

# Macroprudential policy dimensions – cyclical vs. structural



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# Outline



- 1. Why macroprudential?
- 2. Macroprudential policy and the pre-crisis credit boom in CESEE
- 3. Lessons from CESEE for other countries



# WHY MACROPRUDENTIAL?

# Why macro-prudential policy?



- Asset price boom-busts can create severe havoc
- Prevention of boom-busts desirable
- Monetary policy blunt tool to prick asset price bubbles
- Alternative: macro-prudential policy

# Difference between micro and macro prudential



- **Micro**-prudential regulation designed to ensure the safety of ***individual*** financial institutions
- **Macro**-prudential focuses on safety of ***system as a whole***
- (In small countries with few big banks good *micro-prudential* is indispensable for safety of system)
- Macro-prudential focuses on **externalities**: impact actions financial institutions can have on other institutions and markets.

# Types of externalities that pose systemic risks



- **Common exposure**—which make system vulnerable to even a small shock
  - Examples:
    - Financial contracts with frail institutions
    - Exposure to same underlying risks
- **Boom and bust cycles** linking financial and economic activity – also known as *procyclicality*

# Focus of macroprudential policy



- Resilience of the financial system (structural policy)
  - Crisis prevention
  - Crisis management
- Credit flow (cyclical policy)

# Macroprudential structural policy



## **Crisis prevention:**

- Lean against the “boom”: reduce the amplitude of financial cycle
- Minimize cost of economic crisis: build institutional resilience

## **Crisis management:**

- Bank resolution schemes
- Deposit insurance
- Memorandum of Understanding among authorities, information sharing and policy coordination
- Crisis simulation exercises and agreements on burden sharing
- Liquidity support



# Macroprudential cyclical policy



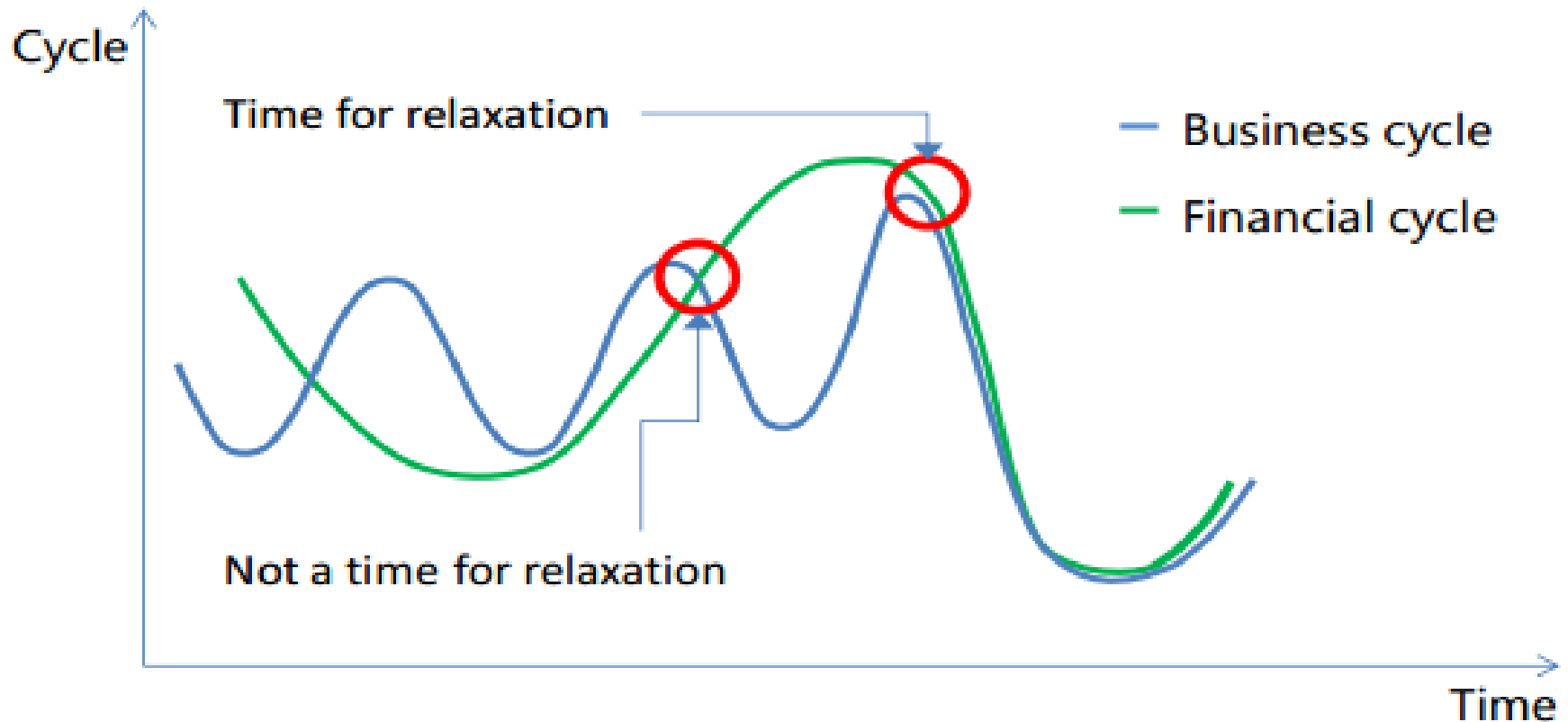
## **Credit flow:**

- Limit excessive leverage
- Influence supply and cost of credit

## Two types of tools:

- those that limit credit supply (CAR, interest rates, reserve, liquidity requirements etc.)
- those that limit credit demand (Loan-to-Value ratio, Debt to Income Ratio, Maturity caps and etc.)

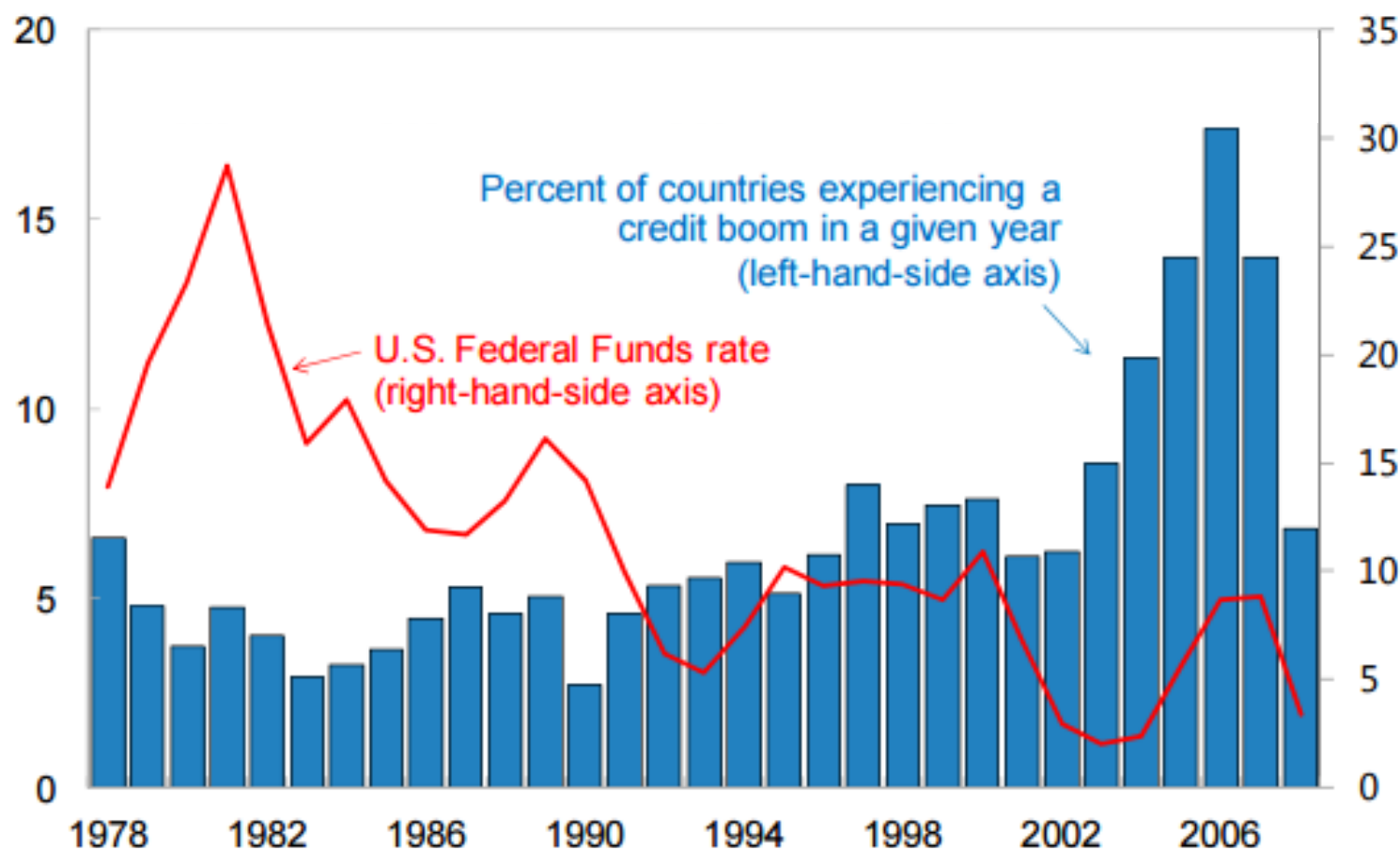
# Macroprudential policy focuses on financial cycle—not on business cycle



# One important focus of both cyclical and structural macroprudential policies: credit booms



Concurrence of Credit Booms, 1978-2008

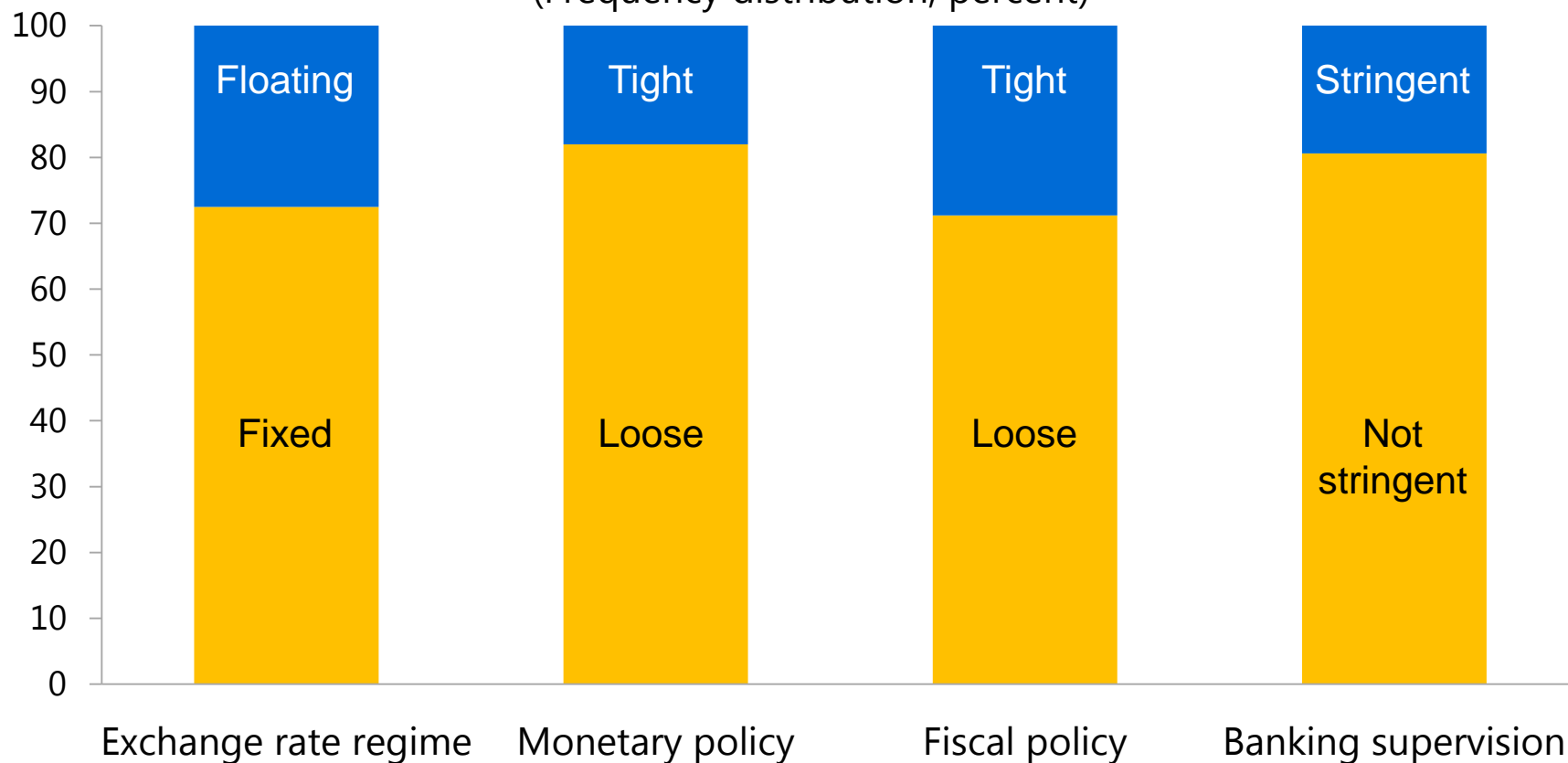


Source: Bakker, Igan, Dell'Ariccia, Tong, Vandenbusshe, Laeven (2012), "Policies for Macrofinancial Stability: How to deal with Credit Booms" (IMF Staff Discussion Note 12/06)

