Assessing and Managing Rapid Credit Growth

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Lending booms

- Recent theoretical and empirical literature on lending booms
- Lending booms may be a natural consequence of economic development and fluctuations
- Most studies find that lending booms are associated with:
  - Domestic investment boom and to a lesser extent consumption boom
  - A significant increase in domestic interest rates
  - Worsening of the current account and increase in capital inflows
  - Declines in foreign reserves and shortening of maturity of external debt
  - Real appreciation of the domestic currency
  - Decline in trend output growth
  - Some worsening of the fiscal situation

Main findings

- No clear causality between lending booms and the vulnerability of the banking system or balance of payments
- Countries that experience rapid credit boom tend to grow faster than those that do not go through such phases
- Latin America seems to be the outliar
- However, clear evidence that banking and currency distress are preceded by lending booms.

Bank Credit to the Private Sector/GDP 2002/3

Central and Eastern Europe

Country	BCPS/GDP
Albania	35.62
Belarus	11.92
Bosnia	42.08
Bulgaria	25.84
Croatia	54.24
Czech Republic	30.90
Estonia	33.13
Hungary	43.00
Latvia	34.63
Lithuania	20.56
Macedonia	19.54
Moldova	20.53
Poland	29.05
Romania	9.52
Russia	20.87
Slovak Republic	31.69
Slovenia	41.66
Ukraine	24.57
Average	***29.41***

Asian Transition Economies

Country	BCPS/GDP
Cambodia	7.98
China	147.56
Laos	5.88
Mongolia	32.26
Myanmar	3.96
Vietnam	52.34
Average	***41.66***

Europe and North America

Country	BCPS/GDP
Canada	69.09
Finland	59.92
France	86.75
Germany	118.74
Iceland	99.88
Japan	102.37
Luxembourg	110.52
Norway	78.82
New Zealand	120.85
Spain	110.73
Sweden	43.68
UK	147.71
USA	63.84
Average	***93.30***

Emerging Markets

Country	BCPS/GDP
Argentina	10.62
Brazil	28.87
Chile	61.72
Domincan Republic	61.14
Ecuador	20.24
Egypt	54.22
Indonesia	23.88
Jordan	71.53
Korea	94.85
Malaysia	96.60
Mexico	16.30
Paraguay	21.20
Philippines	31.11
Singapore	112.01
Thailand	79.23
Tunisia	60.42
Turkey	15.54
Uruguay	43.90
Venezuela	8.43
Average	***47.99***

Bank Credit to the Private Sector/GDP

BCPS/GDP (2002-2003)	**Average**	**Lowest**	**Highest**
Developed Countries	93	44 (Swe)	148 (UK)
Emerging Markets	48	8 (Ven)	112 (Sng)
Central and Eastern Europe	30	9 (Rom)	54 (Cro)
Asian Transition	42	4 (Mym)	148 (Chn)

Assessing Rapid Credit Growth: Preliminary Findings

- Empirical estimates of credit boom phases
  - Sample of 120 countries over 20 years
  - Percentage point deviation from ex-ante recursively calculated Hodrik Prescot filter
  - Not sensitive to beginning and end values
  - Trend for first five years, first six years, first 7 years...
  - Relative and absolute differences from trend
  - Relative difference between trend and real credit ratio (18% - 24% - 30%)

- Country experiences with policies implemented during credit booms

Credit booms in benchmark countries

(in percentages)

