



EUROPEAN CENTRAL BANK

EUROSYSTEM

Luc Laeven
European Central Bank

Dealing with Credit Booms and Busts

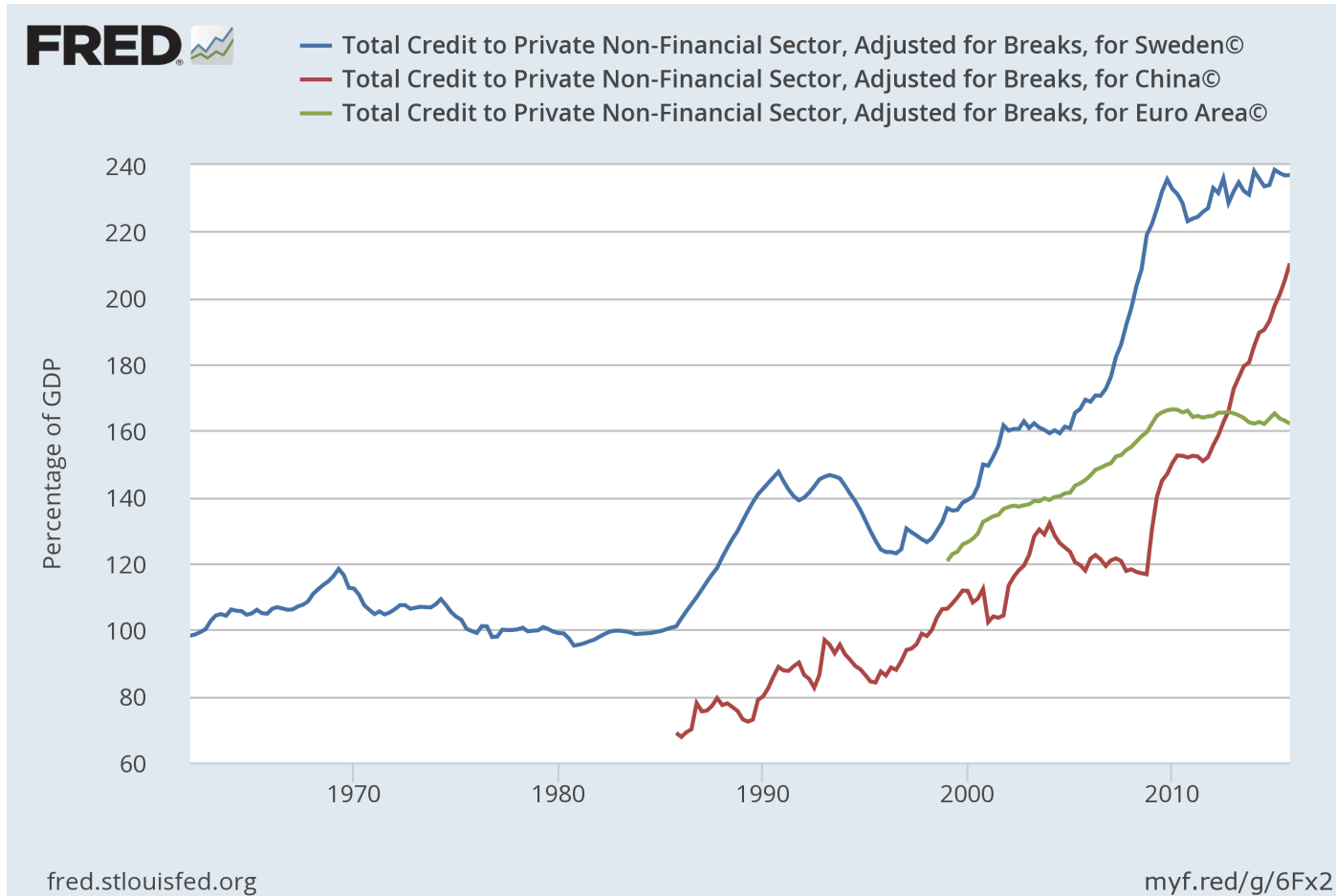
SIFR Conference on Credit Markets
After the Crisis, August 22, 2016

*Disclaimer: These are my own views and
not those of the ECB or the Eurosystem*

Overview

- Credit booms as a precursor to financial crisis
- Use and effectiveness of policies in managing boom-bust cycles
- Recent developments in the euro area

