Flagship Report on Macro-prudential Policy in the Banking Sector

ESRB
European Systemic Risk Board
European System of Financial Supervision

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[1] This is a report by the ESRB Instrument Working Group chaired by Aerdt Houben (De Nederlandsche Bank). It builds on contributions from all of its members. It was drafted by a team led by Andrea Maechler (ESRB Secretariat) and comprising Andreas Strohm (European Commission), Olaf Weeken (ESRB Secretariat), and Peter Wierts (De Nederlandsche Bank).

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Preface

The entry into force of the new EU prudential rules for banks on 1 January 2014 gives the macro-prudential authorities in the EU a new set of policy instruments to address financial stability risks more effectively.

This will establish a common legal framework for macro-prudential policy across the EU. However, the application of macro-prudential policy is still in its infancy. Much of the analytical framework has yet to be developed.

The European Systemic Risk Board (ESRB) will contribute to this development. The Flagship Report provides a first overview of the new macro-prudential policy framework in the EU. The Report is accompanied by a more detailed Handbook which is aimed at assisting macro-prudential authorities to use the new instruments.

Frankfurt am Main, March 2014

Mario Draghi
ESRB Chair

1. A new macro-prudential framework for banks

1. **The EU is now ready to conduct macro-prudential policy**. The new prudential rules for the EU banking system came into force on 1 January 2014. They provide Member States with a common legal framework that includes a set of macro-prudential instruments. This structural innovation in EU policy-making was born out of the global financial crisis. It is a further cornerstone in the reform of the EU's financial system and forms part of the wider global reform agenda.

2. **Policy-makers have the tools to address risks to financial stability.** Previous crises have showed that the pursuit of price stability (via monetary policy) and sound financial institutions (via micro-prudential policy) was insufficient to safeguard the stability of the financial system. The identification of emerging vulnerabilities and associated financial stability risks by authorities did not provide adequate incentives to financial market participants to take action and mitigate these risks. This has led to the concept of macro-prudential policy, where risk assessments are complemented with specific instruments that enable authorities to directly address financial stability risks.

3. **The economic and social costs of financial crises are large.** Systemic banking crises have been a regular feature across the globe and have resulted in sizeable losses in GDP for the affected countries. The aim of macro-prudential policy is to reduce the probability and impact of such crises. Its benefits only accrue over time, while its implementation costs are immediately felt and visible. This leads to an inherent "inaction bias" that calls for an effective macro-prudential policy framework that fosters prompt and decisive policy action to address risks to financial stability.

4. **Europe still needs to emerge fully out of the crisis.** A key contribution of macro-prudential policy in the current phase is to promote the building up of buffers and the repair of balance sheets. Nonetheless, the use of macro-prudential instruments may be appropriate in the near future to mitigate, for instance, the risks associated with excessive leverage in some financial systems or concentrated exposures in some countries' real estate sectors. More generally, it will be important for macro-prudential policy to be in tune with wider policy initiatives, including micro-prudential, monetary and fiscal policy, in order to ensure its overall effectiveness.

5. **Several European countries have already activated macro-prudential instruments.** This reflects actions both inside and outside of the EU (see Table 1). With the new EU prudential rules providing a common macro-prudential policy framework for the EU banking sector, the use of macro-prudential instruments in the EU is expected to increase. This trend will be complemented by the international reform agenda, which is introducing new measures, such as capital surcharges for global systemically important institutions (G-SII).

6. **The institutional design of the macro-prudential policy framework continues to evolve.** At the national level, Member States have made substantial

progress in establishing macro-prudential authorities.[2] Similarly, at the supranational level, the Single Supervisory Mechanism (SSM) entrusts the ECB with important tasks and responsibilities beyond micro-supervision in the area of macro-prudential policy.[3] Since its institutional set-up is not yet complete, this Report and its companion Handbook – which focuses on the operationalisation of macro-prudential instruments – leave aside SSM-specific issues.

Table 1 Examples of use of macro-prudential instruments in Europe

Country	Instrument	Communication	Activation
Austria	Net new lending to local stable funding ratio (LLSFR) as a monitoring ratio	March 2012	December 2012
	Capital surcharge for large banking groups Guiding principles on foreign exchange lending Financial Market Authority (FMA) minimum standards for the risk management and granting of foreign currency loans and loans with repayment vehicles	March 2012 January 2010 September 2012	January 2016 April 2010 January 2013
Netherlands	Loan-to-value cap	April 2012	January 2013
	Capital surcharge for large banking groups	November 2011	January 2016
Norway	Loan-to-value cap	March 2010	March 2010
	Loss given default (LGD) floor on mortgages	October 2013	January 2014
	Countercyclical capital buffer	December 2013	July 2015
Sweden	Loan-to-value cap	July 2010	October 2010
	Macro-liquidity measure (liquidity coverage ratio)	June 2012	January 2013
	Risk-weight floor on mortgages	May 2013	May 2013
Switzerland	Sectoral countercyclical capital buffer	February 2013	September 2013

7. **The scope of macro-prudential policy is wider than banking**. In view of the new prudential rules that came into force in January 2014, this report focuses on macro-prudential policy in the context of the EU banking sector. Financial stability risks, however, can also arise from vulnerabilities that are building up in other parts of the financial system (for examplee.g.in the insurance sector, pension funds, financial infrastructures or shadow banking). Ultimately, macro-prudential policy will require a richer set of instruments to better prevent and mitigate financial stability risks stemming from the broader financial system, including those arising from risks migrating to other sectors, and from the wider economy. The ESRB, with its financial system-wide remit, is well placed to monitor developments across the financial system and propose measures when needed.

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[2] The ESRB is assessing the level of implementation of Recommendation ESRB/2011/3 requesting Member States to establish an authority in their respective jurisdictions in charge of the conduct of macro-prudential policy.

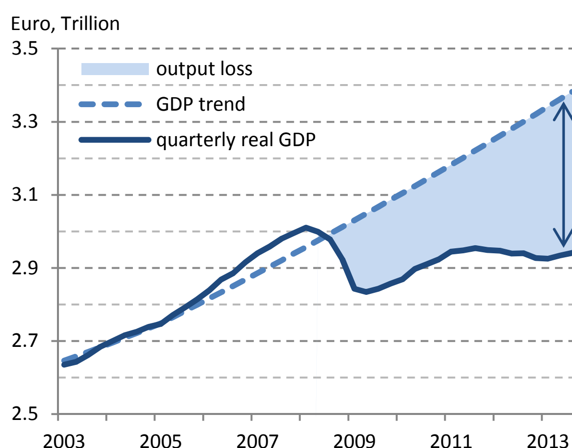
[3] Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions, OJ L 287, 29.10.2013, p. 63.

