European Financial System: In and out of the crisis
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The consequences of the post-crisis global financial architecture for banking markets in CEE-5

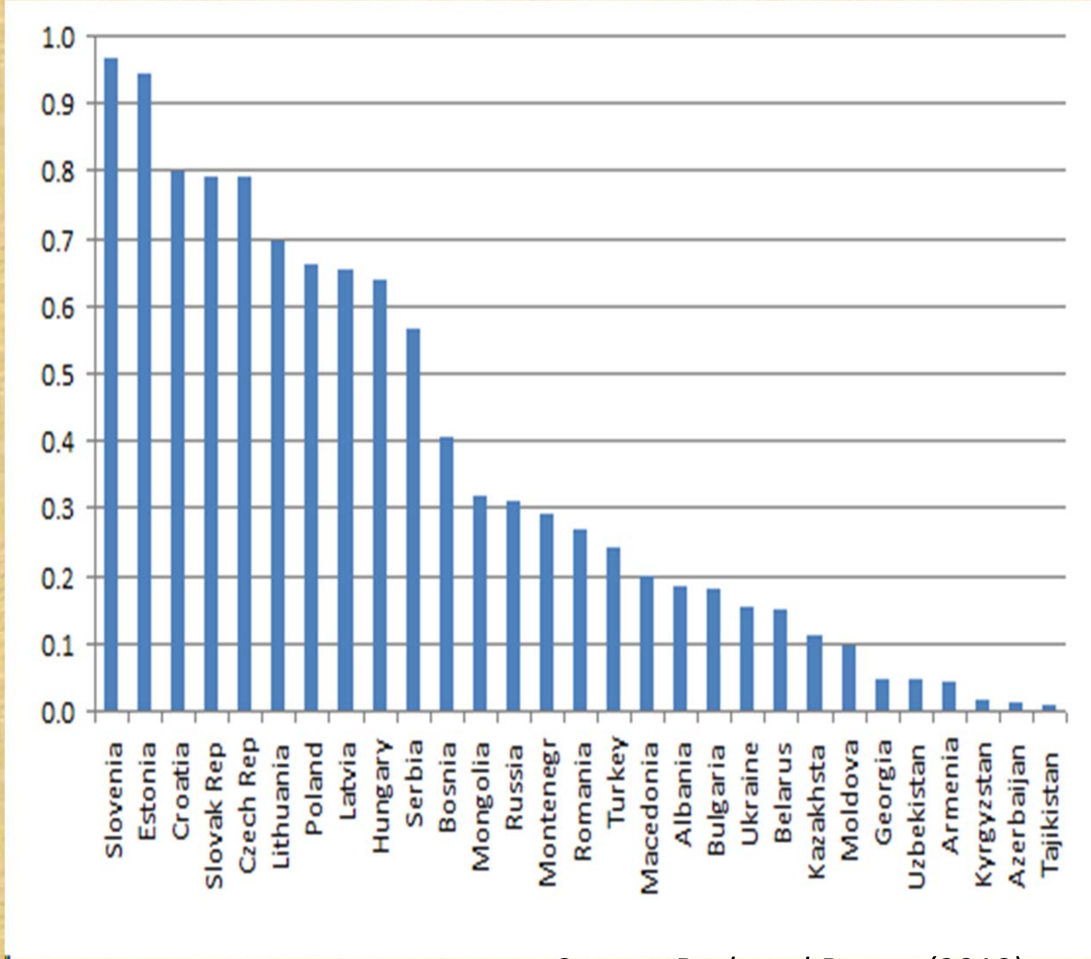
I. Introduction: region description

CEE-5:

- **Large domestic markets**
- **Central location in Europe**
- **EU legal and business standards**
- **Young and educated workforce**
- **Relatively fast economic growth**

Eastern Europe: a very broad and largely heterogeneous group of countries:

EE: Households with bank account



Source: Beck and Brown (2010)

•**Central Eastern Europe (CEE):** Poland, Hungary, Czech Republic, Slovakia and Slovenia (in the EU since 2004, in Eurozone Slovenia 2007 and Slovakia 2009);

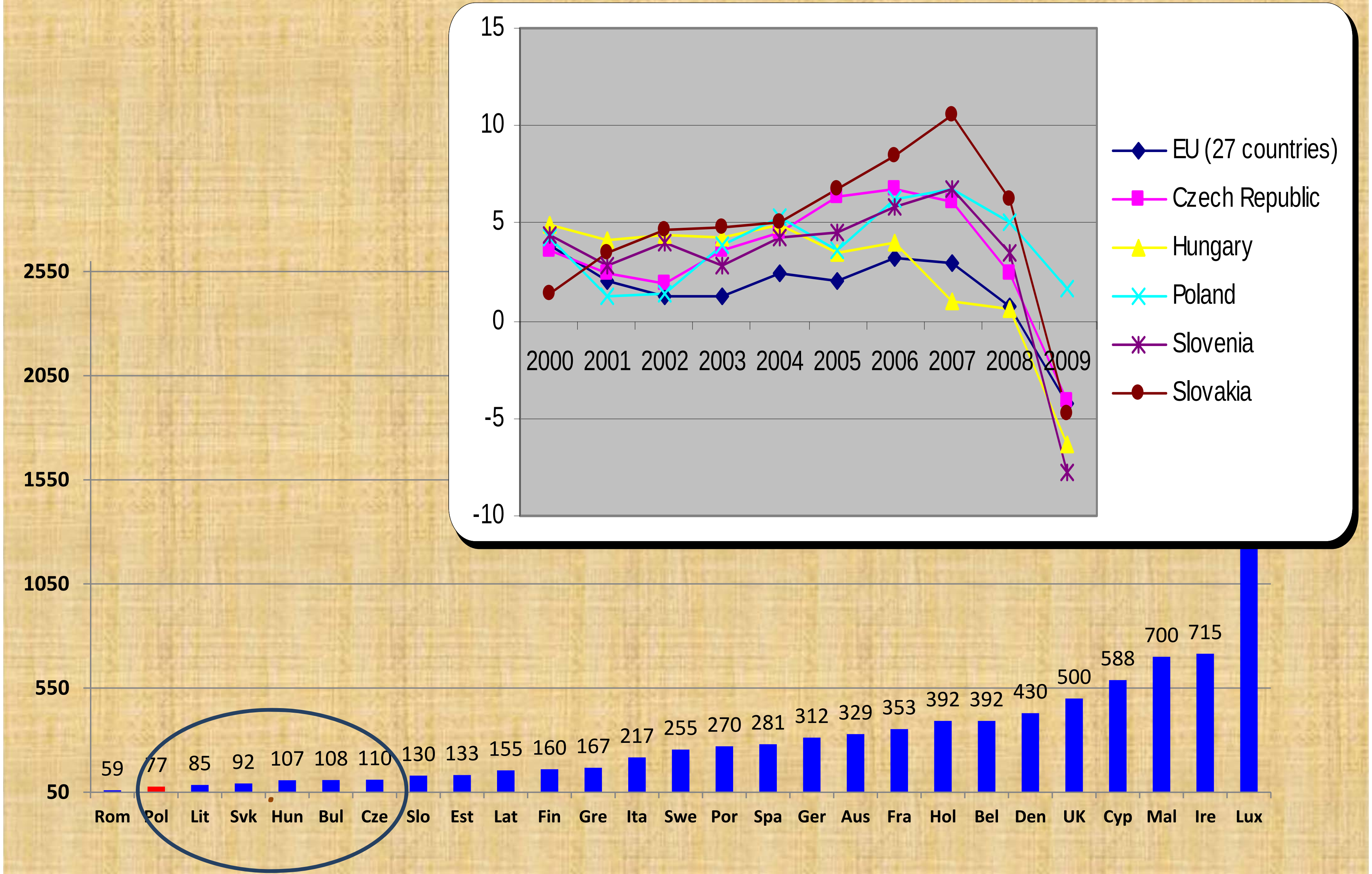
•**Baltic Cs**: Lithuania, Latvia, Estonia (EU 2004, Estonia in Eurozone 2010);