# Credit booms are usually accompanied by loose policies



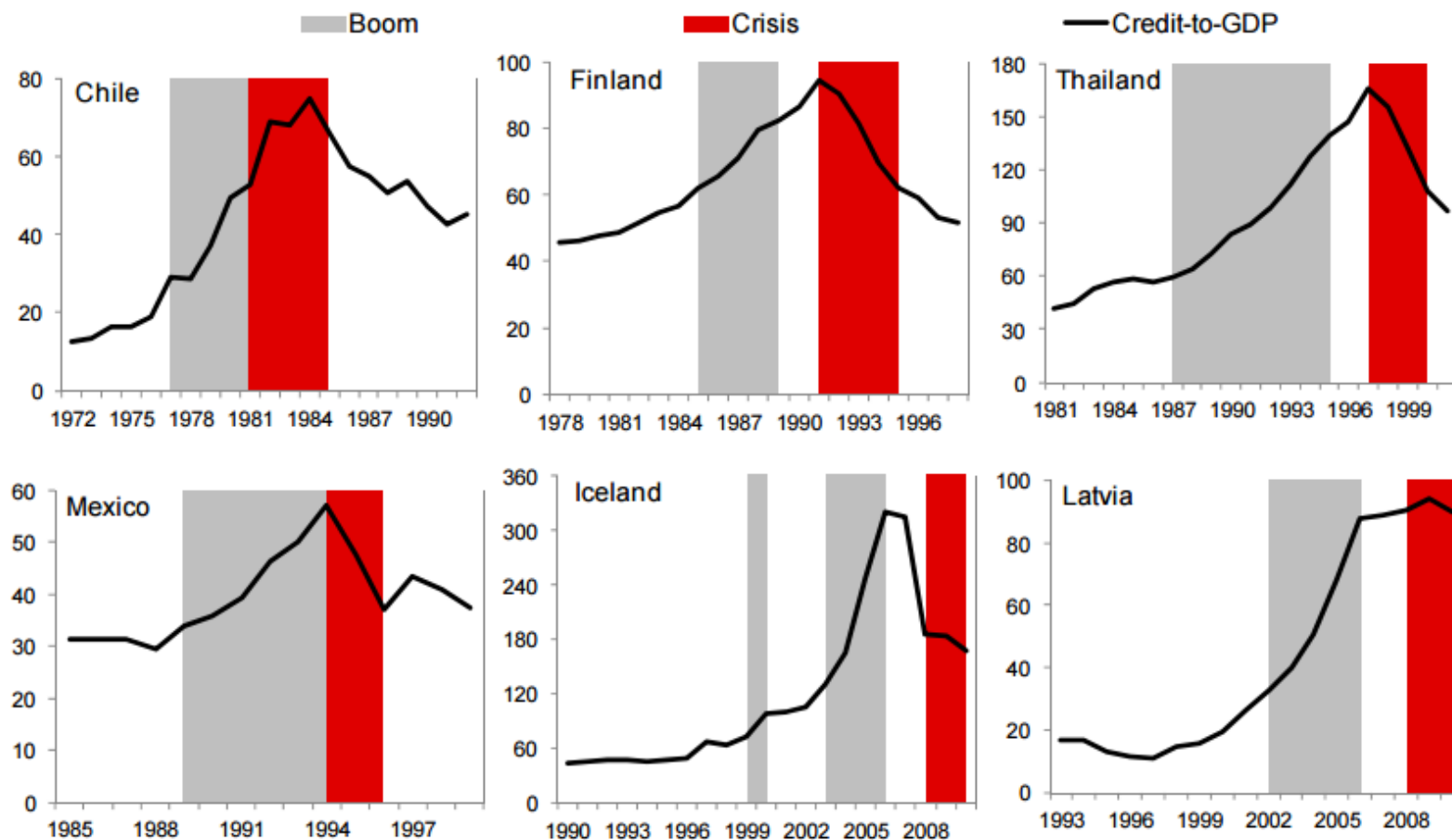
Economic and Financial Policy Frameworks and Credit Booms, 1970-2009  
(Frequency distribution, percent)



# Many credit booms result in banking crisis



## Credit Booms and Financial Crises: Examples of Bad Booms



Source: Bakker, Igan, Dell'Ariccia, Tong, Vandenbusshe, Laeven (2012), "Policies for Macroeconomic Stability: How to deal with Credit Booms" (IMF Staff Discussion Note 12/06)

# Or are followed by subpar growth



- One in three credit booms end with banking crisis
- 60 percent by subpar growth
- Two thirds of credit booms are followed by banking crisis or subpar growth
- That also means that one third of credit booms does NOT end badly

# Can we distinguish “bad” credit booms from “good” ones?



- “Bad” credit booms tend to
  - be larger and last longer
  - start with a higher credit-to-GDP ratio
- Magnitude of rise of credit-to-GDP ratio has been identified as predictor of whether boom ends badly
  - False positives in some countries with rapid credit growth (predict crises that do not occur)
  - Will miss some crises in countries with relatively moderate credit growth

# Macro prudential policy and credit booms



Macro prudential policy aims to:

- Mitigate the boom
- Build up resilience for when the bust comes
- Mitigate the bust





# MACROPRUDENTIAL POLICY IN CESEE

# CESEE countries have simpler financial systems than advanced countries



- Financial systems are typically bank-dominated
- They don't have CDOs (collateralized debt obligations) and MBS (mortgage-backed securities) which played key role in the US crisis
- Financial system exposures are much more transparent
- Key issue for CESEE: how to prevent credit-boom busts

# In the 1990s, CESEE had many banking crises



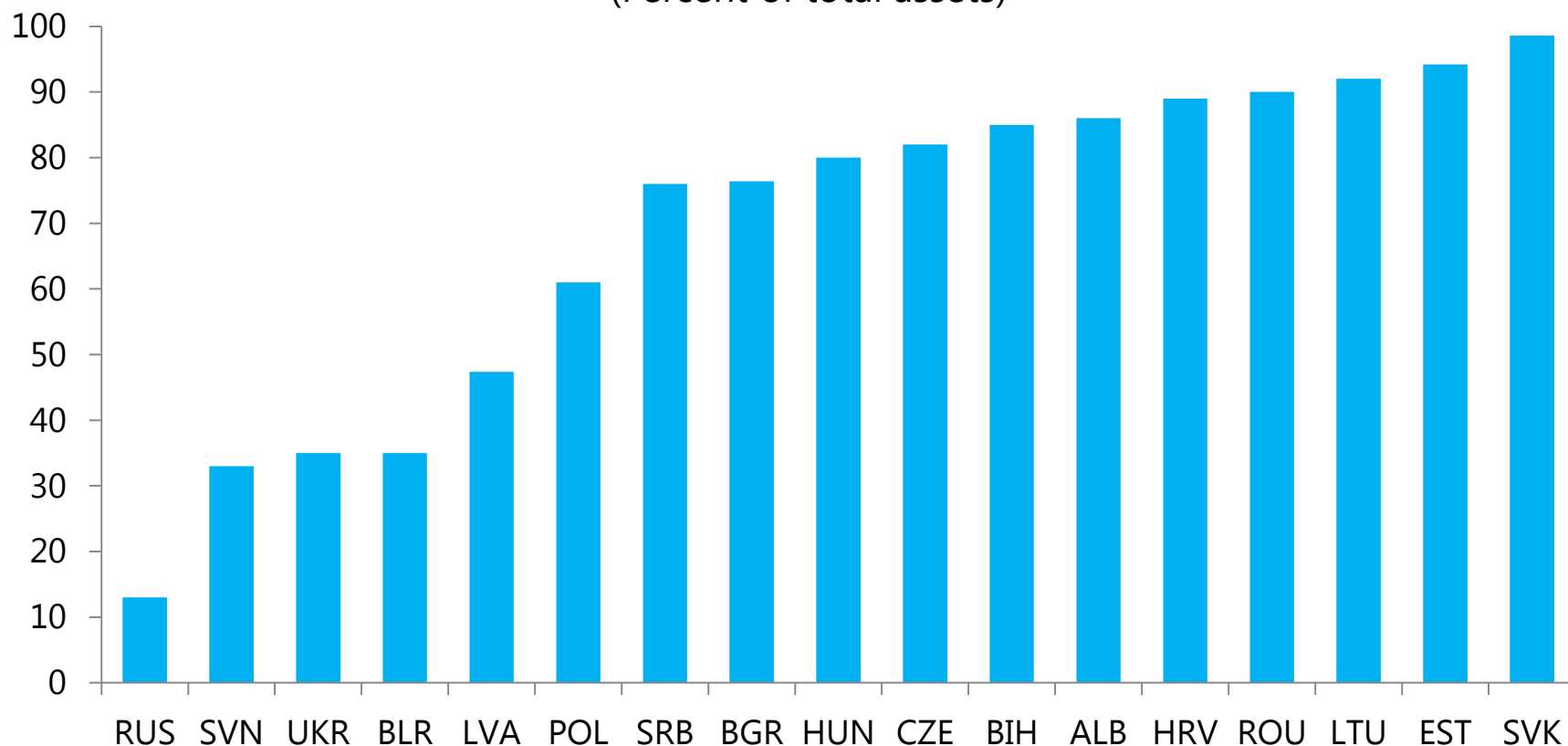
**Banking Crises in 1990s**



Thereafter prudential frameworks were strengthened and banking systems opened to foreign competition



Market Share of Foreign-owned Banks, 2015  
(Percent of total assets)



Note: for BLR and LTU data for 2014.

# The opening of banks to foreign competition had unintended side-effects

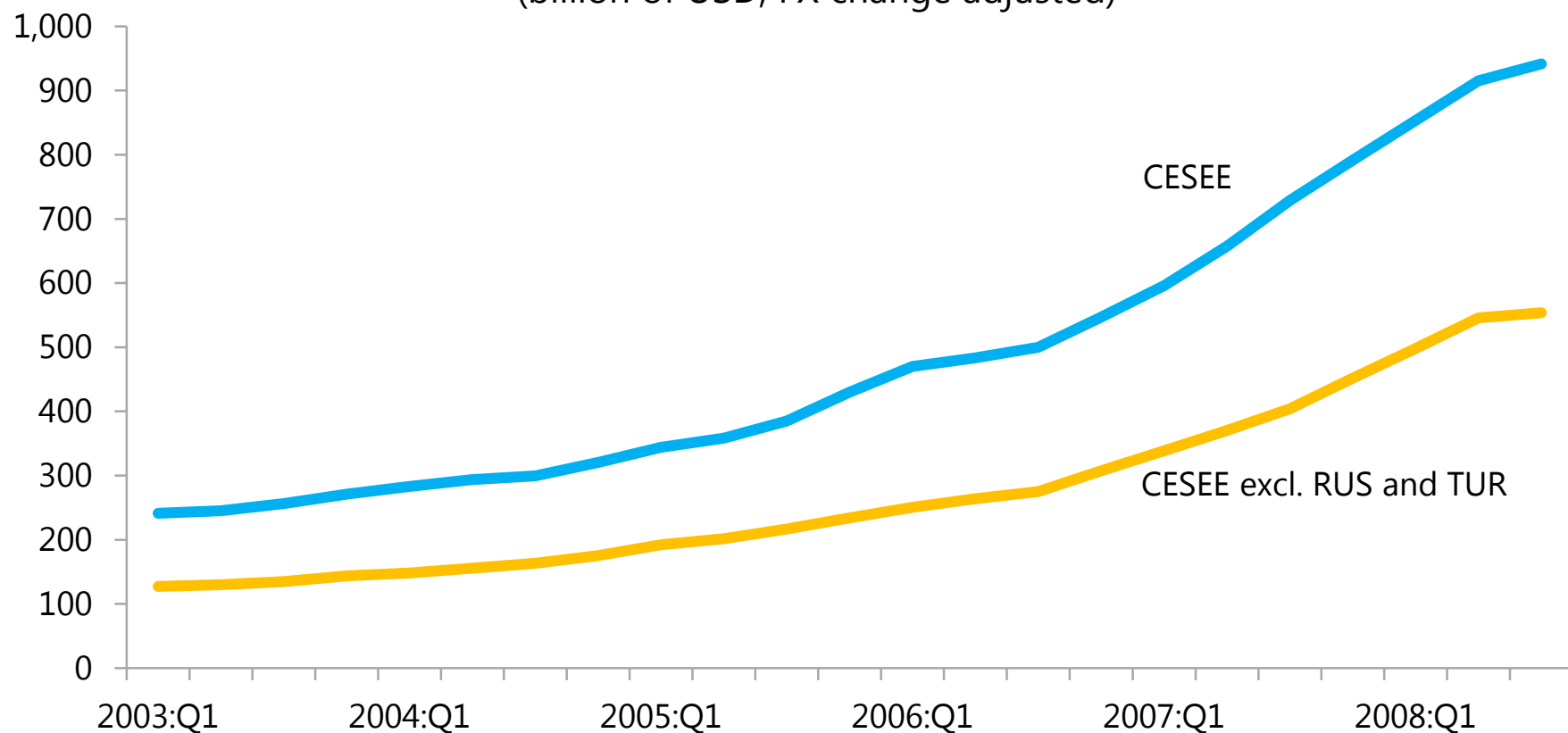


- Strengthened banks from a *micro* perspective
- But it also set the stage for large banking capital-inflows fueled domestic demand boom

Between 2003 and 2008 there were large funding flows of Western European banks to CESEE...



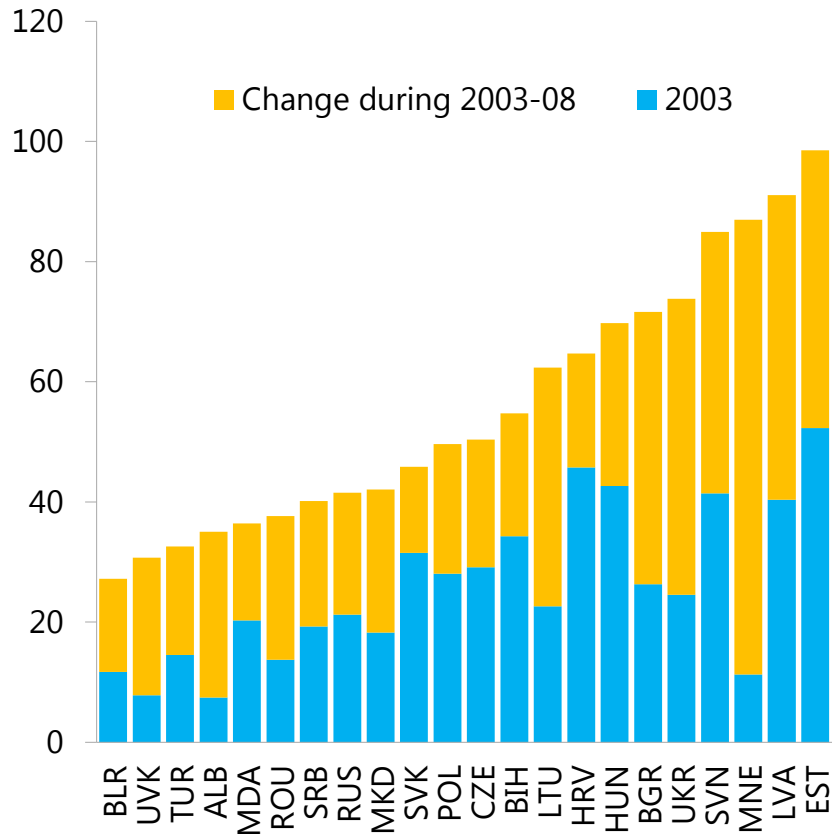
External position of BIS-reporting Banks on All Sectors  
(billion of USD, FX change adjusted)



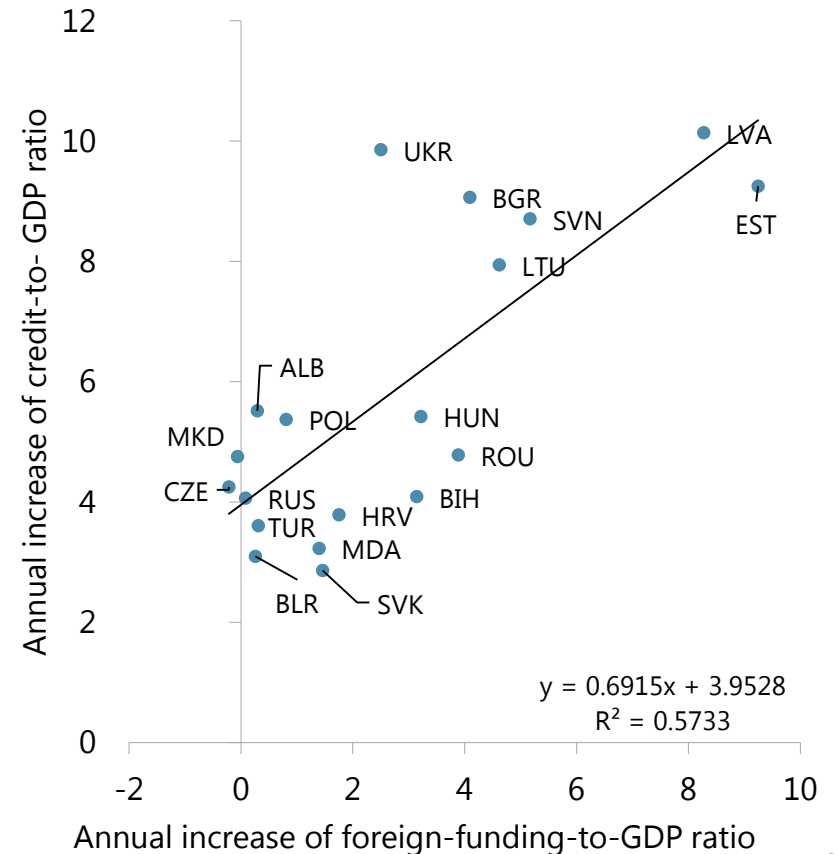
# ...which fueled and financed a credit boom...



