EUROPEAN CENTRAL BANK

EUROSYSTEM

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European Central Bank

Macroprudential Policy in the EU and the euro area

Asian Development Bank, Manila, 29 May 2017

Disclaimer: The views expressed in this presentation do not necessarily represent the official stance of the ECB

Overview

1 The Institutional Framework

2 Macroprudential oversight in the euro area

3 Experience with macroprudential policy in the EU

4 Concluding remarks

EU Oversight

Micro-prudential supervision

European System of Financial Supervision

- European Banking Authority
- European Insurance and Occupational Pensions Authority
- European Securities and Markets Authority
- National supervisors (including supervisory colleges and SSM)

➢ Ensure EU-wide technical supervisory standards

➢ Coordination of supervisors

Macroprudential oversight

European Systemic Risk Board

- ECB
- National central banks
- European Supervisory Authorities
- European Commission

National Supervisors *(non-voting)*

President of the Economic and Financial Committee *(non-voting)*

➢ Issue risk warnings and macroprudential recommendations

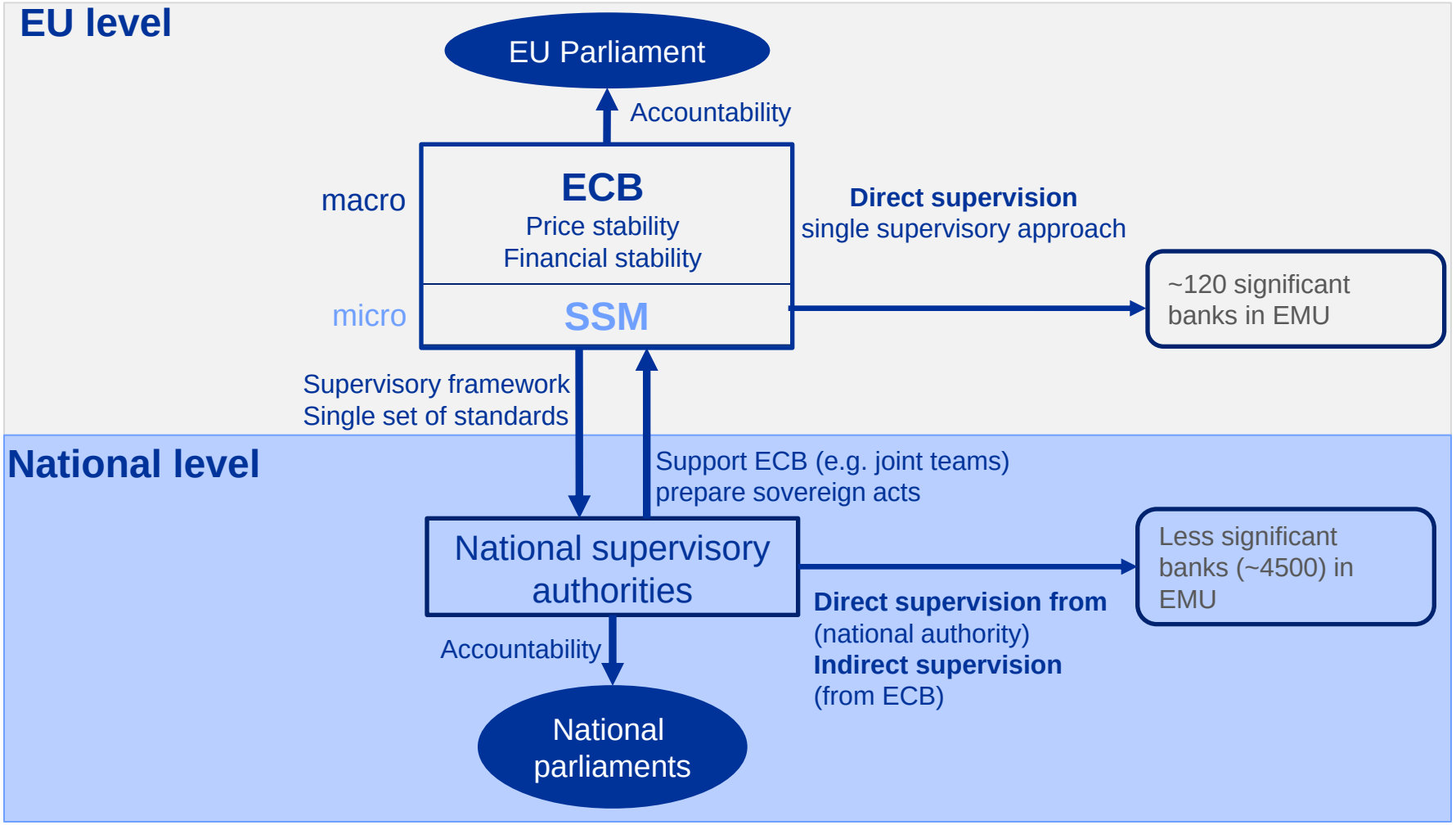
Macro- and Microprudential Mandates of the ECB

- **Treaty on the Functioning of the European Union** (Article 127(6))
  "The [European] Council, acting by means of regulations […] may […] confer specific tasks upon the European Central Bank concerning policies relating to the prudential supervision of credit institutions and other financial institutions with the exception of insurance undertakings."

- **SSM Regulation / Macroprudential Part** (Regulation 1024/2013 Art 5)
  - National authorities preserve macroprudential powers
  - ECB can top-up national macroprudential measures
  - ECB can act on its own initiative and upon the request from national authorities

⇒ **ECB has full range of supervisory powers**

Tasks of the ECB and the national supervisory authorities



Source: Adapted from Deutsche Bundesbank.

Legal basis of macro-prudential instruments in Europe

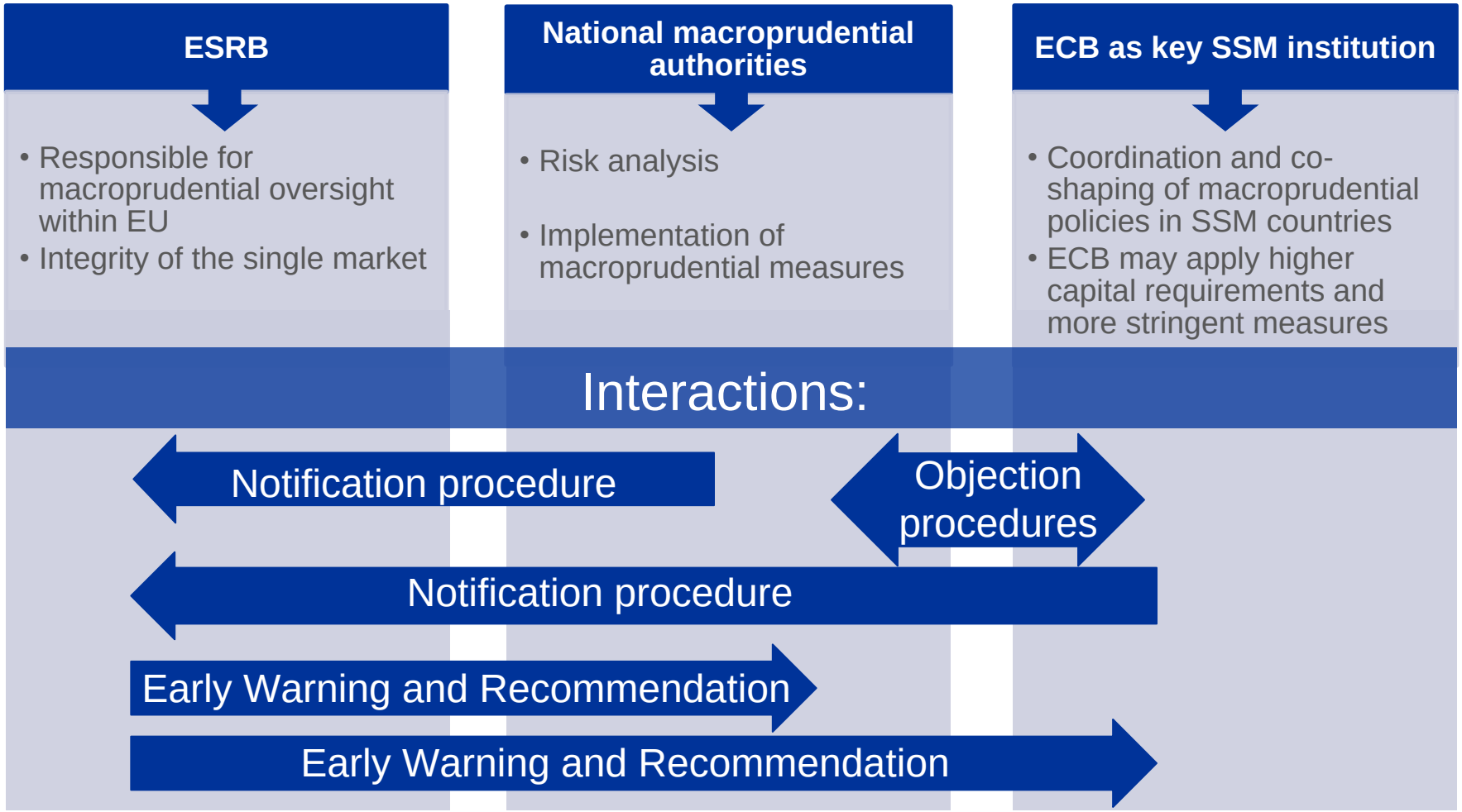
CRD IV Tools	CRR Tools	Other Tools

• **Countercyclical capital buffer** (CCB)
• **Systemic risk buffer** (SRB)
• **G-SII** and **O-SII** capital buffer
	• **Risk weights**
	  • real estate sector (residential&commercial)
	  • Intra financial sector exp.
	• **Liquidity requirements**
	• **Large exposure** limits
	• **Public disclosure requirements**
	• Level of **own funds**
	• Level of **capital conservation** buffer
		• **LTV** ratio caps
		• **LTI** ratio caps
		• **LTD** ratio caps
		• **DSTI** ratio caps
		• **DTI** ratio caps
		• **Levy on non-stable funding**
		• **Margin and haircuts requirements**
		• **Leverage ratio**