2. Europe is ready to start operationalising macro-prudential policy

2.1 A policy framework

8. **Systemic risks to financial stability are risks of disruption to the financial system with the potential to have serious consequences for the real economy.**[4] Between 1970 and 2011 there have been 147 episodes of systemic banking crisis around the globe and the costs to society have been large. For example, as a result of the global financial crisis, in advanced economies, the median cumulative loss in output relative to its pre-crisis trend has been 33% of GDP, the increase in public debt 21% of GDP and the direct fiscal costs 3.8% of GDP.[5] In the EU, GDP remains below its pre-crisis level and is around 13% below its pre-crisis trend (see the arrow in Figure 1). Cumulated over the whole period (see the coloured area in Figure 1), this would amount to the loss of half a year's worth of GDP. Moreover, compared with the end of 2007, an additional ten million people are now unemployed in the EU.

Figure 1 GDP losses in the EU as a result of the global financial crisis



Sources: Eurostat, own calculations.
Notes: The pre-crisis trend from which the projection for EU GDP was derived has been calculated using a Hodrick-Prescott filter. The trend estimate is based on quarterly GDP data from the first quarter of 1995 to the first quarter of 2005 at 2005 constant prices, thereby excluding the possibly excessive 2005-2009 pre-crisis years.

9. **Preventing and mitigating systemic risks to financial stability has become an explicit policy objective.** Before the financial crisis, authorities identified vulnerabilities and risks to financial stability in their financial stability reports. In some cases, authorities did not have the tools to address identified risks. In other cases, micro-prudential tools were thought sufficient to address systemic risk. Moreover, there was often an implicit assumption that creating awareness of the risks would be sufficient

[4] Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board.

[5] Laeven, L and Valencia, F (2013), "Systemic Banking Crises Database: An Update", *IMF Economic Review,* Vol. 61, pp. 225–270.

to mitigate them. This approach failed. The new approach is to use concrete macro-prudential instruments to address systemic risks to financial stability.

10. **Financial stability contributes to the smooth functioning of the internal market, which is a cornerstone of the sustainable development of Europe.** During the height of the European debt crisis, financial markets in the EU experienced substantial fragmentation threatening the proper functioning of the internal market. To prevent such episodes, macro-prudential policy instruments can now address systemic risks, while at the same time respecting the harmonised micro-prudential minima.

11. **Policy intervention is also justified by market failures and unintended consequences arising from other policy fields.** The ESRB Recommendation (2013) maps market failures – including externalities such as those related to fire sales and interconnectedness – into intermediate policy objectives.[6] Moreover, experience shows that policies aimed at addressing other objectives – including fiscal incentives such as tax deductions – may adversely have an impact on financial stability.

12. **To make macro-prudential policy operational, intermediate macro-prudential objectives need to be specified.**[7] The ESRB has identified four intermediate objectives relevant to the banking sector (ESRB/2013/1).[8] These objectives act as operational specifications to the ultimate objective of achieving financial stability. They aim at preventing/mitigating systemic risks to financial stability that follow from:

- **excessive credit growth and leverage.** Excessive credit growth has been identified as a key driver of asset price bubbles and subsequent financial crises, with leverage acting as an amplifying channel;
- **excessive maturity mismatch and market illiquidity.** Reliance on short-term and unstable funding may lead to fire sales, market illiquidity and contagion when the financial cycle turns;
- **direct and indirect exposure concentrations.** Exposure concentrations make a financial system (or part of it) vulnerable to common shocks, either directly through balance sheet exposures or indirectly through asset fire sales and contagion;
- **misaligned incentives and moral hazard.** This includes risks associated with systemically important financial institutions and the role of implicit government guarantees.

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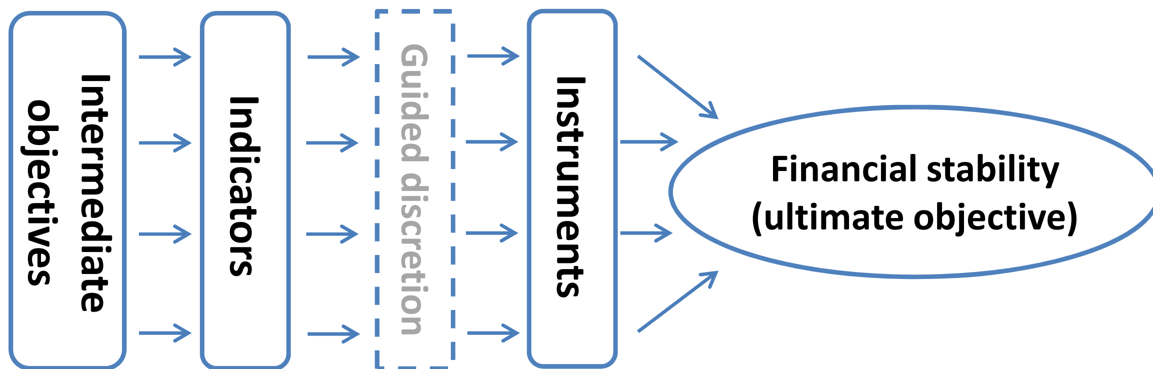
[6] ESRB Recommendation of 4 April 2013 on intermediate objectives and instruments of macro-prudential policy.

[7] See, for example, IMF (2013), "Key Aspects of Macroprudential Policy", *IMF Policy Paper*, June, p. 9 and p. 29.

[8] The ESRB Recommendation of 4 April 2013 on intermediate objectives and instruments of macro-prudential policy also includes a fifth objective on strengthening the resilience of financial infrastructures. This objective has been omitted from the report because it does not fall directly within the narrower scope of the macro-prudential framework provided for under the new EU prudential rules for banks.

