Czech Republic

Issues Related to Long-run Growth

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Outline

1. Caveat emptor
2. Economic theory and long run growth
3. Stylized facts on Czech growth
4. Determinants of Czech performance
5. Growth policies: options

Analysis of LR Convergence: Caveat Emptor

- Available data imperfect
  - New member states -- sizeable, possibly fluctuating unofficial sector
  - Growth accounting depends on one's ability to measure
    - Capital – issue of valuation
    - Labor – cross-country variation in reliability of data on hours worked
  - LR convergence depends on sustainable real appreciation -- linked to qualitative changes in output
    - Statisticians – problem with enumerate contributions of qualitative changes

Theory: Convergence or Divergence?

- Solow (1956) model – conditional (β) convergence a probable outcome
  - Sufficient for government not to commit major errors – Czech Republic should converge to the EU levels "automatically"
    - As a richer country among the NMS it can have lower relative rates of growth than the poorer ones
- In practice
  - Original convergence tests perhaps too simple
  - 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.
  - 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."**

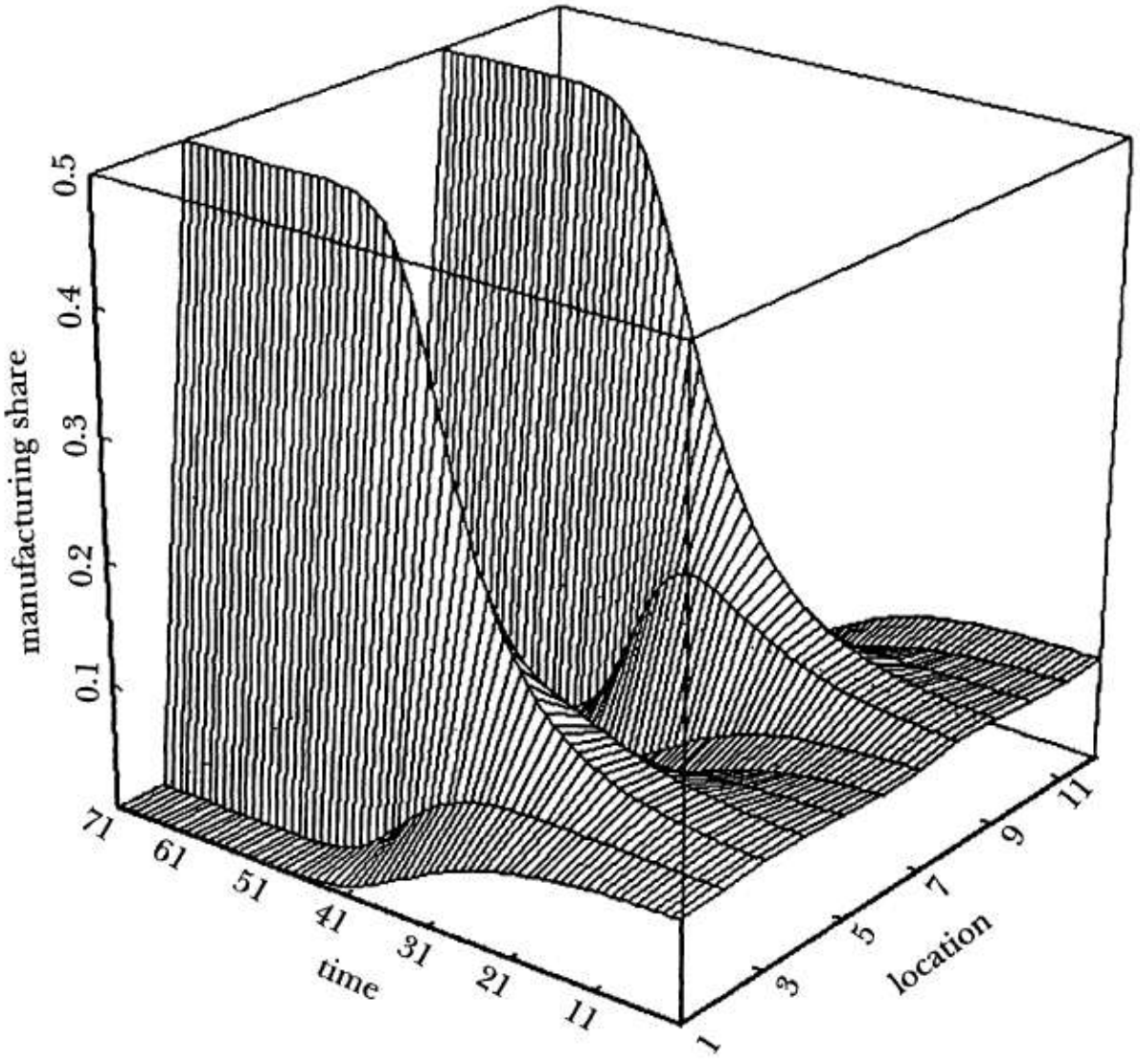
Economic Theory and Growth (2): Policies

- 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)

- Czech case -- specific character of achieved integration of factor and output markets?
- NEG (Fujita, Krugman, Venables) perspective
  - Elimination of trade barriers and barriers to mobility changes motivation for location of industries
    - Small initial differences enhanced by cumulative causation
  - Models allow for extreme differentiation (center-periphery pattern)
  - Country plagued in the short run by inefficient policies – **may be forever locked in at a lower level of growth**

