Convergence of NMS
How to stimulate their long-run growth?

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Analysis of LR Convergence: Caveat Emptor

- **Available data imperfect**
  - Sizeable unofficial sector
  - Growth accounting exercises depend on ability to measure
    - Capital – valuation = ?
    - Labor – reliability of data about hours worked differs across countries
  - LR convergence depends on sustainable real appreciation/depreciation which in turn often linked to qualitative changes in output

Theory: Convergence or Divergence?

- If there were conditional (β) convergence => sufficient not to commit errors
  - NMS should automatically converge to EU levels
- Unfortunately
  - Tests often showing lack of convergence
- Newer (endogenous) growth models allow for richer combinations of results

Economic Theory and Growth: Institutions Matter

▶ Mancur Olson (1996):

  ▶ "… large differences in per capita income across countries **cannot be explained** by differences in access to the world's stock of productive knowledge or to its capital markets, by differences in the ratio of population to land or natural resources, or by differences in the quality of marketable human capital or personal culture.

  ▶ Albeit at a high level of aggregation, this eliminates each of the factors of production as possible explanations of most of the international differences in per capita income.

  ▶ The only remaining plausible explanation is that the **great differences in the wealth of nations are mainly due to differences in the quality of their institutions and economic policies.**"

IDEA CERGE EI
PROJEKT NÁRODOHOSPODÁŘSKÉHO ÚSTAVU

Economic Theory and Growth (2): Policies

▸ Easterly & Levine (2001): **It is not factor accumulation!**

  ▸ The "residual" (TFP) rather the factor accumulation accounts for most of the income and growth differences across countries.

  ▸ Economic activity is highly concentrated, with all factors of production flowing to the richest areas.

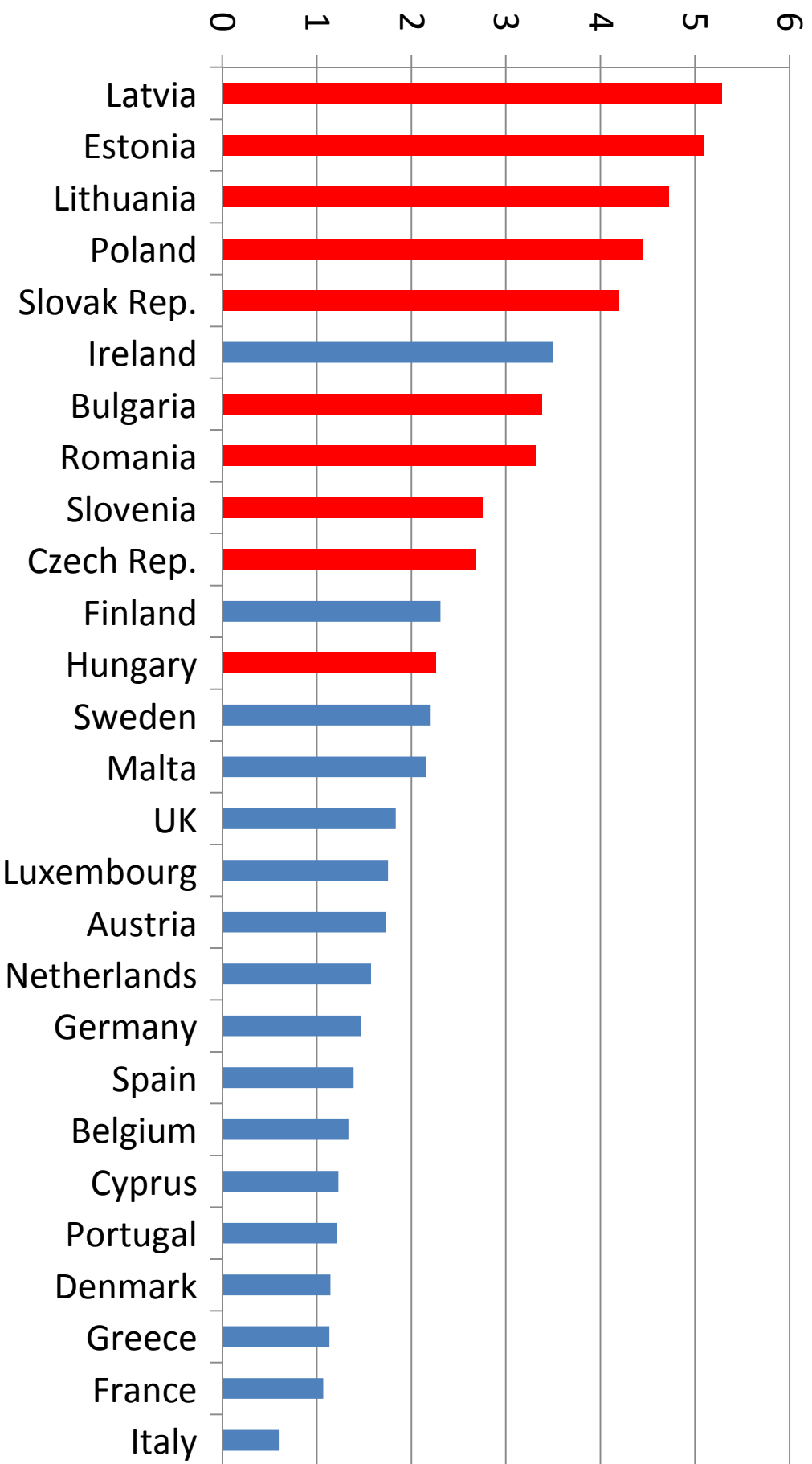 ▸ **National policies are closely associated with long-run economic growth rates.**

New Economic Geography (NEG)

▶ NEG (Fujita, Krugman, Venables) -- alternative perspective

  ▶ Elimination of trade barriers and barriers to mobility changes motivation for location of industries

    ▶ Small initial differences tend to be enhanced by cumulative causation

  ▶ Implications for a country plagued in the short run by inefficient policies can be disastrous – **may be locked at a lower level forever**