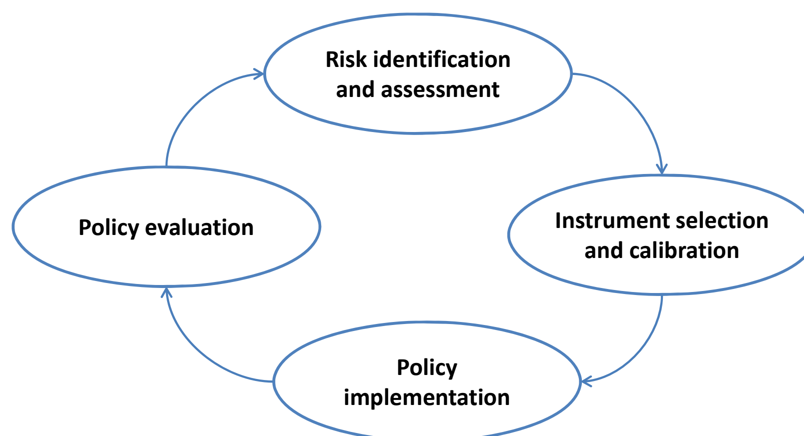
13. **A macro-prudential policy strategy relates objectives to indicators and instruments**. Indicators help identify the risks and assess their severity, while the instruments help mitigate the materialisation of these risks. Narrowing down the list of possible indicators and identifying indicative thresholds to guide the activation or de-activation of an instrument are important areas of ongoing work. Combined with the exercise of sound judgement in the activation or de-activation of macro-prudential instruments and insights into their transmission mechanism, this defines the policy strategy (See Figure 2).

Figure 2 Macro-prudential policy strategy



14. **The implementation of the macro-prudential policy strategy follows four stages.** These stages make up the policy cycle (see Figure 3) and include: (i) the risk identification stage, where relevant indicators help detect and assess vulnerabilities (relative to the intermediate objectives) and where indicative thresholds can be used to help guide policy; (ii) the instrument selection and calibration stage; (iii) the implementation and communication stage, where instruments are activated; and (iv) the evaluation phase, where the impact of instruments is assessed in view of possible adjustment/de-activation. This Report and its accompanying Handbook are aimed at helping Member States to better understand and operationalise each stage.

Figure 3 Macro-prudential policy cycle



a) Risk identification and assessment

15. **"Key indicator books" help to monitor and assess sources of systemic risks.** Central banks undertake regular risk assessments, such as those reported in their financial stability reports, to identify the sources of systemic risks and their transmission channels. These assessments are typically based on a broad range of information and analytical methods, including macro-prudential stress tests. 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.

16. **Key indicator books should include estimates of the financial cycle.** Insight into financial cycles has increased markedly over the past years. Available evidence for major economies suggests that the financial cycle is most parsimoniously described in terms of credit and property prices; it tends to have a lower frequency than the traditional business cycle, and its peaks are closely associated with financial crises.[9] Information about the stage and direction of the financial cycle is crucial for assessing vulnerabilities in real time.

17. **Macro-prudential authorities may want to identify indicative thresholds that signal the need for action.** Predicting when the financial cycle turns and/or financial crises occur is difficult and requires judgement. Indicative thresholds for indicators can signal the build-up of vulnerabilities and guide such judgement. They should be complemented with a thorough assessment of risks associated with an indicator breaching a threshold. Such an assessment will help authorities to judge whether or not mitigating action is required.

18. **A methodology is being designed to help identify key indicators and their related thresholds**. While much of the work is being undertaken in the context of the countercyclical capital buffer, the methodology (together with the associated models and dataset) can in principle be adapted to select key indicators for other instruments. As a first step, the signalling properties of indicators with respect to the types of systemic risk an instrument is designed to mitigate are evaluated across a range of thresholds. Possible thresholds for indicators are then identified based on policy-makers' preferences about the inherent trade-off between missing crises (if thresholds are set high) and receiving false alarms (if thresholds are set low).[10]

19. **Preliminary analysis points to benefits from combining indicators.** For instance, it confirms the relevance of measures of (sectoral) credit growth as indicators for future banking and real estate crises, especially in combination with asset price growth. It also finds that indicators related to the market price of risk and banks' balance sheets are likely to be important. Work on indicators to assess

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[9] Borio, C (2012), "The financial cycle and macroeconomics: what have we learnt?", *BIS Working Papers*, No 395, BIS, December.

[10] See, for example, Alessi, L and Detken, C. (2011), "Quasi real time early warning indicators for costly asset price boom/bust cycles: a role for global liquidity", *European Journal of Political Economy*, Vol 27(3), 2011.

excessive maturity mismatch is less advanced but highlights the need for a sound structural funding ratio and short-term liquidity indicators. Analysis also shows the relevance of the size of SIFIs as a proxy for future bank losses. Preliminary findings are summarised in Table 2.

Table 2 Mapping objectives into indicators – preliminary findings

	Preventing/mitigating risks to financial stability that arise from:				
Intermediate objectives	**Excessive credit growth and leverage**		**Excessive maturity mismatch and market illiquidity**	**Exposure concentration**	**Misaligned incentives**
Systemic risk indicators	Credit-to-GDP gap	Housing credit, housing prices	Structural funding ratio (e.g. the net stable funding ratio (NSFR)), short-term liquidity stress indicators	To be tested: indicators for large exposures, interconnectedness, price contagion	Size, complexity, substitutability and interconnectedness of systemically important financial institutions (SIFIs)

20. **The release phase may necessitate additional indicators.** Time-varying macro-prudential instruments would be expected to be released as risks abate or the financial cycle turns. This may call for a somewhat different set of indicators. For example, the level of credit in an economy would be slow to adjust, and policy-makers may want to refer to growth rates as well as market-based indicators. Financial market prices have been found helpful in judging when macro-prudential instruments should be de-activated or reduced.