Krugman – Differentiation in the Racetrack NEG Model with 12 Regions



Visegrad v. Austria: Historical Trends

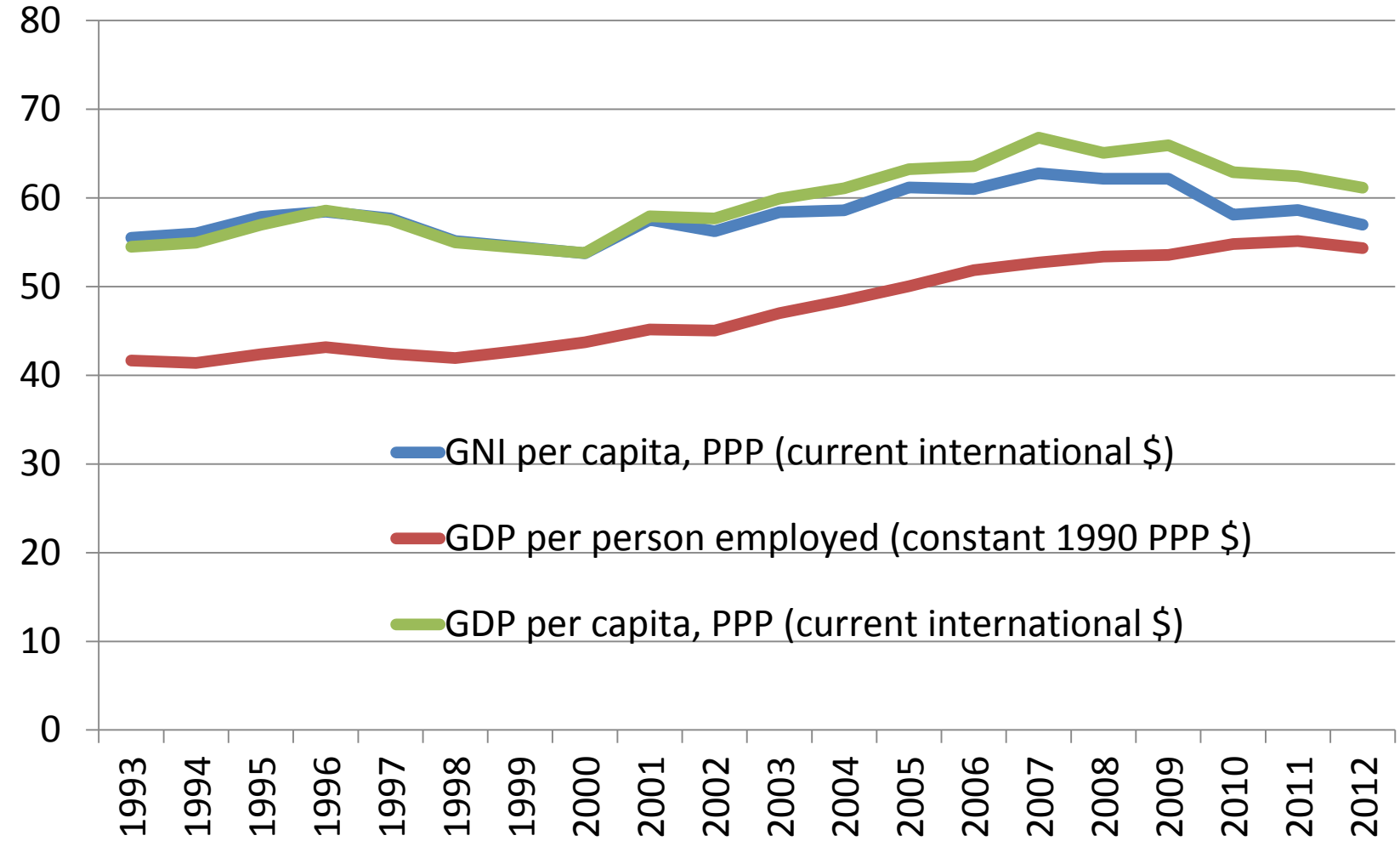
Table 15. Historical comparison with Austria

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



Which measure of Output?

- Czech performance is better with measures based on GDP (not too surprising for a net recipient of FDI)

- However, measures based on GNP/GNI may be more relevant for convergence of standards of living

How Rapid Convergence: Czech Rep. v. Austria?

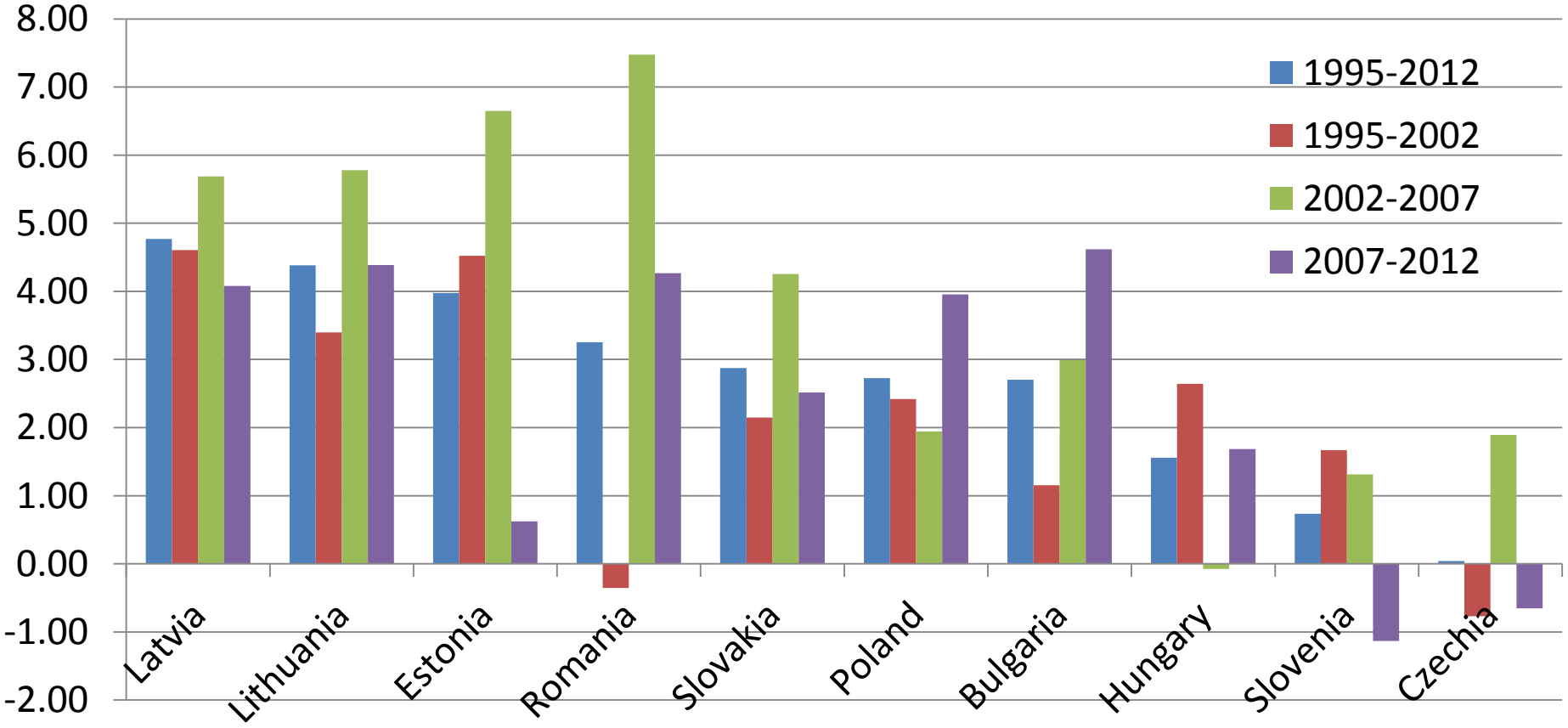
Example Based on GNI p.c.

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?
- Question #2: How good was 2002-2007 in comparison with 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.

