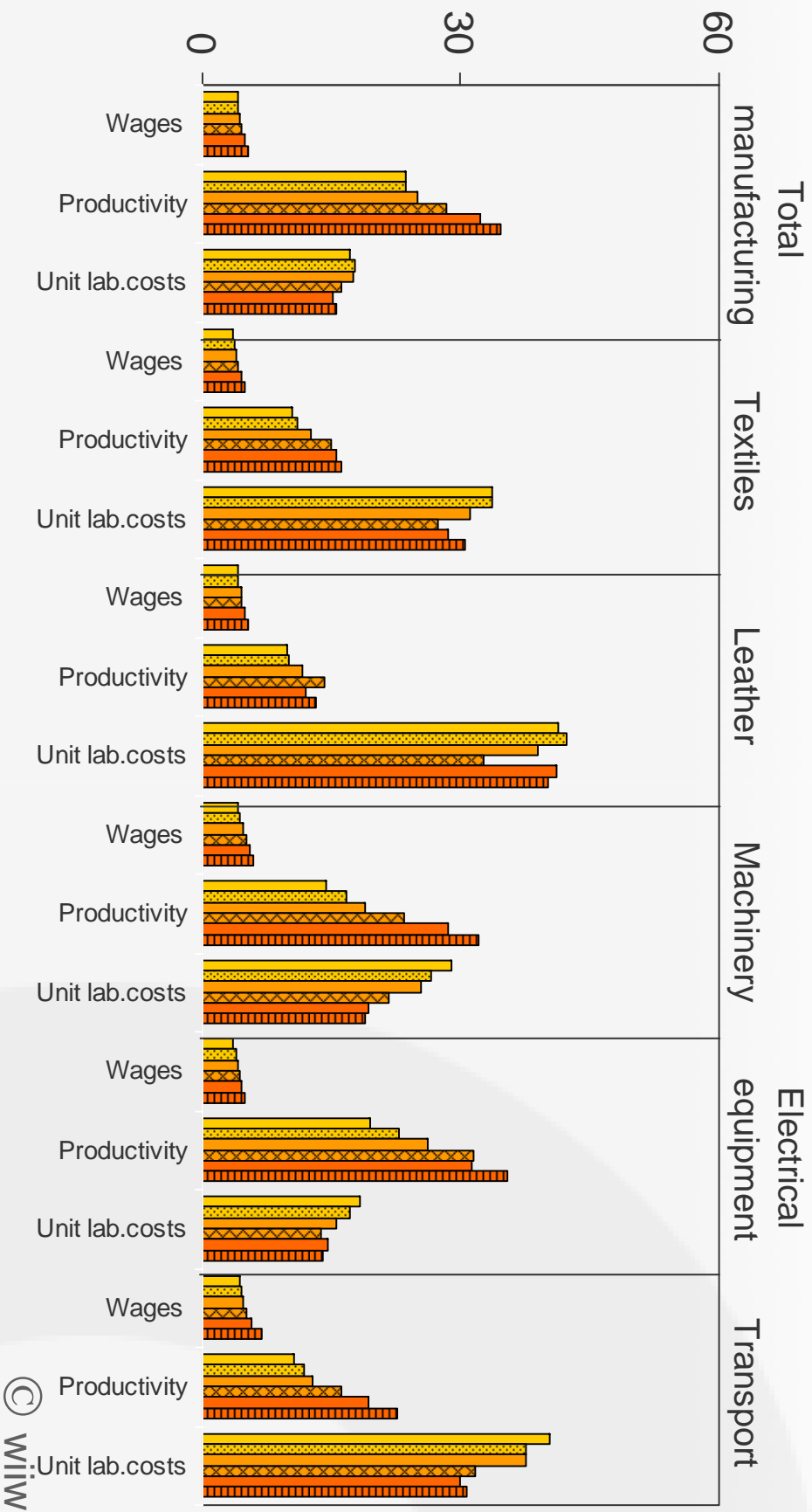
Hungary: Dynamics of wages, productivity and unit labour costs, 2000-2006

Relative to Austria (2002=100)



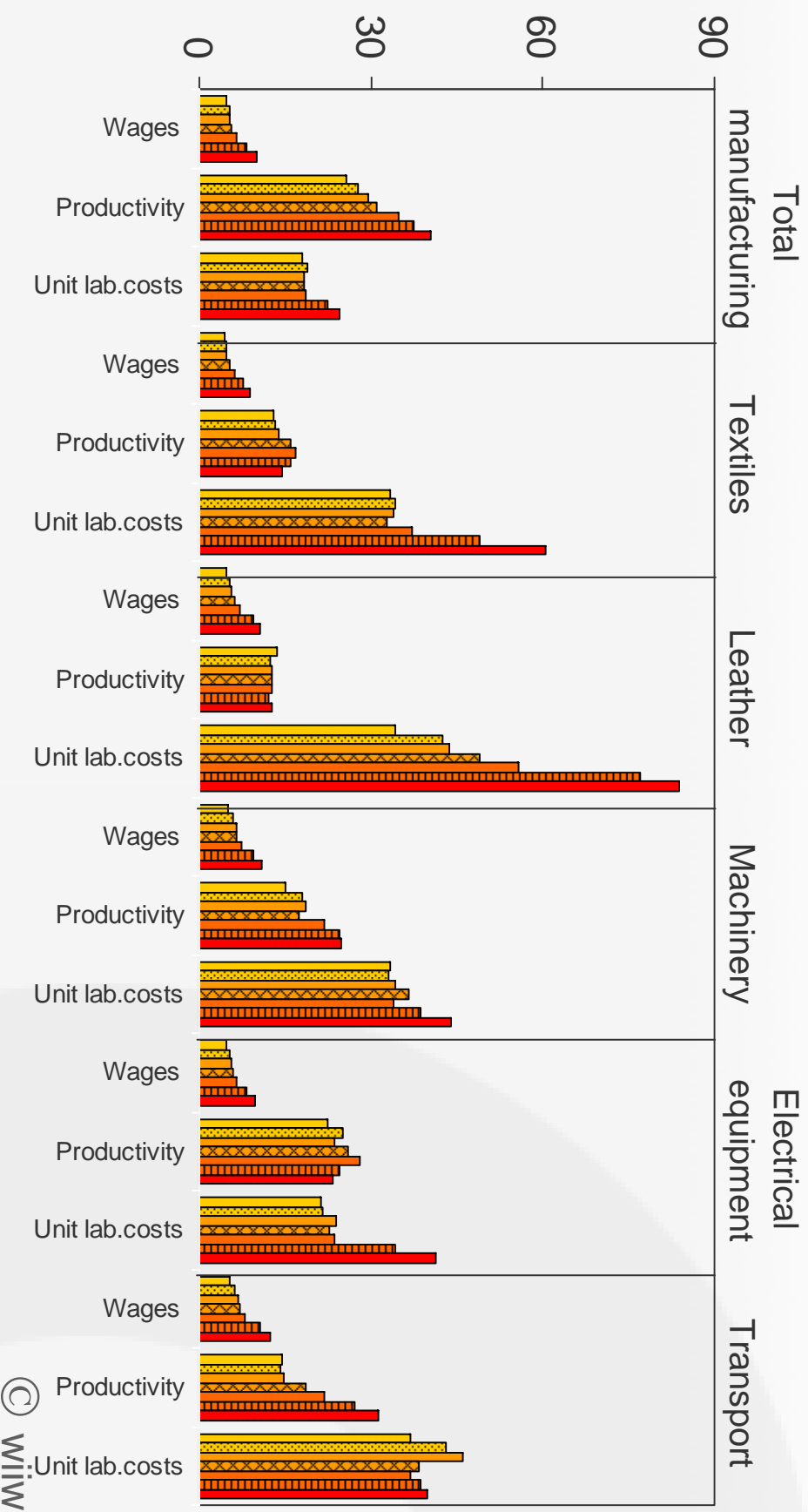
Bulgaria: Dynamics of wages, productivity and unit labour costs, 2000-2005

Relative to Austria (2002=100)

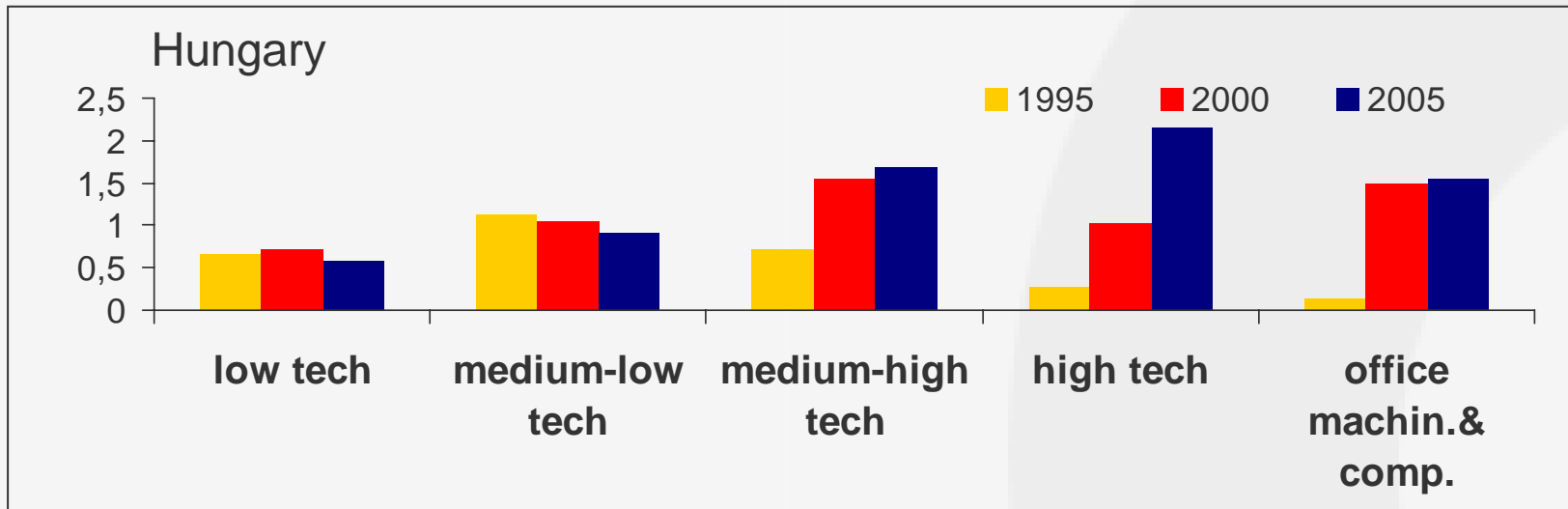
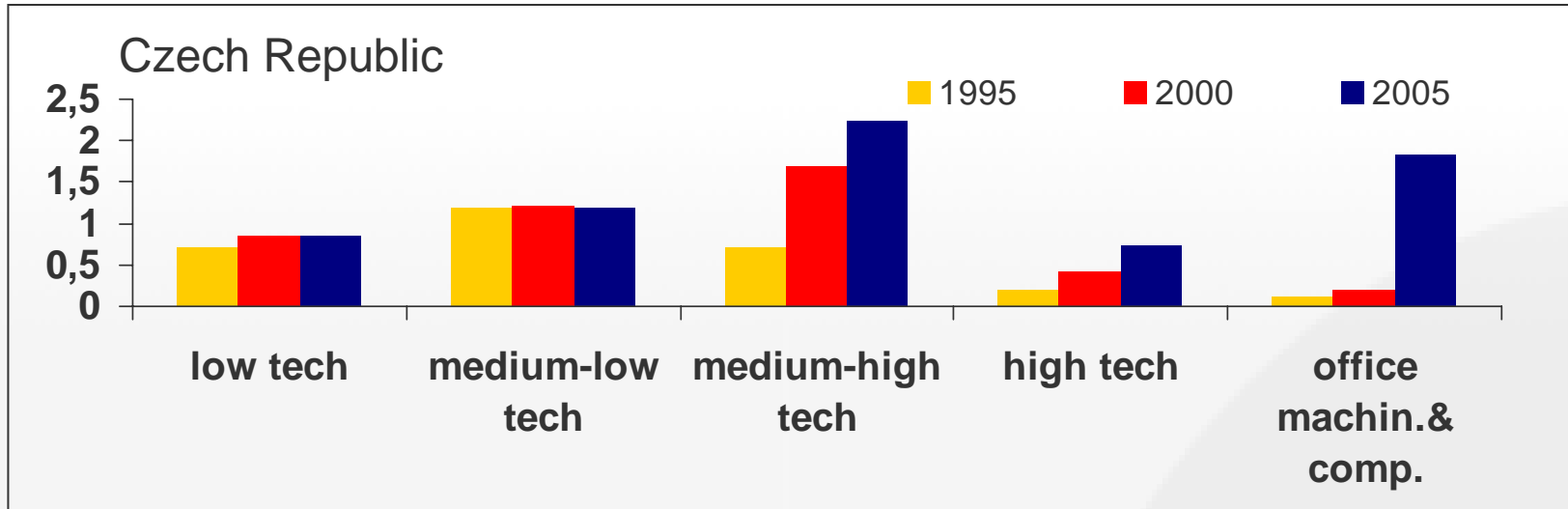