Can be used by national authorities and the ECB (for SSM countries)

Can only be used by national authorities

Macroprudential policy in the EU



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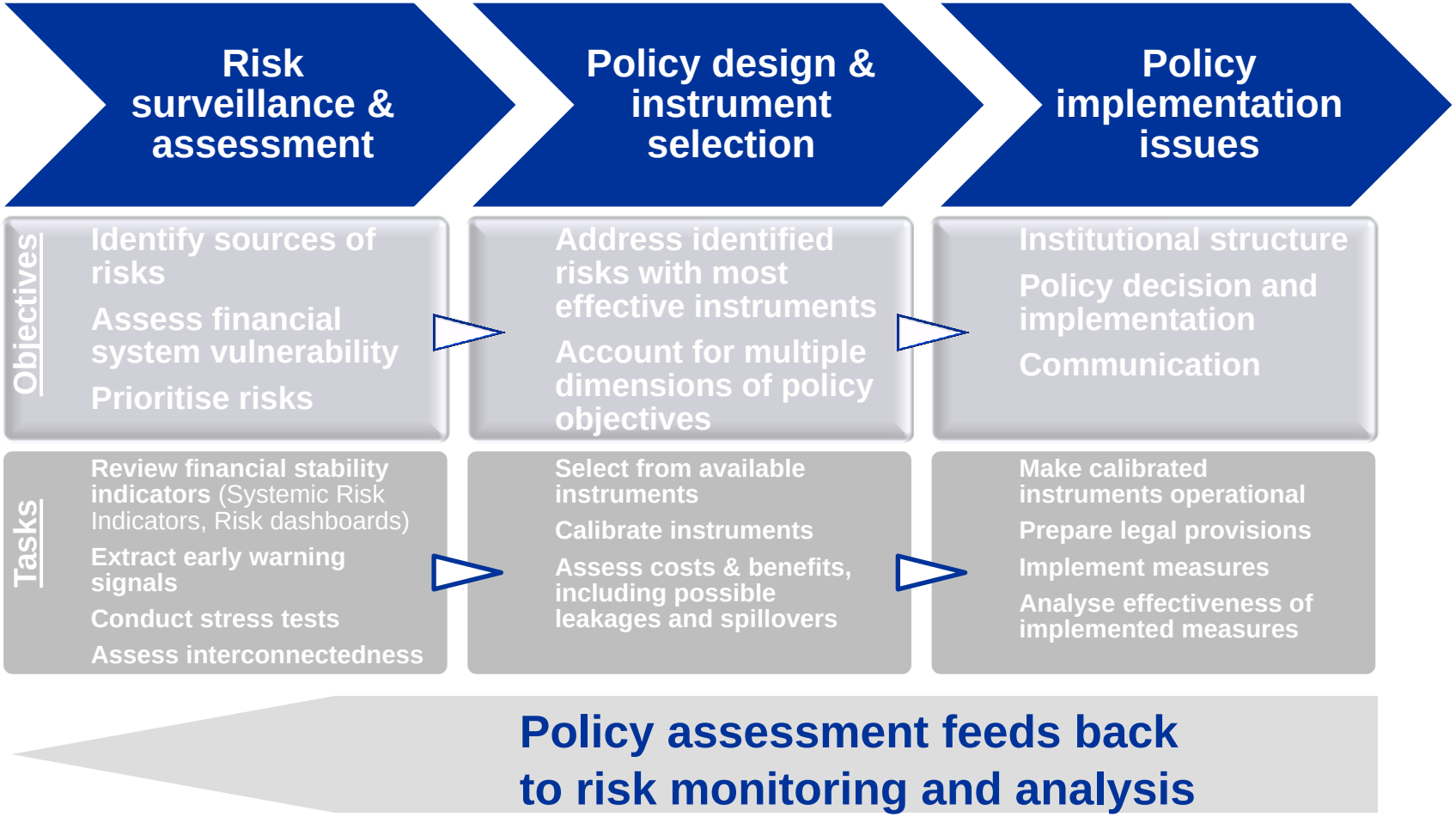
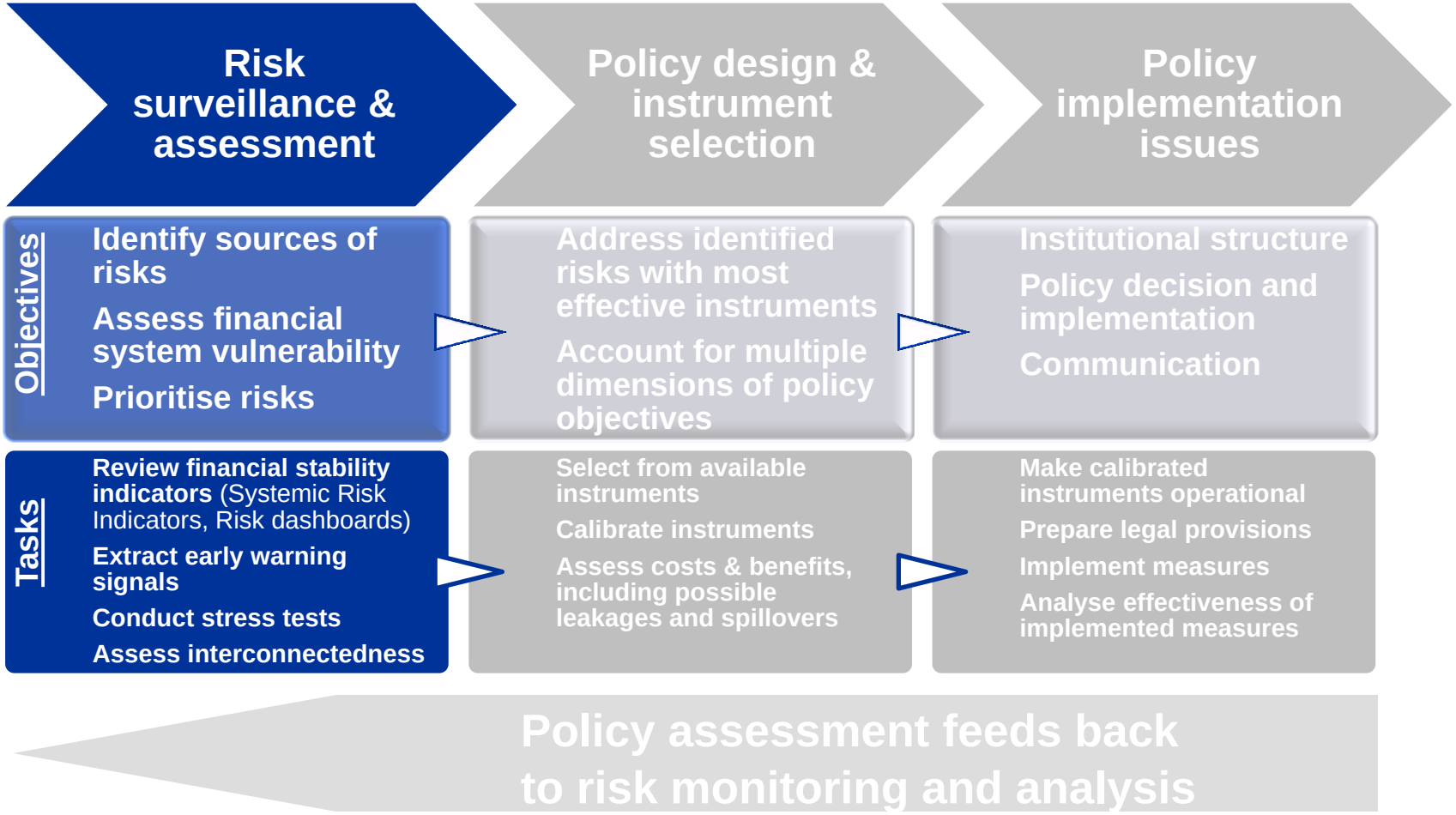
2. Macroprudential Oversight Process



2. Macroprudential Oversight Process – Risk surveillance and Assessment



Potential sources of systemic risks – influences the choice of policy instruments

Exogenous risks	Macroeconomic disturbances	Macroeconomic shocks Macroeconomic imbalances
	Event risk	Political risk Natural disasters
Endogenous risks	Institution-based	Financial (credit, market, liquidity) risk Concentration risk Reputational and operational risk
	Market-based	Asset price misalignments Counterparty and contagion risk Market runs
	Market infrastructure-based	Clearance Payment and settlement risk Infrastructure fragility