•**South Eastern Europe** (SEE): Romania and Bulgaria (EU in 2007) Croatia, Serbia, Bosnia and Herzegovina, Albania and Kosovo;

•**Commonwealth of Independent States (CIS)**: Russia, Ukraine and Belarus.

I. Introduction: region description

GDP Growth

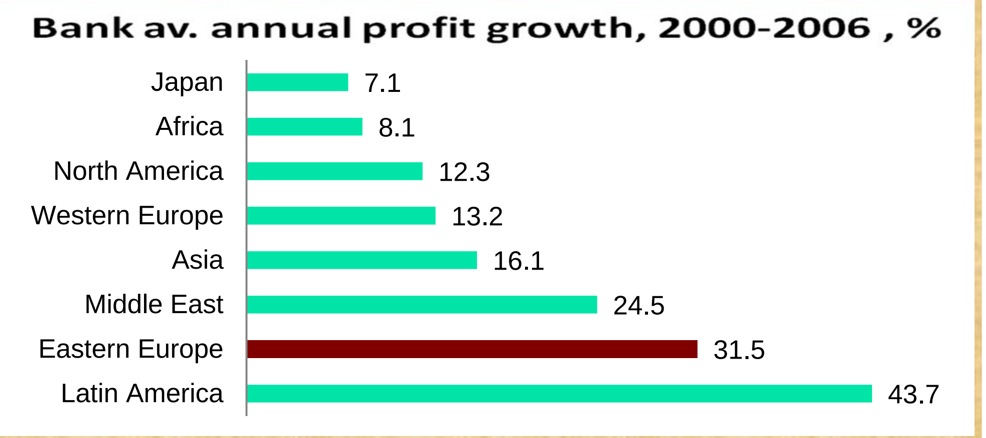


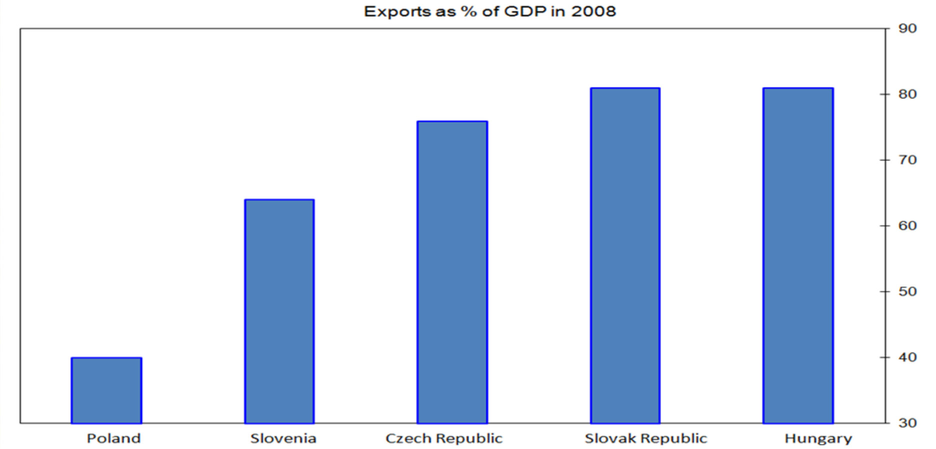
Bank Assets/GDP in the UE 27 (2007r.)

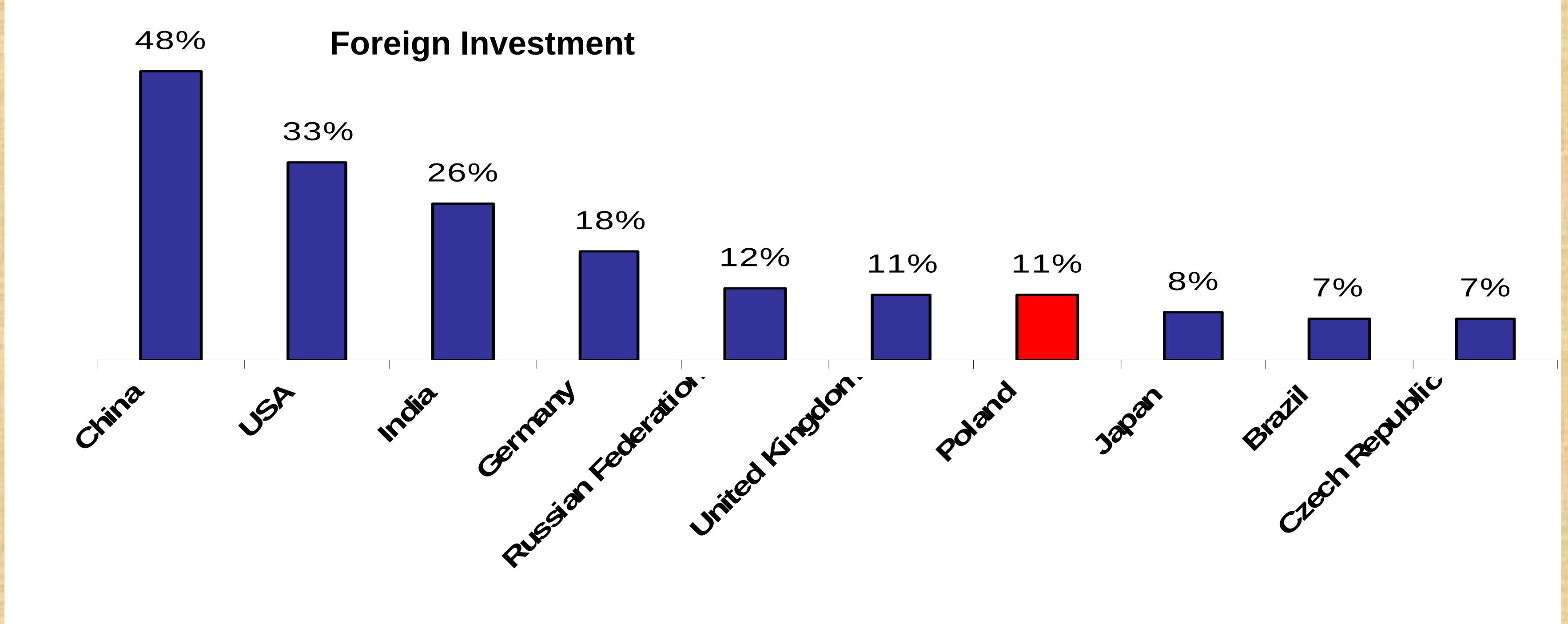
Source: ECB,

I. Introduction: region description

CEE among top most attractive regions for foreign investment







Source: Ernst &Young European Attractiveness Survey 2007, Mc Kinsey Quarterly.