Romania: Dynamics of wages, productivity and unit labour costs, 2000-2006

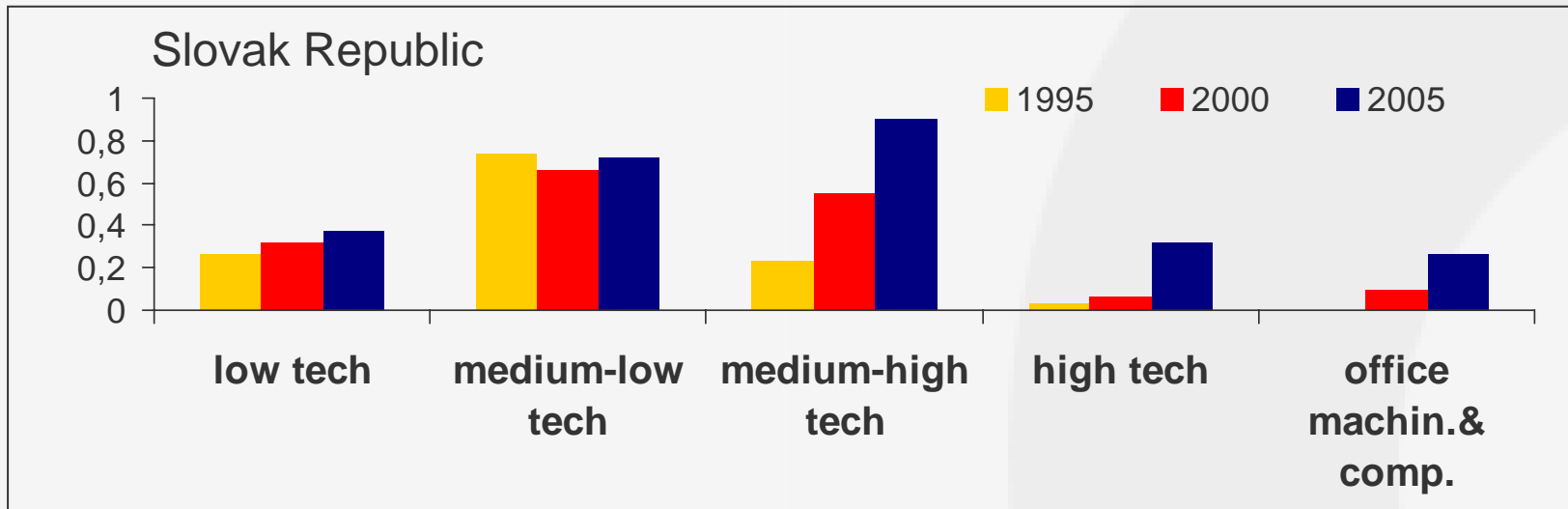
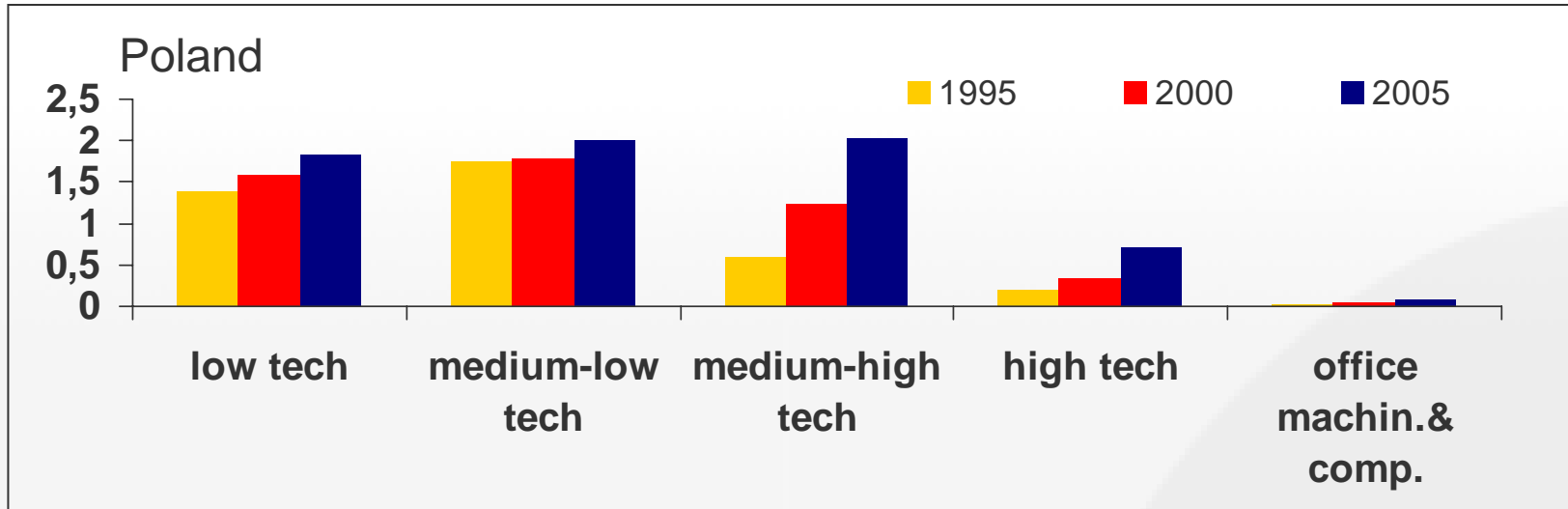
Relative to Austria (2002=100)



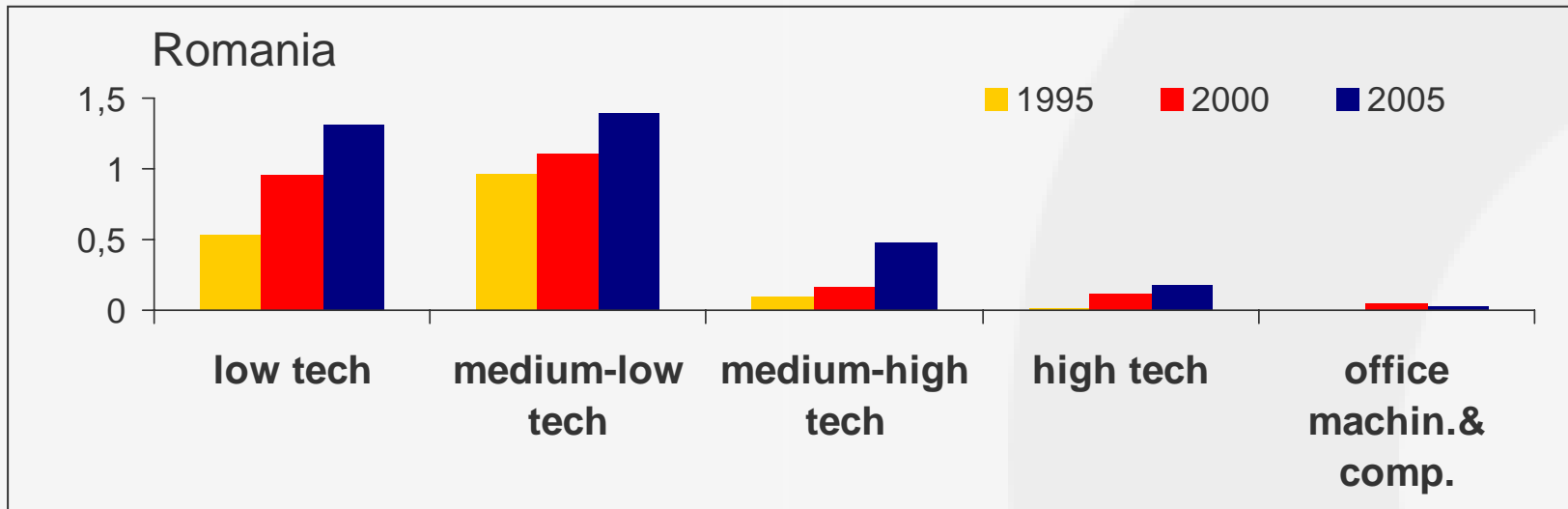
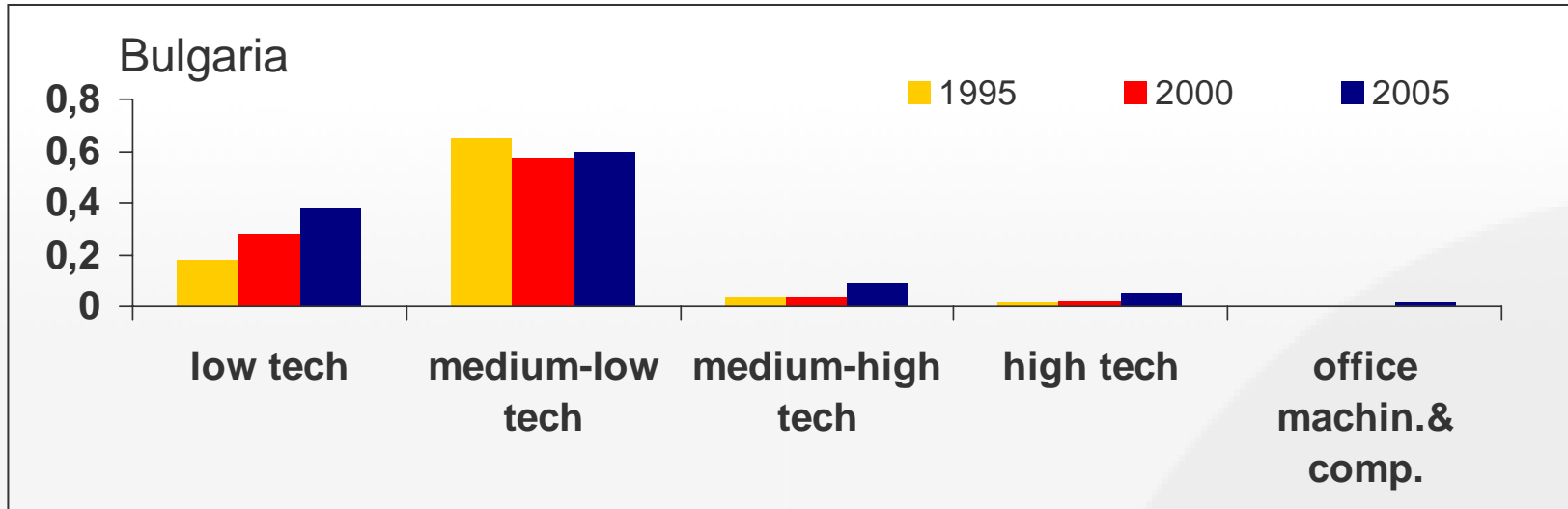
Market shares in EU-25 imports



