Development of a macro-prudential framework

Example of a macro-prudential policy framework for Europe

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Overview

- **Introduction**
- **Macro-prudential policy strategy**
- **Macro-prudential policy cycle**
  - Risk identification and assessment
  - Instrument selection and calibration
  - Policy implementation
  - Policy evaluation
- **Looking ahead**

Definition of systemic risk

- Systemic risk means a disruption in the financial system with the potential to have serious negative consequences for the internal market and the real economy. All types of financial intermediaries, markets and infrastructure may be potentially systemically important to some degree (ESRB Regulation (EU) No. 1092/2010)

- What shall macro-prudential policy aim at?
  - Guarantee sound functioning of financial markets
  - Ensure efficient allocation of funds and credit
  - This supports sustainable economic growth

Ultimate objective: Financial Stability

- Financial stability is a condition in which the financial system fulfils its central macroeconomic functions smoothly at all times, particularly in stress situations and in phases of structural adjustment

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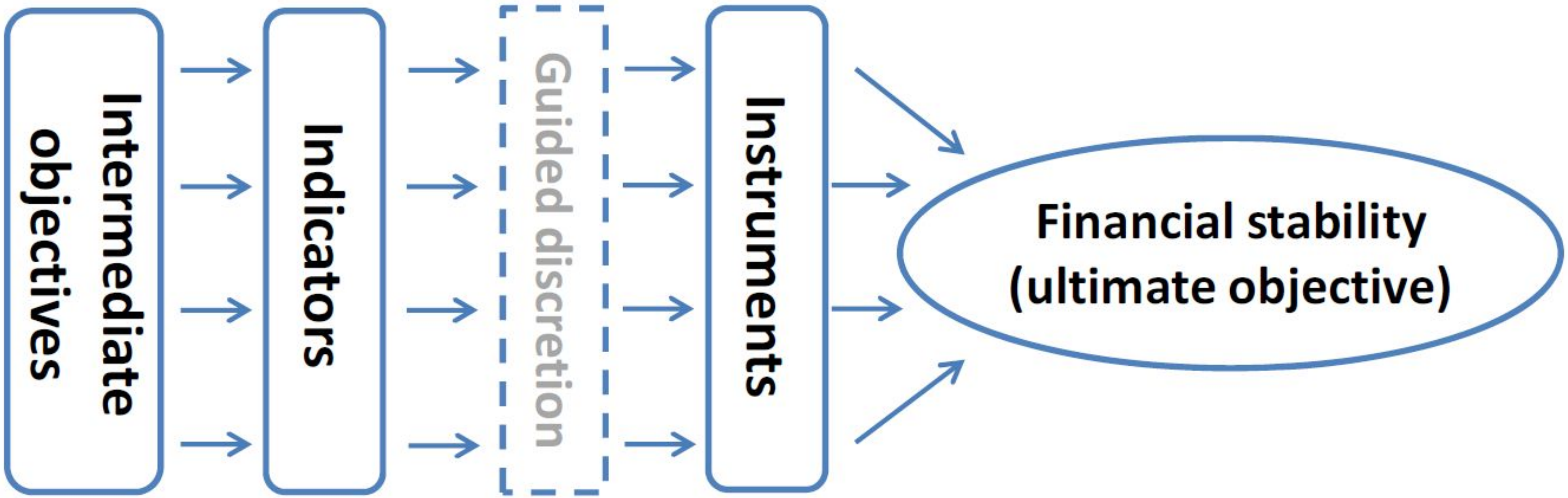
Macro-prudential policy framework
Macro-prudential strategy



Source: ESRB (2014)

A macro-prudential policy framework for Europe

Macro-prudential strategy: intermediate objectives

- Excessive credit growth and leverage
- Excessive maturity mismatch and market illiquidity
- Direct and indirect exposure concentrations
- Misaligned incentives and moral hazard
- Strengthen the resilience of financial infrastructures

A macro-prudential policy framework for Europe

Examples on how to link intermediate objectives with indicators

Sources of systemic risk	Select indicators
Mitigate and prevent excessive credit growth and leverage	
Excessive credit growth	Credit-to-GDP gap, real estate price-based indicators, leverage, private sector indebtedness
Risks arising from sectoral developments (e.g. real estate boom)	Sectoral credit growth, residential and commercial real estate price-based indicators, LTV/LTI indicators, investment in real estate and value added of construction, sectoral indebtedness
Mitigate and prevent excessive maturity mismatch and market illiquidity	
Liquidity risk	Bank funding ratios (e.g. LTD ratio), reliance on central bank funding, maturity structure, net open foreign currency position Liquid asset ratios, asset encumbrance and market liquidity indicators
Limit direct and indirect exposure concentration	
Large exposures and interconnectedness	Concentration indicators (e.g. geography, currency, maturity and sectoral), large exposures indicators (ten largest exposures), financial network indicators
Limit the systemic impact of misaligned incentives with a view to reducing moral hazard	
Distress or failure of a SII	SII indicators related to size, interconnectedness, substitutability, complexity, banking sector size and concentration, and cross-border activities.

