

# Financial stability and monetary policy: How closely interlinked?

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Financieel Forum

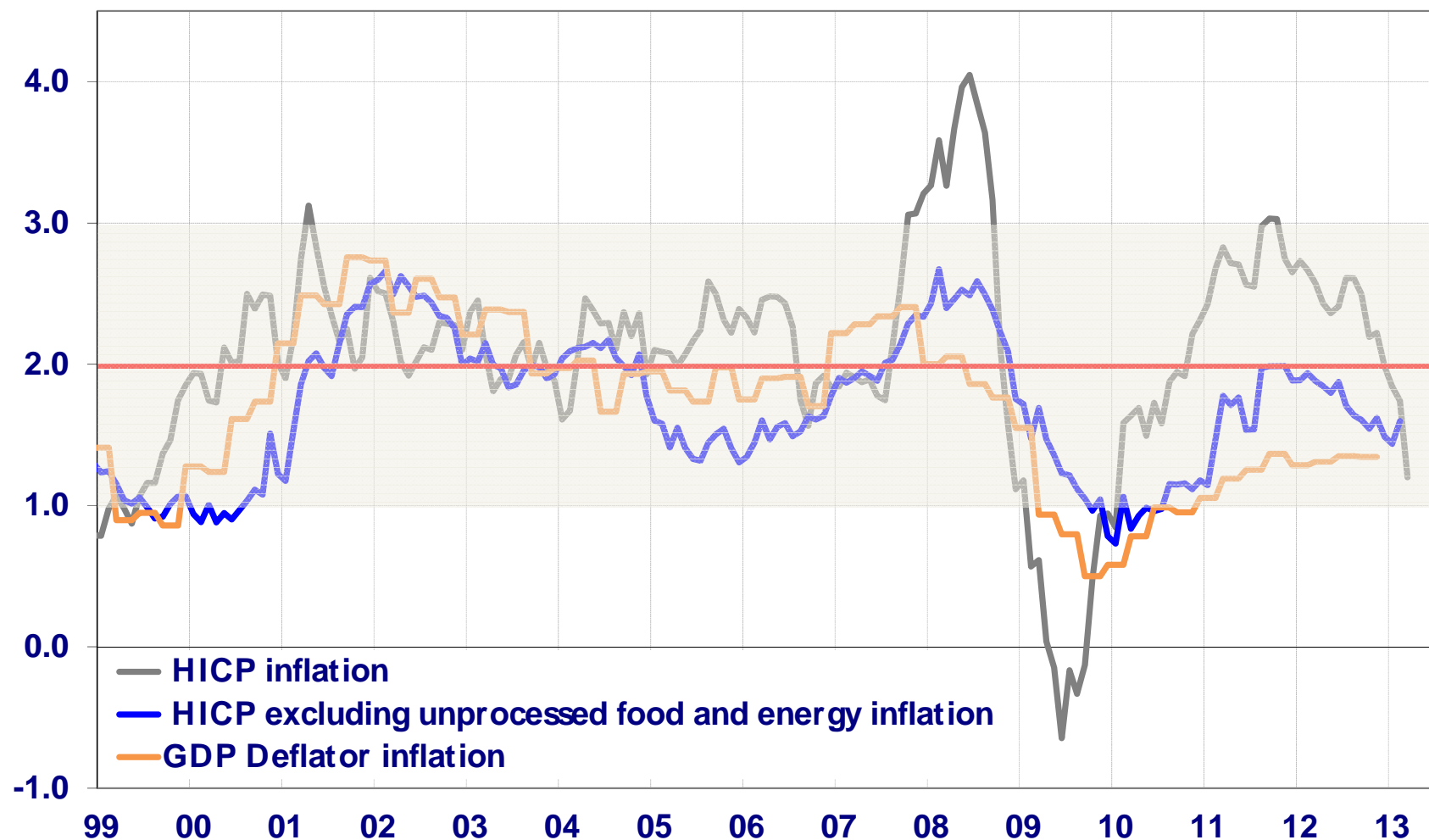
NBB, Brussels, 3 October 2013

The views expressed are my own and not necessarily those of the ECB

# Overview

- Price stability and financial instability in the euro area
- Three views on “Financial stability and monetary policy”
- The effectiveness of macroprudential policy
- The risk-taking channel of monetary policy
- Financial stability and financial dominance
- Conclusion

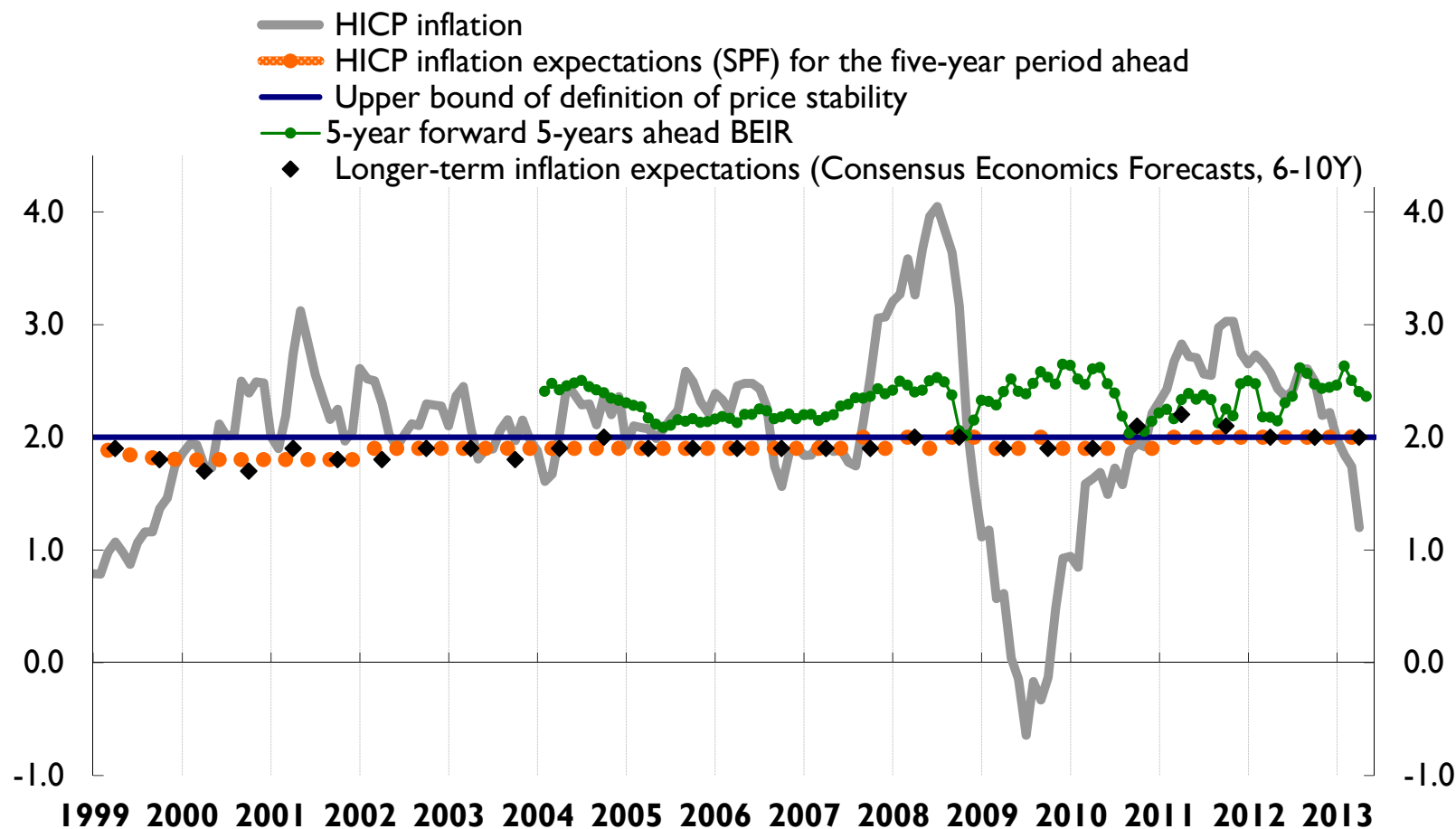
# Inflation in the euro area



Sources: Eurostat.

