

Regional Perspectives on Reserve Holdings and Pegging Relationships for the Euro

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The Rising Role of the Euro

- ***The rising role of the euro can be assessed by:***
- The pegging relationships.
- The currency composition of foreign reserves.
- The composition of foreign debt.
- The use of euro in bank lending and deposits.
- The euro's share in settling/invoicing foreign trade.
- The use of euro in domestic contracts.
- Euro banknote purchases from and sales to countries outside the euro area.
- Indirectly, by the convergence of inflation and interest rates to euro area levels.

Regional Coverage

- New EU member states (NMS12): Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia.
- Balkan countries (5): Albania, Bosnia-Herzegovina, Croatia, Montenegro, Serbia.
- Russia, Ukraine.
- Total: 19 countries.

Table 1: Exchange rate regimes in Emerging Europe (1996-2008)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Bulgaria	Floating		Currency board, DM	Currency board, EUR										
Cyprus	Peg to ECU +/-2.25%			PEG to EUR			Peg to EUR +/-15%			ERM2 +/-15%		Euro		
Czech Rep.	Peg 65%DM-35%USD		Floating											
Hungary	Crawling peg, +/-2.25%, 30%USD-70%ECU			Crawling peg, EUR +/-2.25%		PEG to EUR +/-15%						Floating		
Estonia	Currency board, 1 DM = 8 EEK						Currency board to EUR		ERM2, Currency board					
Latvia	Peg to SDR, +/- 1%									Peg €	ERM2 +/-1%			
Lithuania	Currency board to USD						Currency board to EUR		ERM2, Currency board					
Malta	Peg (USD, EUR, GBP)							Peg to EUR		ERM2, pegged		Euro		
Poland	Crawling peg, USD-DM-GBP-FFr-CHF			Peg 55%EUR 45%USD		Floating								
Romania	Floating													
Slovakia	Managed floating										ERM2 +/-15%			
Slovenia	Managed floating								ERM2 narrow band		Euro			
Albania	Floating (1992.07. -)													
Bosnia and Hercegovina	Currency board 1 KM = 1DM			Currency board, 1 KM= 0.51113 Euro										
Croatia	Managed floating			Managed floating, de facto PEG to EUR										
Montenegro	PEG DM						Euroization							
Serbia	PEG DM						Managed floating							
Russia	Peg to USD			Managed float (de facto Peg to USD)						Managed float against a basket of USD&EUR				
Ukraine	Peg or de facto peg to USD													

Source: IMF

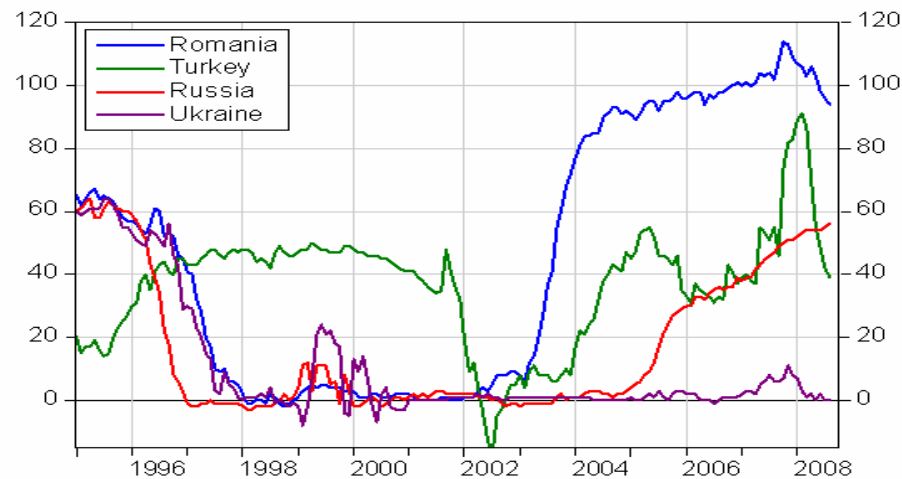
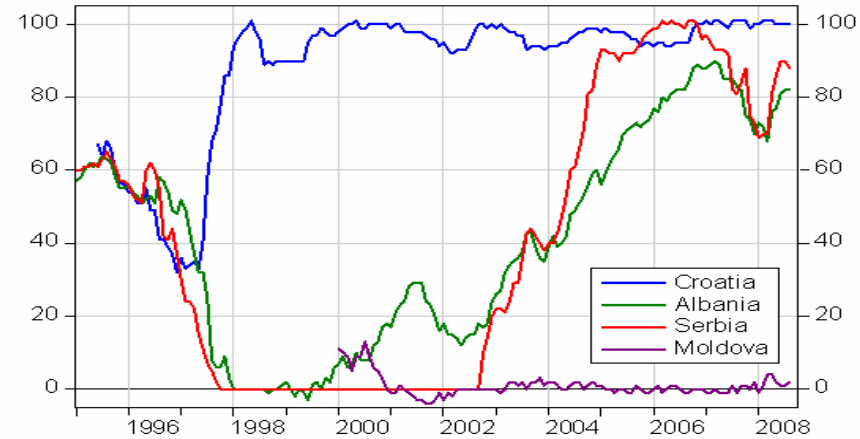
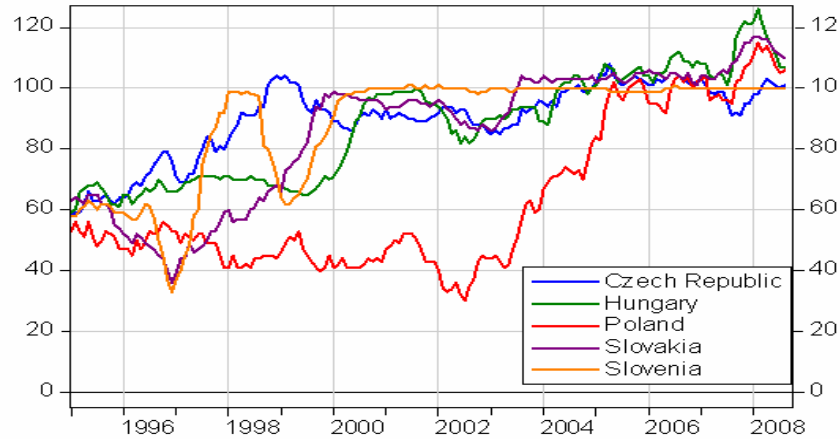
- Pegged to USD
- Pegged to the DM or a basket of currencies
- Pegged to EUR
- Floating



Pegging Relationships

- Four NMS already joined the euro area: Cyprus, Malta, Slovenia, Slovakia (January 2009).
- An increasing number of other countries in the region peg their exchange rate to the euro:
- Five countries peg to the euro under currency board arrangement: Bulgaria, Bosnia-Herzegovina, Estonia, Latvia, Lithuania.
- Croatia pegs de facto to the euro under managed floating.
- Montenegro uses the euro.

Graph 1: Minimum variance basket (percentage share of the euro)

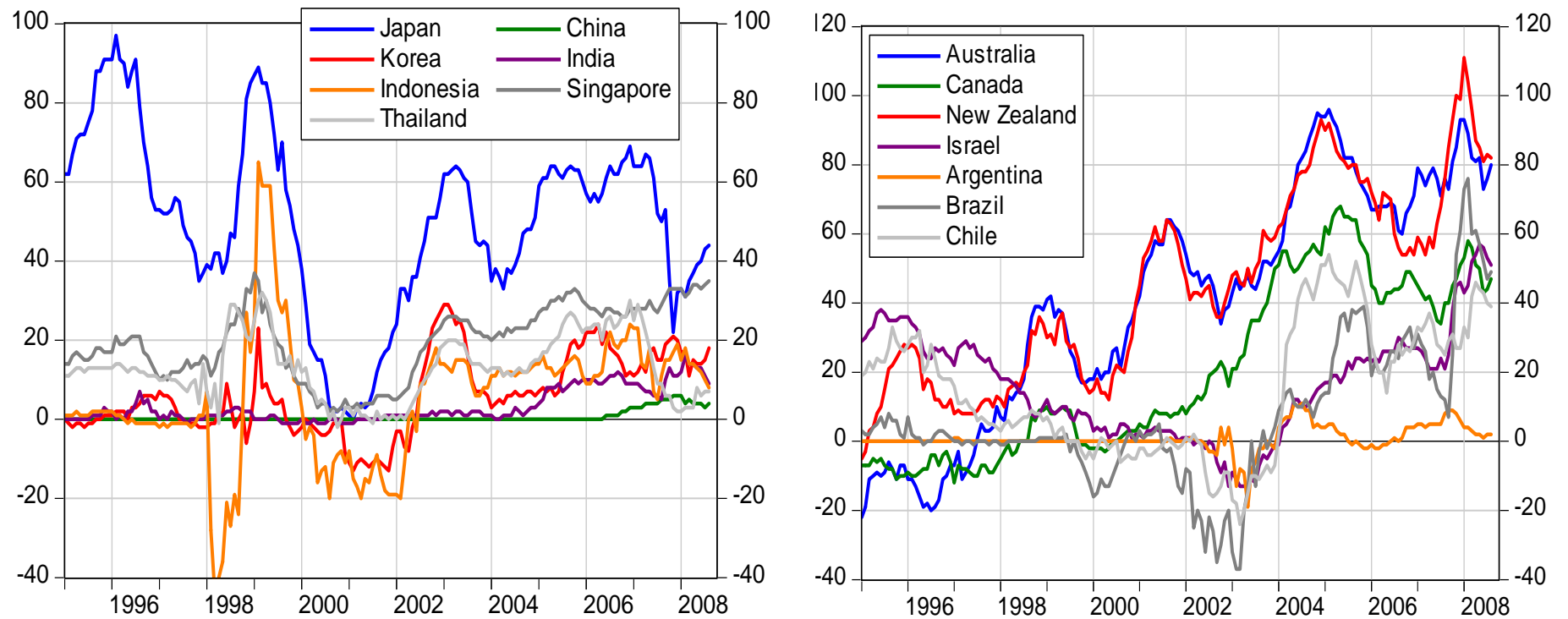


Source: Author's calculations

Share of euro in floaters

- Among most floaters in the region, the exchange rate is more stable against the euro than the dollar and this trend has intensified over the years.
- In Russia, where earlier the exchange rate had been de facto pegged to the dollar, since 2005, it has increasingly followed the euro.
- Only in Ukraine and Moldova has the exchange rate followed/been pegged to the dollar.