Market shares in EU-25 imports



Market shares in EU-25 imports



Skill up-grading and the pressure on the low-skilled

Skill shift

Decomposition into 'within' and 'between' effects:

$$\Delta s = \sum_i \Delta e_i \bar{s}_i + \sum_i \bar{e}_i \Delta s_i$$

where $e_i = \frac{E_i}{\sum_j E_j}$, $s_i = S_i / E_i$ and $s = S / E$

E stands for employment, S for skilled workers

overstrike denotes average over time; the index i denotes industries.

Grouping of industries into low-, medium- and high-skill industries; EU-27

Low-skill industries

- 19 Tanning and dressing of leather
- 18 Wearing apparel
- 17 Textiles
- 20 Wood and of products of wood and cork
- 37 Recycling
- 36 Furniture; manufacturing n.e.c.

Medium-skill industries

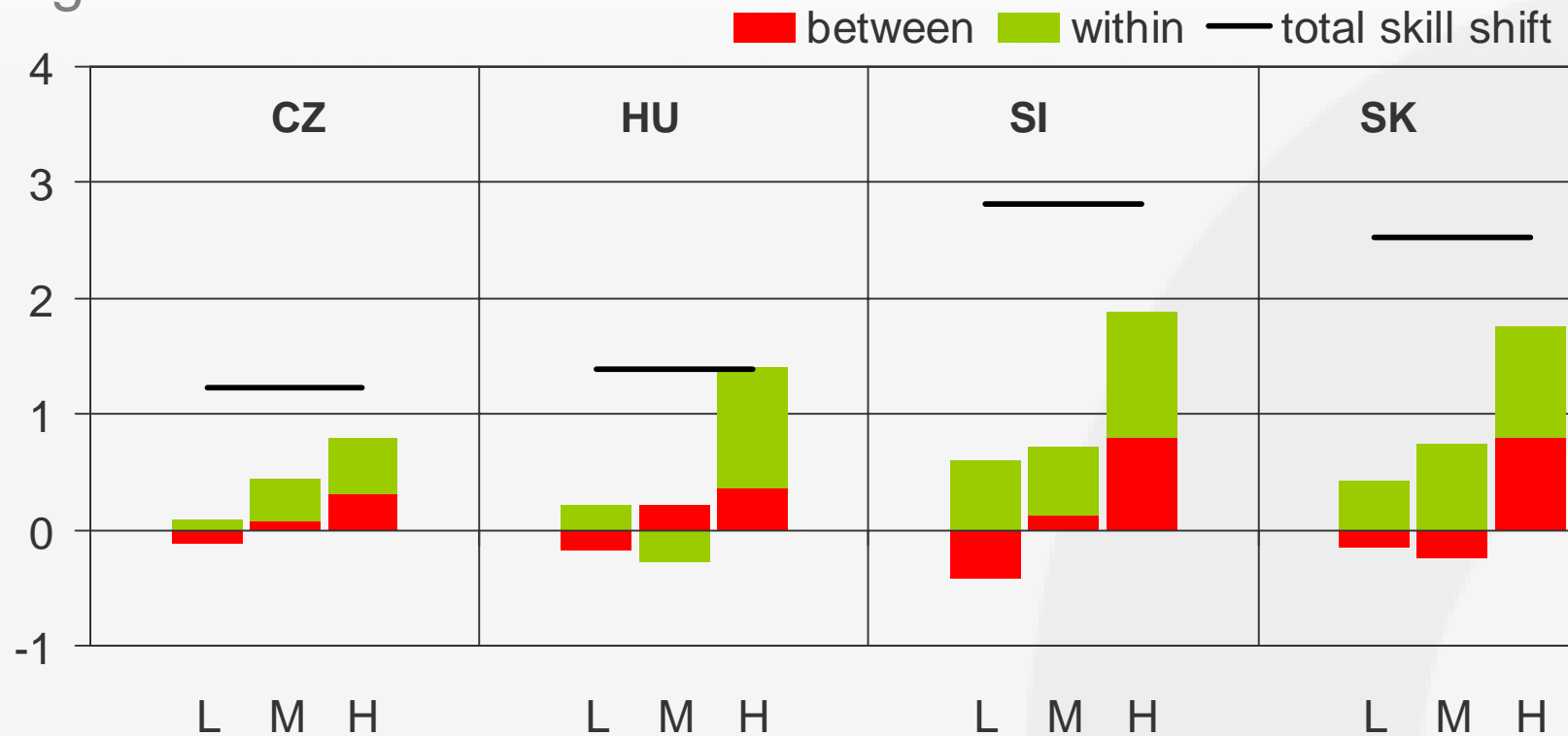
- 28 Metal products
- 26 Other non-metallic mineral products
- 15 Food products and beverages
- 25 Rubber and plastic products
- 21 Pulp, paper and paper products
- 27 Basic metals
- 16 Tobacco products

High-skill industries

- 34 Motor vehicles, trailers and semitrailers
- 29 Machinery and equipment n.e.c
- 31 Electrical machinery and apparatus n.e.c.
- 22 Publishing, printing and reproduction of recorded media
- 35 Other transport equipment
- 33 Medical, precision and optical instruments, watches and clocks
- 24 Chemicals and chemical products
- 32 Radio, television and communication equipment and apparatus
- 23 Coke, refined petroleum products and nuclear fuel
- 30 Office machinery and computers

Skill shifts – between and within components in low-, medium- and high-skill sectors, 1999-2005

High education

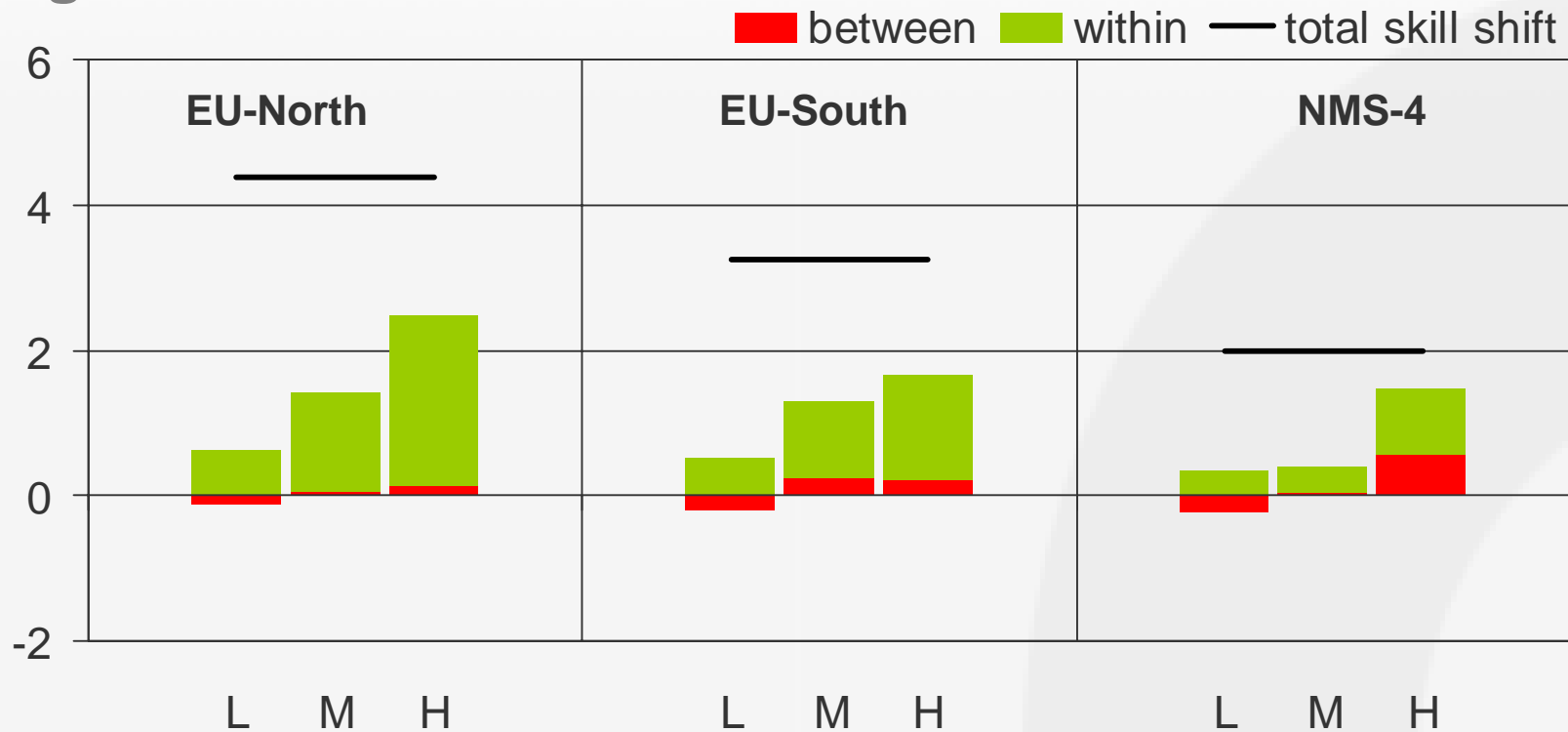


L=low-skill sectors, M=medium-skill sectors, H=high-skill sectors

Source: wiiw

Skill shifts – between and within components in low-, medium- and high-skill sectors, 1999-2005