Last observation: March 2013, 2012Q4 for GDP deflator.

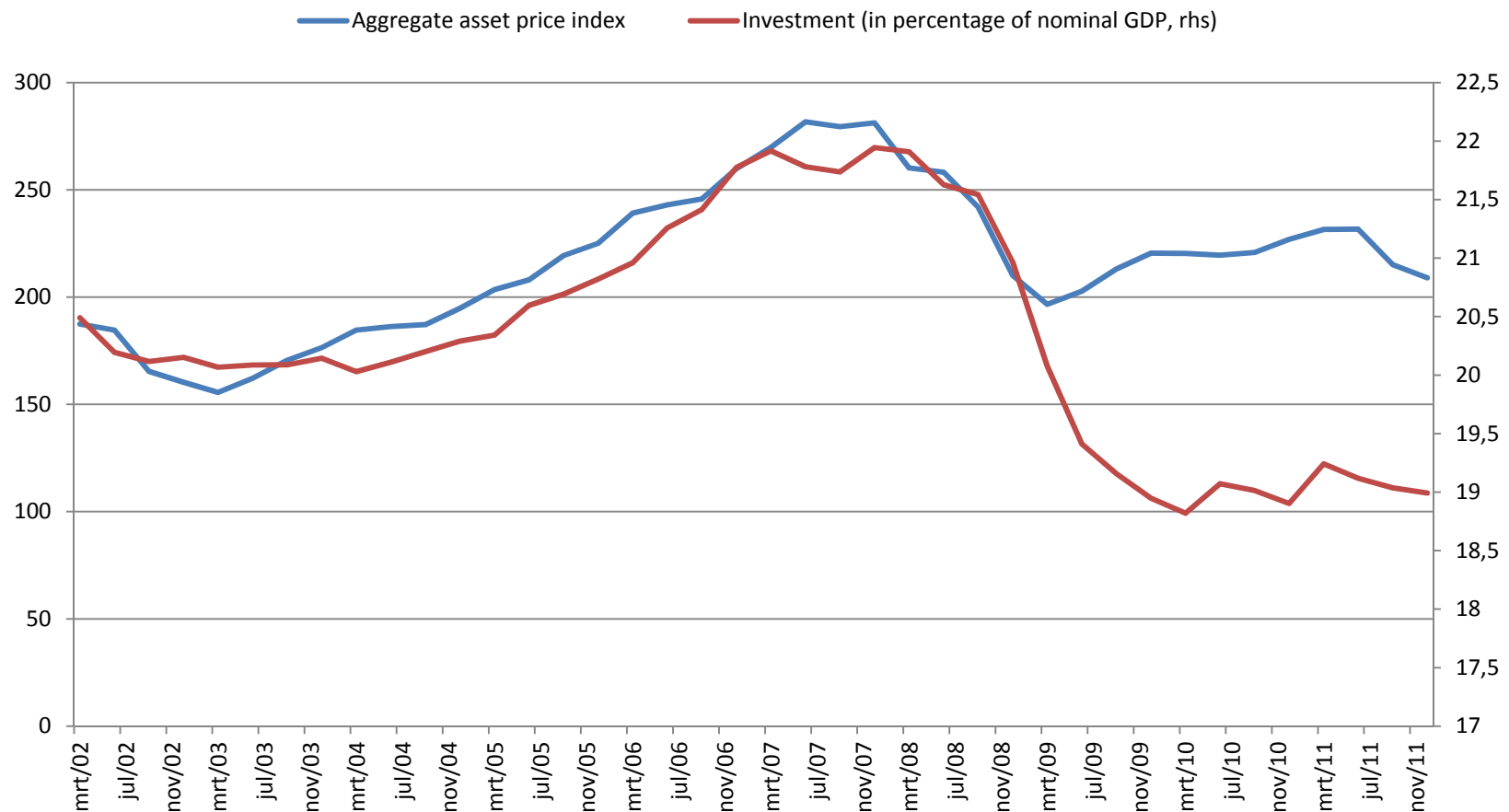
# Inflation and inflation expectations



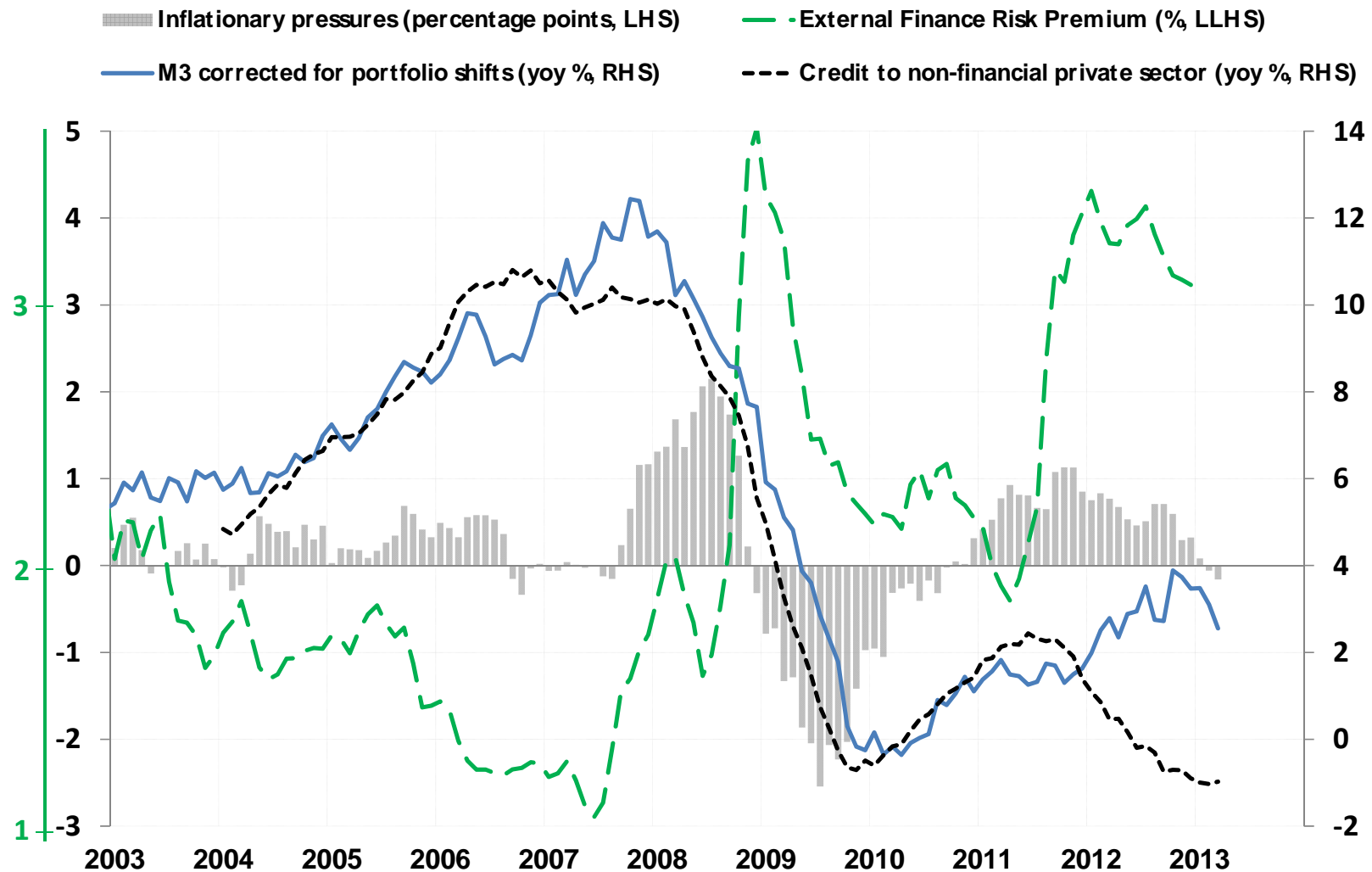
Source: Eurostat, SPF, Consensus Forecast, ECB calculations.