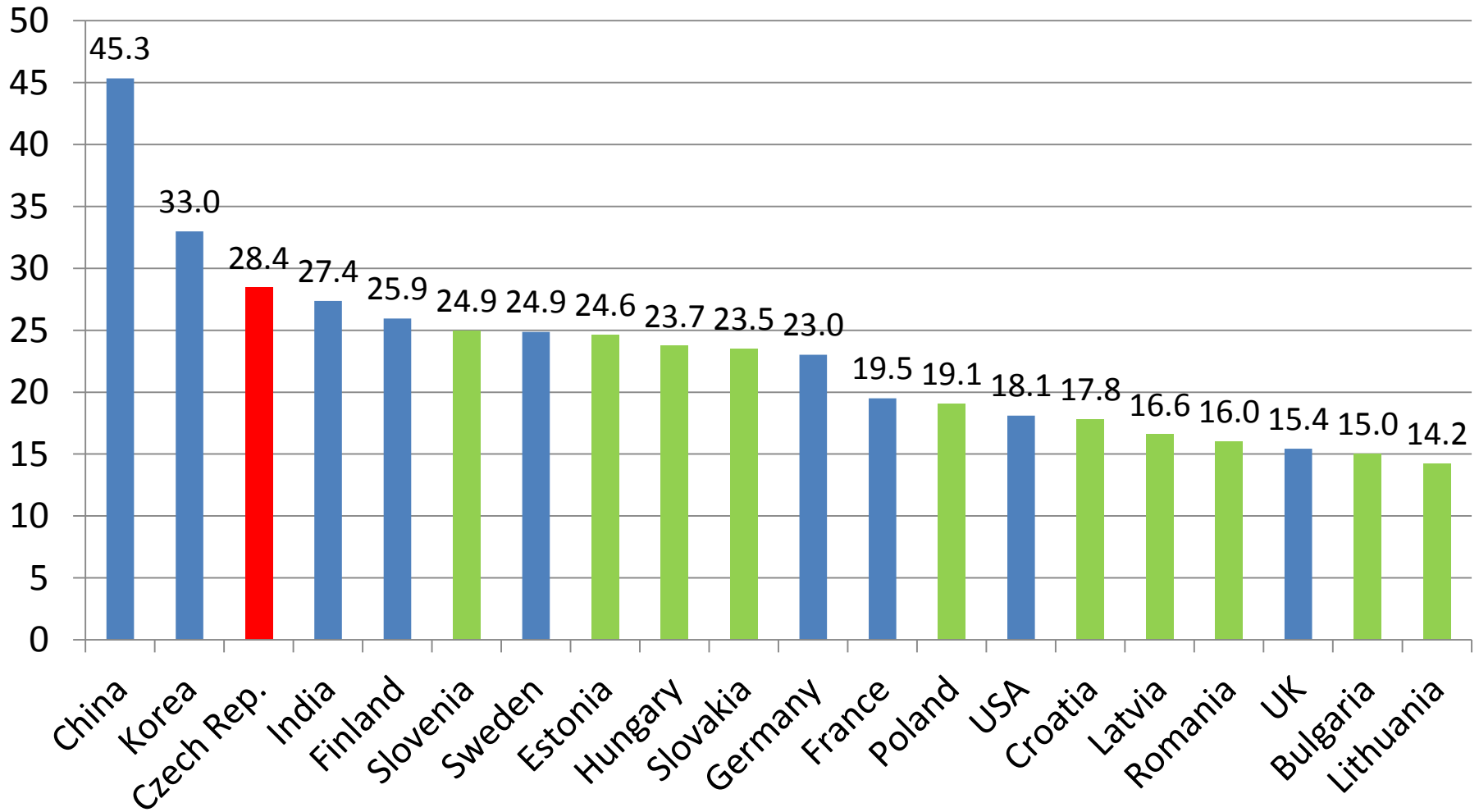
Note: the calculations are approximate: based on World Bank data on the Euro Area.

Czech Growth Data: Stylized Facts (1)

- Czech Republic displays 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
  - Good geographic location + proximity to a reliable growth engine and role model (Germany)
  - Liberalized foreign trade
  - Healthy and stable banking sector (at least since 2000s)
  - Minor problems with deleveraging and private sector debt
  - Social stability
  - Infrastructure not worse than in other NMS
  - In spite of gradual decline, still among top 3 CEE in competitiveness (IMD WCY)

Average Rate of Savings 1995-2011

Gross domestic savings (% of GDP)



