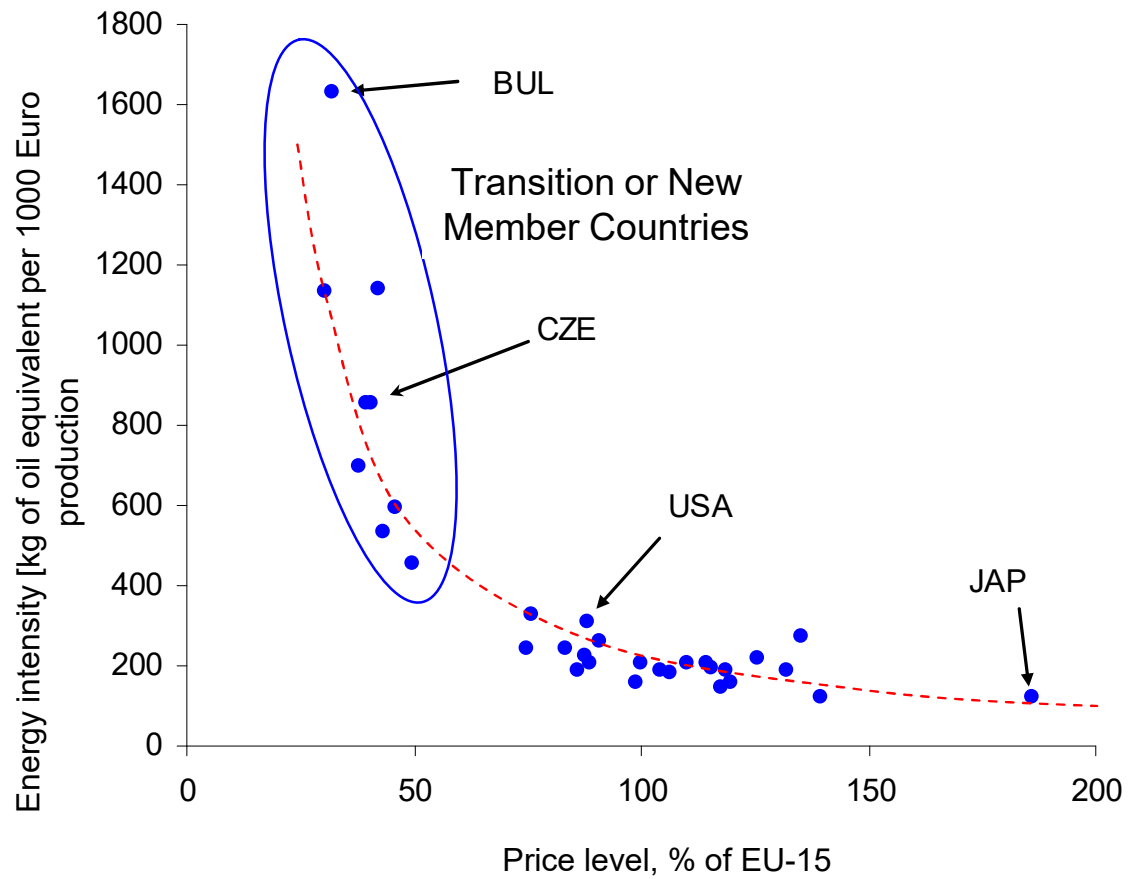


Energy Needs

Lubomír Lízal, PhD.