Country	Start of Boom Period	End of Boom Period	BCPS/GDP* at the beginning of boom period	BCPS/GDP* at the end of boom period	Average BCPS/GDP* during boom period	BCPS/GDP* at the peak of boom period	Real Growth of BCPS from the start of lending episode till the peak of the boom period
Argentina	1985	1987	8.98	7.51	9.16	11.00	123.58
Argentina	1990	1995	8.57	19.16	15.16	19.94	162.89
Australia	1983	1992	26.82	64.17	46.31	59.11	211.23
Brazil	1990	1990	10.29	10.29	10.29	10.29	one year only
Brazil	1993	1995	6.39	29.47	23.67	35.16	672.05
Ecuador	1993	1999	17.07	26.99	25.48	30.70	81.78
Egypt	1994	2002	25.66	52.17	42.43	49.41	160.31
Iceland	1997	2002	64.45	98.17	82.47	101.47	92.41
Indonesia	1984	1993	14.32	45.22	29.46	42.14	415.87
Lebanon**	1988	1990	54.55	50.78	52.72	54.55	99.00
Lebanon	1992	2002	42.44	85.61	66.33	89.09	218.62
Mexico	1987	1994	8.07	33.77	19.44	33.77	1,111.92
New Zealand	1985	1992	20.61	82.86	57.16	74.19	328.39
Paraguay	1988	1998	8.83	21.39	16.57	22.88	650.26
Philippines	1988	1998	14.96	45.37	28.88	53.81	575.09
Turkey	1995	2000	12.23	18.04	15.89	17.63	212.73
UK**	1986	1990	79.41	112.83	96.29	79.41	183.77
Uruguay	1981	1982	40.17	59.20	49.68	59.20	58.88
Uruguay	1992	2002	19.99	59.68	35.46	59.68	843.85
Venezuela**	1997	2002	11.04	8.46	9.84	11.04	147.56
Averages			***24.74***	***46.56***	***36.63***	***45.72***	***334.22***

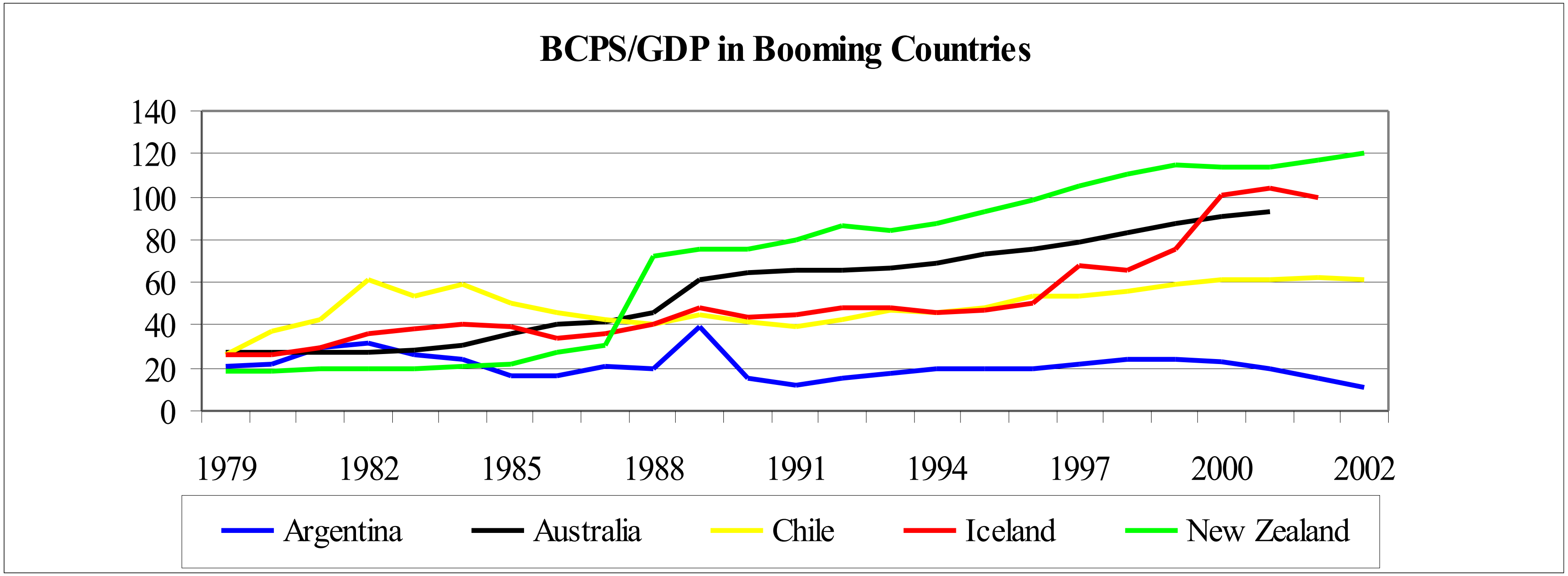
*Note that GDP in the denominator is an average GDP between t, t+1