Graph 2: Minimum variance basket (percentage share of the euro)

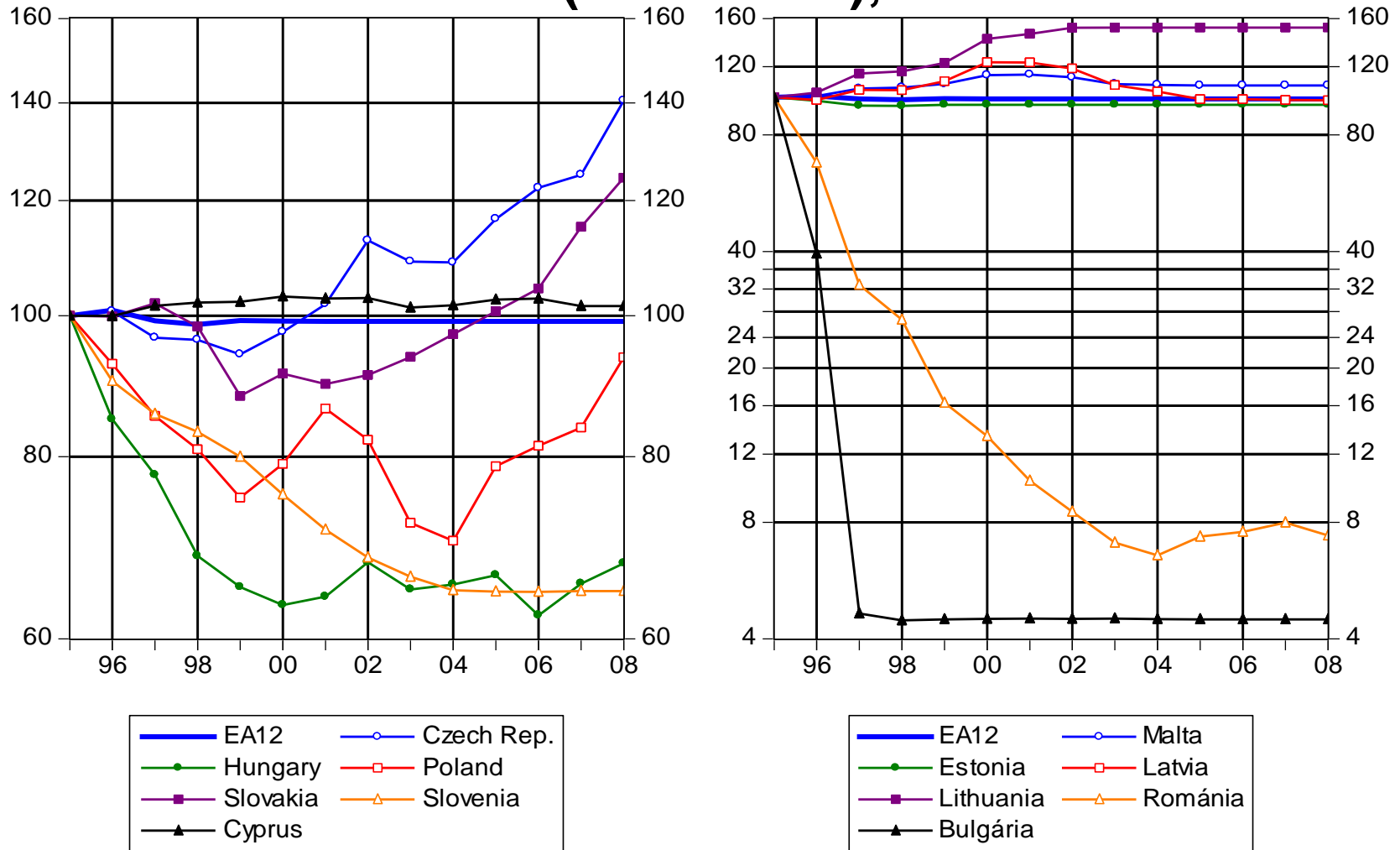


Source: Author's calculations

Nominal and Real Exchange Rate Developments

- The nominal exchange rates against the euro have over the years exhibited appreciating, depreciating or stable trends, but the real exchange rates have generally shown an appreciating trend.
- Such real appreciating trend is commonly associated with the catching-up process.

Graph 3: Nominal exchange rate against the ECU/EUR in the NMS (1995 = 100), 1995-2008

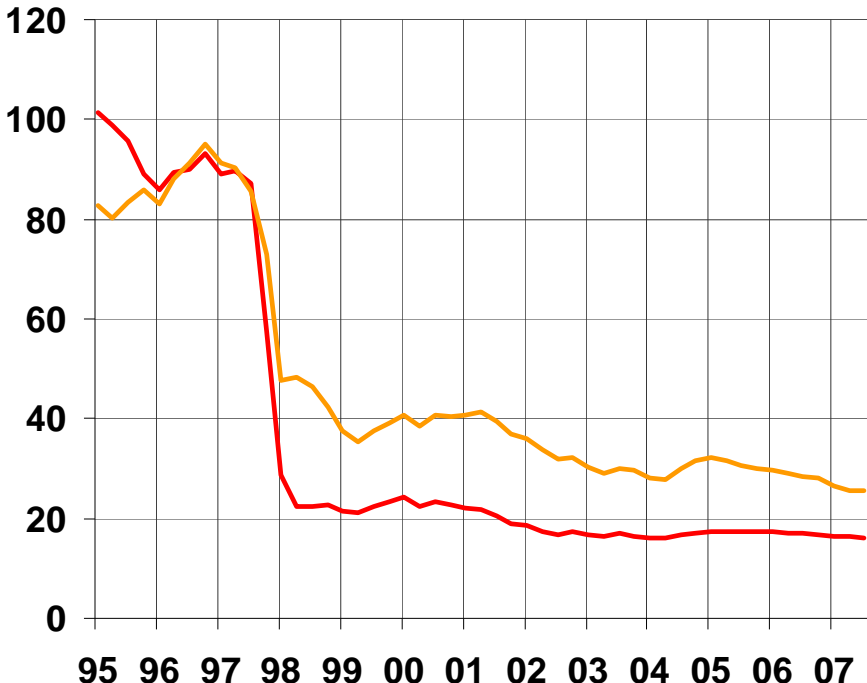
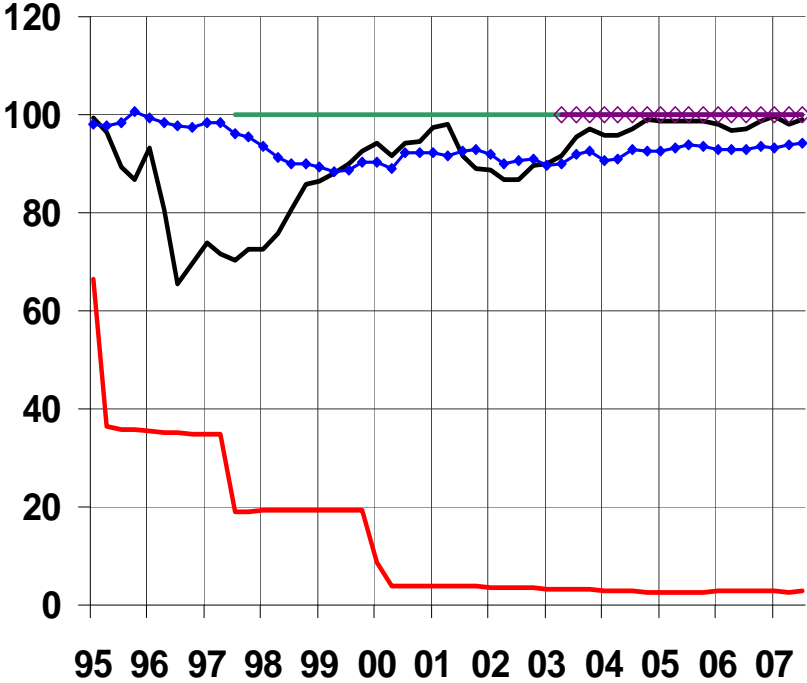


Source: Eurostat

A rise in the index means appreciation



Graph 4: Nominal exchange rate against the ECU/EUR in the Balkans, Russia and Ukraine (1995 = 100), 1995-2008