CEE: Top 10 banks by total assets (2009)

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10
Poland	PKO BP (state)	Pekao (UCG)	BRE (Commerzbank)	ING BSK (ING)	BZ WBK (AIB)	Millenium (BancoComPort)	Citibank (Citi)	Kredyt Bank (KBC)	BGK (state)	Raiffeisen (RZB)
Czech R.	Ceska Sporitelna (ERSTE)	CSOB (KBC)	Komercni Banka (SocGen)	UniCredit (UCG)	Raiffeisen (RZB)	ING Bank (ING)	Citibank (Citi)	GE Money (GE Capital)	Commerzbank (Commerzbank)	Volksbank (Volksbank Intl)
Slovakia	Slov Sporitelna (ERSTE)	VUB (IntesaSP)	Tatra (RZB)	CSOB (KBC)	UniCredit (UCG)	Dexia (Dexia)	Prva Stavebna (Bausparkassen)	ING (ING)	OTP (OTP)	Volksbank (Volksbank Intl)
Hungary	OTP Majority foreign capital	K&H (KBC)	CIB (IntesaSP)	MKB (BayernLB)	Raiffeisen (RZB)	ERSTE (ERSTE)	UniCredit (UCG)	Budapest Bank (GE Capital)	FHB (No majority)	Citibank (Citi)
Slovenia	NLB (state)/(KBC)	NKBM (state)	Abanka Vipa Local private	UniCredit (UCG)	SKB (SocGen)	Banka Koper (IntesaSP)	Banka Celje (NLB 41%)	Hypo Alpe (BayernLB)	SID banka d.d. (state)	Gorenjska (Local private)
Croatia	Zagrebacka Banka (UCG)	Privredna (IntesaSP)	ERSTE (ERSTE)	Raiffeisen (RZB)	Hypo Alpe (BayernLB)	SocGen (SocGen)	Hrvatska Postanska (state)	(OTP) (OTP)	Volksbank (Volksbank Intl)	Podravska Banka (Foreign ownership)
Bulgaria	UniCredit (UCG)	DSK (OTP)	UnBulgBnk (NB of Greece)	Raiffeisen (RZB)	Eurobank EFG (Eurobank EFG)	FirstInvestBank (Private)	Piraeus (Piraeus)	SG Expressbank (SocGen)	Alpha Bank (Alpha Group)	CrpCommBnk (Local private)
Romania	Banca Comerciala (ERSTE)	Pentru Dezvoltare (SocGen)	Volksbank (Volksbank Intl)	Raiffeisen (RZB)	Alpha Bank (Alpha Group)	UniCredit (UCG)	Banca Transilvania (Local private)	Banc Post (Eurobank EFG)	CEC (state)	ING (ING)
Bosnia-H.	Raiffeisen (RZB)	UniCredit (UCG)	Hypo Alpe Mostar (BayernLB)	Hypo Alpe BL (BayernLB)	NLB Razvojna (NLB)/(KBC)	Intesa SP (IntesaSP)	Volksbank (Volksbank Intl)	NLB Tuzlanska NLB/(KBC)	Nova (foreign private)	–
Serbia	Banca Intesa (IntesaSP)	Komercijalna (state)	Raiffeisen (RZB)	Eurobank EFG (Eurobank EFG)	Hypo Alpe (BayernLB)	UniCredit (UCG)	Vojvodjanska (NB of Greece)	AIK (ATEbank Greece)	SocGen (SocGen)	ProCredit (ProCredit)
Turkey	Ziraat (state)	Is Bankasi (Is Bank fund)	Garanti (Dogus Group & GE Capital)	Akbank (Sabanci Group & Citi)	Yapi Kredi (UCG)	Vakifbank (state)	Halk Bank (state)	Finansbank (NB of Greece)	Denizbank (Dexia)	ING (ING)
Ukraine	PrivatBank (Local private)	Raiffeisen (RZB)	UniCredit (UCG)	Oschadbank (state)	Ukrsibbank (BNP Paribas)	Ukreximbank (state)	(OTP) (OTP)	Alfa (Alfa Group)	Bank Nadra (Local private)	VTB bank (VTB Group)
Russia	Sberbank (state)	VTB (state)	Gazprombank Gazprom / (state)	Rosselkhozbank (state)	Bank of Moscow (Moscow City)	Alfa-bank (Alfa Group)	UniCredit (UCG)	Raiffeisen (RZB)	Rosbank (SocGen)	Uralsib (Local private)
Kazakhstan	BTA Bank (state)	Kazkommerts Bank (Local private)	Halyk Sav(ING)s (Local private)	Alliance Bank (state)	ATF Bank (UCG)	Center Credit (Kookmin B. Korea)	NUR Bank (Local private)	Temirbank (state)	Eurasian Bank (Local private)	Kaspi Bank (Caspian Group)
Estonia	Swedbank (Swedbank)	SEB (SEB)	Sampo Pank (Danske Bank)	Nordea (Nordea)	Eesti Krediidipank (Latv Bsn. Bank)	DnB Nord (DnB Nord)	Tallinna Aripank (Local private)	Marfin Bank (Marfin Popular)	UniCredit (UCG)	Parex banka (Parex Group)
Latvia	Swedbank (Swedbank)	Parex banka (state)/EBRD	SEB (SEB)	Nordea (Nordea)	DnB Nord (DnB Nord)	Rietumu (Private)	Aizkraukles (Local private)	Mortgage Bank (state)	UniCredit (UCG)	Latvijas Krajbanka (Snoras)
Lithuania	SEB (SEB)	Hansabankas (Swedbank)	DnB Nord (DnB Nord)	Nordea (Nordea)	Danske Bank (Danske Bank)	Snoras (Local private)	Ukio (Local private)	Parex bankas (Parex Group)	Siauliu (EBRD)	UniCredit (UCG)

Large international groups (top7 in CEE) · State, state-controlled and state-related · Regional foreign players · xxxxxxxxxx Other international players

Analysis, Nov. 2009

CEE -5 : Banking Key Figures

Poland: sound financial system, relatively unexposed to sophisticated financial instruments and high leverage, the loan-to-deposit ratio in the banking system is around 120 per cent, among the lowest in the region,

Czech and Slovak banking: more conservative funding structure and focus on traditional banking activities

Hungary: some 70 per cent of banking sector loans to the private sector are denominated in foreign currencies

	Banking Assets, bn Eur	No. of banks	C5	Loans % of GDP	TL % of TD	NPL % of TL	Share of Foreign Banks %
Poland	262	70	44	46	118	4.5	67
Hungary	126	38	54	59	136	2.9	83
Czech R.	154	37	62	56	81	2.8	88
Slovakia	63	26	71	47	77	2.9	96
Slovenia	47	19	59	90	88	1.6	29

CEE-5 banks:
Are they sound and stable?
Are they resistant to crisis?
Will they be strengten/weakened by new regulatory architecture?