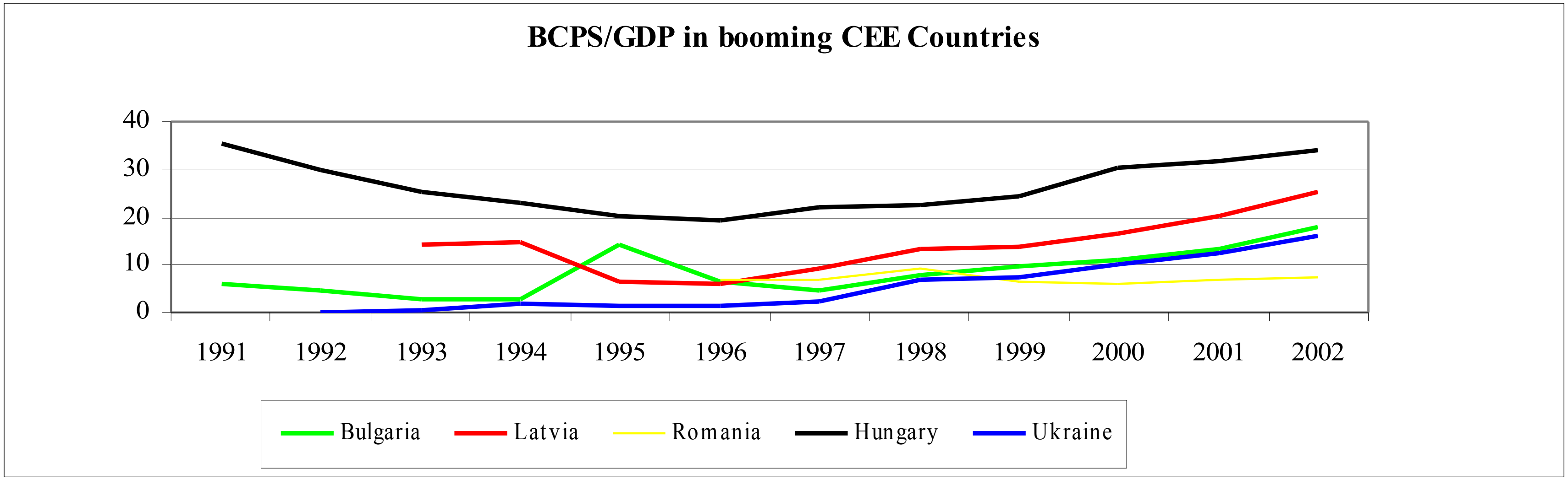
**note that peak of credit boom occurs at the start of the cycle in these countries, hence real credit growth from start to the peak is calculated from the year before the cycle begins

Credit booms in focus countries

(in percentages)