Note: Last observation refers to April 2013. Longer-term inflation expectations from Consensus Economics Forecasts refer to a horizon of six to ten years and, until December 2002, are constructed as a weighted average of the five largest euro area countries which together account for more than 80% of euro area GDP.

# Aggregate asset prices and investment



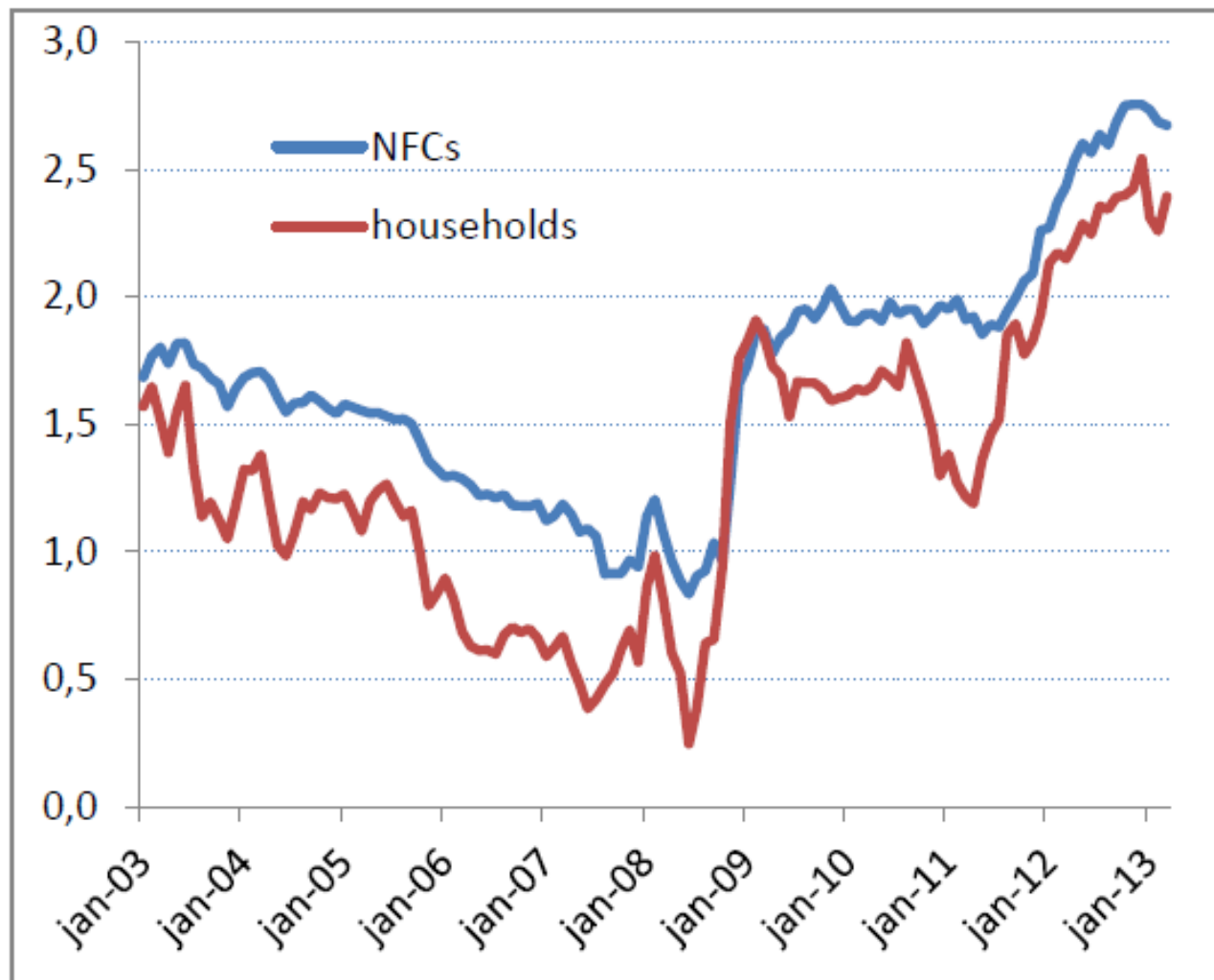
# Credit, money and finance premium



Source: ECB and ECB calculations.

Note: Inflationary pressures are HICP inflation in difference to 1.9%. Credit to non-financial private sector includes credit to Households and NFCs. The external finance premium is measured as a weighted average of spreads between lending rates, including corporate bond yields, and measures of risk-free rates of corresponding maturities. Last observation: Mar2013 (Dec2012 for EFP).