Source of data: WDI database

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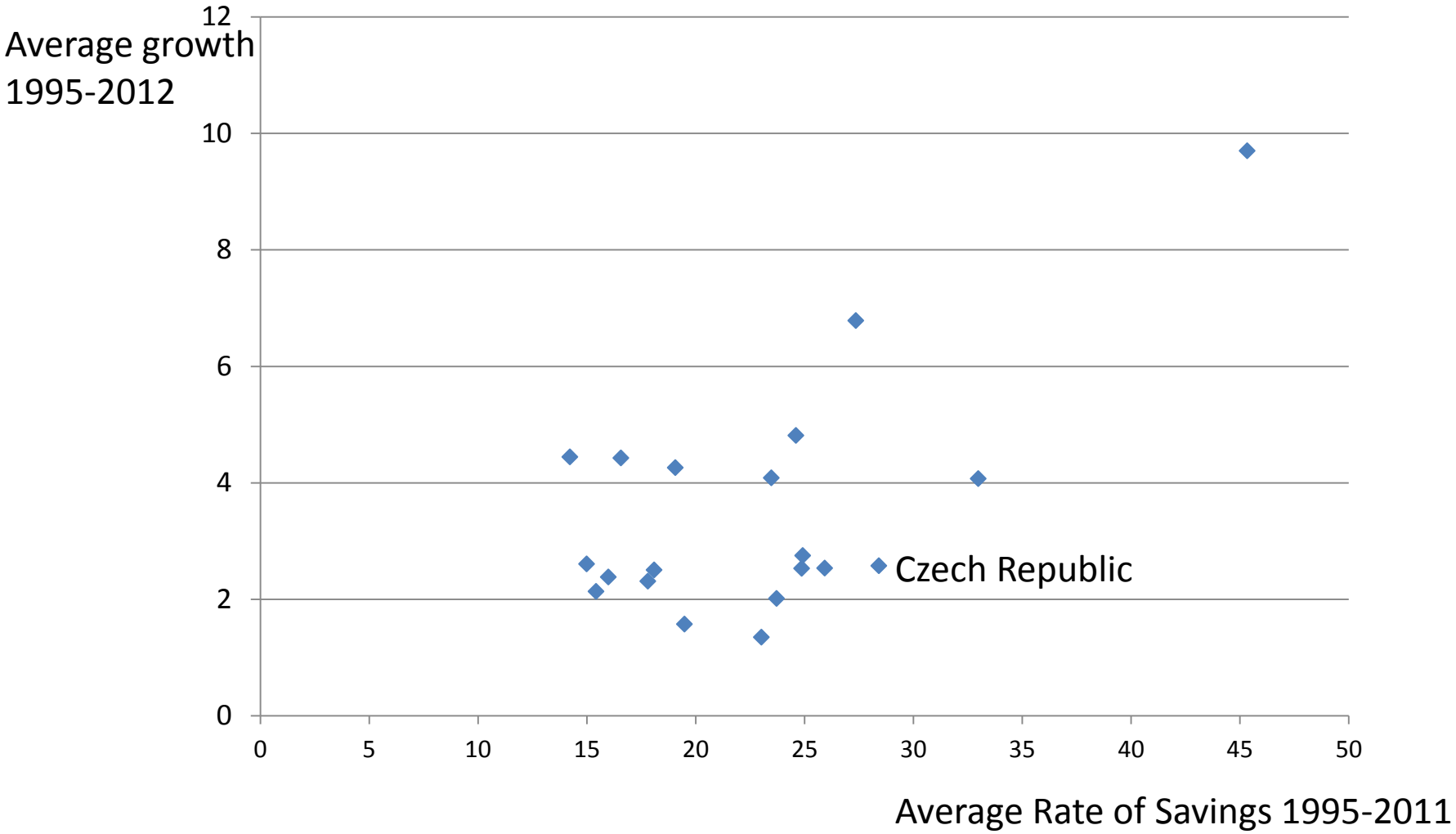
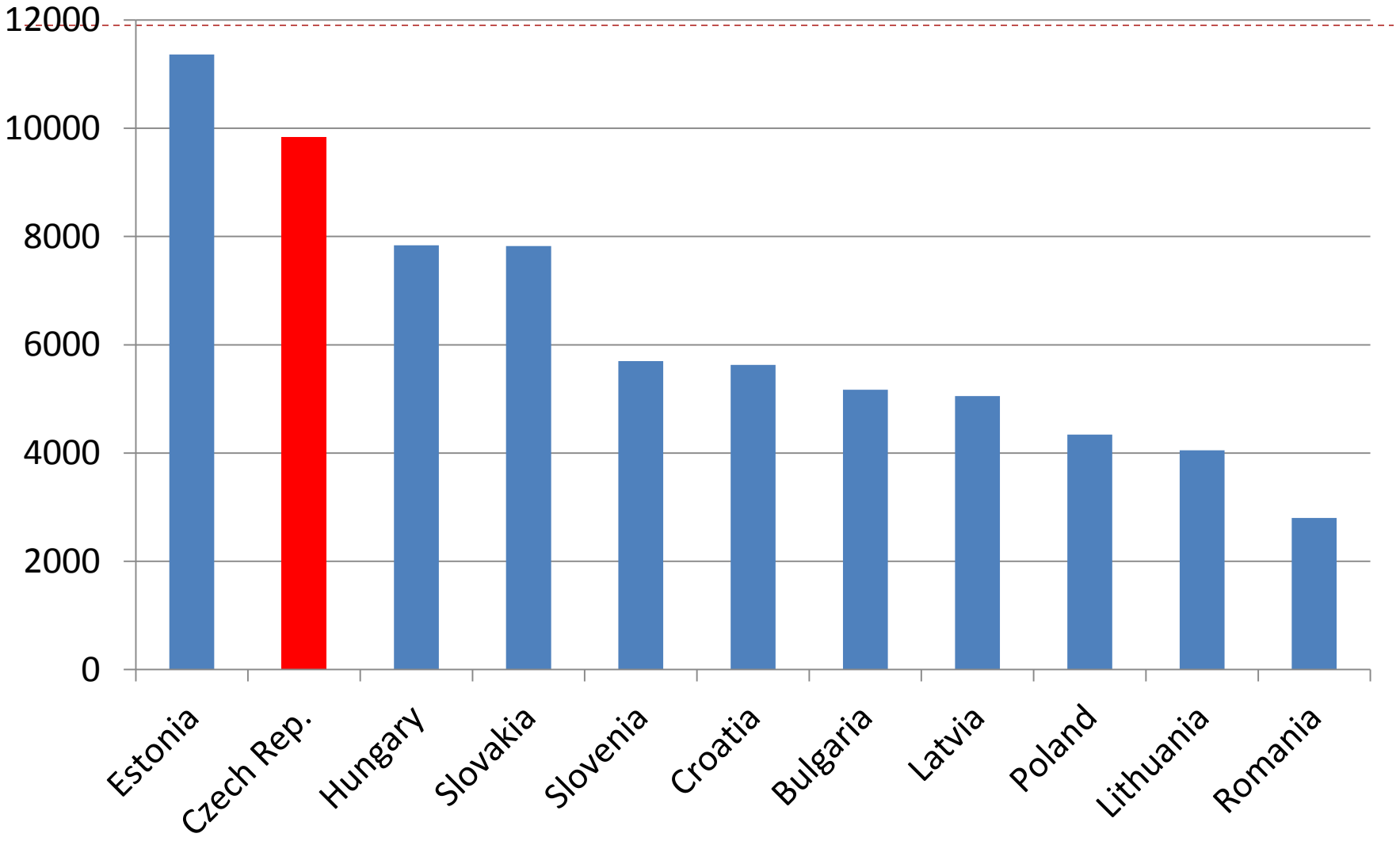
Role of Savings: Probably not Too Important



Source of data: WDI database

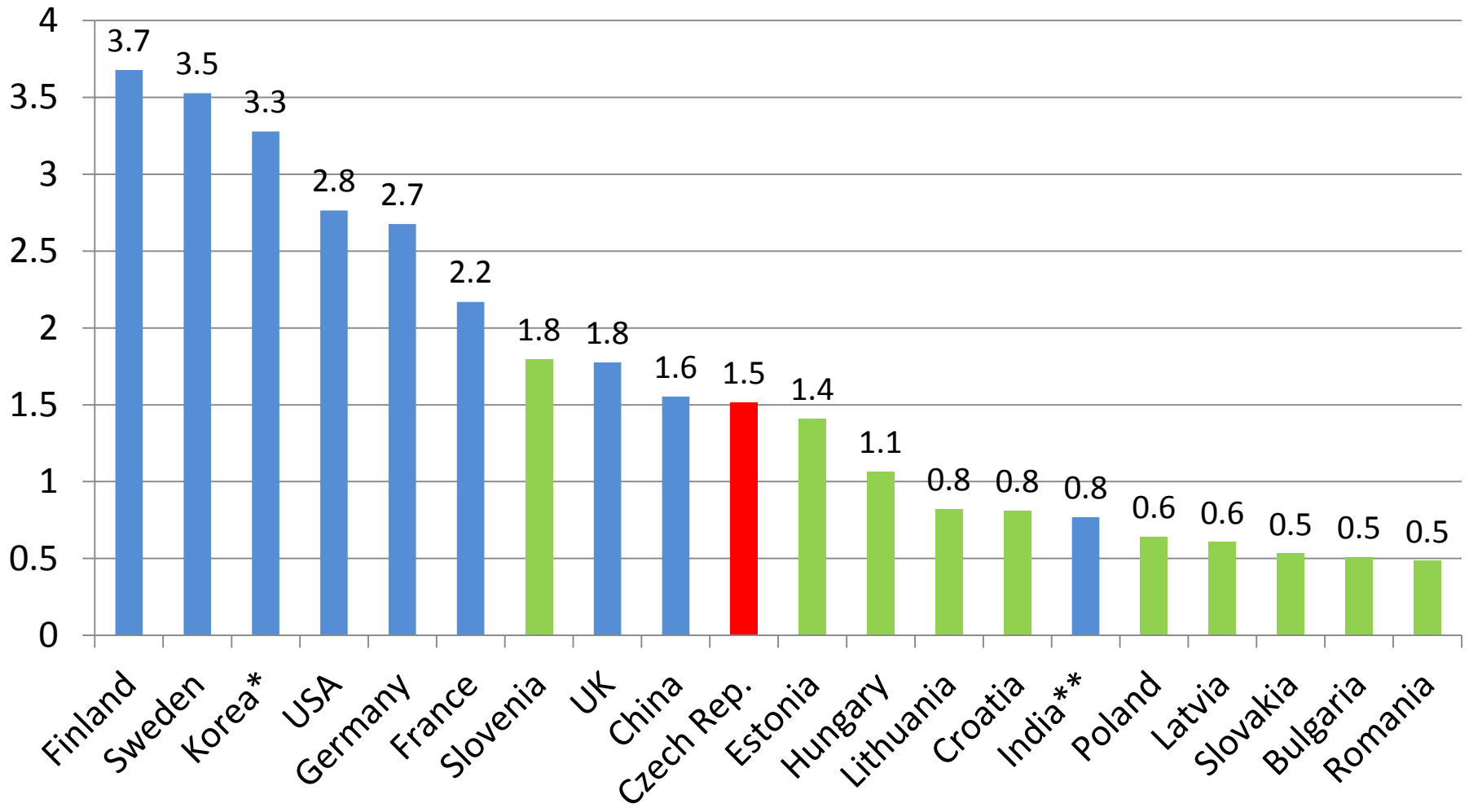
FDI Stock per Capita (EUR) in 2012



Source: WIIW Handbook 2013

Average R&D Expenditures 2005-2011

Research and development expenditure (% of GDP)