2. Macroprudential Oversight process – Risk Surveillance and Assessment

Surveillance

- **Systemic Risk Indicators (SRI):**
  Market-based indicators of probability of an adverse systemic event
- **Early Warning Signal (EWS):**
  Early identification of imbalance build-up

Assessment

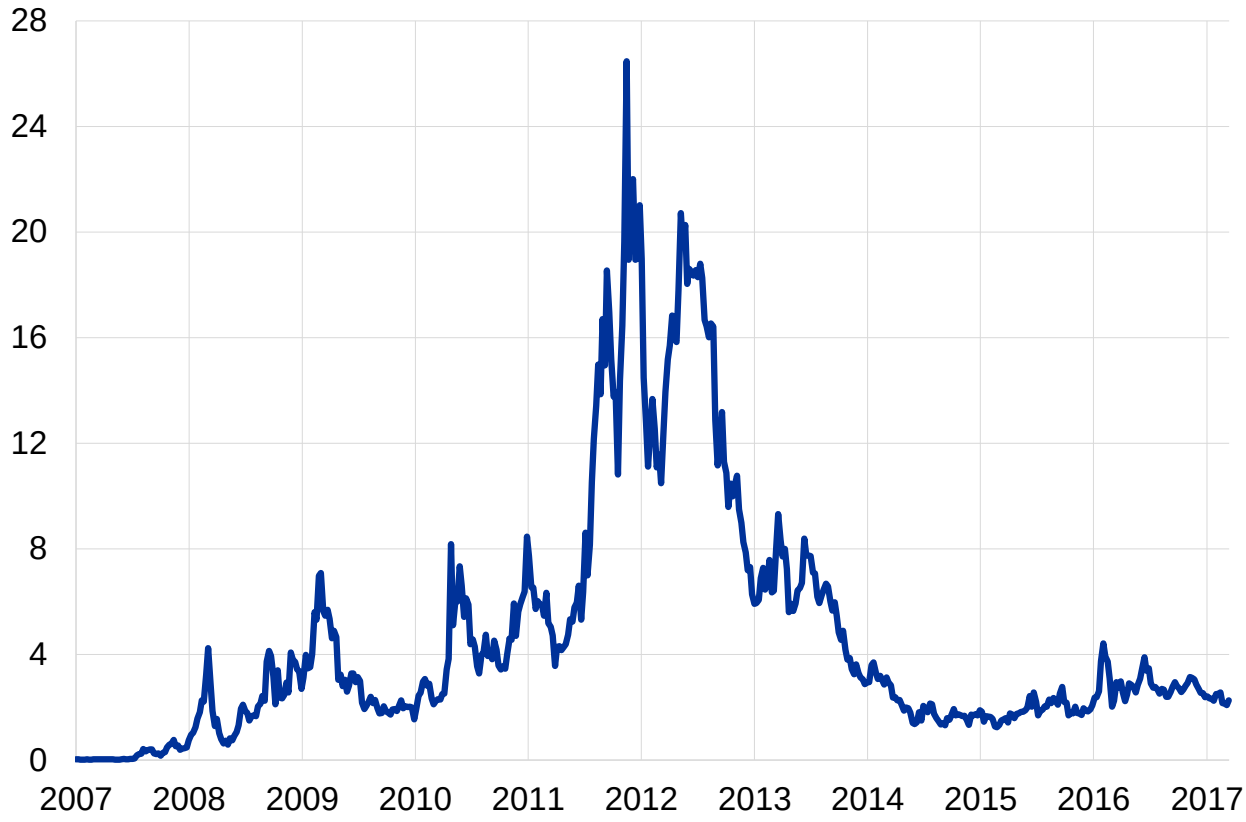
- **Macro stress testing:**
  Institution-specific top-down macro stress test to assess impact of severe but plausible macro-financial scenarios and to rank risks by potential losses (likelihood and impact)
- **Network and spillover analysis**
  Map interconnection of financial system to assess potential transmission channels of risks.

***References**:*

- *ECB Financial Stability Reviews*
- *Alessi and Detken (2011, EJPE)*
- *Dees / Henry / Martin (eds., 2017)*

Surveillance: Systemic Risk Indicator (SRI)

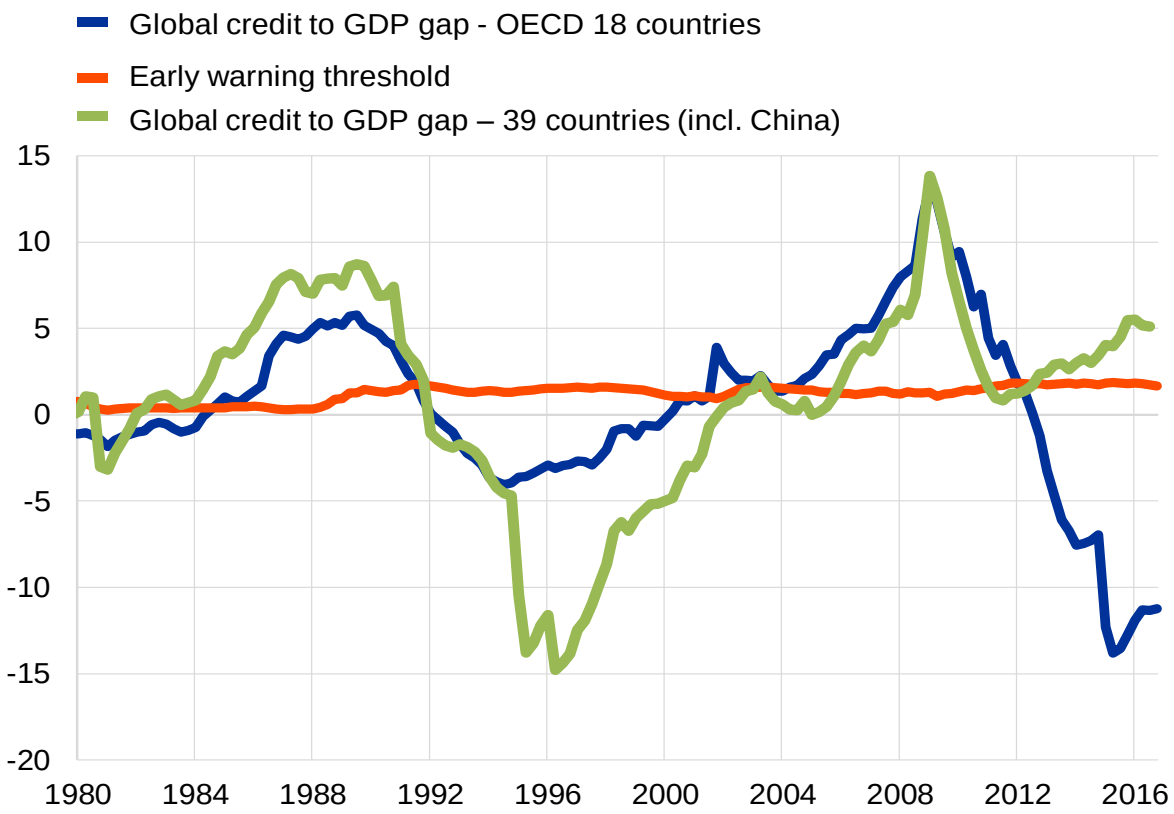
Probability of a simultaneous default of two or more large EU banks
(in percentage)



Source: Datastream and ECB calculations. Last observation: March 2017.