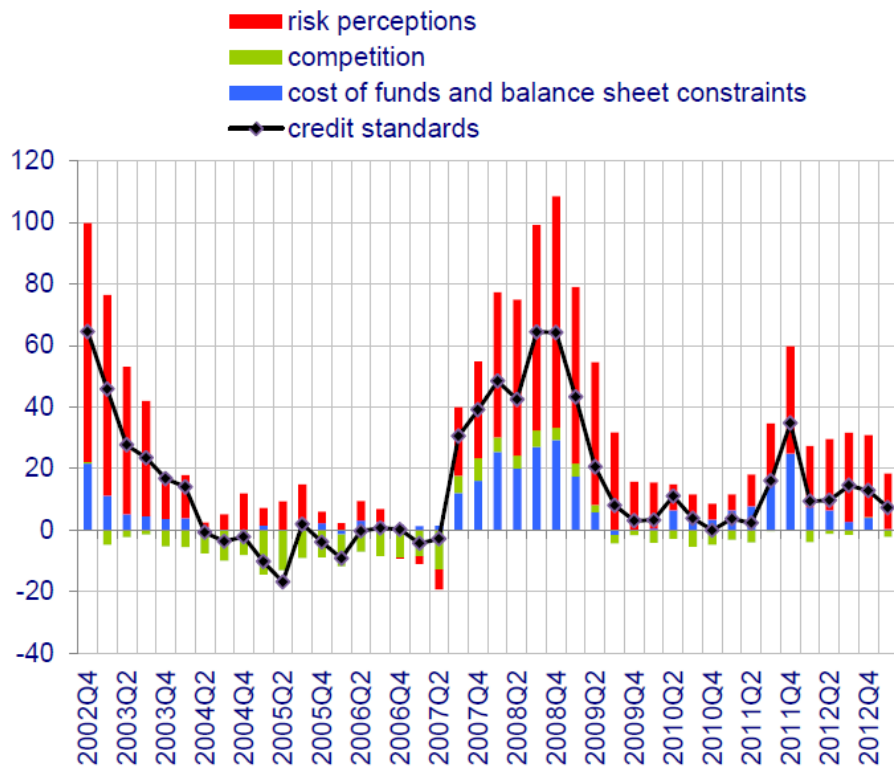
# Composite lending spreads



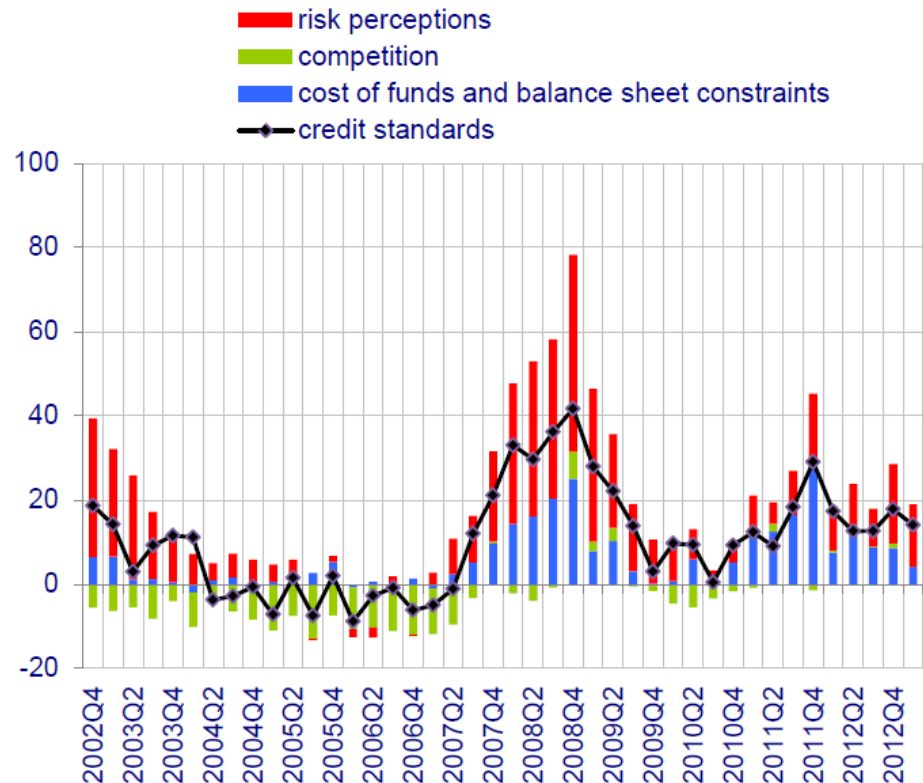
Source: ECB and ECB calculations

# Bank lending standards

## Credit standards for loans to NFCs



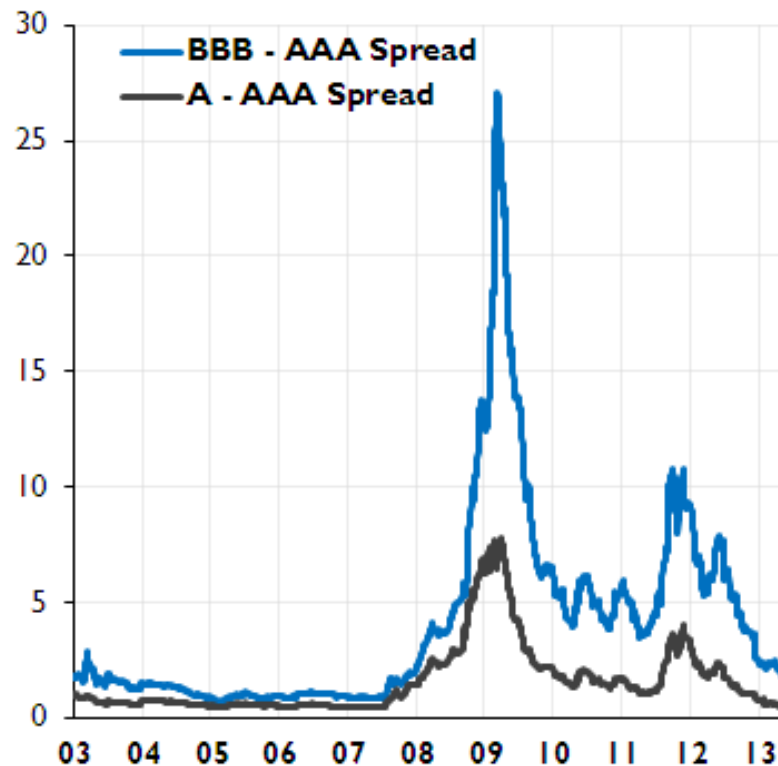
## Credit standards for mortgage loans



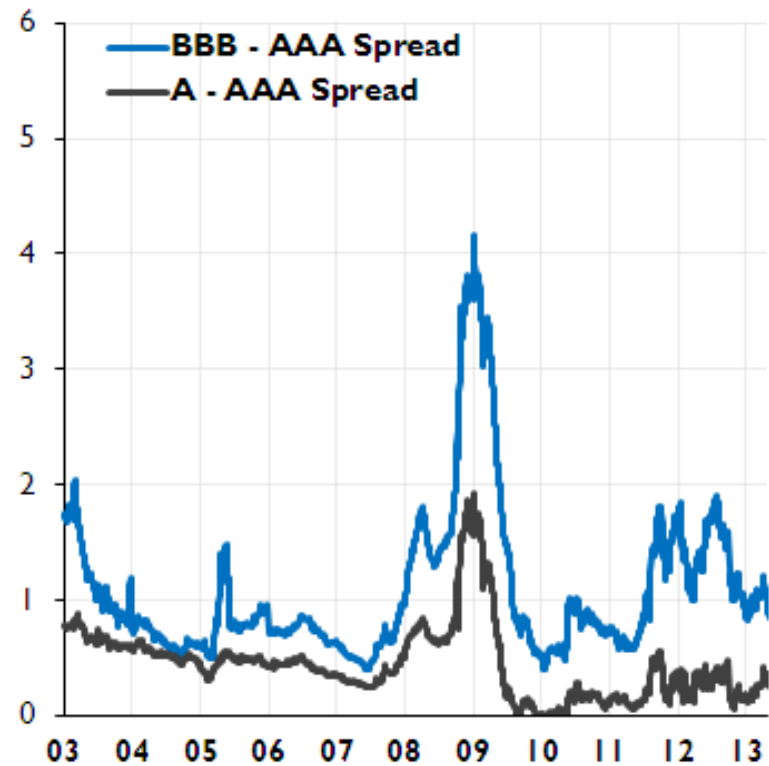


# Market interest rate spreads

## Financial



## Non-Financial



Source: DataStream and ECB calculations.  
Last observation: 7 May 2013.