21. **Indicators should be interpreted with care**. Statistical relationships can break down owing to structural innovations in the banking system. For example, the vulnerabilities leading up to the global financial crisis were largely missed because the risks from wholesale funding, which had become a significant source of funding, were underestimated. After the crisis, funding patterns are likely to change again, possibly moving through new channels. Thus, indicators that predicted a previous crisis may not be useful in in predicting the next crisis. Moreover, indicators may issue misleading signals when policies are directed at them (Goodhart's Law). It is therefore important to complement the analysis of key indicators with other data, including by monitoring broader indicator sets, undertaking conversations with market participants and making use of supervisory and monetary information.

b) Instrument selection and calibration

22. **The selection and calibration of macro-prudential instruments must reflect the underlying sources of risk.** Table 3 lists, for each intermediate objective, key instruments and their broad transmission channels. Some instruments are system-wide (e.g. the countercyclical buffer), while others are sector-specific or address groups of institutions (e.g. sectoral risk weights or Pillar 2 instruments). Some instruments are aimed at altering the incentives of lenders (e.g. capital instruments), while others directly affect borrowers (e.g. loan-to-value and loan-to-income ratios). Some instruments operate as restrictions on banks' balance sheets (e.g. capital instruments, funding restrictions and large exposure limits), while others work through market discipline (e.g. higher disclosure requirements).

Table 3 Mapping objectives into instruments – preliminary findings

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.	

Notes: This list of instruments is non-exhaustive. Moreover, instruments need not be limited to the assigned risk categories. For example, the SRB could also be used to mitigate risks other than those arising from misaligned incentives. Conversely, not all instruments will work equally well in addressing the risks they are associated with. For example, the countercyclical capital buffer may better address risks associated with excessive credit growth than those associated with excessive leverage. The transmission channels capture the primary effects of the instruments. Disclosure requirements can be used as a complementary instrument for all intermediate objectives to improve risk pricing and market functioning through transparency. Instruments and acronyms are described in Section 2.2.

23. **The selection of instruments must account for possible cross-border spillovers, both positive and negative, and unintended effects (e.g. "leakages").** Many banks' activities transcend national borders. Macro-prudential policy is therefore subject to leakages and spillovers across borders. For example, capital buffers can improve the resilience of the financial system domestically and in highly interconnected financial systems (positive spillovers); alternatively, they could also lead to lower cross-border lending (negative spillovers). Furthermore, the ability to circumvent macro-prudential measures complicates macro-prudential policy.[11] Some unintended effects can be mitigated through reciprocity agreements between macro-prudential authorities that result in the same constraints applying to national and international banks and ensure a level playing field.[12]

24. **Macro-prudential instruments can dampen both the upswing and the downswing of the financial cycle.** They can dampen the upswing of the financial

[11] Such uncertainties about the transmission mechanism and policy effectiveness are not unique to macro-prudential policy. They are well-known also to fiscal policy and monetary policy, as lessons about the difficulty of "fine-tuning" show.

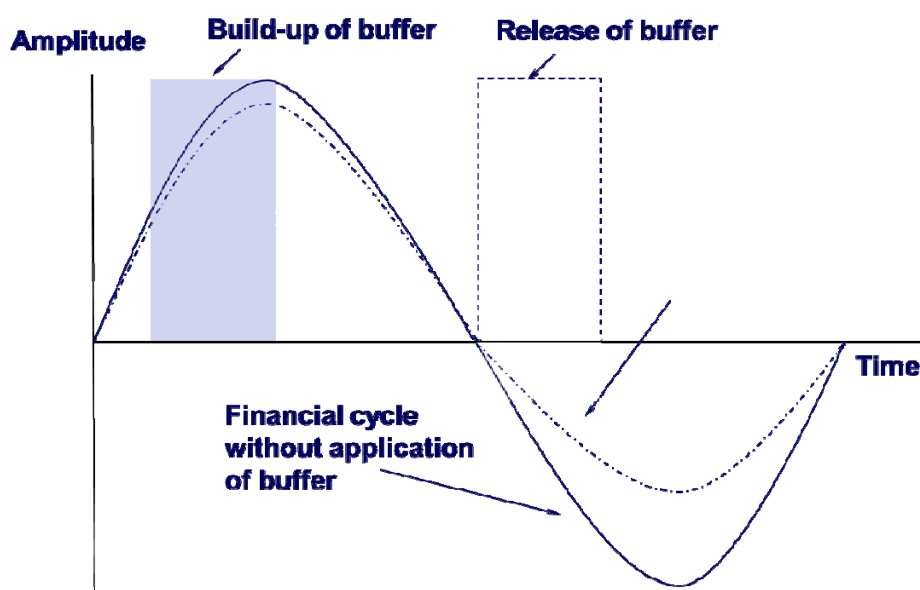
[12] Such reciprocity arrangements are, for example, part of the countercyclical capital buffer; buffer rates of up to 2.5% set by one authority apply to EU banks with relevant exposures to that country.

cycle by reducing the build-up of vulnerabilities and they can dampen the downswing of the financial cycle by increasing the resilience of the banking system. Figure 4 illustrates the channels of this transmission mechanism. For example, by increasing banks' cost of capital, the build-up of a capital buffer (shaded rectangle) tends to slow credit growth and thus dampen the upswing of the cycle. Releasing a buffer in the downswing (dashed rectangle) helps dampen the downswing of the cycle, as banks' greater resilience allows them to smooth the provision of credit to the economy.

25. **The stance of macro-prudential policy must reflect financial cycles and structures, which can differ markedly across Member States.** The behaviour of financial cycles and related build-ups of systemic risks often remain local in nature. Yet Member States may have limited scope to influence their domestic macroeconomic conditions. Macro-prudential policy is especially important in a currency union such as the euro area or for countries that peg their currency to the euro, given the absence of country-specific monetary and/or exchange rate policies.

26. **Calibrating macro-prudential instruments to dampen the upswing of the financial cycle will be challenging.** An increase in resilience is often easier to quantify and assess. For example, other things being equal, a banking system with €1 more capital will be able to absorb €1 extra of losses. By contrast, the impact of €1 more capital in the banking system on credit growth is difficult to assess. This makes calibrating and assessing the effectiveness of policy measures aimed at reducing the build-up of vulnerabilities difficult. Nonetheless, macro-prudential authorities must be able to assess their broad position in the financial cycle as systemic risks are magnified by pro-cyclicality.

Figure 4 Stylised transmission of buffers over the financial cycle



27. **Macro-prudential stress tests support the calibration of instruments.** Indicators can provide signals to activate instruments, but do not speak directly to the

level at which an instrument should be set without further modelling. The scenarios on which stress tests are based can be designed such that key indicators would exceed their indicative thresholds. The estimated losses arising from the stress can provide guidance when calibrating instruments to increase banks' resilience to shocks.