Recent developments in credit markets

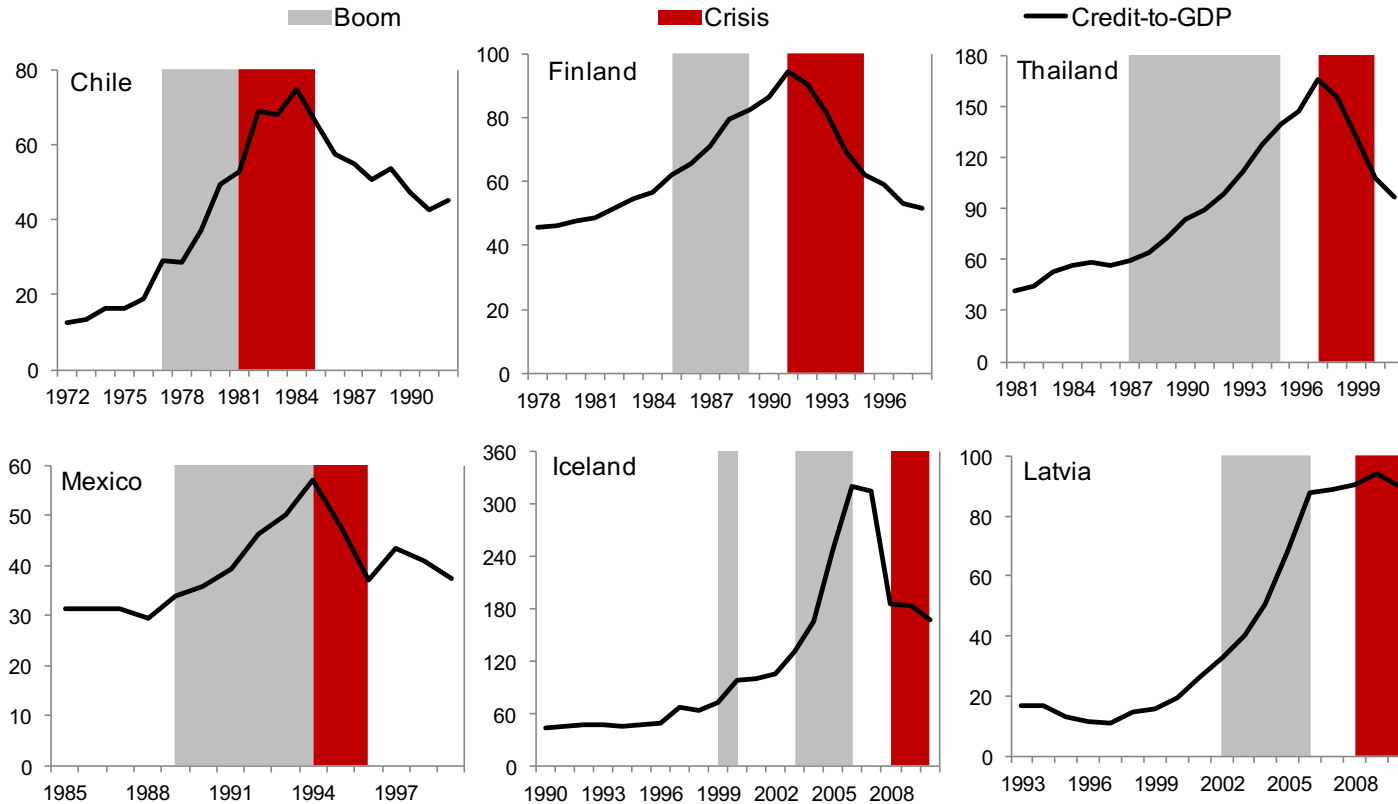


Credit booms: A policy dilemma

- Before the subprime crisis: Inflation targeting, microprudential focus, benign neglect, finance is good for growth (Levine 2005)
- After the crisis: credit booms – rapid growth in the credit to GDP ratio – too dangerous to be left alone (Reinhart and Rogoff 2009), too much finance bad for growth (Arcand et al 2013; Zingales 2015)
- Interventionist strategy requires better understanding of “macrofinancial” stability and assessment of available policy options and tradeoffs between financial stability and growth

Examples of bad credit booms

Figure 5. Credit Booms and Financial Crises: Examples of Bad Booms



Sources: Laeven and Valencia (2010), IMF *International Financial Statistics*; staff calculations.

There have been 175 credit boom episodes globally since 1970 ...

**HOW MANY DO YOU THINK HAVE ENDED UP IN
FINANCIAL CRISIS ???**

1 in 3

Credit booms gone wrong

Table 3. Credit Booms Gone Wrong

Followed by economic underperformance?						
Followed by financial crisis?	No		Yes		Total	
	Number	Percent of total cases	Number	Percent of total cases	Number	Percent of total cases
No	54	31%	64	37%	118	67%
Yes	16	9%	41	23%	57	33%
Total	70	40%	105	60%	175	