Source: ESRB (2014)

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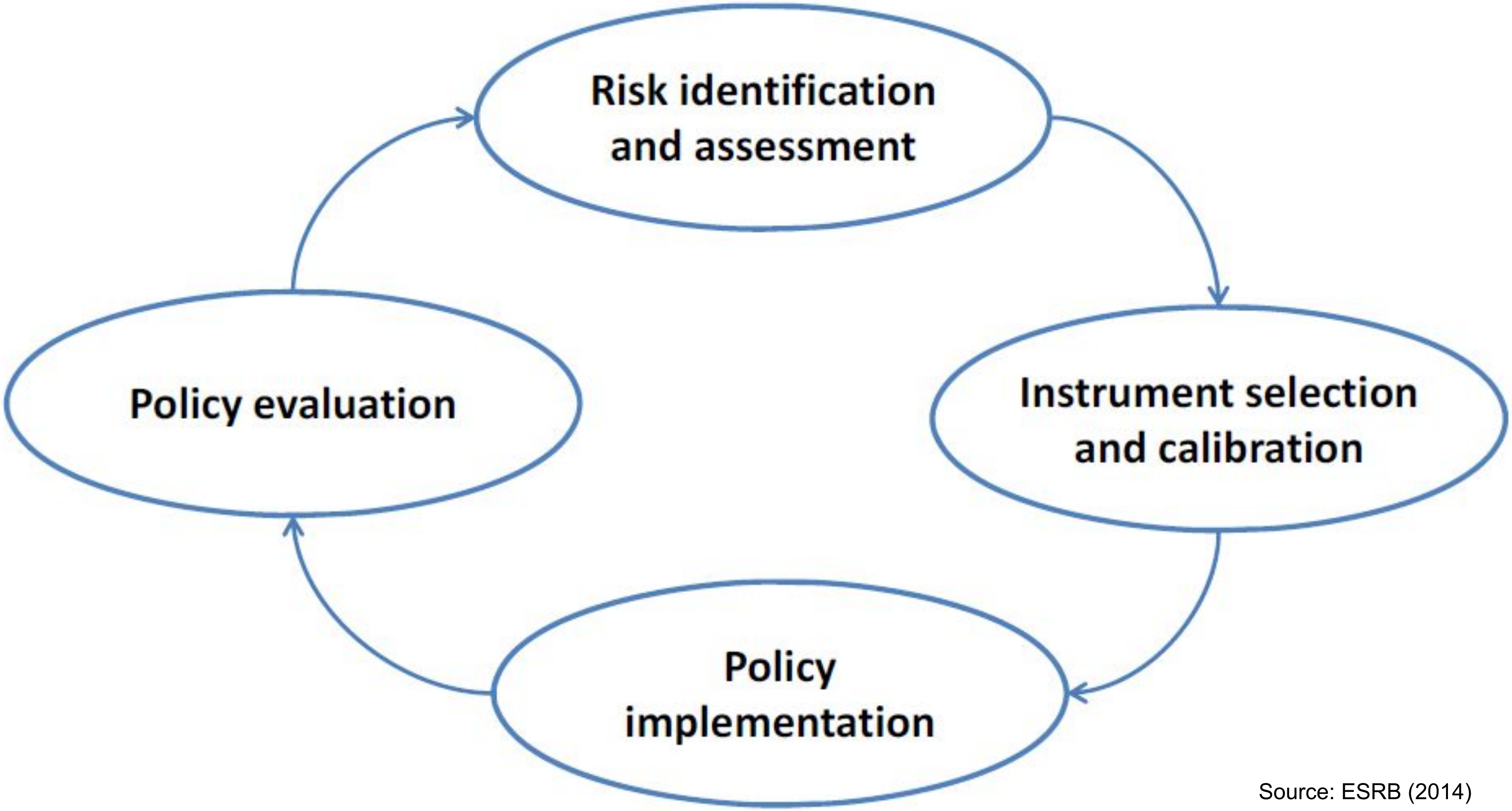
Macro-prudential policy cycle



Source: ESRB (2014)

Macro-prudential policy cycle

Risk identification and assessment

Risk identification and assessment

To what extent are vulnerabilities building up or crystalizing?

How (un)certain is the risk assessment?

Macro-prudential policy cycle
Risk identification and assessment

- Key indicator books help to monitor and assess sources of systemic risk

- Selecting a targeted set of key indicators that capture the identified sources of systemic risks helps monitor and assess the build-up of these risks

- Preliminary analysis points to benefits from combining indicators: for instance, the relevance of measures of sectoral credit growth as indicators for future banking and real estate crises, especially in combination with asset price growth

Macro-prudential policy cycle

Risk identification and assessment: Indicators – key findings

1. **Indicators for the build-up and the release of instruments can differ**. This has been backed up by empirical evidence relating to the CCB, real estate instruments and liquidity instruments.
2. **Combining information received from multiple indicators is likely to provide better and stronger signals of vulnerabilities building up**. A combination of strong credit developments (credit-to-GDP gap for the CCB, mortgage credit evolutions for real estate instruments) and high real estate price growth is likely to be a cause of concern in the context of excessive credit growth and leverage.
3. **Information from single indicators is nevertheless important.** For example, an institution may be identified as a SII even when it is important along only one of the dimensions of systemic importance.
4. **Simple structural liquidity ratios seem to be promising leading indicators of systemic liquidity risk.** A simple LTD or core funding ratio seems to provide some signalling power regarding the build-up of systemic liquidity risk.
5. **Market-based indicators play a larger role in the release phase**. Market-based indicators have been found important in the release phase of the CCB. Given the way in which liquidity risk typically crystallises in periods of stress, the role of market-based indicators could play an even larger role in the release phase of liquidity instruments.
6. **The assessment of structural systemic risks is likely to require a broad set of indicators.** Such indicators could capture the probability and size of shocks to the financial system, commonality of institutions' exposures and risk of intra-financial contagion, and the size and concentration of the financial sector.