28. **Key policy messages on the use of macro-prudential instruments from the companion Handbook to this report are summarised in Box 1.**

Box 1 Macro-prudential instruments – key findings

Excessive credit growth and leverage

- **Capital buffers help mitigate risks from excessive credit growth and levels.** The countercyclical buffer is a broad-based instrument designed to counter pro-cyclicality in the financial system arising from excessive credit growth. The leverage ratio requirement could also be changed over time to maintain its function as a backstop. Sectoral capital requirements address the build-up of vulnerabilities in a specific sector.
- **Quantitative limits on loan-to-value (LTV)/loan-to-income (LTI) ratios create buffers at the level of borrowers.** For example, ample evidence confirms the relevance of real estate bubbles for financial stability, and Member States should be able to use these ratios as macro-prudential instruments. Moreover, these instruments may also be useful for dampening a boom in consumption lending, such as loans for car purchases or loans via credit cards. Concerted efforts are needed to improve the availability, quality and comparability of LTV/LTI data, which convey important information on mortgage lending practices.

Excessive maturity mismatch and market illiquidity

- **Well-designed micro-prudential liquidity instruments (in particular a sound NSFR) help to address systemic liquidity risks**. A time-varying macro-prudential use of such instruments could address variations in liquidity risk over the financial cycle. Simpler structural liquidity ratios (such as the loan-to-deposit and core funding ratio) are promising both in their role as indicators and as instruments. Higher haircuts on collateralised financing can help limit leverage and thereby a rise in asset prices during the upswing of the financial cycle, while the release of those stricter haircut requirements can help prevent liquidity squeezes in the downswing of the financial cycle.

Direct and indirect exposure concentration

- **Stricter large exposure requirements and sectoral capital requirements on intra-financial exposures can be used to address interconnectedness and contagion.** These instruments can only be applied if other instruments, such as those under Pillar 2 or the systemic risk buffer, do not adequately address the identified systemic risk. At present, indicators and instruments capturing the systemic risk associated with contagion through market price fluctuations are to be fully developed; the ESRB is supporting this effort.

Misaligned incentives and moral hazard

- **Capital surcharges for systemically important institutions should reflect the potential losses to society of systemic risk from large and interconnected institutions.** The other systemically important institutions (O-SII) buffer is capped at 2% of Risk Weighted Assets (RWA). If needed, national authorities may use the systemic risk buffer to address systemic risks that cannot be sufficiently mitigated through the O-SII requirement. The systemic risk buffer is a flexible instrument that can be used in response to structural vulnerabilities, including the level of private debt or the size of the banking sector.

c) Policy implementation

29. **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.

On "guided discretion"

30. **Policy-makers need to overcome the inaction bias.** This is because the costs of activating a policy are short-term and visible, while the benefits are long-term and invisible. For example, increasing the countercyclical capital buffer rate imposes costs on banks, while the lack of a counter-factual makes it difficult to demonstrate that the instrument will successfully reduce the likelihood and impact of a systemic crisis. As a result, authorities may be too slow to activate macro-prudential instruments. In a downturn, policy-makers may also be too slow to reduce or fully release buffers.

31. **In theory, a strictly rules-based approach would mitigate the risk of inaction bias.** Such an approach requires reliable indicators and threshold values. In practice, the indicators and thresholds are unlikely to fully capture the identified risks. Macro-prudential policy is relatively new and its analytical foundations are still in their infancy. Furthermore, financial systems evolve over time through innovation. It will therefore be necessary for the authorities to use their judgment in covering new and evolving types of risk.

32. **The principle of "guided discretion" developed for the countercyclical capital buffer could serve as a model for other instruments.** In the light of the uncertainties surrounding indicators, a combination of rules-based principles and discretion is needed for guiding national macro-prudential policy decision-making. According to the guided discretion approach, the use of judgment would be firmly anchored by a clear set of principles supported by indicators and their thresholds. This promotes sound decision-making, while the ultimate use and design of the instrument would remain under the responsibility of the macro-prudential authority.

On communication

33. **Communication is key to macro-prudential policy.** It fosters understanding among the public, helps manage expectations and provides the basis for accountability. In practice, the rationale for the activation/release of a macro-prudential instrument should be clear to banks and other stakeholders, preferably supported by key indicators. Information should also include: (i) the intermediate

objective (e.g. the source of systemic risk); (ii) a description of the measure (e.g. design of the instrument(s), scope of application and timing); and (iii) information on the likely transmission mechanism from measure to objective.

On the interaction with micro-prudential policy

34. **Macro- and micro-prudential policy perspectives both contribute to building a more robust and sustainable financial system.** The former focuses on the stability of the financial system as a whole, while the latter focuses on the soundness of individual financial institutions. Both perspectives are needed. Indeed, the system as a whole cannot be made safer simply by trying to make individual banks sound. It is, for instance, possible that attempts by individual institutions to remain solvent (e.g. by selling risky assets) can cause the system to collapse (e.g. by creating fire sales at the system level).[13]

35. **The two perspectives also reinforce each other in terms of risk monitoring and policy design**. Conceptually, intermediate macro-prudential objectives for the financial system relate to financial risks for individual financial institutions (see Table 4).[14] For example, endogenous credit and liquidity cycles in the financial system coincide with a build-up of credit and liquidity risk in individual institutions. Likewise, fluctuations in market prices (market risk for individual institutions) can lead to contagion across the financial system.

[13] This is also referred to as the "fallacy of composition". See Brunnermeier, M. et al. (2009), "The Fundamental Principles of Financial Regulation", *Geneva Reports on the World Economy*, No 11, and Schoenmaker, D. (2013), "An Integrated Financial Framework for the Banking Union: Don't Forget Macro-prudential Supervision", European Commission, Directorate-General for Economic and Financial Affairs, *Economic Papers,* No 495, April.

[14] See also Table 1 in Borio, C. (2003) "Towards a Macroprudential Framework for Financial Supervision and Regulation?", *CESifo Economic Studies*, Vol. 49, pp. 181-215, which stresses that the macro-prudential approach is more endogenous, depends on collective behaviour and focuses more on correlations and common exposures across firms.