Financial architecture: form follows function

BGK Warsaw

Post-war regimes: traditional banking

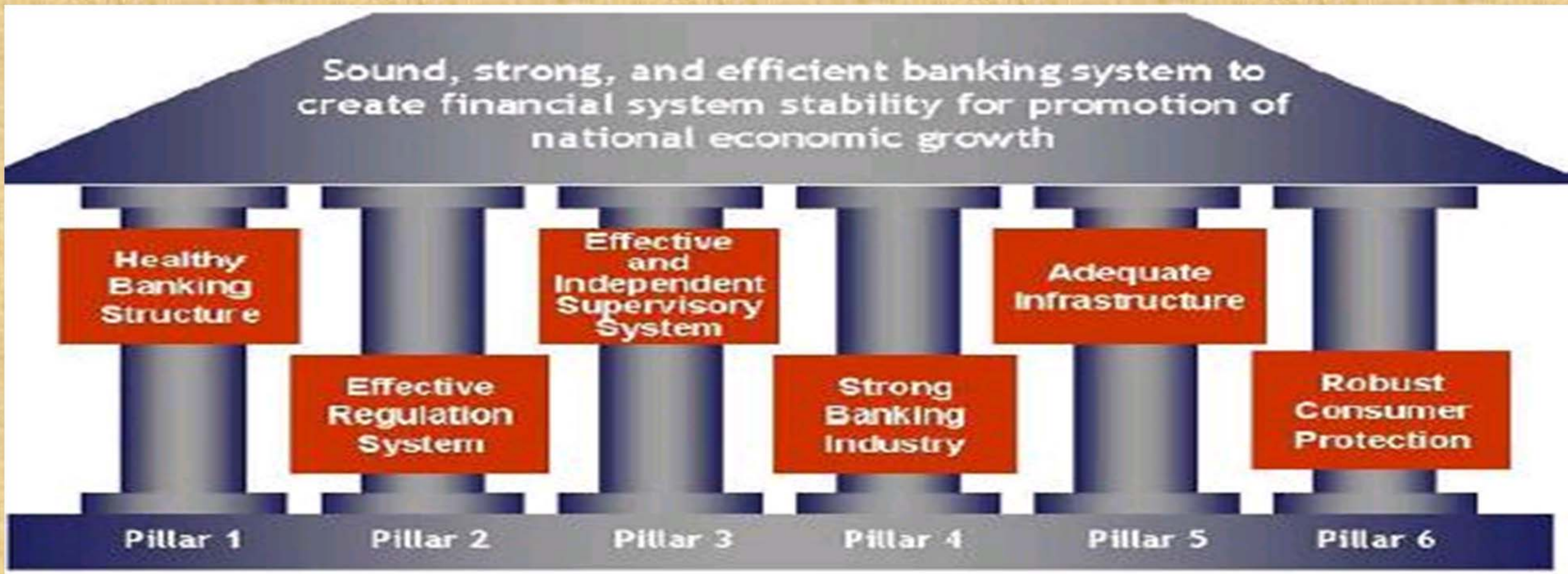
Fed. NY

ING Katowice

Basel II Framework

Citigroup Warsaw

Basel III Framework



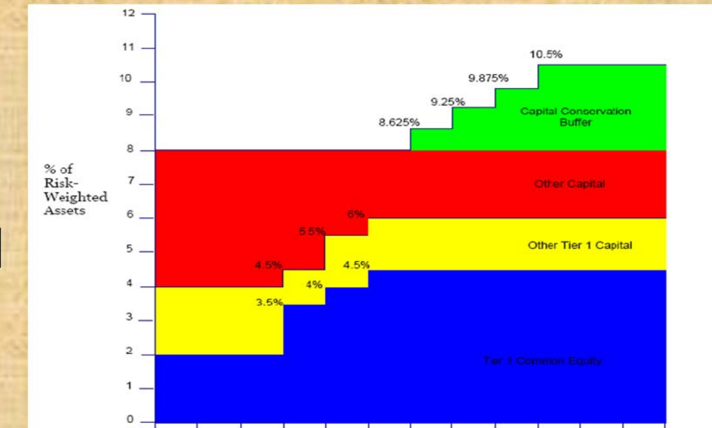
Building Post Crisis Financial Architecture

- **Global, regional, national?**

Banks are internatonal in life but national in death

(Charles Goodhart)

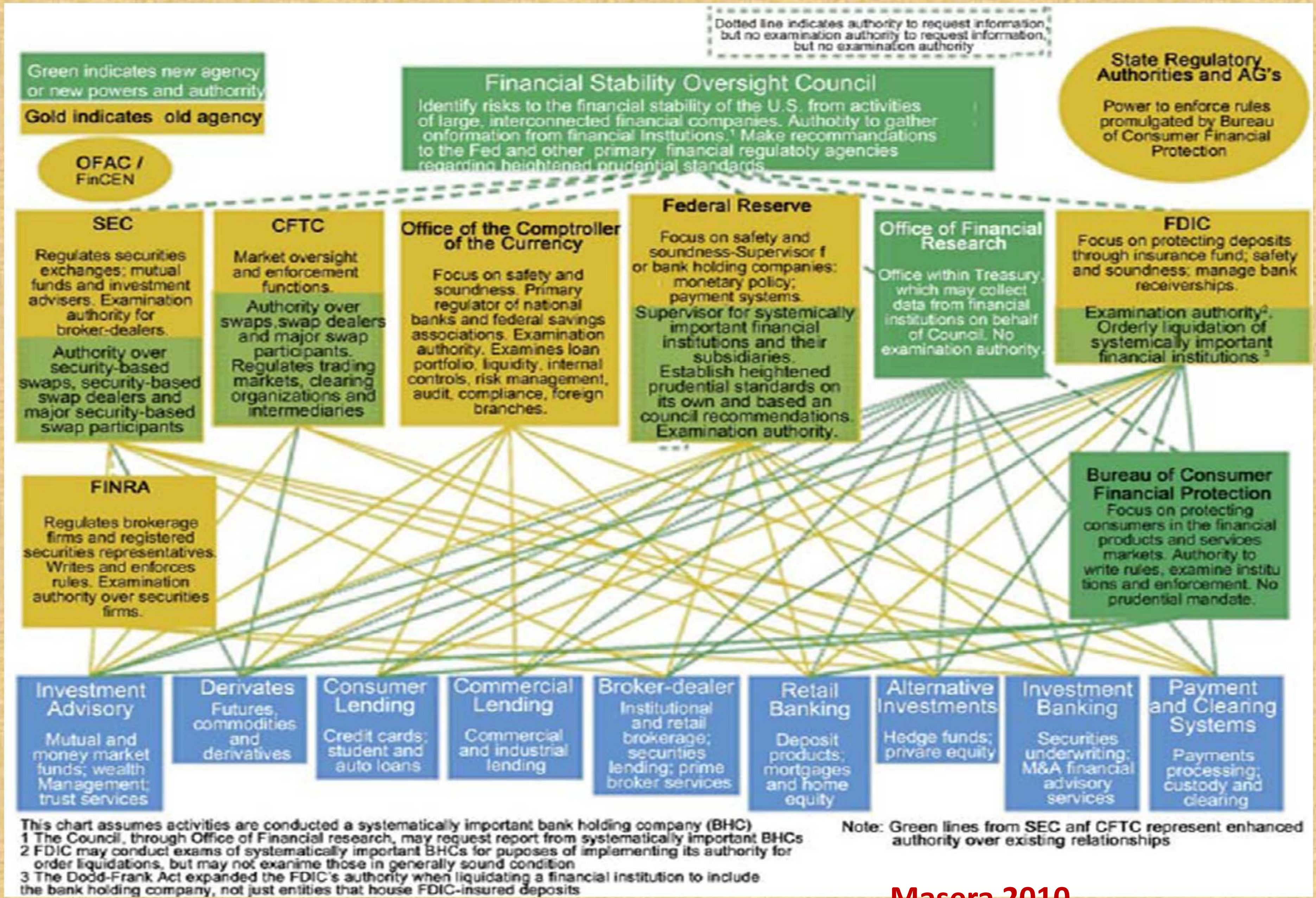
- **Macro and micro prudential regulations: do safe bank create a safe system?**