Credit-to-GDP Ratio and Its Change  
(Percent of GDP)



Increase of Credit-to-GDP Ratio and Increase of  
Foreign Funding to Banks, 2003-08

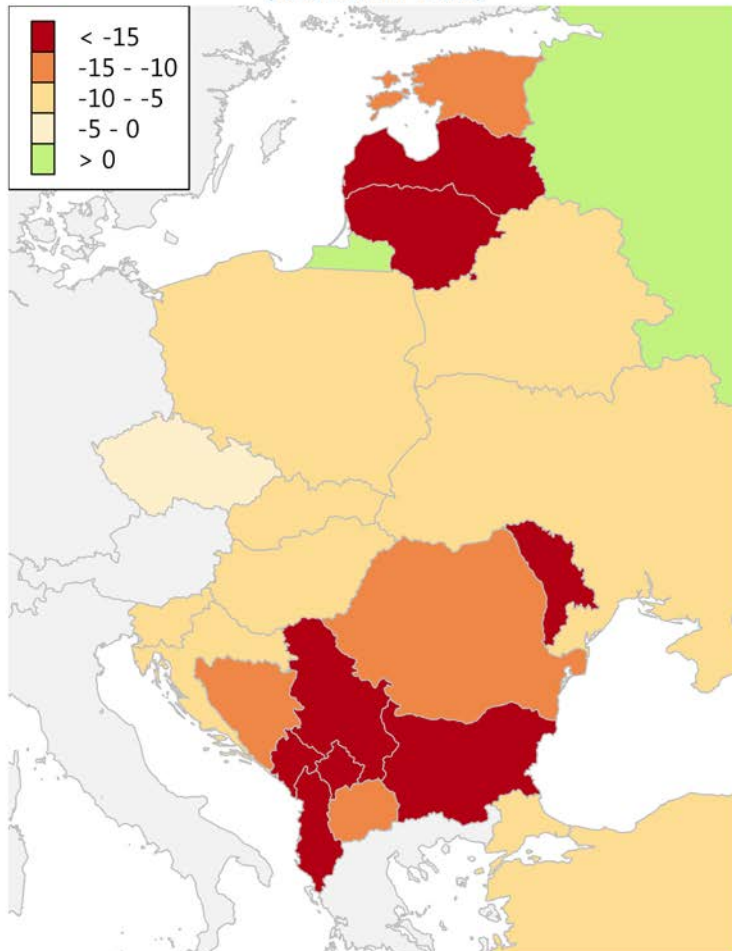


# ...which led to high current account deficits and overheating economies.



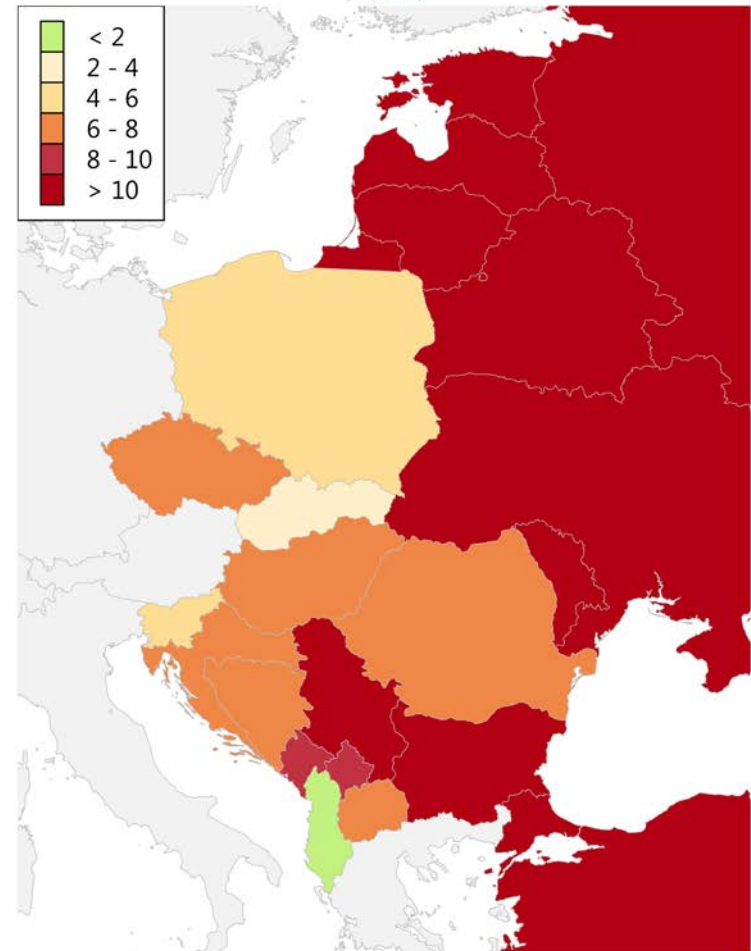
**Current Account Deficit in 2008**

(Percent of GDP in USD)



**CPI Inflation in 2008**

(Percent)



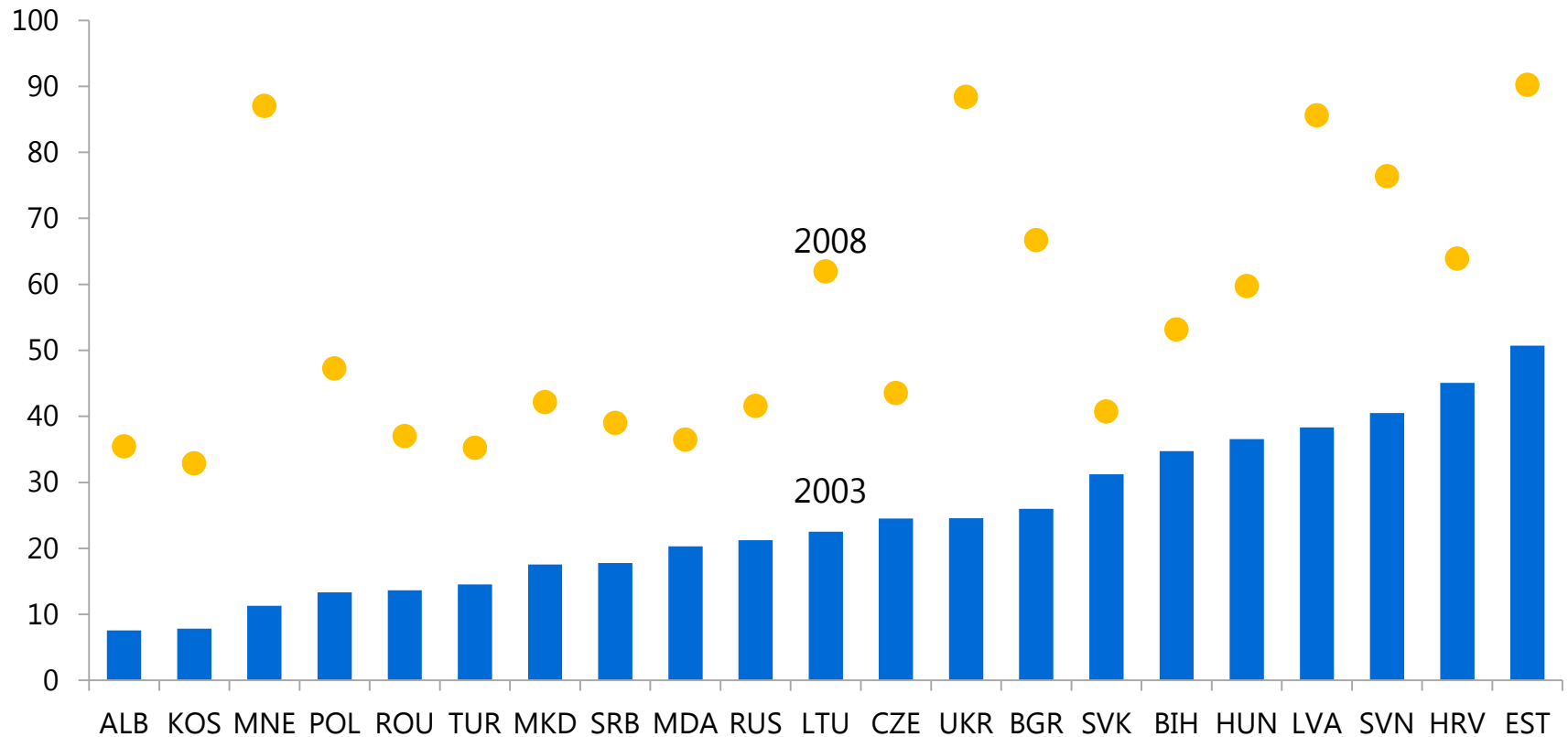
Note: CA deficit for EST, LVA and LTU: 2007.



# Big question was how to rein in credit growth



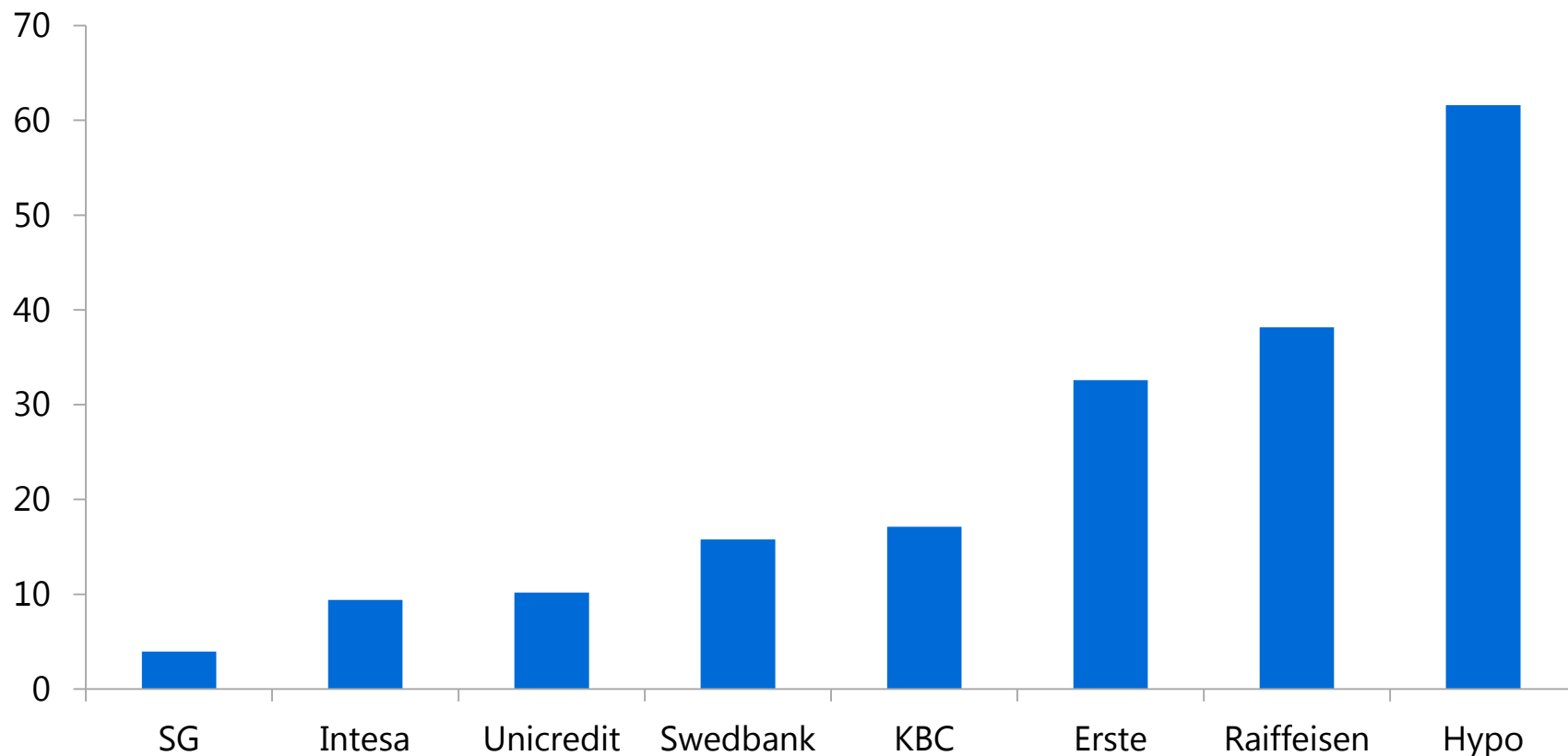
Domestic Credit to Private Sector  
(Percent of GDP)



# Foreign supervisors did not care about risky activities of their banks in CESEE



Major Euro area Banking Groups With Subsidiaries in Eastern Europe, 2006  
(Share of assets of CEE subsidiaries as percent of group assets)

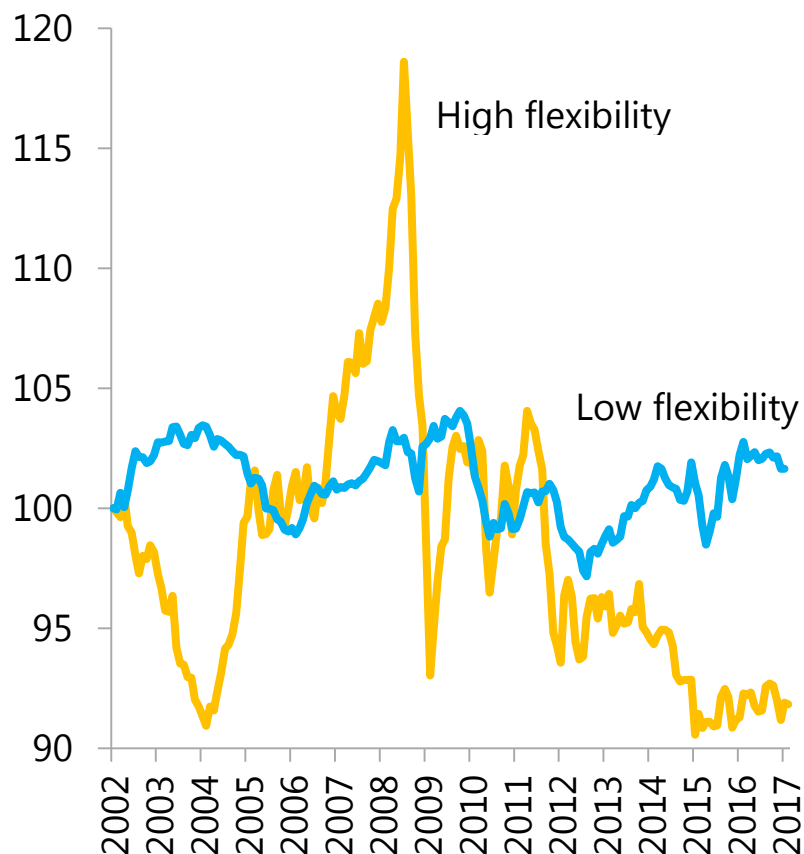


Note: Excludes subsidiaries in Russia.