High education

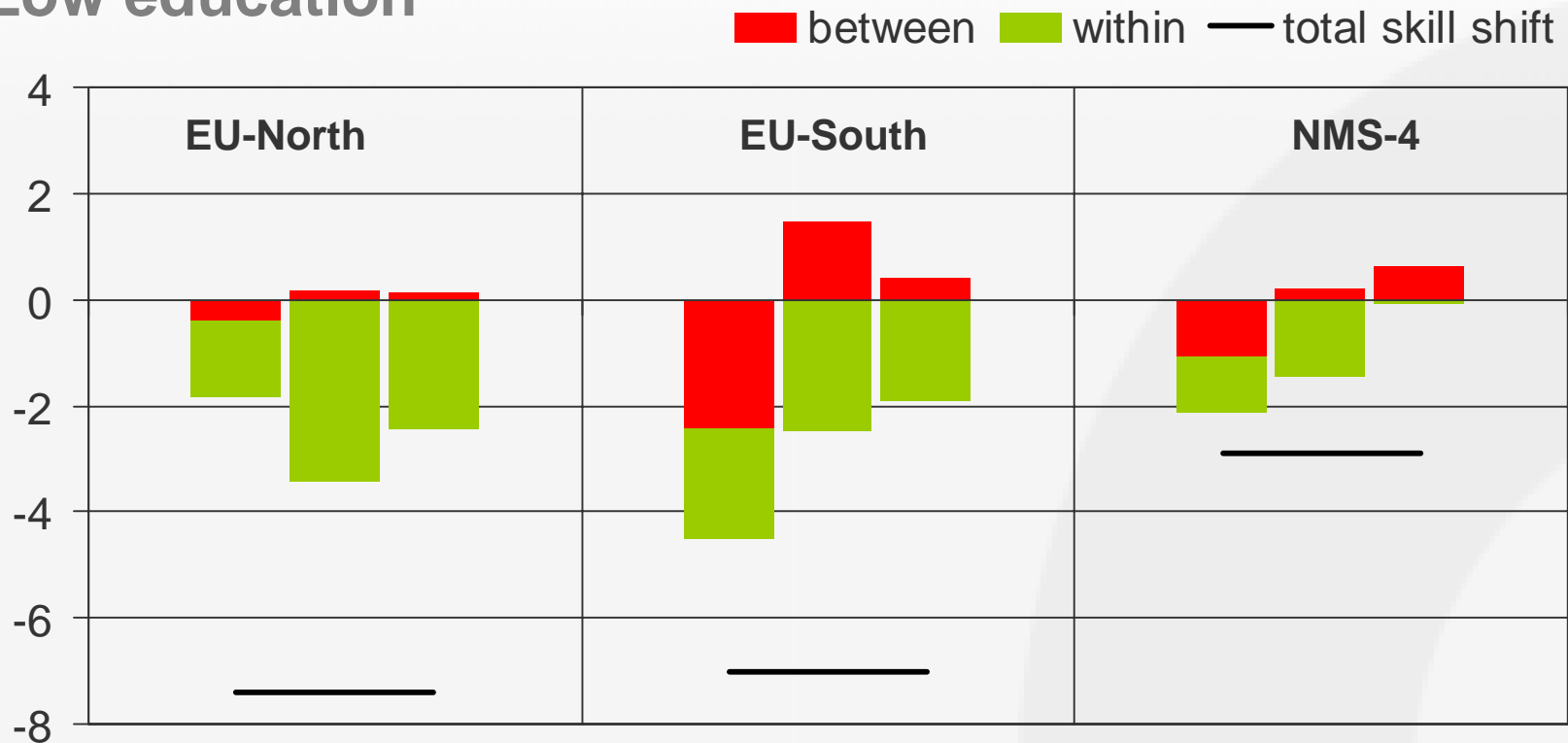


L=low-skill sectors, M=medium-skill sectors, H=high-skill sectors

Source: wiiw

Skill shifts – between and within components in low-, medium- and high-skill sectors, 1999-2005

Low education

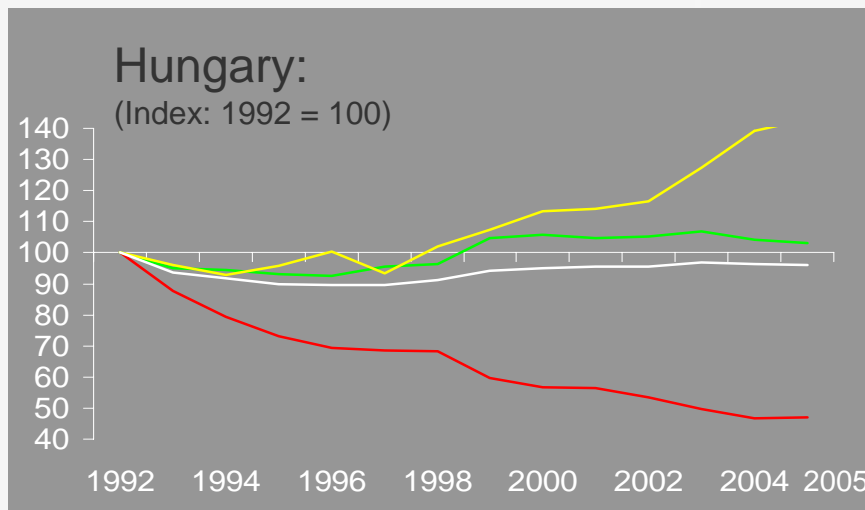
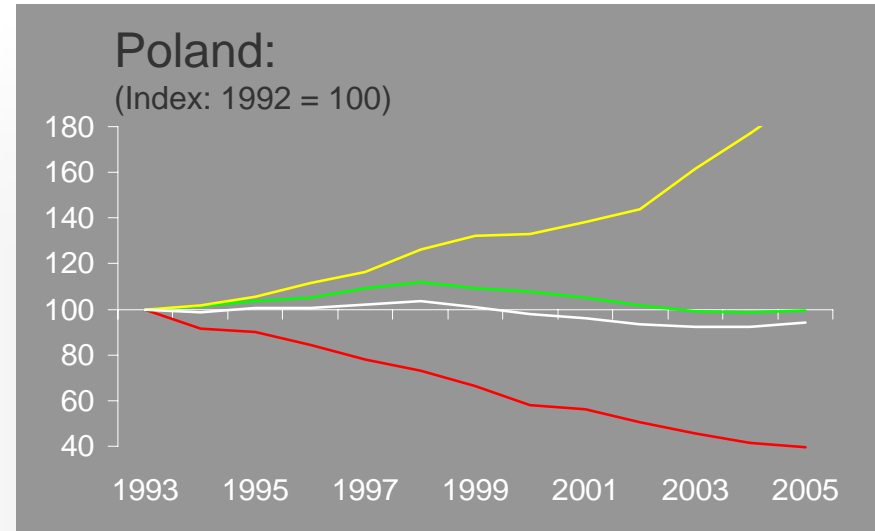
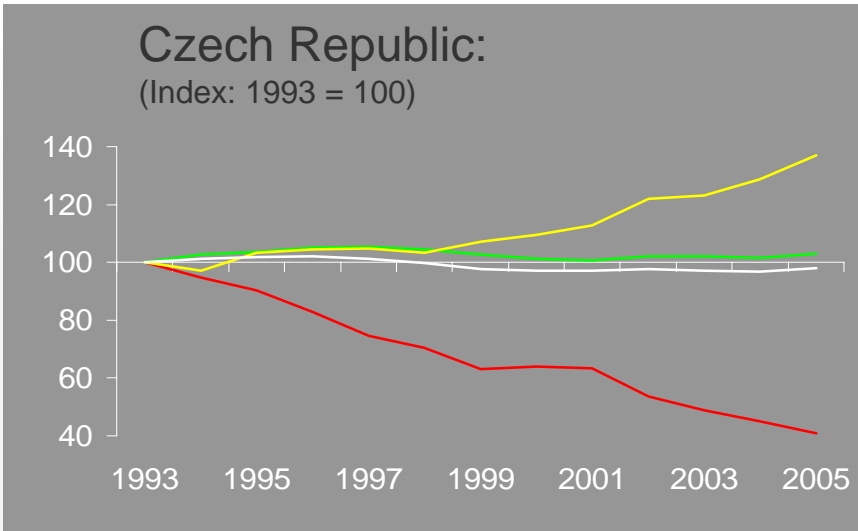


L=low-skill sectors, M=medium-skill sectors, H=high-skill sectors

Source: wiiw

Employment by educational categories

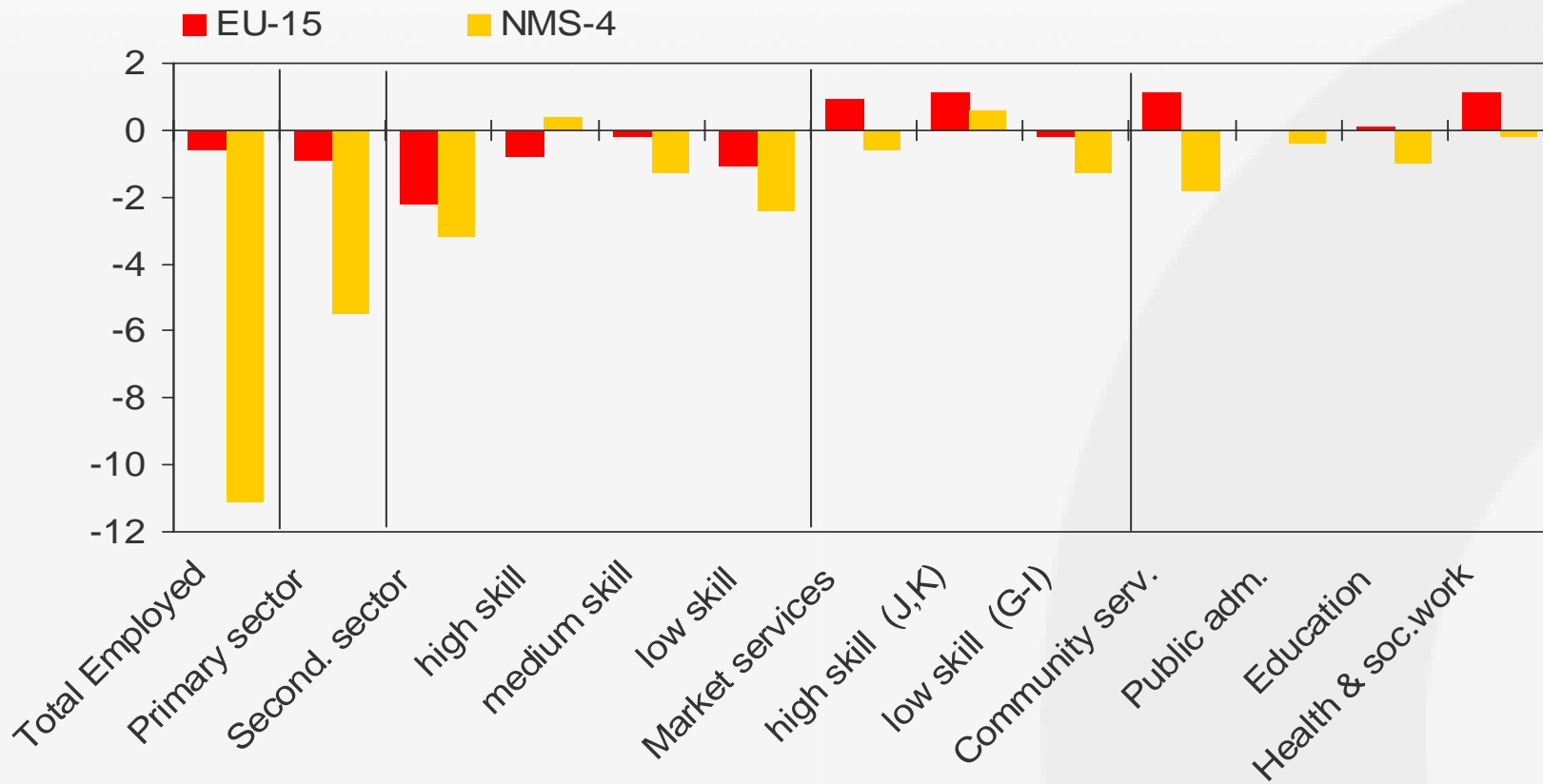
1992-2005



- Primary education
- Secondary education
- Tertiary education
- Total employment