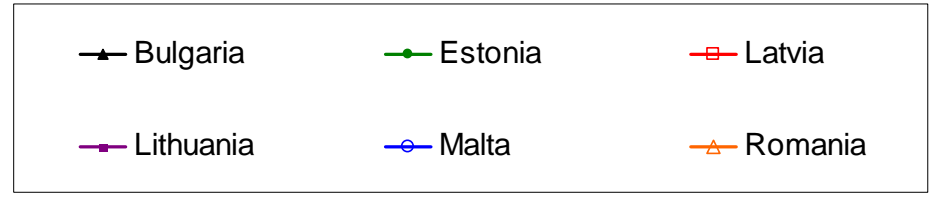
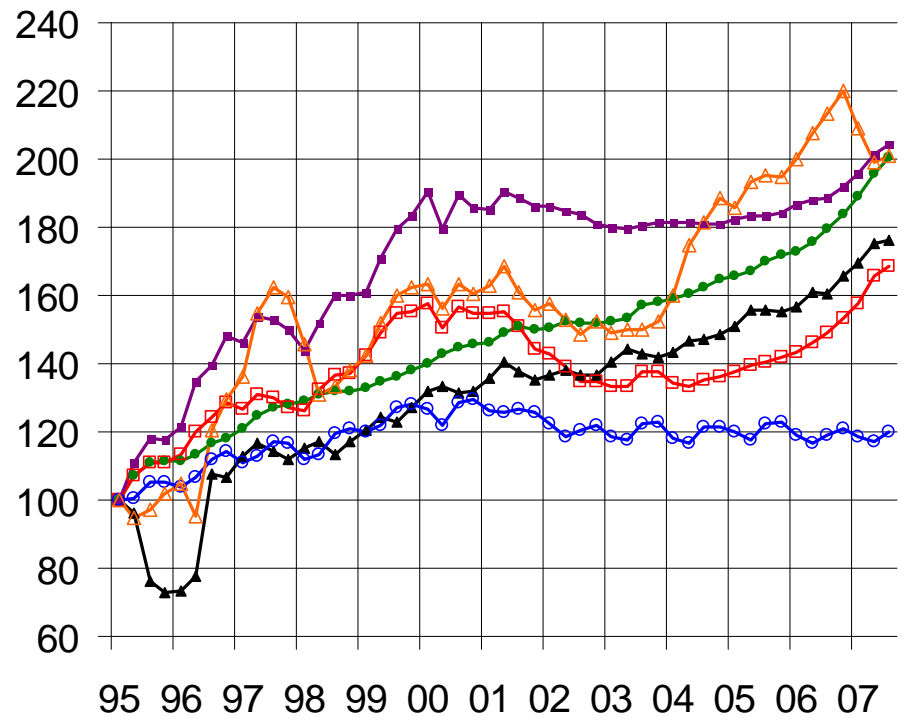
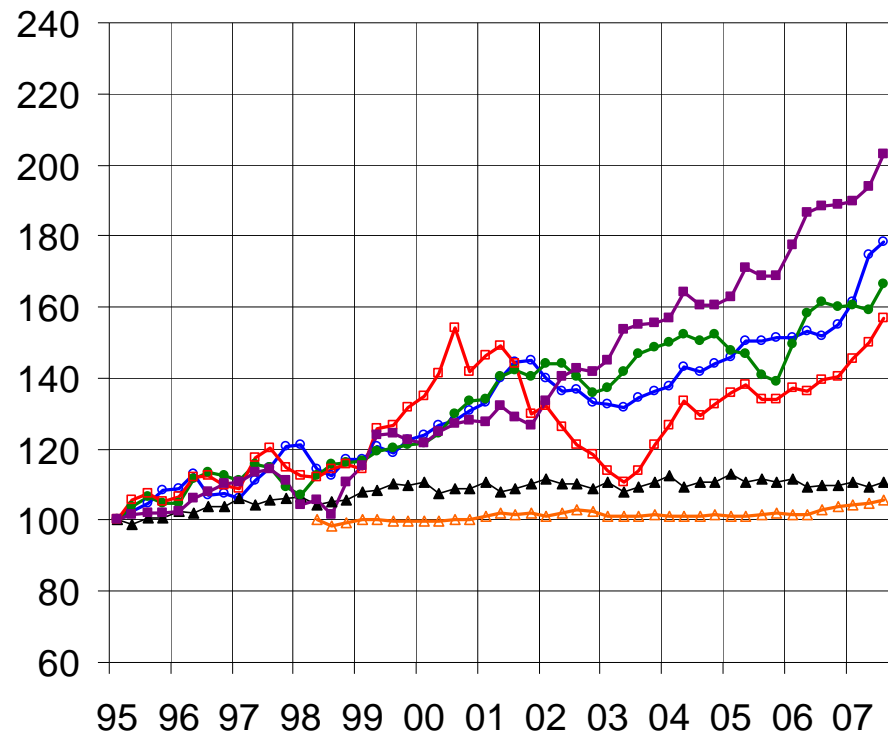
— Albania
 — Bosnia (1998 = 100)
 — Croatia
 — Montenegro (2004 = 100)
 — Serbia

— Russia
 — Ukraine

A decrease in the index means depreciation.
 Sources: Eurostat, National Banks, United Nations



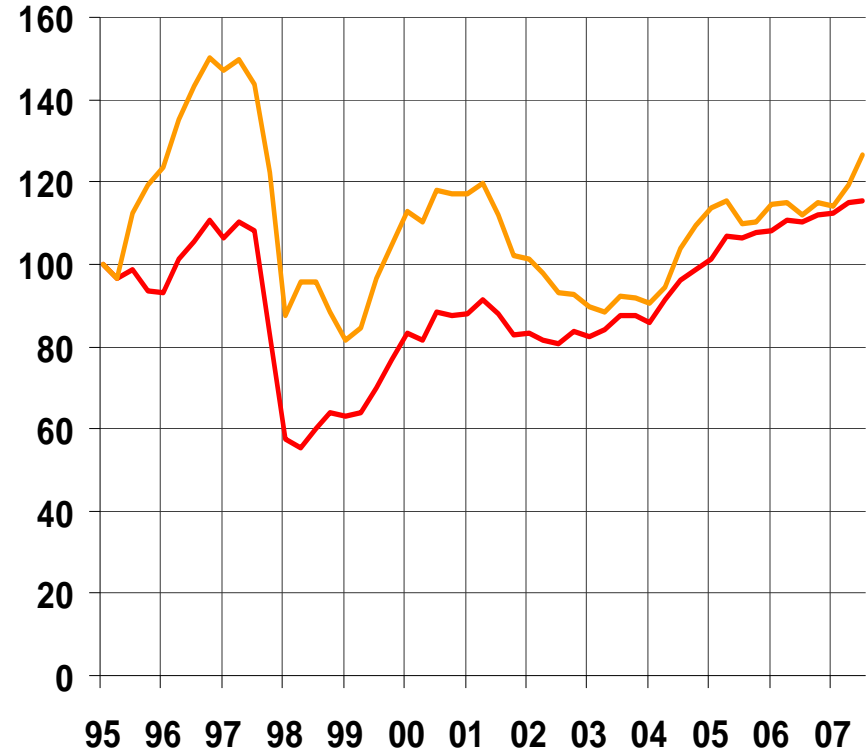
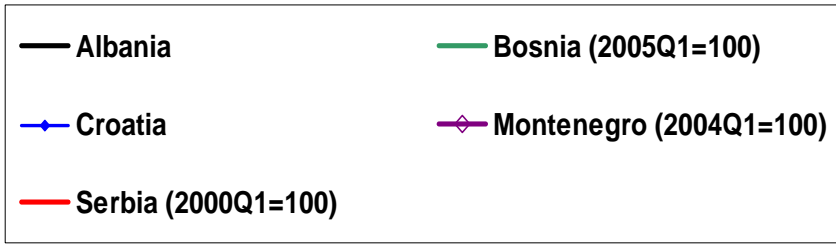
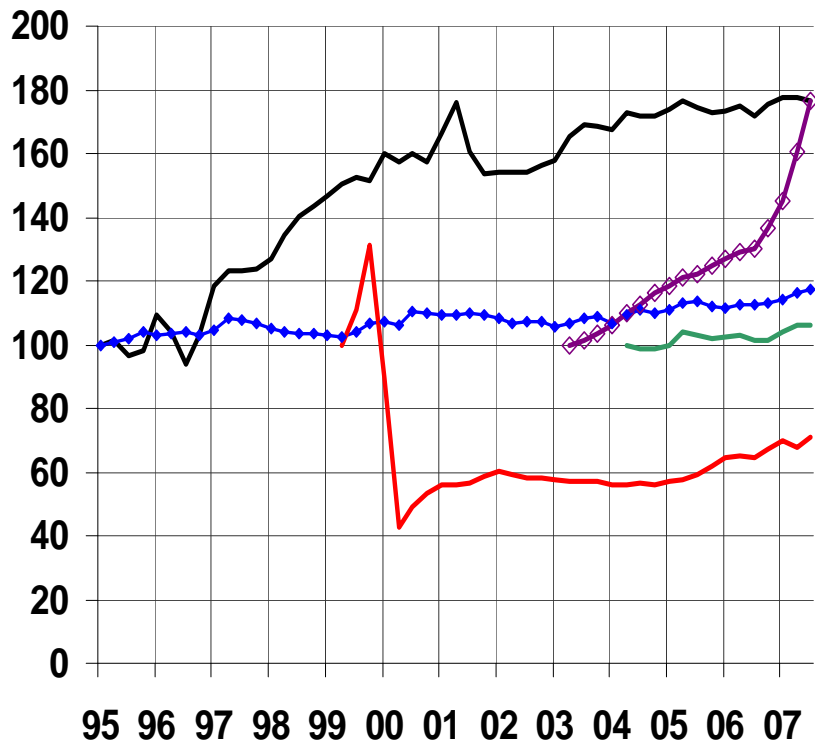
Graph 5: CPI based real exchange rate vs. EA12 in the NMS (1995 = 100), 1995-2008



Sources: Eurostat,
A rise in the index means appreciation.