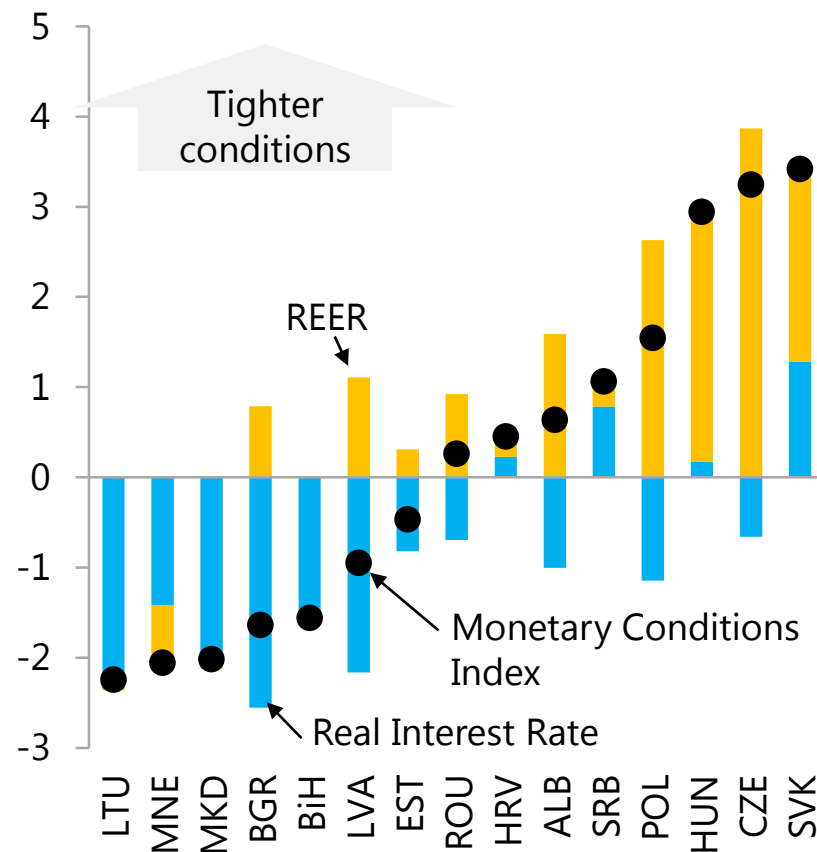
During boom floaters could let exchange rate appreciate, which tightened monetary conditions



Nominal Effective Exchange Rate  
(Index, 2002=100)



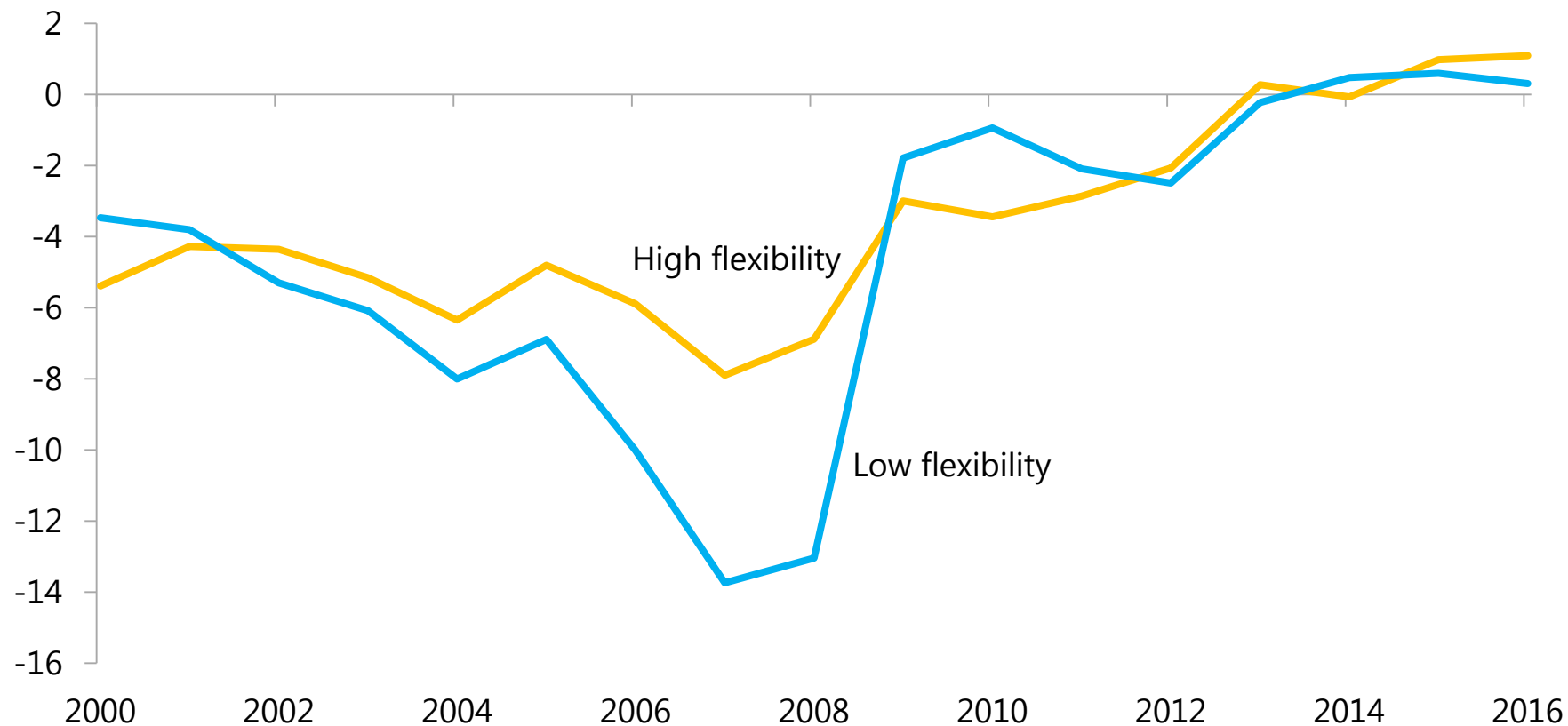
Contributions to Monetary Conditions, 2003-07  
(Percent)



As a result, they built up less imbalances, had less pronounced booms, and lower current account deficits



Average Current Account Balance  
(Percent of GDP)

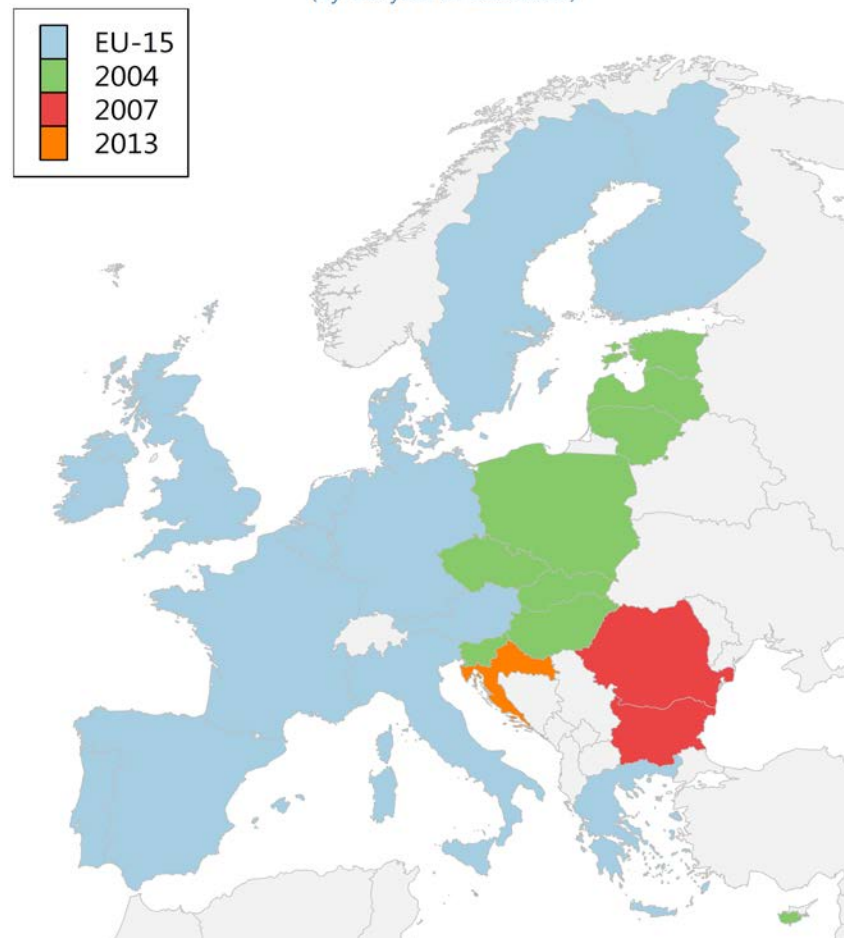


# Capital flows management was not an option in EU member states



## The EU member states

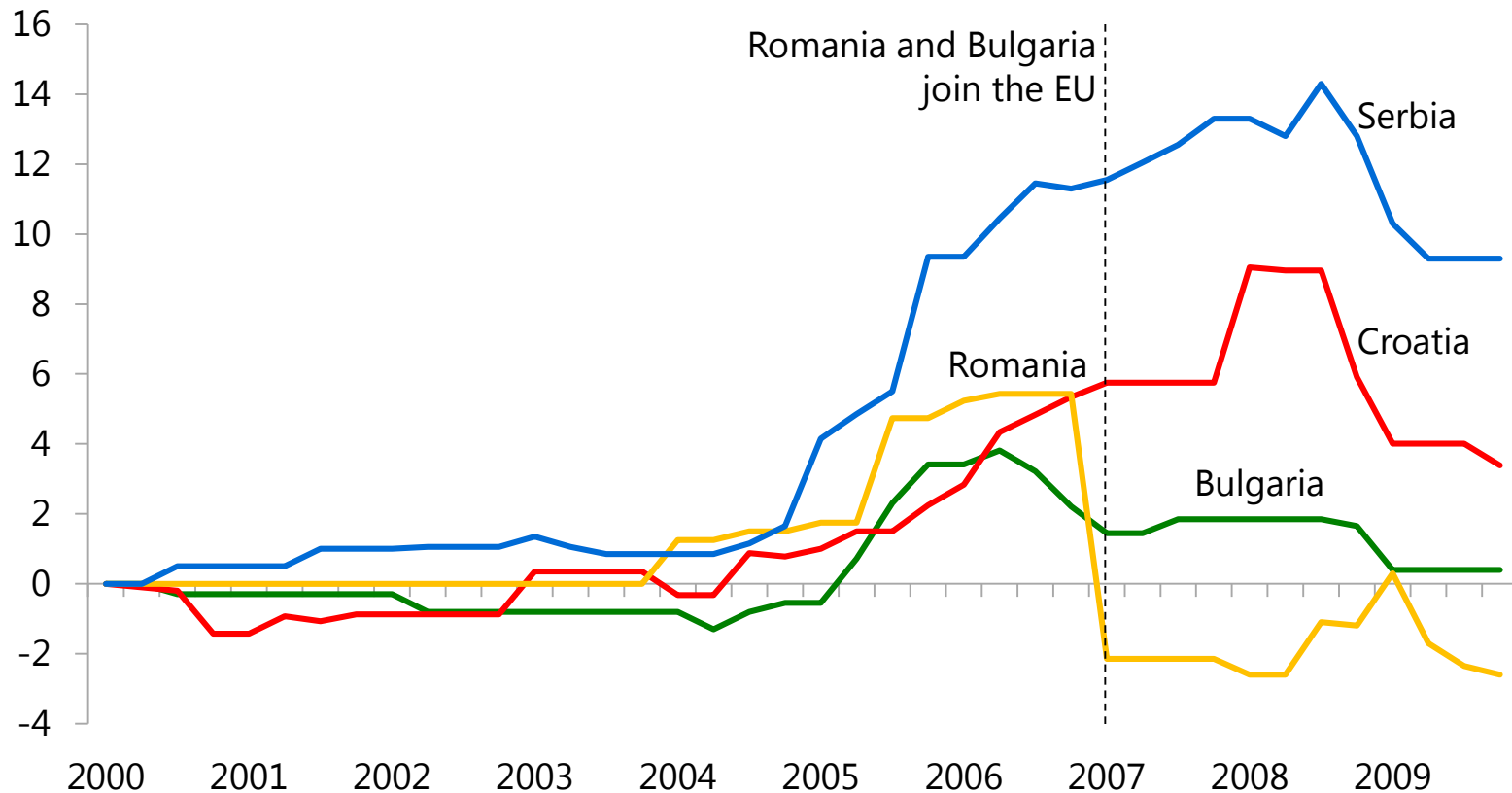
(By the year of accession)