Source: ESRB (2014)

Macro-prudential policy cycle

Potential questions to provide qualitative information about the build-up of vulnerabilities

- Are there signs of speculative behavior?
- Are particular asset classes heavily advertised or discussed in the media?
- Are banks taking large positions where profits continuously exceed measured risks?
- Are there relatively new products with large market shares, and have they been increasing rapidly?
- Are lending standards falling?
- Are profit margins decreasing?
- Is competition increasing from the shadow banking sector?

Macro-prudential policy cycle
Risk identification and assessment

Capturing the financial cycle: some useful indicators

Macroeconomic indicators	Broad credit aggregates Measures of debt sustainability (debt to income, debt service ratio)
Banking sector indicators	Stress tests, bank risk metrics Leverage ratios Maturity and currency mismatch Indicators of funding vulnerabilities Profits and losses
Market-based indicators	Asset valuations in equity and property markets Corporate bond and CDS spreads and risk premia Margins and haircuts Lending spreads
Qualitative information	Underwriting standards Asset quality Credit conditions

Source: CGFS Papers No 48 (2012)

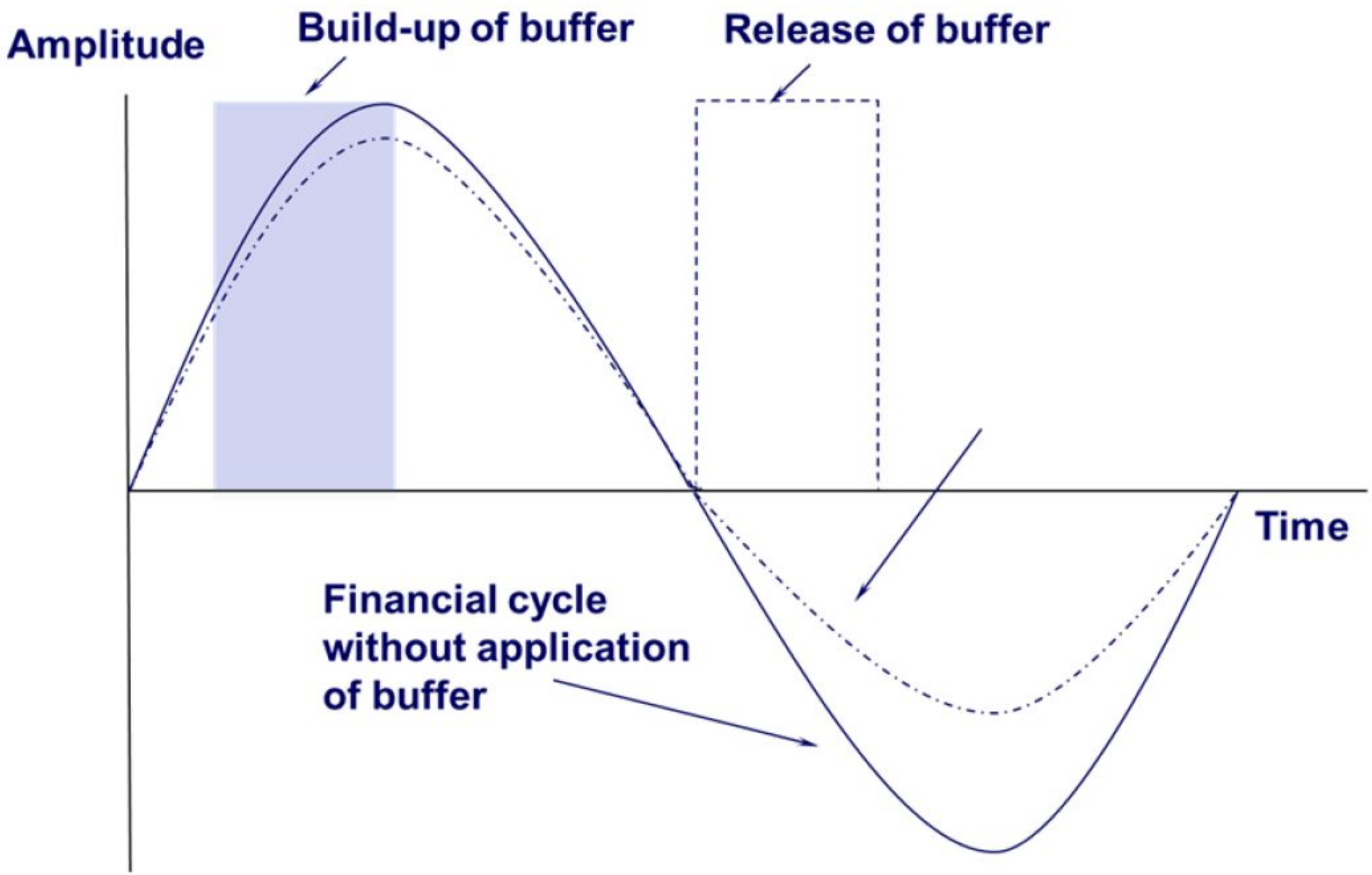
Macro-prudential policy cycle

Instrument selection and calibration

Selecting macro-prudential instruments

- Macro-prudential policy must account for the financial cycle, as systemic risks are magnified by pro-cyclicality
- Macro-prudential instruments can dampen both the upswing and the downswing of the financial cycle
- The stance of macro-prudential policy must reflect financial cycles and structures
- Calibrating macro-prudential instruments to dampen the upswing of the financial cycle will be challenging

Macro-prudential policy cycle
Instrument selection and calibration



Source: ESRB (2014)

Macro-prudential policy cycle
Instrument selection and calibration

		Financial cycle		
		Boom	Bust	
			with crisis	without crisis
Other macroeconomic conditions	strong	tighten		leave unchanged or release
	weak	leave unchanged or tighten	release	release

Source: BIS (2014)

Macro-prudential policy cycle
Instrument selection and calibration

Is there are robust link between changes in the instrument and the stated policy objective?