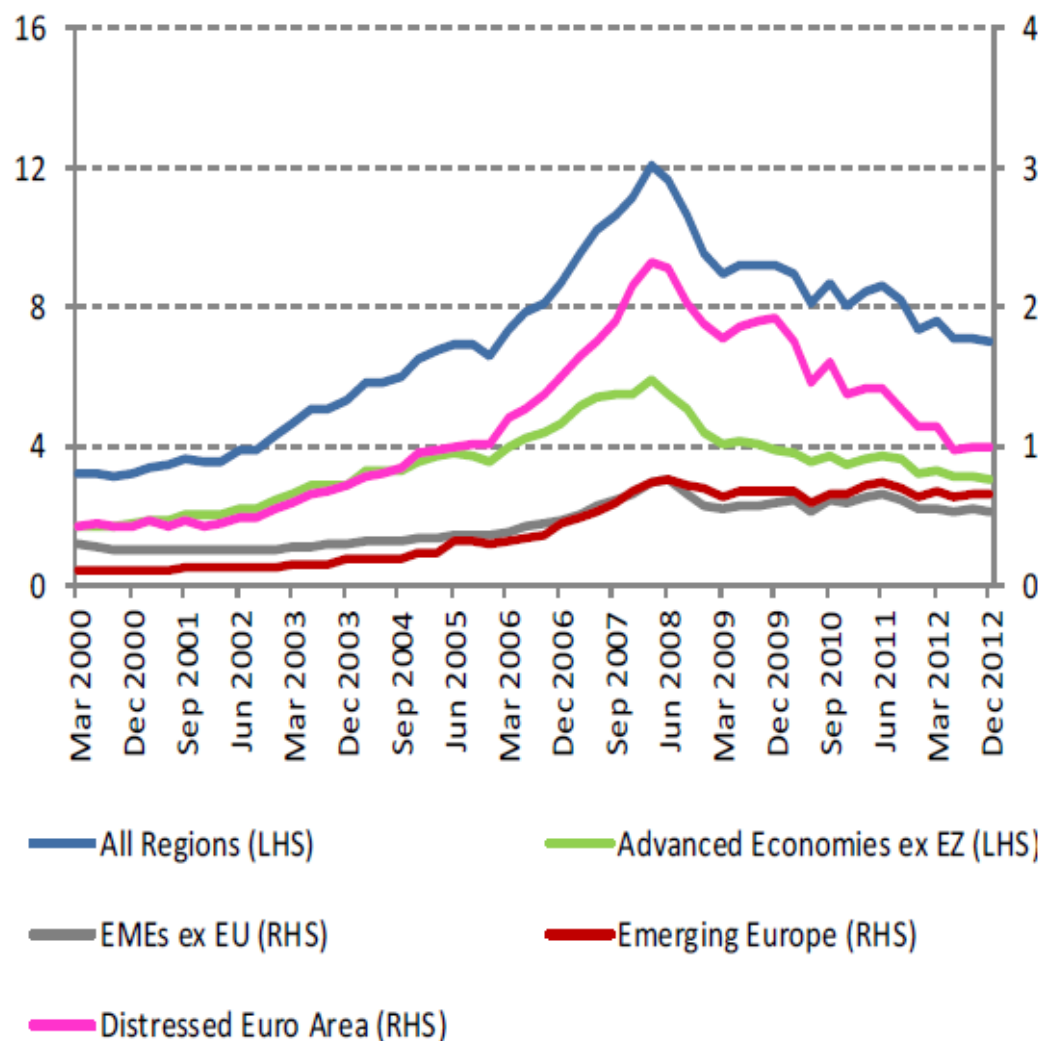
# Imbalances within the euro area

	2003-2007	
	Core	Periphery
Private credit flow <sup>3</sup>	5.2	16.5
House prices	4.8	8.5
Residential investment	1.6	4.1
Real lending rates <sup>2</sup>	2.4	2.0
Current account balance <sup>3</sup>	3.3	-4.0
Current account balance <sup>3</sup> in 2007	4.1	-5.8
Net foreign asset position <sup>3</sup> in 2007	9.0	-50.3
HICP inflation	1.8	2.7
Unit labour costs	0.4	2.7
Real GDP	2.0	2.4
Changes in unemployment <sup>1</sup>	0.0	-0.4
General government balance <sup>3</sup>	-2.6	-3.3
Government bond spreads <sup>4</sup>	2	12

# Imbalances within the euro area

	2003-2007		2008-2012	
	Core	Periphery	Core	Periphery
Private credit flow <sup>3</sup>	5.2	16.5	3.1	2.2
House prices	4.8	8.5	1.6	-3.0
Residential investment	1.6	4.1	-1.0	-9.5
Real lending rates <sup>2</sup>	2.4	2.0	1.2	2.7
Current account balance <sup>3</sup>	3.3	-4.0	3.2	-3.9
Current account balance <sup>3</sup> in 2007	4.1	-5.8	3.5	-0.8
Net foreign asset position <sup>3</sup> in 2007	9.0	-50.3	18.6 <sup>5</sup>	-61.5
HICP inflation	1.8	2.7	1.9	2.3
Unit labour costs	0.4	2.7	2.3	1.1
Real GDP	2.0	2.4	0.4	-1.4
Changes in unemployment <sup>1</sup>	0.0	-0.4	-0.1	2.0
General government balance <sup>3</sup>	-2.6	-3.3	-2.6	-5.1
Government bond spreads <sup>4</sup>	2	12	25	261

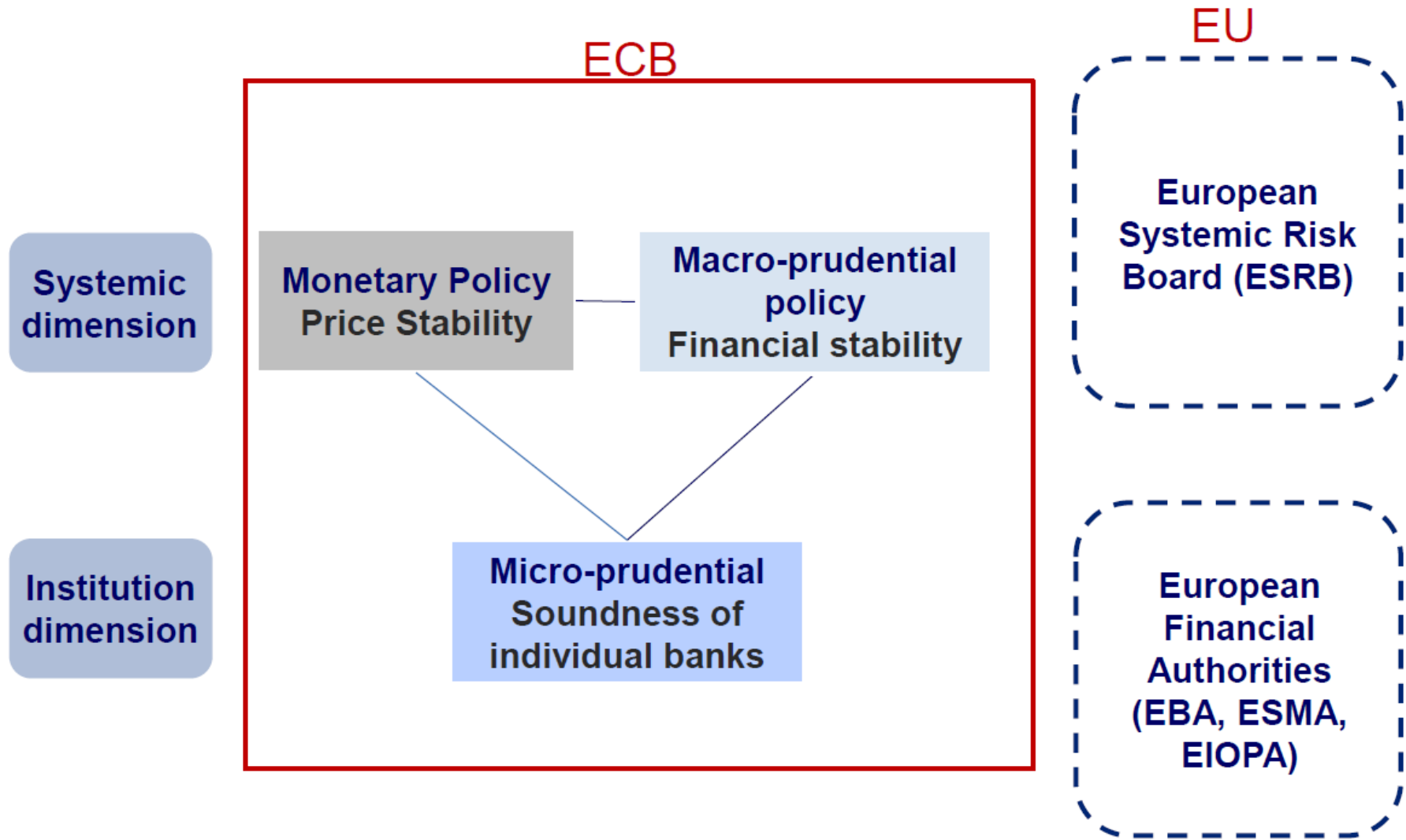
# Claims of non-distressed euro area banks in selected regions (USD tr)