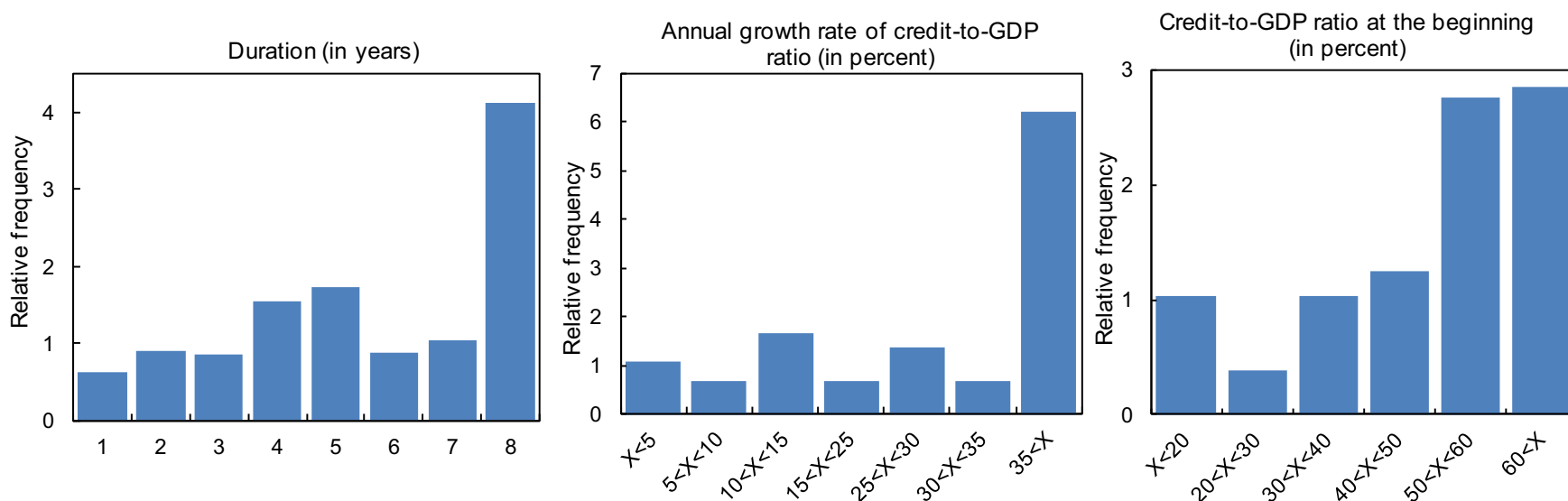
Notes: Number and proportion of credit boom episodes are shown. A boom is followed by a financial crisis if a banking crisis happened within the three-year period after the end of the boom and is followed by economic underperformance if real GDP growth was below its trend, calculated by applying a moving-average filter, within the six-year period after the end of the boom.

Source: Table 3 in Dell’Ariccia, Igan, Laeven, and Tong (2015), based on international sample of 175 credit booms

Results in international comparison

Figure 7. Bad versus Good Booms

Booms that last longer and that develop faster are more likely to end up badly. Booms that start at a high level of credit-to-GDP also tend to be bad.



Sources: IMF *International Financial Statistics*; staff calculations.

Notes: Relative frequency is the frequency of a given attribute in bad booms divided by the frequency in good booms. Credit booms are identified as episodes during which the growth rate of credit-to-GDP ratio exceeds the growth rate implied by this ratio's backward-looking, country-specific trend by a certain threshold. Bad booms are those that are followed by a banking crisis within three years of their end.

Source: Dell'Araccia, Igan, Laeven, and Tong (2015)

Good and bad credit booms

- Credit booms are a good predictor of financial crises (Schularick and Taylor 2012)
- Real estate lending booms are particularly “bad” as they tend to (Jorda, Schularick, and Taylor 2014) be followed by deeper recessions and slower recoveries
- Booms that last longer, grow faster and start at higher level more likely to end in crises (Dell’Ariccia, Igan, Laeven, and Tong 2015)
- Yet only 1-in-3 booms end up in financial crises (Dell’Ariccia, Igan, Laeven, and Tong 2015)
- And crisis may be “result of exhausted credit boom and not necessarily of negative productivity shock” (Gorton and Ordóñez 2016)

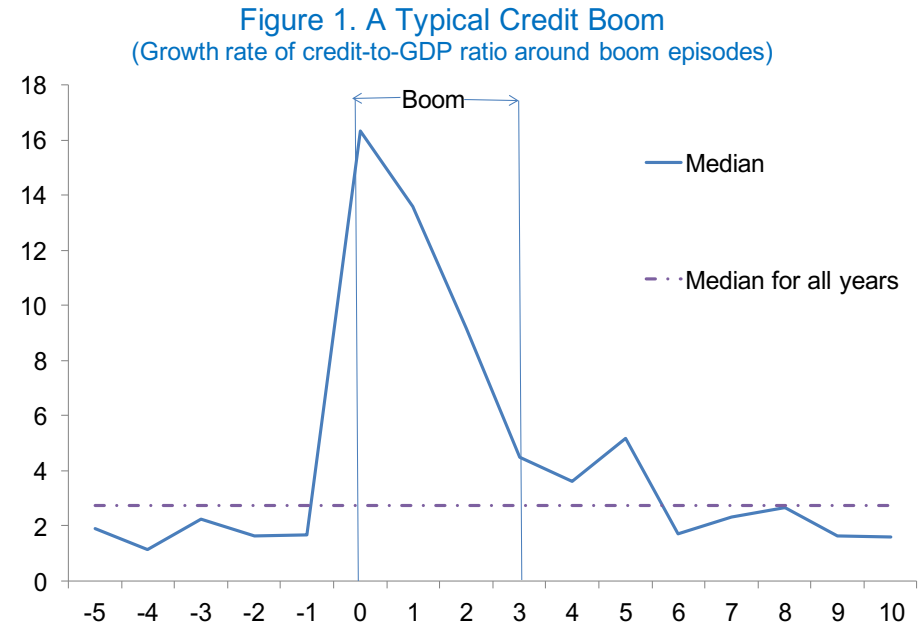
What triggers credit booms?