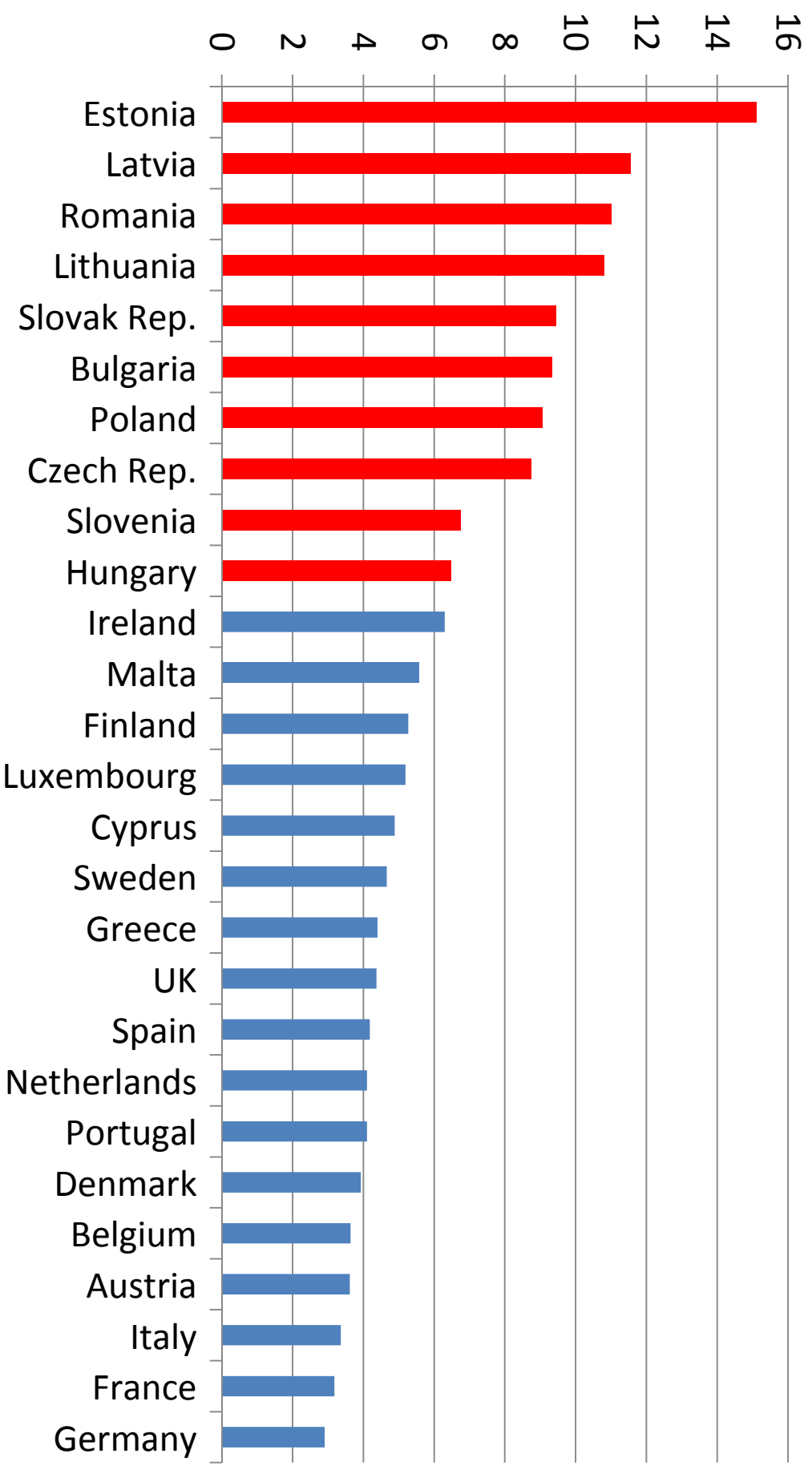# Data on Growth and Convergence of NMS

Average Real Rate of Growth 1993-2012
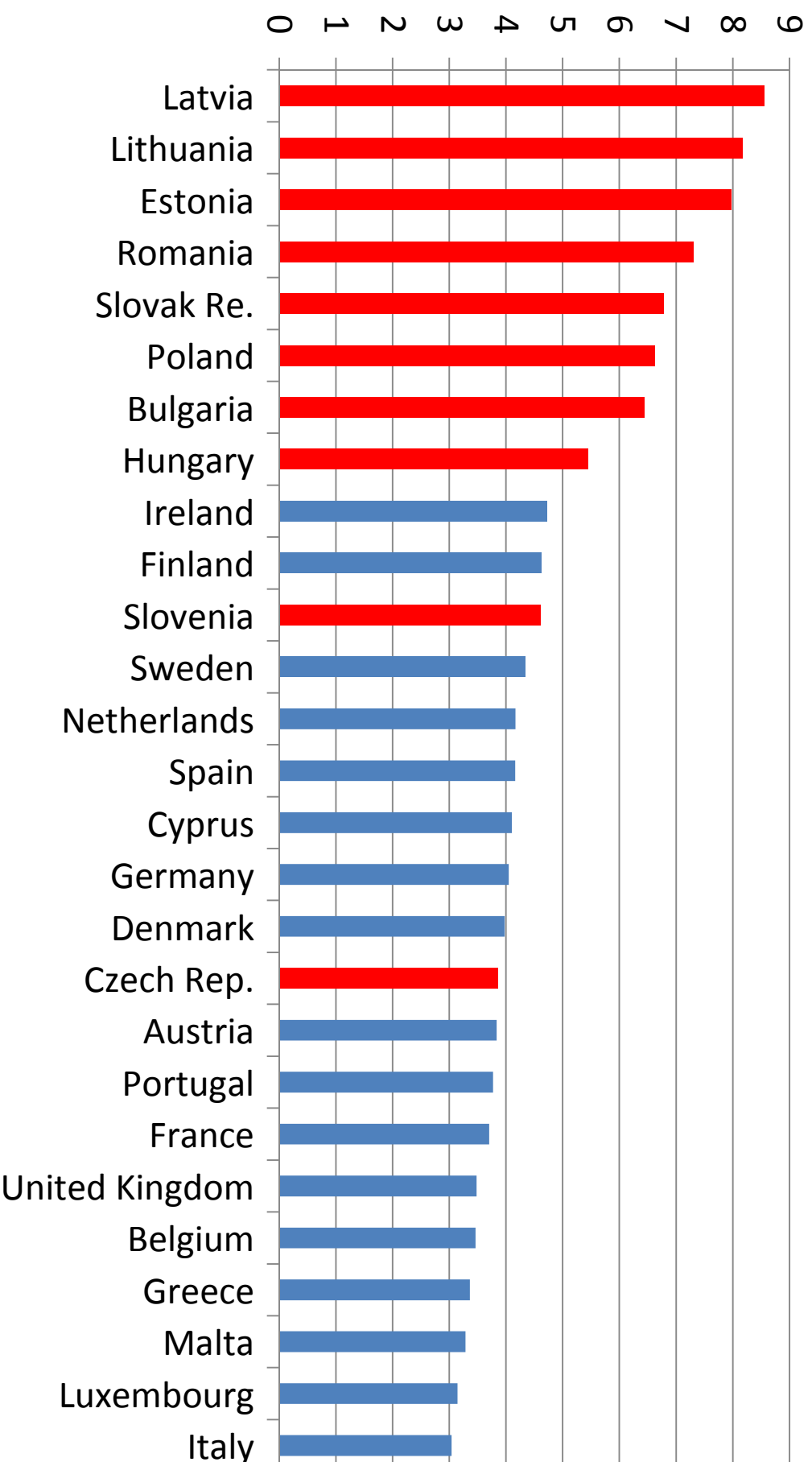## *Based on real GDP p.c. in LCU, annual average (%)*