Graph 6: CPI based real exchange rate vs. EA12 in the Balkans, Russia and Ukraine (1995 = 100), 1995-2008

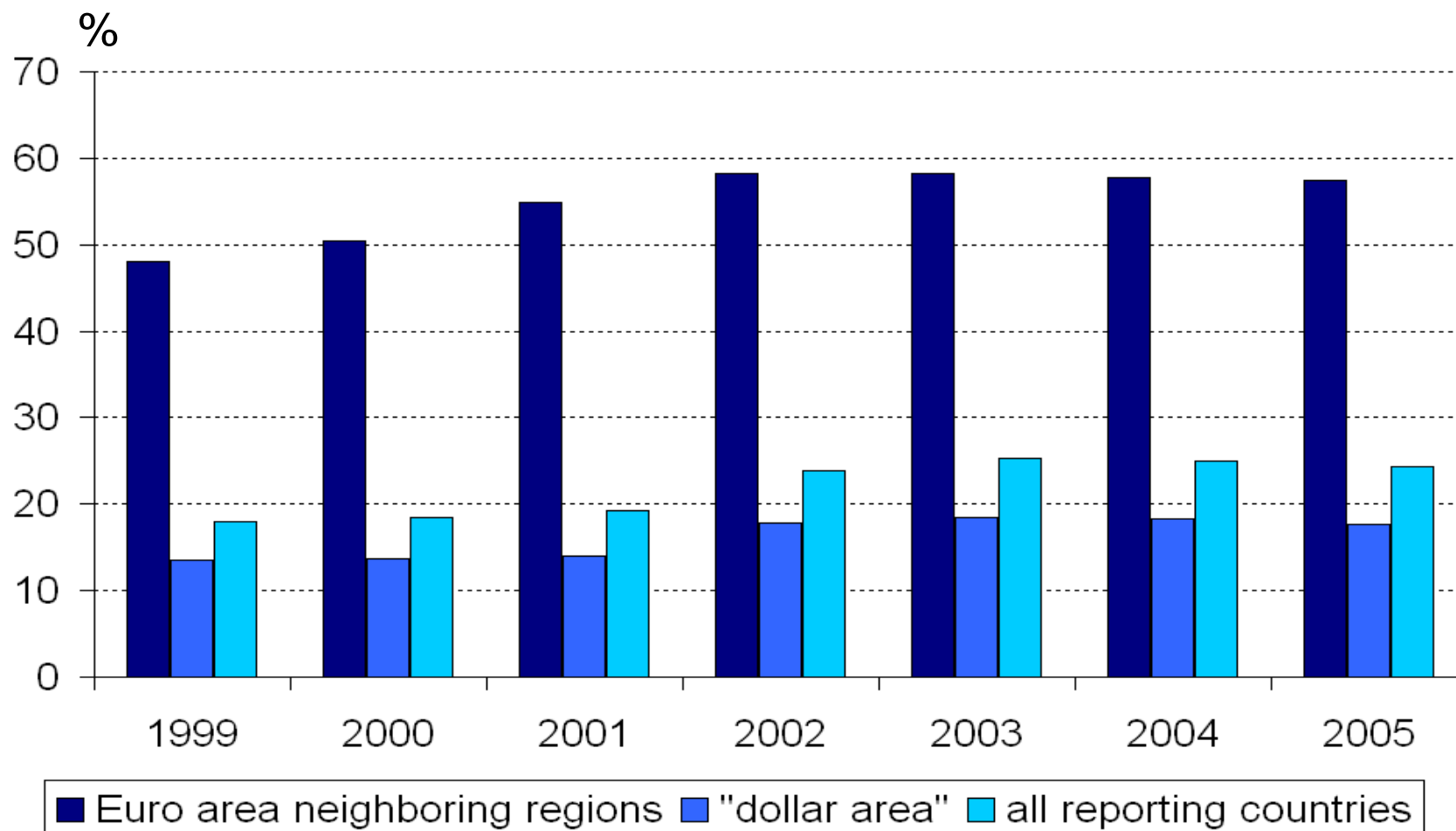


Sources: Eurostat, National Banks, United Nations
A rise in the index means appreciation.

Currency composition of reserves (1)

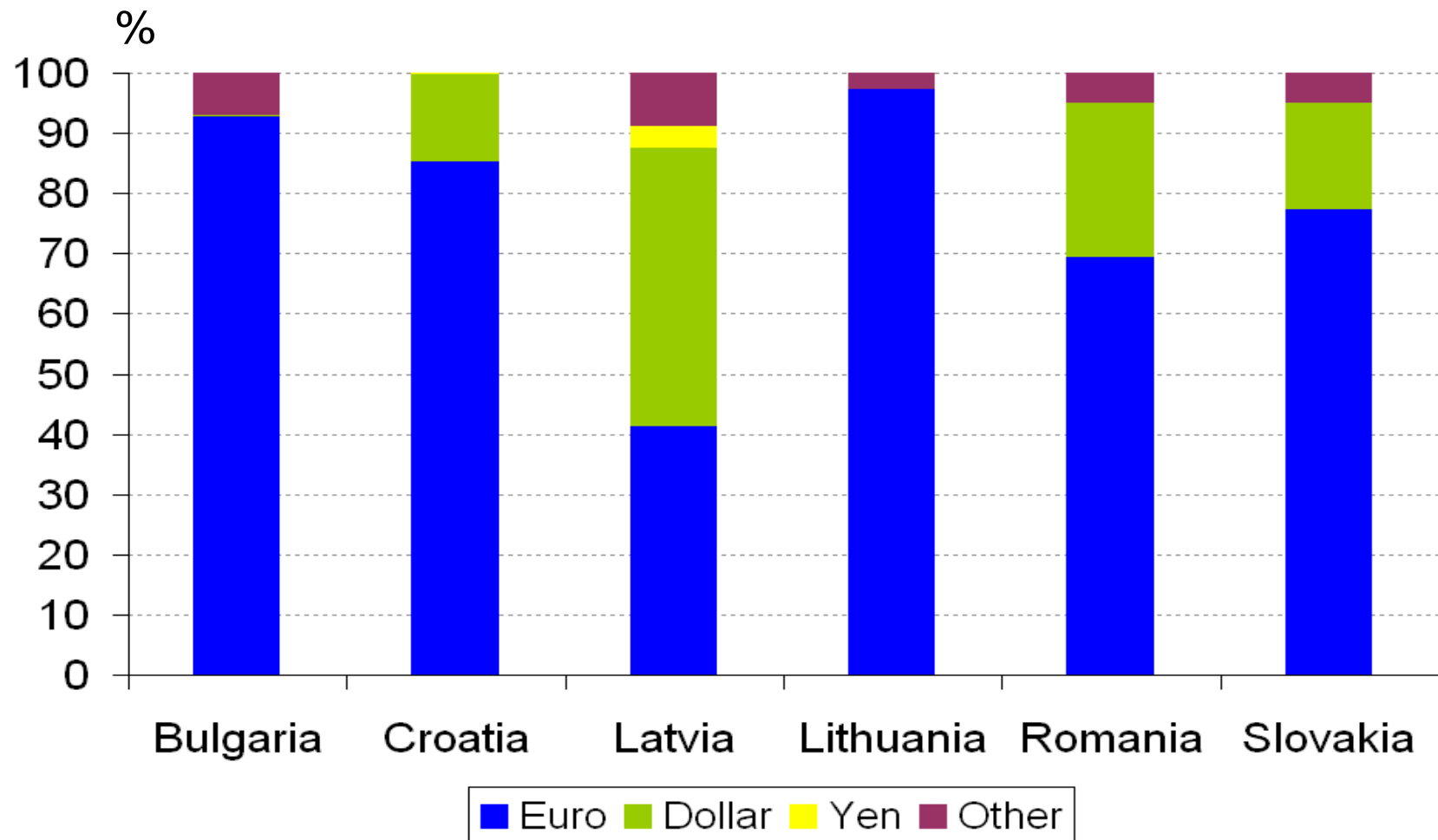
- Based on data collected and aggregated by IMF, the share of euro is high in the euro area neighboring countries, but seems to have stabilized since 2003.
- *Euro area neighboring countries:* European countries immediately surrounding the euro zone and countries worldwide that largely peg to the euro (e.g., several countries in Africa).

Graph 7: Share of euro in international reserves



Source: IMF Working Paper 06/153

Graph 8: Currency composition of international reserves in individual countries publishing data