How are expectations affected?

What is the scope for leakages and arbitrage?

How quickly and easily can an instrument be implemented?

What are the costs of applying a macro-prudential instrument?

What is the optimal mix of tools to address a given vulnerability?

Macro-prudential policy cycle
Instrument selection and calibration

- **Effectiveness**

Degree to which market failure can be addressed
Ability to determine the appropriate timing for the activation or deactivation of the instrument

- Risks might materialize if activation is delayed
- Unnecessary costs if activation is too early

- **Efficiency**

Cost-benefit assessment
Trade-off between resilience and growth

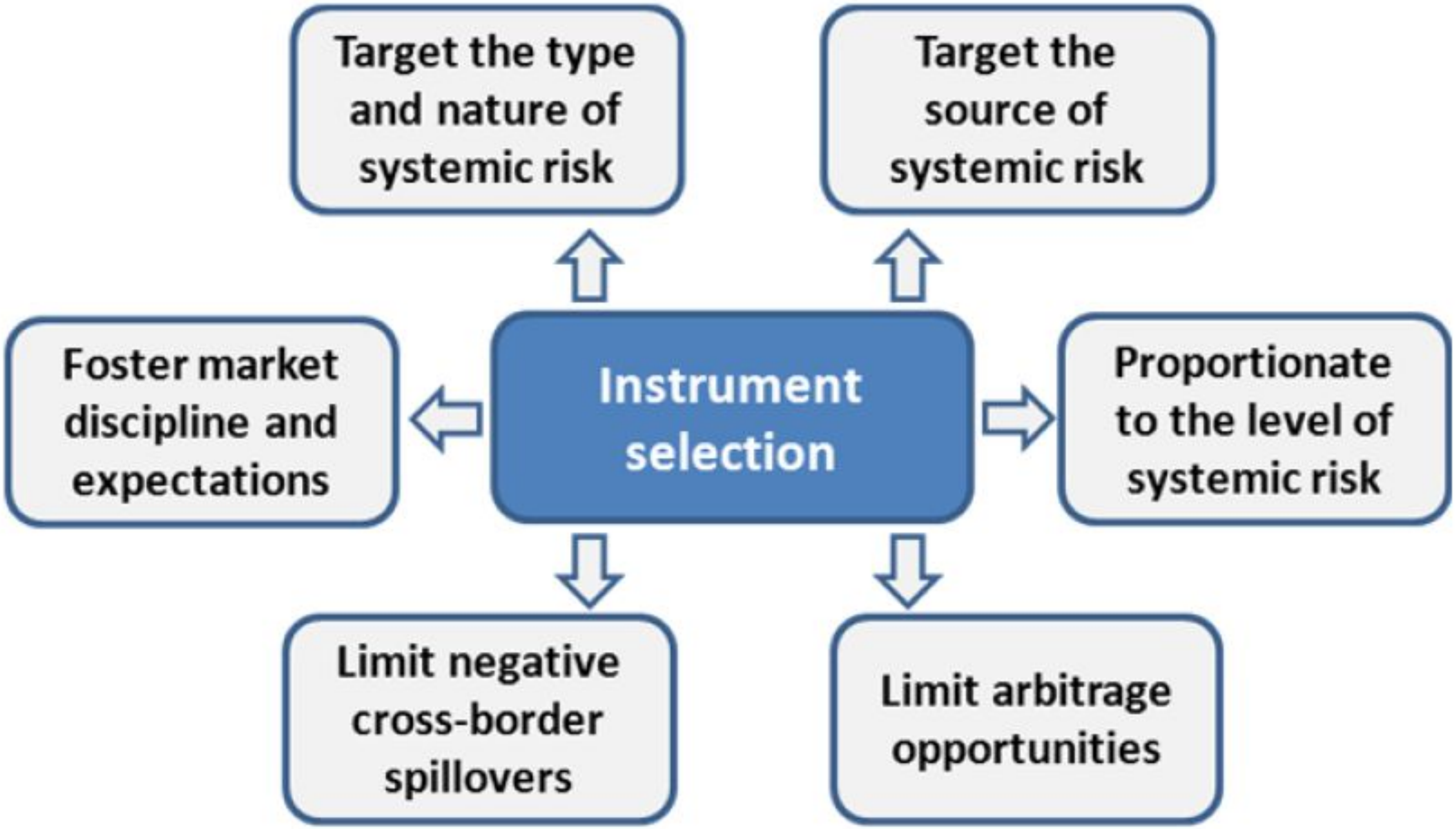
Macro-prudential policy cycle

Instrument selection and calibration

Economic considerations

- Selection and calibration must of macro-prudential instruments must reflect the underlying sources of systemic risk
- Macro-prudential authorities should strive to use those instruments which lead to the highest net benefits to society
- Selection of instruments must account for possible cross-border spillovers, both positive and negative, and unintended effects (e.g. leakages)
- Macro-prudential stress tests support the calibration of instruments