* Data for 2005-2010

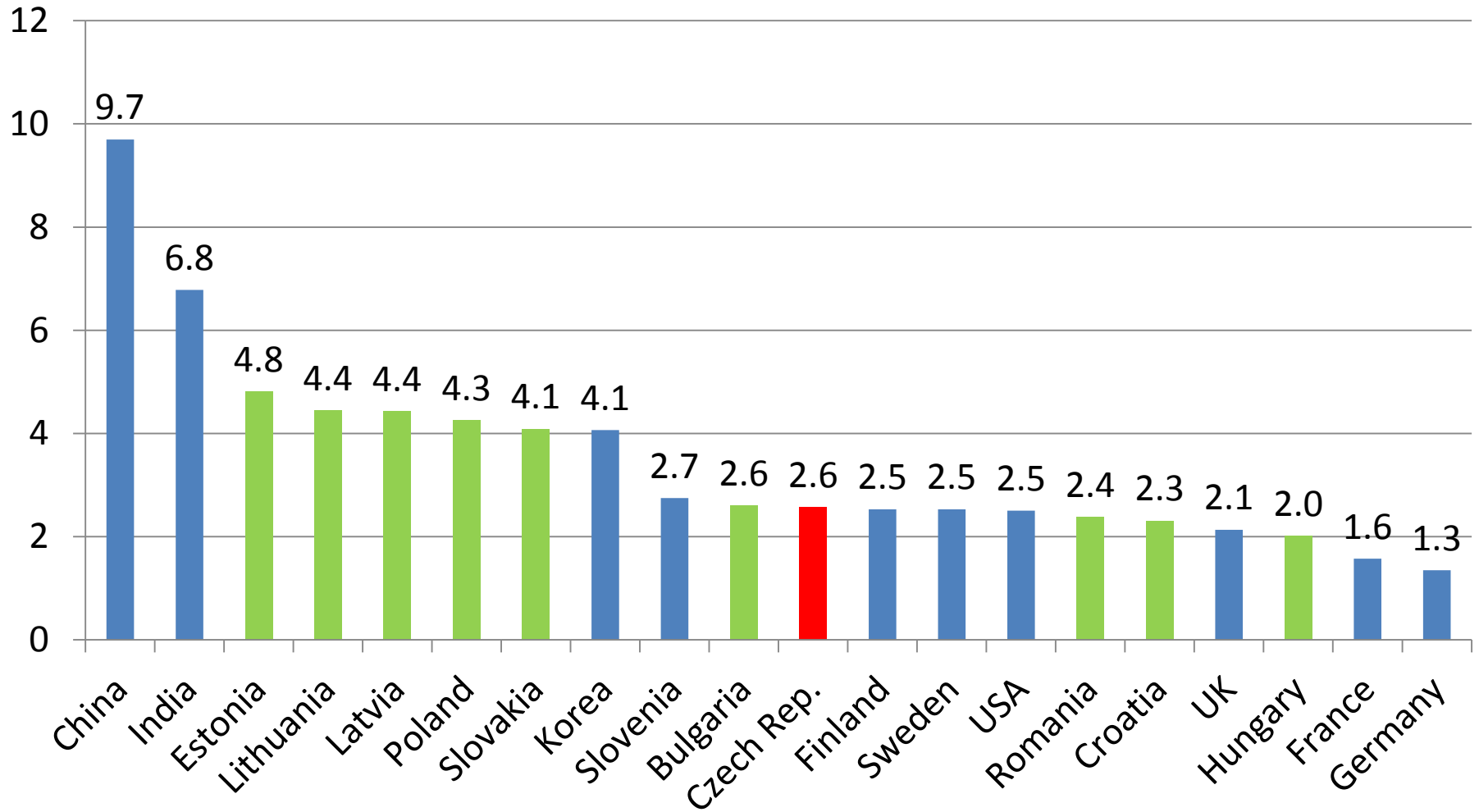
** Data for 2005-2007

Source of data: WDI database

Czech Growth Data: Stylized Facts (2)

- Czech Rep. seems to have what is needed to grow fast
- But Czech growth in terms of real GDP is lackluster
  - Better performance than many EU countries (including those in the fabled Nordic model), but
  - Slow growth of both actual and potential output
  - Financial crisis not responsible for the difference in performance

Average Rate of Real GDP Growth 1995-2012



Source of data: WDI database

Direct Contribution of the Financial Crisis

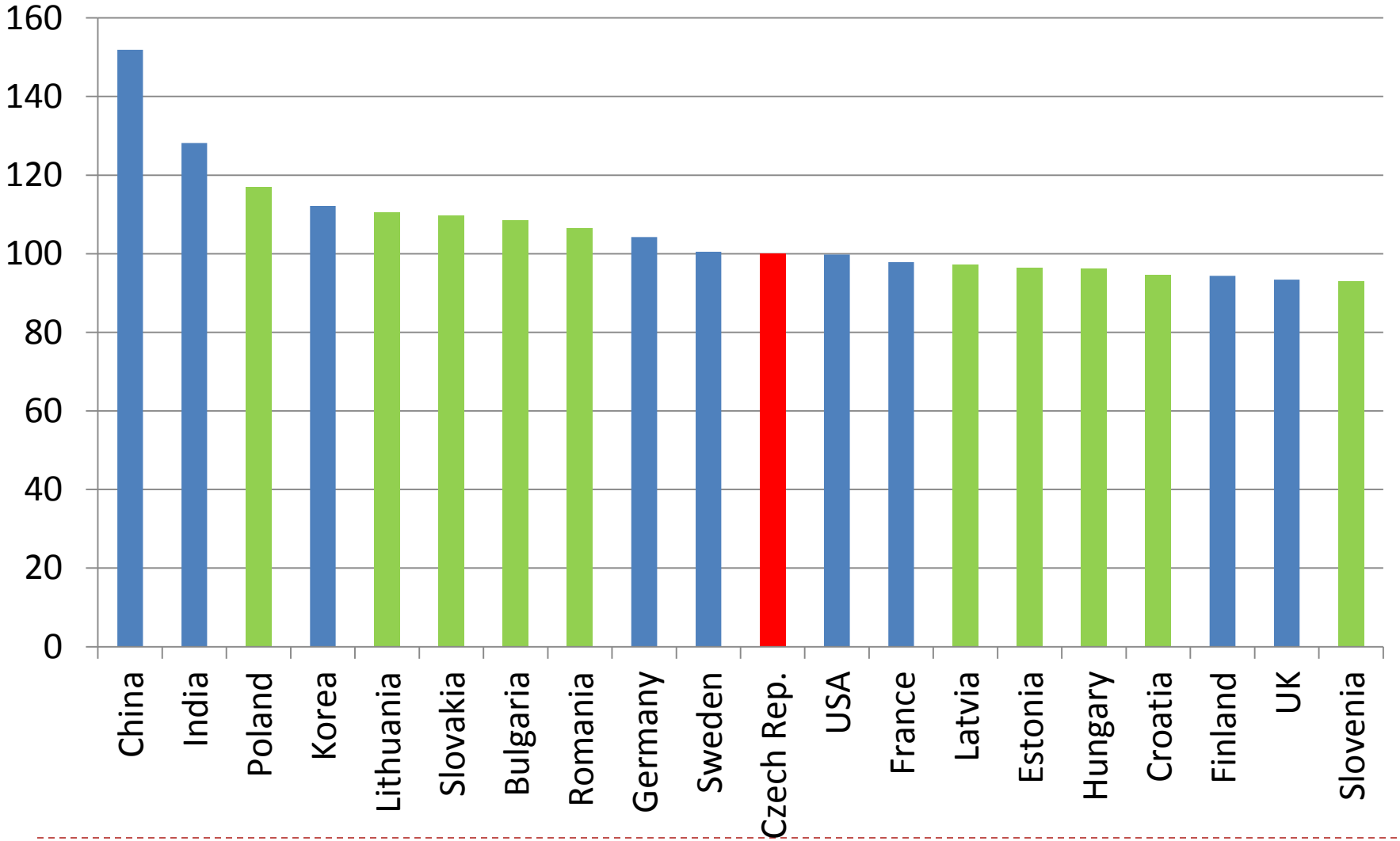
Maximum decline of quarterly GDP (fixed prices, seas. adjusted) compared to average quarter of 2008