# Some lessons

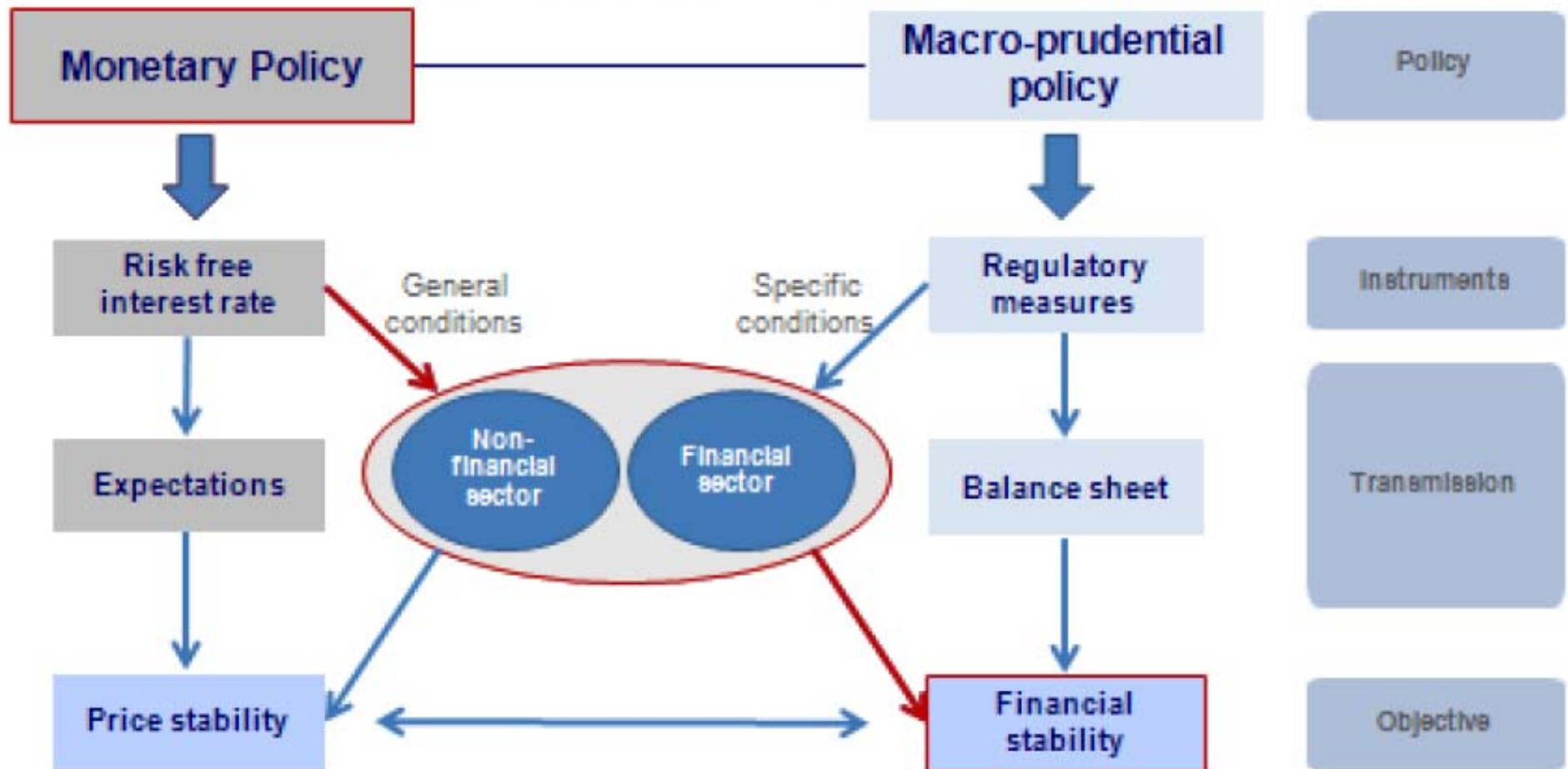
- Price stability not sufficient for financial stability
  - Macroprudential policy (ESRB) and/or leaning against the wind
- Protracted fall-out due to political and distributional difficulties with debt overhang, ZLB and DNWR
  - Preventive policy necessary; lean, not just clean.
- Overextended real estate markets fuelled by cheap finance (as in Scandinavia, Japan, UK in 1990s, US and UK in recent crisis)
  - Granular macroprudential policy and/or general liquidity conditions
- Non-linearities in bust due to fire sale dynamics, liquidity dry-ups, etc.
  - Central bank as lender/market maker of last resort; non-standard mp
- Financial trilemma
  - Banking union; Single Supervisory Mechanism within the ECB.