Prague, October 17, 2017

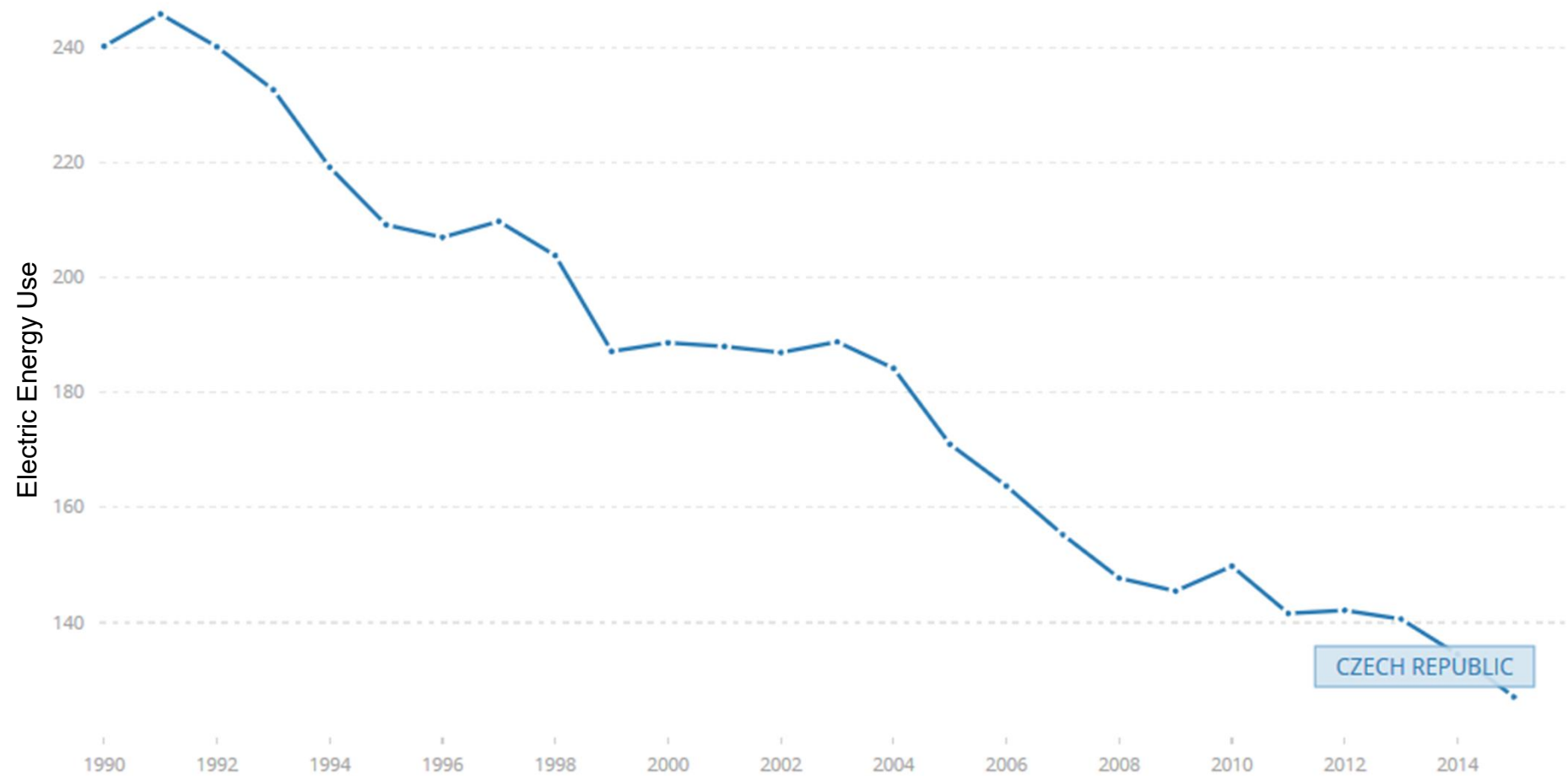
Energy intensity and GDP



Source: Tomšík (2007)

Testing the old predictions: Are these still valid

Energy use (kg of oil equivalent) per \$1,000 GDP (const. 2011 PPP)