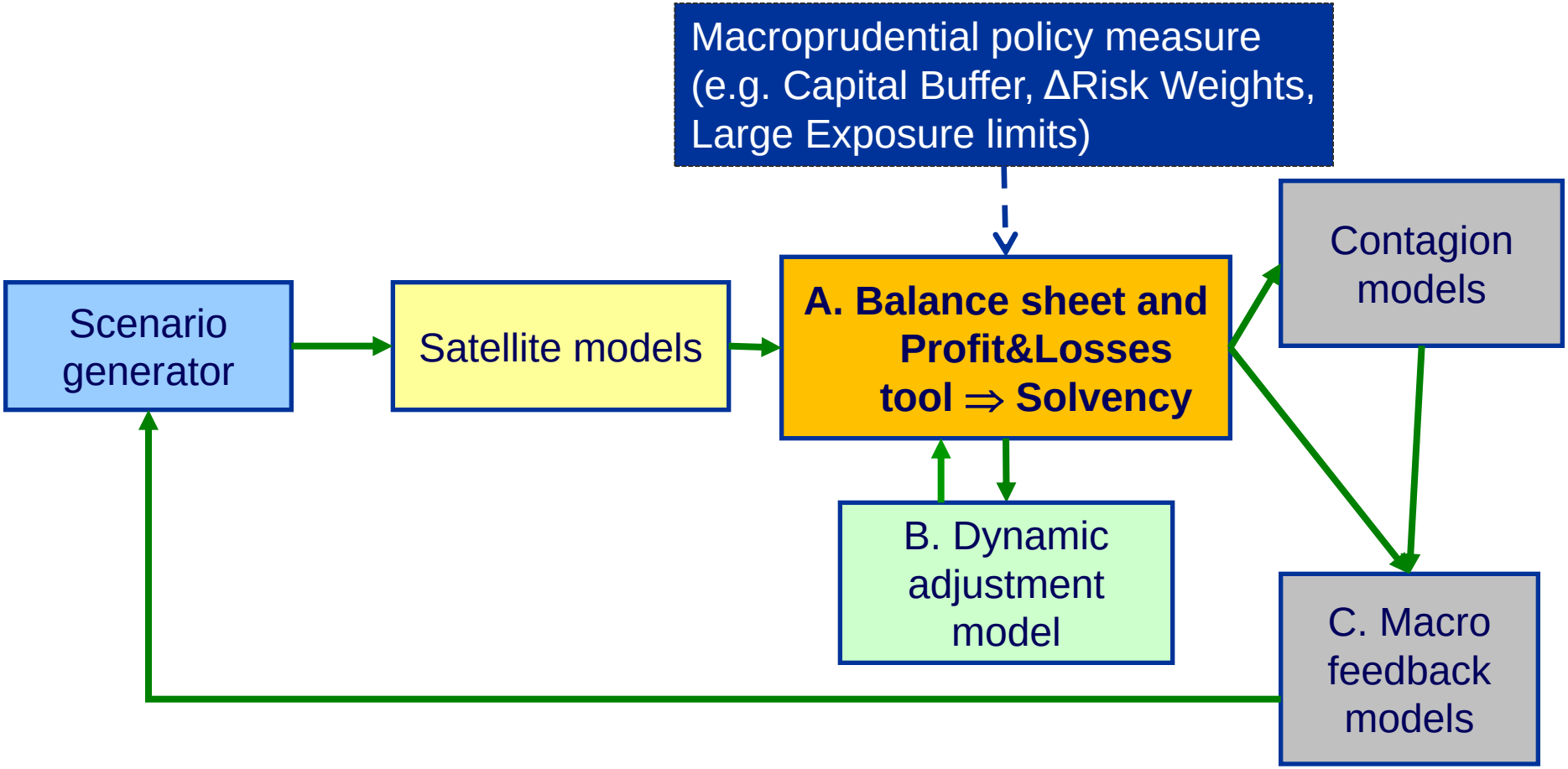
Surveillance: Early Warning Signal (EWS)

Global credit gap and optimal early warning threshold
(in percentage)



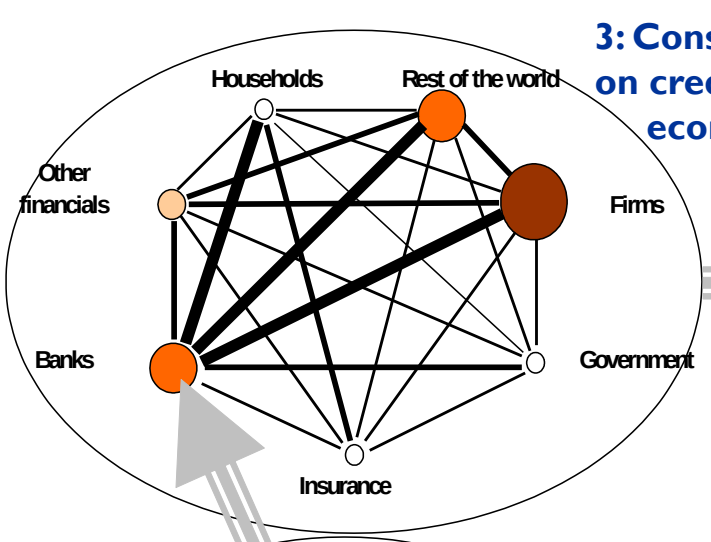
Source: ECB and ECB calculations. Last observation 2016Q4.
Note: Global credit to GDP gap - OECD 18 countries: Gap indicator for 18 OECD countries (see Alessi and Detken (2011)).
Global credit to GDP gap - 39 countries (incl. China): Gap indicator for 39 countries including BRIC (see Alessi, Detken and Oprica (ECB forthcoming))

Assessment: Macro Stress Testing

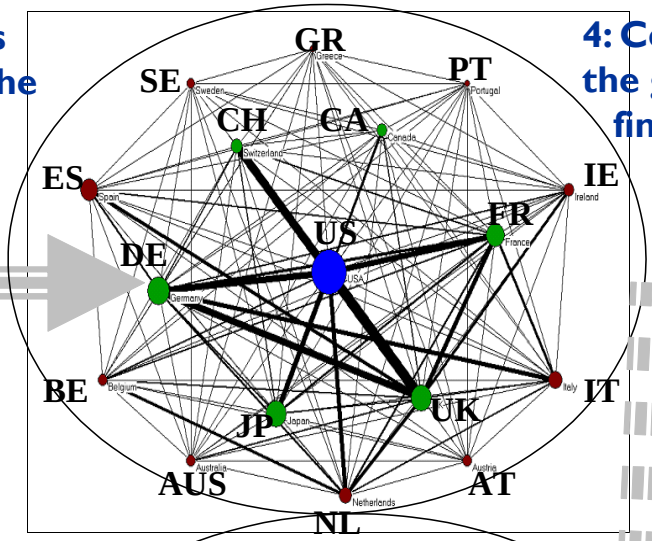


Source: Henry and Kok (2013), ECB Occasional Paper No. 152.