# Many tightened macroprudential policies



Cumulative Changes in Strength of Prudential Regulation



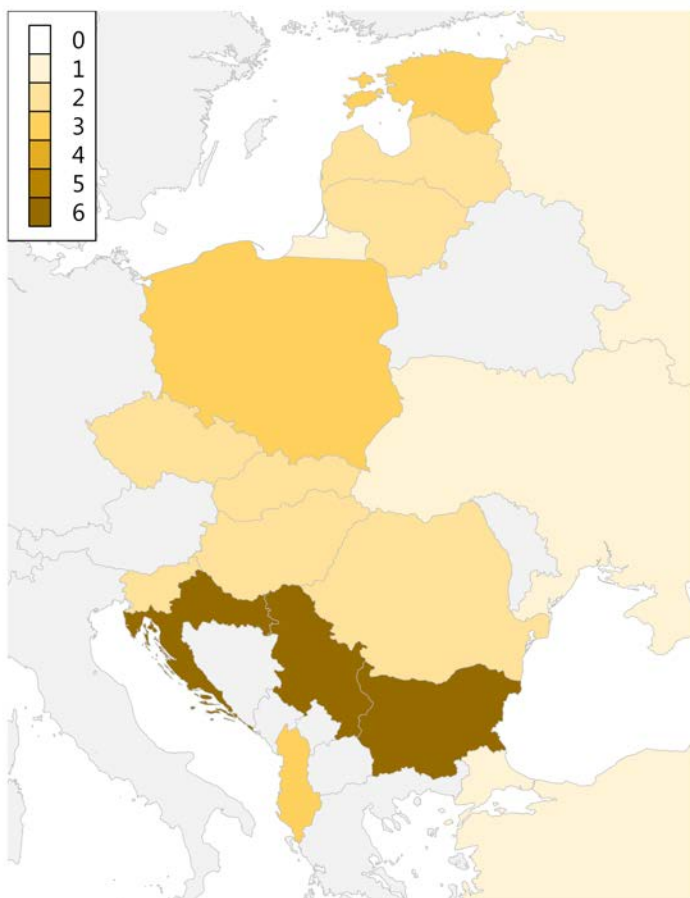
Source: Vandenbussche, Vogel and Detragiache (2015), "Macroprudential Policies and Housing Prices - A New Database and Empirical Evidence for Central, Eastern and Southeastern Europe", Journal of Money, Credit and Banking

# Measures targeted capital and liquidity

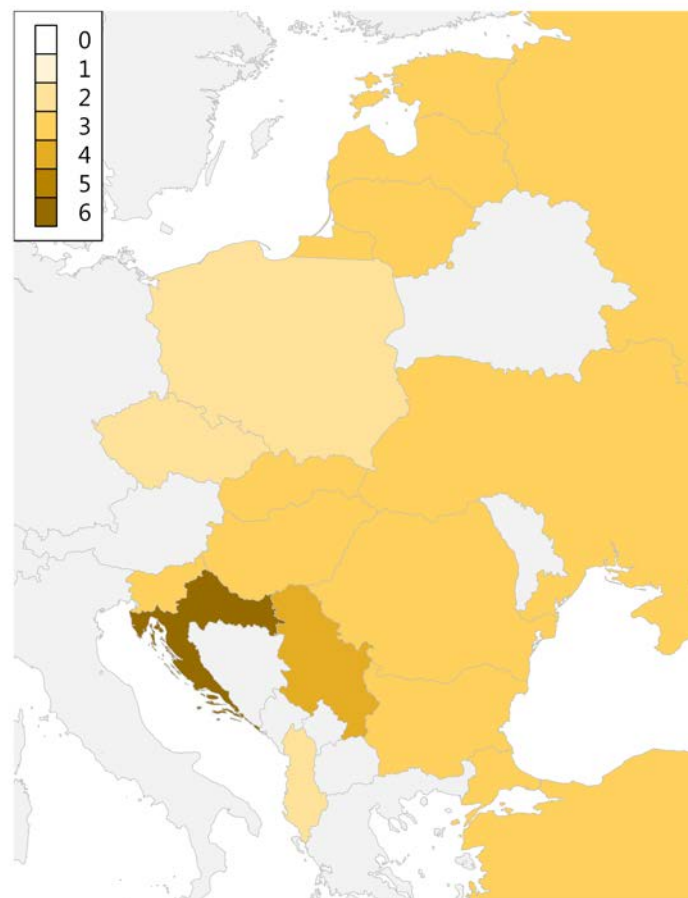


Number of Macroprudential Measures in place by 2008Q1

Number of capital measures taken



Number of liquidity measures taken



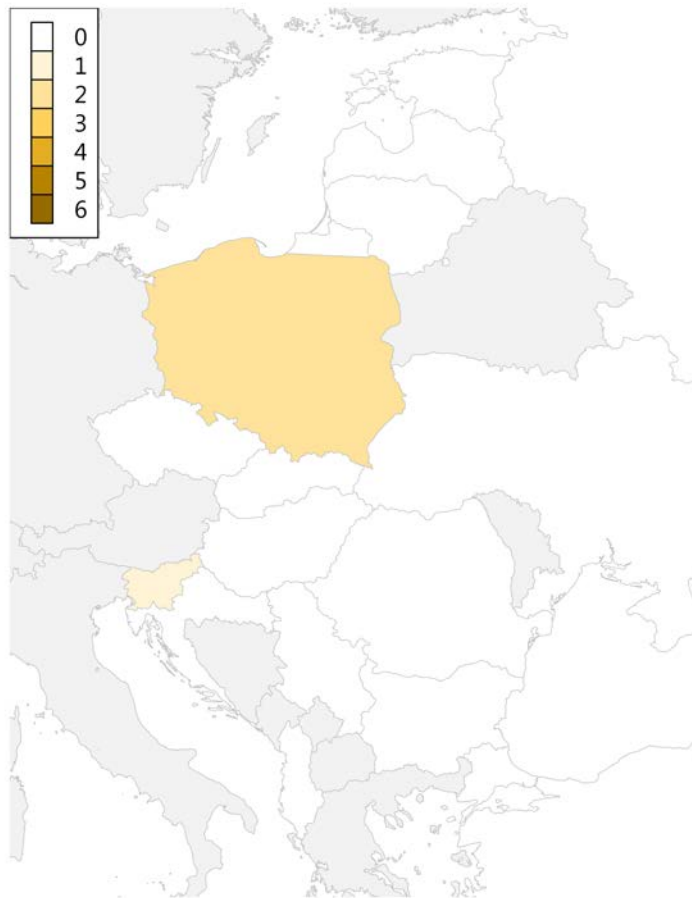
Source: Vandenbussche, Vogel and Detragiache (2015), "Macroprudential Policies and Housing Prices - A New Database and Empirical Evidence for Central, Eastern and Southeastern Europe", Journal of Money, Credit and Banking

# And to lower extent eligibility and provisioning

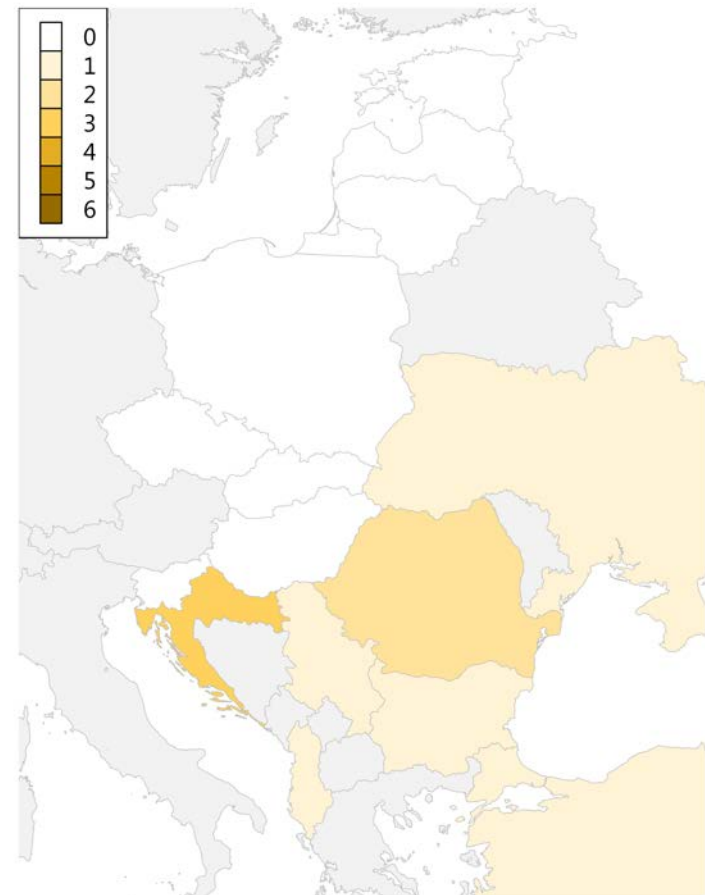


Number of Macroprudential Measures in place by 2008Q1

Number of eligibility measures taken



Number of provisioning measures taken

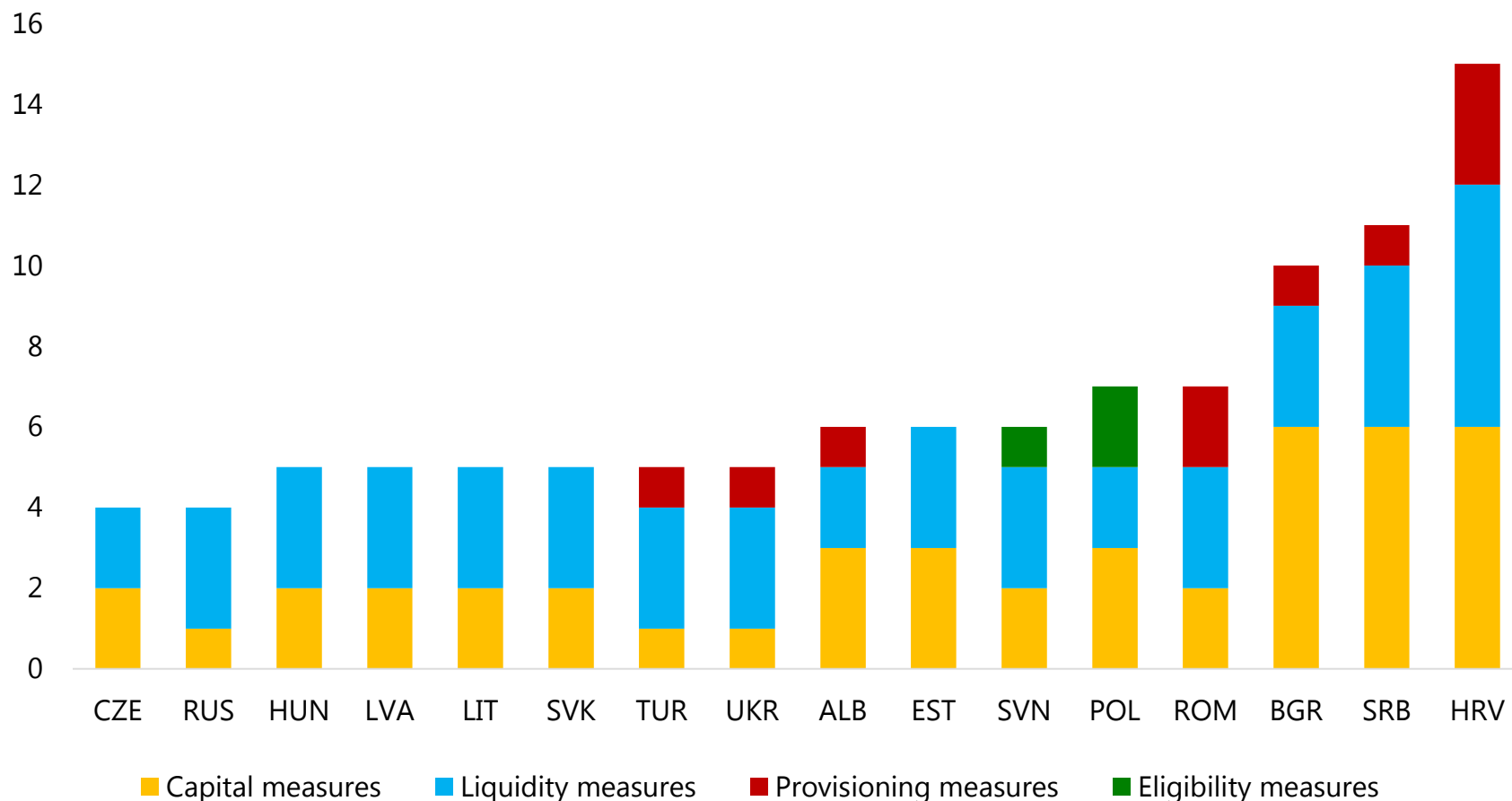




# Romania, Bulgaria, Serbia, Croatia most active



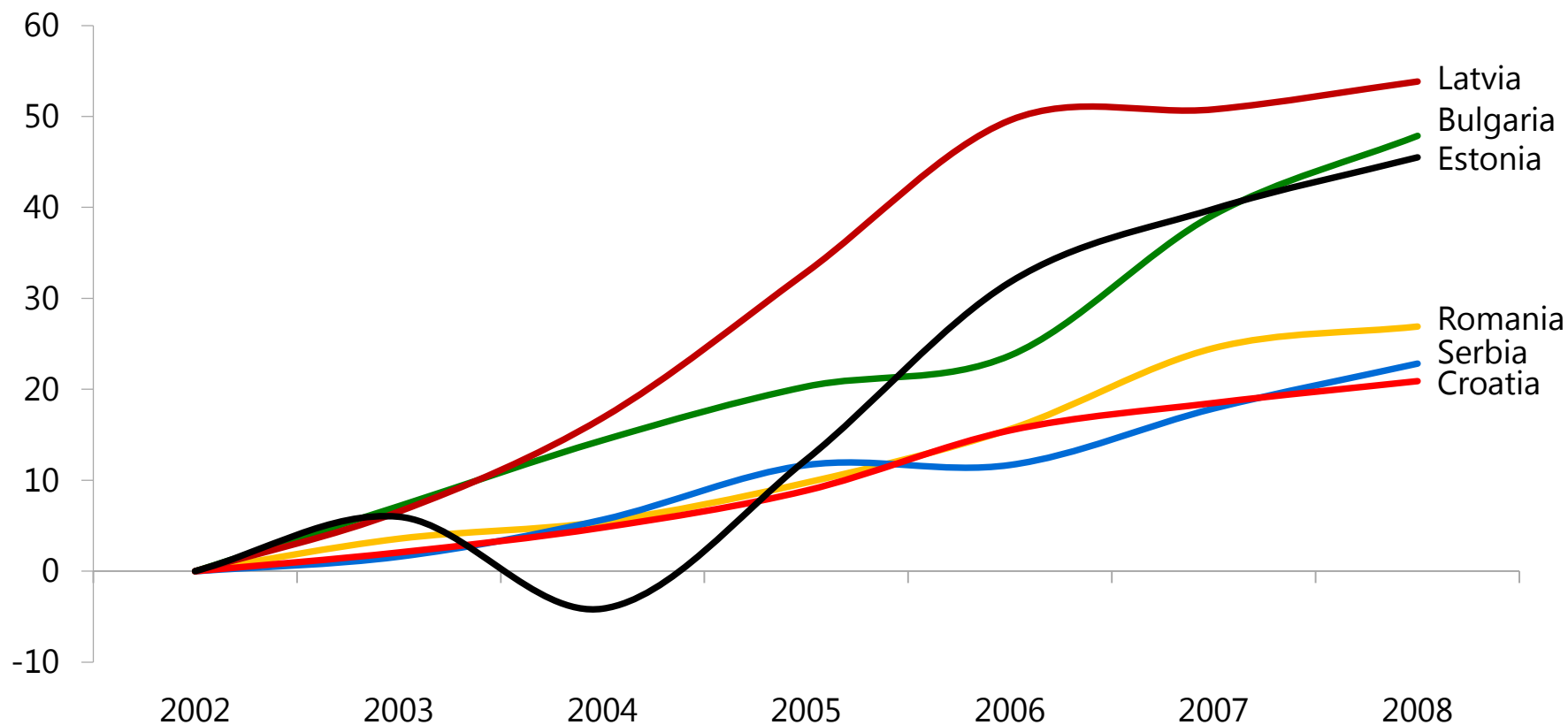
Number of Macroprudential Measures in 2008Q1