Country	Start of Boom Period	End of Boom Period	BCPS/GDP* at the beginning of boom period	BCPS/GDP* at the end of boom period	Average BCPS/GDP* during boom period	BCPS/GDP* at the peak of boom period	Real Growth of BCPS from the start of lending episode till the peak of the boom period
Bulgaria	1995	1995	14.04	14.04	14.04	14.04	one year only
Bulgaria	1998	2002	7.75	17.86	11.99	17.86	172.12
Hungary	1994	2002	23.01	33.92	25.29	33.92	212.25
Latvia	1997	2002	9.22	25.09	16.30	25.09	287.57
Macedonia	1994	1994	42.03	42.03	42.03	42.03	one year only
Macedonia**	1999	2002	19.58	17.30	18.01	17.30	111.24
Moldova	1991	1991	1.39	1.39	1.39	1.39	one year only
Moldova	1995	1996	6.07	7.19	6.63	6.07	264.01
Mongolia	1998	2002	8.87	17.90	10.87	17.90	132.12
Romania	1998	1998	9.39	9.39	9.39	9.39	one year only
Slovak Republic	1993	1993	51.66	51.66	51.66	51.66	one year only
Ukraine	1994	1994	1.67	1.67	1.67	1.67	one year only
Ukraine	1997	2002	2.31	16.17	9.16	16.17	1,076.64
Vietnam	1999	2002	27.26	42.69	35.97	35.08	40.39
Averages			***16.02***	***21.31***	***18.17***	***20.68***	***287.04***