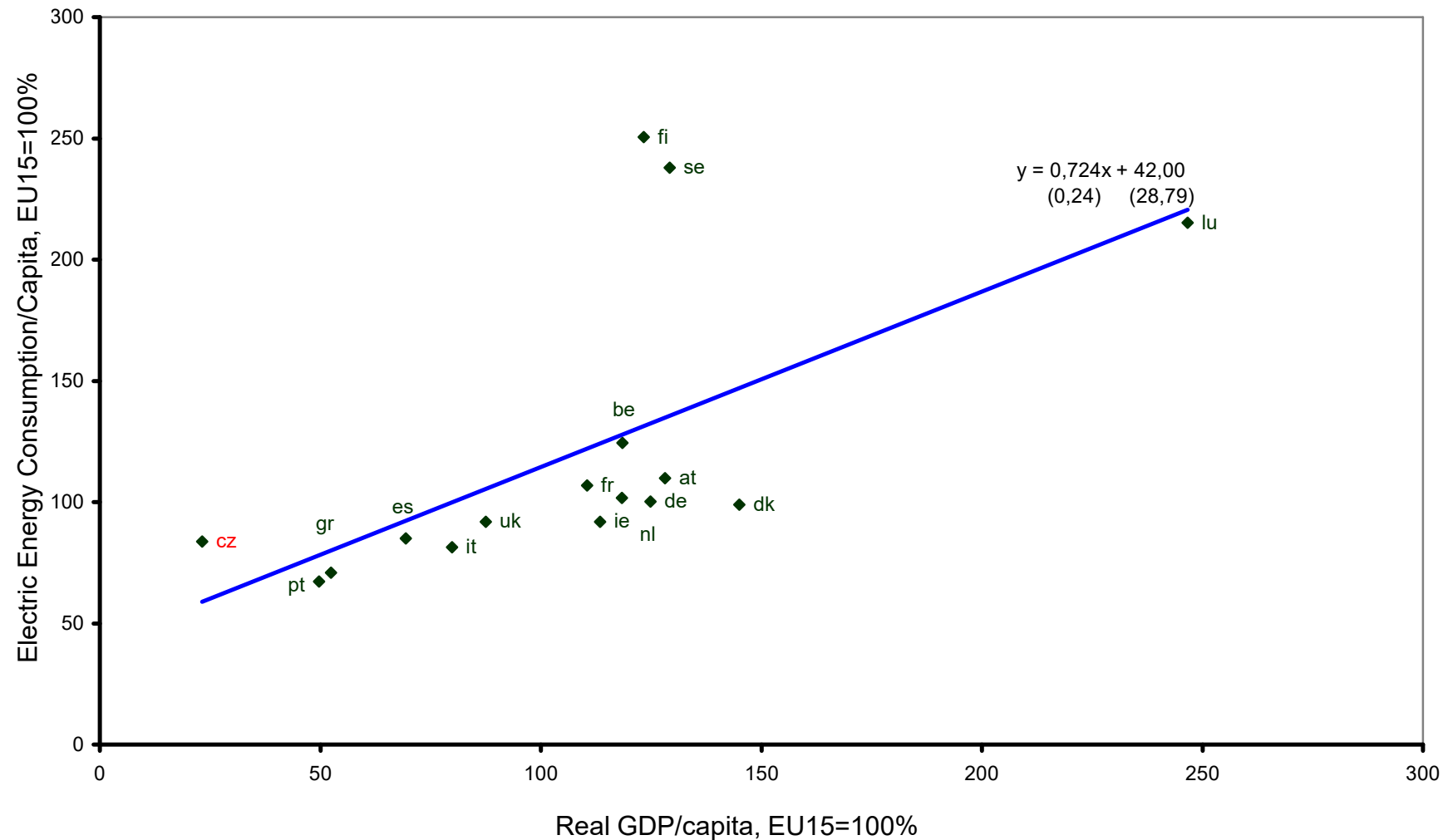


Time

Source: WB, data.worldbank.org

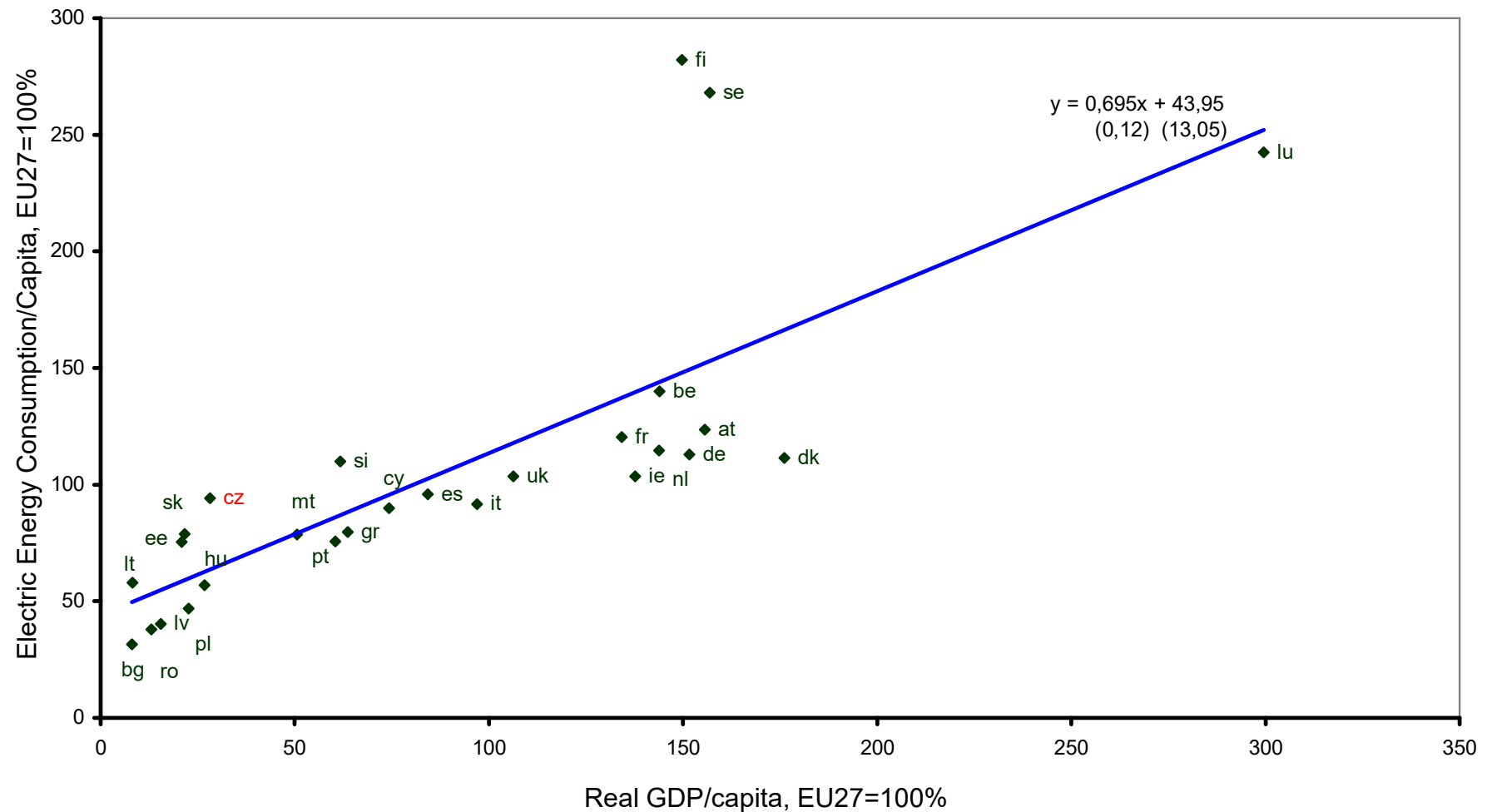
Historic Flashback: Predicting future in the CZ - electricity