Sources: National Central Banks

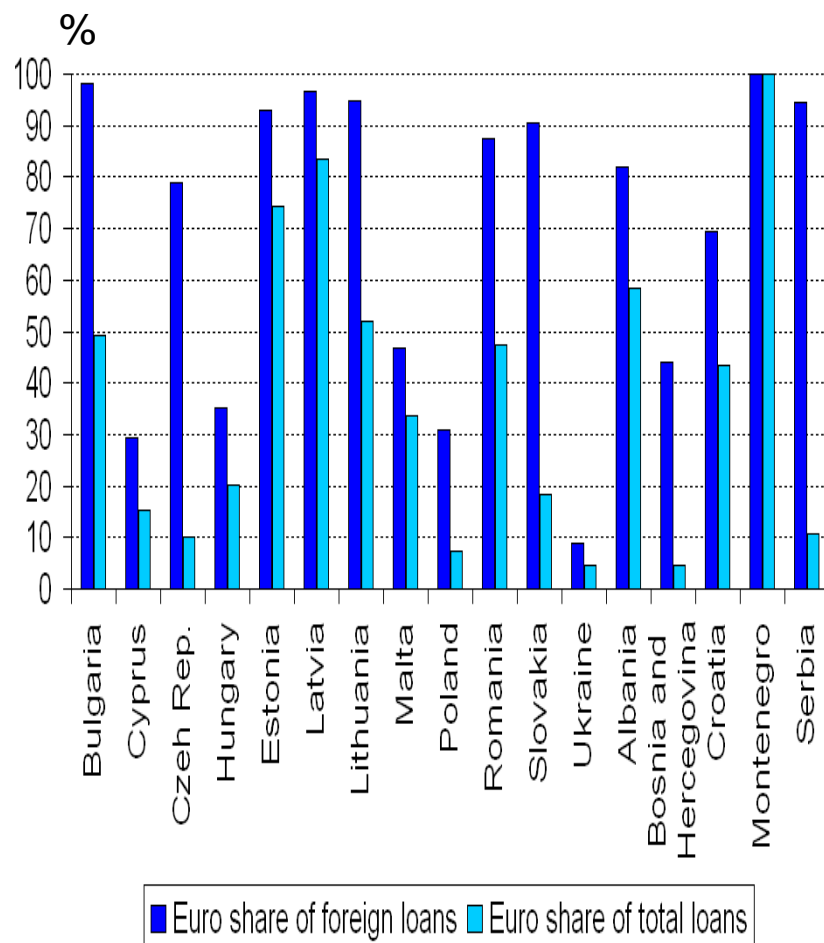
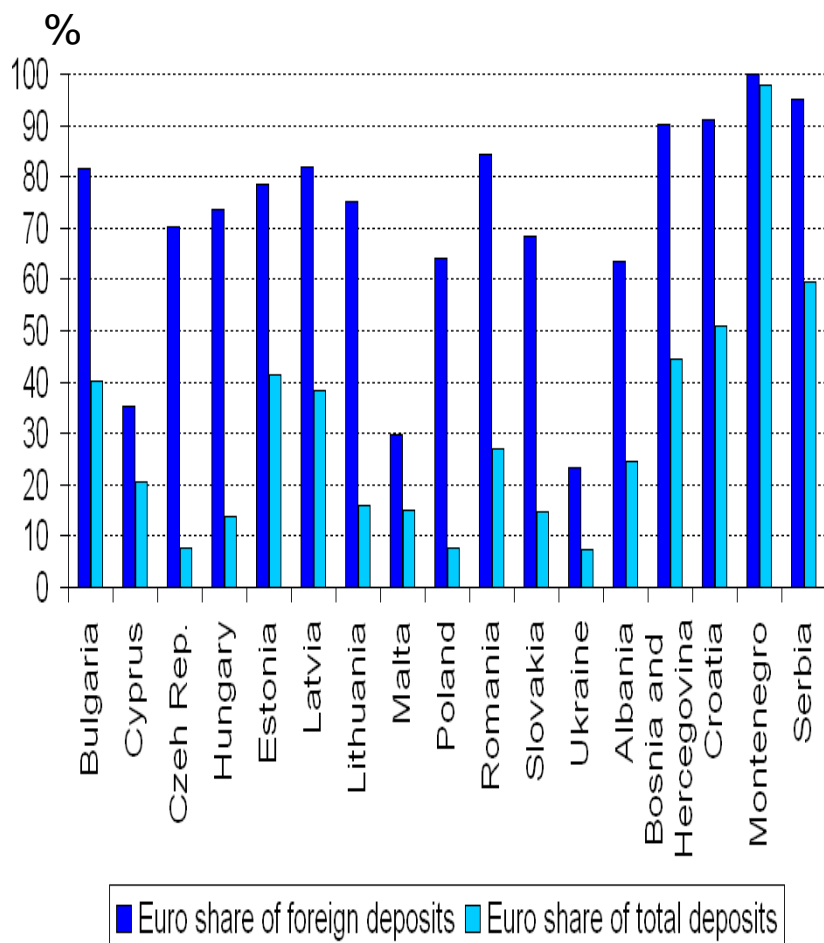
Currency composition of reserves (2)

- The high share is confirmed by those few countries in the region which publish data on the composition of their reserve holdings.
- Share of euro is higher than was the share of the previous legacy currencies taken together: about 8 percentage points higher estimated by IMF.
- **Reasons:** pegging to euro, debt in euro up, trade integration, liquidity, diversification for security reasons.

Table 2: Currency composition of external debt (in %)

		2003	2004	2005	2006	2007
Bosnia	EUR	18.7	21.4	22.5	25.5	28.2
	USD	21.0	18.8	19.6	18.3	16.7
	SDR	23.7	33.6	33.7	33.3	32.6
	Other	27.6	26.2	24.2	22.9	22.5
Bulgária	EUR	37.0	44.4	55.7	63.1	67.3
	USD	47.2	39.4	29.5	25.7	25.7
	Other	15.8	16.3	14.8	11.2	7.0
Estonia	EUR	100.0	100.0	100.0	100.0	100.0
	USD	0.0	0.0	0.0	0.0	0.0
	SDR	0.0	0.0	0.0	0.0	0.0
	Other	0.0	0.0	0.0	0.0	0.0
Lithuania	EUR	80.4	88.2	n.a.	n.a.	99.4
	USD	13.3	6.7	n.a.	n.a.	0.0
	SDR	0.0	0.0	n.a.	n.a.	0.0
	Other	6.3	5.1	n.a.	n.a.	0.6
Romania	EUR	53.7	54.4	54.8	61.7	68.4
	USD	36.0	35.7	34.8	28.6	23.0
	SDR	4.9	3.2	2.0	0.8	0.0
	Other	5.4	6.7	8.4	9.0	8.6
Slovenia	EUR					99.6
	USD					0.4
	Other					0.0

Graph 9: Share of euro in bank deposits and loans



Source: ECB

Table 3: Share of FX and Euro in the loans and deposits of the household and the corporate sector in 2007 (in %)

	Households		Loans				Households		Deposits			
	FX / Total	EUR / FX	Corporate sector		Total private		FX / Total	EUR / FX	Corporate sector		Private	
	FX / Total	EUR / FX	FX / Total	EUR / FX	FX / Total	EUR / FX	FX / Total	EUR / FX	FX / Total	EUR / FX	FX / Total	EUR / FX
Bulgaria	20%	98%	68%	98%	50%	98%	57%	80%	39%	50%	40%	82%
Cyprus	N.A.	N.A.	N.A.	N.A.	22%	N.A.	N.A.	N.A.	N.A.	N.A.	20%	N.A.
Czech Rep.	0%	86%	16%	92%	9%	92%	5%	65%	16%	80%	9%	76%
Hungary	59%	3%	59%	60%	59%	32%	15%	71%	26%	78%	19%	75%
Estonia	77%	N.A.	79%	N.A.	79%	97%	28%	N.A.	54%	N.A.	36%	62%
Latvia	86%	N.A.	88%	N.A.	87%	N.A.	55%	N.A.	45%	N.A.	51%	N.A.
Lithuania	50%	99%	59%	92%	55%	95%	22%	73%	24%	80%	21%	75%
Malta	1%	89%	19%	92%	10%	92%	N.A.	N.A.	N.A.	N.A.	18%	45%
Poland	29%	N.A.	22%	N.A.	26%	N.A.	92%	N.A.	92%	N.A.	92%	N.A.
Romania	53%	83%	56%	90%	55%	87%	39%	69%	30%	74%	35%	71%
Slovakia	3%	100%	30%	100%	19%	74%	8%	65%	16%	74%	11%	70%
Slovenia ¹	46%	N.A.	70%	N.A.	63%	N.A.	38%	N.A.	22%	N.A.	34%	N.A.
Ukraine	65%	2%	41%	15%	50%	7%	39%	24%	22%	24%	32%	24%
Russia	13%	N.A.	23%	N.A.	20%	N.A.	13%	N.A.	22%	N.A.	17%	N.A.
Albania	57%	N.A.	81%	N.A.	72%	N.A.	65%	N.A.	65%	N.A.	65%	N.A.
Bosnia and Hercegovina ²	N.A.	N.A.	N.A.	N.A.	10%	44%	N.A.	N.A.	N.A.	N.A.	49%	90%
Croatia	67%	N.A.	54%	N.A.	63%	N.A.	74%	N.A.	32%	N.A.	61%	N.A.
Montenegro ³	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Serbia	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	88%	N.A.	46%	N.A.	67%	N.A.

1. for 31.12.2006 (Slovenia joined the Eurozone in 01.01.2007)