Country	Value
Latvia	5.3
Estonia	5.0
Lithuania	4.6
Poland	4.4
Slovak Rep.	4.1
Ireland	3.5
Bulgaria	3.4
Romania	3.3
Slovenia	2.8
Czech Rep.	2.7
Finland	2.3
Hungary	2.2
Sweden	2.2
Malta	2.1
UK	1.9
Luxembourg	1.8
Austria	1.8
Netherlands	1.6
Germany	1.5
Spain	1.4
Belgium	1.4
Cyprus	1.3
Portugal	1.3
Denmark	1.2
Greece	1.2
France	1.1
Italy	0.6

Average Rate of Growth 1993-2012

Based on GDP p.c. in USD, annual average (%)

Country	Value
Estonia	14.8
Latvia	11.5
Romania	11.0
Lithuania	11.0
Slovak Rep.	9.5
Bulgaria	9.4
Poland	9.3
Czech Rep.	9.0
Slovenia	6.6
Hungary	6.3
Ireland	6.1
Malta	5.4
Finland	5.2
Luxembourg	5.2
Cyprus	4.9
Sweden	4.6
Greece	4.4
UK	4.3
Spain	4.1
Netherlands	4.0
Portugal	4.0
Denmark	3.9
Belgium	3.7
Austria	3.7
Italy	3.3
France	3.2
Germany	2.9

Average Rate of Growth 1995-2012

Based on GNI p.c. in PPP, annual average (%)

Country	Value
Latvia	8.5
Lithuania	8.1
Estonia	8.0
Romania	7.1
Slovak Re.	6.8
Poland	6.5
Bulgaria	6.3
Hungary	5.6
Ireland	4.7
Finland	4.7
Slovenia	4.6
Sweden	4.4
Netherlands	4.1
Spain	4.1
Cyprus	4.1
Germany	4.0
Denmark	4.0
Czech Rep.	3.9
Austria	3.8
Portugal	3.8
France	3.7
United Kingdom	3.6
Belgium	3.6
Greece	3.4
Malta	3.3
Luxembourg	3.1
Italy	3.0