Macro-prudential policy cycle
Desirable characteristics in instrument selection



Source: ESRB (2014)

A macro-prudential policy framework for Europe

Indicative set of macro-prudential instruments

1. Mitigating and preventing excessive credit growth and leverage
- Counter-cyclical capital buffer
- Capital requirements for each sector (including the intra-financial system)
- Macro-prudential leverage ratio
- Loan-to-value (LTV) requirements
- Loan-to-income (LTI)/debt (service)-to-income requirements

2. Mitigating and preventing excessive maturity and liquidity mismatch
- Macro-prudential adjustment to liquidity ratio (e.g. liquidity coverage ratio)
- Macro-prudential restrictions on sources of funding (e.g. net stable funding ratio)
- Macro-prudential unweighted limit to less stable funding (e.g. loan-to-deposit ratio)
- Margin and haircut requirements

3. Limiting direct and indirect exposures
- Restrictions on large exposures
- Requirement for clearing by CCPs

4. Limiting the systemic impact of misaligned incentives, with a view to reducing moral hazard
- Capital surcharges for SIFIs

5. Strengthening the resilience of financial infrastructures
- Margin and haircut requirements for CCP clearing
- Greater disclosure requirements
- Structural systemic risk buffer

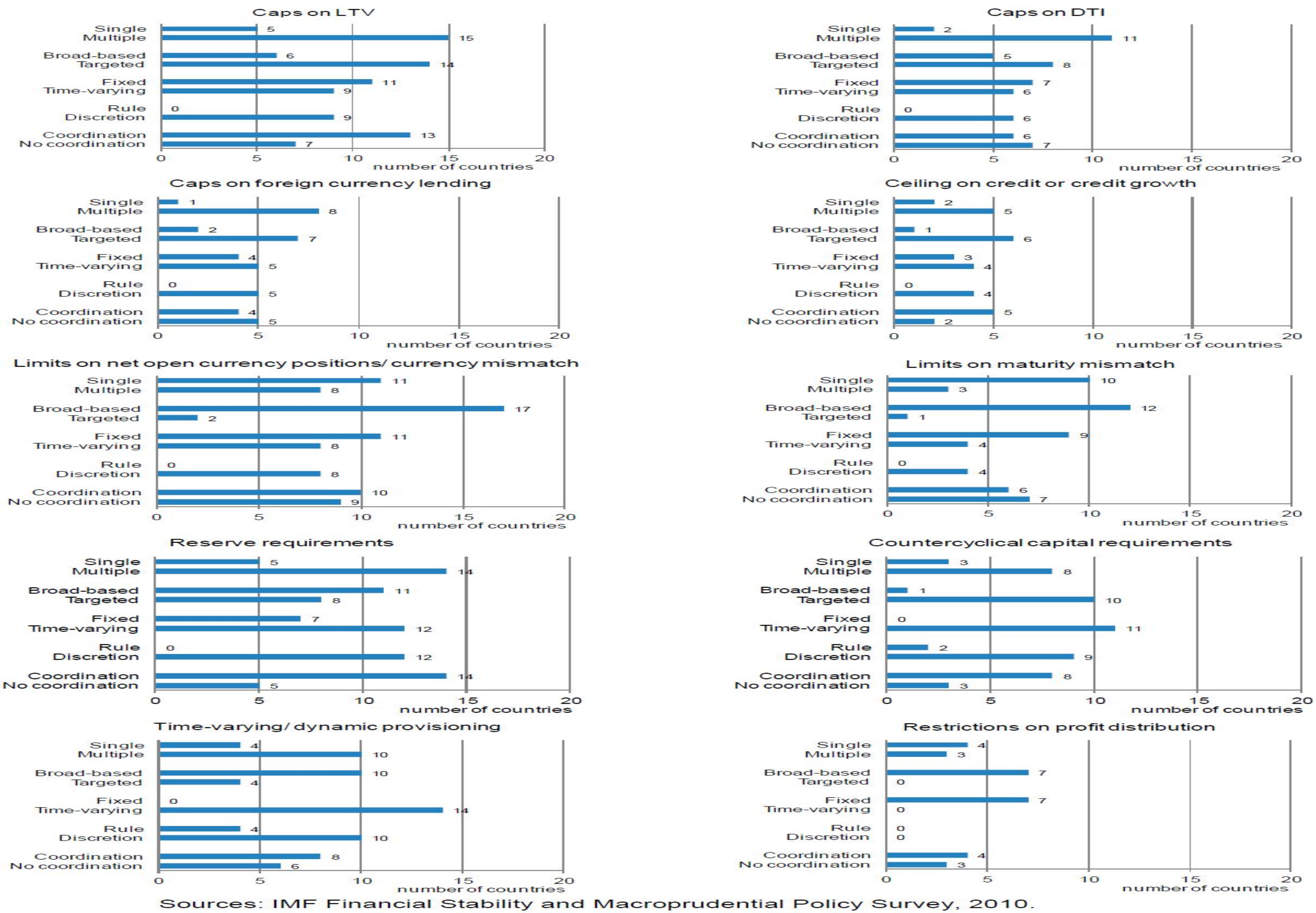
Source: ESRB (2013)