2. Total deposits and loans, not only private sector

3. Data is not available, but euro dominates

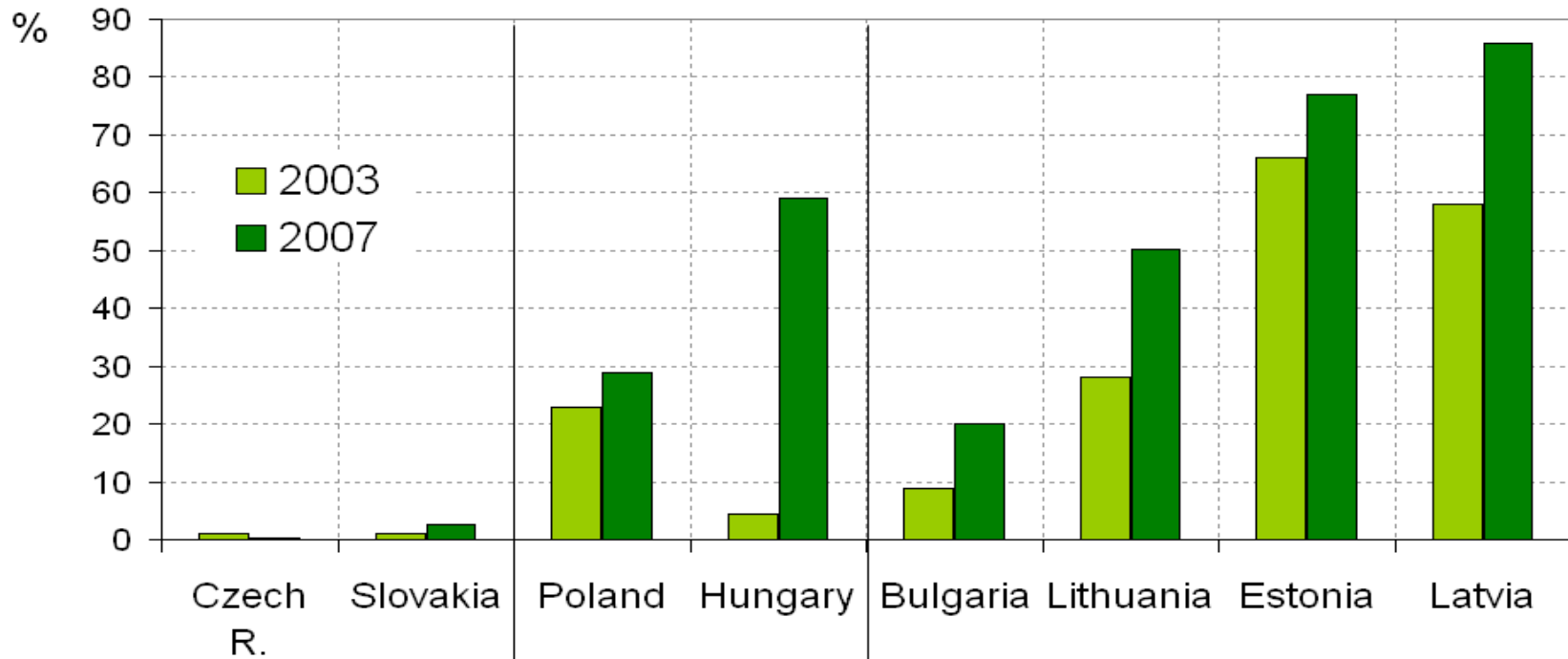
Share of Foreign Loans and Deposits (1)

- With the exception of the Czech Republic, Malta and Russia, the share of FX loans in total domestic bank lending (and to a lesser extent the share of FX deposits in total domestic bank deposits) is generally high in the region.
- Within the FX loans and deposits, the share of euro is generally very high, with the exception of Hungary, where the Swiss frank dominates.
- Generally, the share of FX loans, and within it the share of euro is higher in the corporate than in the household sector.

Share of Foreign Loans and Deposits (2)

- In countries with fixed rate regimes like the Baltic States, the share of FX loans is high because of the small perceived exchange rate risk.
- The share of FX loans is also high when the interest rate spread is large, as in Hungary.

Graph 10: Fixed exchange rate regimes lead to higher FX shares in retail loans



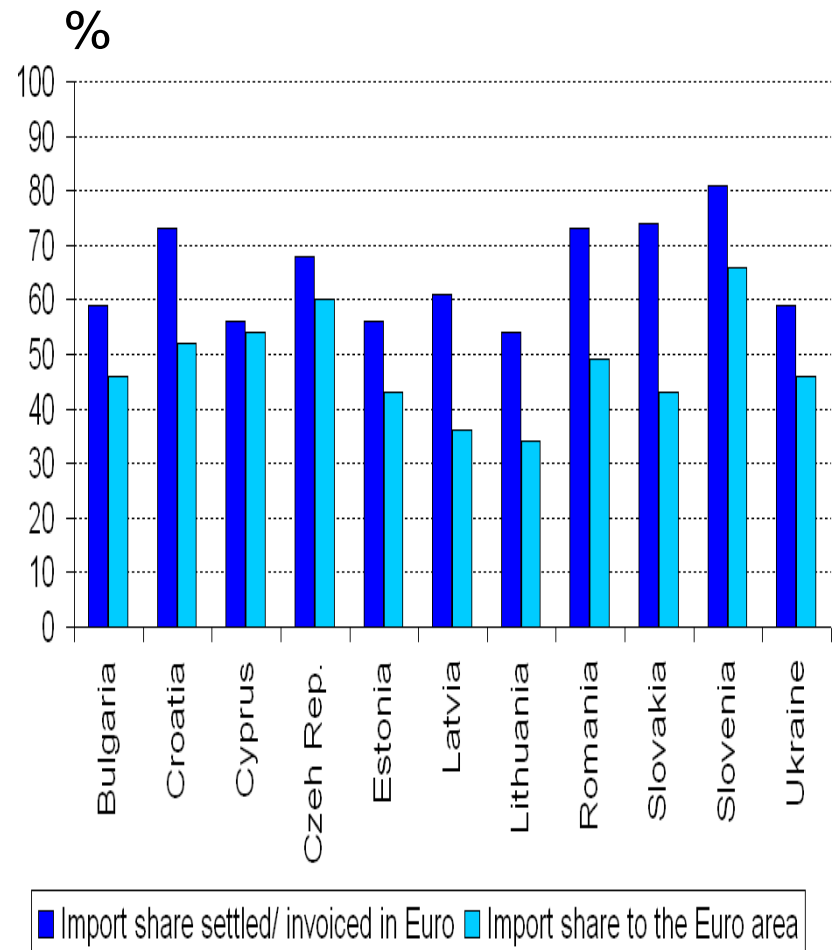
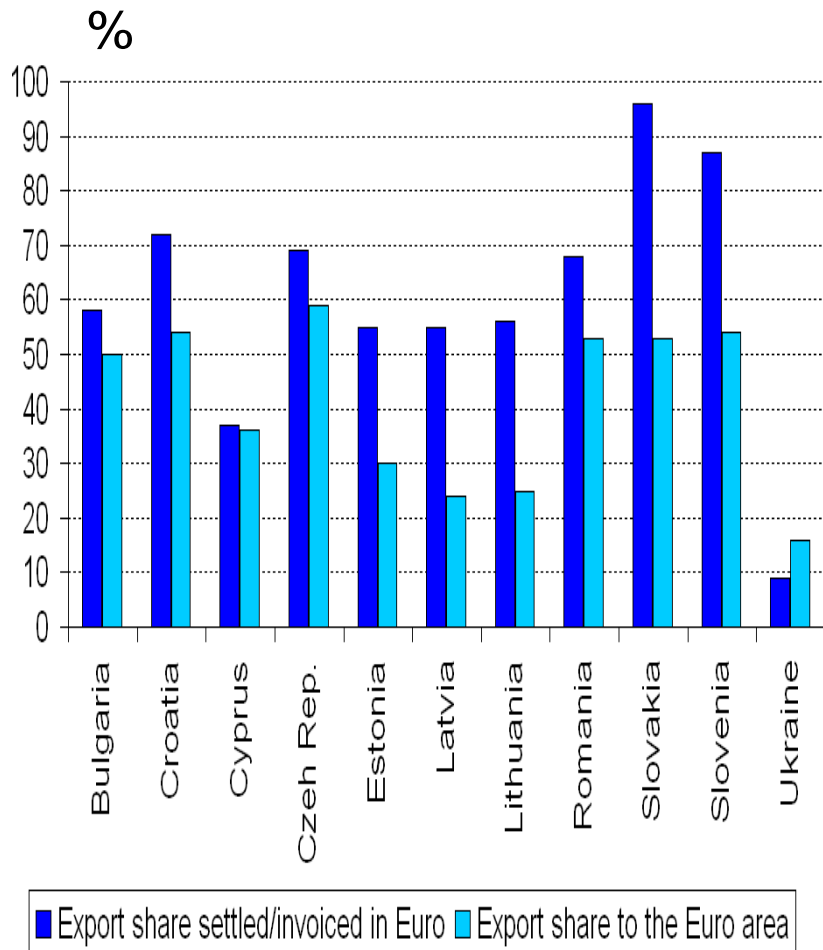
ER regime:	flex.	flex.	flex.	flex.	fix	fix	fix	fix
Spreads*	low	low	>100bp	200bp<	>100bp	200bp	200bp	200bp
Infl. (%)**	2.2	3.0	2.0	5.1	7.0	4.1	5.1	7.9