Based on WDI data

β Convergence: GDP p.c. in PPP 1993-2012 Regression for the EU

Based on WDI data
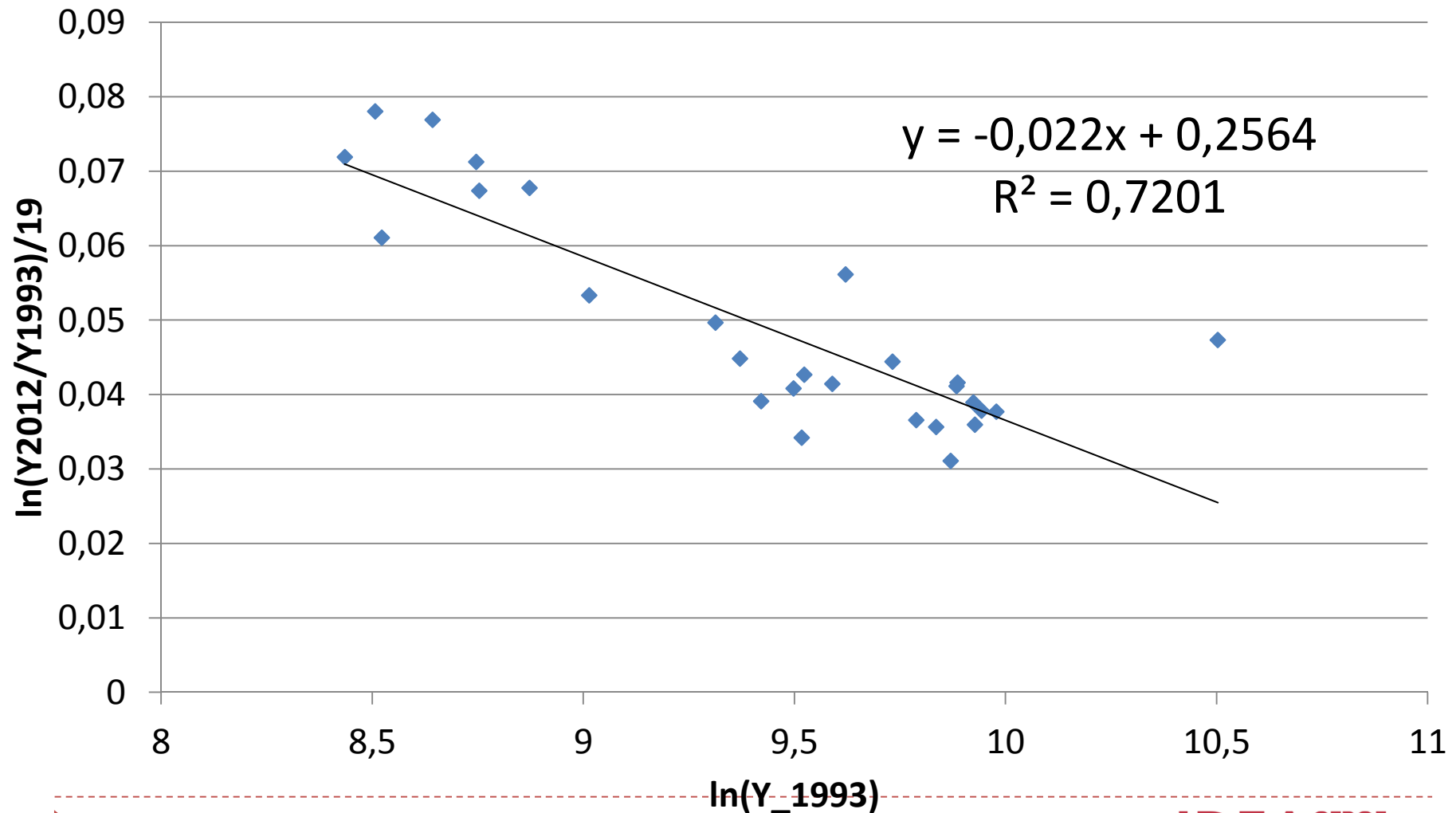
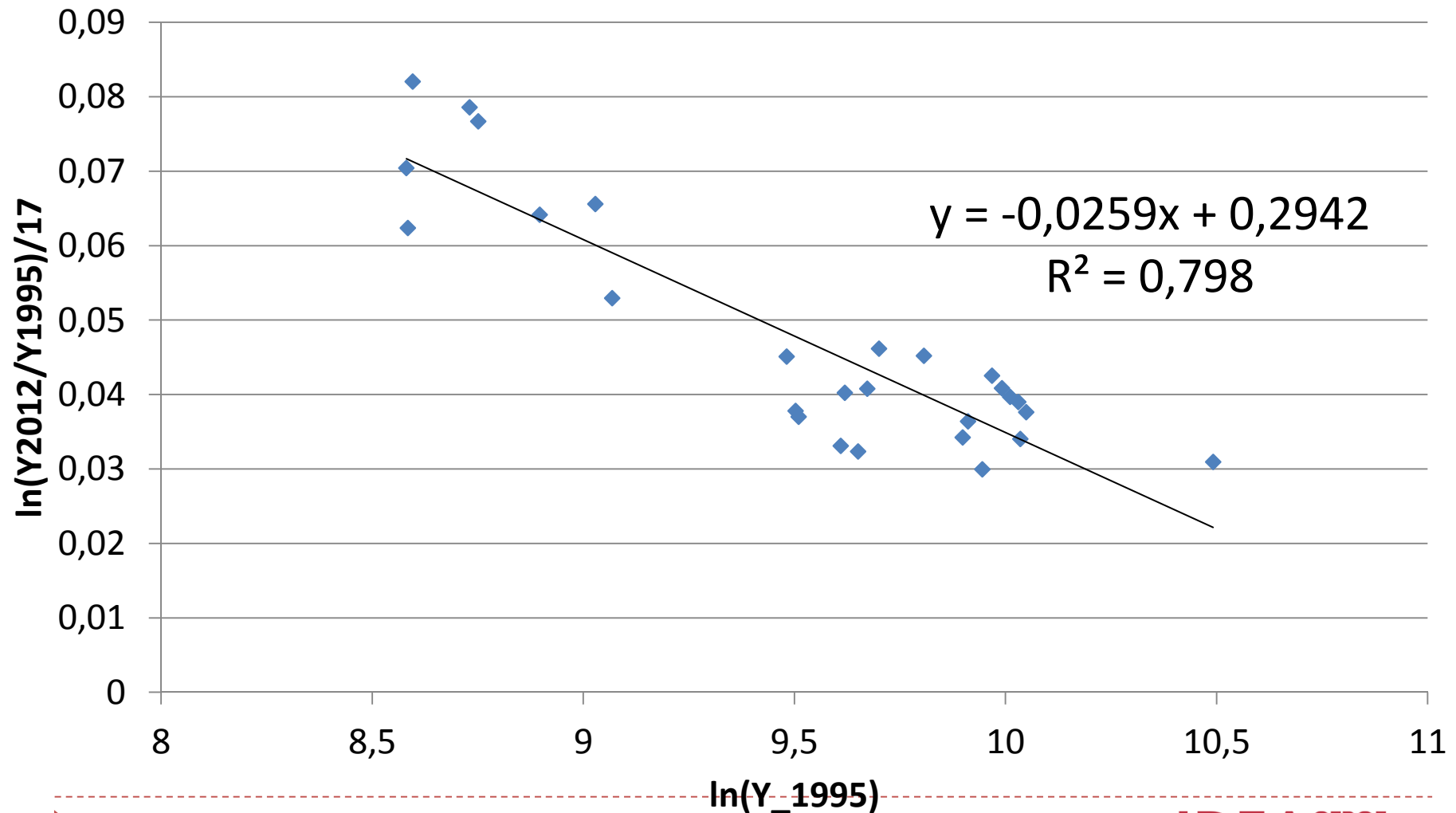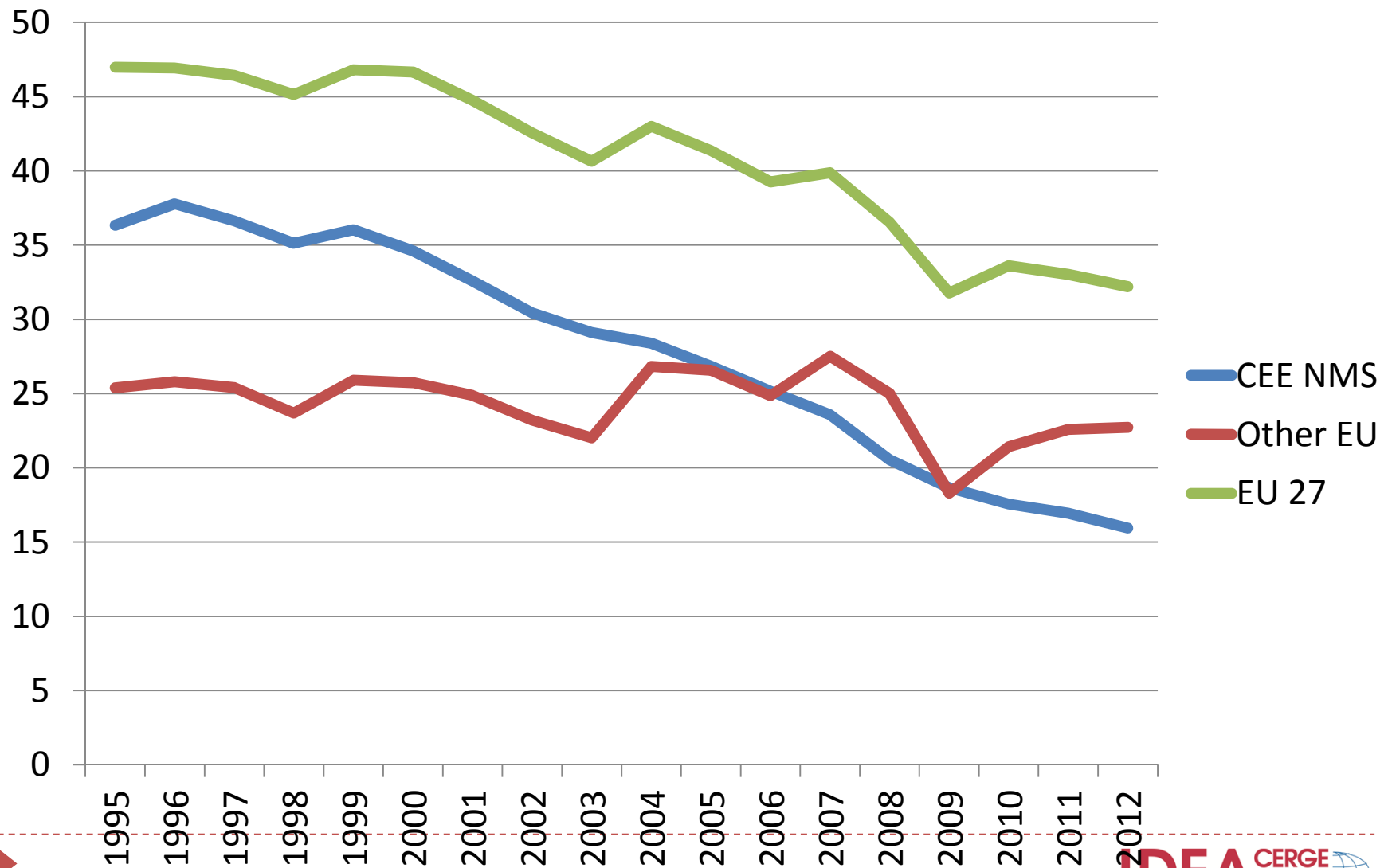# β Convergence: GDP p.c. in USD 1993-2012 Regression for the EU