Real EU-15 GDP per capita and El. Energy consumption per capita



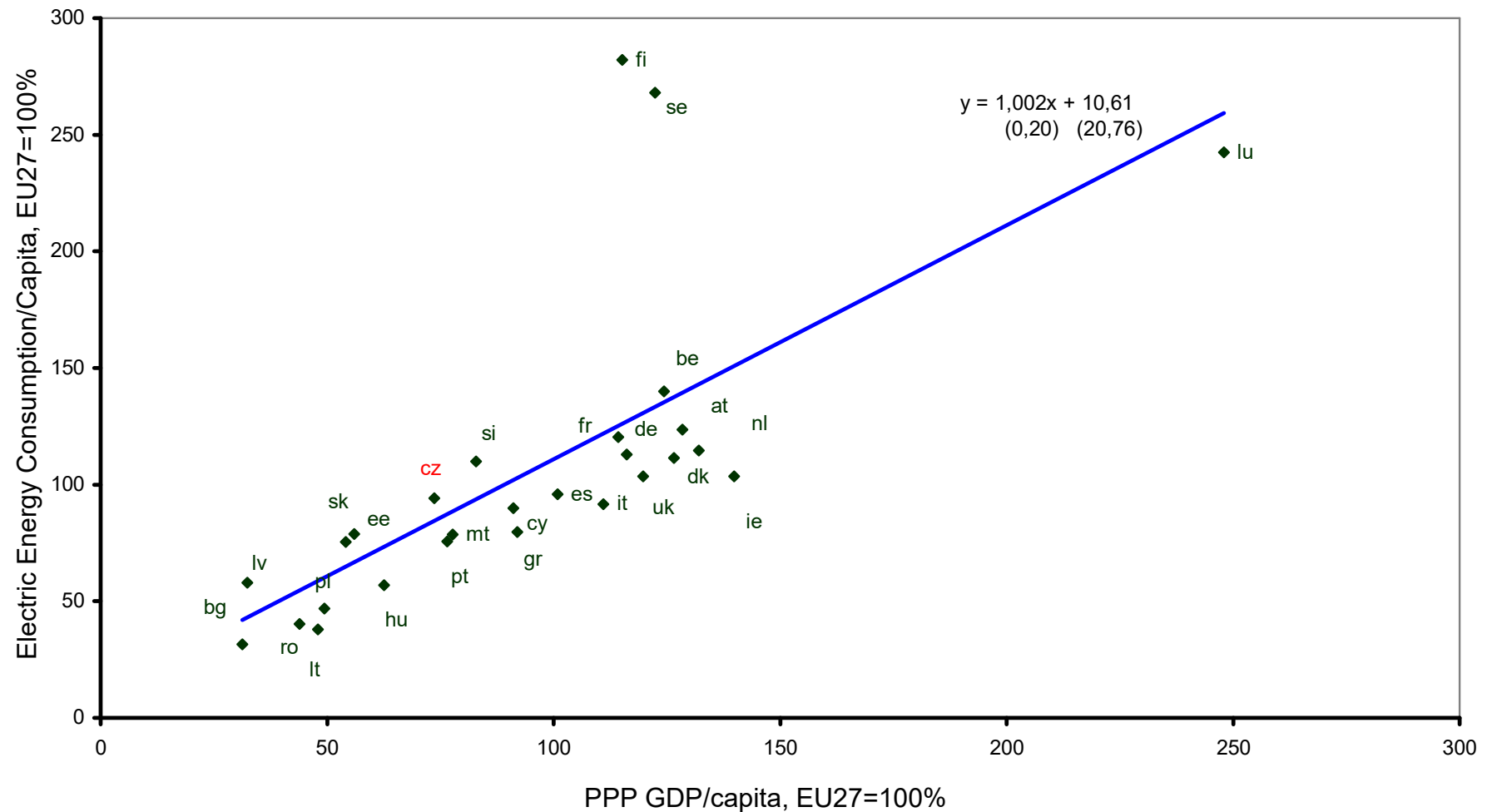
Historic Flashback: Predicting future in the CZ - electricity