Conditions conducive to credit booms (Dell'Ariccia, Igan, Laeven, and Tong 2015):

- Financial reform and economic growth
- Fixed exchange rate regimes, weak banking supervision, loose macroeconomic policies

Stylized facts about credit booms

- Typical boom lasts 3 years, with credit-to-GDP growing ~13 percent per year (5 times faster than in non-boom years)
- Upward trend in credit booms since the 1980s



Sources: IMF *International Financial Statistics*; staff calculations.

Preventing credit booms: Macroprudential policy

- Targeted approach to:
 - Prevent unsustainable booms
 - Increase resilience to busts
- But:
 - Circumvention
 - Political resistance (“nobody wants to stop a credit boom”)
 - Unintended consequences (e.g., insuring against aggregate fluctuations may increase risk taking in the cross-sectional dimension)

Mixed evidence on effectiveness of macroprudential regulation

- Macroprudential tools at times proven effective in containing credit booms but circumvention and policy inaction often hampers effectiveness—and they provide little support in busts (Cerutti-Claessens-Laeven 2015)
- Focus should be on preventing bad booms through ex ante incentives (Freixas-Laeven-Peydro 2015)



SYSTEMIC RISK, CRISES,
AND MACROPRUDENTIAL
REGULATION

Xavier Freixas, Luc Laeven, and José-Luis Peydró

Killing good booms

- Caution against aggressive use of macroprudential tools to prevent credit booms
- Only minority of crises end up end up in a financial crisis or below-trend economic performance (Dell’Ariccia, Igan, Laeven, and Tong 2015; Gorton and Ordóñez 2016)
- This implies that the cost of intervening too early and running the risk of stopping a good boom have to be carefully weighted against the desire to prevent financial crises

Risk-taking channel of monetary policy

- Some argue that lax monetary policy leads to bad credit booms (Borio and Zhu 2008)
- Growing evidence of search for yield (Rajan 2015) and risk shifting (Adrian and Shin 2011) in response to lax monetary policy
- But overall effects on monetary policy on risk-taking are theoretically ambiguous (Dell’Ariccia-Laeven-Marquez 2014), trading off risk shifting with portfolio rebalancing, and will depend on bank leverage
- Empirical studies find evidence of risk taking (Jimenez et al 2014 and Dell’Ariccia-Laeven-Suarez 2013) but effects vary depending on bank leverage and offer no guide to optimal risk
- Interest rates would have to be raised substantially to curb risk taking, with potential undesirable consequences for the overall economy especially during recessions when risk appetite is low

Should bank capital be raised?

- Financial industry prone to financial excesses (Zingales 2015)
- Higher capital lowers ex ante incentives for risk taking in limited liability firms
 - Ex post interventions such as bail in and other regulatory interventions face credibility and time consistency issues
- Higher capital creates buffers to absorb shocks
 - Capital requirements of 15-22 % would have provided sufficient buffers to absorb almost all financial crises and come with minimal costs for the real economy if raised gradually (Dell’Ariccia, Laeven, Ratnovski and Tong 2015)
- Raise not only the quantity but also the quality of capital
 - Loss-absorption capacity; inside versus outside equity; deep pocket investors

Policy mix during busts and crises

- Macroprudential tools provide little support in busts (Cerutti-Claessens-Laeven 2015)
- There are limits to what monetary policy can achieve especially at the lower bound
- Search for yield may seed the next crisis
- But problem during busts is often insufficient risk taking
- Sectoral imbalances often are at the root of crises, calling for a rebalancing between savers and borrowers which requires restructuring (Calomiris-Klingebiel-Laeven 2005)
- Monetary and prudential policies need to be combined with fiscal and restructuring policies that restore growth and reduce debt overhang