# New institutional set-up in the euro area



# Macroprudential and monetary policy

Policies with different objectives, but interacting instruments ("shared" transmission)



# Three views

	<b>Modified Jackson Hole consensus</b>	<b>Leaning against the wind vindicated</b>	<b>Financial stability is price stability</b>
<b>Monet. Policy</b>	<p>Framework largely unchanged</p> <p>Limited effects on credit and risk taking</p> <p>Blunt instrument to deal with imbalances</p>	<p>Financial stability as secondary objective; lengthening of horizon</p> <p>Affects risk-taking</p> <p>“Gets in all of the cracks”</p>	<p>Twin objectives on equal footing</p> <p>Unblocks balance sheet impairments; avoids financial imbalances in upturns</p>
<b>Macro Pru</b>	<p>Granular and effective</p>	<p>Cannot fully address financial cycle; arbitrage</p>	<p>Indistinguishable from monetary policy</p>
<b>Inter-action</b>	<p>Limited interaction and easy separation of objectives, instruments, ...</p>	<p>Financial fragility affects monetary transmission and price stability</p>	<p>Financial stability and price stability are intimately interlinked</p>
<b>Issues</b>	<p>Coordination?</p> <p>Lender of last resort?</p>	<p>Coordination?</p> <p>Overburden mon. policy?</p>	<p>Time inconsistency problems?</p>
<b>Models</b>	<p>Svensson; Collard, Dellas, Diba and Loisel (2012)</p>	<p>Borio; Woodford (2012)</p>	<p>Brunnermeier and Sannikov (2012)</p>



# Effectiveness of macroprudential policy?

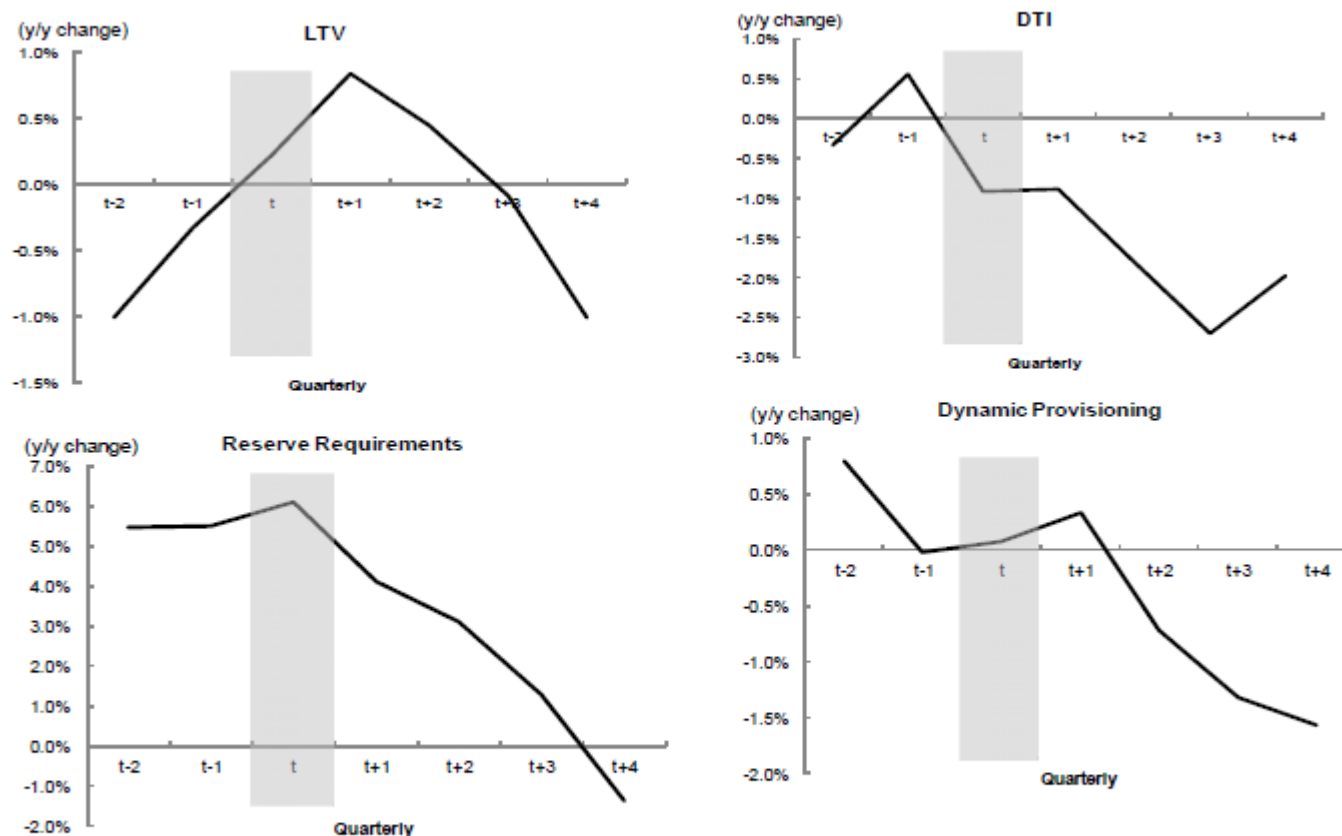
- Assessment is difficult:
  - a variety of possible macroprudential tools;
  - no widely agreed framework for the optimal choice and calibration of macroprudential tools;
  - only scant actual experience with such tools in advanced economies.
- Granularity versus regulatory arbitrage.
- Closer to fiscal, redistributive policy: higher political pressure and costs.

# Effectiveness of macroprudential policy

- Borio and Shim (2007):
  - 15 countries; mixed experience; some evidence that credit growth slows down, but not uniform.
- Lim et al (2012): Comprehensive study
  - Case studies:
    - e.g. dynamic provisioning in Spain
  - Empirical impact on credit:
    - e.g. LTV and DTI in Korea.

# Effectiveness of macroprudential policy

**Figure 6. Change in Credit Growth After the Introduction of Instruments**



Notes:

1/ Average of sample countries' y/y growth in credit (detrended).

2/ t denotes the time of the introduction of instruments.

3/ For details, see charts in Appendix III.

Source: International Financial Statistics.

# Effectiveness of macroprudential policy

- Overall, the empirical literature tentatively supports the effectiveness of macroprudential tools in dampening procyclicality:
  - notably LTV and DTI caps to tame real estate booms, but also ceilings on credit or credit growth, reserve requirements, and dynamic provisioning.
- To what extent such measures are effective enough to significantly reduce systemic risk is as yet unclear.

# Risk-taking channel

- Adrian and Shin (2010):
  - Short-term interest rates play a key role in determining future bank profitability, the risk-taking capacity of financial intermediaries and real activity.
  - Relatively small changes in short-term interest rates can have a large impact on risk taking.
- Expanding theoretical literature on link between monetary policy and risk-taking.

# Risk-taking channel

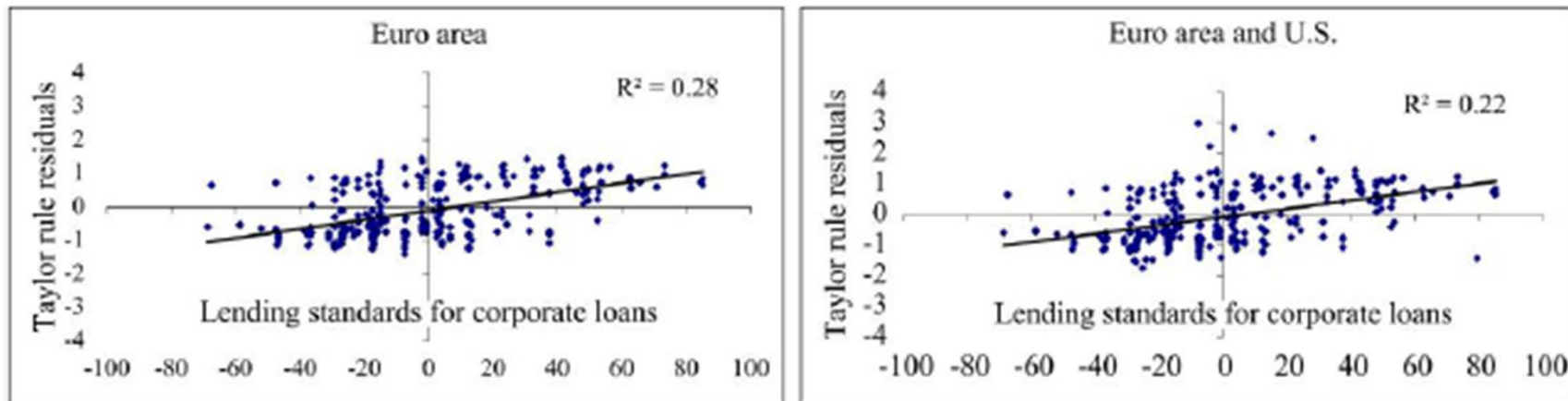
- Peydro-Alcalde and Ongena (2011):
  - A cut in the short rate induces lowly capitalized banks i) to expand credit to riskier firms, ii) to end credit to riskier firms less often, iii) to more likely grant loans to applicants with a worse credit history, and iv) to grant them larger loans or loans with a longer maturity than highly capitalised firms.
- Confirmed by Altunbas et al (2012), Paligorova and Santos (2012) and others.