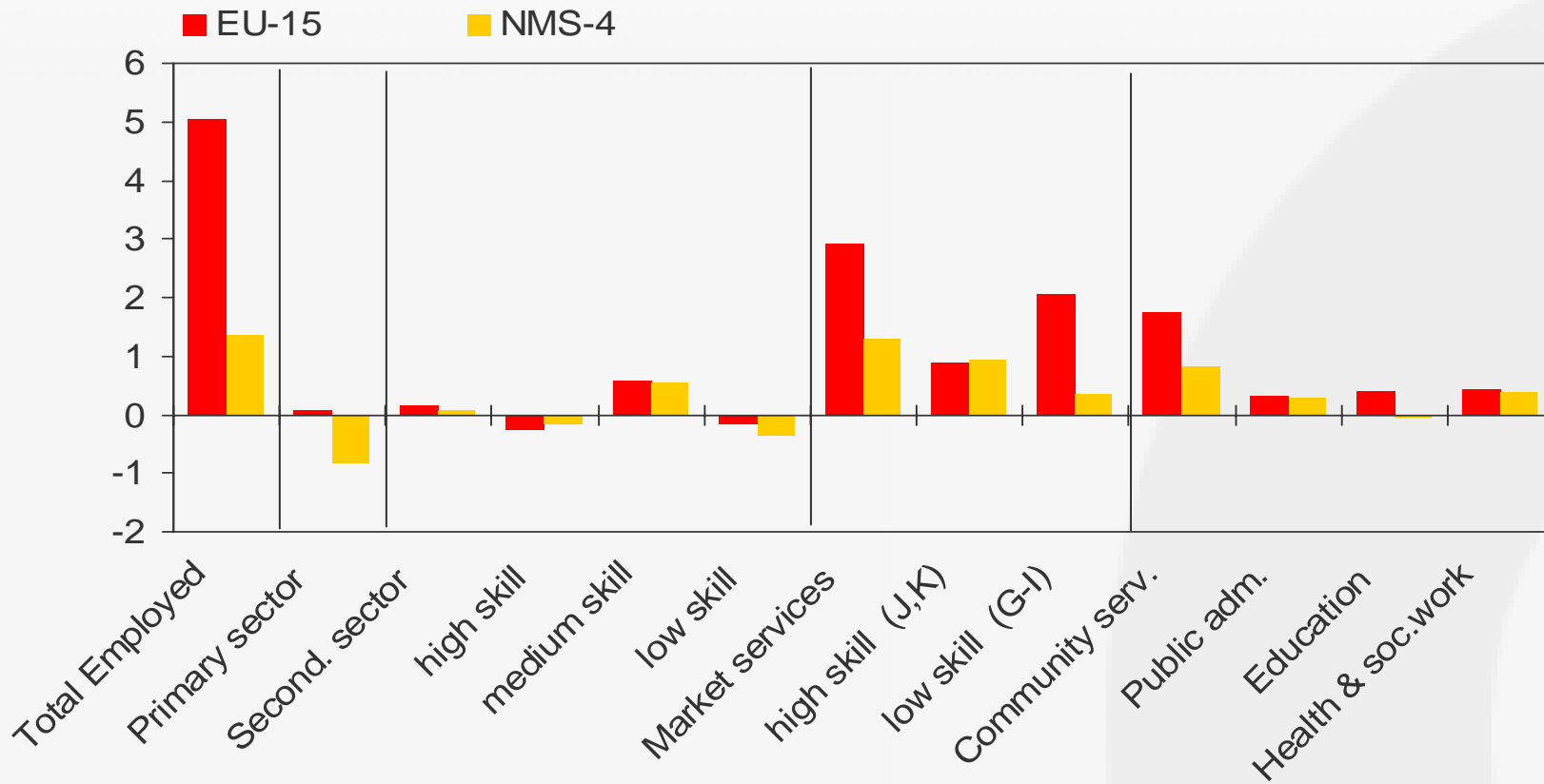
Source of Employment Decline

Low educated, 1999-2003



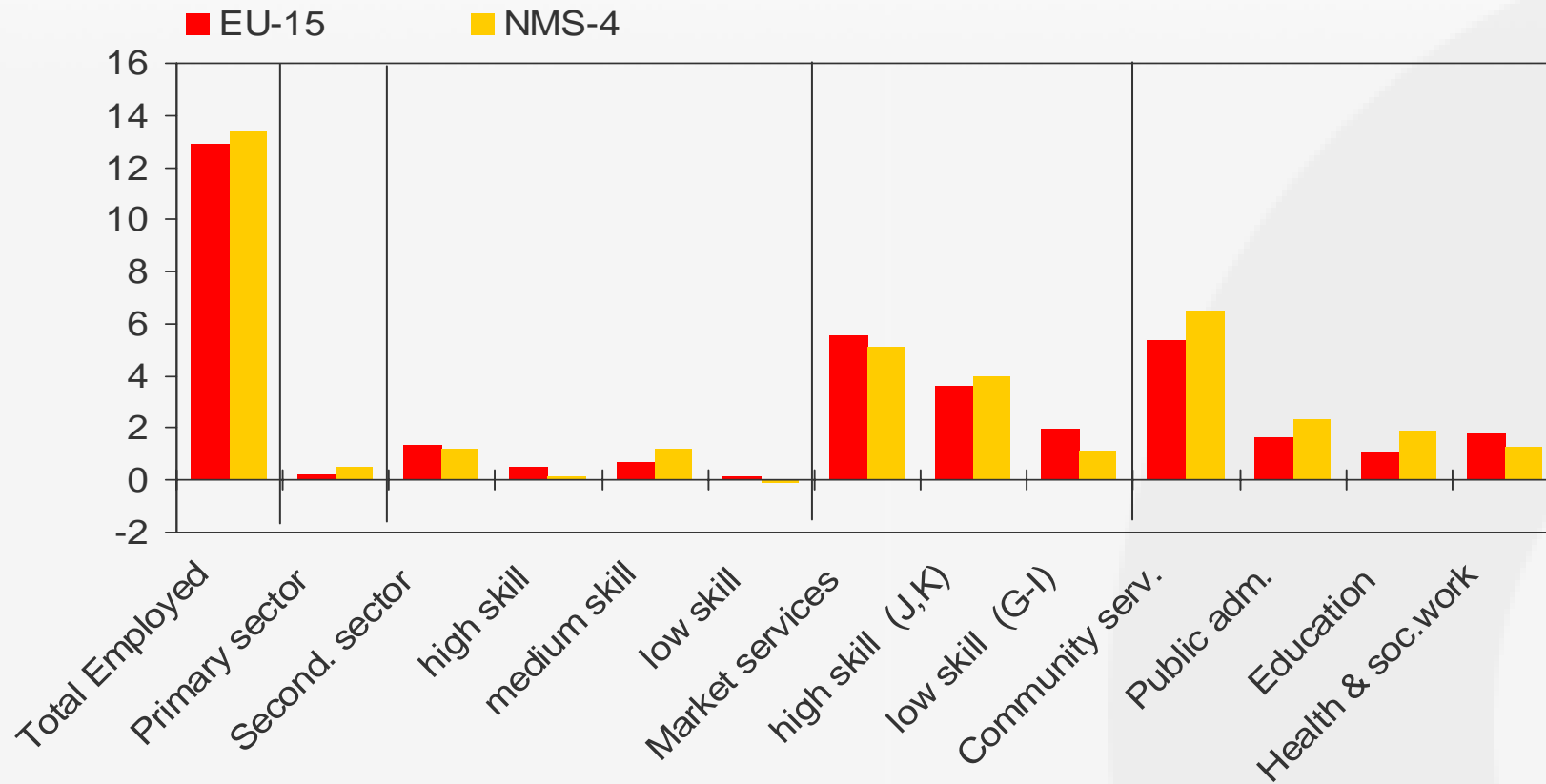
Source of Employment growth/decline

Medium educated, 1999-2003



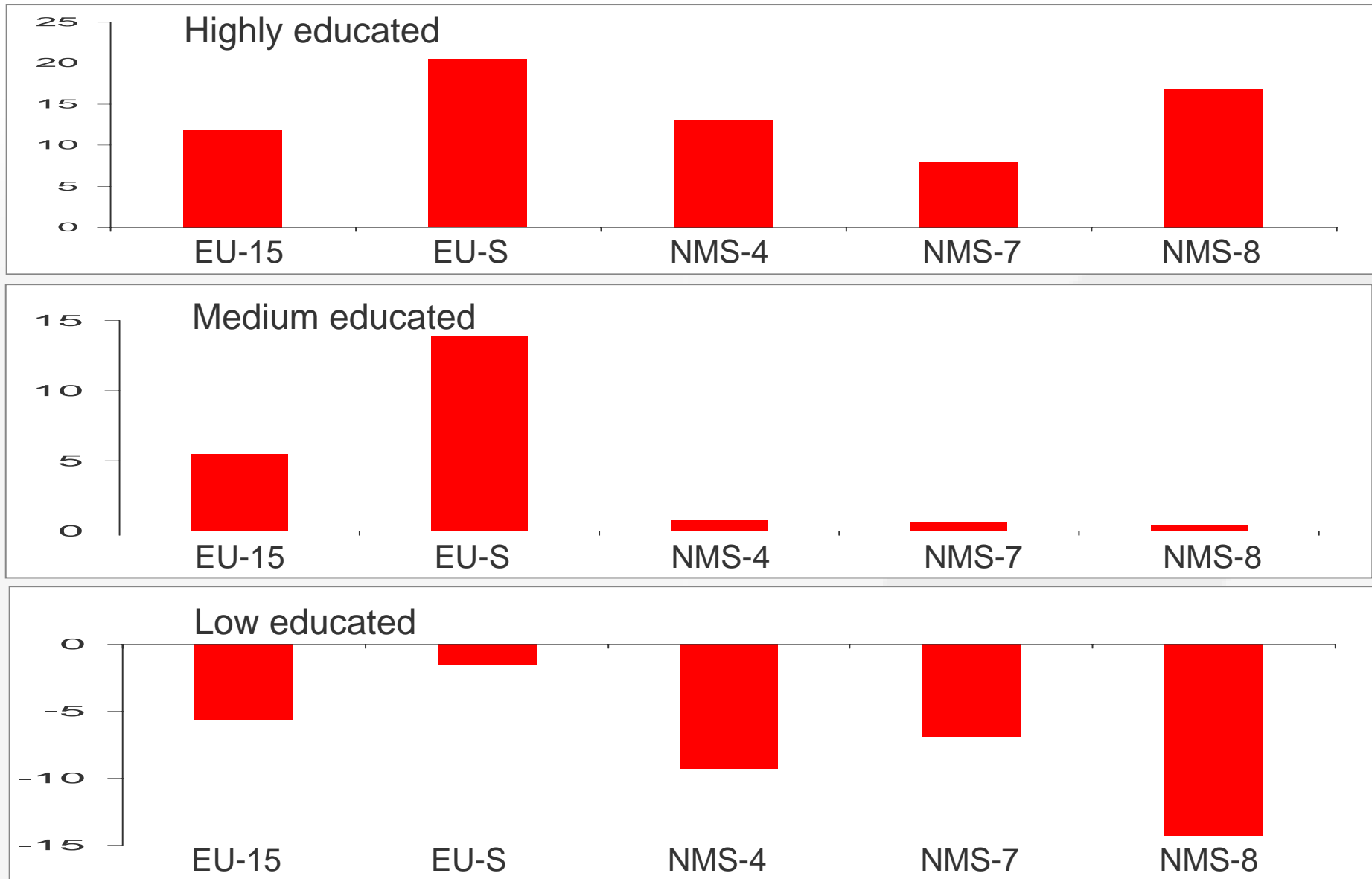
Source of Employment growth/decline

Highly educated, 1999-2003