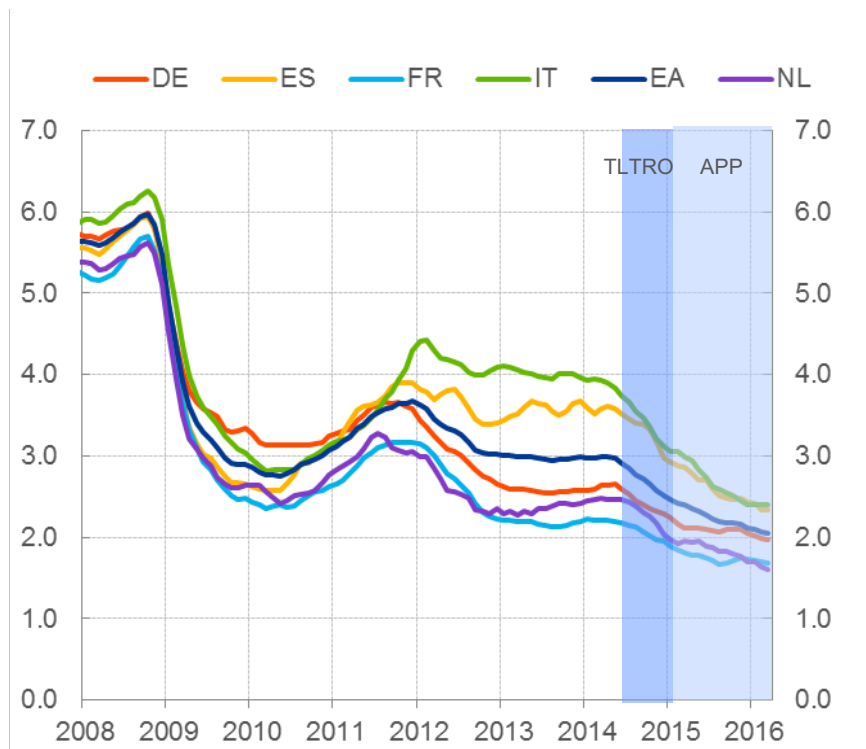
Recent developments in the euro area

- Strong pass-through of ECB policies (low r , APP, and TLTRO) onto loan prices and quantities via the bank lending channel
- Credit to households and firms recovering from low growth rates

Exceptional pass-through via the bank lending channel

Bank lending rates on loans for non-financial corporations

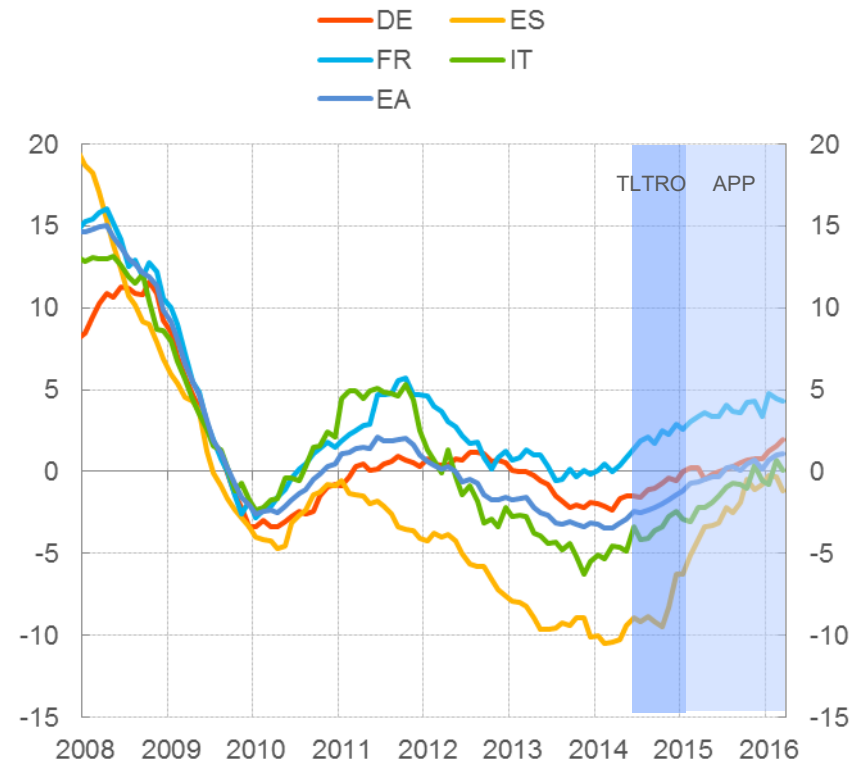
(percentages per annum; three-month moving averages)



Source: ECB.
 Notes: The indicator for the total cost of lending is calculated by aggregating short- and long-term rates using a 24-month moving average of new business volumes.
 Latest observation: March 2016.