Table 4 Macro- and micro-prudential – reinforcing perspectives

	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)

36. **Differences can exist between the macro-prudential and micro-prudential perspectives.** During a downturn, the desire to increase the capital buffers of individual banks to protect them against future credit losses (a micro-prudential concern) can – in aggregate – have negative pro-cyclical effects on credit growth to the economy (a macro-prudential concern). Similarly, during the upturn, the need to address the build-up of risk in the banking system may contradict the perceived soundness of individual banks. A clear hierarchy of objectives would provide guidance on how to resolve differences.[15]

37. **Decision-making that internalises all costs and benefits can bridge these differences.** In several cases, macro-prudential instruments are add-ons to existing micro-prudential regulatory requirements, without reflecting idiosyncratic differences across individual institutions. In other cases, overlap exists. For example, the Supervisory Review and Evaluation Process (SREP) is primarily micro-prudential but incorporates macro-prudential elements under the new EU prudential rules. Cooperation is therefore needed between macro-prudential and micro-prudential authorities to come to a holistic view on how to address systemic risks and apply appropriate measures reflecting both systemic and institution-specific risk.

[15] See, for example, Kremers, J.M. and Schoenmaker, D. (2010) "Twin Peaks: Experiences in the Netherlands", *Special Paper*, No 96, LSE Financial Markets Group, London and Hanson, Kashyap, A.K. and Stein, J.C. (2011) "A Macro-prudential approach to Financial Supervision", *Journal of Economic Perspectives*, Vol. 25(1), pp. 3-28.

38. **Cooperation between macro-prudential and micro-prudential policies could contribute to support policy effectiveness and evaluation.** On-site examination by the micro-prudential authorities could be helpful for macro-prudential authorities in assessing the implementation of macro-prudential policy decisions, in particular by identifying areas of potential regulatory arbitrage. This could ultimately enhance policy effectiveness.

On the interaction with monetary policy

39. **The objectives of monetary and macro-prudential policy are distinct, but complement each other.** The objective of monetary policy is typically articulated in terms of price stability. However, price stability cannot be maintained in an unstable financial system. Equally, financial stability – the objective of macro-prudential policy – cannot be maintained when inflation is out of control.

40. **Monetary policy can reinforce financial stability.** Monetary policy operates through tightening or loosening *aggregate* financial conditions that affect the business cycle. The monetary policy instrument through which this is typically achieved is a short-term policy interest rate. If the business cycle and the financial cycle are synchronised, such a tightening or loosening tends to reinforce the intermediate objectives pursued by macro-prudential policy. For example, during a cyclical upswing, higher policy rates aimed at reducing the risk of rising inflation also tends to reduce excessive credit growth.

41. **Monetary policy can also have undesirable side effects on financial stability.** Since the financial cycle has a lower frequency than the business cycle, there will be times when monetary policy may have undesirable side effects that affect intermediate macro-prudential objectives. For example, low policy rates consistent with the pursuit of price stability may lead to asset price bubbles that could pose risks to financial stability.

42. **Macro-prudential policy can address such risks, which ultimately benefits monetary policy.** Macro-prudential instruments can be more targeted than monetary policy instruments. Macro-prudential policy can thus tighten or loosen financial conditions in specific markets or segments. Monetary policy-makers may want to consider the effects of macro-prudential instruments on the aggregate transmission mechanism. However, ultimately, it is necessary to find a policy mix that addresses the undesirable side effects of monetary policy without compromising monetary policy objectives.

On the interaction with fiscal policy

43. **The implementation of select macro-prudential policies interacts with fiscal policies.** For example, fiscal measures such as mortgage interest payment tax deductions can offset or distort the impact of macro-prudential policies targeting the real estate sector. Moreover, some real estate instruments (e.g. LTV/LTI caps) are not covered by the scope of the new EU prudential rules and must thus be based on national laws. This further reinforces the need for policy coordination.

d) Policy evaluation

44. **Evaluation is a key element of the policy cycle, even more so during the first years of implementation.** First experiences with implementation will provide ample scope for learning from experience. Evaluation helps to refine all stages of the policy cycle: risk identification and assessment, instrument selection and calibration, and policy implementation.

45. **Evaluation provides feedback on the effectiveness and efficiency of macro-prudential instruments.** The impact of instruments should be assessed against their stated objectives. Such an assessment needs to encompass both domestic and cross-border effects, as well as the degree of leakage and the extent to which measures were circumvented. As a result, understanding of the transmission mechanism will increase, and decision-making and accountability will improve.

46. **International organisations can play a useful role in evaluating macro-prudential policy across Member States.** Internal evaluations are useful and necessary as they can help organisational learning and improved implementation. External evaluations, such as those regularly performed by some international organisations, for example the International Monetary Fund, provide a useful complementary perspective. External evaluators are at more of a distance from the actual decision-making process and can bring international best practices and specialised skills to evaluate the implementation of macro-prudential policy across a large number of countries.

2.2 The instruments

47. **The new EU prudential rules for the banking sector provide a number of instruments to enable national authorities to address risks to financial stability**. Different instruments provide different degrees of national flexibility in their application. Instruments under the Directive (CRD)[16] are to be transposed into national law, while those provided for in the Regulation (CRR)[17] become EU law with immediate effect. Table 5 provides an overview of instruments under the CRD/CRR for macro-prudential use. It also includes additional instruments based on national law, e.g. borrower-based lending limits.

a) Instruments under the CRD

48. The instruments under the CRD are mostly capital buffers, defined as Common Equity Tier 1 (CET1) over risk-weighted assets. In addition, the macro-prudential use of Pillar 2 allows a broader set of measures.

[16] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institution and the prudential supervision of credit institution and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC, OJ L 176, 27.6.2013, p. 338.

[17] Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012, OJ L 176, 27.6.2013, p. 1.

(a) **The countercyclical capital buffer (CCB).** This buffer is designed to counter pro-cyclicality in the financial system. The buffer will be between 0% and 2.5% of risk-weighted assets, but can be set higher when justified by the underlying risk. It increases resilience and thereby supports the sustainable provision of credit to the economy during the downturn and may help dampen excessive credit growth during the upturn. In line with the internationally agreed Basel III framework, national authorities should follow a set of principles and calculate a reference rate as a benchmark to guide their judgement. The CCB can be applied from 2014 and becomes mandatory from 2016.