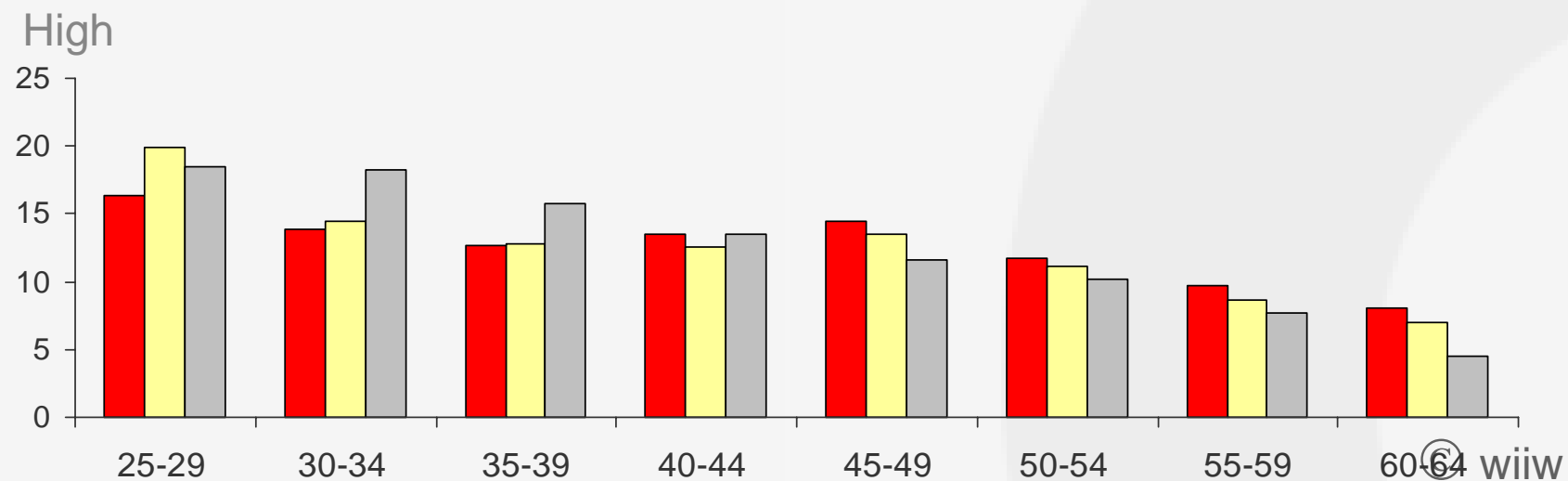
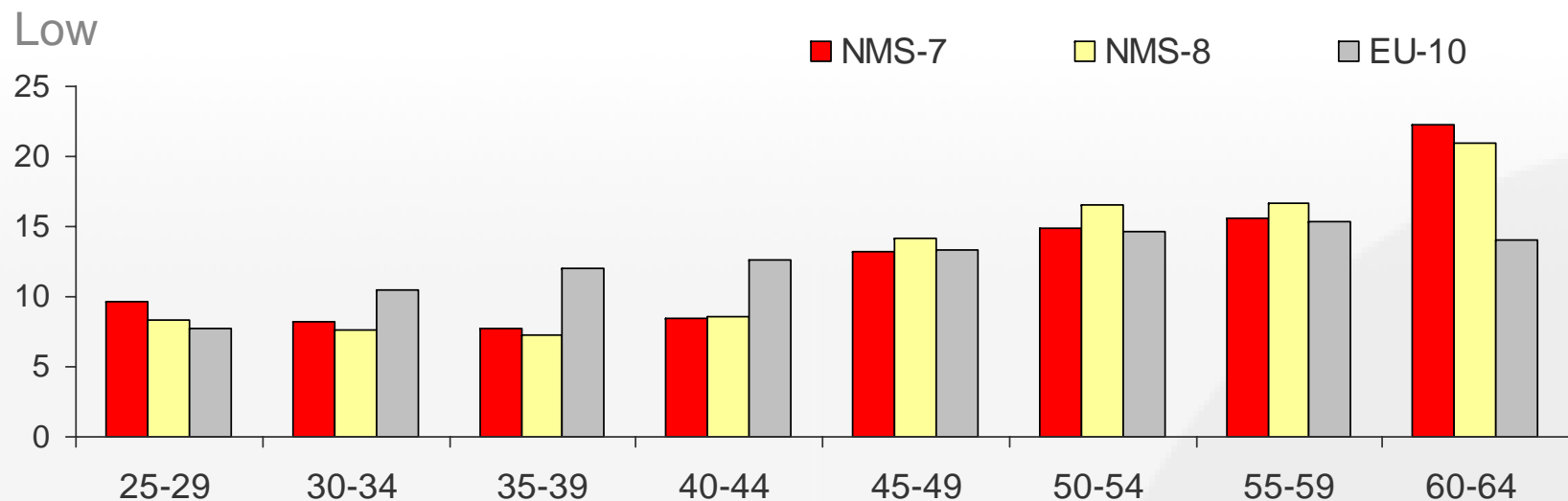
Labour supply response

Growth of labour force, 15-64, 1999 - 2003, in %



Share of population in education groups

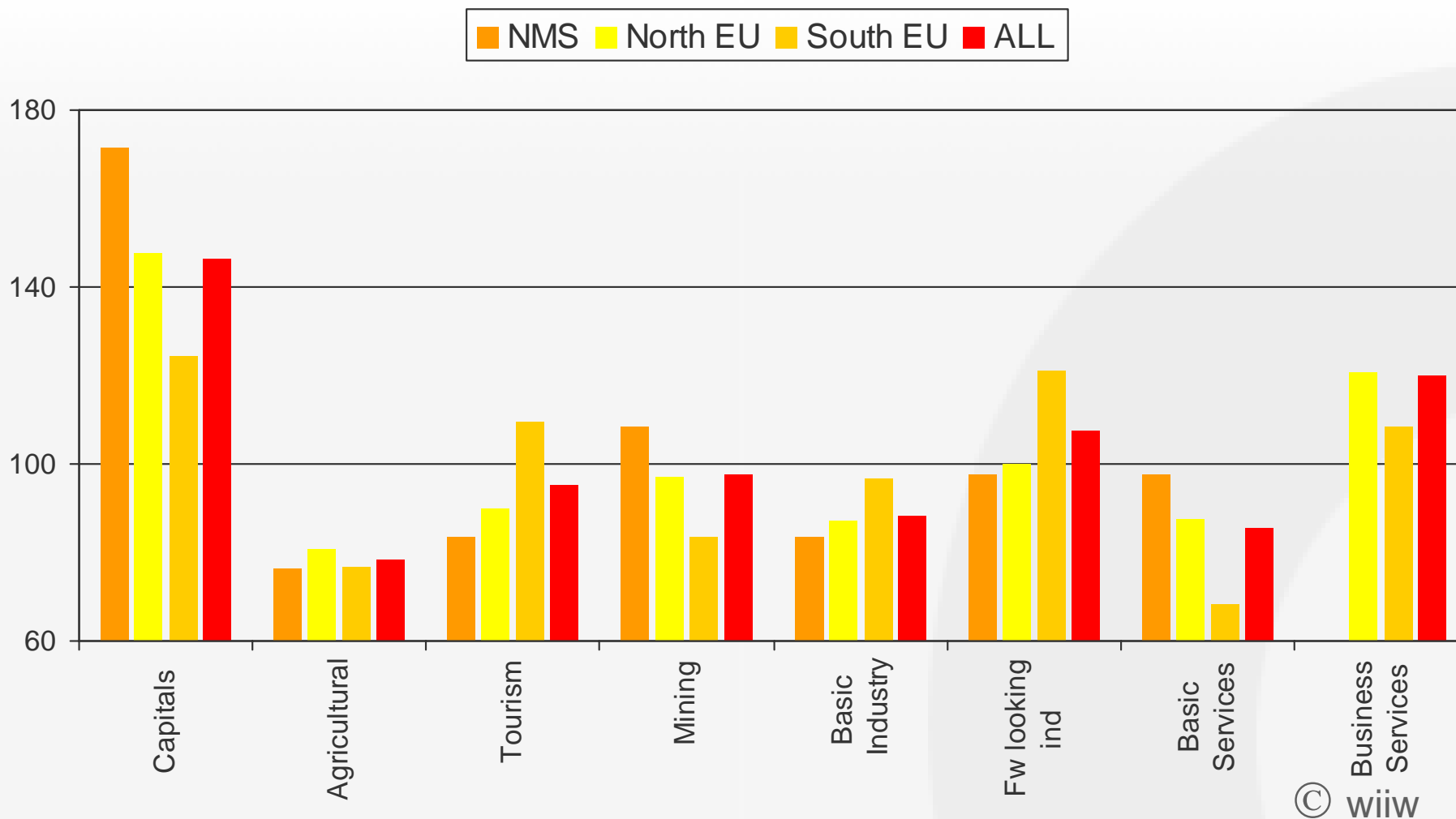
in % of total population in education groups