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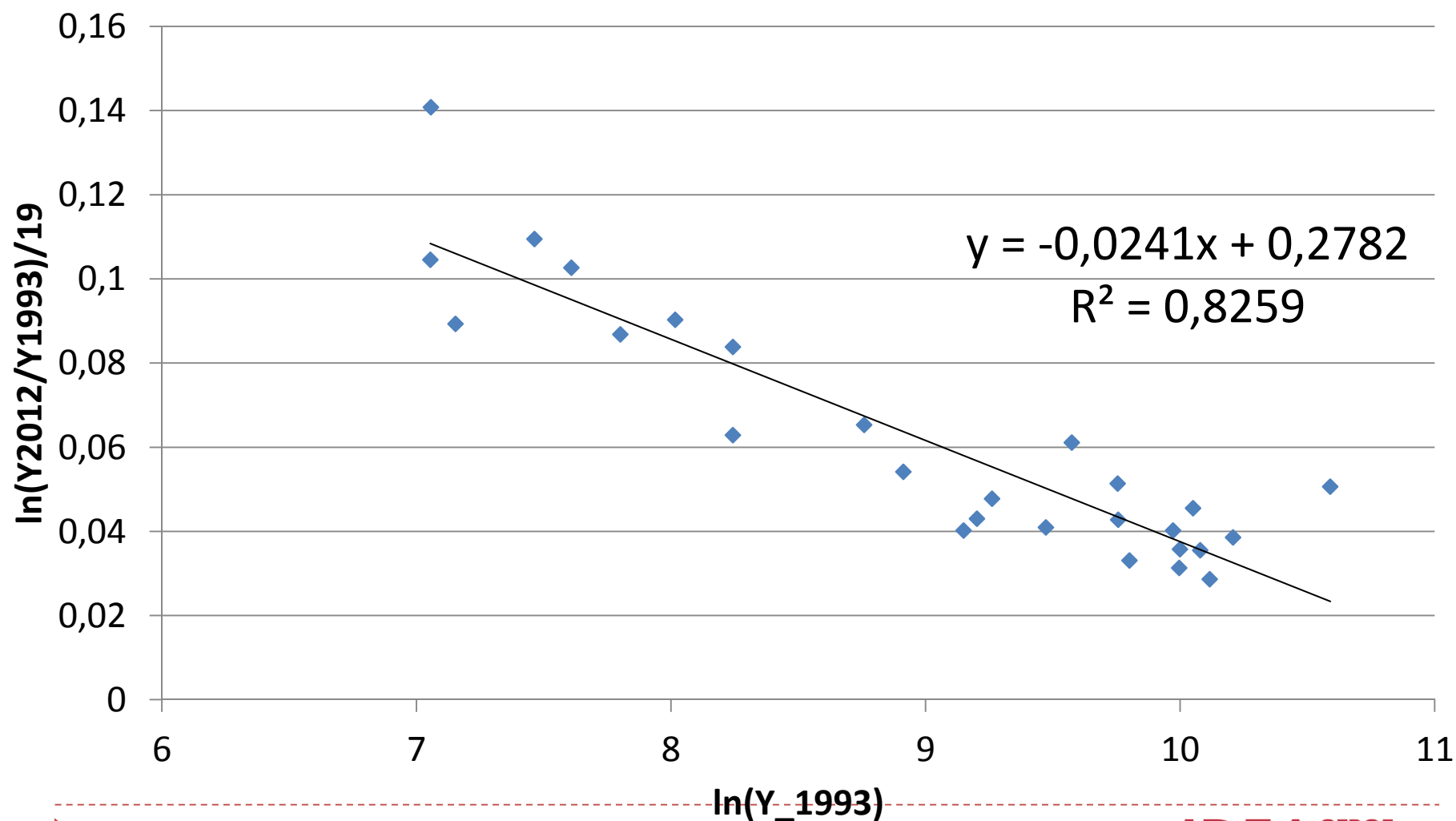
β Convergence: GNI p.c. in PPP 1995-2012 Regression for the EU