(b) **The global systemically important institutions (G-SII) buffer** is a mandatory capital buffer for banks identified as being of global systemic importance. The surcharge will be between 1% and 3.5% of risk-weighted assets and will be gradually phased in between 1 January 2016 and 1 January 2019.

(c) **The other systemically important institutions (O-SII) buffer** enables authorities to impose capital charges on domestically important institutions, as well as on other systemically important institutions not designated as G-SII. A notification procedure and a 2% upper limit are imposed. The O-SII buffer is discretionary and can be applied from 1 January 2016.

(d) **The systemic risk buffer (SRB).** The SRB is designed to prevent and mitigate structural systemic risks, including excessive leverage. It is a flexible instrument that can be applied to all or to a subset of banks and is subject to a notification requirement for buffer rates up to 3%. Above that rate, until 2015 authorisation by the European Commission is required after the EBA and ESRB have provided opinions. From 2015 the procedure will become more differentiated depending on the scope, geographic exposure and level of the SRB.

(e) **Macro-prudential use of Pillar 2**. Pillar 2 provides a broad set of supervisory instruments, which can also be used to address systemic risks, including systemic liquidity risks. It allows competent authorities to tighten prudential requirements when the SREP shows that a specific bank (or group of banks) is contributing to systemic risks. To ensure a holistic approach to mitigating systemic risk, close collaboration is needed between micro-prudential and macro-prudential authorities. This is particularly important in the context of the SREP, since the systemic risks that would be considered in the SREP would typically have been identified by macro-prudential authorities.

b) Instruments under the CRR

(f) **"National flexibility measures"** are a special set of measures allowing national authorities to impose stricter prudential requirements in order to address systemic risks. They include the level of own funds, large exposure limits, public disclosure requirements, the level of the capital conservation buffer, liquidity requirements, risk weights for the residential and commercial property sectors, and measures for intra-financial sector exposures. These

instruments may only be used if the national authority can establish that the measure is necessary, effective and proportionate and other specified measures cannot adequately address the systemic risk. The instruments are subject to a notification and non-objection process.[18]

(g) **Real estate-related instruments, including sectoral risk weights**. For exposures secured by mortgages on immovable property, competent authorities may set higher risk weights (up to 150%) and impose stricter loss given default (LGD) parameters. One of the operational challenges is the possible overlap between micro-prudential and macro-prudential measures, calling for close cooperation between these authorities.

c) Other instruments under national legal frameworks

(h) **Borrower-based lending limits**. Member States can use macro-prudential instruments that are not covered by the scope of EU legislation. This includes instruments such as loan-to-value (LTV), loan-to-income (LTI) and debt service-to-income (DSTI) limits in order to dampen a boom in real estate mortgage lending or to curb excessive consumption lending (for example loans for car purchases or loans via credit cards), and liquidity instruments such as loan-to-deposit (LTD) limits. These instruments are based on national law.

(i) **Leverage ratio.** Member States can implement a leverage ratio based on national law.

[18] The ESRB and EBA must issue opinions within one month of a national authority providing notification of implementation. Taking account of these opinions, the European Commission may then, within one month, propose to the European Council to reject the measure. The Council has one month to decide whether or not to reject the measure.

Table 5 Instruments under the CRD/CRR for macro-prudential use

Instruments under the CRD					Instruments under the CRR			Other
Countercyclical capital buffer (CCB)	**Systemically important institution (SII) buffer**	**Systemic risk buffer (SRB)**	**Liquidity requirements under Pillar 2**	**Other macro-prudential use of Pillar 2**	**Higher requirements on capital / liquidity / large exposures / risk weights**	**Higher real estate risk weights and stricter lending criteria**	**Higher minimum exposure-weighted average LGDs**	**Including LTV/LTI/DSTI and LTD limits and a leverage ratio**
CRD 130, 135-140	CRD 131	CRD 133 and 134	CRD 105	CRD 103	CRR 458	CRR 124	CRR 164	National legal framework
Mandatory buffer: Member States have to decide on a buffer rate informed by a buffer guide based on the credit-to-GDP gap. Other relevant variables also have to be considered. Member States can decide to apply the CCB from 2014 and must apply it from 2016. Mandatory reciprocity up to a buffer rate of 2.5% applies from 2019.	1) Mandatory surcharge for global systemically important banks (G-SII) applicable from 2016. A surcharge between 1% and 3.5% of RWAs, depending on the degree of systemic importance of an institution. 2) Optional surcharge for other SIFIs (O-SII) applicable from 2016. A surcharge up to 2% of RWAs. 3) Combination rules between G-SII and O-SII buffers and the SRB ensure a floor/cap on all three buffers at the consolidated and subsidiary level.	Optional buffer on all or a subset of institutions. Until 2015 the competent or designated authority can set a buffer between 1% and 3% subject to notification to the European Commission, EBA and ESRB. An SRB above 3% requires authorisation by the European Commission after the EBA and ESRB have provided opinions. From 2015, the same authorisation is required for an SRB of above 3% on exposures in other Member States and of above 5% on local and third country exposures.	Optional: Competent authorities may impose specific requirements to address systemic liquidity risks. These include administrative penalties, including prudential charges that relate to the disparity between the actual liquidity position and any liquidity and stable funding requirements.	Optional: Competent authorities have the power to impose additional requirements on institutions with similar risk profiles in a similar manner if – inter alia – they pose similar risks to the financial system. These requirements include own funds and additional disclosures.	Optional: National authorities may apply stricter rules for a number of selected measures subject to an EU procedure. It has to be established that the measure is necessary, effective and proportionate, and that other specified measures cannot adequately address the systemic risk. These measures are subject to a notification and non-objection process, with the Council having the final decision on whether to block a measure if objections are raised.	Optional: Competent authorities can set higher risk weights up to 150% based on financial stability considerations, taking into account loss experience and forward-looking market developments.	Optional: Competent authorities can set higher minimum exposure-weighted average LGDs (no upper limit) based on financial stability considerations, taking into account loss experience and forward-looking market developments. Applies only to retail exposures.	Optional: Member States can assign macro-prudential instruments that are not covered by the scope of EU legislation. This includes instruments, such as LTV/LTI/DSTI limits (e.g. to dampen a boom in real estate mortgage lending or to curb excessive consumption lending), liquidity instruments, such as LTD limits, and a leverage ratio. These instruments are based on national law.