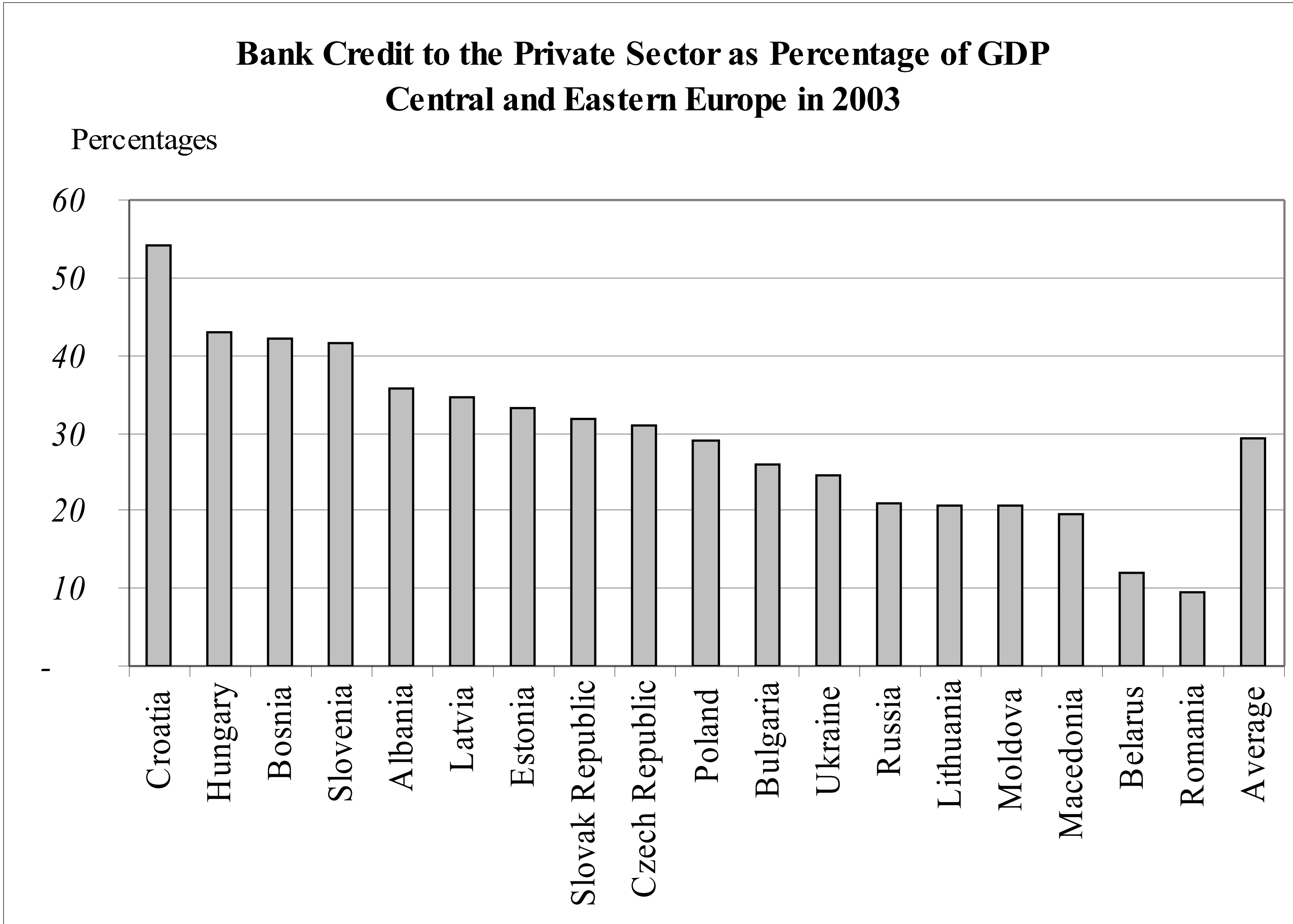

BCPS/GDP in Booming Countries
140
120
100
80
60
40
20
0
1979
1982
1985
1988
1991
1994
1997
2000
2002
Argentina
Australia
Chile
Iceland
New Zealand


BCPS/GDP in booming CEE Countries
40
30
20
10
0
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
Bulgaria
Latvia
Romania
Hungary
Ukraine

Trends in CEE countries

- Bank reforms
- EU accession
- Decline in nominal interest rates
- Capital stock and productivity below advanced economy levels
- Upward revision of income expectations

- Rapid catch-up of credit
- 30-50 percent annual credit growth to the private sector
- Sharp increase in retail lending


Bank Credit to the Private Sector as Percentage of GDP
Central and Eastern Europe in 2003
Percentages
60
50
40
30
20
10
-
Croatia
Hungary
Bosnia
Slovenia
Albania
Latvia
Estonia
Slovak Republic
Czech Republic
Poland
Bulgaria
Ukraine
Russia
Lithuania
Moldova
Macedonia
Belarus
Romania
Average