- Global solution (BKBS, G-20):
  - Microprudential regulations – Basel III
  - Macroprudential regulation – FSB

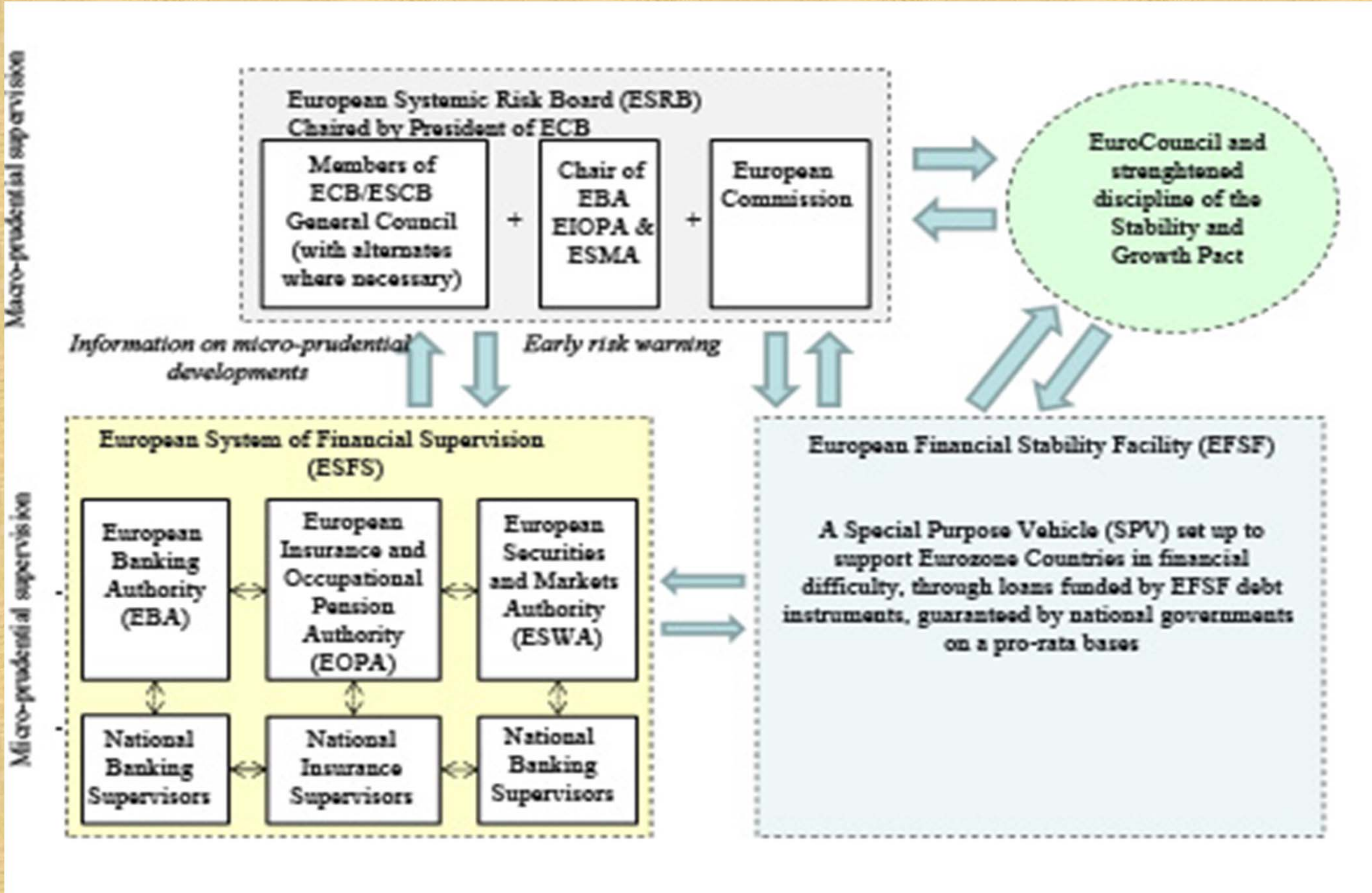
- Practical outcome: regionalisation of macroprudential regulations (US,EU)

US Dodd-Frank Act, 2010



Masera 2010

EU Financial Architecture 2010



Masera 2010

Do we need macroprudential regulations?

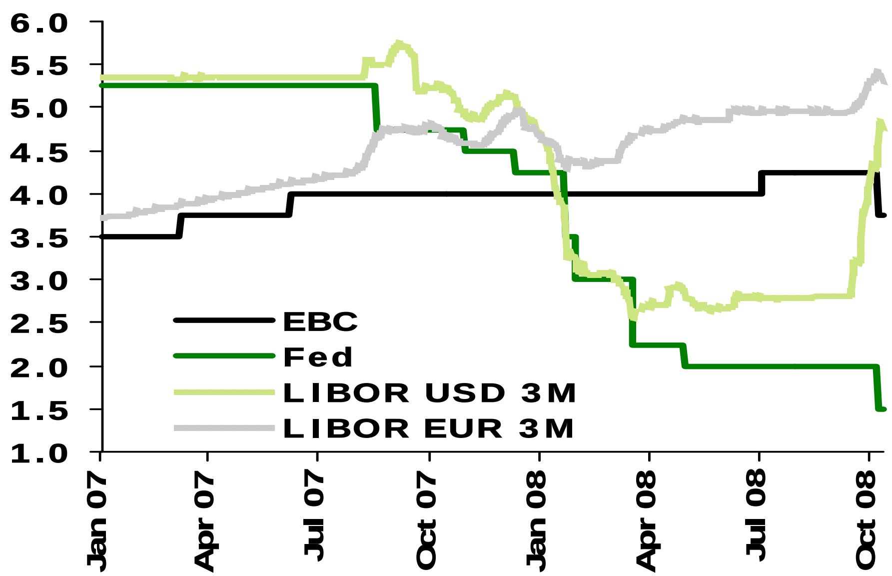
Macroprudential regulations: has the 2007-2008 crisis been properly diagnosed?