Real EU-27 GDP per capita and El. Energy consumption per capita



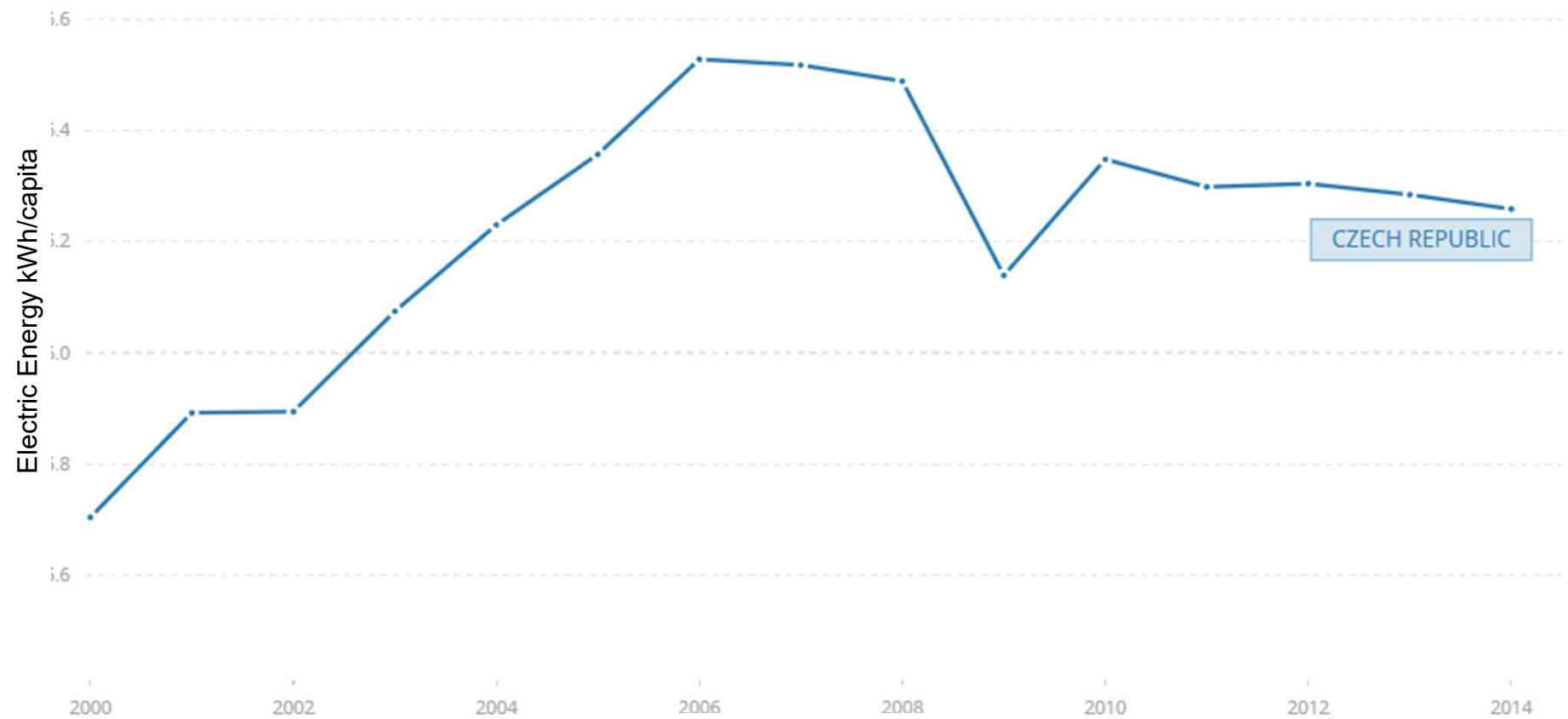
Historic Flashback: Predicting future in the CZ - electricity