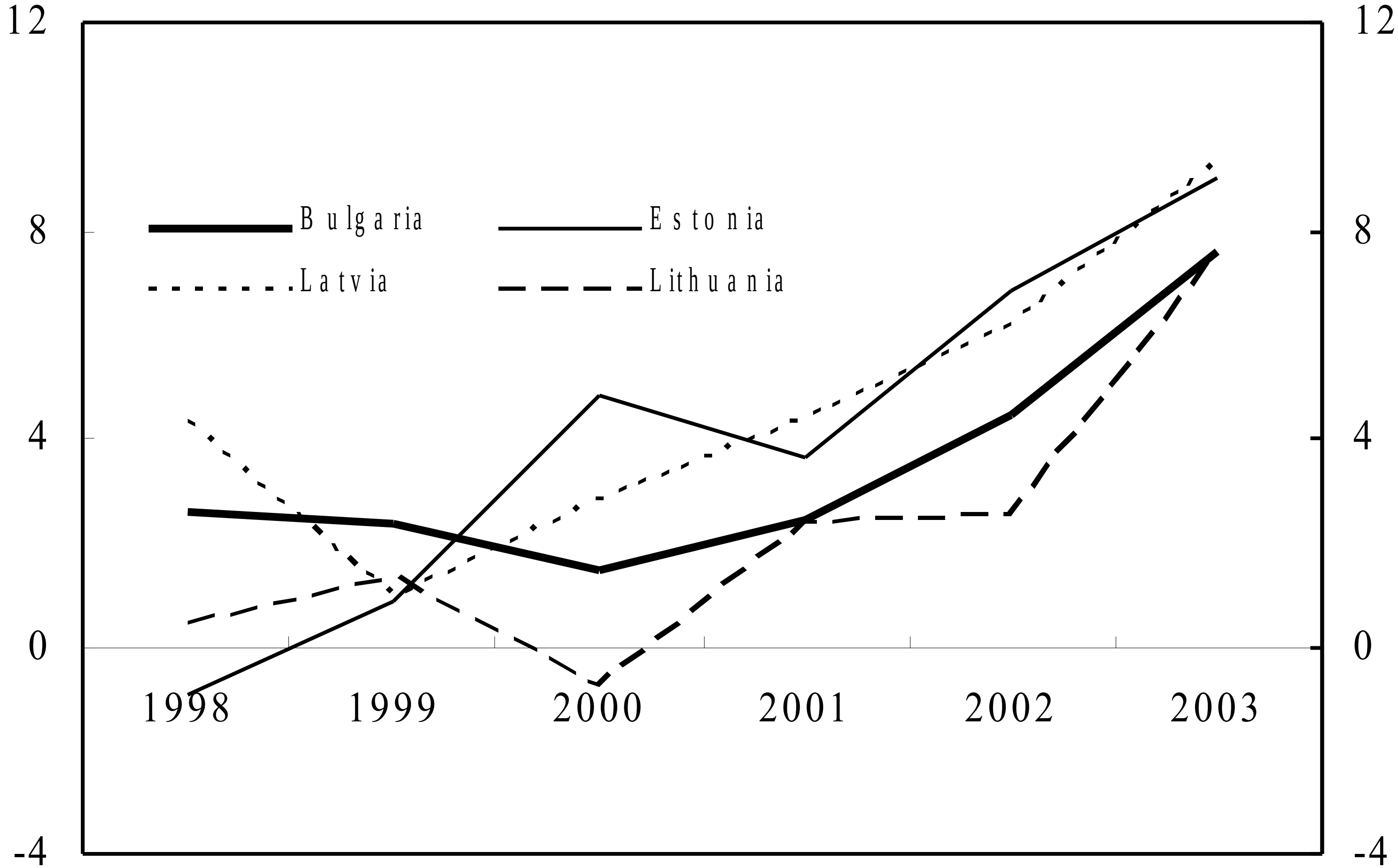
Market structure

	market share		Assets/ GDP	HH loans	Deposits
	foreign banks	**top 5**		**per capita**	
Bulgaria	81	55	50	152	758
Croatia	91	70	105	1653	2431
Czech	93	66	107	723	2941
Hungary	77	57	79	933	1864
Poland	67	53	65	605	1288
Romania	58	63	33	93	331
Slovakia	89	68	83	381	1666
Slovenia	35	69	89	1363	4599
CEE-8	**75**	**62**	**74**	**553**	**1404**
EU area	**24**	**54**	**201**	**11481**	**13004**