*Between local currency and euro denominated long term mortgage credit

** HICP

Sources: National Banks

Graph 11: The Euro's share in settling/invoicing foreign trade



Source: ECB

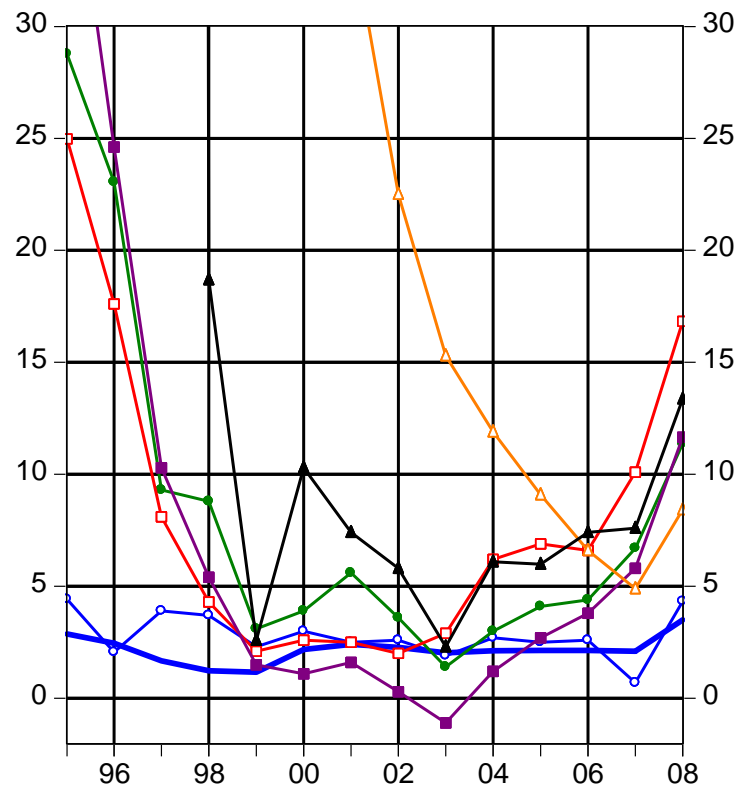
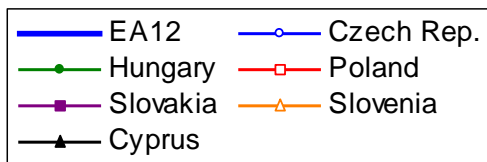
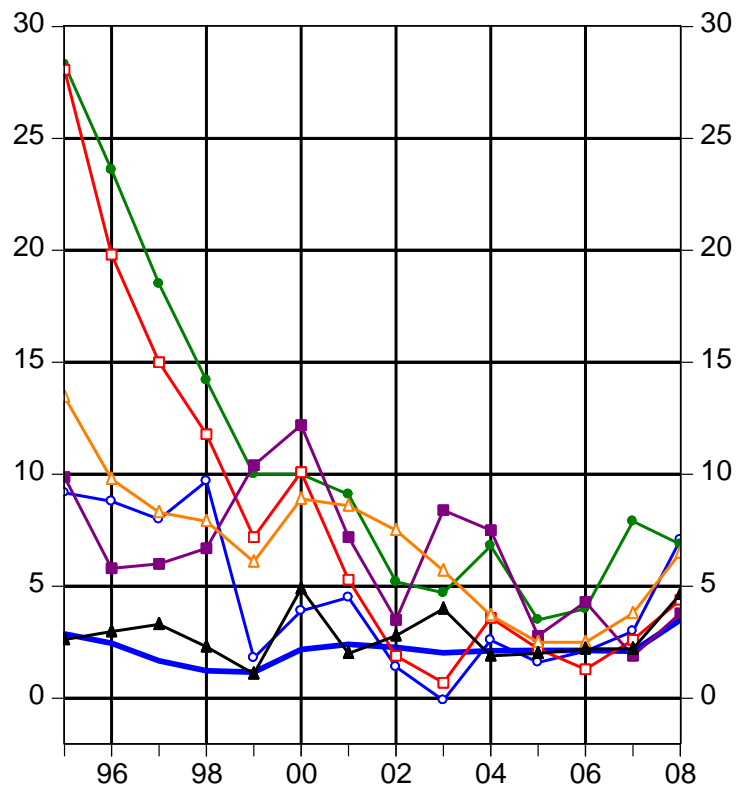
Use of euro in domestic contracts and transactions

- It is widespread practice in some countries to set rental contracts for offices, shops and residential housing in euros.
- Hotel room rates are often set in euros.
- According to ECB data, the use of euro banknotes in Eastern Europe is significant. Of the total banknote purchases and sales outside the euro zone, Eastern Europe accounted for 37% and 24%, respectively, in 2007.
- **Reasons:** proximity to euro area countries, use in large transactions, store of value.

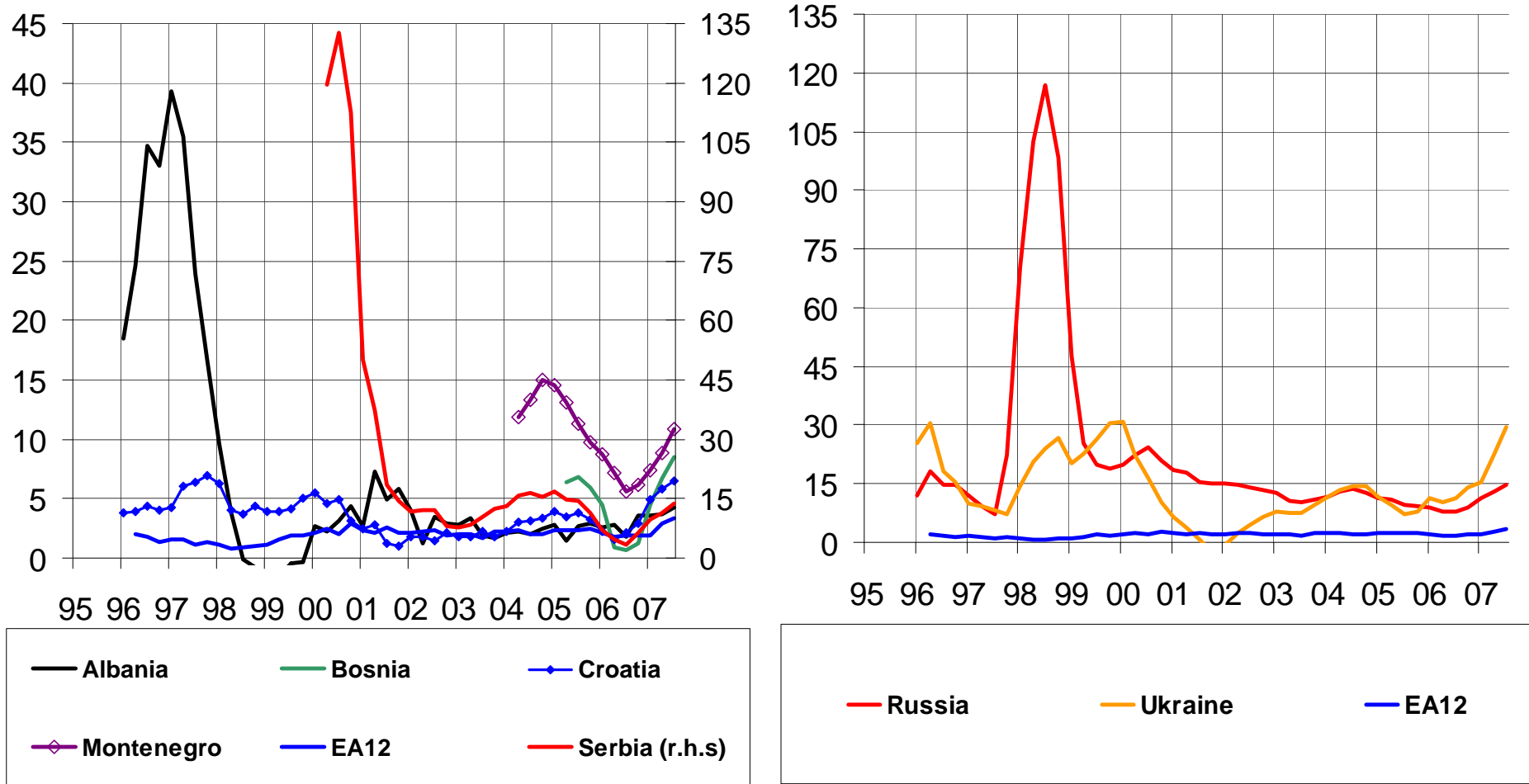
Convergence of Inflation and Interest Rates

- There has been a significant convergence of inflation rates in the region toward the lower level of inflation in the euro area.
- However, in the past two years, the inflation rates have sharply accelerated and hence have diverged in the countries with fixed exchange rates due to the rapid expansion of domestic demand fueled by credit booms.
- In line with the convergence of inflation, interest rates have also converged, but have started to diverge where inflation has diverged.

Graph 12: Inflation rate in the NMS, 1995-2008 (in %),

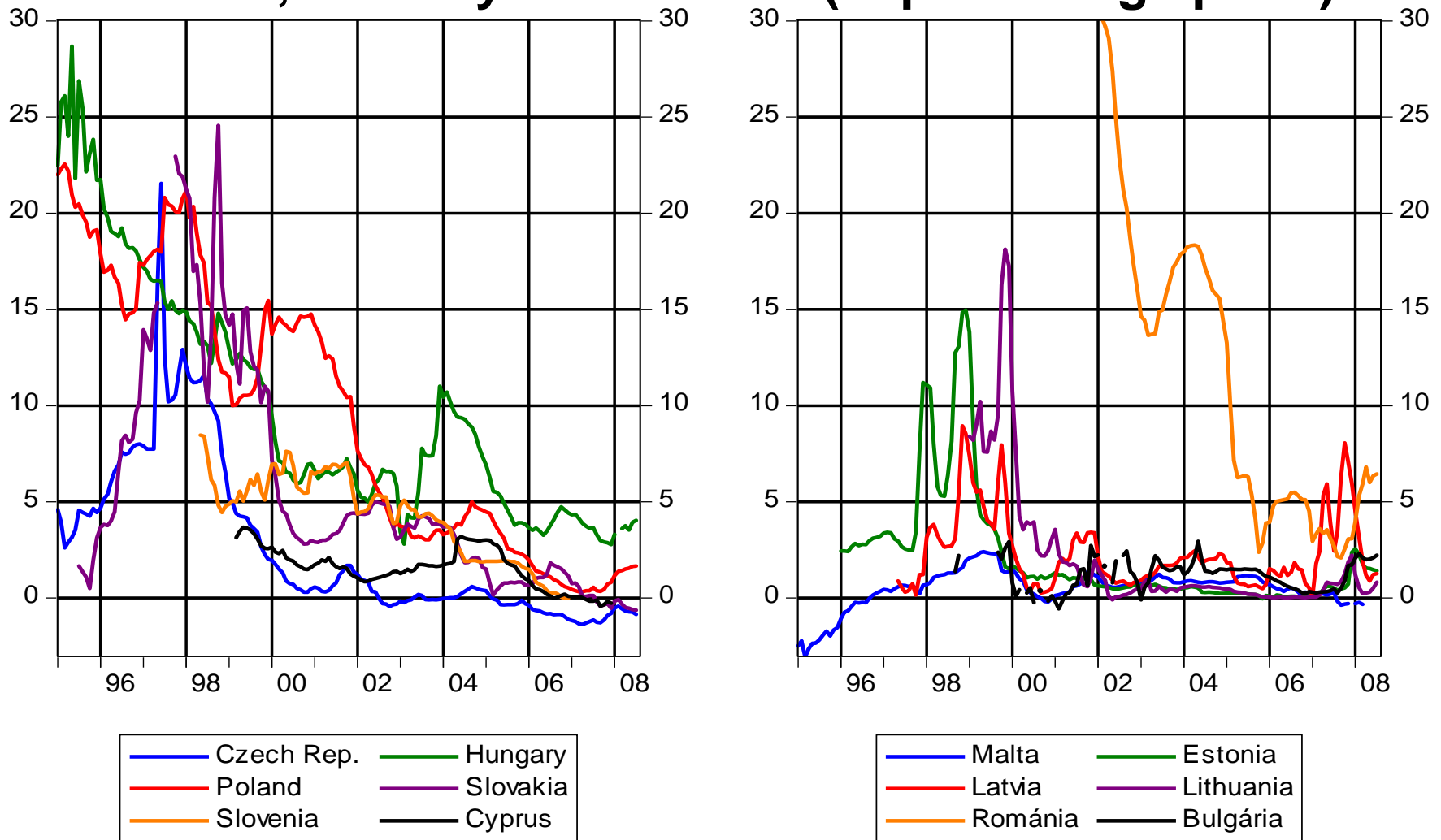


Graph 13: Inflation rate in the Balkans, Russia and Ukraine (in %)