Assessment: Interconnectedness

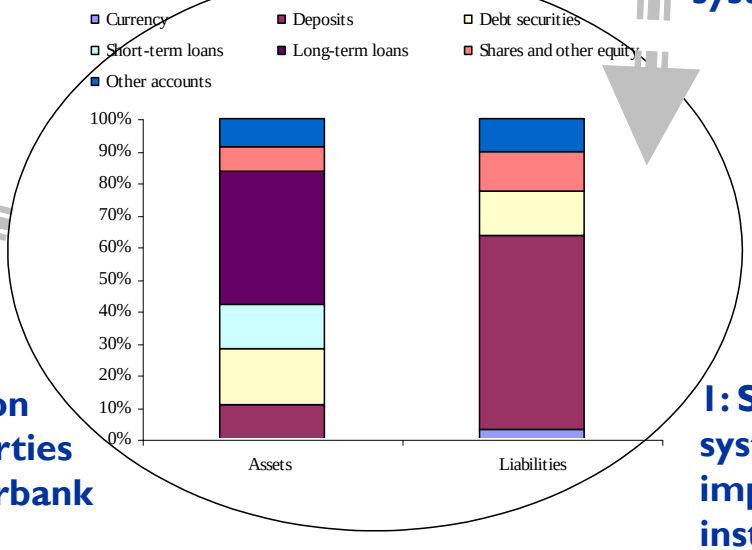


3: Constraints on credit to the economy

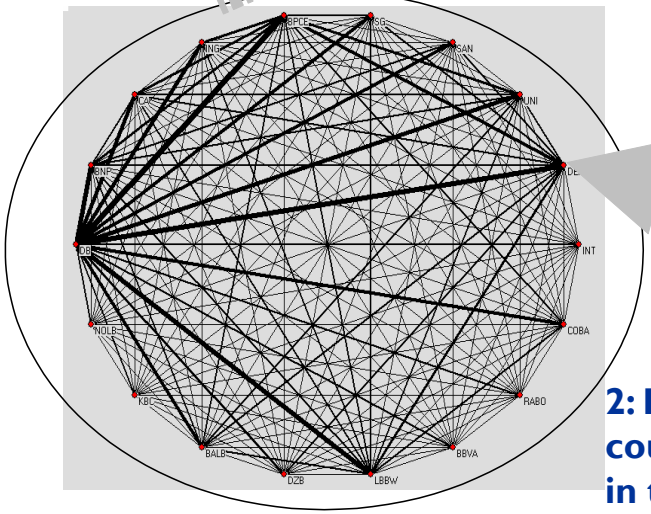


4: Contagion to the global financial system

5: Feedback effects into the banking system



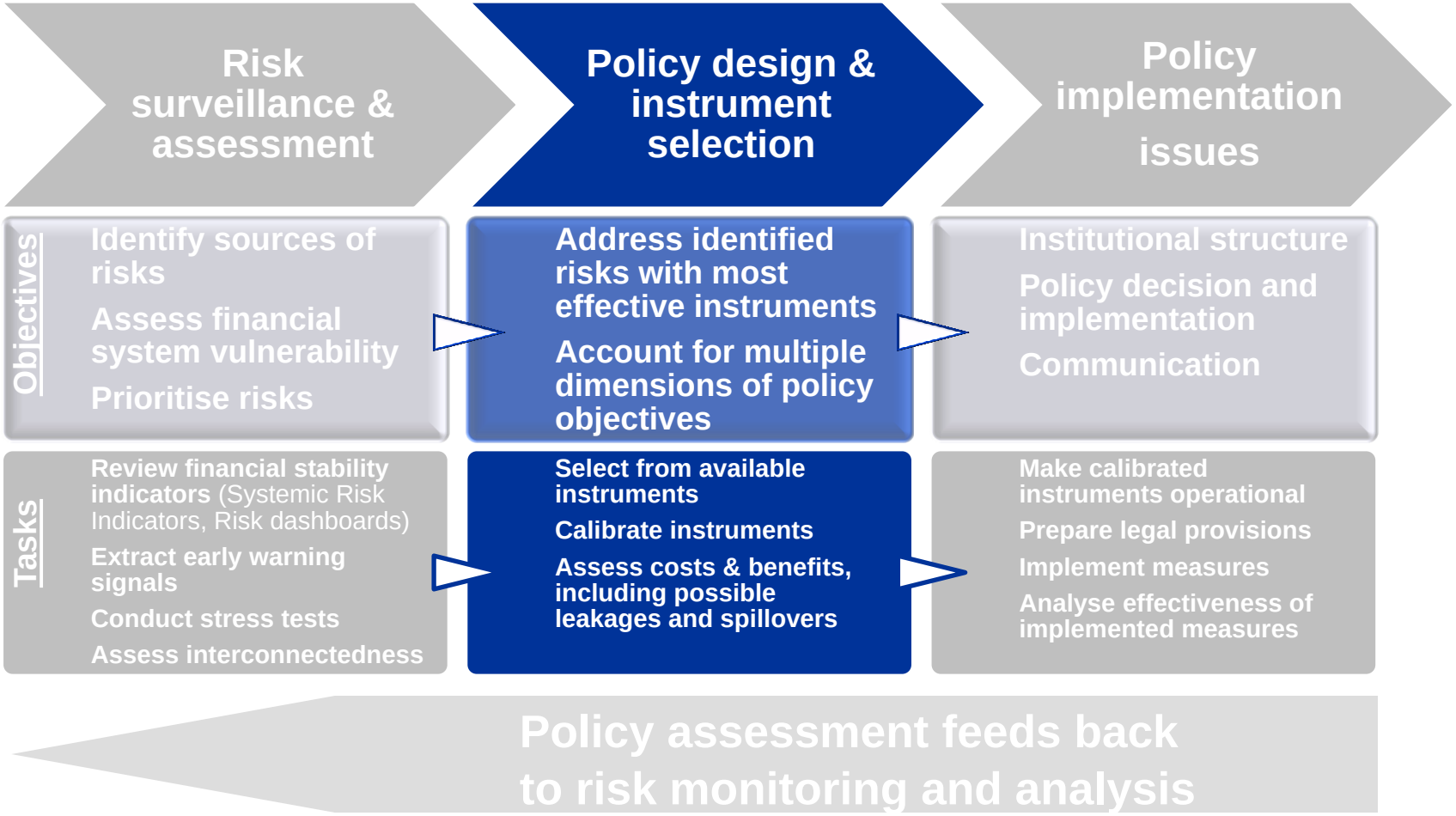
1: Shock to a systemically important institution



2: Impact on counterparties in the interbank market

Source: ECB.

2. Macroprudential Oversight Process – Policy Design

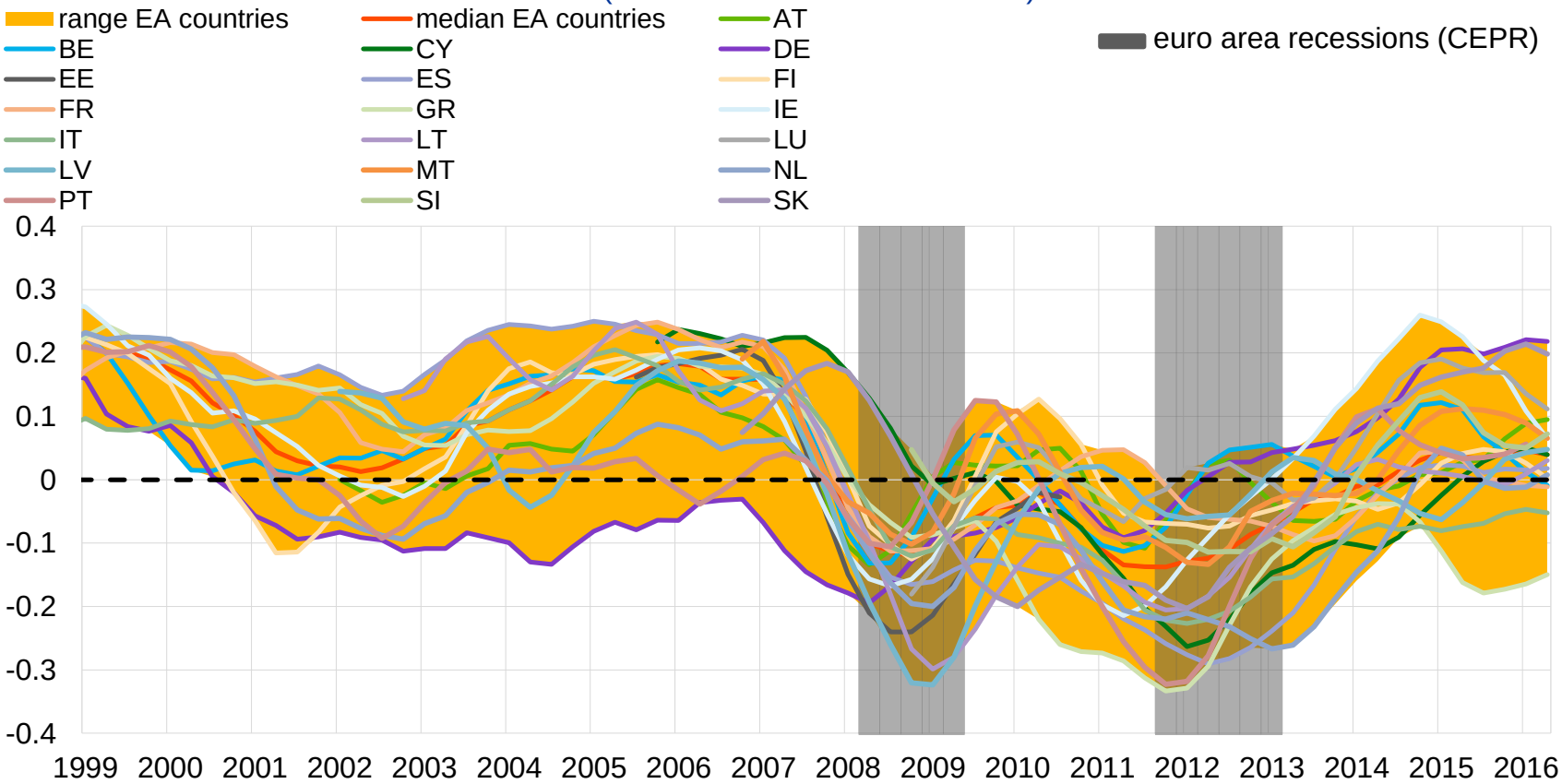


Economic aspects – cross-country heterogeneity

Measure of financial cycles summarize credit and asset price cycles

Euro area countries financial cycles

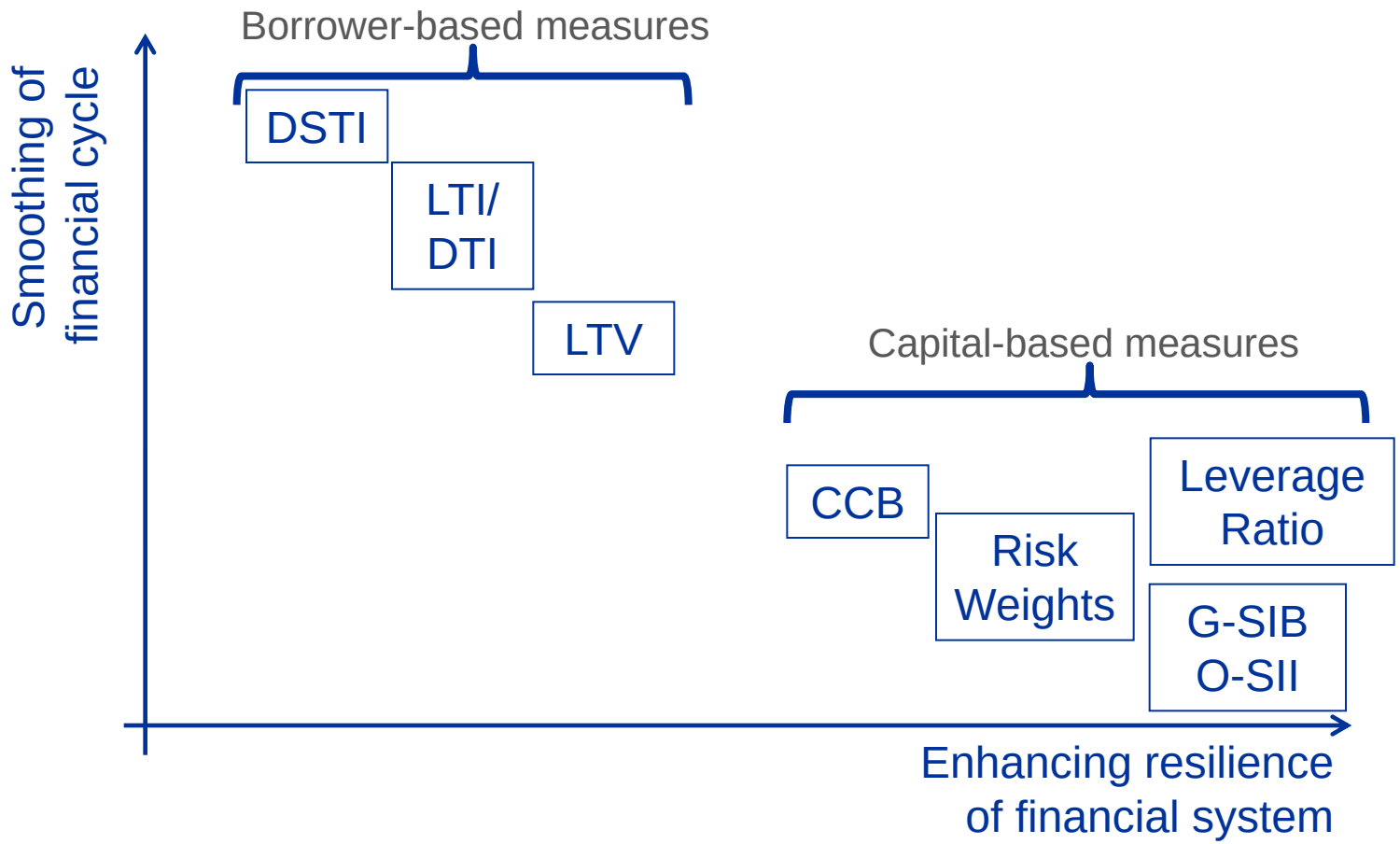
(deviation from historical median)