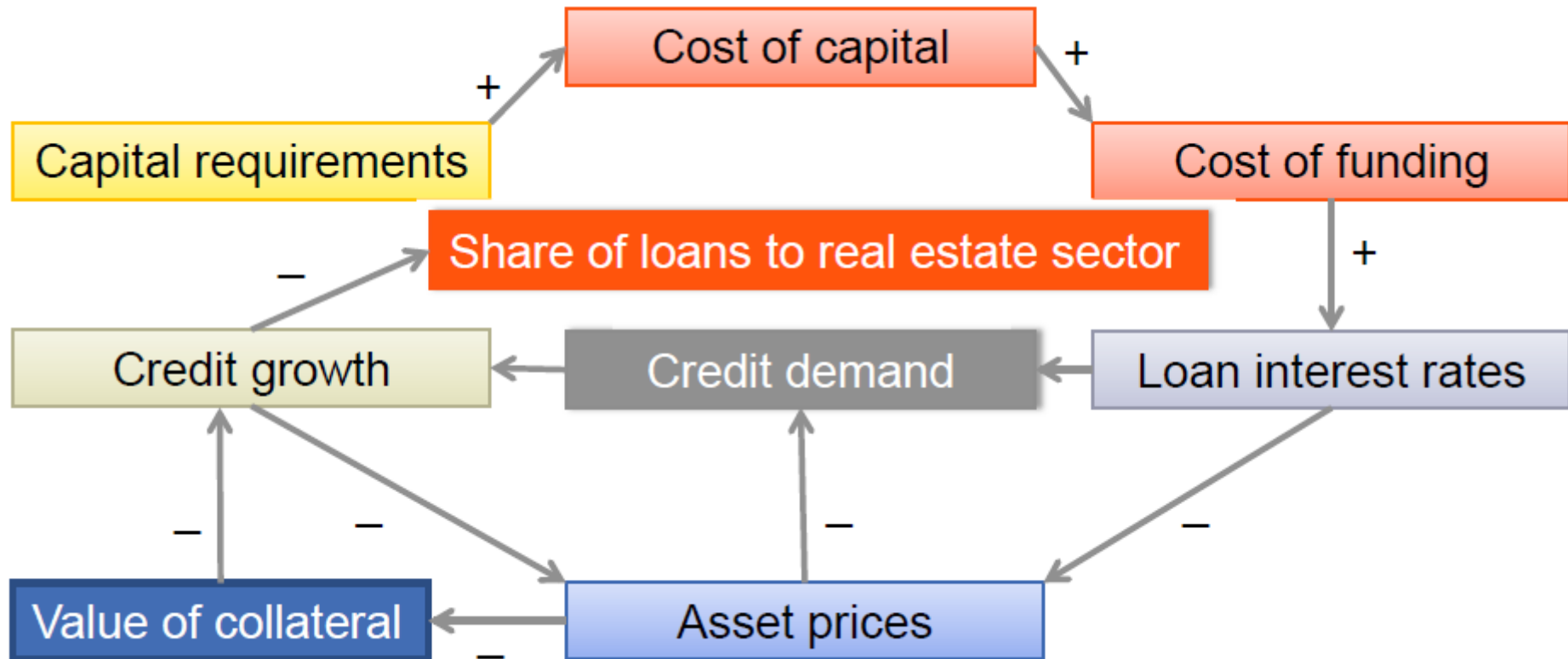
# Yet credit boom continued



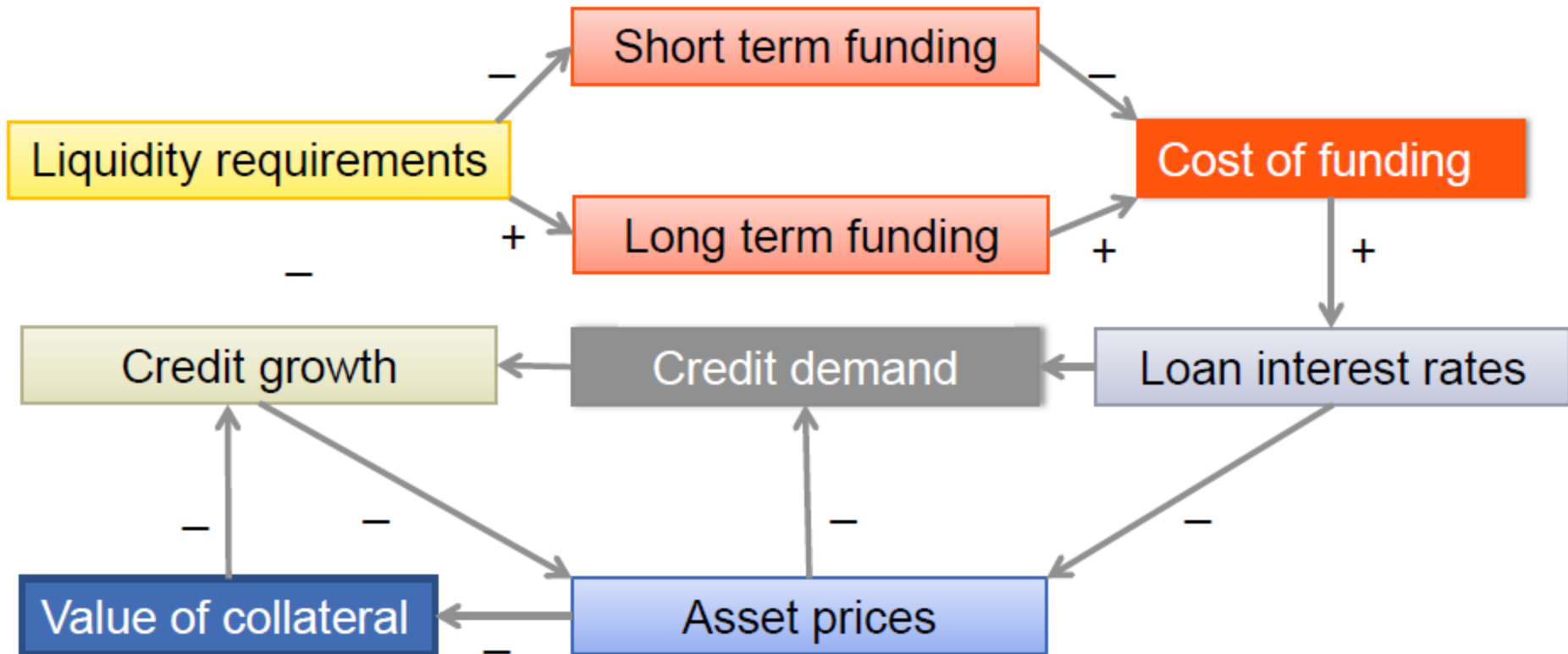
Cumulative Growth of Domestic Credit to Private Sector  
(Percent of GDP, 2002=0)