MFI loans to non-financial corporations in selected euro area countries

(annual percentage changes)

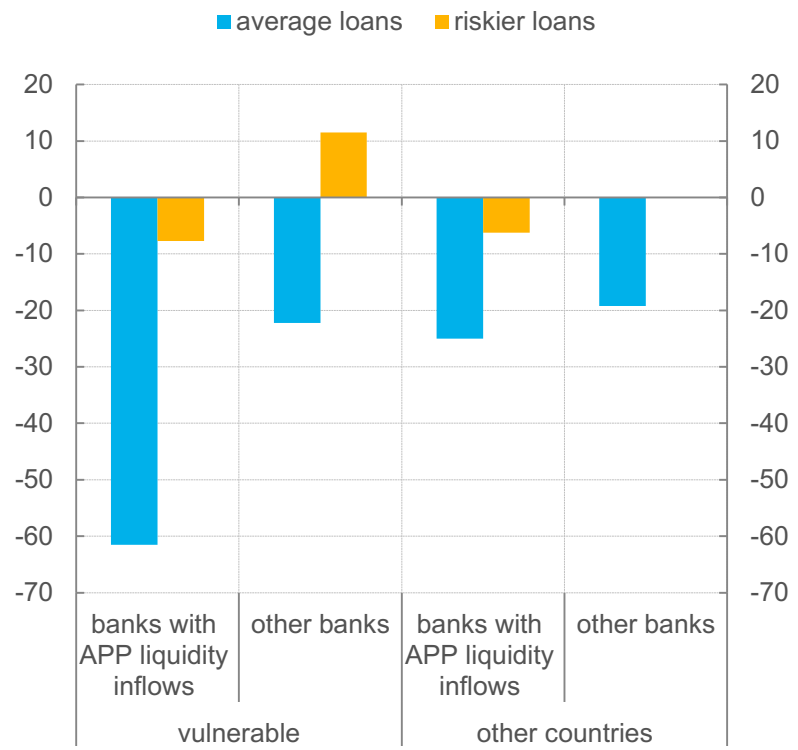


Source: ECB.
 Notes: Adjusted for loan sales and securitisation.
 Latest observation: February 2016.

APP & negative rate policy reinforce bank lending channel

APP related liquidity inflows and changes in margins for loans to NFCs

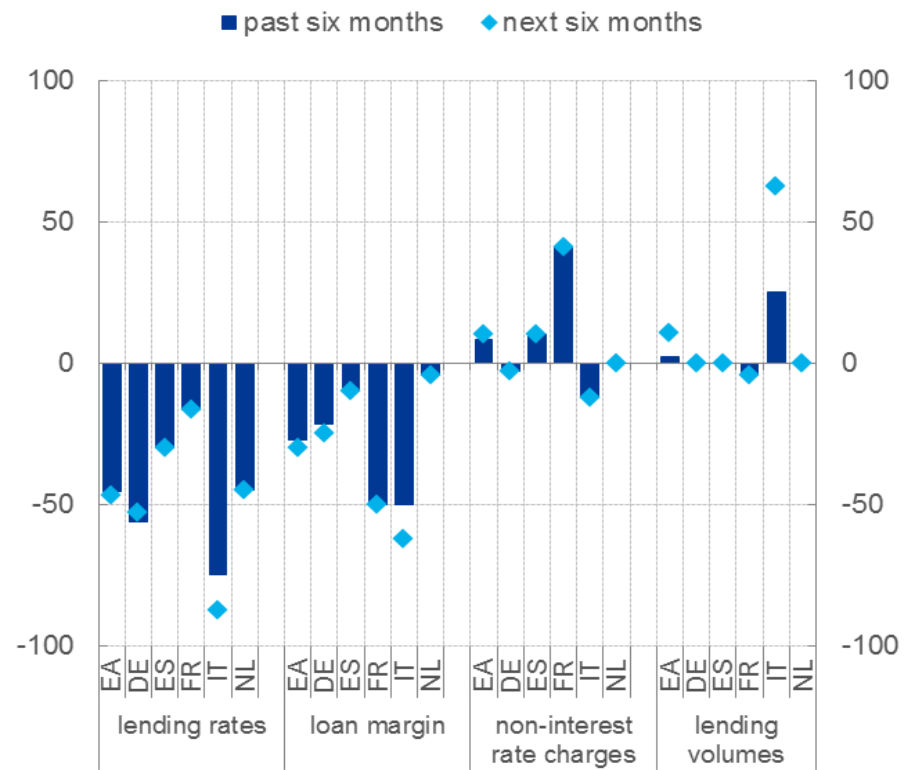
(unweighted net percentages)



Source: Eurosystem BLS, regular questionnaire and ad hoc question on APP.
 Notes: Based on unweighted individual data, net percentages for banks indicating APP related liquidity inflows and other reporting banks.

