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The adoption of ECB's inflation targeting monetary policy in Central-East Europe

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Outline

I. Why to use inflation targeting monetary policy?

II. Why to adapt it in CEE?

III. The impact of ECB's monetary policy on CEE countries currency and government bond markets.

I. Why to use inflation targeting monetary policy?

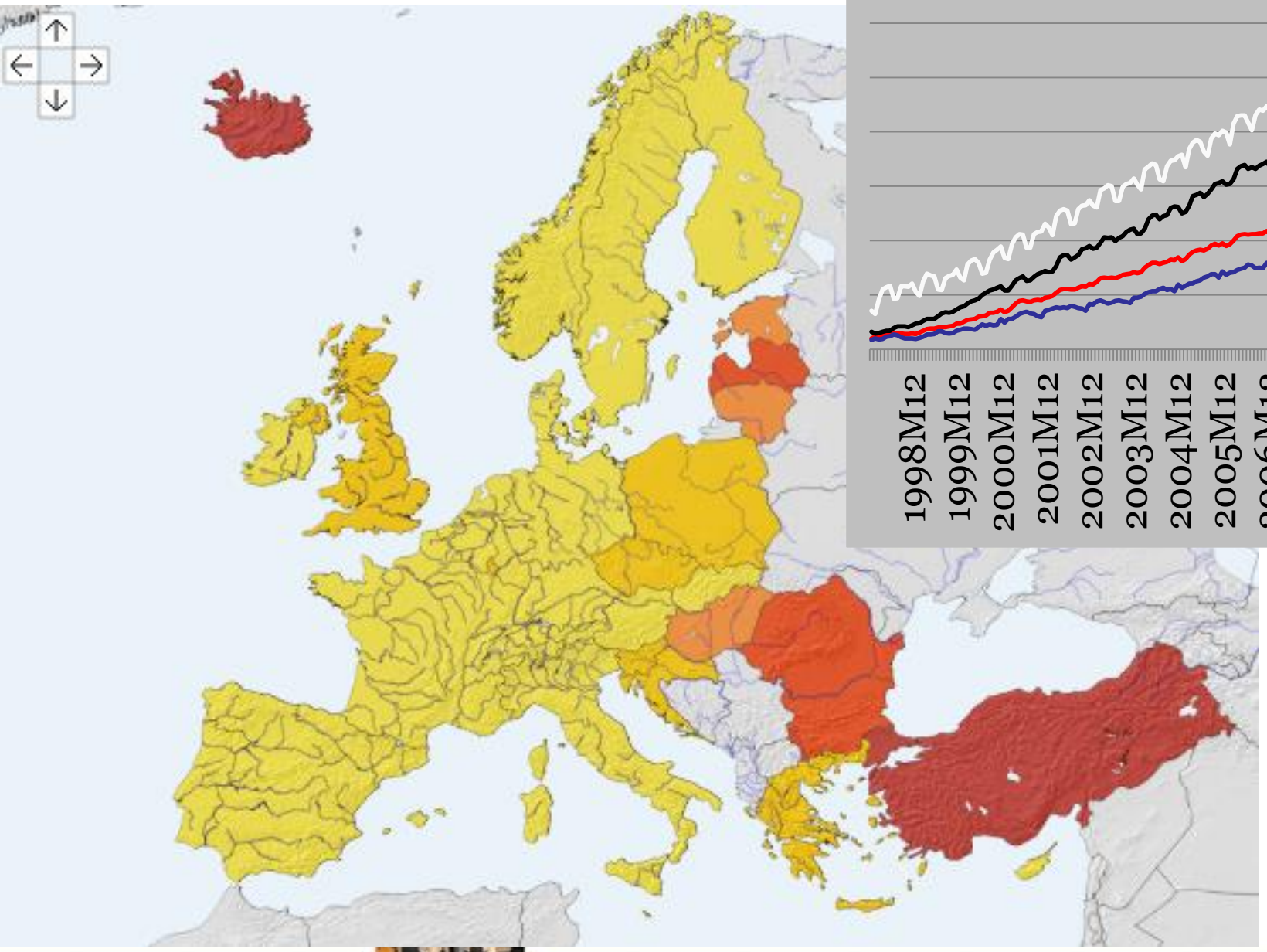
- monetary policy of the European Central Bank
  - price stability as a primary objective
    - about possible alternative primary objectives
  - monetary policy instruments
    - comparison of the repo and outright purchases
  - frames of central bank independence

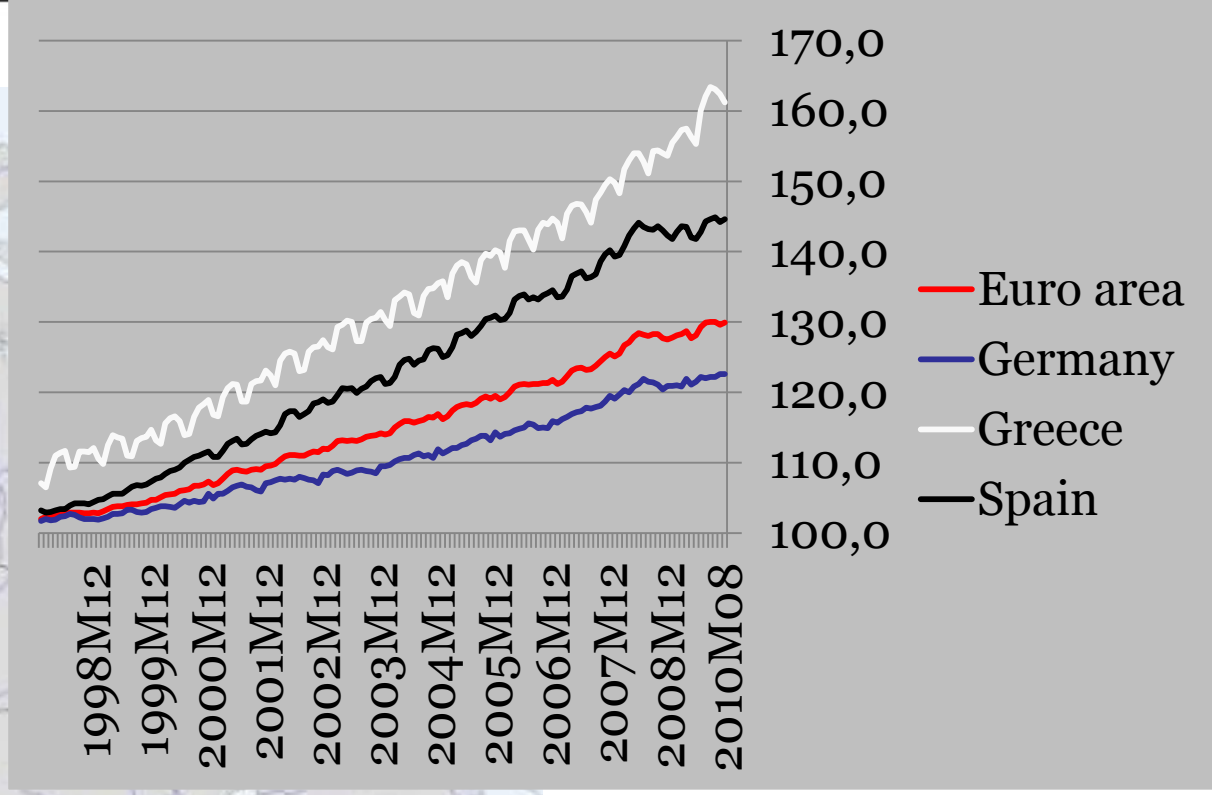
Inflation targeting - definition

- A monetary framework that comprises:
  - **goal** of price stability,
  - a **numerical** target or sequence of targets for inflation,
  - a **time horizon** within which to reach or return to the target
  - **evaluate** if the target has been met
- benefits:
  - emerging m.: larger fall of inflation and output growth volatility
  - reduces the probability of a banking crisis
  - reduces noise in bond markets

O'Sullivan R., Tomljanovich M. (2012): Inflation targeting and financial market volatility. *Applied Financial Economics*, vol. 2, no. 7-9, 749-762

HICP (2005=100)





	103.8 - 113.644	16
	113.644 - 123.488	8
	123.488 - 133.332	3
	133.332 - 143.176	3

Interest rates and inflation

- pattern of **household and business spending**, **productivity growth**, and **economic developments abroad**
- information on interest rates is available on a **real-time** basis
- will vary with the stance of **fiscal policy**,
- **slope of the yield curve**
  - (difference between the interest rate on longer-term and shorter-term instruments)
- short-term interest rates
  - influenced by the current setting of the policy instrument,
- longer-term interest rates
  - influenced by expectations of future short-term interest rates
  - by the longer-term effects of monetary policy on inflation and output

Frames of central bank independence

- FED: “independent within the government”
  - decisions do not have to be ratified by the President
  - oversight by the U.S. Congress
  - work within the framework established by the government
- ECB:
  - exercising the powers and carrying out the tasks and duties
  - conferred upon them by the Treaties and the Statute of the ESCB and of the ECB,
  - neither the European Central Bank, nor a national central bank, nor any member of their decision-making bodies
  - shall seek or take instructions from
    - Union institutions, bodies, offices or agencies,
    - any government of a Member State

„Jackson Hole consensus" on precrisis monetary policy

1. discretional **fiscal policy is an unreliable** tool for macroeconomic stabilization
2. **monetary policy** has a primary role in **stabilization**
   - setting a **path** for the expected **short-term interest rate**
3. **transmission mechanism**: operate trough longer term interest rates
   - **expectations** about future policy **rates** have to be **anchored**
4. **independence** supports central bank credibility
5. anchoring inflation: **keep realized inflation close to target** on a time horizon
6. **efficient market** paradigm seems to be a **working approximation** for equity and credit markets
   - securitization reduce systemic risk by distributing and dispersing credit risk away from bank balance sheets
7. **price stability and financial stability**: complementary (not in general risk of conflict)

Bean C., Paustian M., Penalver A., Taylor T. (2010): *Monetary policy after the Fall*. Federal Reserve Bank of Kansas City Annual Conference, Jackson Hole, Wyoming

I. Why to use inflation targeting monetary policy? - Summary

- Lack of alternative monetary target
- It works – reduces:
  - inflation and output growth volatility
  - probability of banking crisis
  - noise on bond markets *(O'Sullivan – Tomljanovich 2012)*
- Heterogeneous growth and inflation rates between MSs
  - Despite the synchronization of business and fiscal cycles

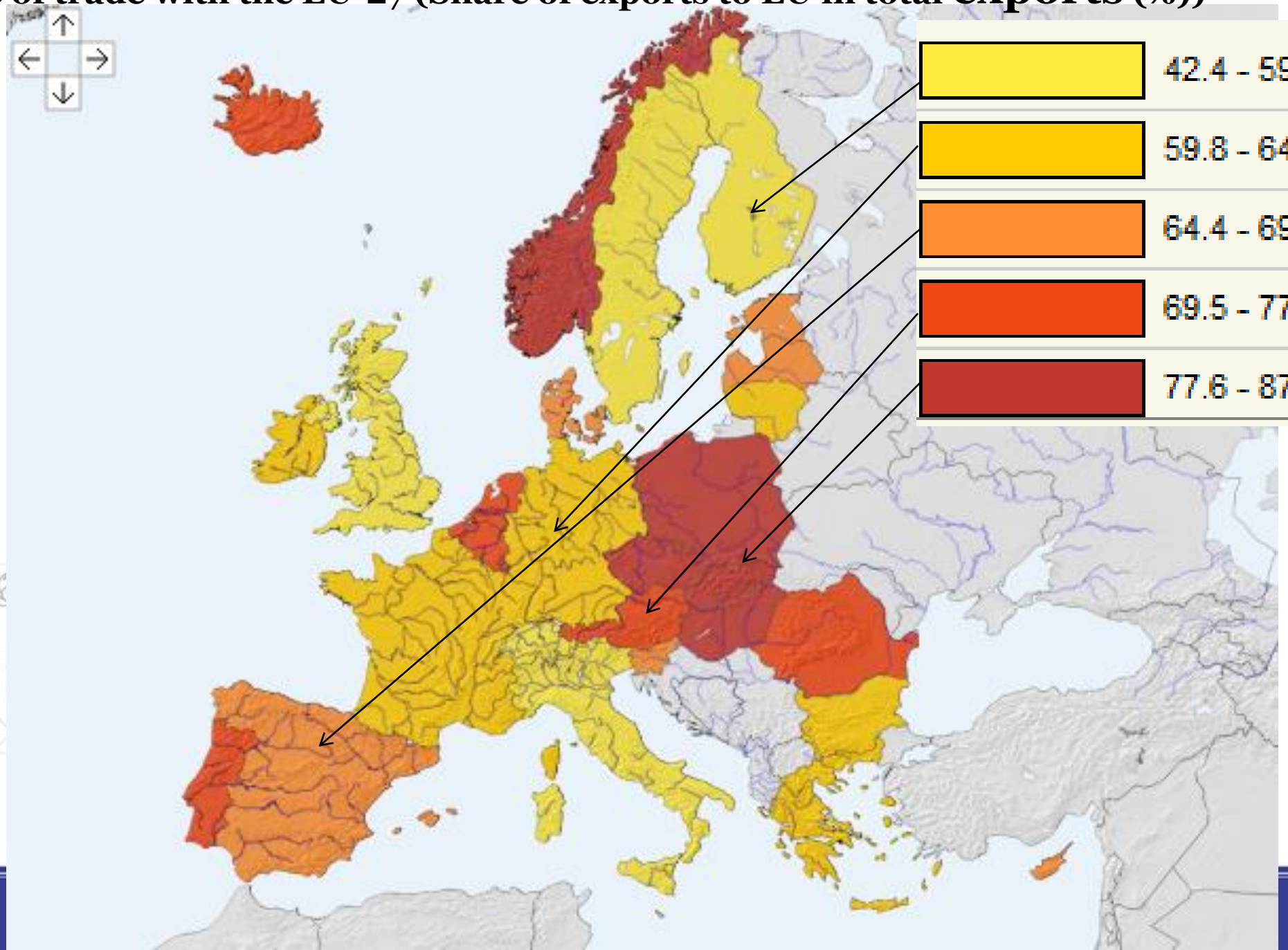
II. a Why to adapt inflation targeting in CEE? (1)

- Trade relations are strong with the EU27 and Germany
  - **Introduction of €** rules out exchange rate risk