$y = -0,0259x + 0,2942$
$R^2 = 0,798$

ln(Y2012/Y1995)/17

ln(Y_1995)

Based on WDI data

σ-Convergence within the EU
# Coef. of Variation (%) based on GNI p.c. PPP

Stylized Facts on Growth of NMS

▸ In terms of GDP, growing faster than old Europe

 ▸ Real GDP growth – only Ireland comparable during 1993-2012

▸ Growing even faster when real appreciation of currencies taken into account

 ▸ E.g. GDP in US dollars

▸ **NMS converging**

▸ Growth model linked to dependence on EU markets

 ▸ Export dependence

 ▸ Inflow of FDI and of liquidity

Sources of Growth in Transition Countries

Structure of sources of aver. GDP growth in transition economies 1996-2006
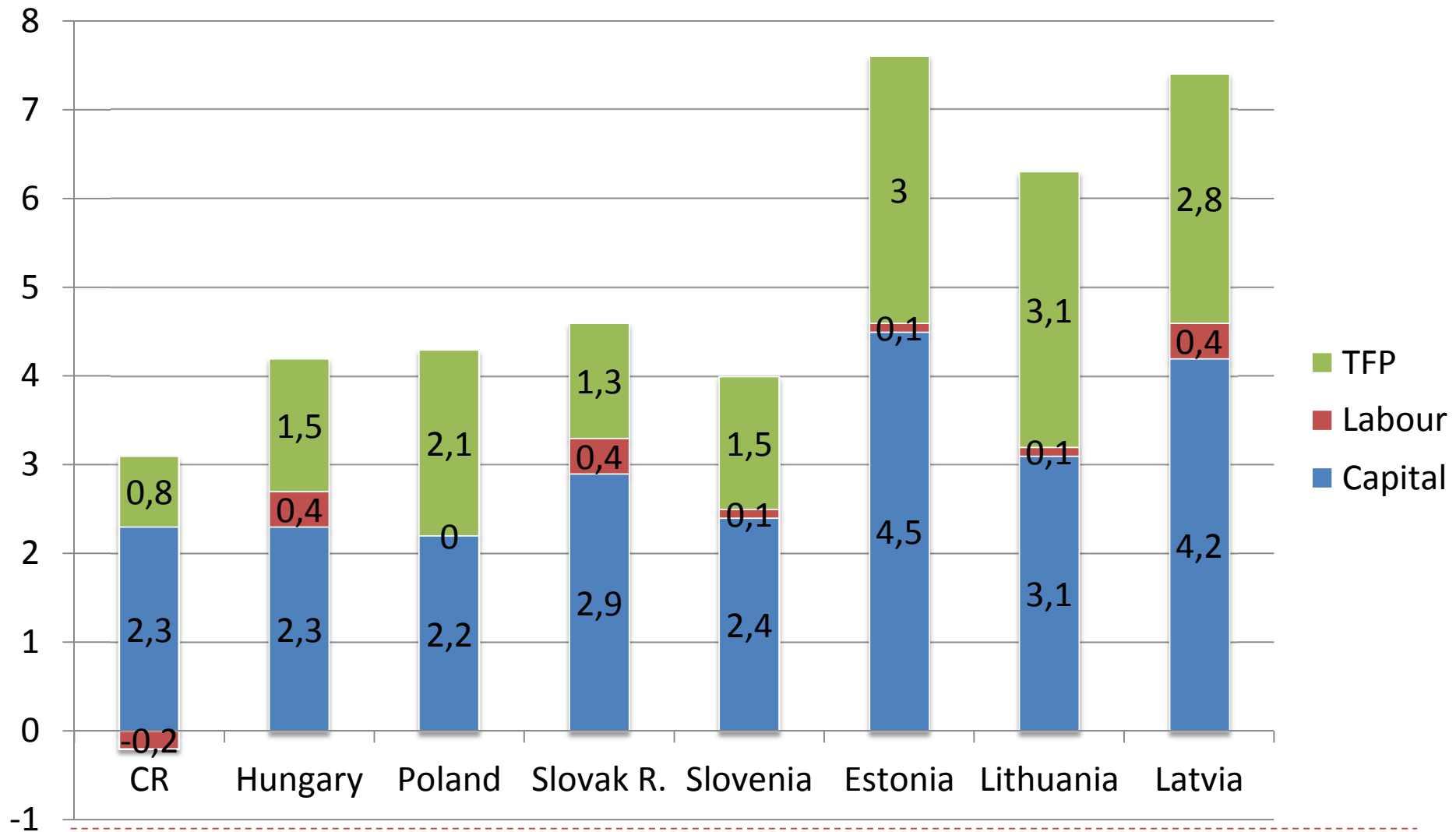
Source: Iradian (2007)

Growth of CEE Countries: Questions

▶ Is the speed of convergence high enough?