A macro-prudential policy framework for Europe
Instrument selection and calibration

Design of the instruments:

- Broad-based versus targeted
- Single versus multiple
- Fixed versus time-varying

A macro-prudential policy framework for Europe
Instrument selection and calibration



Source: Lim et. al. (2011)

A macro-prudential policy framework for Europe
Instrument selection and calibration

Systemic risk:	Excessive credit growth and leverage			Excessive maturity mismatch and market illiquidity		Exposure concentration	Misaligned incentives	
Key instru-ments	Counter cyclical capital buffer	Capital instruments - leverage ratio - by sector (real estate, intra-financial) - systemic risk buffer	Loan-to-value/loan-to-income caps	Stable funding restrictions (e.g. NSFR, LTD)	Liquidity charges	Large exposure restrictions (by counterparty, sector, geographic)	SIFI capital surcharges (G-SII and O-SII buffer)	Syste-mic risk buffer (SRB)
Trans-mission channels	Resilience of banks; contribute to curbing excessive (sectoral) credit growth		Resilience of borrowers and banks, mitigate pro-cyclicality mortgage credit	Resilience of funding base to stressed outflows		Resilience to counterparty and concentration to sectors	Lower probability and impact of failure of SIFIs; increased resilience of banks.	

Source: ESRB (2014)

Macro-prudential policy cycle

Decisions on instrument implementation are based on a wide range of quantitative and qualitative information

- This includes information about the overall risk identification and assessment, key indicators and their indicative thresholds, instrument selection and their expected transmission mechanisms, and the evaluation of the instruments used
- It also includes legal considerations and the stance of other policy areas, notably micro-prudential policy, monetary policy, fiscal incentives (e.g. mortgage interest payment tax deductions) and competition policy

Macro-prudential policy cycle
Policy implementation

Policy implementation

Guided discretion

Communication

Interaction with other policy areas

Macro-prudential policy cycle
Policy implementation – Rules versus discretion

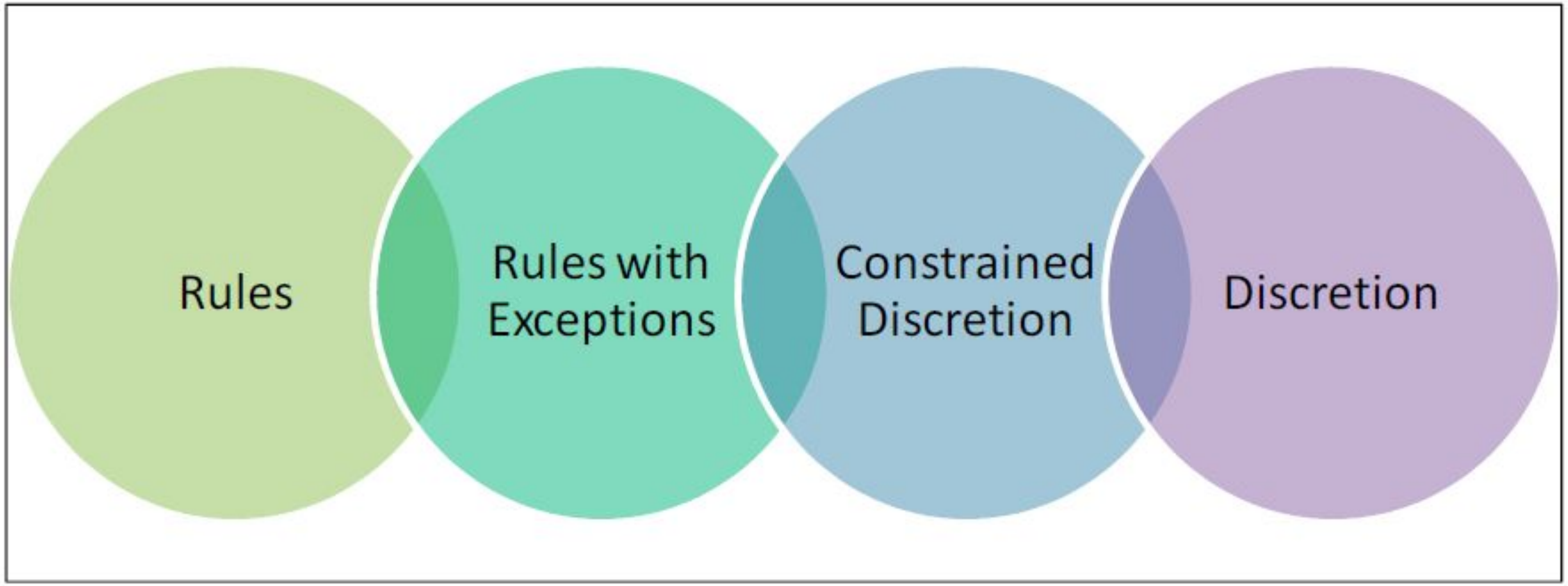
Rules	
Advantages	**Disadvantages**
• Transparent • Predictable • Easy to communicate • Relies on quantitative data • Macro-prudential authority can build up reputation (time consistency) • Eases expectation formation • Rules can act as automatic stabiliser • No need for continual justification or express decisions	• May be hard to design appropriate rules given inherent uncertainty • Rather static concept • Allows no discretion (may only achieve second-best) • Little experience with macro-prudential instruments (new experience may make it difficult to respect the rule) • Data may not be available, or available too late; lack of experience on choosing indicators • Indicators are influenced by policy areas other than macro-prudential policy (e.g. fiscal policy) • Difficult to measure success in achieving the ultimate objectives of macro-prudential policy, including the prevention and mitigation of systemic risks