Country	Trough	Reached in
Poland	0.0	n.a.
Czech Republic	-4.1	2009Q2
Slovakia	-5.0	2009Q1
Bulgaria	-6.1	2009Q4
Croatia	-7.2	2011Q1
Romania	-7.4	2010Q3
Hungary	-8.4	2009Q3
Slovenia	-8.4	2009Q2
Lithuania	-16.6	2009Q4
Estonia	-17.8	2009Q3
Latvia	-23.3	2009Q3

Source: own calculations based on Eurostat data

Effects of the Financial Crisis and Subsequent Recovery

2012 GDP per capita in constant LCU (2007 = 100)



Source of data: WDI database

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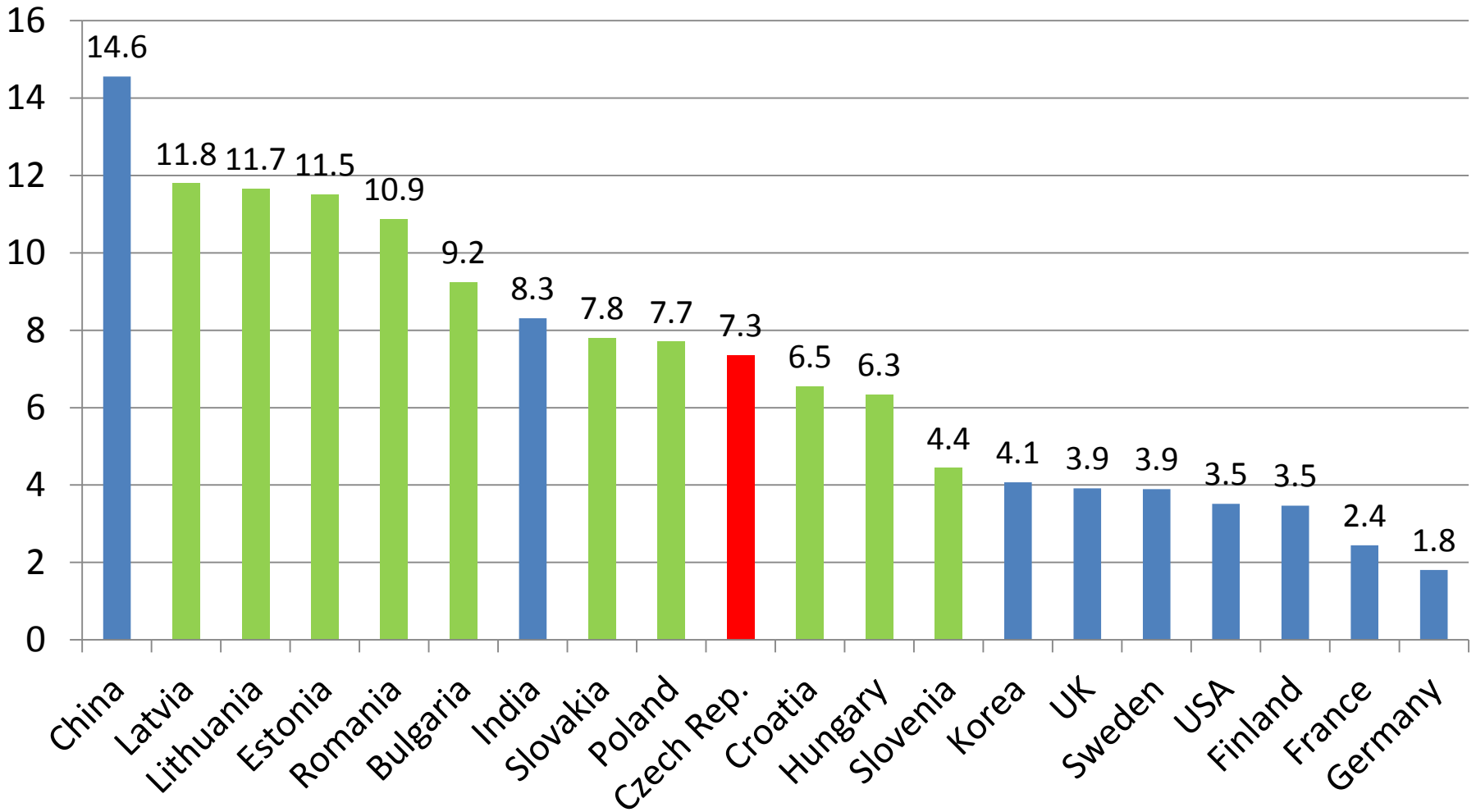
Czech Growth Data: Stylized Facts (3)

- Relative performance better once take into account long run appreciation of Czech currency
  - But primarily for GDP
  - **Real convergence** performance in GNI (p.c., PPP) is about the worst among the NMS over the 1995-2012 period