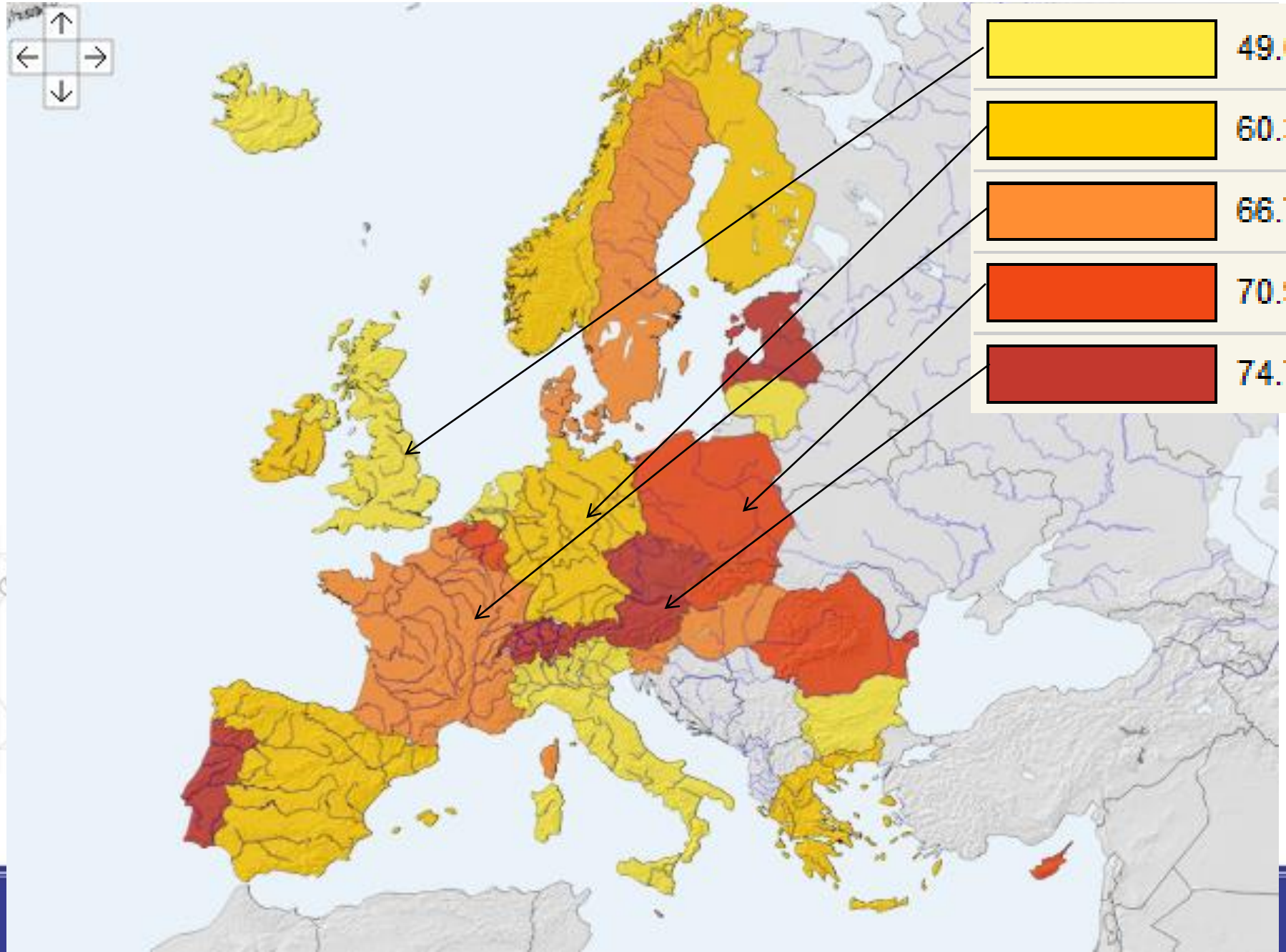
→ Hungary: only on short cycle length, Poland: on long cycles too, Czech Republic: both cycles
→role of Germany

Hallett A. H., Richter C. R. (2011): Are the New Member States Converging on the Euro Area? A Business Cycle Analysis for Economies in Transition. *Journal of Business Cycle Measurement and Analysis*, vol. 2011/2, 49-68

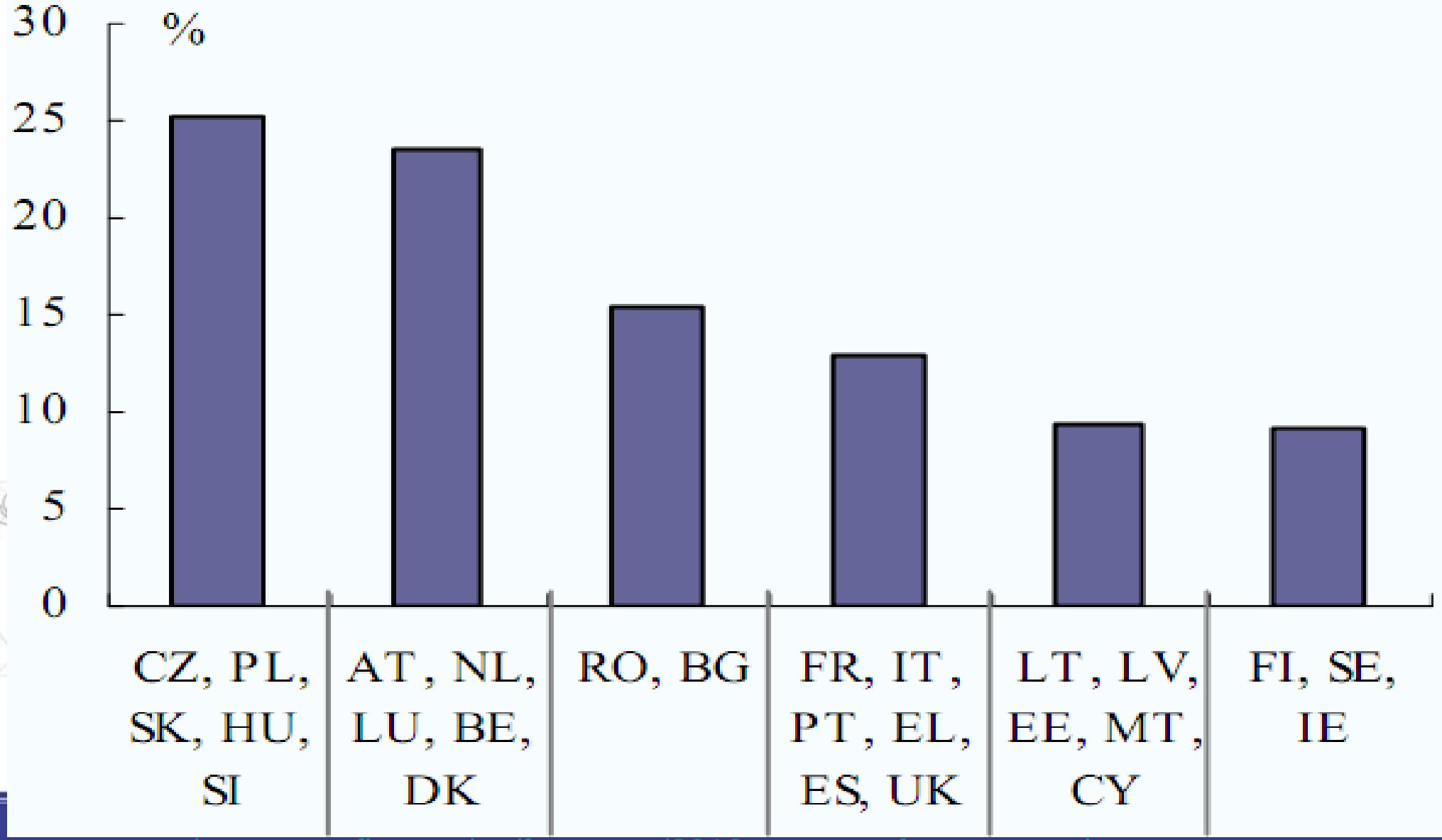
Share of trade with the EU-27 (Share of exports to EU in total exports (%))



Share of trade with the EU-27 (Share of imports from EU in total **imports** (%))