▶ Is their original growth model sustainable?

▶ Which features/policies lead to faster/slower growth?

▶ Puzzle

    ▶ Why Czech Republic, with seemingly very good conditions, grows relatively slowly (especially in GNI p.c.)?

Visegrad v. Austria: Historical GDP/Capita Trends
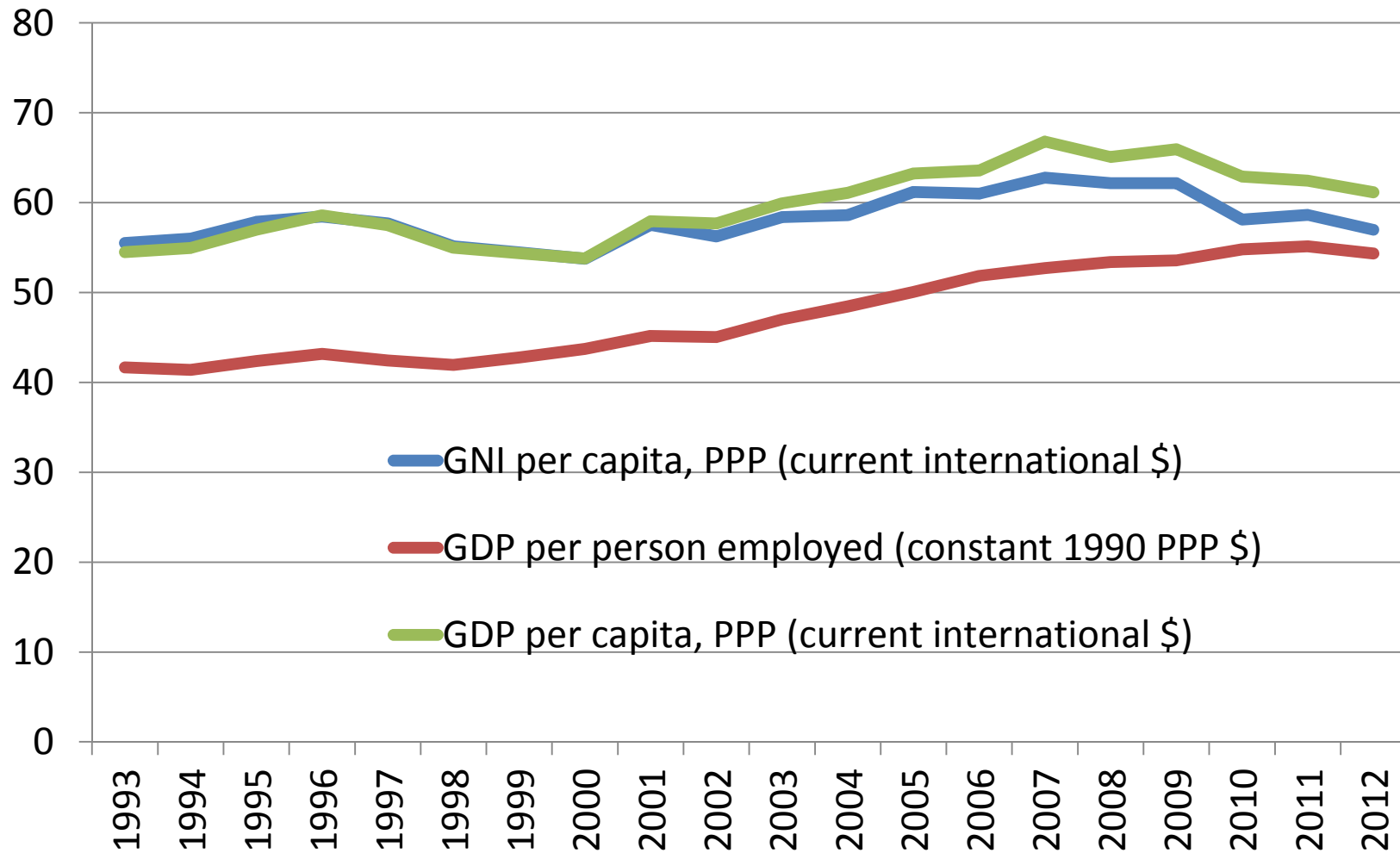
Table 15. Historical comparison with Austria

Country	1870	1913	1937	1950	1980	1989	2000
	(Austria's GDP per capita = 100)						
Czechoslovakia	62%	60%	91%	94%	58%	54%	43%
Hungary	59%	61%	81%	67%	46%	42%	36%
Poland	51%	50%	61%	66%	42%	35%	36%

Note: Czechoslovakia in 2000 is weighted average of the Czech and Slovak Republics.
Source: Calculated from the OECD database accompanying Maddison (2003).

Empirical Data: Czech Convergence to Austria

Austria = 100 in every of the years

Legend:
- GNI per capita, PPP (current international $)
- GDP per person employed (constant 1990 PPP $)
- GDP per capita, PPP (current international $)

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# How Fast is Convergence: Czech Rep. v. Austria?
Example Based on GNI p.c.

Period	Initial Level (Austria = 100)	Total Reduction of the Gap (in perc. points)	How Many Years Needed to Catch up with Austria?
1993 - 2012	**55.5**	**1.47**	**428**
2002 – 2007	56.2	6.55	26
2007 - 2012	62.8	-5.81	∞

▸ Question #1: Did the Czech Republic do something better during 2002-2007, or was it just coincidence (or exogenous issue)?