# Risk-taking channel

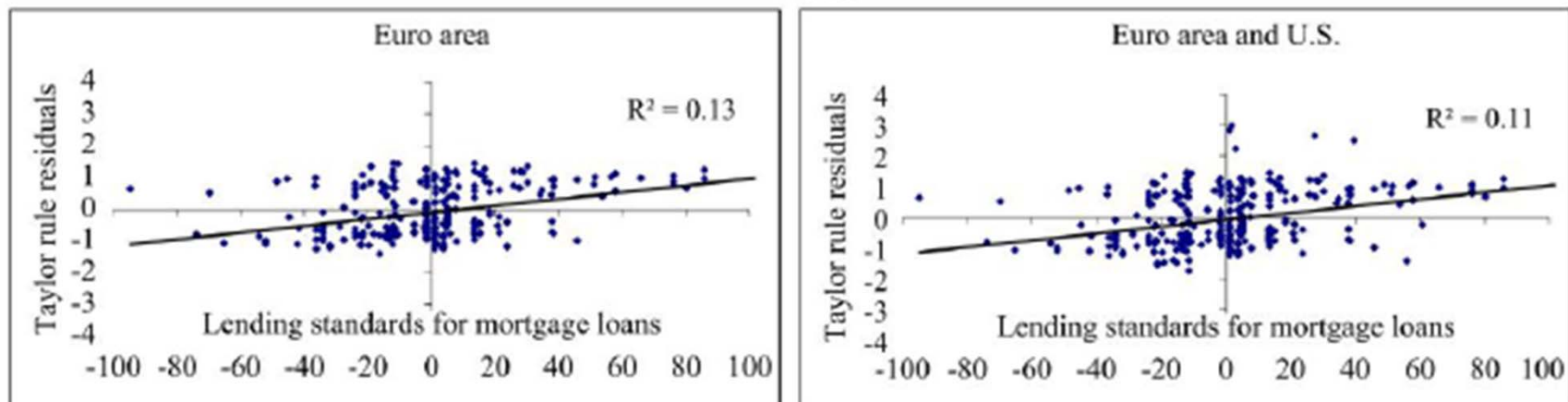
- Maddaloni and Peydro (2011): Use BLS
  - Monetary policy risk-taking channel interacts with stringency of bank regulation/supervision;
  - Low long-term rates less important: suggest that channel may work through the funding side;
  - Countries with softer lending standards due to low real monetary policy rates experienced a worse economic performance afterwards.
- Ciccarelli et al (2011): VAR analysis with BLS
  - Bank lending channel is macroeconomically relevant.

# Maddaloni and Peydro (2011)

**Panel A: Corporate loans**



**Panel B: Mortgage loans**





# Risk-taking channel

- However, Bean et al (2010), Doyle et al (2010), Svensson (2009), Gerlach (2010) show that the collateral damage of a rise in interest rates may be very large.
- How to reconcile?
  - Do not take into account risk-taking and liquidity creation per se
  - Linear models.

# Macroprudential policy in the central bank?

- Advantages:
  - better information sharing and coordination amongst policy domains
  - independent institution with a lot of expertise in macroeconomic and financial surveillance
  - as lenders of last resort central banks have an incentive to reduce the probability of a financial crisis, because they will be the first in line to clean up when the risks materialise.

# Macroprudential policy in the central bank?

- Risks:
  - Damage to the reputation of the central bank, affecting its independence and credibility
  - Financial dominance; ex ante macroprudential policies may succumb to political and industry pressures not to lean too much against the boom and rely on monetary policy to solve the problem
  - Time-inconsistency problems as ex-post monetary policy will have an incentive to inflate away some of the debt overhang

# Ueda and Valencia (2012):

Loss function:

$$(1) \quad \frac{1}{2}(\pi)^2 + \frac{a}{2}(y - y^*)^2 + \frac{b}{2}(\theta - \theta^*)^2$$

Economy:

$$(2) \quad y = \bar{y} + \alpha(\pi - \pi^e) + \beta\delta$$

$$(3) \quad \theta = \bar{\theta} - (\pi - \pi^e) + \delta$$

Assumption:  $\bar{y} < \hat{y}$  and  $\bar{\theta} > \hat{\theta}$ .

Monetary policy:  $\pi$

Macroprudential policy:  $\delta$

# Financial stability and inflation bias

Joint optimisation under commitment:

$$(4) \quad \delta = \frac{\alpha\beta}{\alpha\beta^2+b}(\hat{y} - \bar{y}) - \frac{b}{\alpha\beta^2+b}(\bar{\theta} - \hat{\theta})$$

$$(5) \quad \pi = 0$$

Monetary policy with financial stability goal leads to an inflation bias:

$$(6) \quad \pi = b(\bar{\theta} - \hat{\theta}) - b(\pi - \pi^e) + b\delta$$

$$(7) \quad \delta = \frac{\alpha(\beta(1+b)+\alpha b)}{b+\alpha\beta(\beta(1+b)+\alpha b)}(\hat{y} - \bar{y}) - \frac{b}{b+\alpha\beta(\beta(1+b)+\alpha b)}(\bar{\theta} - \hat{\theta})$$

First-best can be achieved by assigning monetary policy price stability goal

# Conclusions

- Some of the lessons from the financial crisis are very clear:
  - Both macro and microprudential policies need to be strengthened in order to increase the resilience of the financial sector and reduce its procyclicality.
- The implications for the monetary policy framework are more debated:
  - Some argue for minimal changes to the existing price stability oriented frameworks;
  - Others argue for a radical rethink putting financial stability at equal footing with price stability as a monetary policy objective.

# Conclusions

- Middle ground:
  - Lexicographic ordering:
    - Price stability primary objective;
    - Financial stability secondary objective.
- Recognizes that:
  - Just cleaning up is no longer an option: The costs of systemic financial crises are too large
  - The new macroprudential policy framework is still very much under construction and its effectiveness largely unproven.

# Conclusions

- Monetary policy rates intimately interact with important drivers of financial imbalances such as credit, liquidity and risk taking.
- Non-standard monetary policy instruments are difficult to distinguish from macroprudential tools
- But alleviates important risks:
  - In particular, maintaining price stability as the primary, overriding objective reduces the risk of financial dominance.



# Conclusions

- In addition, putting macroprudential policy and monetary policy under one roof would promote synergies, allow to use the expertise of the central bank, borrow its independence and provide aligned incentives.
- It is nevertheless advisable to clearly separate the objectives, instruments, communication and accountability of both policy domains, even if they are performed by the same institution.