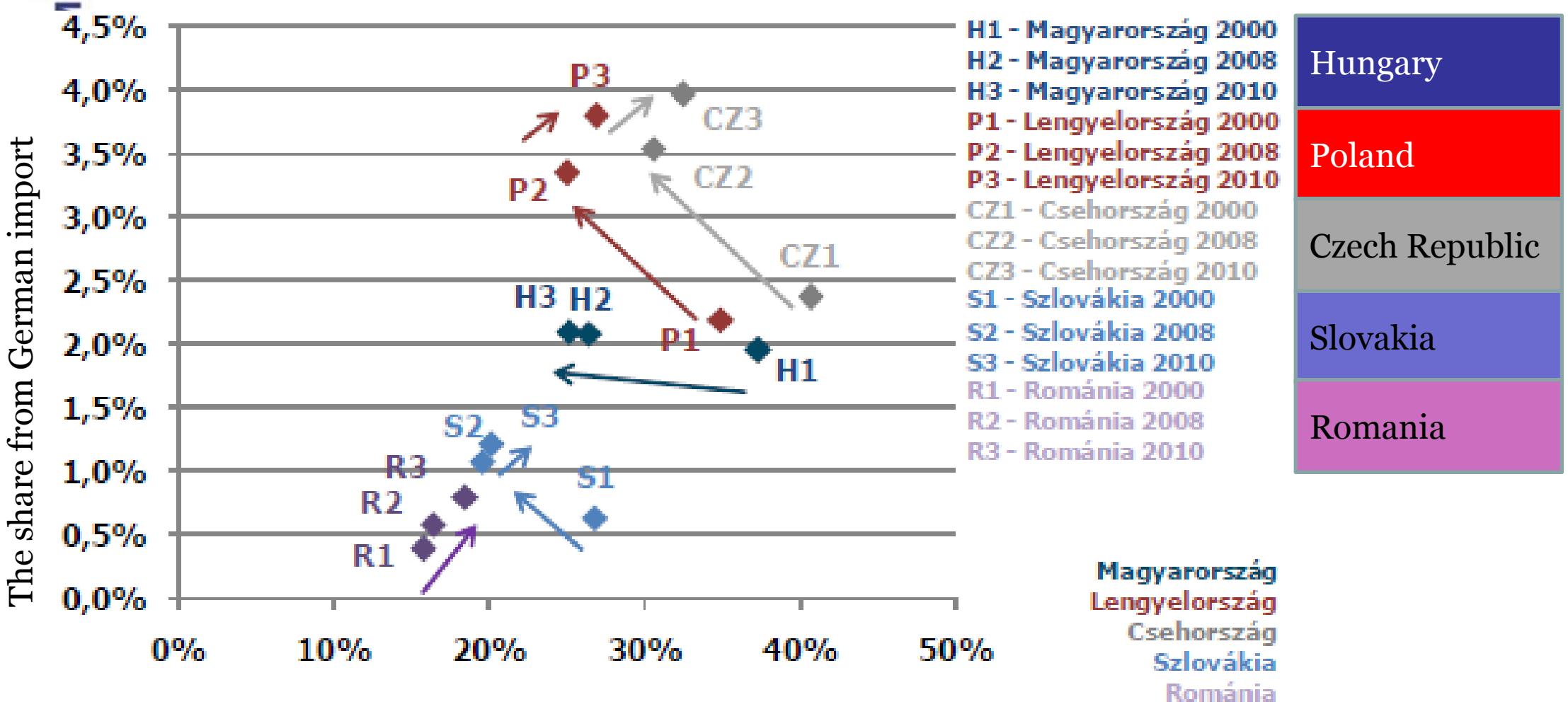


Graph 2: **Member States' shares of exports going to Germany (goods, 2009)**



http://ec.europa.eu/economy_finance/eu/forecasts/2010_autumn_forecast_en.htm

German oriented external trade in Central-East Europe

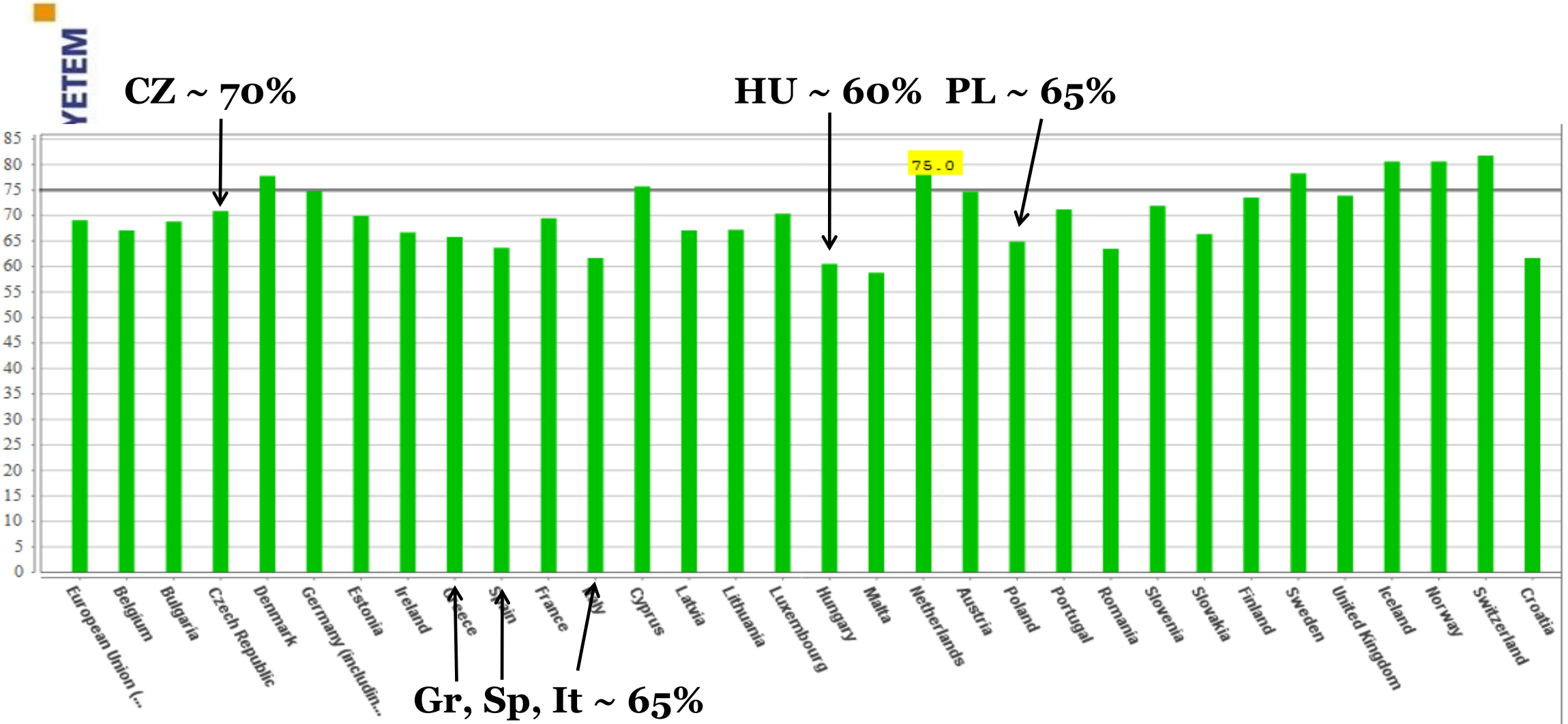


The share of Germany form the county's total export

II. b Why to adapt inflation targeting in CEE? (2)

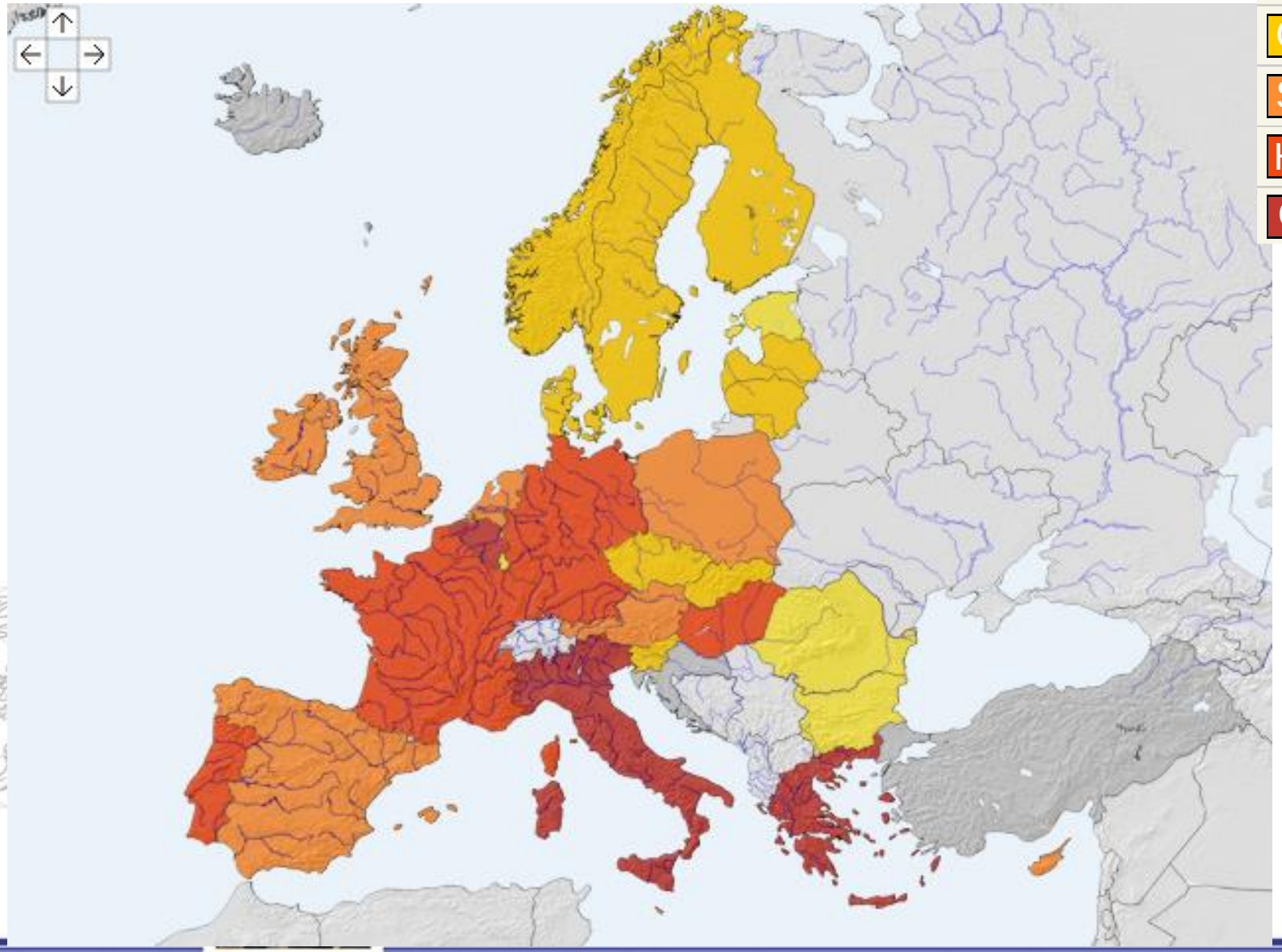
- Economic activity is poor
  - Maintains the level of high public debt in Hungary
    - **Introduction of €** reduces refinancing rates (homogenous)

Employment rate – EU2020 aims: 75%



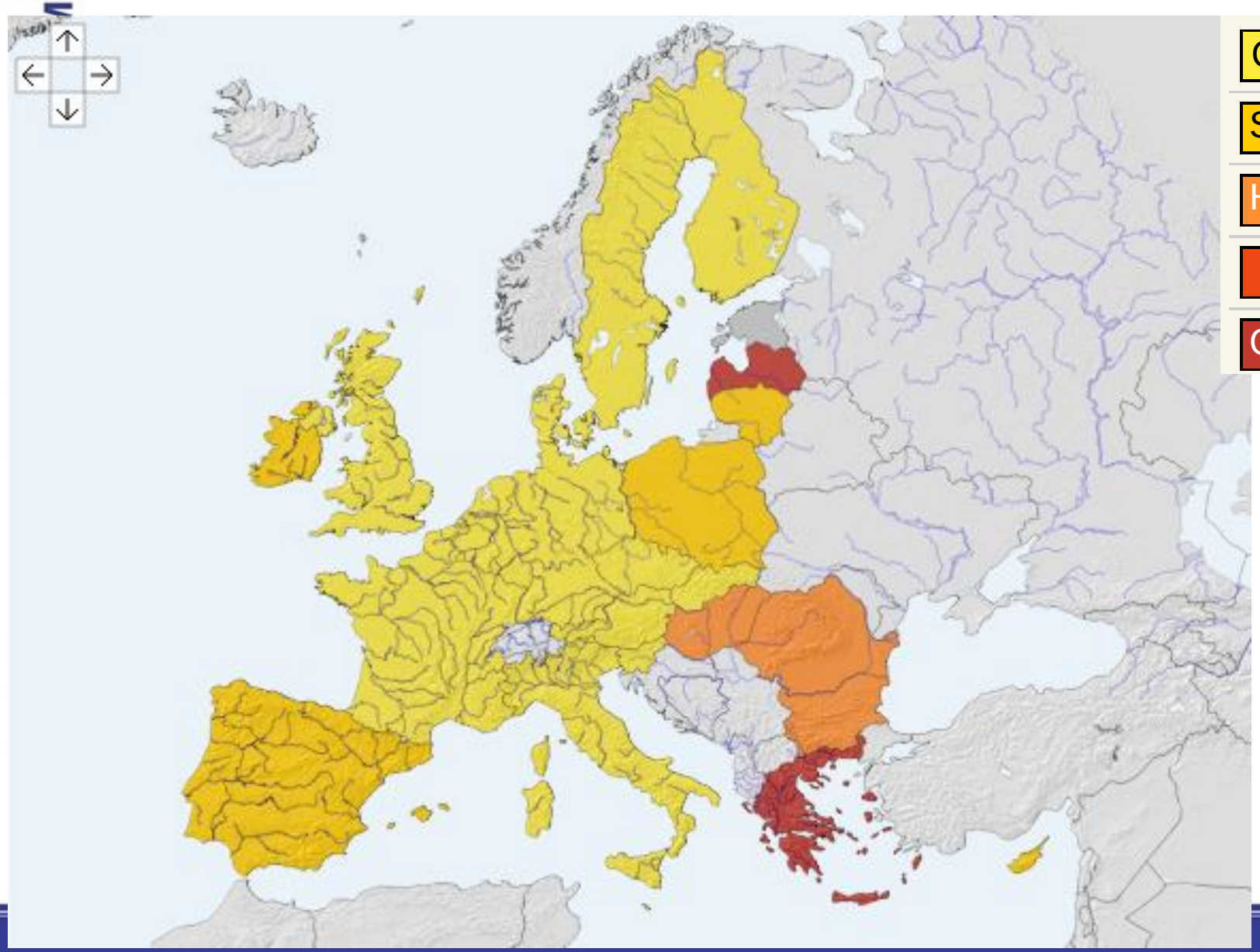
Eurostat, age group 20-64, total

General government gross debt (% of GDP), 2010



http://epp.eurostat.ec.europa.eu/portal/page/portal/euroindicators/peeis

Long term government bond yields, 2010



Cz, It	2.35 - 4.02	15
Sp, Pl	4.02 - 5.69	6
HU	5.69 - 7.36	3
	7.36 - 9.03	0
Gr	9.03 - 10.7	2

http://epp.eurostat.ec.europa.eu/portal/page/portal/euroindicators/peeis

Monetary policy in the Czech Republic, Hungary and Poland

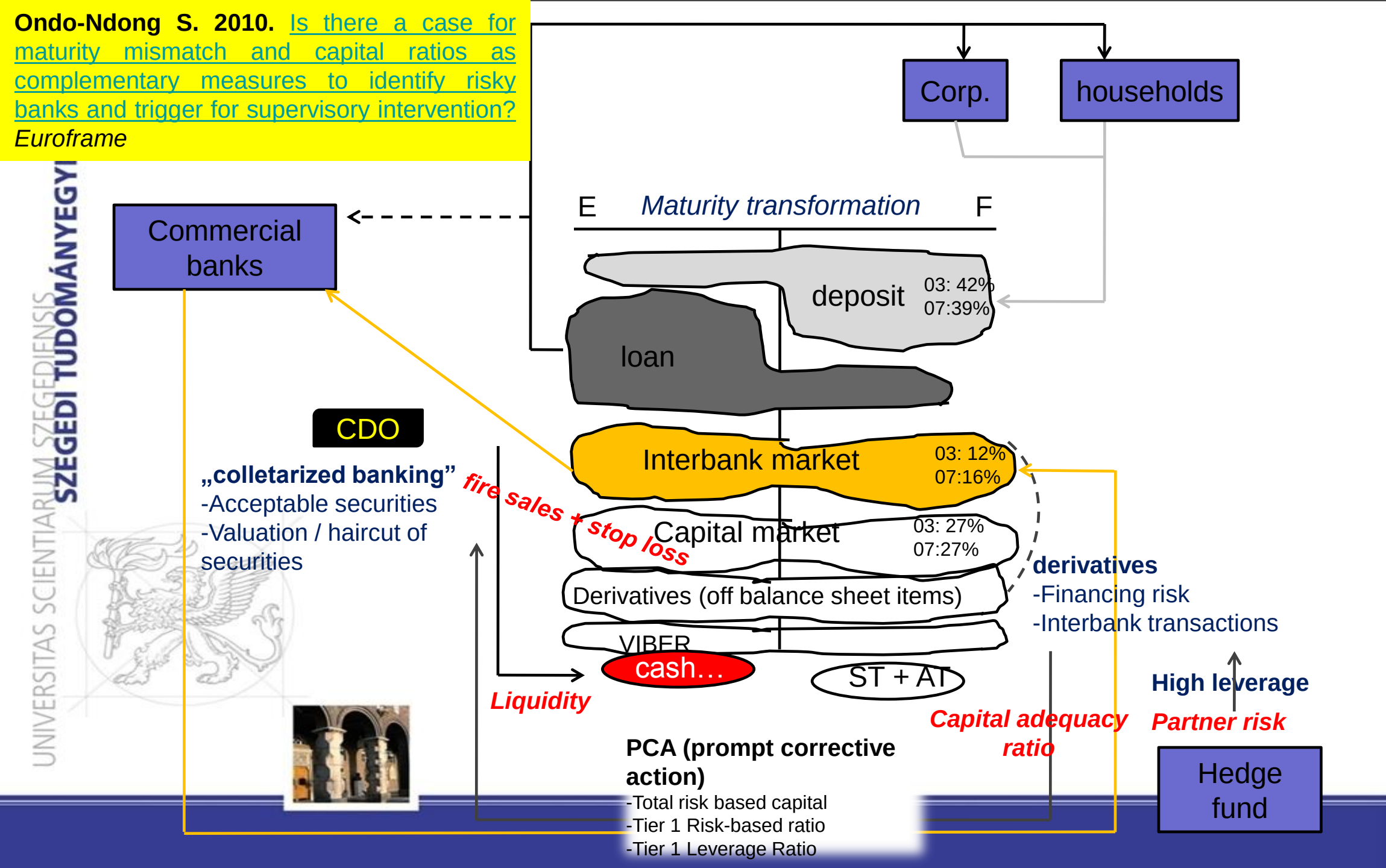
- Exchange rate policy:
  - peg → crawling band → fixed band / managed / independent float
- Convertibility
  - Free movement of capital
  - Financial innovations
- Privatisation of banking system
  - Foreign currency lending if domestic risk premia is high
  - Collecting sources on the global interbank market
- Central bank independence

Vulnerability of a country will depend on:

- macroeconomic fundamentals,
- capitalization,
- **liquidity**,
- general soundness of the individual **banking systems** and its key institutions,
- maturity structure of foreign claims,
- nature of the institutional regulations → **financial relations between home and host institutions**

Árvai Zs., Driessen, K. Ötker-Robe, I. (2009): *Regional Financial Interlinkages and Financial Contagion Within Europe*. IMF Working Paper, January 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1356462

Ondo-Ndong S. 2010. Is there a case for maturity mismatch and capital ratios as complementary measures to identify risky banks and trigger for supervisory intervention? *Euroframe*