EU-27 GDP per capita in PPP and Energy consumption per capita



Testing the past predictions

Electric power consumption (kWh per capita)



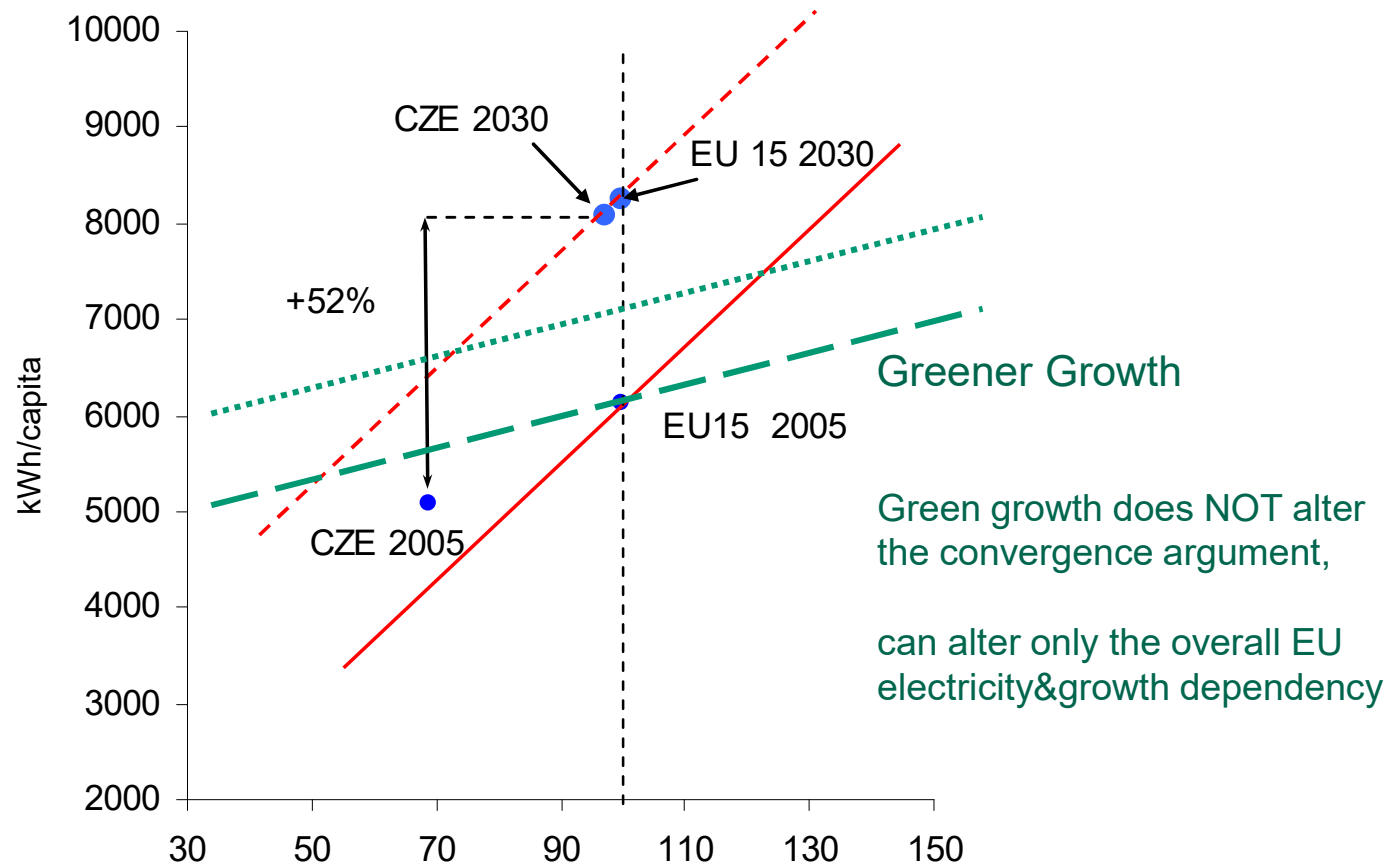
Time

Source: WB, data.worldbank.org

Predicting future in the CZ – electricity: effect of the size

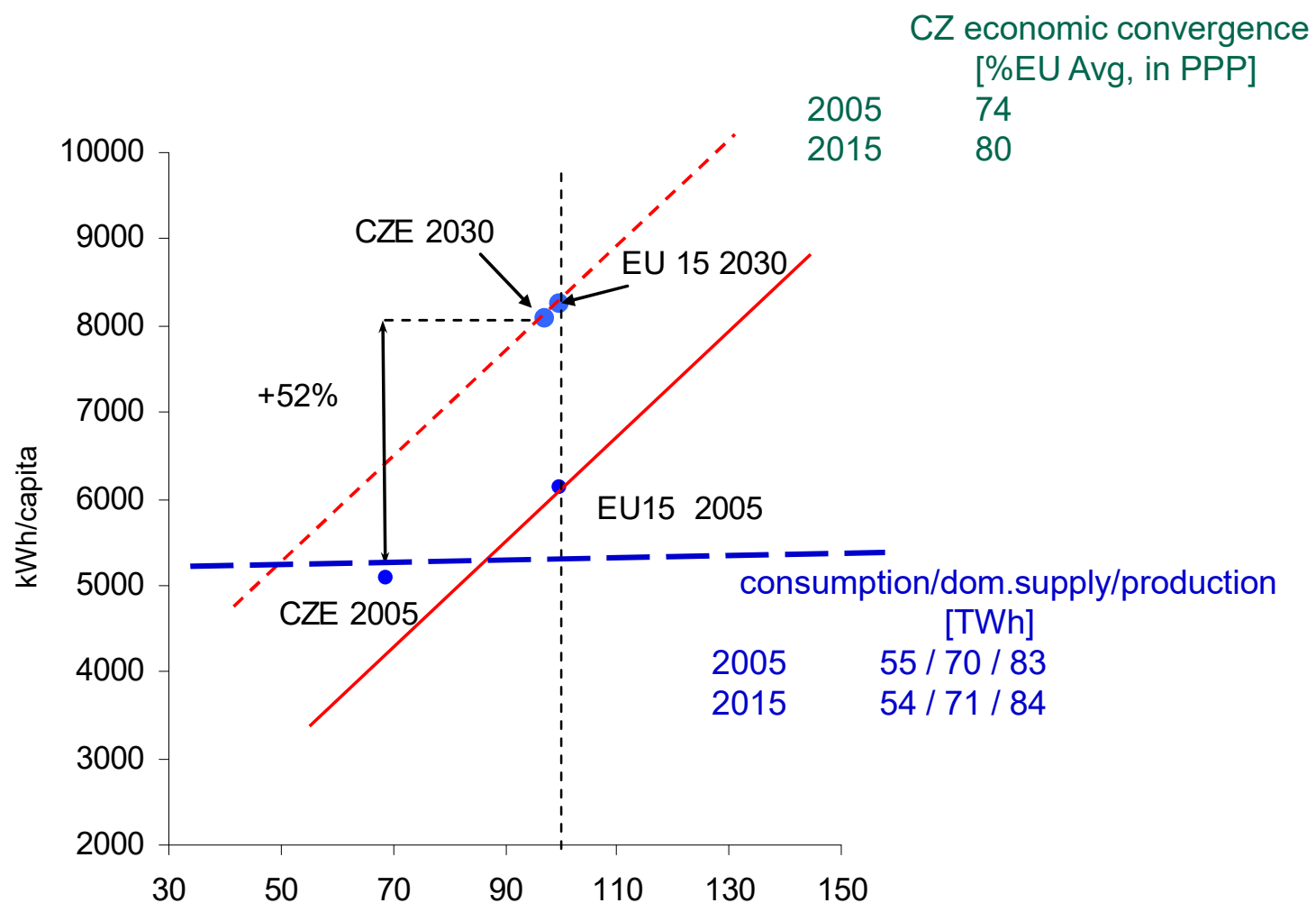
Weight = El. Energy Consumption						
	Coeff.	St. Err.	t-stat.	P-val.	Excess cons. (%)	R ²
Constant	-17.2	60	-0.28	0.78	39	0.16
Elasticity	1.15	0.46	2.16	0.04		
Weight = Population						
Constant	2.82	14	0.20	0.85	33	0.66
Elasticity	0.92	0.13	6.99	.00		
Weight = GDP PPP						
Constant	2.01	32	0.06	0.95	34	0.30
Elasticity	0.93	0.28	3.28	0.00		