# Theory was that higher capital requirements would raise lending costs



# As would higher liquidity requirements

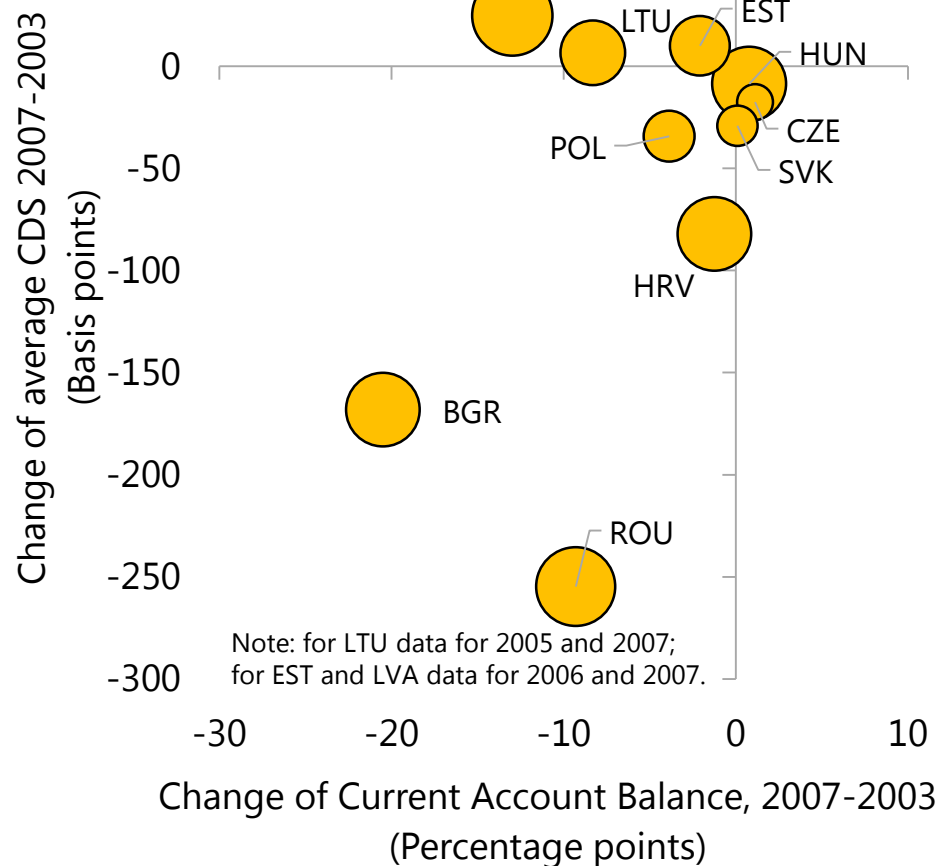


# Nominal lending rates did not rise much because risk premia *fell*—despite rising imbalances

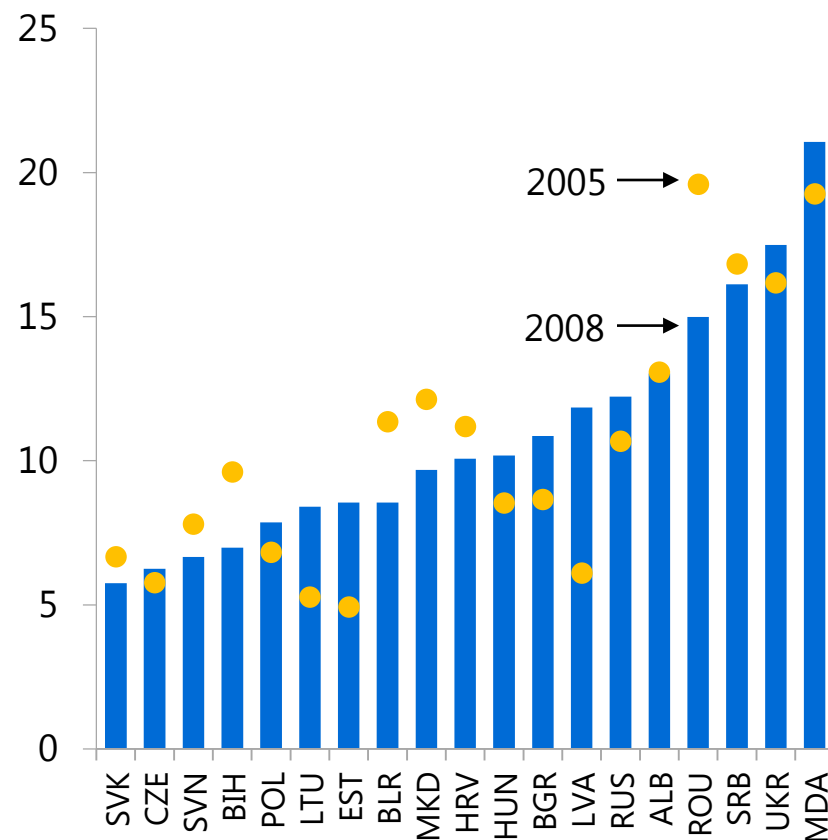


## Current Account Balance and CDS spreads, 2007-2003

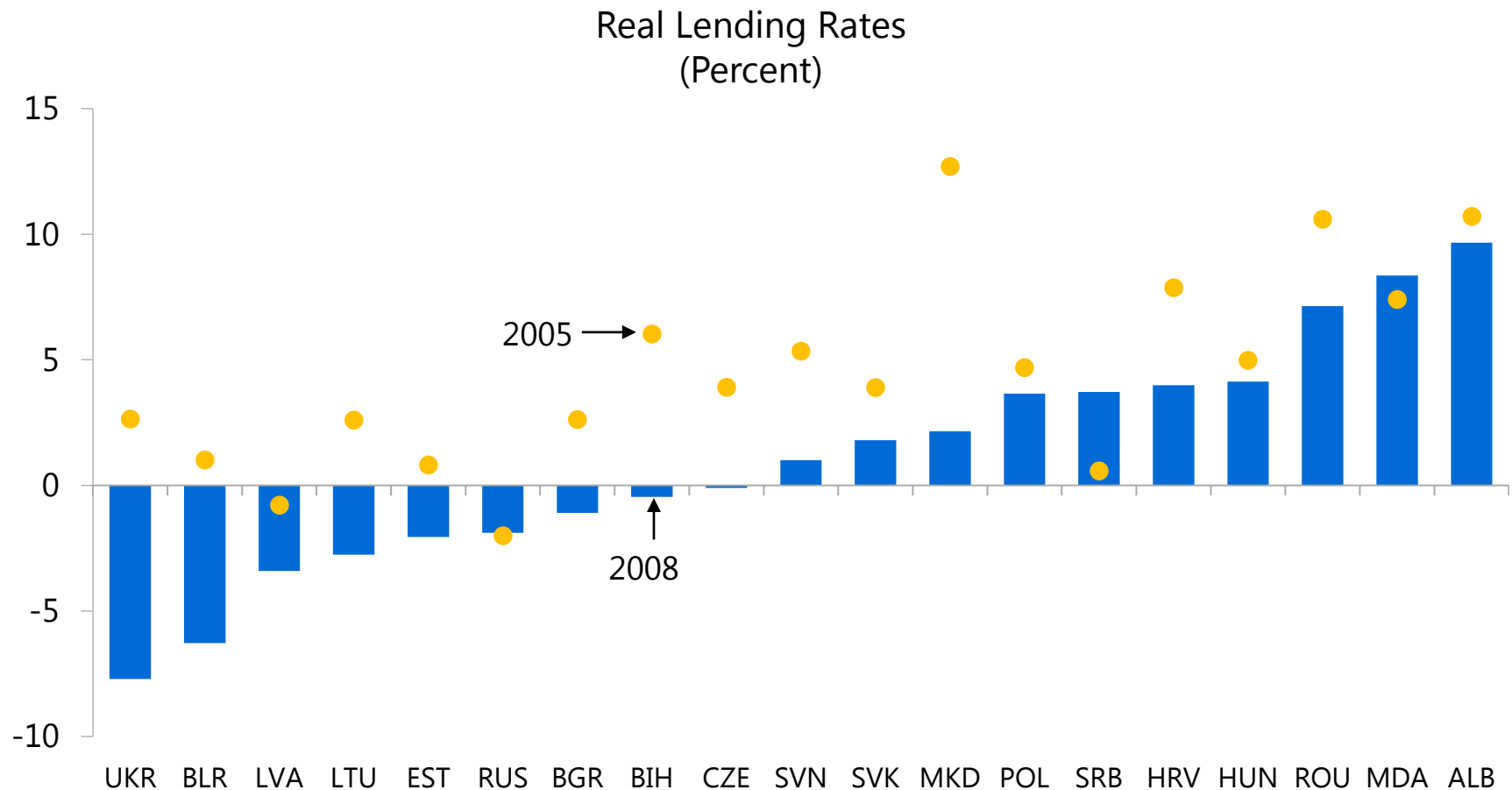
(Size of the bubble reflects CDS spreads in 2007)



## Nominal Lending Rates (Percent)



And *real* lending rates fell as inflation accelerated.



# High nominal and low real interest rates boosted credit growth

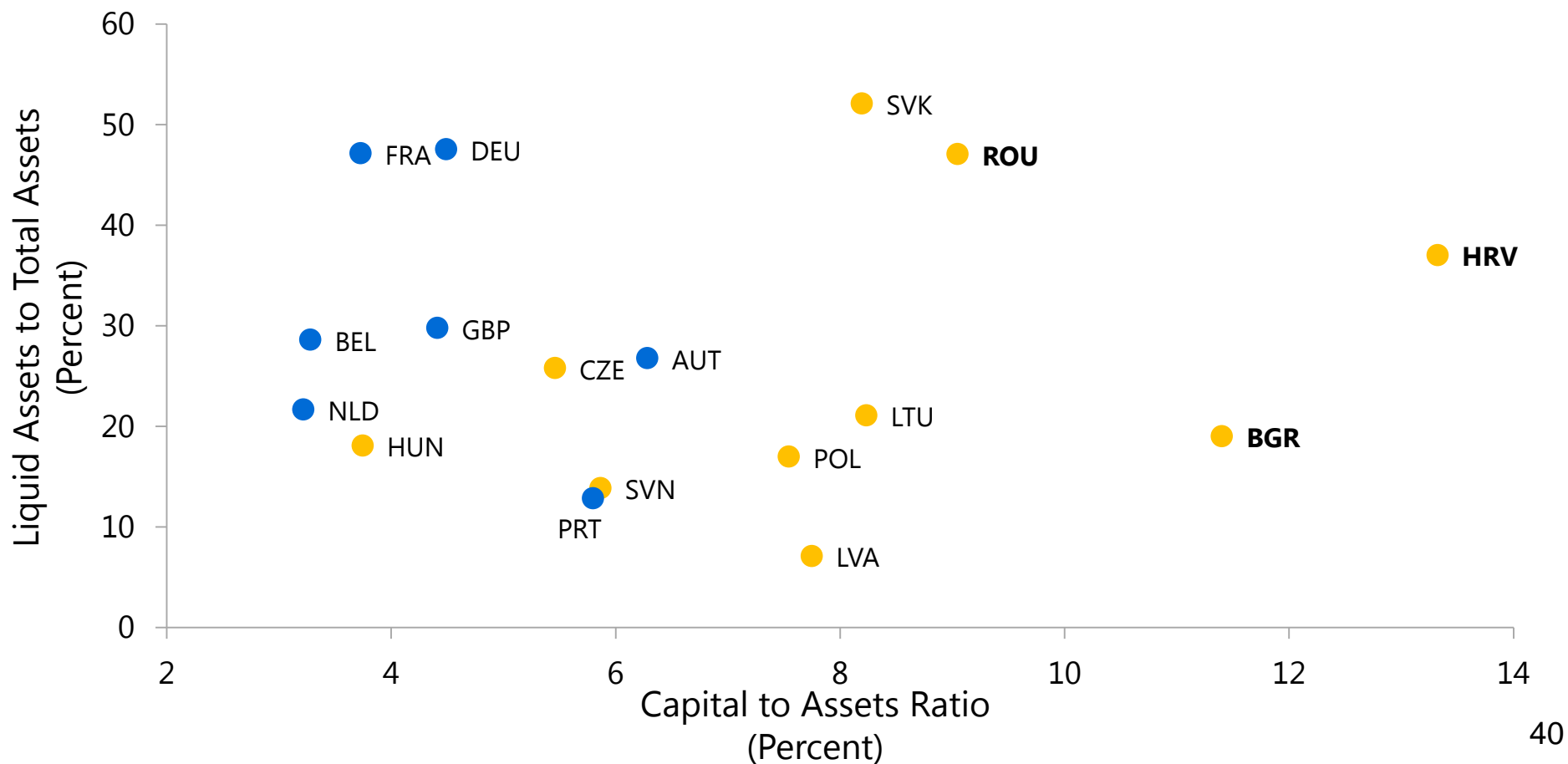


- From **lenders** perspective nominal lending rates in euros were higher than in Western Europe → high *supply* of credit
- From **borrowers** perspective real lending rates were low → high *demand* for credit

# While they did not stop credit boom, the measures built up resilience



Capital to Assets Ratio and Liquid Assets Ratio, 2008

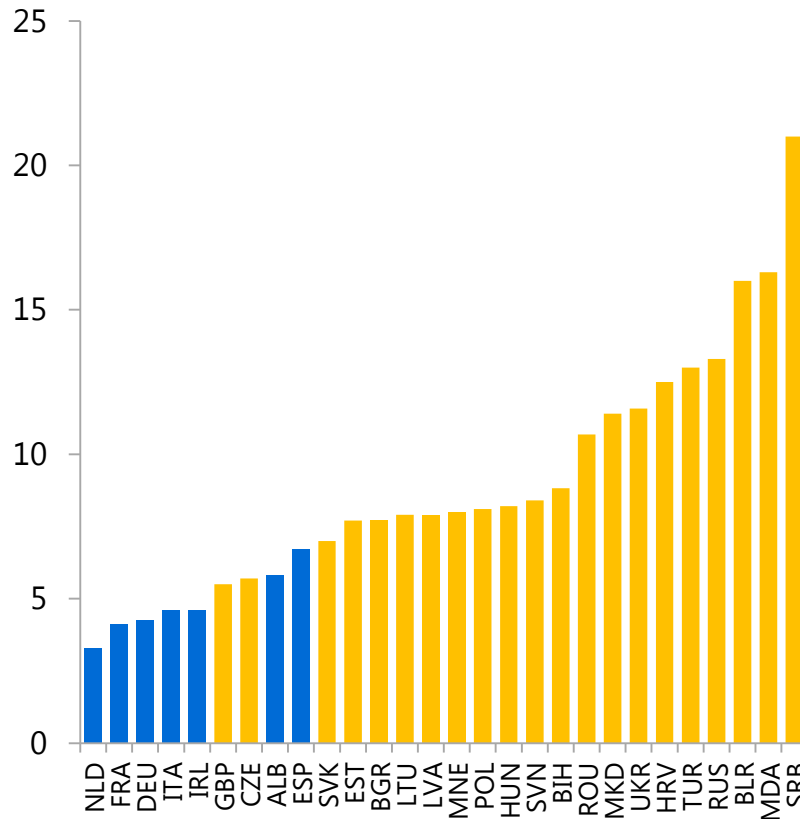




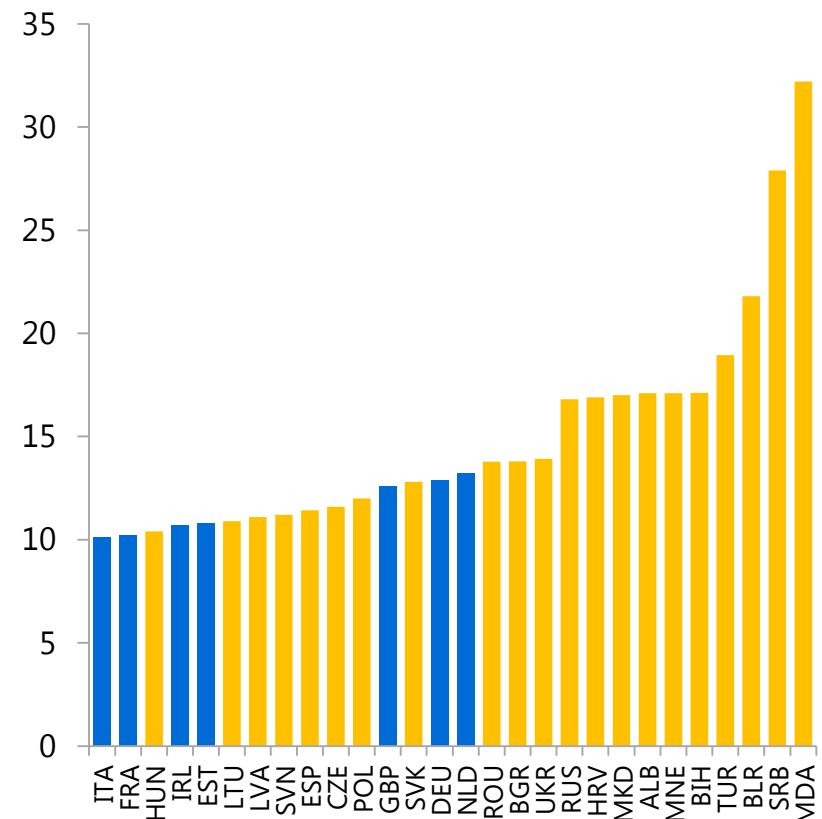
# Capital buffers were much higher than in Western Europe



Capital to Assets Ratio, 2007

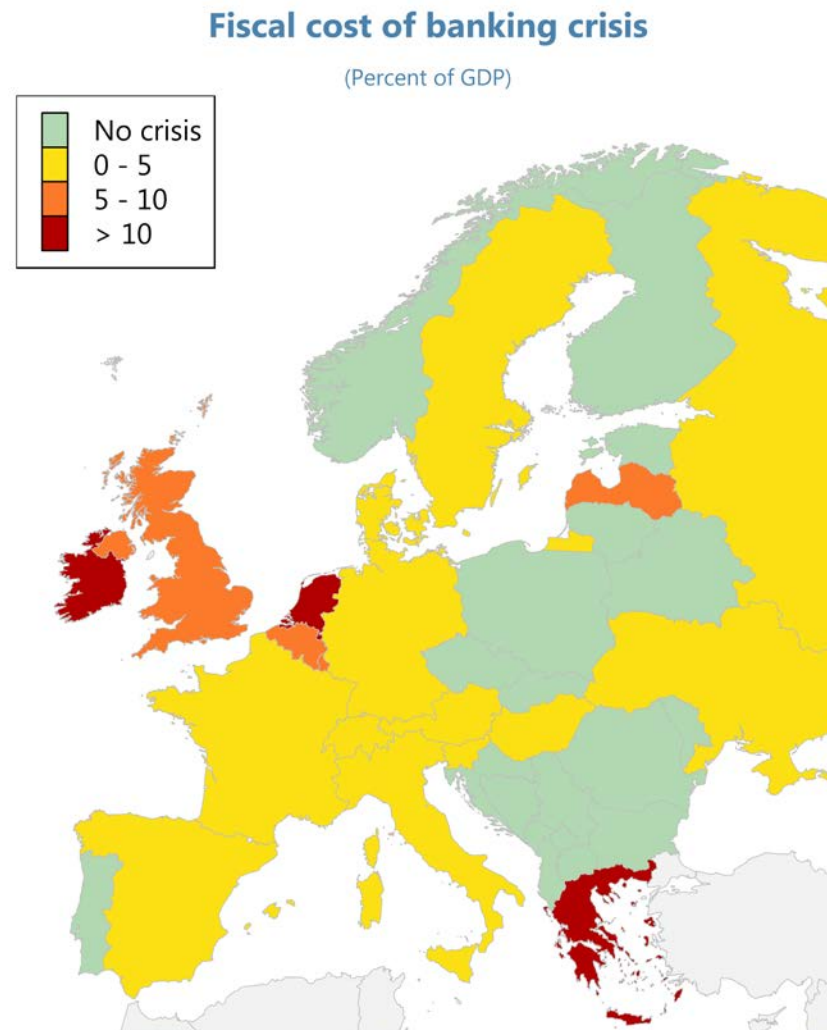


Capital Adequacy Ratio, 2007



Note: EU15 countries in blue. Data for ITA, BIH, DEU, ROU, ESP, UKR, TUR from FSI database, for the rest of the countries – from GFSR Apr-2010.