Main drivers of the international expansion of EU credit institutions

- limited growth potential in the home country
- **higher growth potential** in the host countries
- higher profit margins in the host countries
- the internationalisation strategies of the **bank's customers**
- economies of scale and scope
- **profit margins** in the home country
- diversification of business lines
- internationalisation
- strategies of their peers

http://www.ecb.eu/pub/pdf/other/eubankingstructures2008en.pdf

Exposure to regional contagion risks

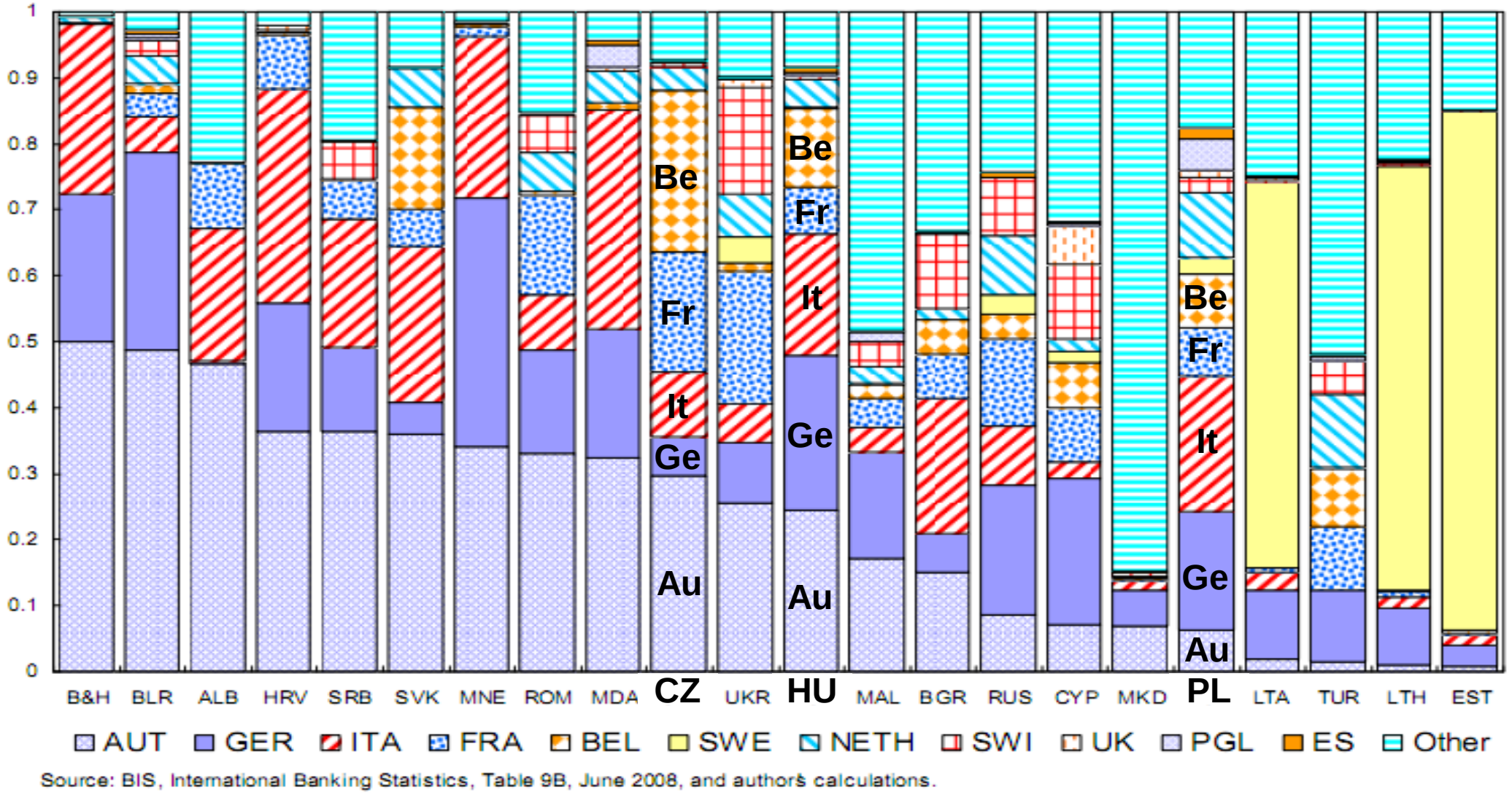
- two forms of contagion:
  - (i) shock originating from the **home country** of a foreign bank
    - absolute dependence
  - (ii) **regional contagion** triggered by in another country in the region to which a Western European country has significant exposures
    - "common lender channel" - important source of credit for other countries in the region

Árvai Zs., Driessen, K. Ötker-Robe, I. (2009): *Regional Financial Interlinkages and Financial Contagion Within Europe*. IMF Working Paper, January 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1356462

- Potential vulnerabilities
  - exposure composition reflects heavy reliance on foreign funding
  - exposures are heavily concentrated.
    - Baltic countries have large exposures to Sweden
    - bank-to-bank claims: Germany and Austria have the greatest shares
    - foreign and international claims, Austria and Italy have the largest shares
    - diversified sources:
      - Czech Republic, Poland, Hungary

Árvai Zs., Driessen, K. Ötker-Robe, I. (2009): *Regional Financial Interlinkages and Financial Contagion Within Europe*. IMF Working Paper, January 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1356462

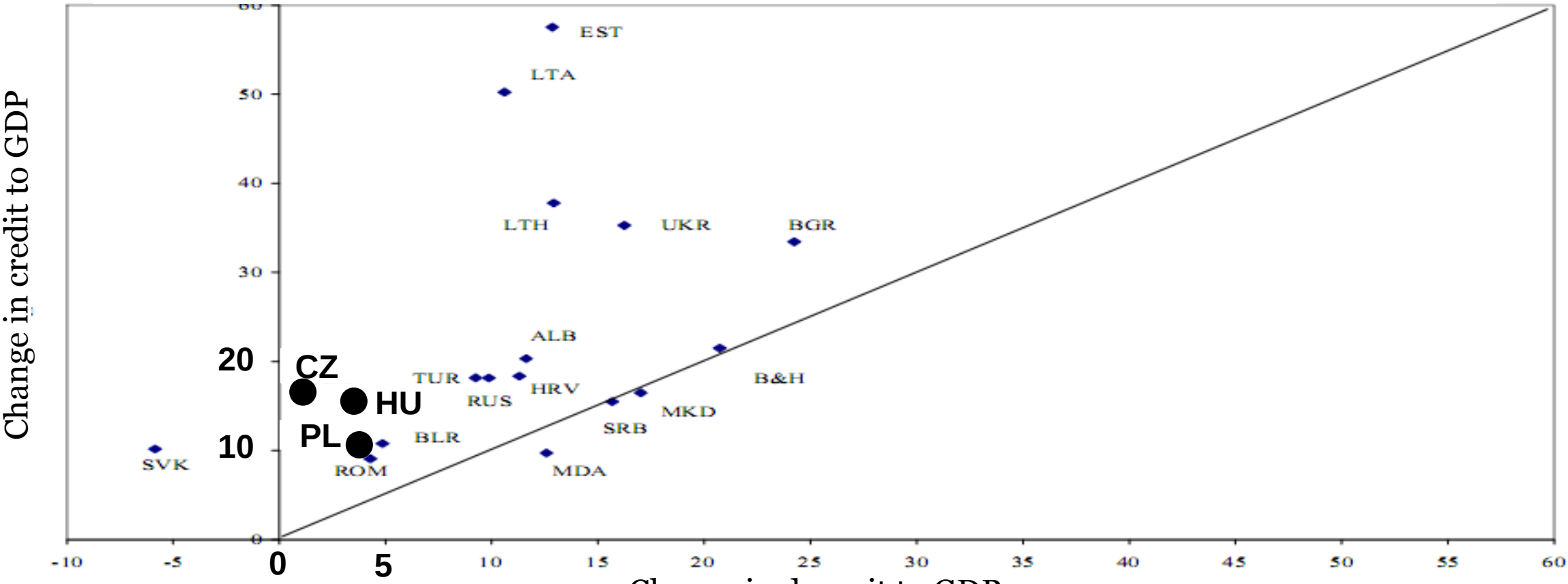
Concentration of funding dependence to Western European banks, December 2007



Source: BIS, International Banking Statistics, Table 9B, June 2008, and authors calculations.

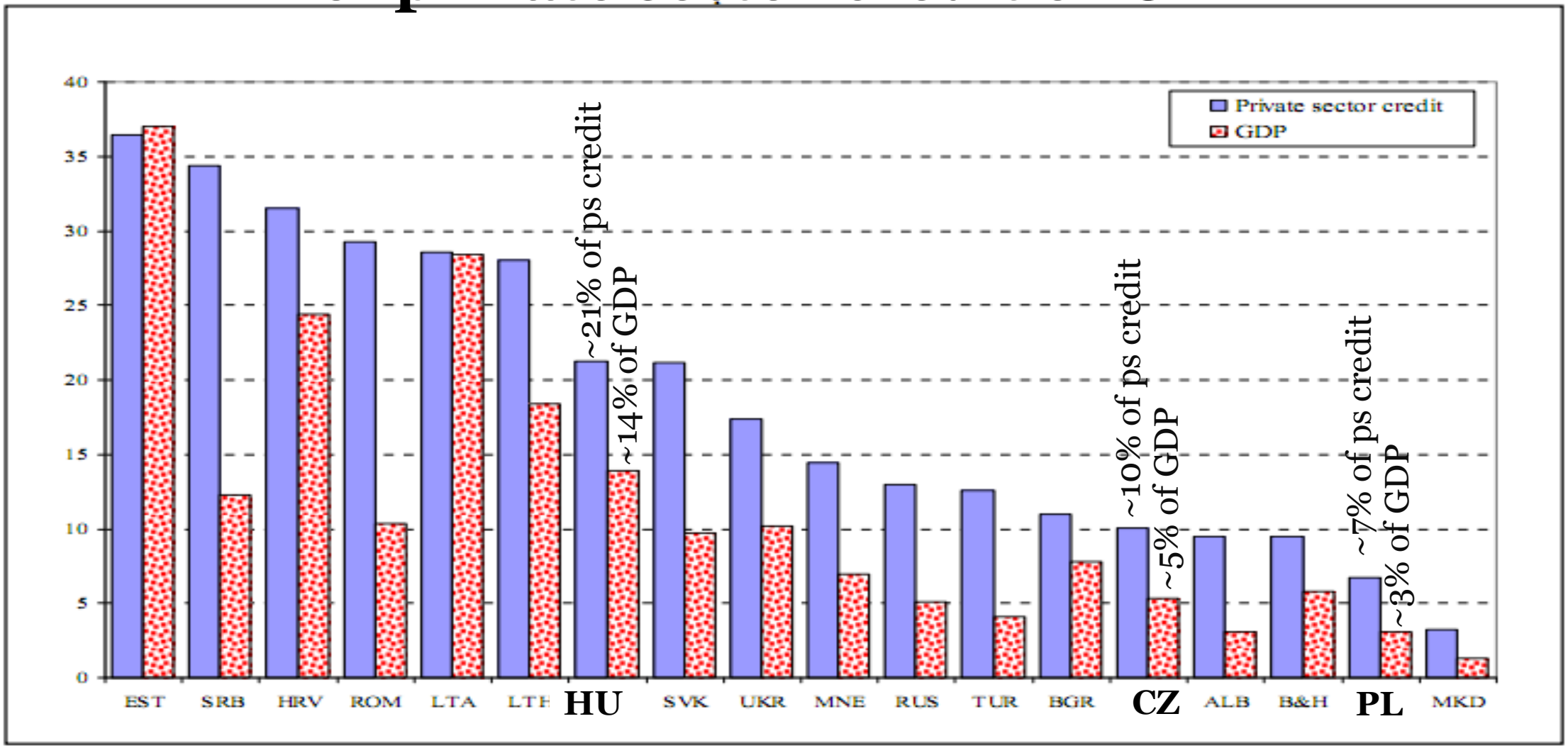
Árvai Zs., Driessen, K. Ötker-Robe, I. (2009): *Regional Financial Interlinkages and Financial Contagion Within Europe*. IMF Working Paper, January 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1356462

Funding of Credit Expansion, 2003-2007



Árvai Zs., Driessen, K. Ötker-Robe, I. (2009): *Regional Financial Interlinkages and Financial Contagion Within Europe*. IMF Working Paper, January 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1356462

International claims on regional banks in percent of private sector credit or GDP



Source: BIS, International Banking Statistics, WEO, and authors' calculations.

Árvai Zs., Driessen, K. Ötker-Robe, I. (2009): *Regional Financial Interlinkages and Financial Contagion Within Europe*. IMF Working Paper, January 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1356462

Institutional differences in the era of universal banking

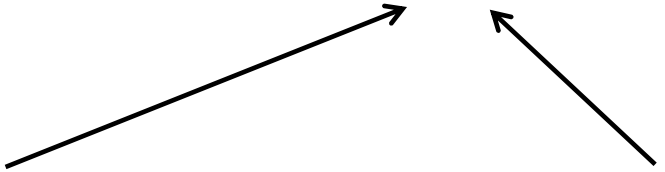
- a “supreme” financial supervisory authority or sectoral breakdown?
  - Hungary, Poland: sectoral breakdown → supreme (HU 1999, PL 2006)
- the financial supervisory authority should be the part of the central bank?
  - Czech Republic: yes (1993)
  - Hungary, Poland: no
- cooperation on the European level
  - 3 Level 3 Committees
    - European Banking Authority
    - European Securities and Markets Authority
    - European Insurance and Occupational Pensions Authority

Act on Financial Market Supervision of 2006, No. 157, item 1119
http://www.knf.gov.pl/en/About_us/KNF_Polish_Financial_Supervision_Authority/legal_framework/index.html
1999. évi CXXIV. törvény,
Act No. 6/1993 Coll., on the Czech National Bank
http://www.cnb.cz/miranda2/export/sites/www.cnb.cz/en/legislation/acts/download/act_on_cnb.pdf

http://eba.europa.eu/home.aspx
http://www.esma.europa.eu/index_new.php
https://eiopa.europa.eu/home/index.html

III. The impact of ECB's monetary policy on CEE countries currency and government bond markets.

- Autonomy of monetary policy
  - Central bank independence is well defined
  - But: central banks are embedded in their environment



„+" Monetary decisions of **other central banks**

Price shocks from interconnected **markets and bank** balance sheets „-"

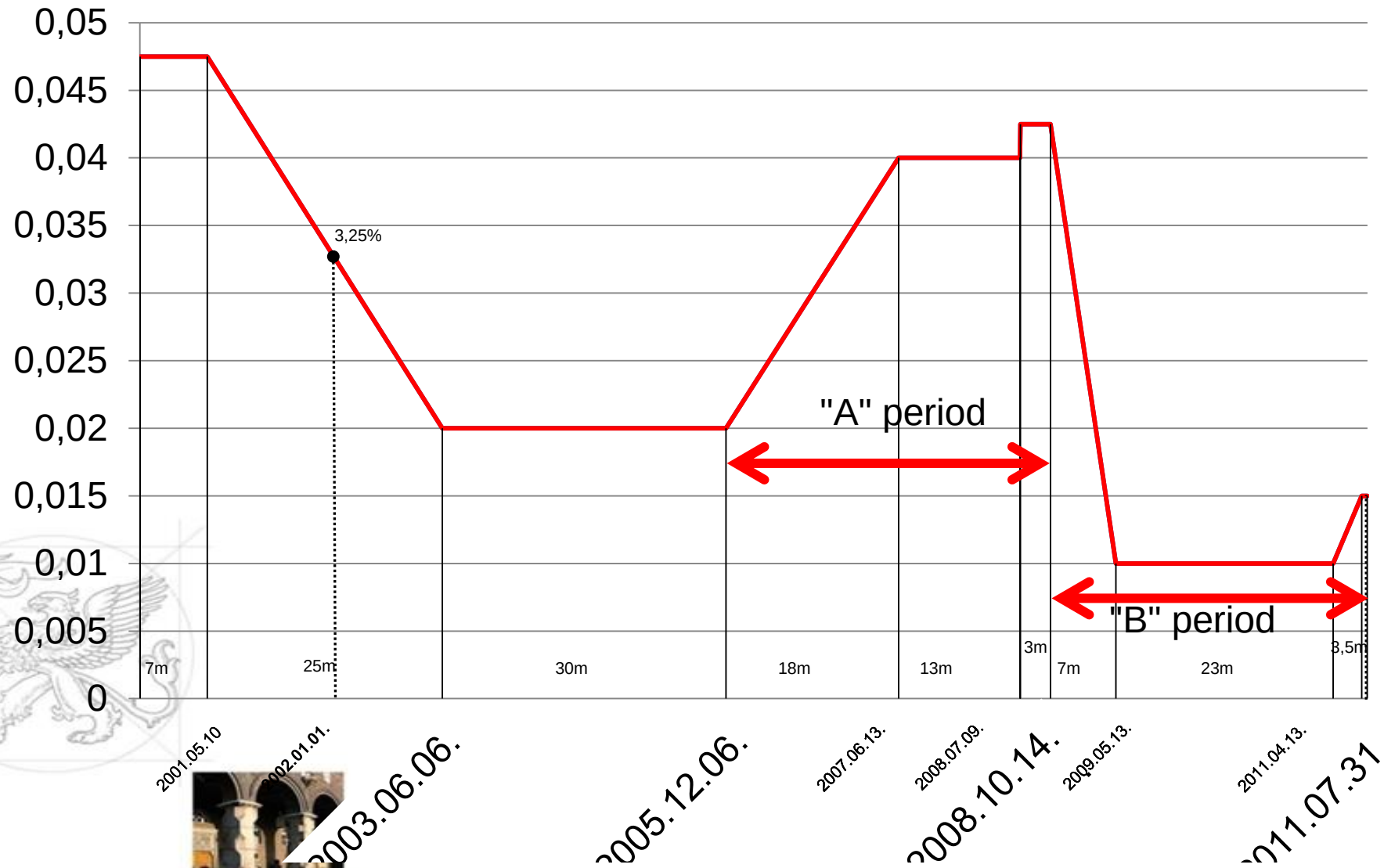
Based on:

Kiss G. D., Kosztopulosz A. (2012): *The Impact of the Crisis on the Monetary Autonomy of Central and Eastern European Countries*. Public Finance Quarterly, vol. LVII., issue 1., p. 27-51.
http://www.asz.hu/en/public-finance-quarterly-articles/2012/the-impact-of-the-crisis-on-the-monetary-autonomy-of-

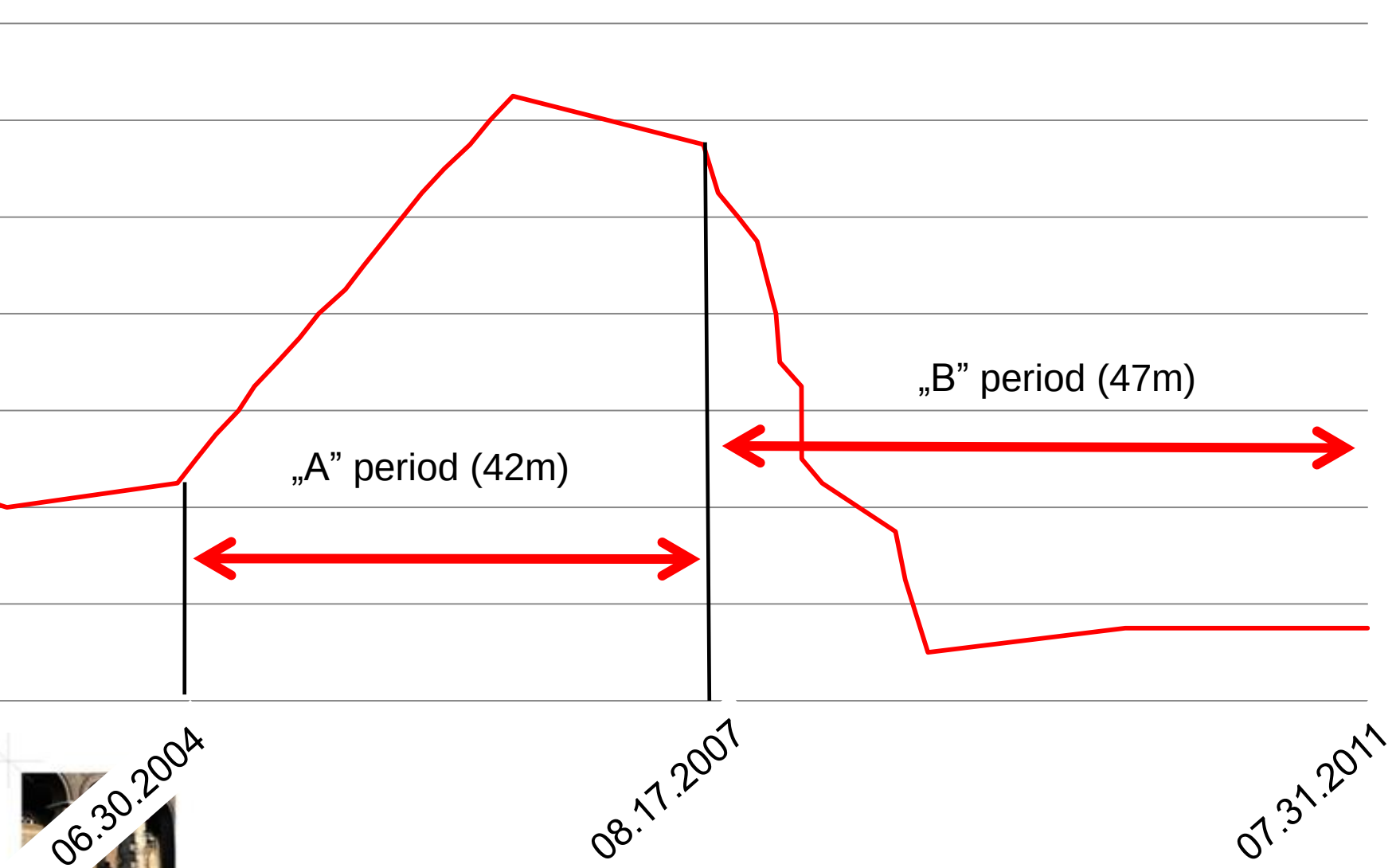
Data

- Entire sample:
  - Daily closing data
  - January 1. 2002 – August 31. 2011
  - Stock, bond (3M, 10Y), currency markets
  - US, Eurozone/Germany, Czech Republic, Hungary, Poland
- Subsets:
  - A: increasing and high interest rates of ECB and FED
  - B: decreasing and low interest rates of ECB and FED

ECB's main refinancing rate

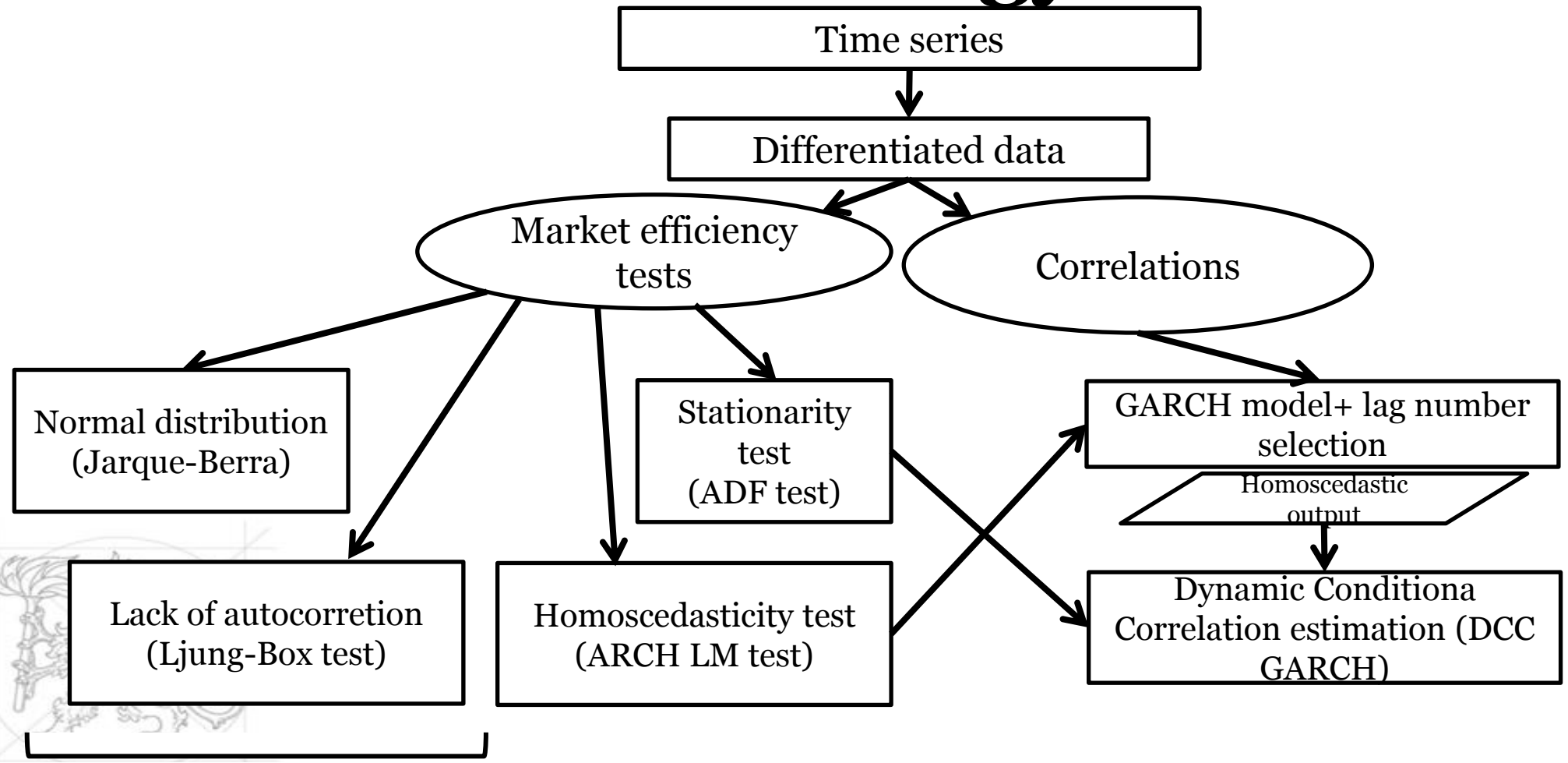


FED's prime rate



Primary credit is available to generally sound depository institutions on a very short-term basis, typically overnight, at a rate above the Federal Open Market Committee's target rate for federal funds

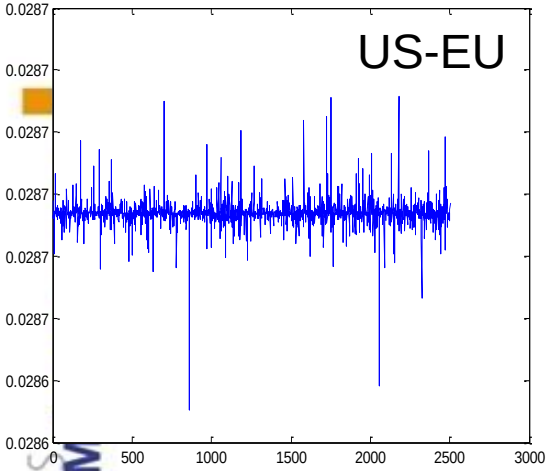
Methodology

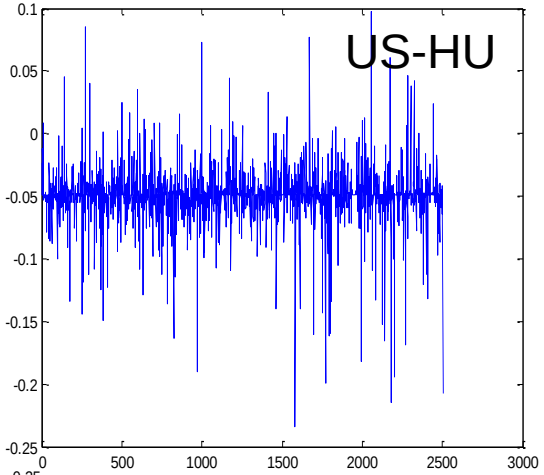


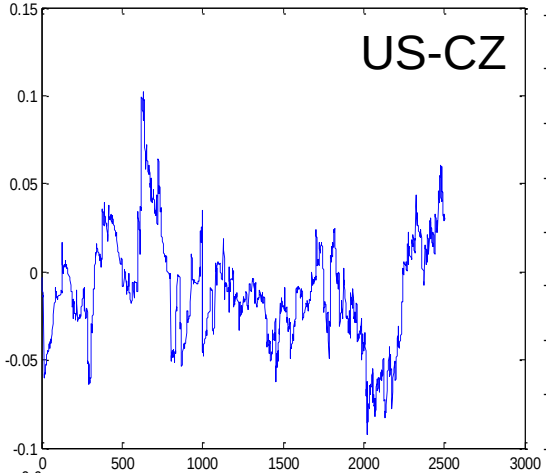
Weak market efficiency

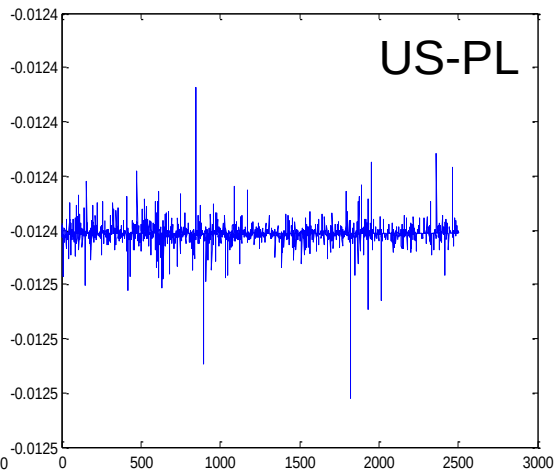
Analyzed markets	Skewness	Kurtosis	Normal distribution (Jarque-Bera)	Stationarity (ADF-test) 1 lag		Heteroscedasticity (ARCH-LM) 2 lag		Autocorrelation (Ljung-Box) 6 lag	
			p	t statistic	critical value	p		p	
US 3M	0,2300	70,0669	0,001	-55,4620 *	-1,9416	0,0000		0,0000	
EURO 3M	-0,0200	42,0711	0,001	-51,2232 *	-1,9416	0,0000		0,2245	***
HU 3M	1,3047	85,5834	0,001	-50,2077 *	-1,9416	0,0000		0,8346	***
CZ 3M	-3,9396	63,4792	0,001	-46,9896 *	-1,9416	0,8460	**	0,0033	
PL 3M	-0,7997	37,5076	0,001	-44,1657 *	-1,9416	0,0334		0,0000	
US 10Y	-0,2763	8,4496	0,001	-52,3948 *	-1,9416	0,0000		0,0188	
EURO 10Y	0,0321	4,9600	0,001	-46,9331 *	-1,9416	0,0000		0,0016	
HU 10Y	0,3541	14,6869	0,001	-47,6824 *	-1,9416	0,0000		0,0171	
CZ 10Y	-1,6999	63,9912	0,001	-49,1197 *	-1,9416	0,0000		0,3756	***
PL 10Y	0,6234	16,2843	0,001	-42,2279 *	-1,9416	0,0000		0,0000	
DJI	0,1068	12,2829	0,001	-55,5017 *	-1,9416	0,0000		0,0000	
DAX	0,1070	8,2694	0,001	-52,2590 *	-1,9416	0,0000		0,0276	
BUX	-0,0930	9,9225	0,001	-47,6622 *	-1,9416	0,0000		0,0178	
PX	-0,5618	17,8663	0,001	-46,4961 *	-1,9416	0,0000		0,0003	
WIG	-0,2971	6,2382	0,001	-46,3625 *	-1,9416	0,0000		0,0002	
EUR/USD	-0,1148	5,2043	0,001	-49,7133 *	-1,9416	0,0000		0,8173	***
HUF/USD	-0,4760	7,2750	0,001	-50,6851 *	-1,9416	0,0000		0,4640	***
CZK/USD	-0,2709	5,5867	0,001	-48,0621 *	-1,9416	0,0000		0,0573	***
PLN/USD	-0,1601	8,5734	0,001	-50,0457 *	-1,9416	0,0000		0,9433	***