Real economic convergence of the Czech Republic



Source: Tomšík (2007), modified

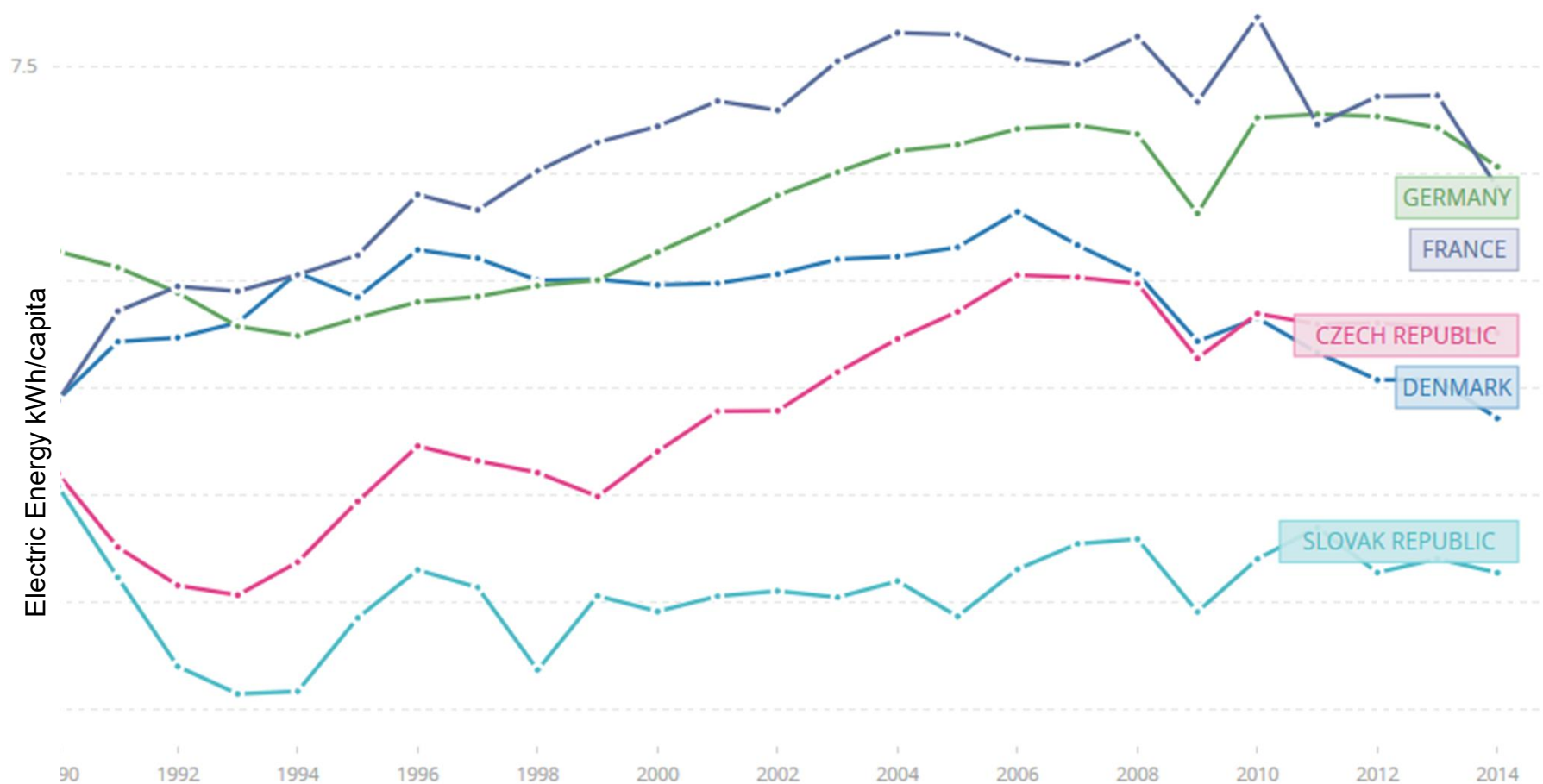
Real economic convergence of the Czech Republic



Additional source: IEA, www.iea.org

Testing the predictions

Electric power consumption (kWh per capita)



Time

Source: WB, data.worldbank.org

- After 10 years
 - Despite the long economic downturn
 - Despite massive political pressures (standards, limits etc.) on energy savings
 - The absolute energy consumption has not decreased but rather stagnated
 - Limited relative convergence of CZ is a question for future
 - Stagnation vs. increase of consumption
 - Decrease unlikely



Thank you for your attention

www.ciirc.cvut.cz

Lubomír Lízal, PhD.
lubomir.lizal@cvut.cz