The regional dimension

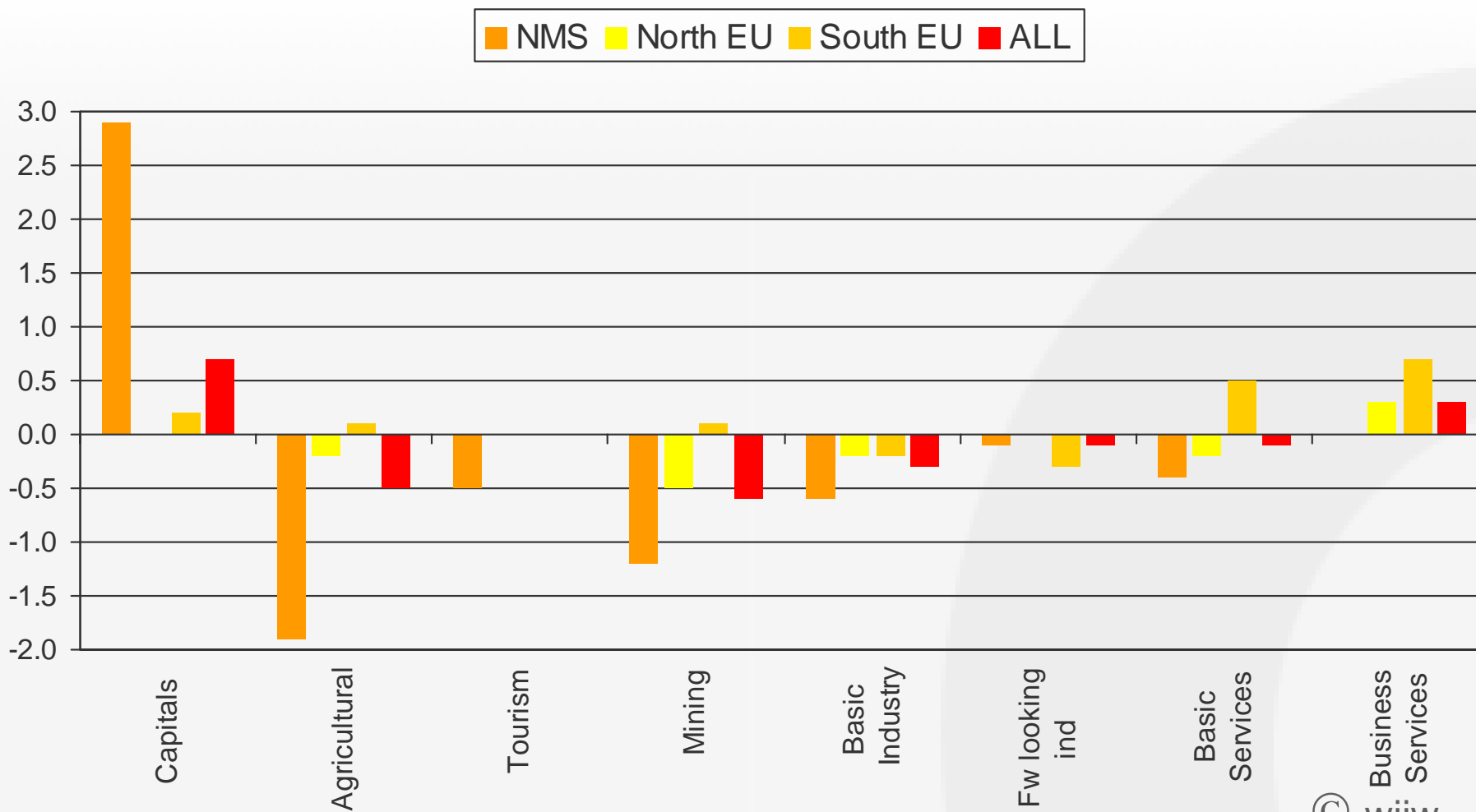
Regional GDP per head, 2002

in percent of country averages, cluster weighted averages

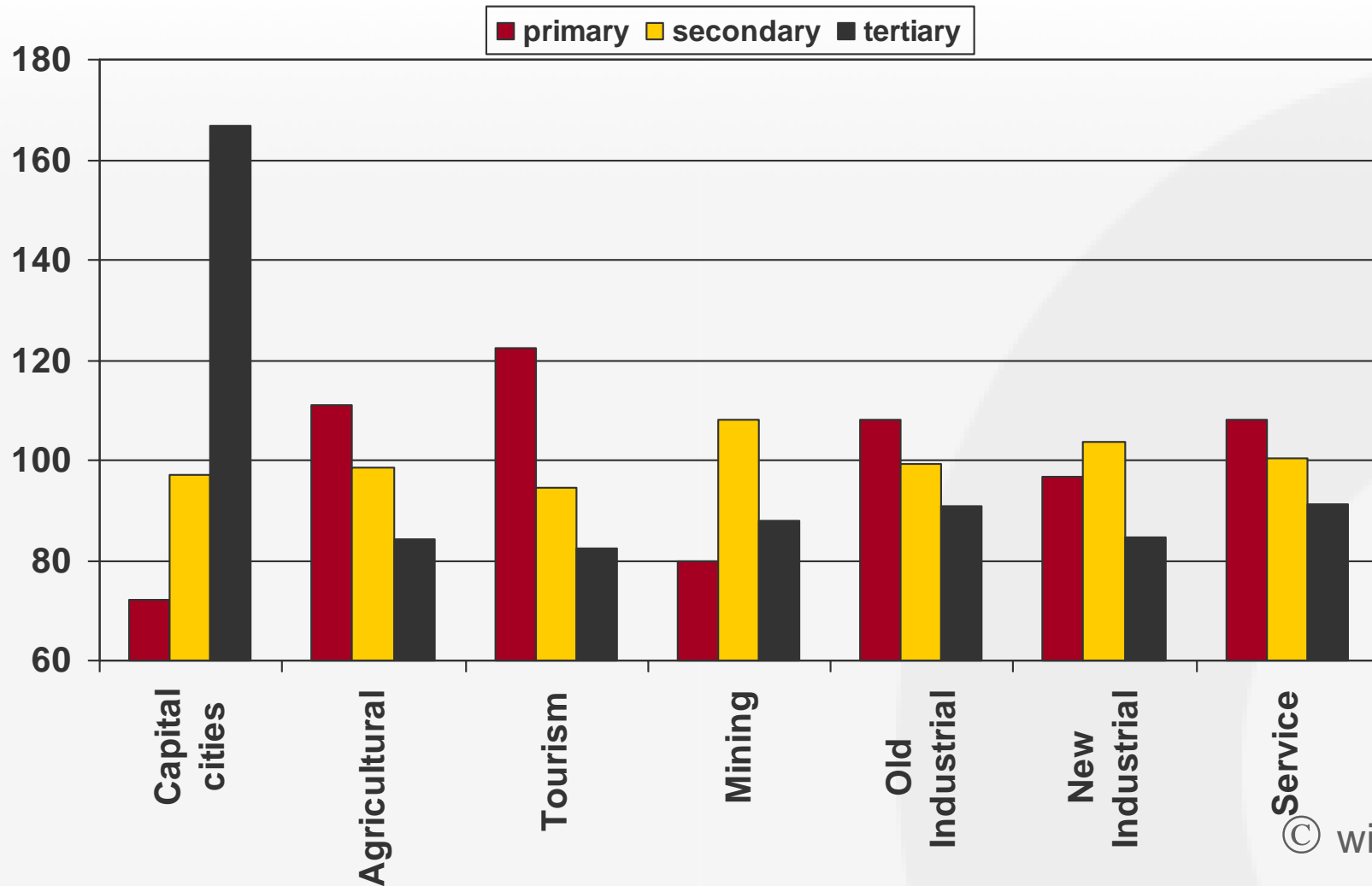


Regional GDP growth, 1995-2002

average yearly growth rates, relative to country average, cluster weighted averages