▸ Question #2: Was at least the period 2002-2007 good enough in comparison to other NMS?

Average Speed of Convergence to Euro Area
Based on GNI p.c. in PPP
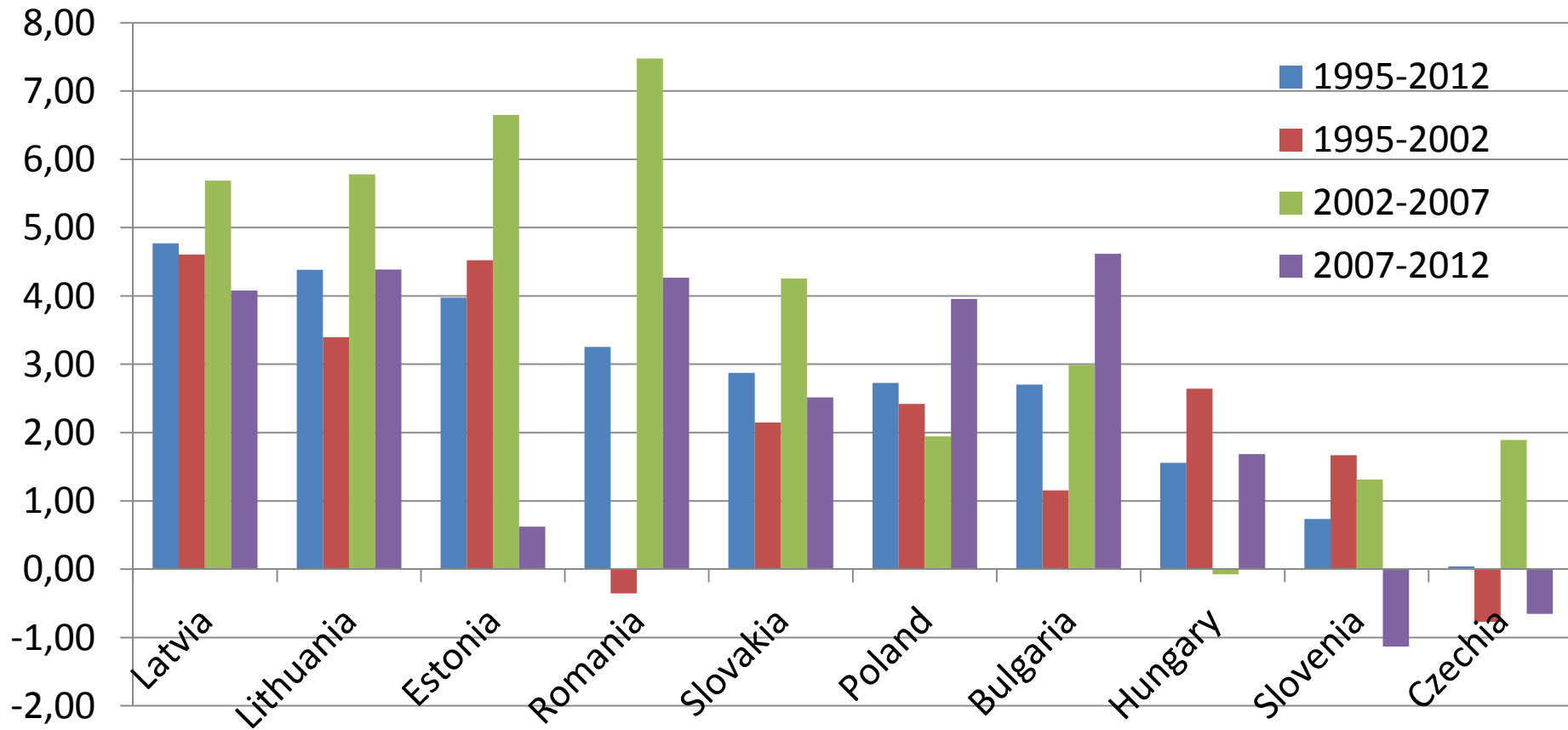
Even the performance during 2002-2007 was only sufficient for 8th position among the CEE NMS.

Note: the calculations are approximate: based on World Bank data on the Euro Area.

Czech Growth Data: Stylized Facts (1)

▶ Czech Republic seems to meet many prerequisites for fast growth

  ▶ High rate of savings (#1 among NMS)

  ▶ Relatively high inflow of capital (#2 among NMS)

  ▶ Educated labor force

  ▶ Relative macroeconomic stability

  ▶ Very good geographical location + proximity of growth engine (Germany)

  ▶ Liberalized foreign trade

  ▶ Healthy and stable banking sector (at least since 2000s)

  ▶ Much smaller problems with deleveraging and private sector debt

  ▶ Social stability

  ▶ Infrastructure not worse than in other NMS

  ▶ Despite gradual decline still among top 3 CEE in competitiveness (IMD WCY)

So Who or What is Responsible for the Missing Growth?

▶ Problem:

▶ No single parameter identified as the principal cause

▶ Corruption, inefficient decisions, …. typical for many emerging markets (including the fastest ones such as China)

▶ Combination of effects?

▶ Pessimism + lack of motivation

▶ Corruption, inefficient governance

▶ Weak demand (and significant signal effect on private demand)

Thanks for Your Attention!

References

▸ OECD: Economic Survey of the Czech Republic

▸ WIIW: Handbook of Statistics, 2013

▸ World Bank World Development Indicators Database

▸ Iradian (2007): Rapid Growth in Transition Economies: Growth-Accounting Approach, IMF Working Paper WP/07/164

▸ Worldbank (2008): Unleashing prosperity

▸ M. Olson (1996): Distinguished lectures in economics in government: Big bills left on the sidewalk: Why some nations are rich, and others poor. The Journal of Econ. Perspectives, Vol. 10, Issue 2 (Spring, 1996), 3-24

▸ W. Easterly, R. Levine (2001): What have we learnt from a decade of empirical research on growth? It's not factor