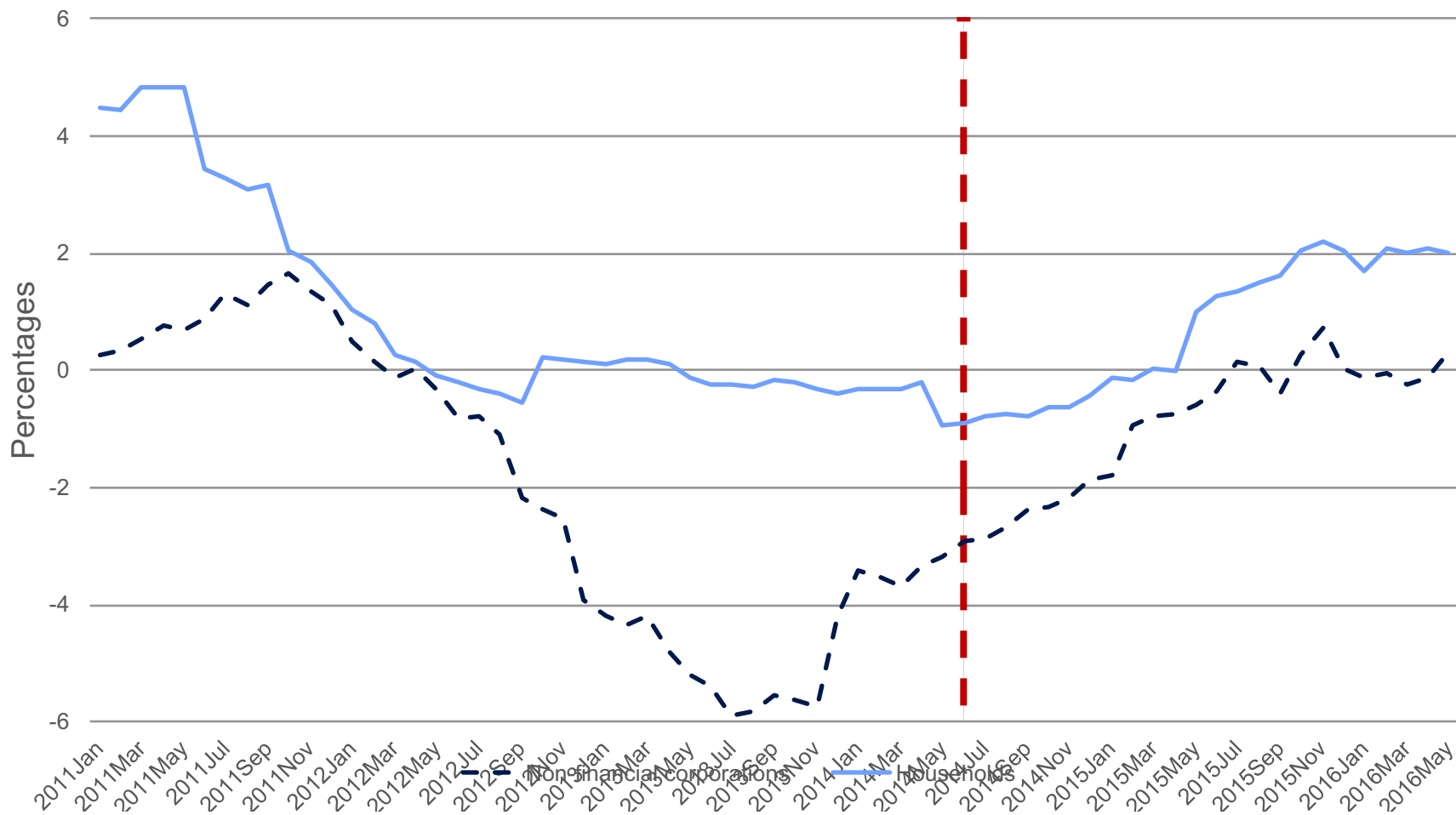
Impact of the negative DFR on bank lending to enterprises

(net percentage of respondents indicating an increase; over the past and next six months)



Source: ECB (BLS).
 Notes: The net percentages are defined as the difference between the sum of the percentages for "increased considerably" and "increased somewhat" and the sum of the percentages for "decreased somewhat" and "decreased considerably". The results shown are calculated as a percentage of the number of banks which did not reply "not applicable". "EA" denotes euro area.