Macro-prudential policy cycle

Policy implementation – Rules versus discretion

Discretion	
Advantages	Disadvantages
• Flexible tool, can be tailored to current situation • Can rely on qualitative data • Can allow decision-makers to learn from interactions between macro-prudential policy, the financial system and the economy over time • Ensures ability to react to unforeseen consequences	• Subjective judgement, less transparent • Risk of inaction bias • Discretionary policy can be time inconsistent • Can be open to pressure from outside

Macro-prudential policy cycle
Policy implementation - “Guided discretion”



Source: IMF (2011)

Macro-prudential policy cycle
Policy implementation - Communication

Communication is key to macro-prudential policy:

- Fosters understanding among the public
- Helps manage expectations
- Provides basis for accountability

Macro-prudential policy cycle
Policy implementation - Communication

Institutional framework	Systemic risk assessment	Activation of measures
▪ Mandate ▪ Objectives – overall and intermediate ▪ Governance ▪ Decision-making ▪ Powers and available instruments	▪ Risk identification and assessment ▪ Principles of guided discretion (possibly) ▪ Guiding indicators (possibly) ▪ Indicative thresholds (possibly) ▪ *Institutional framework (selected content)*	▪ **Operational features** - Scope of application - Level - Timing and phasing-in - Likely duration (possibly) ▪ **Rationale and transmission channel** ▪ *Systemic risk assessment (selected content)* ▪ *Institutional framework (selected content)*

Source: ESRB (2014)

Macro-prudential policy cycle

Policy implementation - Interaction with micro-prudential policy

	Macro-prudential	Micro-prudential
Overall objective	Stability of financial system ⇔	Stability of financial institutions
Address risks	System-wide, including: Excessive credit growth Excessive maturity mismatch Contagion Failing financial infrastructure	Institution specific, including: Credit risk Liquidity risk Market risk Operational risk Other institution-specific material risks
Monitoring	Top-down: Macro-indicators Macro-stress test	Bottom-up: Institution-specific indicators Micro-stress test Supervisory Review and Evaluation Process (SREP)
Prudential instruments	Add-on for systemically relevant/groups of institutions	Minimum requirements Institution-specific add-on
Expertise	Macro-finance	Micro-finance
Governance	Macro-prudential authority (including coordination at national and international levels)	Supervisor (including colleges of supervisors for cross-border banks)

Source: ESRB (2014)

Macro-prudential policy cycle

Policy implementation - Interaction with other policy areas

- Monetary policy
- Fiscal policy
- Macro-prudential policy
- Micro-prudential supervision

- Example for complimentary policy: Credit financed asset price increases, booming consumption and investments □

  Monetary policy and macroprudential policy tend to become more restrictive

- Example for potential conflict:

  Release of countercyclical capital buffer □

  Macroprudential policy aims at easing credit conditions, however reserves by banking supervisors

Macro-prudential policy cycle
Policy implementation

- Objectives of monetary policy are distinct, but complement each other
- Monetary policy can reinforce financial stability
- Monetary policy can also have undesirable effects on financial stability
- Macro-prudential policy can address such risks, which ultimately benefits monetary policy

-- > Right policy mix necessary

Macro-prudential policy cycle

Policy evaluation

Policy evaluation

Evaluation is key element of the policy cycle, even more so during the first years of implementation

Evaluation provides feedback on the effectiveness and efficiency of macro-prudential instruments

International organisations can play a useful role in evaluating macro-prudential policy across Member States

Macro-prudential policy framework for Europe
Coordination issues

- In order to arrive a holistic view on how to address systemic risks, cooperation between relevant authorities is needed; particularly, when different authorities are responsible for micro and macro-prudential supervision

- The presence of potential cross-border spillovers also necessitates EU-wide coordination of national macroprudential policy

- Coordination across borders can ensure that macroprudential measures apply to both domestic and foreign banks. Authorities should seek to ensure that both domestic and national banks face the same requirements for exposures in a particular country. This implies that foreign authorities voluntarily reciprocate macro-prudential measures imposed by the domestic macroprudental authority

- Before activating certain measures laid down in the CRD/CRR, authorities must notify the ESRB