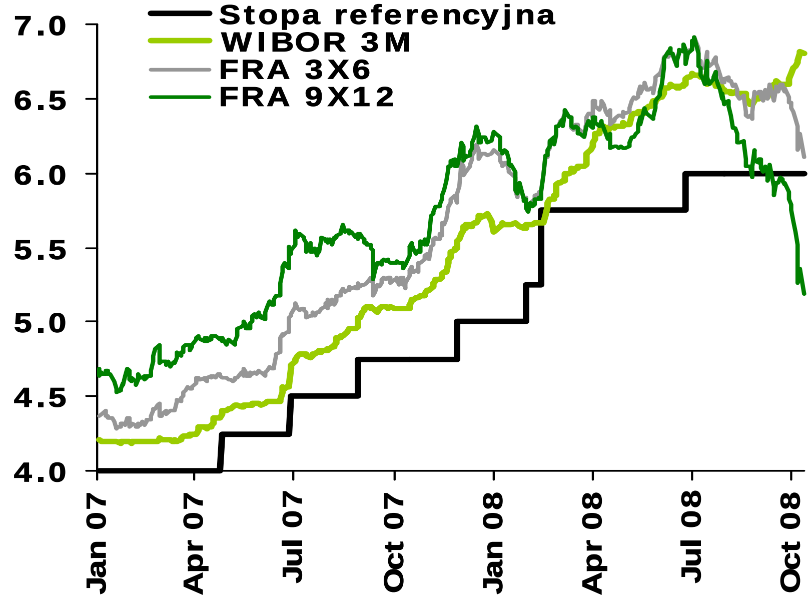
- „*Current financial crisis was misdiagnosed as a liquidity problem when the issues were solvency and uncertainty about solvency*”)

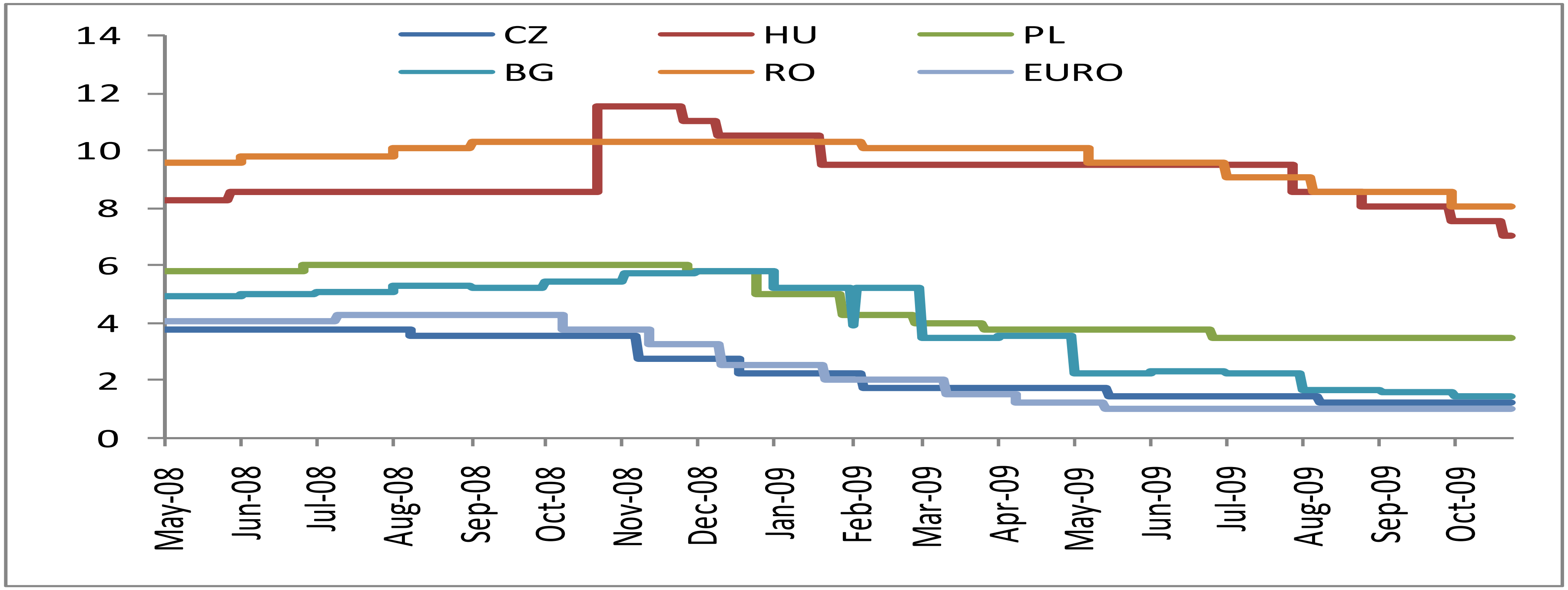
  Key problems were excessive leverage combined with funding longer term assets with short term liabilities (wrong bank business models)

  (*FRB Chicago)*
- regulatory capture (integrated regulatory model in many countries)
- replacing strong supervision by market discipline – incorrect trade-off

Crisis and CB rates







Do safe bank create safe system?
In CEE-5: Yes

- A*nayiotos, Toroyan, Vamvadikisn (2010)*: research of relative efficiency of banks in emerging Europe, using Data Envelopment Analysis (DEA).

- The results suggest that DEA efficiency scores before the recent crisis were strongly linked to the host country's level of development;
- were higher for foreign-owned banks,
- bank efficiency increased during the pre-crisis boom, but fell during the crisis,
- foreign-owned banks in EE seem to be less efficient than their mother banks,
- the easy access of foreign owned banks to financing from their parent banks was to a large extent the engine of the pre-crisis credit boom.

- On average, bank efficiency was equal to 0.55 in 2004, increasing to 0.61 in 2007, just before the crisis, but falling to 0.52 just after the crisis.
- Bank efficiency during the boom years increased the most in Romania, Poland, and Bulgaria.