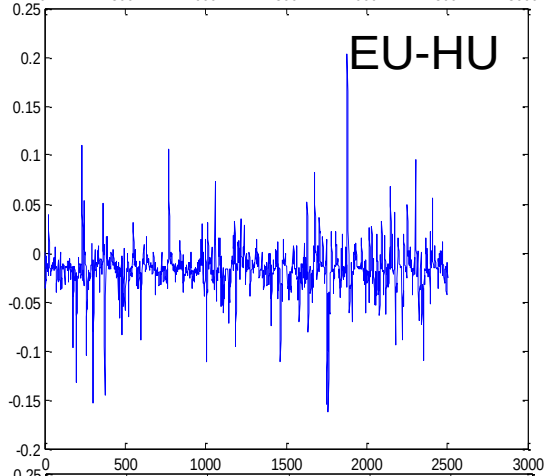
*: stationer time series; **: homoscedasticity; ***: lack of autocorrelation

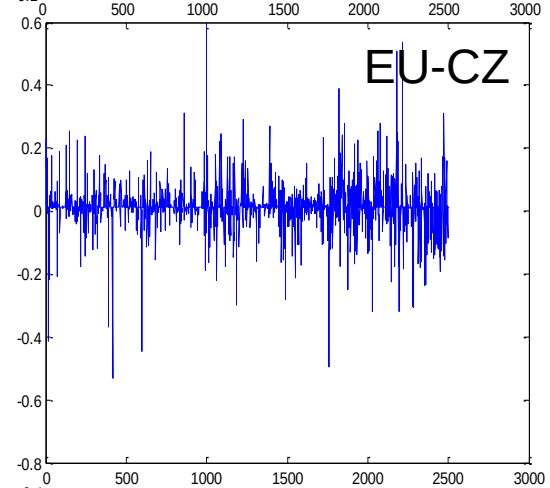


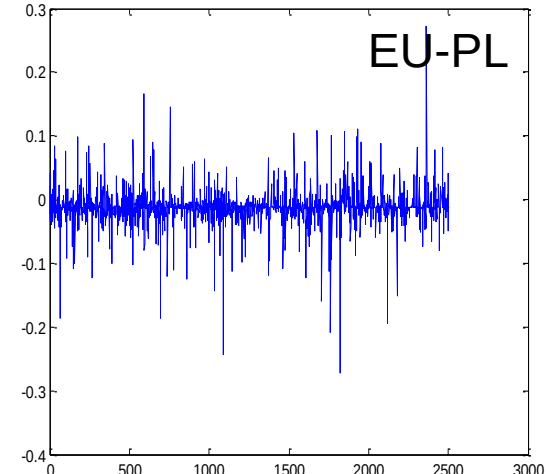


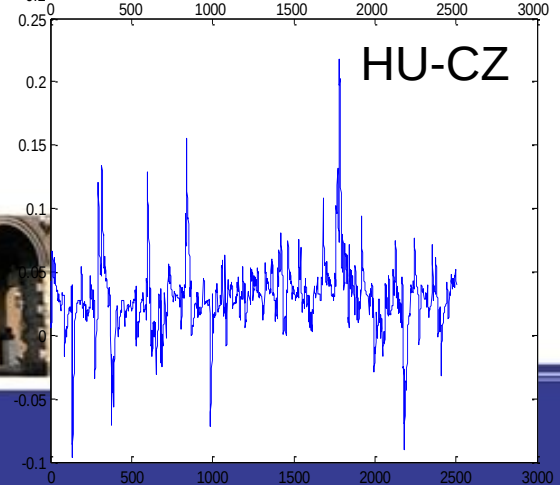


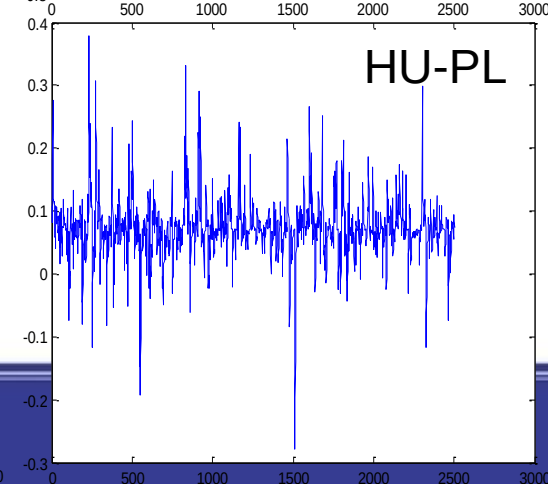










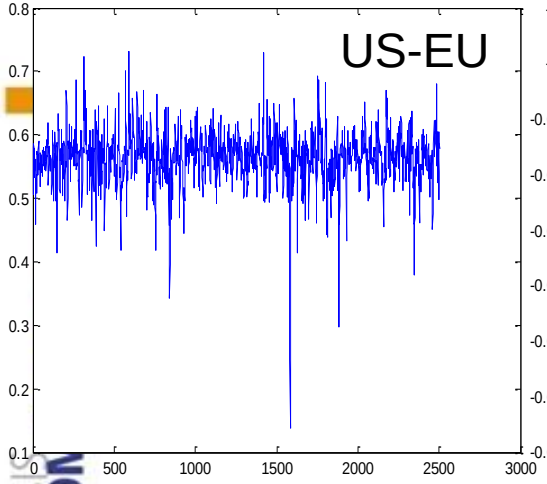


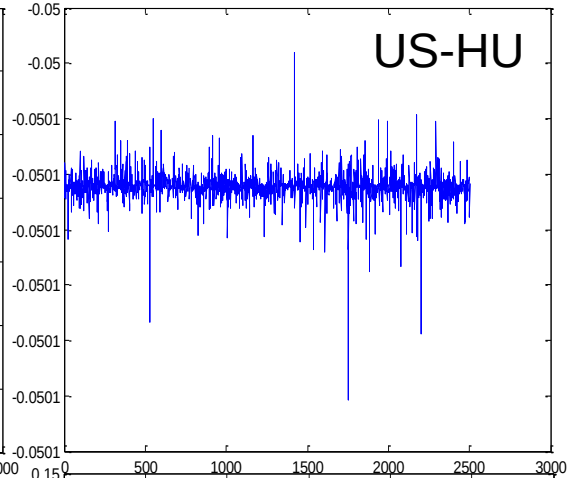
SZEGEDI TUDOMÁNYEGYETEM

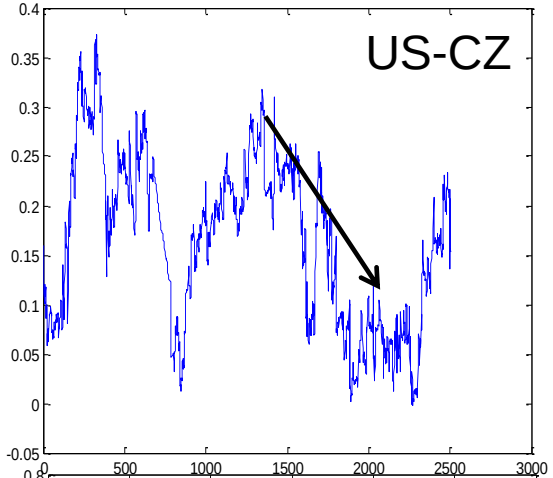
UNIVERSITAS SCIENTIARUM SZEGEDIENSIS

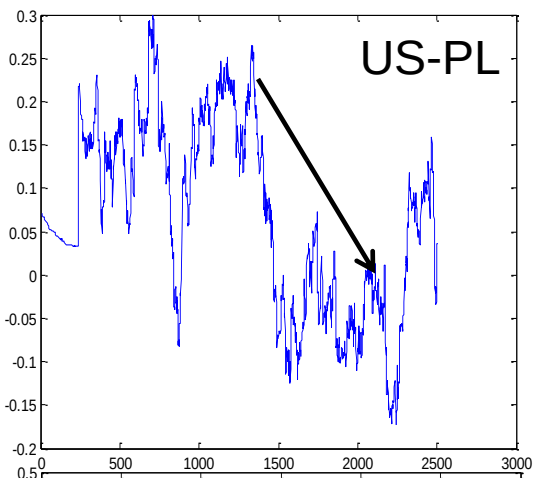
3M

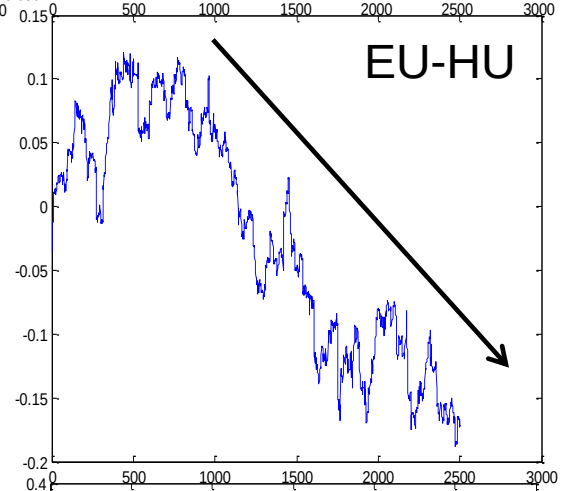
→ uncorrelated

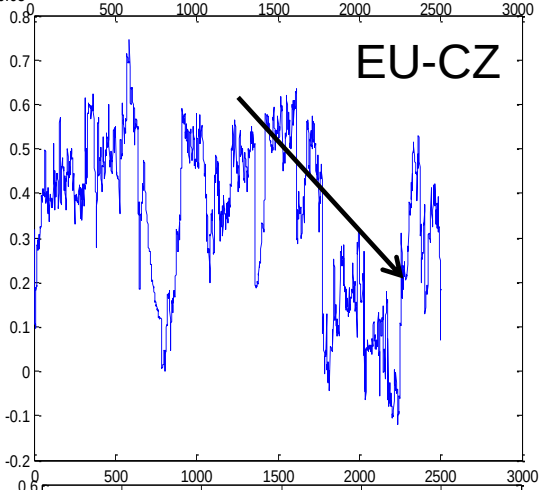


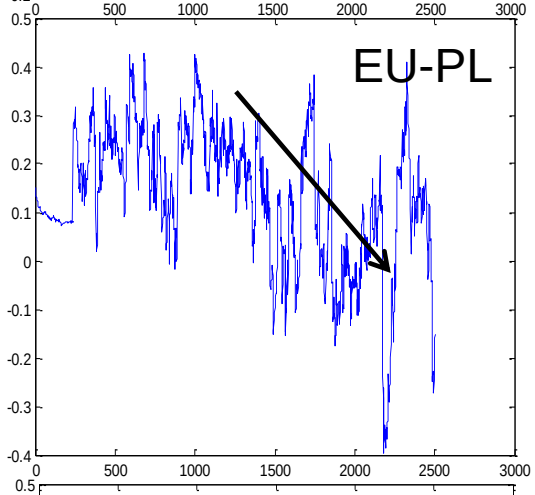


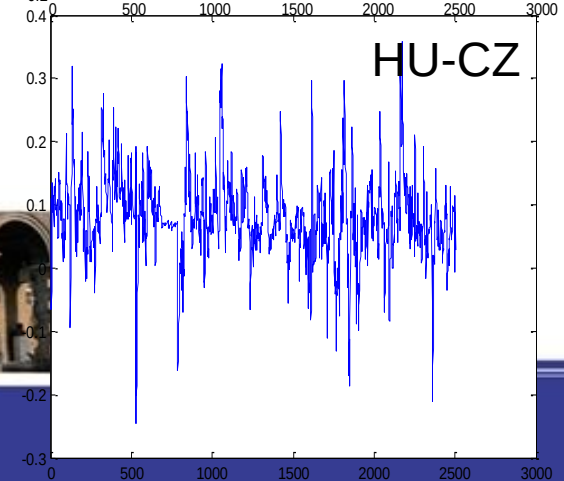


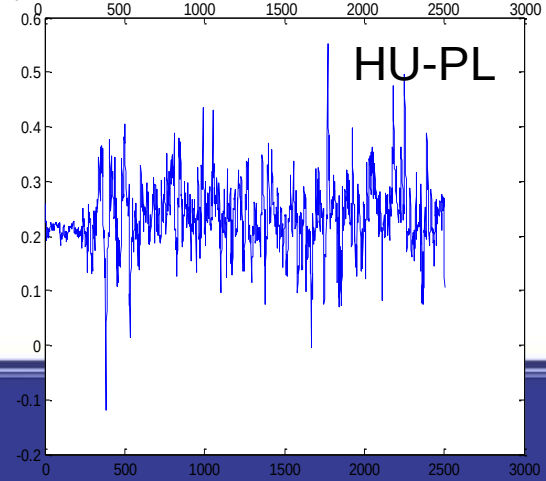


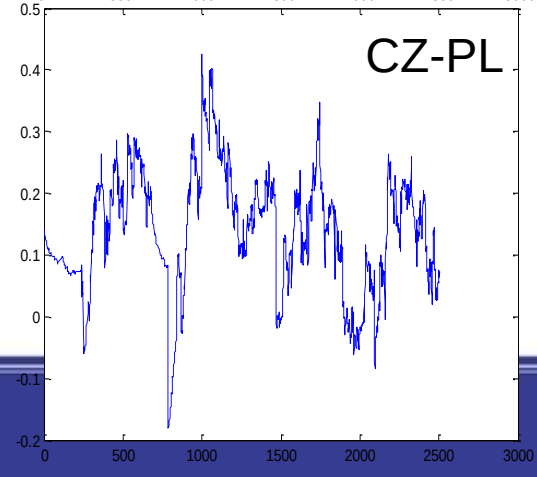






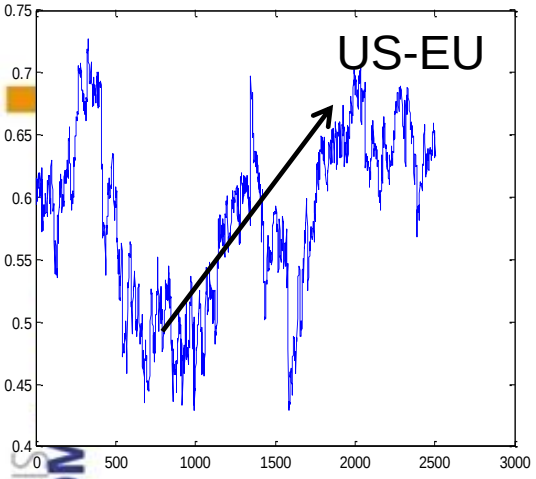


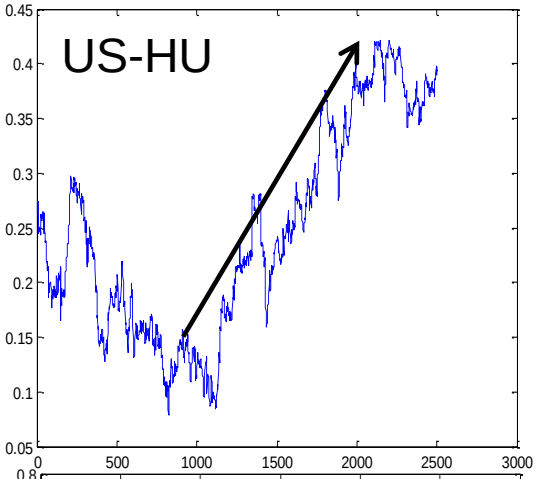


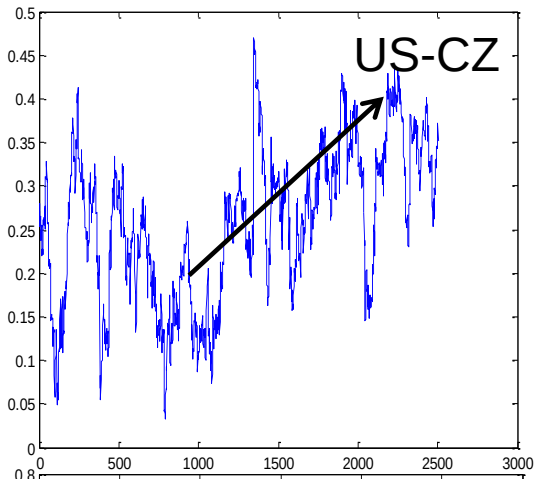


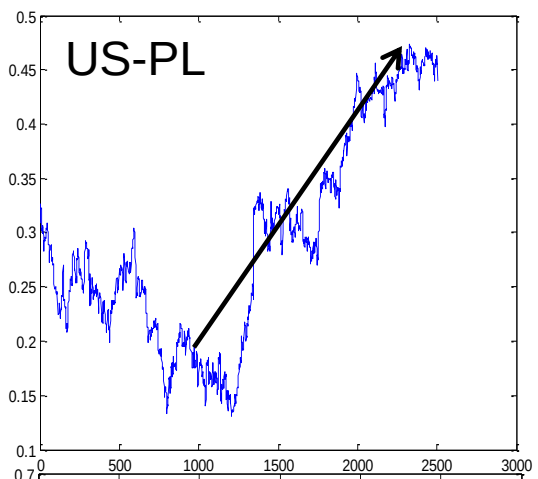
10Y

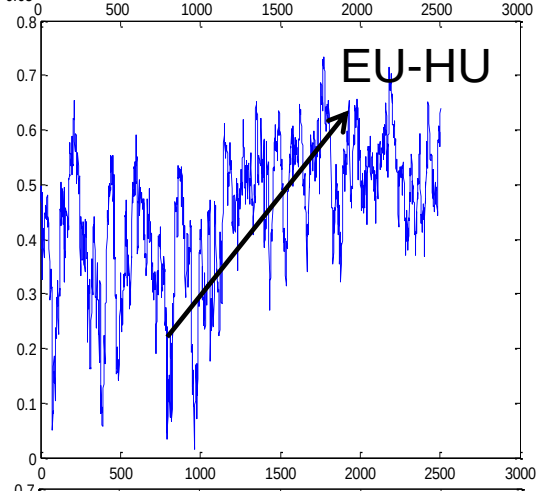
→ Where is the „Maastricht-convergence”?!