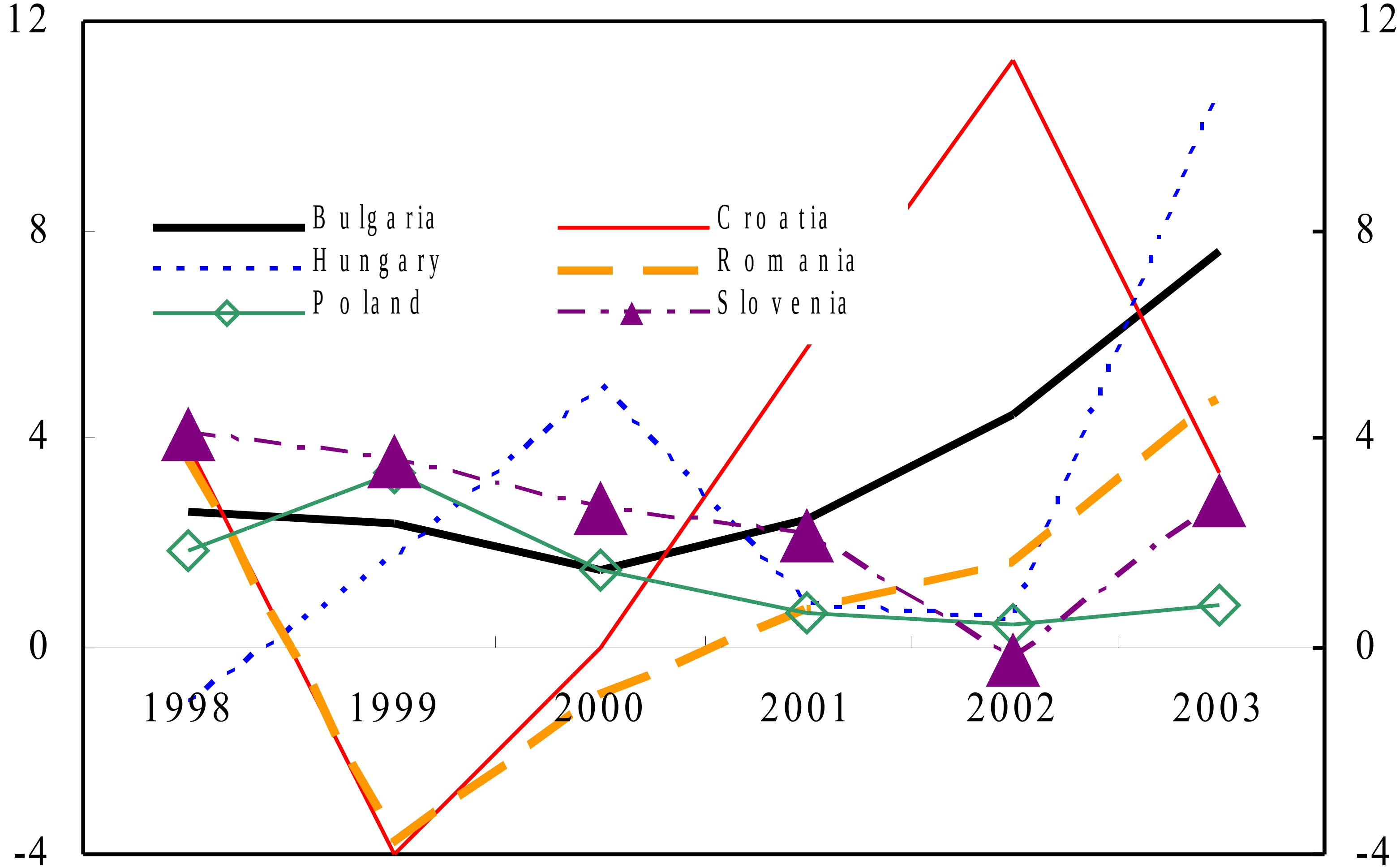
Rapid pace of credit growth

	Loans		Deposits	
	%GDP	**growth (p.a)**	**%GDP**	**growth (p.a)**
Bulgaria	26	44	34	22
Croatia	61	24	61	21
Czech Rep	35	-4	63	2
Hungary	39	22	40	14
Poland	31	8	39	5
Romania	18	46	21	37
Slovakia	34	0	67	9
Slovenia	42	15	52	15
Subtotal	**34**	**12**	**44**	**10**
Euro area	**102**	**4**	**73**	**6**

Bulgaria and the Baltics



Bulgaria and CEE



EU Accession:

Bank credit to private sector

2003	Actual	Predicted	Gap
	%GDP	%GDP	%
Bulgaria	26	68	0.61
Croatia	61	75	0.2
Czech Rep	35	83	0.58
Hungary	39	80	0.51
Poland	31	76	0.59
Romania	18	68	0.74
Slovakia	34	79	0.57
Slovenia	42	84	0.5
CEE 8	34	78	0.57
1993			
Greece	28	72	0.61
Portugal	64	81	0.2
Spain	69	90	0.23
EU 3	64	87	0.27

Catching up...