Regression results: ROAA

- Positive impact on bank profitability:

-high GDP growth

- high asset growth

-low banking costs,

-high bank concentration

Miklaszewska, Mikolajczyk 2009

Variable	Model1		Model2	
Intercept	3.595	***	18.345	*
	(0.832)		*(10.351)*	
GDP per capita (UE27=100)	-0.045	***	-0.058	**
	(0.004)		*(0.023)*	
Real GDP growth rate	0.048	***	0.058	***
	(0.010)		*(0.008)*	
Inflation	-0.037		-0.056	
	(0.035)		*(0.045)*	
Concentration: C5 index	0.022	**	0.043	**
	(0.009)		*(0.018)*	
Share of foreign capital in banking sector	-0.012	***	-0.031	
	(0.003)		*(0.021)*	
Ln Total Assets	0.202	***	-0.777	
	(0.076)		*(0.606)*	
Growth of Total Assets	0.008	***	0.006	***
	(0.002)		*(0.001)*	
Equity Capital to Total Assets	0.053	***	0.013	
	(0.010)		*(0.054)*	
Cost to Income Ratio	-0.047	***	-0.045	***
	(0.001)		*(0.002)*	
Loans to Total Assets	-0.003		0.013	*
	(0.003)		*(0.007)*	
Non-Interest Income to Gross Revenue	-0.011	*	-0.012	
	(0.006)		*(0.010)*	
Bank Deposits & Short-term Funding to Total Assets	0.004		0.005	
	(0.003)		*(0.007)*	
Country dummy: USA	1.103	***		
	(0.173)			
Country dummy: Belgium & the Netherlands	-0.257	***		
	(0.063)			
R-squared	0.73		0.88	
Adjusted R-squared	0.72		0.83	
F-statistic	90.94		21.62	
Prob(F-statistic)	0.00		0.00	

DEA: **the input: personnel expenses, total fixed assets, interest expense.**
the output: total loans net, liquid assets, total deposits.

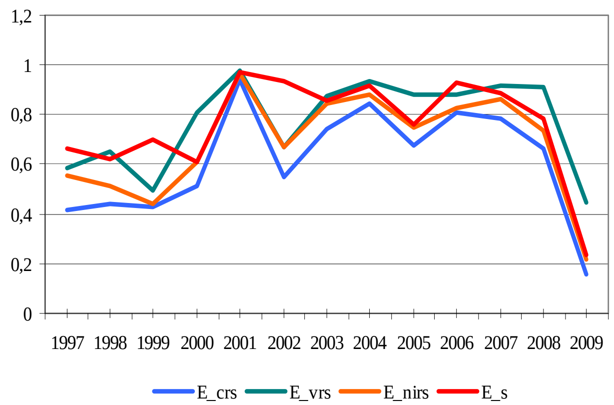
Technical efficiency and scale efficiency have been investigated in the period 97-09

Year (e_vrs)	**1997**	**1998**	**99**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**06**	**2007**	**2008**	**2009**	**No. of banks**
Czech Rep.	0.59	0.65	0.50	0.81	0.98	0.67	0.88	0.94	0.88	0.88	0.92	0.91	0.44	**27**
Poland	0.60	0.76	0.63	0.80	0.86	0.80	0.86	0.77	0.81	0.86	0.56	0.85	0.87	**41**
Slovakia	0.76	0.67	0.75	0.91	0.93	0.85	0.97	0.96	0.93	0.98	0.93	0.95	0.91	**17**
Sovenia	0.74	0.64	0.73	0.54	0.95	0.85	0.97	0.96	0.93	0.94	0.96	0.94	0.73	**19**
Hungary	0.62	0.66	0.74	0.52	0.72	0.64	0.52	0.67	0.76	0.82	0.86	0.80	0.73	**32**

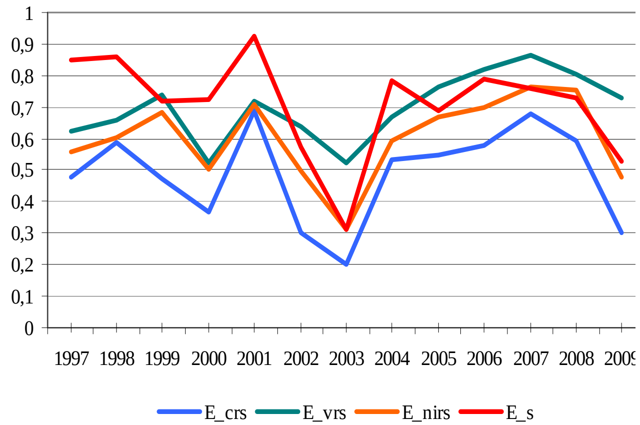
Pawłowska, Miklaszewska

DEA Indicators for banking sectors of CEC5 (1997-2009 means)

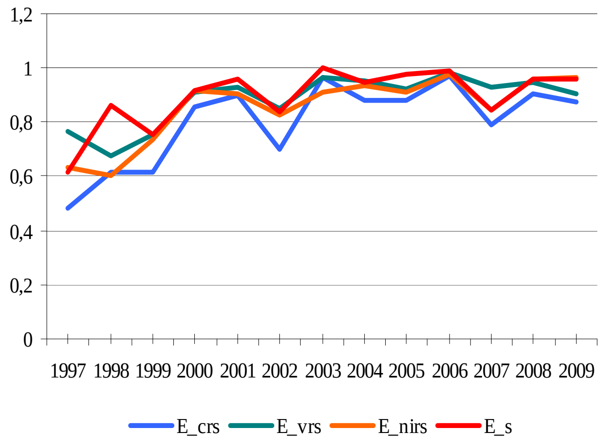
Czech Rep.