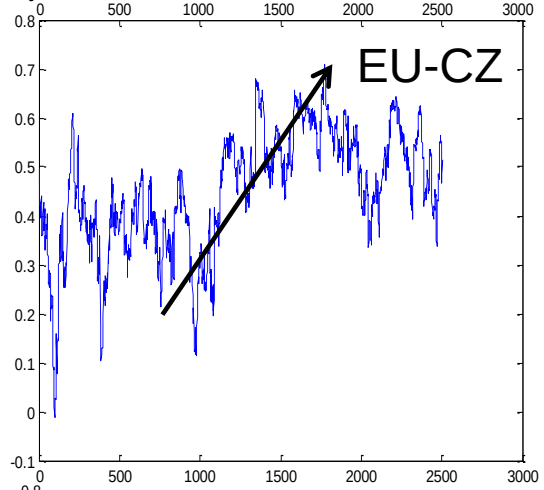


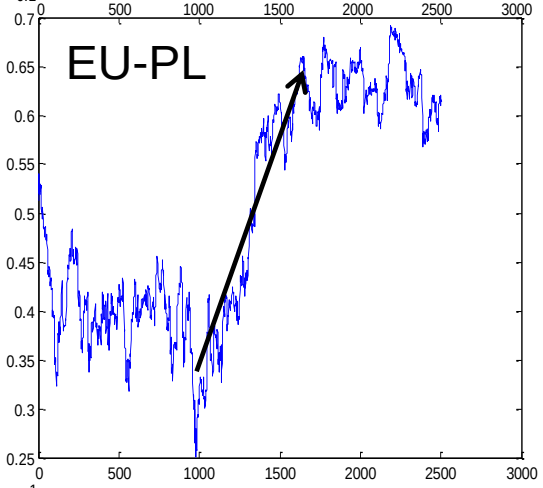


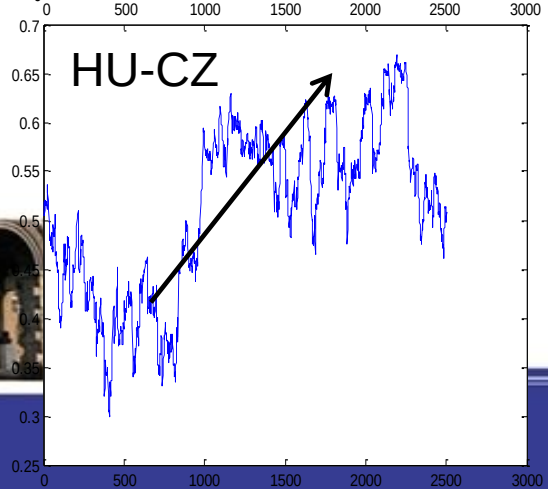


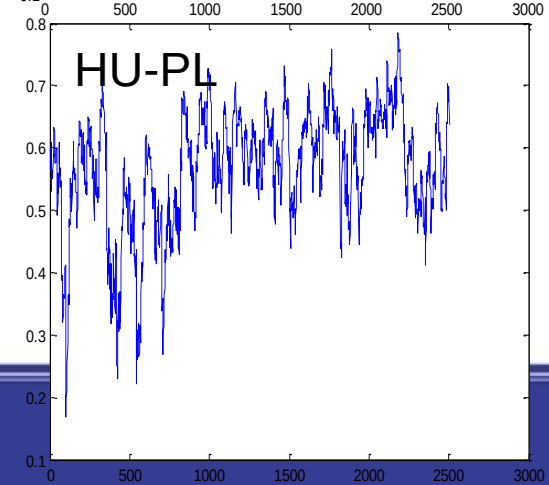


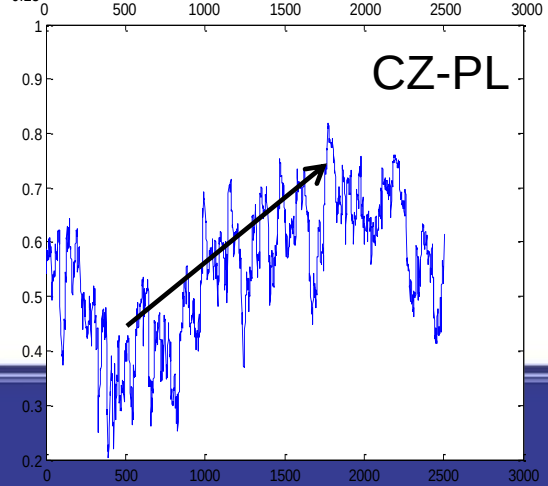






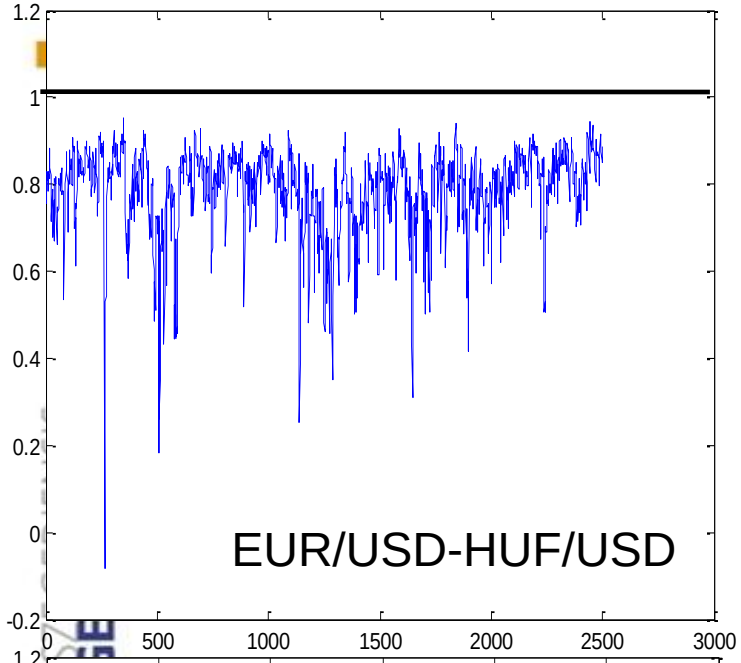


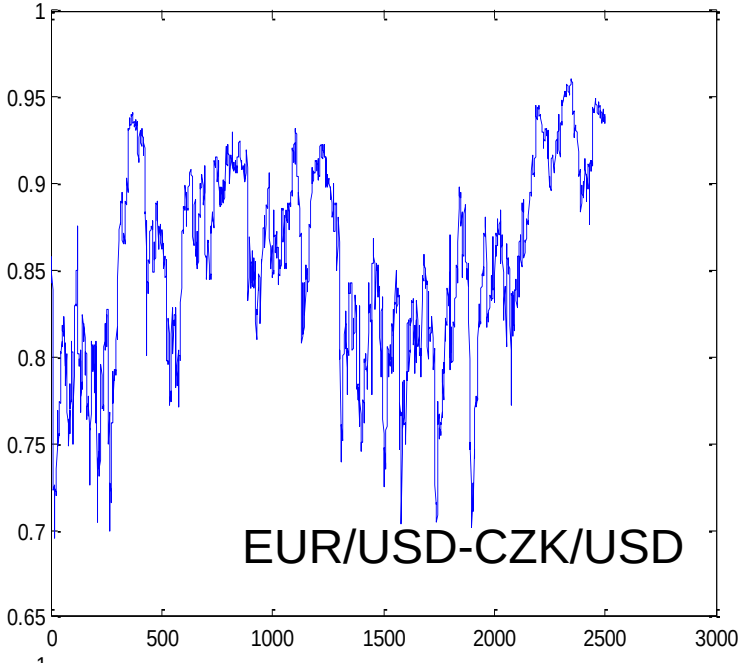


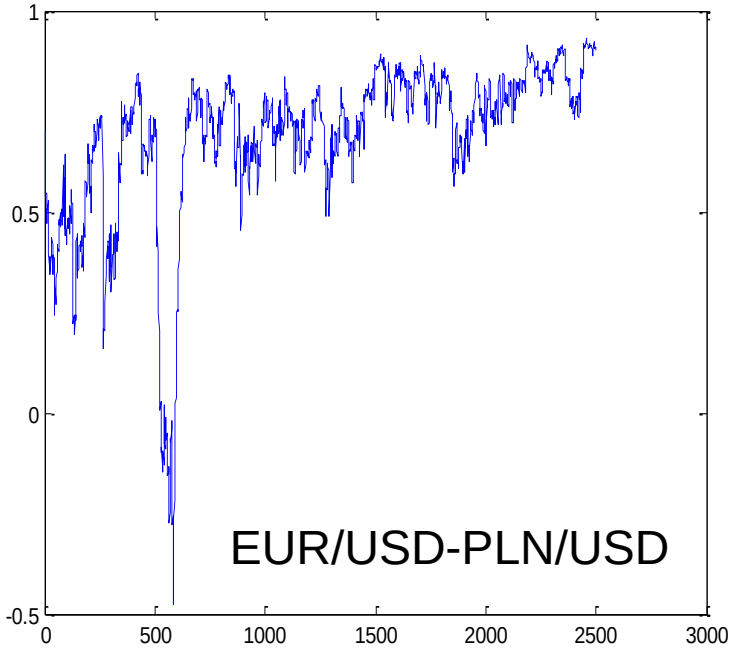


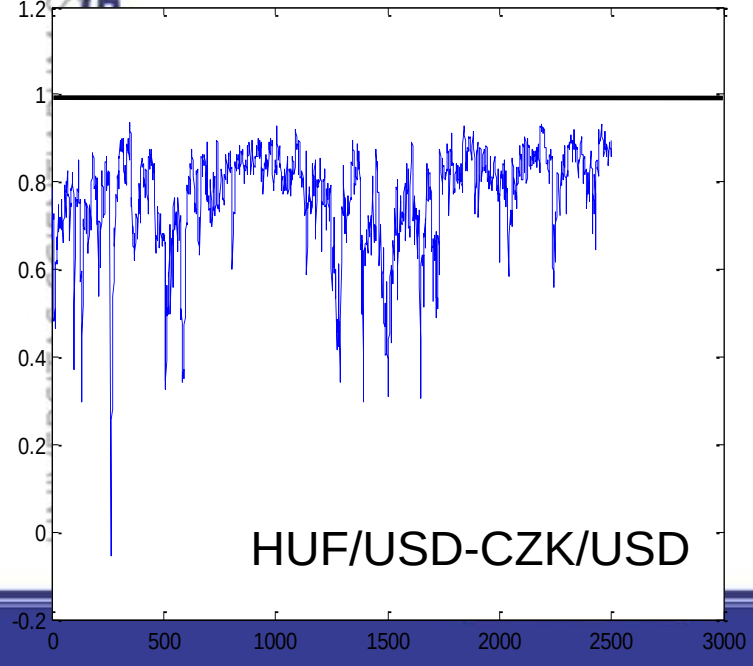
Stock-market

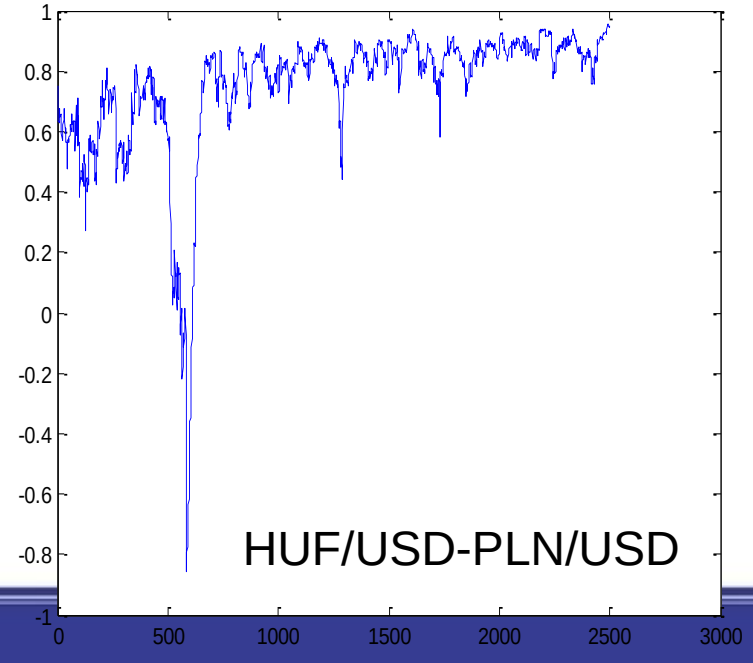
Trade relations
>>
financial relations

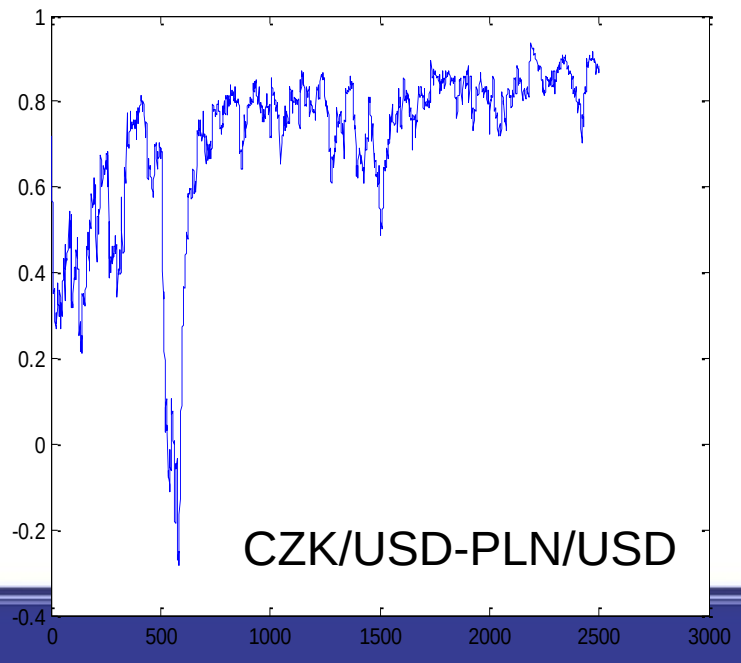

EUR/USD-HUF/USD


EUR/USD-CZK/USD


EUR/USD-PLN/USD


HUF/USD-CZK/USD


HUF/USD-PLN/USD


CZK/USD-PLN/USD

Yield curve developments

central bank		ECB					FED				
markets		US	EUR	HU	CZ	PL	US	EUR	HU	CZ	PL
3M	mean "A"	3,8099	3,5003	7,5218	3,0487	4,8834	3,8347	2,6703	7,6137	2,3492	4,9094
	variance "A"	*2,0613*	*0,361*	*0,7361*	*0,5813*	*0,8121*	*1,5218*	*0,519*	*2,2822*	*0,1307*	*0,9910*
	mean "B"	0,12551	0,7093	6,9252	1,8194	4,2992	0,76145	1,6498	7,2524	2,4266	4,7550
	variance "B"	*0,012*	*0,2983*	*3,5459*	*0,7010*	*0,5364*	*1,326*	*2,3883*	*2,8827*	*1,4100*	*0,9820*
10Y	mean "A"	4,44356	4,0302	7,2212	4,2229	5,5631	4,53335	3,7753	7,0318	3,9982	5,5258
	variance "A"	*0,2358*	*0,0954*	*0,3768*	*0,2221*	*0,1818*	*0,1092*	*0,1401*	*0,4347*	*0,3113*	*0,4810*
	mean "B"	3,21677	3,0693	8,0788	4,2510	6,0088	3,43439	3,3910	7,9372	4,3725	5,9969
	variance "B"	*0,1834*	*0,1264*	*1,6655*	*0,2821*	*0,0931*	*0,2789*	*0,3550*	*1,3788*	*0,2493*	*0,0862*
10Y-3M spread	mean "A"	0,63366	0,5298	-0,3007	1,1743	0,6798	0,69865	1,1051	-0,5818	1,6490	0,6164
	variance "A"	*1,0446*	*0,1770*	*0,4704*	*0,1673*	*0,3369*	*1,0175*	*0,3019*	*1,1300*	*0,1617*	*0,4262*
	mean "B"	3,09126	2,3600	1,1537	2,4316	1,7095	2,67294	1,7412	0,6848	1,9459	1,2418
	variance "B"	*0,1801*	*0,2867*	*0,9540*	*0,5249*	*0,5545*	*0,7501*	*1,1571*	*1,2308*	*0,9578*	*0,9718*
currency	mean "A"		1,3660	0,0054	0,0506	0,3692		1,2641	0,0050	0,0430	0,3142
	variance "A"		*0,0138*	*0,0000*	*0,0001*	*0,0028*		*0,0030*	*0,0000*	*0,0000*	*0,0007*
	mean "B"		1,3664	0,0050	0,0537	0,3352		1,4013	0,0053	0,0550	0,3609
	variance "B"		*0,0052*	*0,0000*	*0,0000*	*0,0006*		*0,0081*	*0,0000*	*0,0000*	*0,0025*
stock	mean "A"	12164	6632	23516	1588	48793	11264	5473	20459	1366	38962
	mean "B"	10206	5866	19493	1085	38942	10862	6196	20624	1236	41919

Correlation developments

central bank		ECB										FED									
	markets	US-EU	US-HU	US-CZ	US-PL	EU-HU	EU-CZ	EU-PL	HU-CZ	HU-PL	CZ-PL	US-EU	US-HU	US-CZ	US-PL	EU-HU	EU-CZ	EU-PL	HU-CZ	HU-PL	CZ-PL
3M	Significant difference between "A" and "B" periods	0	0	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	0	0	1
	mean DCC ("A" period)	0,029	-0,049	-0,017	-0,012	-0,017	0,011	-0,014	0,036	0,076	0,087	0,029	-0,050	-0,009	-0,012	-0,016	0,016	-0,014	0,030	0,075	0,053
	variance DCC ("A" period)	*0,029*	*-0,049*	*-0,018*	*-0,012*	*-0,015*	*0,017*	*-0,010*	*0,031*	*0,070*	*0,052*	*0,000*	*0,000*	*0,001*	*0,000*	*0,000*	*0,003*	*0,000*	*0,000*	*0,002*	*0,000*
	mean DCC ("B" period)	0,000	0,000	0,000	0,000	0,000	0,003	0,001	0,000	0,002	0,002	0,029	-0,049	-0,018	-0,012	-0,016	0,013	-0,011	0,033	0,071	0,076
	variance DCC ("B" period)	*0,000*	*0,001*	*0,001*	*0,000*	*0,001*	*0,006*	*0,001*	*0,001*	*0,001*	*0,003*	*0,000*	*0,001*	*0,001*	*0,000*	*0,001*	*0,005*	*0,001*	*0,001*	*0,002*	*0,004*
10Y	Significant difference between "A" and "B" periods	0	0	0	1	1	1	1	0	0	0	1	0	1	1	1	1	1	1	0	1
	mean DCC ("A" period)	0,566	-0,050	0,210	0,086	-0,044	0,448	0,157	0,076	0,227	0,183	0,566	-0,050	0,188	0,154	0,028	0,369	0,210	0,085	0,245	0,172
	variance DCC ("A" period)	*0,561*	*-0,050*	*0,086*	*-0,025*	*-0,129*	*0,170*	*0,020*	*0,071*	*0,244*	*0,099*	*0,001*	*0,000*	*0,004*	*0,006*	*0,003*	*0,023*	*0,008*	*0,004*	*0,003*	*0,012*
	mean DCC ("B" period)	0,002	0,000	0,003	0,014	0,003	0,011	0,014	0,004	0,003	0,007	0,561	-0,050	0,115	-0,029	-0,117	0,264	0,039	0,067	0,234	0,111
	variance DCC ("B" period)	*0,002*	*0,000*	*0,003*	*0,006*	*0,001*	*0,023*	*0,022*	*0,005*	*0,004*	*0,007*	*0,002*	*0,000*	*0,005*	*0,005*	*0,001*	*0,040*	*0,022*	*0,004*	*0,004*	*0,008*

60%

70%

50%

80%

Correlation developments 2

central bank		ECB										FED									
markets		US-EU	US-HU	US-CZ	US-PL	EU-HU	EU-CZ	EU-PL	HU-CZ	HU-PL	CZ-PL	US-EU	US-HU	US-CZ	US-PL	EU-HU	EU-CZ	EU-PL	HU-CZ	HU-PL	CZ-PL
currency	Significant difference between "A" and "B" periods					0	0	0	1	0	0					0	1	1	1	0	1
	mean DCC ("A" period)					0,744	0,830	0,754	0,717	0,833	0,764					0,774	0,867	0,709	0,774	0,806	0,761
	variance DCC ("A" period)					*0,010*	*0,003*	*0,007*	*0,014*	*0,005*	*0,006*					*0,009*	*0,002*	*0,005*	*0,010*	*0,005*	*0,004*
	mean DCC ("B" period)															,799	0,857	0,807	0,792	0,865	0,817
	variance DCC ("B" period)															*,007*	*0,004*	*0,005*	*0,011*	*0,002*	*0,005*