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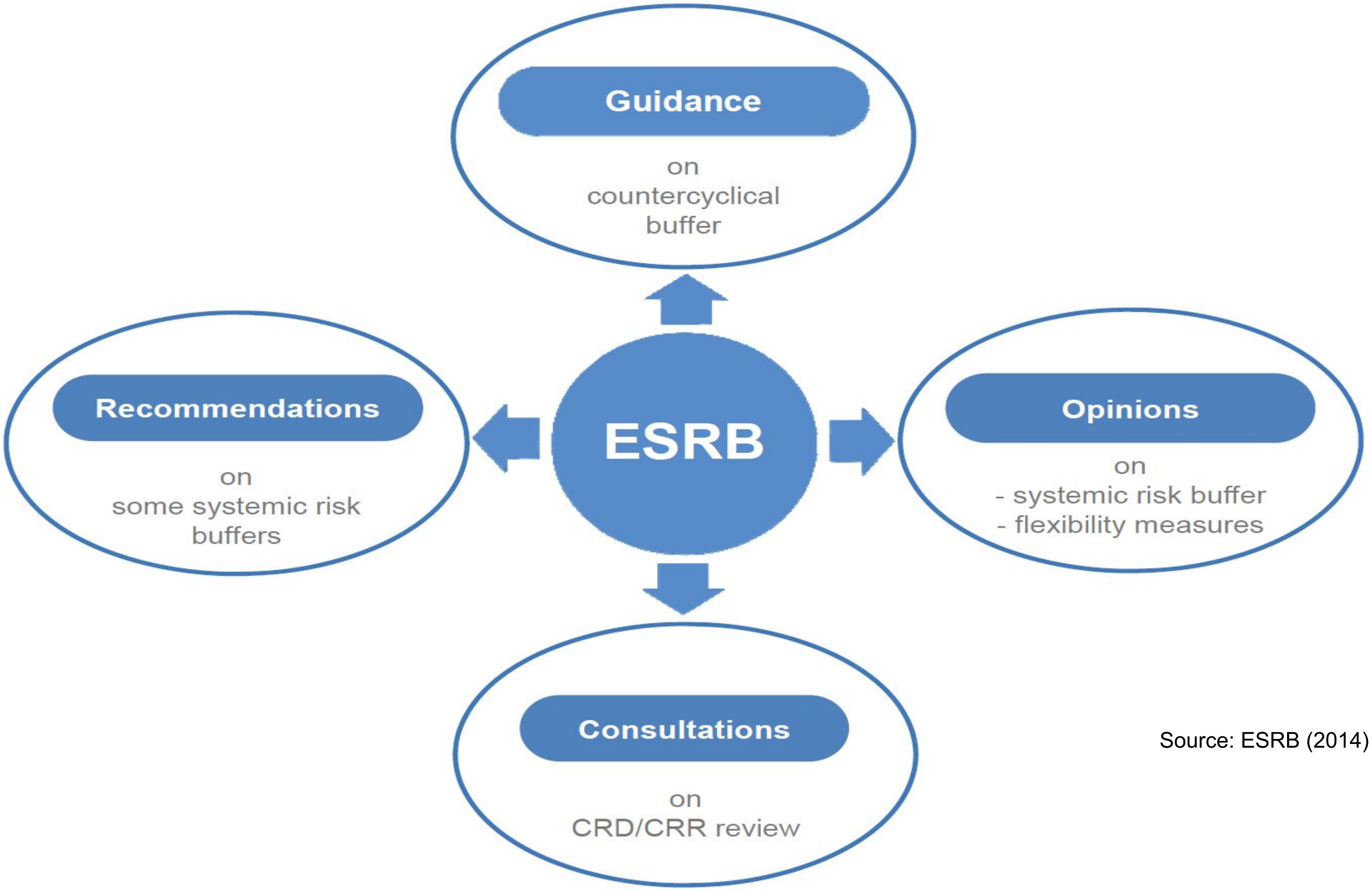
The role of the ESRB under the CRD/CRR



Source: ESRB (2014)

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The role of the ESRB under the CRD/CRR

Under the CRD/CRR, the ESRB is charged with issuing opinions and recommendations regarding the proper use of certain measures. This applies to the use of systemic risk buffer rates exceeding 3% (until 2015) and 5% (from 2015), as well as the use of national flexibility measures:

- **recommendations**: the ESRB must issue a "recommendation" when a Member State imposes a systemic risk buffer between 3% and 5%, provided there is at least one EU-owned foreign subsidiary in that Member State, When doing so, the ESRB must assess whether the measure is necessary, effective and proportionate, and whether the systemic risk cannot be adequately addressed by other measure(s);

- **opinion**: the ESRB must issue an opinion when authorities wish to use national flexibility measures. This opinion should cover the justification of effectiveness and proportionality of the measure, why other instruments in the CRD/CRR (alone or in combination) cannot adequately address the systemic risk and the likely impact on the internal market.

In order to ensure an efficient and timely process, the ESRB will publish notification templates for these macro-prudential instruments on its website. The templates will help to harmonise the notification process for Member States and assist the ESRB in assessing the appropriateness of the intended measures. Furthermore, the notifying authorities are asked to inform the Secretariat of an imminent notification in an informal manner, whenever possible five ECB working days prior to submitting the notification.

An ESRB Assessment Team will be created to assess and prepare ESRB opinions on macro-prudential policy measures notified to the ESRB. The Assessment Team will be composed of 13 permanent members (two representatives of the ESRB's Secretariat, one representative of the ECB, one of the SSM and nine representatives of different EU national central banks), three permanent observers (two representatives of the European Commission and one representative of the EBA). Jurisdictions which have notified a macro-prudential policy measure will be represented by two non-permanent observers. Institutions with a member in the General Board can also have one non-permanent observer, if they have material concerns regarding possible negative cross-border externalities of the notified measure.

Source: ESRB (2014)

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Looking ahead

Discussion

Key strategic directions for macro-prudential authorities

Developing a macro-prudential strategy

- Such strategy should be based on a sound analytical framework that links intermediate macro-prudential objectives

Developing a communication strategy

- Such strategy should cover the mandate, powers and instruments available to macro-prudential authorities as well as the and policy actions, and their likely

Ensuring adequate coordination mechanisms with the competent micro-prudential authorities

Improving availability, quality and comparability of data used for macro-prudential purposes

Strengthen systemic risk and policy analysis capabilities

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Thank you very much for your attention!

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