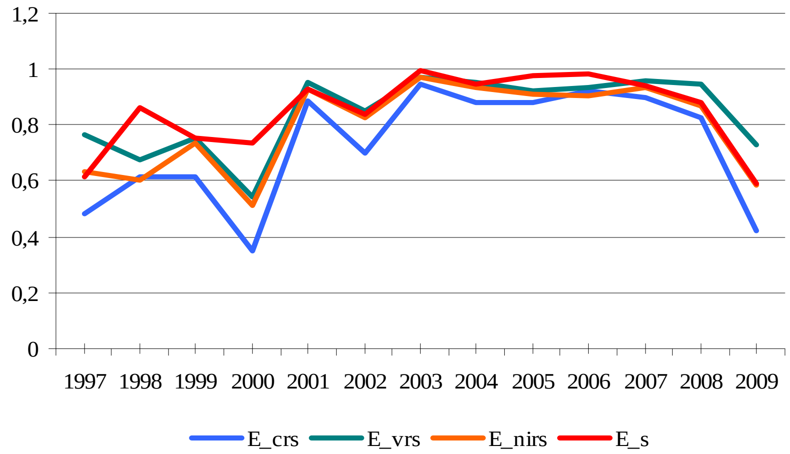
Hungary



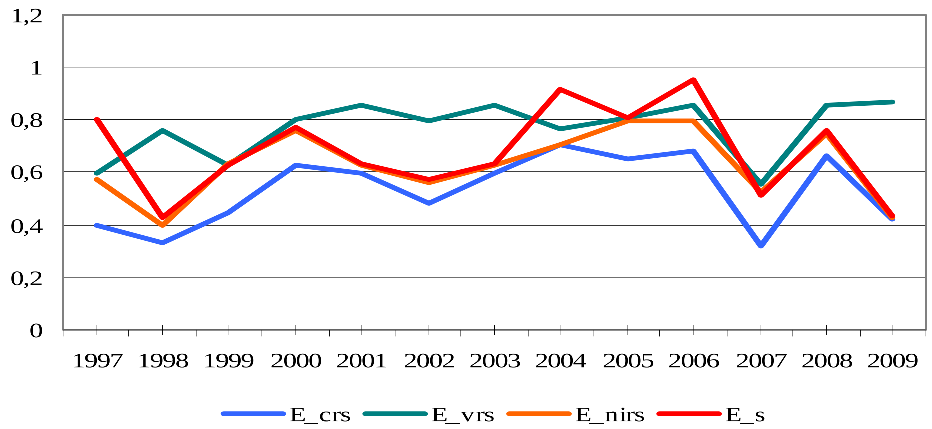
Slovakia



Slovenia



Poland



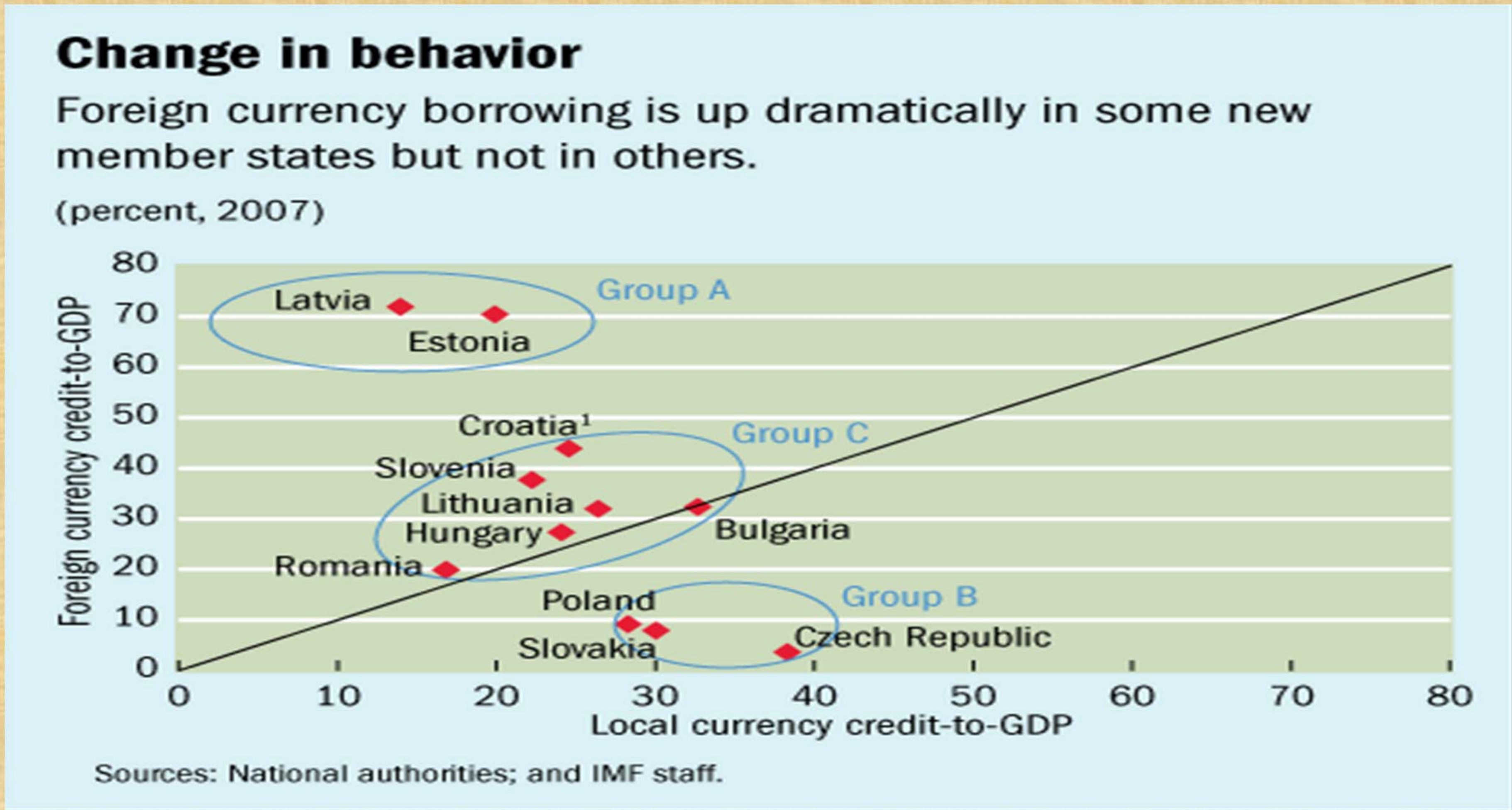
CEE: threats

Situation on foreign currency markets

- IMF (2008): **15%** of private sector credit in EE is either denominated in or indexed to foreign currencies (Euros and Swiss Francs), compared with only **4%** a decade ago
- the EU membership increased people's willingness to assume currency risk
- Foreign currency borrowing raises region's exposure to banking crisis

Foreign currency borrowing: by-product of EU membership

*Ba*nks refinance themselves abroad and then pass on the currency risk to their clients.



IMF Survey Magazine: Countries & Regions

FX loans: Threat to financial stability in EE

- Unhedged foreign currency borrowing: more than 70 % of all private sector loans in **Estonia, Latvia, and Serbia**
- The share of FX loans exceeds that of domestic currency loans in (**Bulgaria, Hungary, and Romania**
- FX borrowing throughout the region is dominated by retail loans – household mortgages and small business loans – to clients which typically have their income and assets in local currency.
- National authorities have taken measures to discourage such loans, which are not very effective

EBRD, 2010

FX loans: other views

- Currency mismatch (bank lending to unhedged borrowers) exposes the economy to systemic risk, but it is also an engine of growth (Brown, De Haas, EBRD 2011)

- They found out that foreign banks lend more in FX to corporate clients, but not to households.
- Found evidence for ‘contagion’ : banks with low levels of FX lending in 2001 increase their FX lending more strongly.
- Indicated that macroeconomic stability is a key determinant of FX lending in the transition economies, while real exchange rate volatility discourage FX lending,

- Conclusions: credible macroeconomic policies which encourage depositors to save in local currency may be more important than regulatory proposals to limit the wholesale funding of banks.

Conclusion: Financial crisis and CEE-5 banks

2007-2009 period:

- banks entered crisis in a sound shape (successful restructuing of the 1990s), hence they reguired less restructuring than their international owners ,
- experience in bank crisis management (early 1990s, 1997-98),
- global owners (70-90% of CEE bank assets) behaved responsible,
- many risk areas has not been developed i yet,
- bank business model: traditional intermediation.

Bright prospects? - N0

- Crisis short-term impact: small (slowing down of growth, diminished profitability)
- Long-term impact – strongly negative

Market risk	**Currency volatility**
Credit risk	**Tightening of credit availability**
Bank ownership	**New business models of foreign banks: less risk, less product innovation, less competition**
Macroeconomy	**Transferring imbalances and volatitity**
Regulations	**Marginalisation of EE (BCBS)**