Average Rate of Growth of GDP per Capita in USD

Annual average for 1995-2012

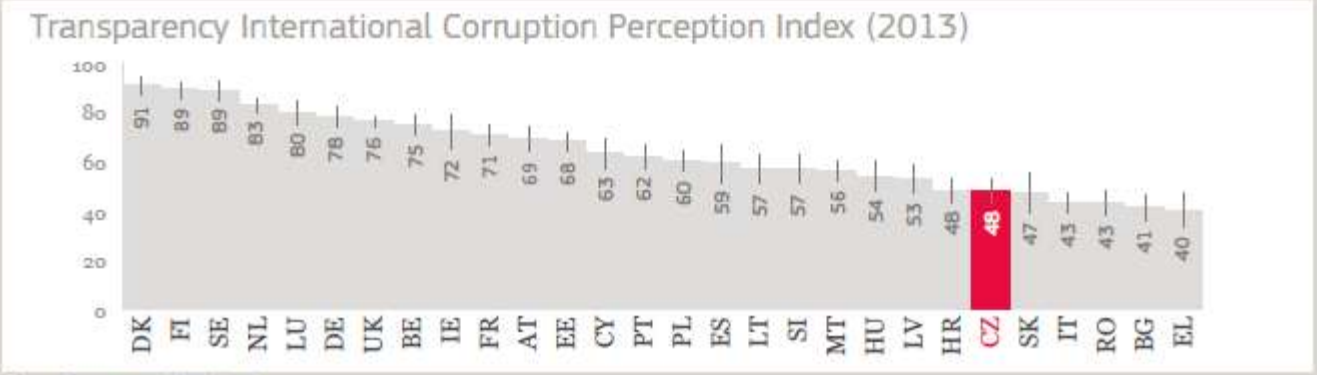


Source of data: WDI database

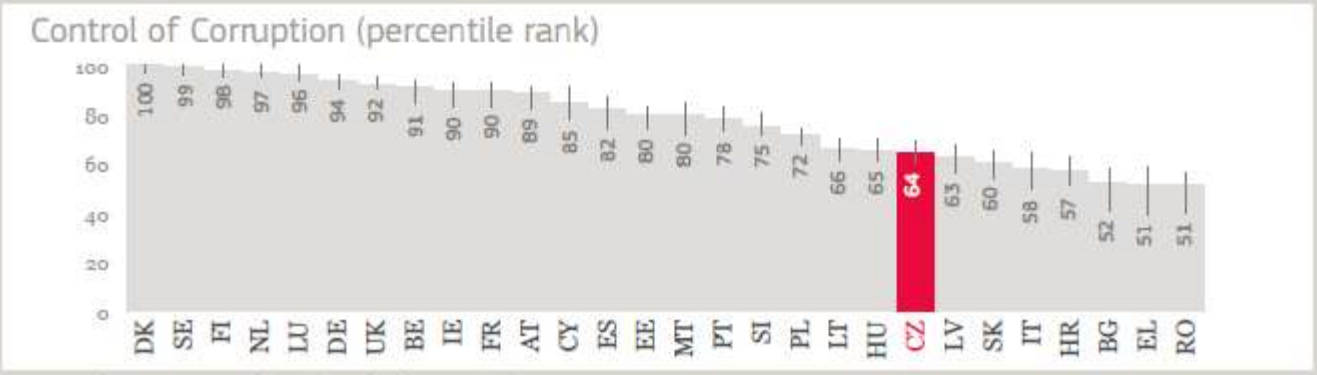
Determinants of Czech Performance

- Are there problems in the following areas?
  - Efficiency of allocation in factor markets and product markets
    - Problems with inefficient public sector, corruption, possibly corporate governance in local firms
  - Investment into R&D and innovations
    - Can Czech R. be more sensitive to low investment into R&D than poorer new member countries?
  - Value system and motivation
- Dependence on Western Europe does not explain lower growth rates achieved in the past
  - Czech products as inputs into German exports

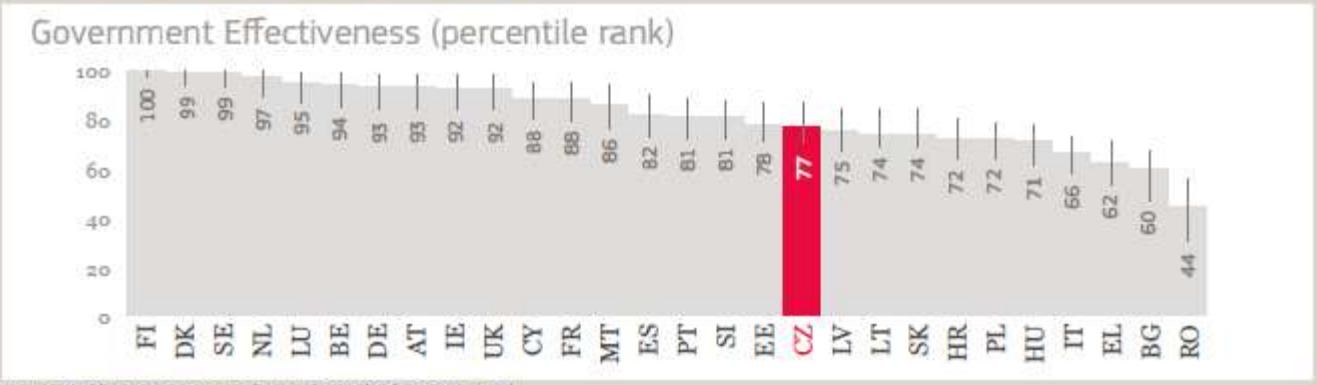
Is it the Corruption?



Source: Transparency International



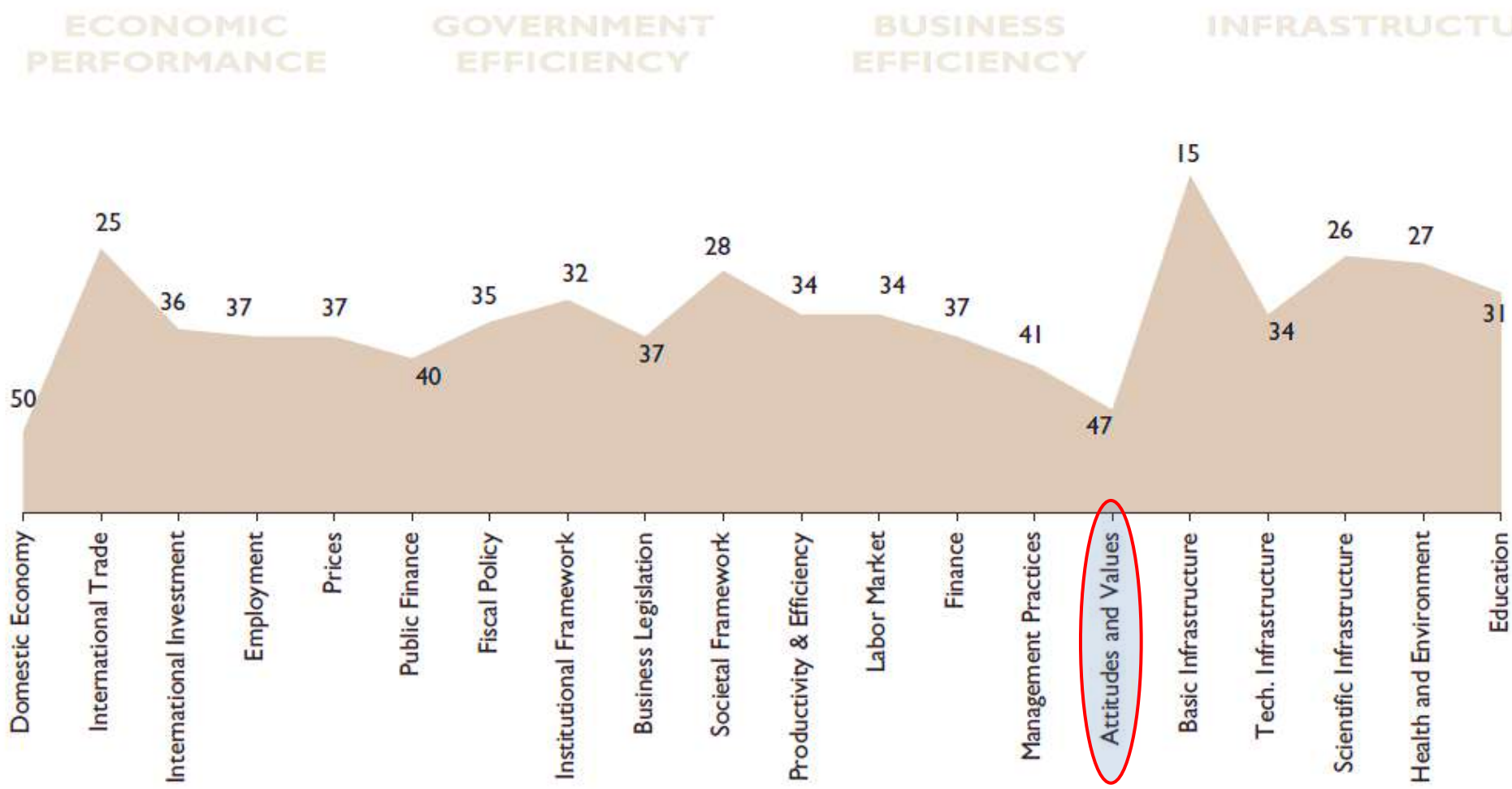
Source: World Bank governance indicators (2012 data) (215 countries)