Euro-area banks: loan growth



Source: ECB Statistical Data Warehouse - BSI data

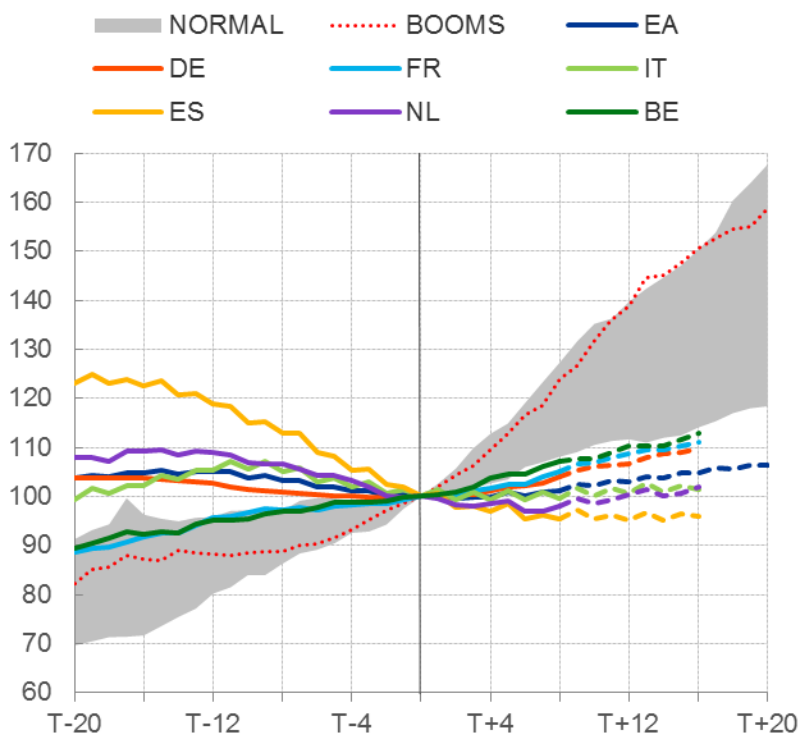
Note: Year-over-year growth rates of outstanding loans at all euro area monetary financial institutions (stocks), excluding ESCBs.

The vertical red line indicates June 2014. On 5 June 2014 deposit facility rates were set below zero for the first time. Latest observation: May 2016.

Feeding property price bubbles?

Real household loans around starting period of house price booms

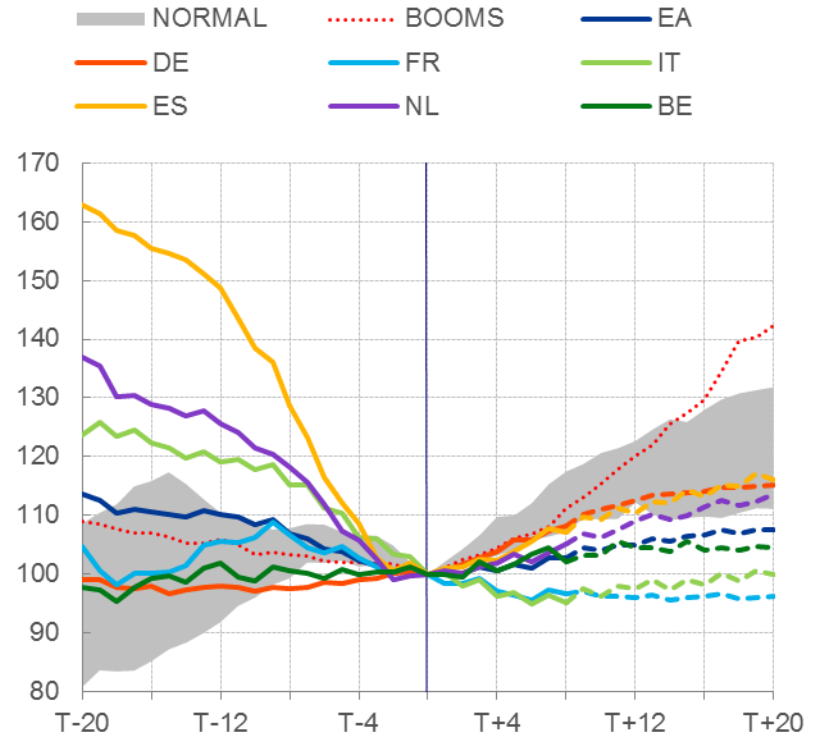
(indices, normalised to 100 at T=trough; T=2013Q4)



Sources: BIS, ECB and ECB calculations.
 Notes: Based on data from 1970Q1 to 2015Q4 for euro area countries. All indicators are deflated by HICP. Projections for euro area are June 2016 BMPE Projections while for countries are December 2015 BMPE projections. Trough (starting point of house price normal increases or booms) identified via quarterly version of Bry-Boschan algorithm by Harding and Pagan, 2002. Dotted line refers to median during house price booms. Grey range refers to interquartile range during normal house price increases.

Real house prices around starting period of house price booms

(indices, normalised to 100 at T=trough; T=2013Q4)



Sources: BIS, ECB, Fed Dallas, OECD and ECB calculations.
 Notes: Based on data from 1975Q1 to 2015Q4 for euro area countries. All indicators are deflated by HICP. Projections for euro area are June 2016 BMPE projections. Trough (starting point of house price normal increases or booms) identified via quarterly version of Bry-Boschan algorithm by Harding and Pagan, 2002. Dotted line refers to median during house price booms. Grey range refers to interquartile range during normal house price increases.

Conclusions

- Raise capital buffers in the financial system to improve ex ante incentives for risk taking and build buffers to absorb shocks
- When bad credit booms nevertheless develop, use combination of macroprudential and monetary policy to smooth the cycle
- During busts, monetary policy should stimulate aggregate demand but needs to be complemented with fiscal and restructuring policies to restore economic growth