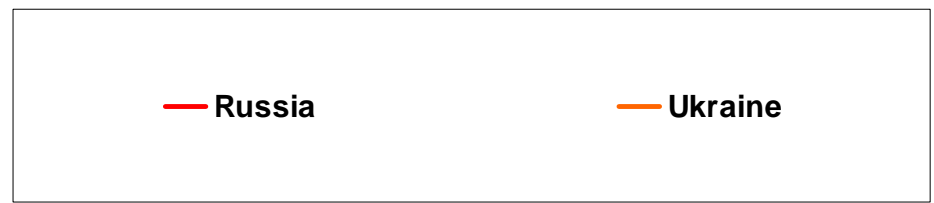
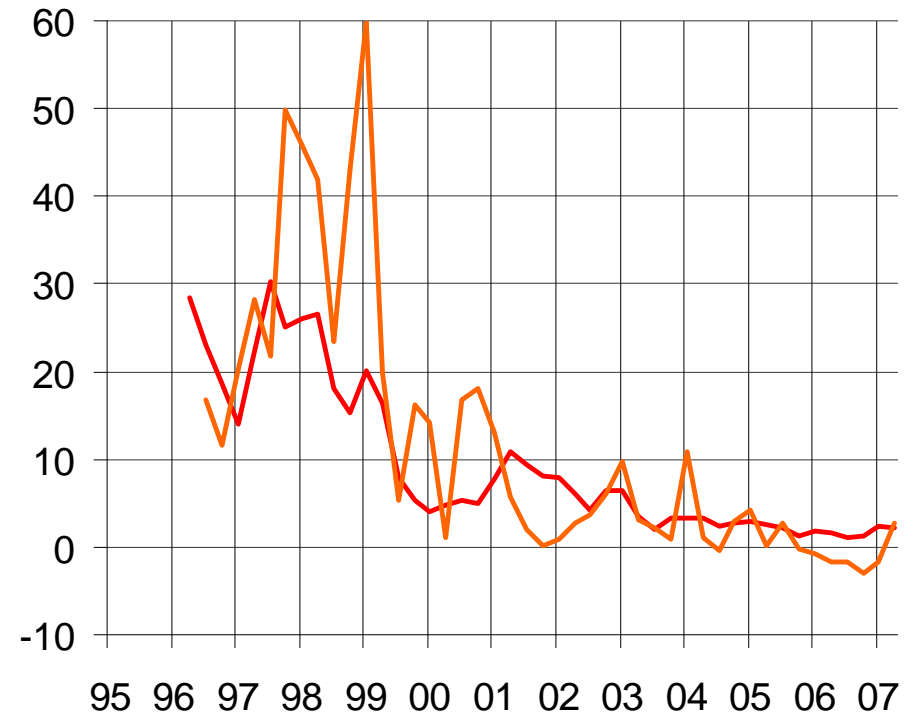
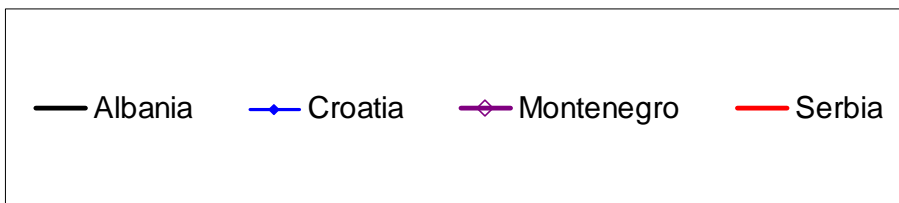
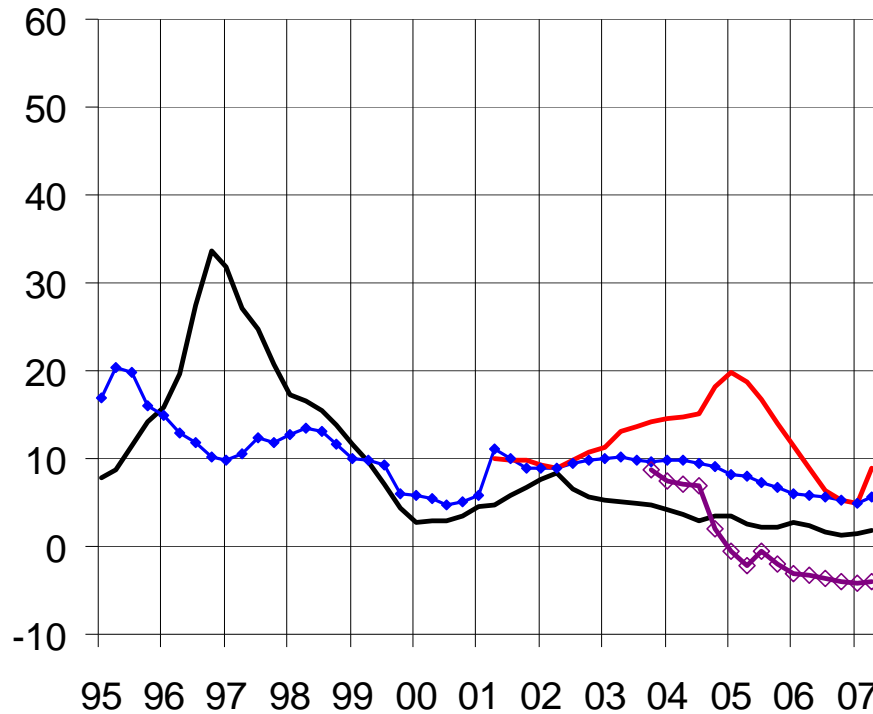
Sources: Eurostat, National Banks, United Nations

Graph 14: Spread of 3-month interest rates vs. EA12 in the NMS, January 1995 – 2008 (in percentage point)



Sources: Eurostat

Graph 15: Spread of 3-month interest rates vs. EA12 in the Balkans, Russia and Ukraine, January 1995 – 2008 (in percentage point)



Sources: Eurostat, National Banks, United Nations

Inflation and the Maastricht Criteria

- The increase in inflation due to credit booms and overheating has prevented the Baltic countries with fixed exchange rates to satisfy the Maastricht inflation criterion and to join the euro area, even though they meet the other criteria.

Table 4: Fulfillment of Maastricht criteria in the NMS (latest available data)

Harmonised Indices of Consumer Prices		Long term government bond yields		General government surplus (+) or deficit (-)		General government gross debt	
July 2008: 12-month average rate of change		July 2008		2007		2007	
Average of three lowest EU member	2.4	Average of three lowest inflation countries	4.88				
Reference value	3.9	Reference value	6.88	Reference value	-3.0	Reference value	60.0
Euro area	3.10	Cyprus	4.60	Bulgaria	3.4	Estonia	3.4
Slovakia	3.10	Euro area	4.76	Cyprus	3.3	Latvia	9.7
Malta	3.30	Czech Republic	4.90	Estonia	2.8	Romania	13.0
Cyprus	3.90	Slovenia	5.02	Latvia	0.0	Lithuania	17.3
Poland	3.90	Slovakia	5.06	Slovenia	-0.1	Bulgaria	18.2
Czech Republic	5.80	Bulgaria	5.17	Euro area	-0.6	Slovenia	24.1
Slovenia	5.80	Malta	5.28	Lithuania	-1.2	Czech Republic	28.7
Hungary	6.90	Lithuania	5.49	Czech Republic	-1.6	Slovakia	29.4
Romania	7.60	Poland	6.45	Malta	-1.8	Poland	45.2
Lithuania	9.90	Latvia	6.57	Poland	-2.0	Cyprus	59.8
Estonia	10.10	Romania	7.28	Slovakia	-2.2	Malta	62.6
Bulgaria	12.30	Hungary	8.11	Romania	-2.5	Hungary	66.0
Latvia	15.10	Estonia	na	Hungary	-5.5	Euro area	66.6

Sources: Eurostat

Conclusions

- Among those countries which have not yet adopted the euro, a large number of them peg their exchange rate to the euro or follow the euro.
- The euro has gained importance in the composition of reserves in the countries of the region.
- The share of euro in foreign debt and in bank lending and (to a lesser extent) in bank deposits is large.
- The settling/invoicing in euros of foreign trade is substantial.
- **But also challenges:** countries which fixed their exchange rate to the euro have experienced credit booms and sharp rise in inflation, threatening competitiveness and preventing the adoption of euro.