Source: ECB calculations following the methodology in Schüler, Hiebert and Peltonen (2017), "Coherent financial cycles for G7 countries: why extending credit can be an asset", mimeo and Schüler, Hiebert and Peltonen (2015), "Characterising the financial cycle: a multivariate and time-varying approach" ECB Working Paper No 1846.

Notes: All variables deflated by HICP. Cycles are measured as deviations from historical median, which is equal to 0.5. CEPR recessions shown from the quarter following the peak through the quarter of the trough (i.e. the peak is not included in the recession shading, but the trough is).

Relative strength of instruments



Relative strength of instruments

	Curbing the financial cycle	Enhancing resilience
Capital-based measures (e.g. CCB)	**?** **Impact**: Higher funding costs which intermediaries pass through to lending rates and quantities Measures may be insufficient to discourage risky lending: **Basten & Koch** (2015). **Uluc&Wiedalek**('15):1pp capital⇒-5.4%loans	**Effective** **Impact**: Higher loss absorption (implementation lags less of an issue) BCBS (2010): a 1pp. rise in capital requirements reduces the likelihood of systemic crises by 20–50%
Borrower-based measures (e.g. LTV, DSTI limits)	**Effective** **Impact**: Counter cyclicality of asset prices, credit, leverage **Kuttner and Shim (2013)**: Tighter policy reduces credit growth by 4-7pp. **Claessens et al. (2014):** Tighter policy lowers bank leverage and asset growth during booms.	**?** **Impact**: Lower Probability of default (PD), Loss given default (LGD) Only an indirect effect on the resilience of financial intermediaries, more direct effect for borrowers, although country-specific **Dietsch & Welter-Nicol** (2014): limited impact of LTV on PDs.

Case study: selection of instruments to combat overheating real estate markets

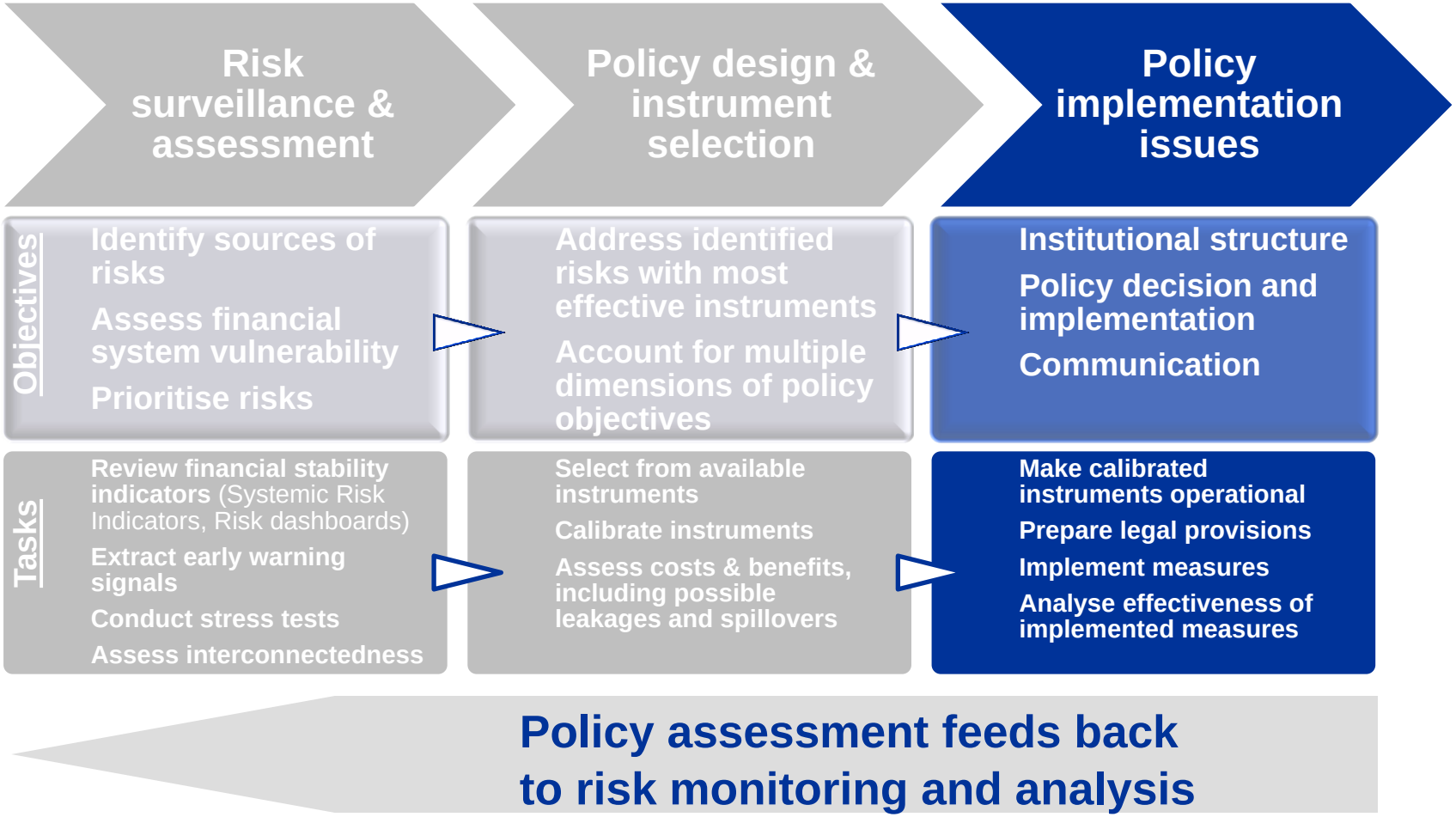
- **Capital-based** tools act on **mortgage supply**:
  to absorb losses when household defaults materialise
- **Liquidity-based** tools act on **funding conditions**:
  to act on funding stability for long-term real estate financing
- **Borrower-based** tools act on **mortgage demand**:
  to reduce probabilities of default or reduce loss-given default

Exploit complementarities by activating jointly

Requires close interaction between NCAs and ECB!