	Predicted	Forecast	Gap
2013	%GDP	%GDP	%
Bulgaria	75	52	0.31
Croatia	78	71	0.1
Czech Rep	85	60	0.29
Hungary	85	63	0.26
Poland	82	58	0.29
Romania	76	48	0.37
Slovakia	84	60	0.29
Slovenia	86	65	0.25
CEE 8	82	59	0.29
2003	**Predicted**	**Actual**	**Gap**
Greece	103	114	-0.11
Portugal	98	146	-0.49
Spain	101	101	0.01
EU 3	99	101	-0.02

Implications for macroeconomic stability

- Stimulating aggregate demand compared to potential output
- Creating overheating pressures, as bank lending fuels consumption and/or import demand
- Asset price inflation
- Adverse implications on current account balance and inflation
- Impact on macroeconomic and currency stability
- May lead to a deterioration of the condition of the banking system

Implications for financial stability

- Deterioration of bank asset quality depending on the:
  - degree of maturity mismatches,
  - the sectoral composition and concentration of credit,
  - the currency denomination of loans,
  - the availability of hedging instruments for banks and their customers to cover their exchange and interest rate risks,
  - the availability of collateral,

  - Banks' and supervisors' ability and resources to monitor and manage risks are stretched by the increased volume and speed of credit expansion.

Institutional Factors that Exacerbate Banking Distress

Observance of Basel Core Principles for Effective Banking Supervision
(Percentage of countries “materially non-compliant” or non-compliant”)

Basel Core Principle	All Countries	Other Developing Countries	Latin American and Caribbean Countries
Independence	43	42	75
Legal Framework	12	6	38
Legal Protection	32	23	63
Capital Adequacy	41	42	75
Loan Evaluation and Loan-Loss Provisioning	35	35	50
Market Risks	53	61	75
Internal Control and Audit	41	48	63
Off-Site Supervision	28	29	50
Consolidated Supervision	53	55	75

Need to Strengthen Institutions and Regulatory Independence

- Limits on exposure to government

- Stronger governance of state banks
  - Clear and well-defined objectives
  - Provision of the means to fulfill such mandate
  - Isolation of institutions as much as possible from political pressures
  - Strict supervision and regulation

- Adaptation of supervision and regulation to new challenges
  - Risk-based supervision
  - Off-balance sheet exposures
  - Conglomerates and cross-border financial institutions

- Effective resolution framework

Different factors at play in CEE

Financial markets with open capital accounts

- low real interest rates
- underdeveloped credit systems
- rising permanent income expectations
- potentially high rates of return on capital investment.

- Most countries have adapted international standards in financial regulation and supervision. (FSA Assessments and compliance with EU).
- The challenge is beyond effective supervision of individual institutions.
- The possibility that risk premia economy-wide will not adjust adequately to influence credit or asset market developments.

Cross border element

- Strong cross-border element in bank ownership and financial flows.
- Cross-border flows can easily be substituted for domestic lending, and subsidiaries can be converted to branches.
- Foreign ownership makes both capital and (intra-group) funding patterns somewhat arbitrary, and implies that measures on these may not ultimately prove binding.

The challenge

- To identify and address, at the micro level, the evidence of systematic distortions in pricing and of externalities that add to risk.
- Internalizing risks that are inherent in collective behaviour.
- Such systematic changes in risk are complex to analyze and to respond to. In particular, it is hard to say when markets are overshooting, or irrationally exuberant.
- Countervailing dangers – in terms of credibility and moral hazard – in adjusting rules ad hoc.
- Macrofinancial analysis may be able to point to the probabilities and directions of risk, but not necessarily to calibrate levels of risk concretely.

Policies and potential tensions

- Fiscal policy: rules are a key element in policy design difficult to implement discretionary action to influence private sector booms or real exchange rates.

- Monetary policy : transparency and an open capital account setting have led to a focus on single targets difficult to take into account macrofinancial risks.

- Prudential policy: operational focus is on individual institutions with key concerns on credibility of rules and avoidance of moral hazard – which ad hoc adjustments for macrofinancial reasons could risk undermining.