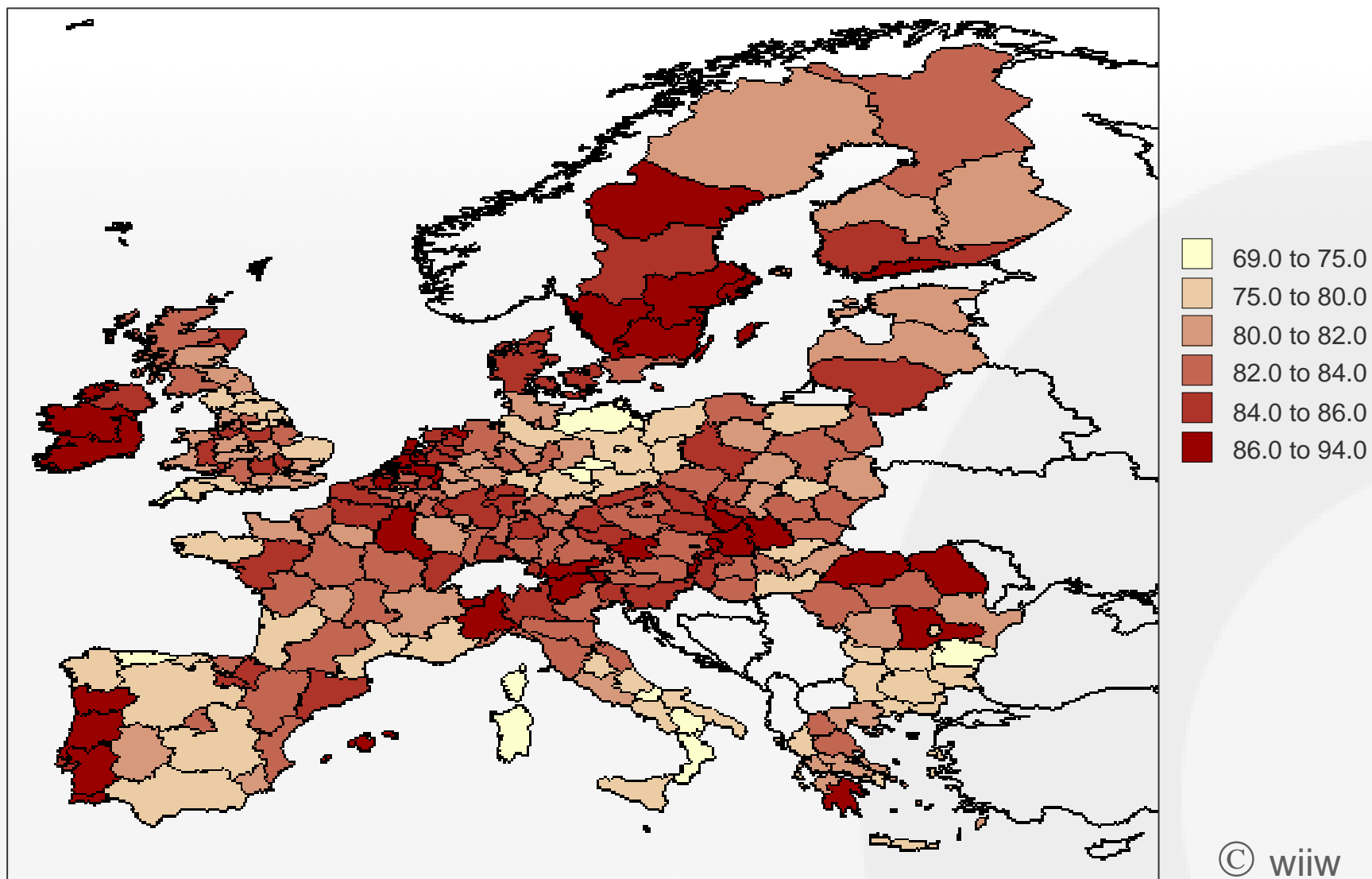


Population (15-64 years): Region types and educational attainment levels, 2003



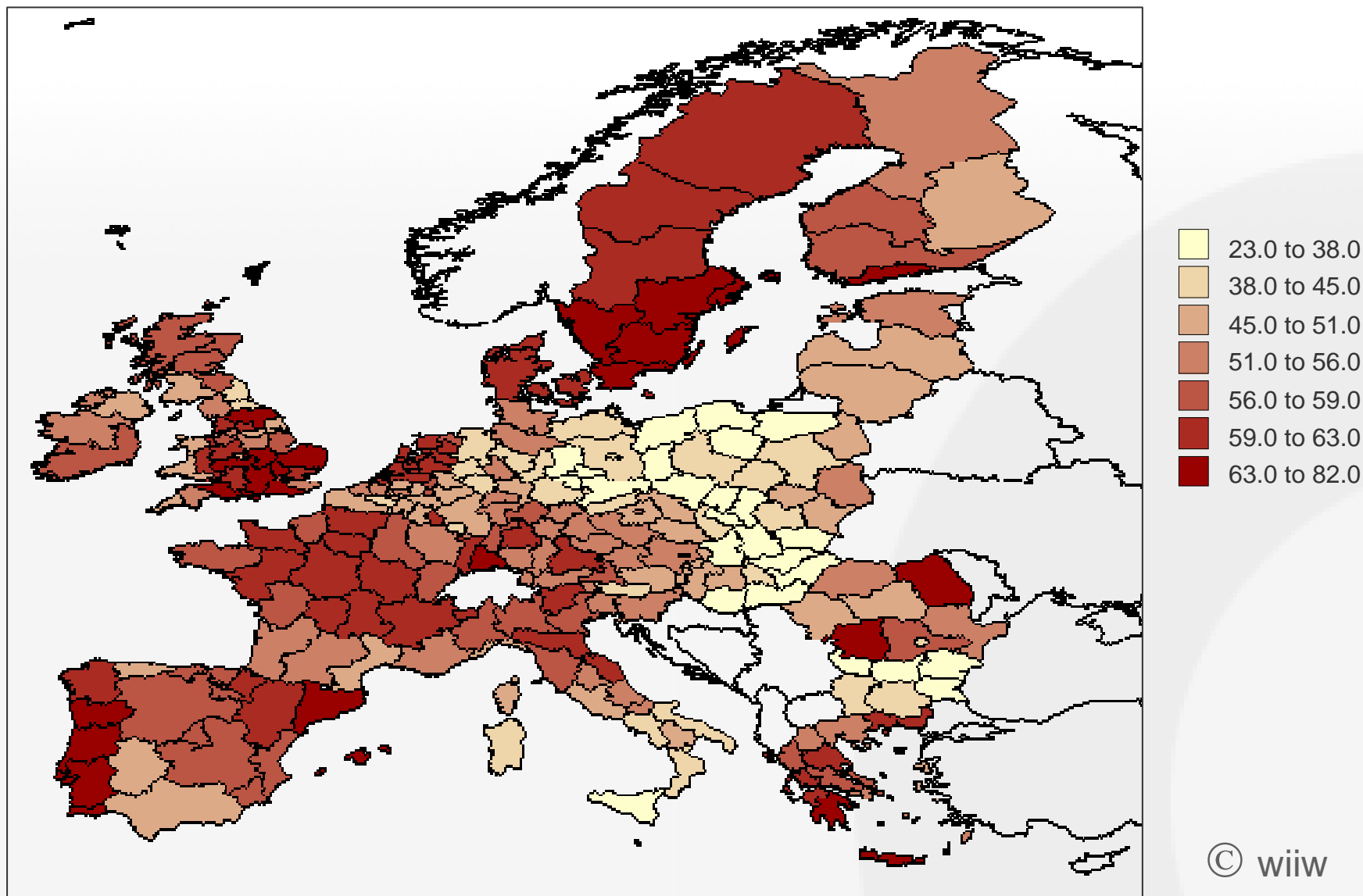
Employment rates – of persons with completed tertiary education

(employment as a proportion of the highly educated working-age population 25-64 years), 2003



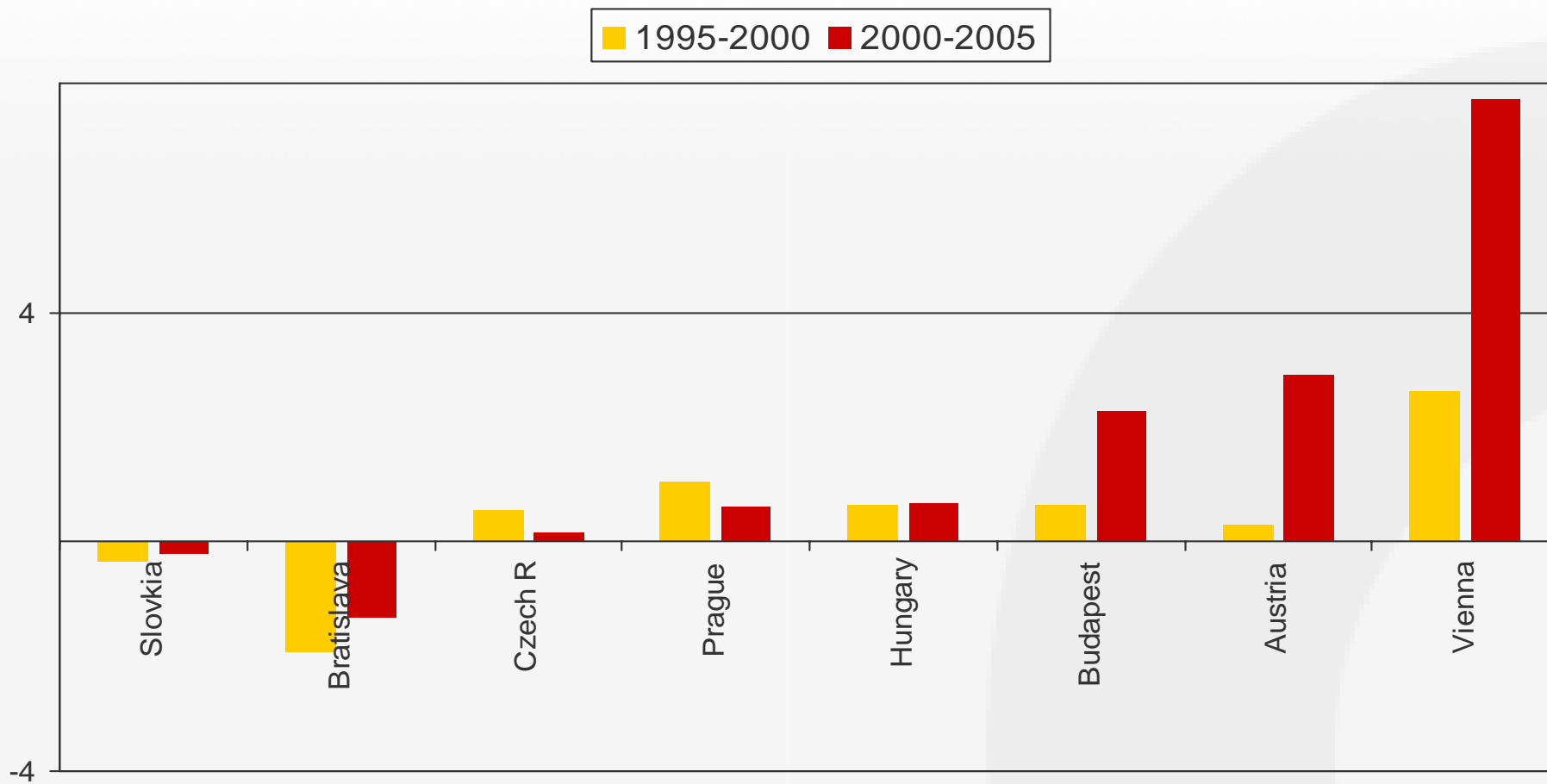
Employment rates – of persons with low level education

(employment as a proportion of the low educated working-age population 25-64 years), 2003

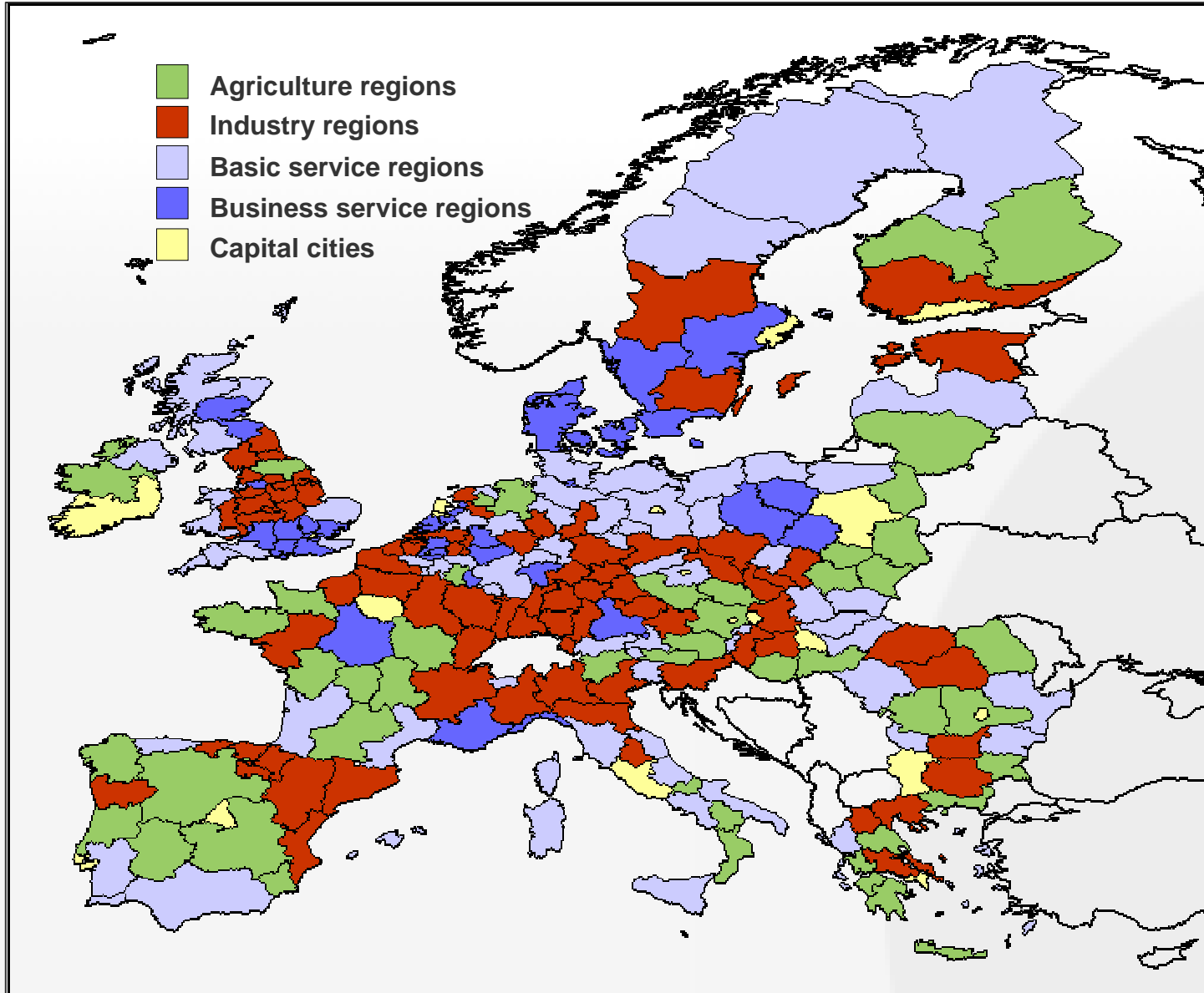


Regional net migration flows

5 year periods, in % of the labour force (cumulative)



Regional Clusters



Labour market developments in a process of catching-up- summary points

- Reasons for the low employment elasticity compared to EU-15
- Strong sectoral reallocation of employment
- Sectoral output convergence and differential productivity catching-up dynamics
- Overall pattern: U-shaped aggregate employment path
- Changing pattern of international (intra-European) specialisation
- Effects on skill demands:
 - Strongly negative employment trends of the least qualified
 - Sharp rise in the demand for highly skilled
- Regional patterns in a phase of catching-up
- Supply adjustments – educational choices; age cohort effects; inter-regional and international labour flows