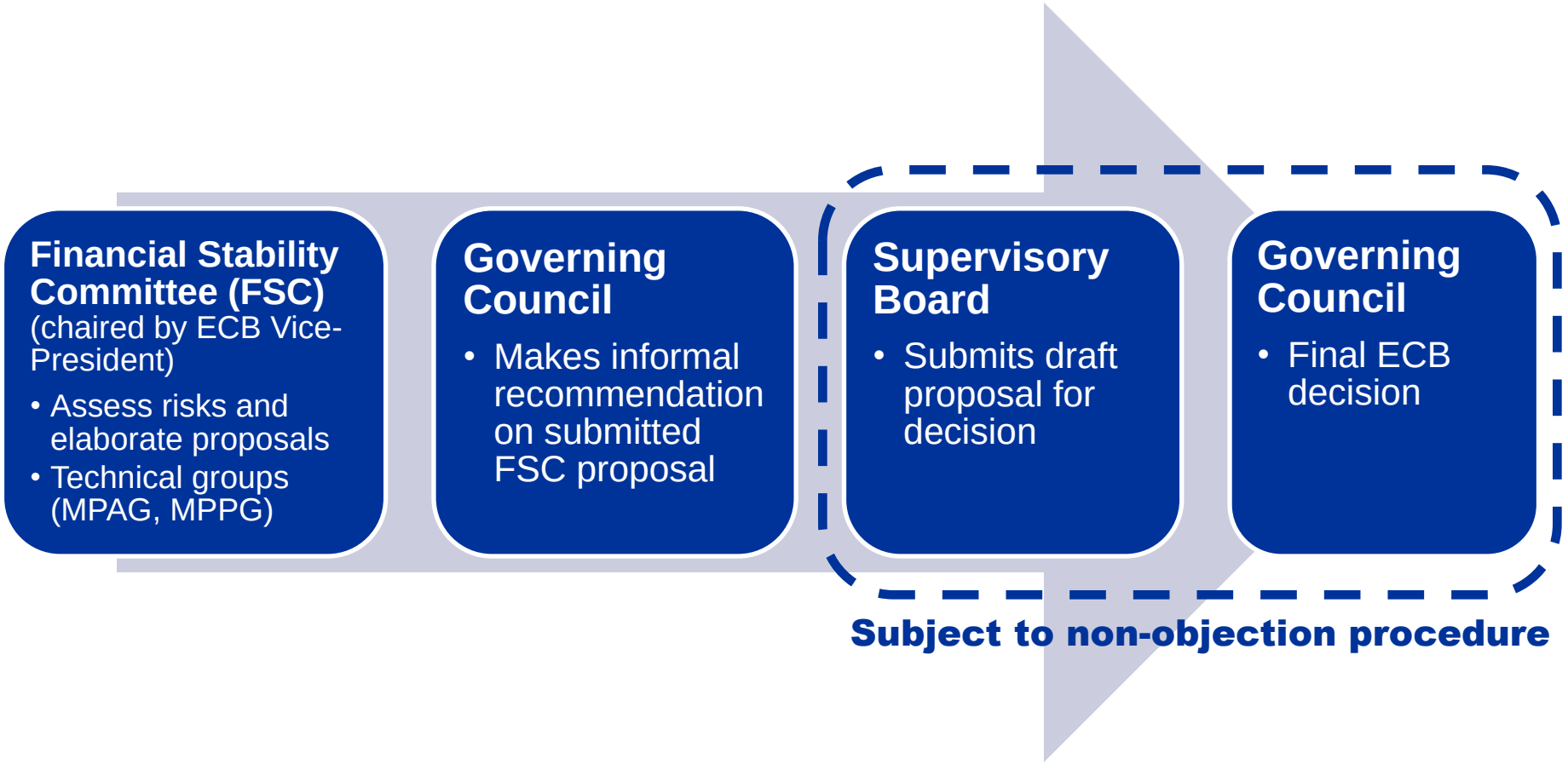
Instrument class	Instrument considerations (broad to narrow)
Capital-based Raise capital requirements	- All credit exposures - Mortgage loans *("sectoral" capital requirements)* - Loans with high LTV *("sectoral" risk weights)*
Liquidity-based Influence funding conditions	- Loan-to-Deposit ratio (LTD) - Loan-to-core funding ratio
Borrower-based Limit loan-to-value / loan-to-income ratios	- All mortgage loans - First-buyer, loan-occupier, to-let loans, foreign buyer

2. Macroprudential oversight process – Policy Implementation Issues



Policy Decision

Preparing macroprudential decisions in the SSM



Policy Decision - “Guided Discretion” principle

Guidance through rule-based approach helps overcome the inaction bias when thresholds of early warning signals are breached

Discretion is needed as indicators and thresholds cannot fully capture all aspects of identified risks

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Macroprudential policy measures in the EU since the late 1990s

Table A.1 Implementation of macro-prudential policies targeting housing market imbalances and [excessive] lending in foreign currency[1]

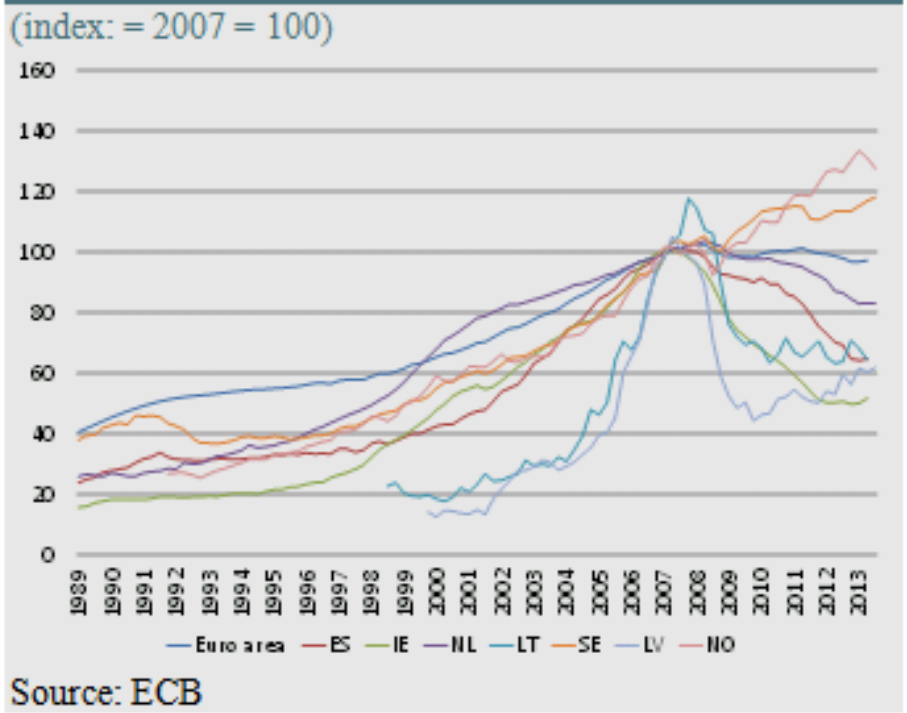
	Capital measures		Provisioning measures	Liquidity measures		Creditworthiness of borrowers		Restrictions on mortgage lending
	Countercyc. capital req.	Risk-weights measures		Reserve requirements[3]	FC liquidity requirement	Loan-to-value	Debt-to-income/Debt service to income	
Belgium		X						
Bulgaria		X	X	X,•				
Croatia	X	•	X,•	X,•	•			X
Denmark						X		
Estonia		X		X,•				
Greece							X	
Hungary				X,•		X,•	•	•
Ireland		X						
Latvia				X,•		X		
Lithuania				X,•		X		
Netherlands						X		
Norway	X	X				X		
Poland		•		X,•		X,•	X,•	
Romania	•[2]		X,•	X,•		X	X,•	
Slovakia				X,•		X		
Slovenia				X,•				
Spain		X	X					
Sweden		X				X		
Switzerland	X	X						

Sources: Vandenbussche et al., op. cit.; Shim et al., op. cit. and national authorities.
Notes: 1) A dot (•) indicates a measure related to foreign currency. 2) Refers to a maximum ratio of foreign loans to own funds. 3) The dot for Croatia refers to mortgage, consumer and corporate loans. The dot for Poland refers to mortgage loans only.

Source: Kok et al (2014)

Housing market imbalances since the mid-1990s

Chart A.1 Residential property prices in selected European countries



Source: ECB

- House price and mortgage booms were at the heart of European macroprudential policies in the late 1990s and 2000s
- House price evolutions illustrate the importance of global as well as national determinants
- FX loans were an important aspect of the boom in CEE EU countries

Source: Kok et al (2014)

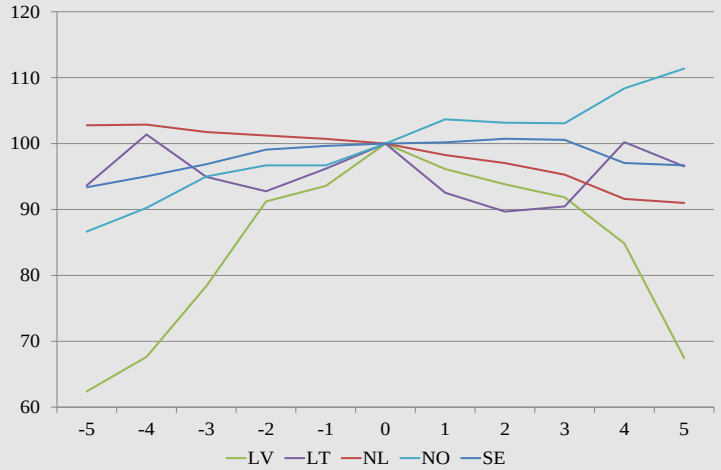
LTVs were used in a number of EU countries

- Impact on house prices and credit growth rather heterogenous

- Measures may have been used too late and too cautiously in many countries

Chart A.2 Residential property prices before and after introduction of LTVcaps

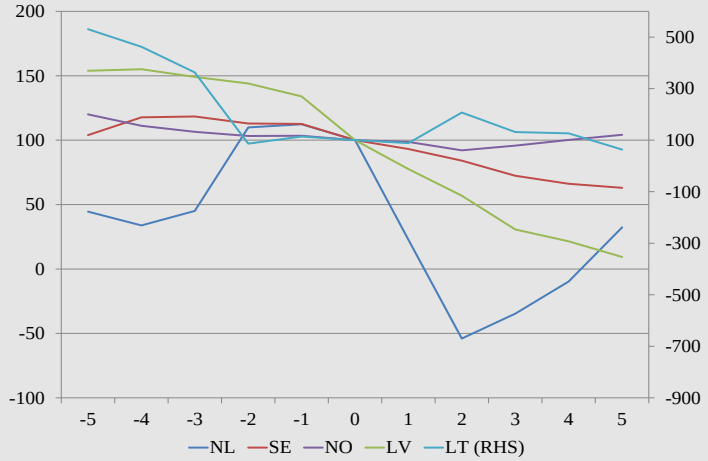
(index=100 in quarter of LTV cap implementation)



Source: ECB.
Notes: The x axis shows the deviation in quarters, from the quarter when the LTV cap was introduced. Data refer to single family house prices.