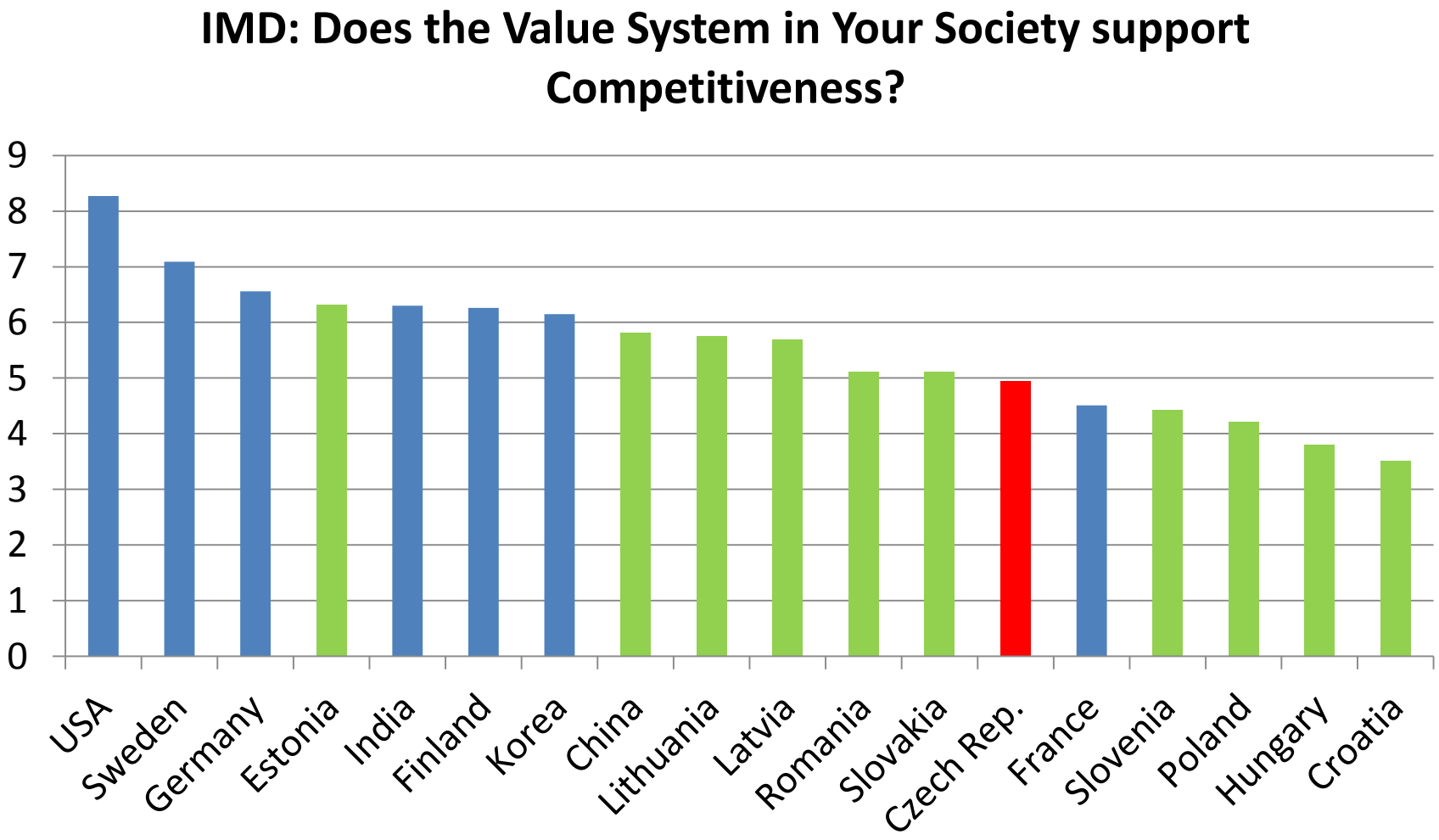
Source: World Bank governance indicators (2012 data) (215 countries)

Source:
EU Anti-Corruption Report 2014

Czechia: Competitiveness Map 2013 (IMD)



Or Value System and Motivation Factors?



Source: IMD Competitiveness Yearbook, 2013

Can we Explain the Performance by Labor Markets?

- Availability of labor not a constraint
  - Job related migration between Czech Republic, Poland, Slovakia and other countries
    - Supplements Czech “overheated” labor market in 2006-2007
  - Lack of growth after 2009 more similar to a traditional demand-driven recession with excess capacities
    - Data on dynamics of employment (inflows and outflows, new jobs) -- labor market not a constraint

Growth Policies for the Czech Republic?

- Likely ingredients for faster growth:
  1. Improve efficiency of decision-making in public sector and use of public funds
  2. Increase attractiveness for foreign and domestic investors – especially for sophisticated products and services
     1. Simplify tax system and reduce taxes on labor
     2. Improve quality of education and R&D
     3. Invest in transportation infrastructure
  3. Focus on values and motivation?

How to achieve this?

- Fight against corruption
- Efficiency and quality of implementation of public policies
- Focus on education: not just educational attainments but also values
- Business-friendly regulation of immigration
- Adoption of Euro?

Thanks for Your Attention!

References

- OECD: Economic Survey of the Czech Republic
- WIIW: Handbook of Statistics, 2013
- Worldbank World Development Indicators Database
- 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 accumulation: stylized facts and growth models. The World Bank Economic Review, Vol. 15, No. 2, 177-219