# And massive banking crises in CESEE have been avoided



# What more could have been done?



- If FX loans had been forbidden, credit boom would have been less of a problem
- FX borrowing was partly the result of low interest rates on FX loans (example: swiss franc mortgages)
- If you could not get swiss franc mortgages, mortgage growth would have been less

Forbidding FX loans would not just have reduced *demand* for loans, but also *supply*

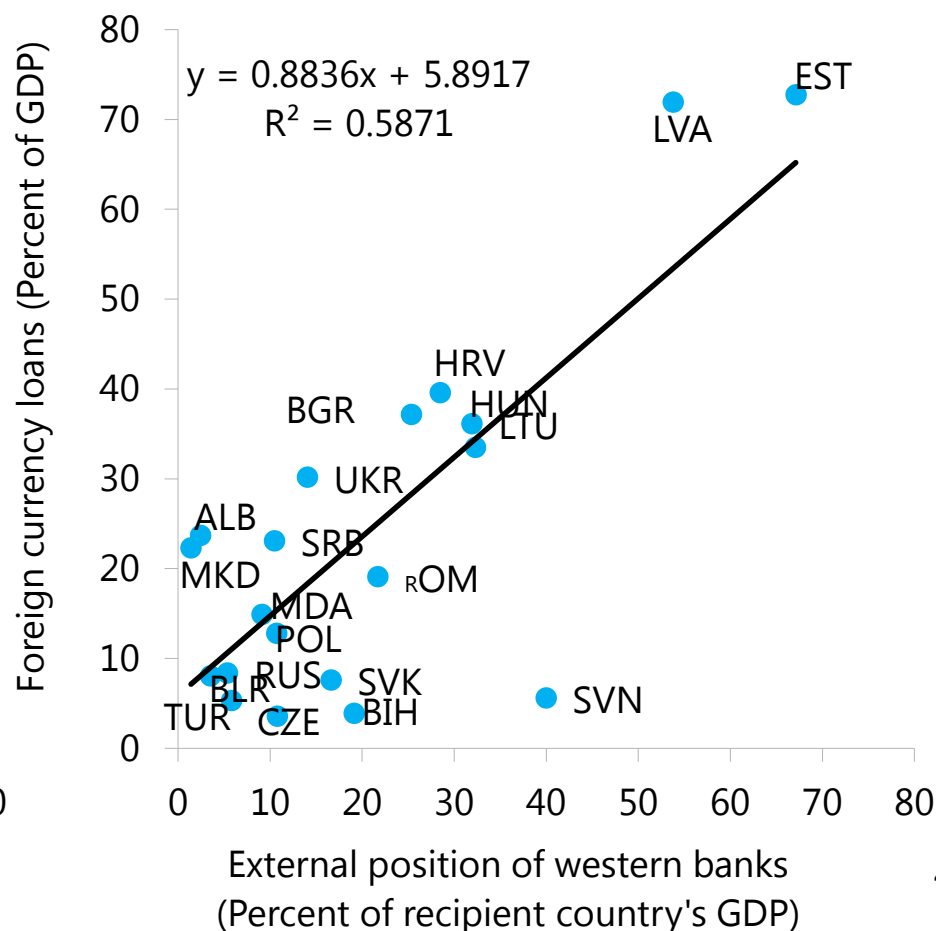
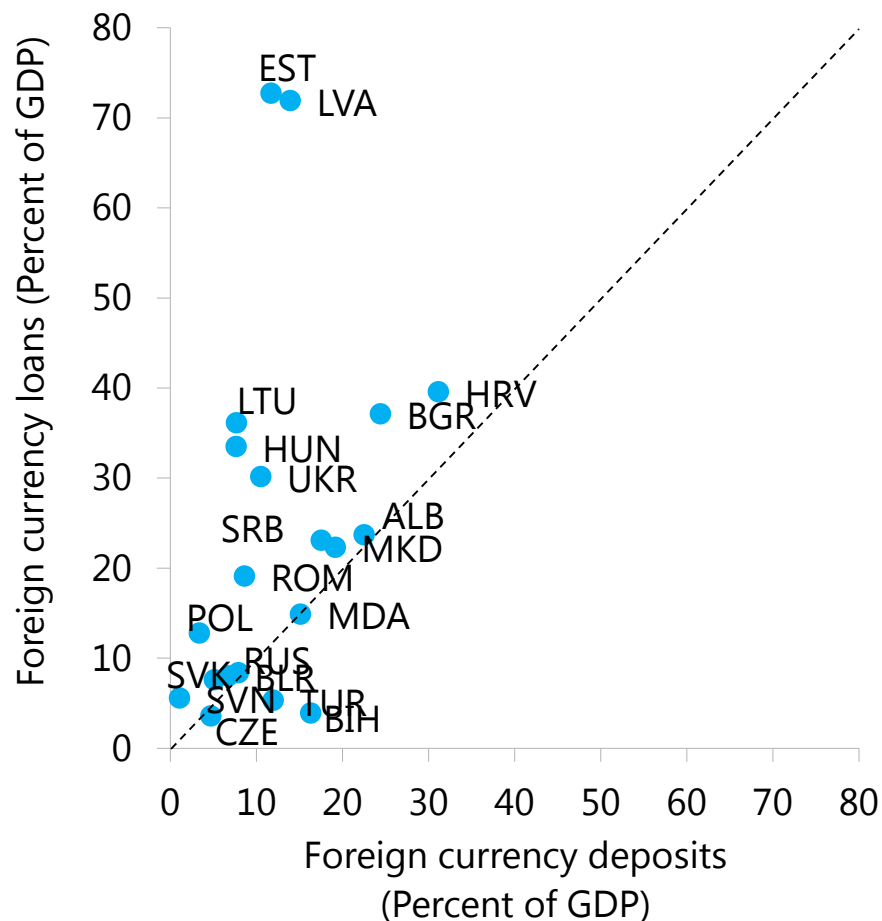


- Parent banks lent to subsidiaries in euros
- Subsidiaries could not have open currency position and therefore lent to customers in euros
- If subsidiaries could not lend in euros, they would have needed to hedge → very difficult given amounts involved.

# Pre-crisis, large differences in FX linked to external funding, not deposit euroization



Foreign Currency Loans, Foreign Currency Deposits and Exposure of Western Banks, 2008





# LESSONS FROM CESEE FOR OTHER COUNTRIES

# Lessons from CESEE for other countries-1



- Macro-prudential policies can make the banking system safer
  - Strong macro-prudential policy during credit boom make banking system more resilient
  - It can create large buffers that increase the safety of the banking system during the subsequent downturn
  - This helps reduce the costs for governments

# Lessons from CESEE for other countries-2



- Macro-prudential policy alone may not be able to stop credit booms
  - Credit boom continued despite strong macro-prudential measures
  - Of course, credit boom would likely have been even stronger without measures
  - If credit demand is very strong and lending very profitable, macro-prudential measures will be evaded (e.g., banks shift to direct cross border lending).

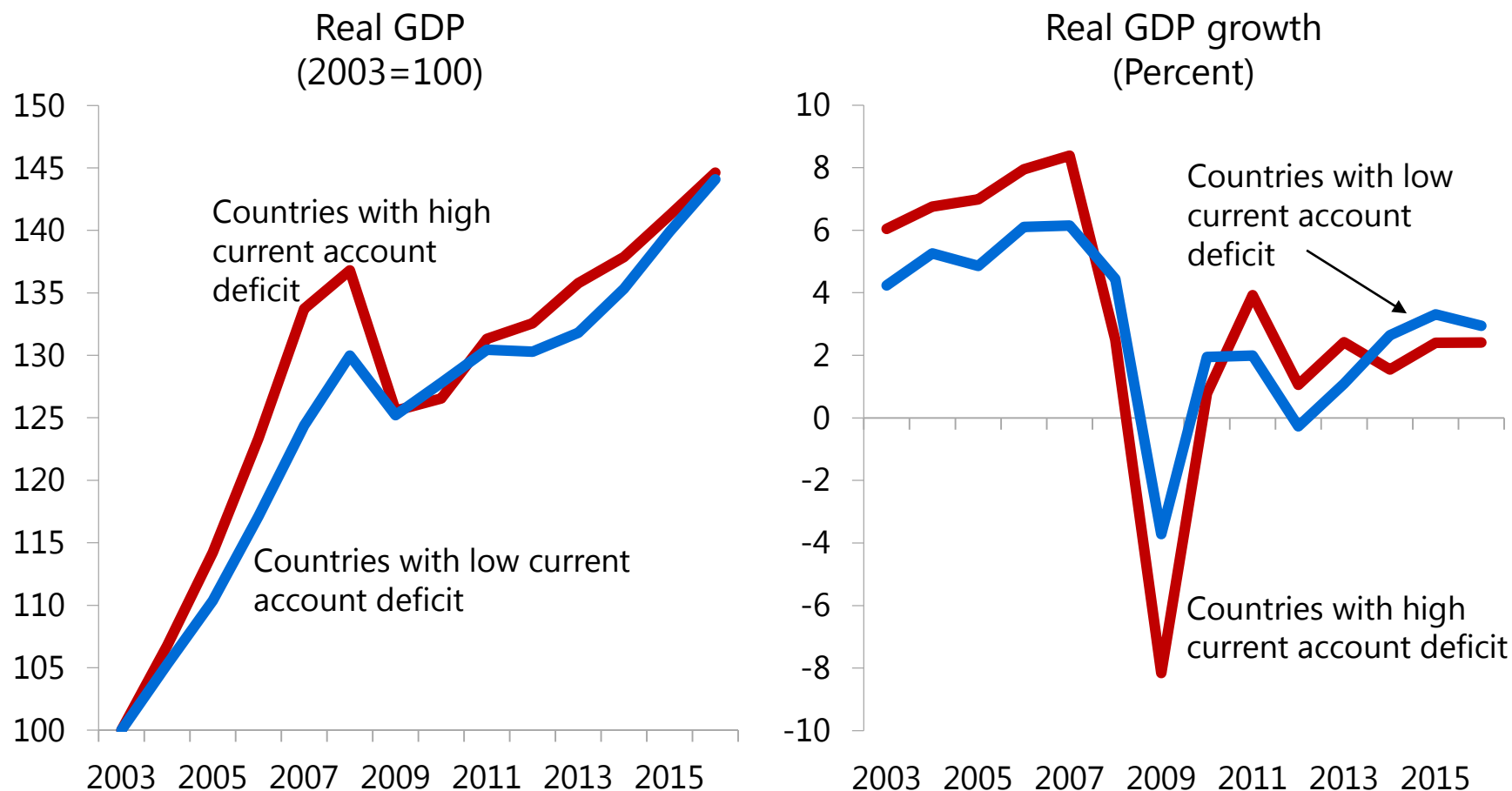


# Lessons from CESEE for other countries-3



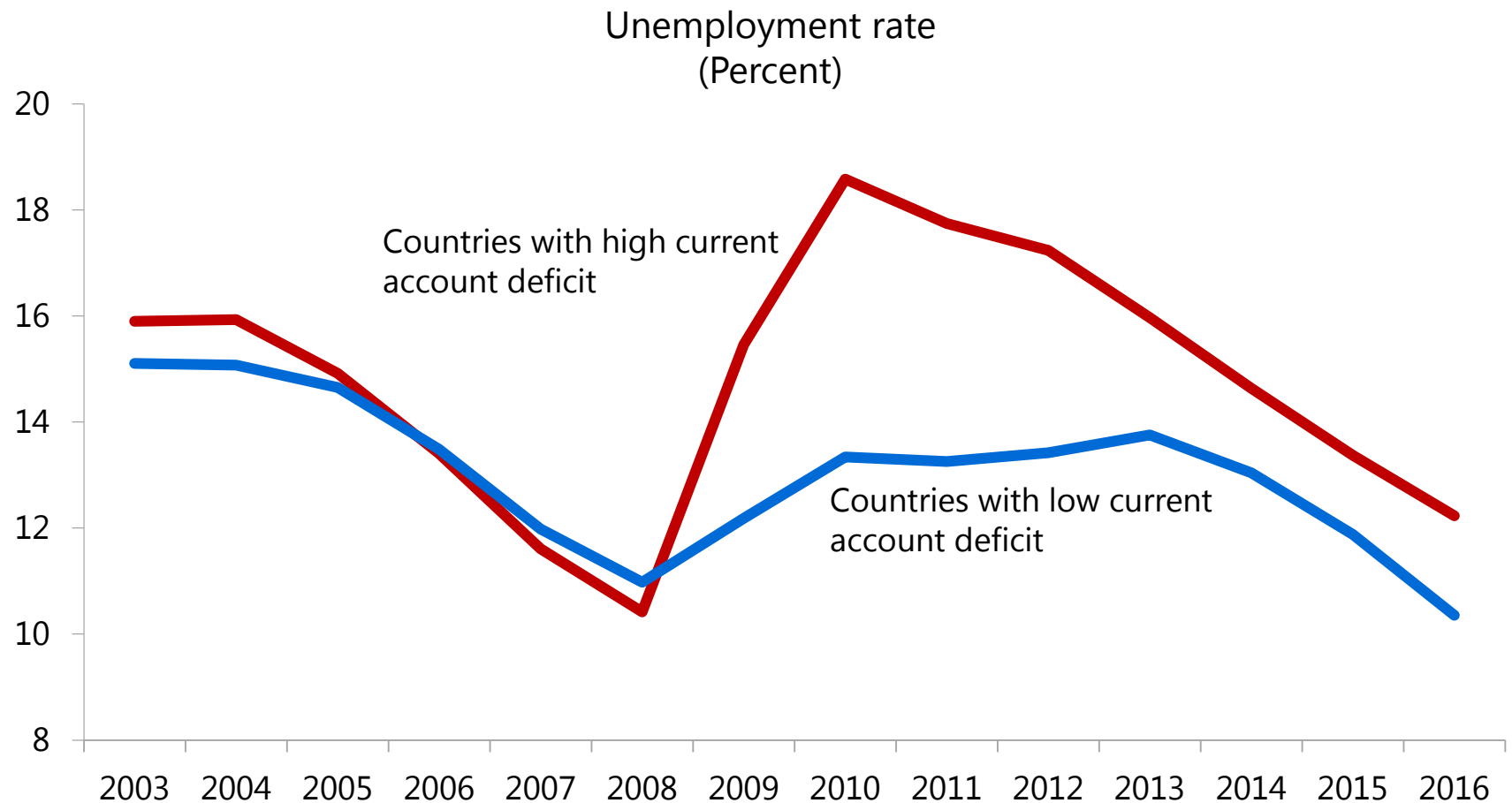
- Academic literature on fixed vs floating exchange rates advocated fixed exchange rates when large capital flows can wreak havoc with the exchange rate, harming the tradable sector.
- The experience of EE underscores that it is all a bit more complicated.
  - Capital inflows-fueled credit booms may be easier to contain under floating exchange rate
  - Damage to tradable sector may be less under floating exchange rate as well

Finally, boom-busts in CESEE were costly not so much in terms of average growth, but in terms of volatility



Note: High/Low Current Account Deficit – average over countries which had average current account deficit higher/lower than 9 percent of GDP in 2003-07.

# And in much higher unemployment during the crisis



Note: High/Low Current Account Deficit – average over countries which had average current account deficit higher/lower than 9 percent of GDP in 2003-07. The chart does not include Montenegro.



Thank you