Chart A.3 Household credit growth before and after introduction of LTV caps

(index=100 in quarter of LTV cap implementation



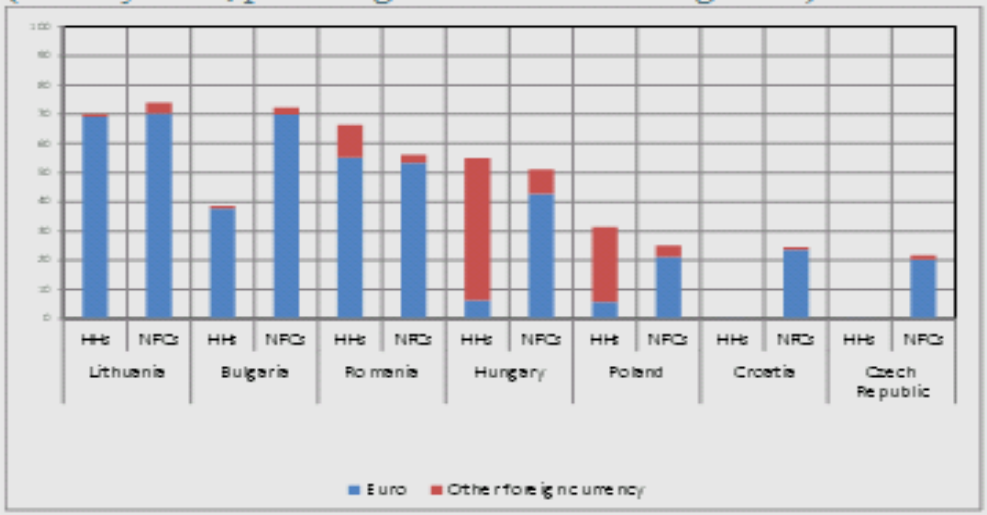
Sources: ECB and Norges Bank
Note: The x axis shows the deviation in quarters, from the quarter when the LTV cap was introduced.

Source: Kok et al (2014)

Foreign currency lending was a key ingredient of the credit boom in CEE countries

Chart A.4 Foreign currency lending to households and non-financial corporations in CEE countries

(January 2014; percentage of total outstanding loans)



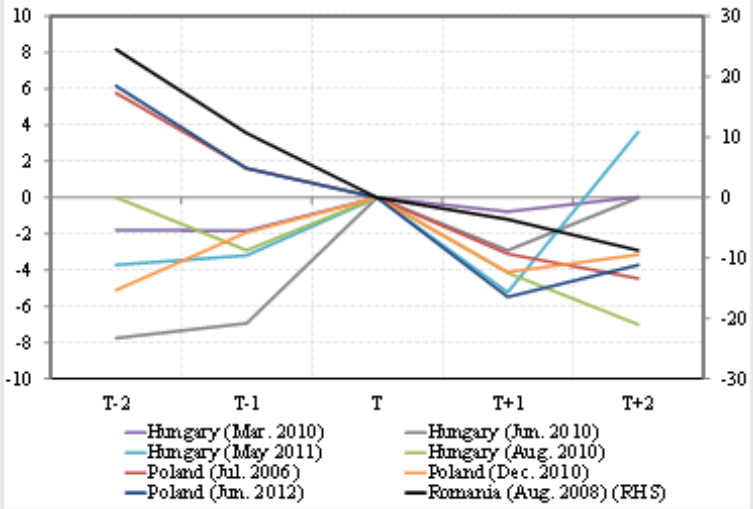
Source: ECB.
Notes: CEE refers to central and eastern Europe. Data refer to MFI lending to resident counterparties as a percentage of total outstanding loans. The shares are underestimated for Croatia owing to the classification of loans indexed to a foreign currency as loans in domestic currency. These loans represented about 68% of total loans at end-2013.

Source: Kok et al (2014)

Impact of macroprudential measures to curb FX lending

Chart A.5 Rate of growth of loans in foreign and domestic currency in CEE countries before and after the implementation of macro-prudential policies

(percentage changes per annum)



Source: ECB.
Notes: CEE refers to central and eastern Europe. "T" is the time when a macro-prudential policy measure was implemented. Data are available for Croatia and for Romania from 2007. Bulgaria and Lithuania implemented monetary policy measures (reserve requirements) to curb lending in foreign currency which are not assessed here.

- Measures tended to be effective in curbing FX lending
- Frequent weakening of impact shortly after implementation due to regulatory evasion
- Measures became more forceful over time – including outright bans of FX loans in some countries
- (First) ESRB recommendation was helpful to galvanise policy efforts

Source: Kok et al (2014)

Developments since the launch of SSM (Nov 2014)

Implementation of macroprudential measures

- There has been no activation of ECB macroprudential policy so far!
- Macroprudential policy has been actively used at the national level (with ECB coordination):
  - **Capital-based measures** (G-SII and O-SII buffers) have been implemented in many SSM countries
  - **Borrower-based measures** activated in some countries to enhance household sector resilience and to curb the excessive build up of real estate imbalances
- Inaction bias seems to wane – due to lessons from the crisis or the ECB's top-up power?
- Economy has been relatively subdued in most (not all!) euro area countries
- The real test for macroprudential policy in the euro area is still to come

Developments since the launch of SSM (Nov 2014)

Building up the 'macroprudential infrastructure'

- Development of a database of macroprudential measures (building on IMF database)
- Data sharing agreement with microprudential supervisor (SSM)
- Regular meetings between ECB and NCAs to discuss systemic risks and possible macroprudential responses
- Enlarging and enhancing the toolkit to assess macroprudential policy
  - STAMP€, integrated approach to conduct macroprudential stress tests (Dees / Henry / Martin Eds. 2017)
  - '3D Model' to assess capital-based measures – DSGE framework allowing for defaults of banks, NFCs and households (Clerk et al. 2015)
  - IDHBS model to assess borrower-based instruments – leveraging on the Household Finance and Consumption Survey (Gross and Poblacion 2016)

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4. Concluding remarks

- Macroprudential policy in the EU / euro area is rapidly developing but in (large) parts still untested

- It is a very important supplementary policy tool for EMU, bridging the ‘gap’ between common monetary and (largely) country–specific fiscal and structural policies

- Experience in the EU so far suggests that
  - Granular, targeted and complete macroprudential instrument toolkit provides most appropriate way for staving off financial stability risks
  - Risks of cross-border leakages within EU / euro area calls for coordinated international approach
  - Risks of cross-sectoral leakages call for macroprudential instruments also for non-bank institutions and for trading activities

- Coordination between ECB and NCAs and between micro- and macroprudential supervisors are key!

Background slides

Capital-based instruments

Announcements by National Authorities for gradual implementation until 2019.
To date countercyclical capital buffer of 0.5% announced for Slovakia.

		Global systemically important institutions	Other systemically important institutions	Systemic Risk Buffer
SSM countries	Austria		7 banks: 1% - 2%	12 banks: 1.0-2.0%
	Belgium		8 banks: 0.75 -1.5%	
	Cyprus		6 banks: 0.125% - 0.5%	
	Estonia		2 banks: 2%	All banks: 1.0%
	Finland		3 banks: 0.5% - 2%	
	France	4 banks: 1%-2%	6 banks: 0.25% - 1.5%	
	Germany	1 bank: 2%	14 banks: 0.5-2%	
	Greece		4 banks: 0.25%	
	Ireland		7 banks: 0%	
	Italy	1 bank: 1%	3 banks: 0.13% - 0.5%	
	Latvia		6 banks: 1.75% - 2%	
	Lithuania		4 banks: 0.5% - 2%	
	Luxembourg		6 banks: 0.5% - 1%	
	Malta		3 banks: 0.5% - 2%	
	Netherlands	1 bank: 1%	5 banks: 1% - 2%	3 banks: 3.0% (overlap with O-SII)
	Portugal		6 banks: 0.25% - 1%	
	Slovakia		5 banks: 1% - 2%	4 banks: 1% - 2%
	Slovenia		8 banks: 0.25% - 1%	
	Spain	1 bank: 1% 1 bank 0.5% (only in 2016)	6 banks: 0.25% - 1%	

Borrower-based instruments

LTV and DSTI/LTI activated or adjusted jointly, sometimes with maturity cap

		LTV limits (reduces LGD)	Income-based limits (reduces PD)	Max. maturity restriction (reduces long-term interest rate sensitivity)
SSM	**Cyprus**	70%, 80%	DSTI: 80% (65% in case of FX loans)	
	Estonia	85%, 90%	DSTI: 50%	30 years
	Finland	90%, 95%		
	Ireland	70%, 80%, 90%	New loans with LTI >3.5 cannot exceed 20% of portfolio	
	Latvia	90%, 95%	Internal DSTI limits	
	Lithuania	85%	DSTI: 40%-60% w/ interest rate sensitivity test at origination	30 years
	Netherlands	101% (1pp decline p.a. to 100% in 2018)	DSTI: 10-38%	30 years
	Slovakia	80%, 90%, 100%	80% (subject to 2 p.p. interest rate increase p.a. if interest rate is not fixed)	30 years (8 years for unsecured loans)

Note: Measures as of 1 Jan 2017.