stock market	Significant difference between "A" and "B" periods	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0
	mean DCC ("A" period)	0,559	0,214	0,255	0,250	0,491	0,518	0,516	0,565	0,604	0,604	0,534	0,161	0,209	0,203	0,395	0,420	0,419	0,512	0,576	0,518
	variance DCC ("A" period)	*0,645*	*0,373*	*0,331*	*0,419*	*0,528*	*0,517*	*0,633*	*0,573*	*0,599*	*0,636*	*0,003*	*0,002*	*0,007*	*0,003*	*0,017*	*0,013*	*0,006*	*0,007*	*0,006*	*0,012*
	mean DCC ("B" period)	0,002	0,004	0,005	0,005	0,010	0,010	0,011	0,001	0,003	0,006	0,615	0,340	0,313	0,386	0,531	0,533	0,627	0,566	0,603	0,635
	variance DCC ("B" period)	*0,001*	*0,001*	*0,004*	*0,002*	*0,006*	*0,006*	*0,001*	*0,003*	*0,006*	*0,008*	*0,003*	*0,003*	*0,004*	*0,004*	*0,006*	*0,006*	*0,001*	*0,003*	*0,005*	*0,007*

16%

66%

60%

80%

Different levels of market commonmovements could be characterized better by the FED's monetary decisions

IV. Concluding remarks for CEE

Concluding remarks

- Expected €-adoption: explicit warrant for CEE countries before the crisis
  - high correlation between EUR/USD and local currencies
- Crisis erased the weak commonmovement between bond markets
  - monetary easing in the €-zone not affected CEE bond returns
- Unwanted monetary autonomy:
  - crisis hit them harder, while monetary activism diffused badly
  - not the “loosing-monetary-autonomy-trough-euro-adoption” form

Concluding remarks for Hungary

1. Poor employment despite various forms of fiscal stimulus
2. Monetary policy was ready to introduce €, fiscal not
3. Monetary policy had weak impact on the domestic consumption
   - Various forms of fiscal stimulus increased price level fluctuation
   - Foreign currency lending – free floating currency – free movement of capital
   - Institutional reasons
     - Central bank: focusing on price stability
     - Financial Supervisor Authority: financial institutions met with Basel 2 standards

Manage low employment – high public debt trap

Increase cooperation between supervisors and central banks

Increase cooperation between regional central banks

Evaluating the „Jackson Hole consensus" for CEE

Independence	**Part of the legislation**
transmission mechanism: *inflation target + short term interest rates →long term interest rates*	Liquidity bias
anchoring inflation	indeed
Market efficiency	Far from efficient, 3M is more turbulent than stock markets
Price stability = financial stability	Foreign currency lending bias
Fiscal policy is an unreliable tool for macroeconomic stabilization	indeed
Monetary policy stabilizes trough short-term interest rates	failed

Why to use inflation targeting monetary policy? - Conclusion

Lack of alternative monetary target		**indeed**
It works – reduces		
	inflation and output growth volatility	indeed
	probability of banking crisis	failed
	noise on bond markets	failed
Heterogeneous growth and inflation rates between MSs		indeed

Focusing on price stability in CEE was a good idea?

- real economy: €-adoption is necessary
- fiscal perspective: it was too early
  - *(maybe always will be early…)*
- capital market:
  - currency market accepted
  - bond market denied
- institutions: financial stability lagged behind

- **Conclusion:** focusing only on the price stability is necessary, but a central bank have to be responsible for financial stability too

Related literature

- ECB (2011): *Guideline of the ECB of 20 September 2011 on monetary policy instruments and procedures of the Eurosystem*. ECB/2011/14 http://www.ecb.europa.eu/ecb/legal/pdf/l_33120111214en000100951.pdf
- article 130 of the Treaty on European Union C 83/104, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:083:FULL:EN:PDF
- Stavárek, D. (2009): Assessment of the Exchange Rate Convergence in Euro-Candidate Countries. *Amfiteatru Economic Journal*, vol. 11, no. 25, pp. 159-180. ISSN 1582-9146. http://www.amfiteatrueconomic.ro/temp/Article_643.pdf
- Darvas Zs., Szapáry Gy. (2008): Euro Area Enlargement and Euro Adoption Strategies. MT-DP 2008/24, http://econ.core.hu/file/download/mtdp/MTDP0824.pdf
- Árvai Zs., Driessen, K. Ötker-Robe, I. (2009): *Regional Financial Interlinkages and Financial Contagion Within Europe*. IMF Working Paper, January 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1356462
- Jevčák, A. Setzer, R. Suardi M. (2010): *Determinants of Capital Flows To the New EU Member States Before and During the Financial Crisis*. European Commission, Economic Papers 425, September 2010 http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp425_en.pdf
- Kiss G. D., Kosztopulosz A. (2012): The Impact of the Crisis on the Monetary Autonomy of Central and Eastern European Countries. *Public Finance Quarterly*, vol. LVII., issue 1., p. 27-51. http://www.asz.hu/en/public-finance-quarterly-articles/2012/the-impact-of-the-crisis-on-the-monetary-autonomy-of-central-and-eastern-european-countries