3. The role of the ESRB

49. **The ESRB has been acting as a catalyst to set up a macro-prudential framework in the EU.** In 2012 the ESRB issued a recommendation to Member States proposing that they establish national authorities with a macro-prudential mandate. In 2013 the ESRB issued a recommendation to Member States that they should provide the macro-prudential authorities with macro-prudential instruments that can be used to achieve each of the intermediate objectives of macro-prudential policy.[19] The ESRB will continue to monitor the implementation of these recommendations and, where needed, develop further guidelines and best practices.

50. **The companion Handbook to this report takes a further step in operationalising macro-prudential policy.** It sets out a policy framework that links intermediate objectives, key indicators and macro-prudential instruments. It aims to support macro-prudential authorities in developing their own policy strategies.

51. **Now that the CRD/CRR is in force, the ESRB is charged with a number of new tasks**.[20] These include providing guidance, opinions and recommendations on selected macro-prudential instruments, as well as participating in the consultation on the next CRD/CRR review (see Figure 5):

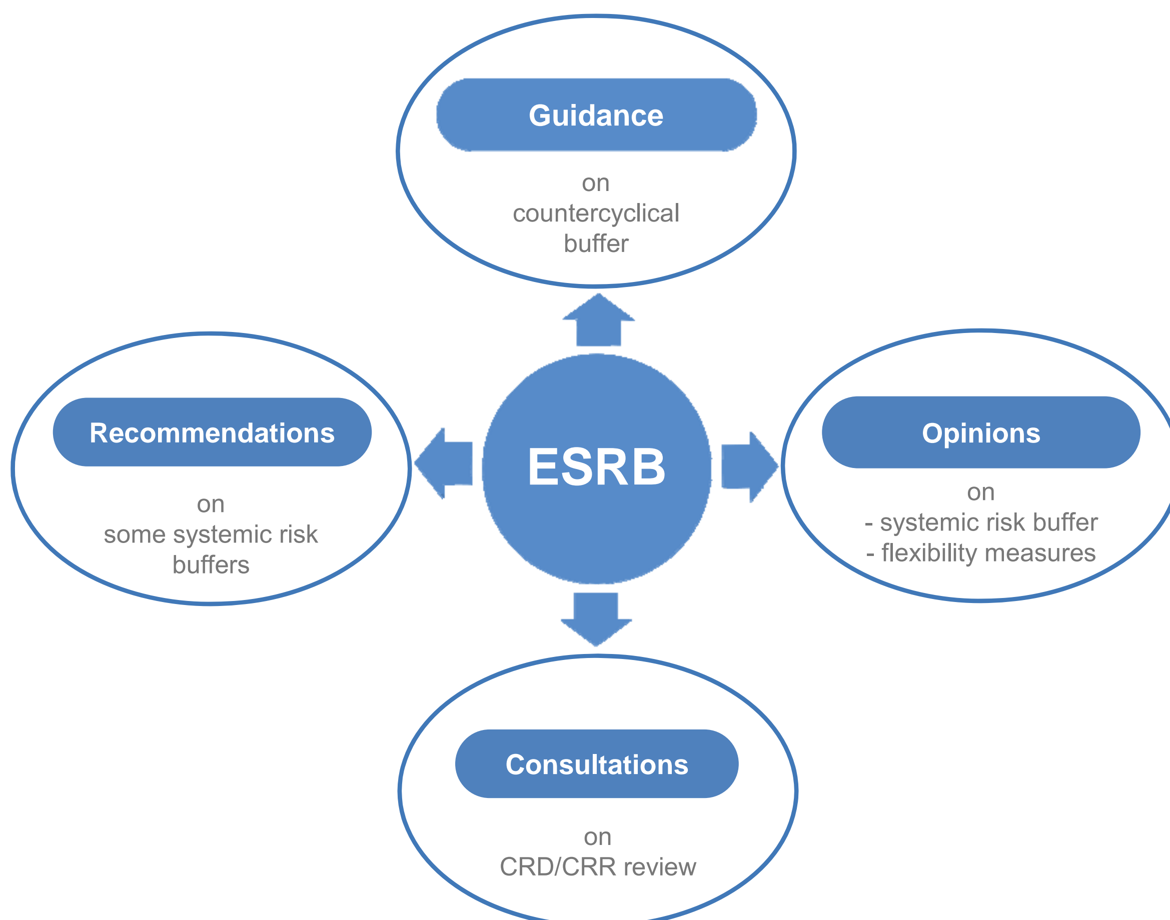
- **On the CCB**, the ESRB is tasked with ensuring that it is applied consistently across the EU by providing guiding principles to national authorities on setting CCB rates. This includes providing guidance on the calculation of the buffer guide and the variables that help guide the build-up/release phase of the buffer. Work is currently underway and is expected to be adopted in the course of 2014. Going forward the ESRB should be well placed to compile best practices on the basis of national experiences.
- **On the national flexibility measures**, the ESRB has been given a mandate to provide "opinions" regarding the proper use of proposed measures to the Council, the European Commission and the Member State concerned. These opinions must assess, among other things, whether the measure is necessary, effective and proportionate, and whether the systemic risk cannot be adequately addressed by other measure(s). In practice, this will require a solid economic framework to be built in order to assess the relative effectiveness of macro-prudential instruments in mitigating certain risks and explore possible cross-border spillovers.

[19] The ESRB recommended that macro-prudential authorities should report by the end of 2014 on a preliminary set of macro-prudential instruments that best address systemic risks within their jurisdiction (ESRB, 2013).

[20] These tasks are in addition to the general recommendation and warning powers when a systemic risk has been identified arising from the CRR.

- **On the SRB**, the ESRB is legally bound to give "opinions" to the European Commission for Member States imposing buffer rates exceeding 3% (until 2015) and 5% (from 2015) and to issue "recommendations" for buffer rates between 3% and 5% when there is at least one EU-owned foreign subsidiary in the imposing Member State.

Figure 5 The role of the ESRB under the CRD/CRR



52. **The ESRB will publish notification templates for the relevant macro-prudential instruments on its website.** These templates, which could be made available for all instruments, will help to harmonise the notification process for Member States and help the ESRB to assess the appropriateness of the intended measures. If necessary, the ESRB may recommend amendments to the notified measures in view of strengthening the internal market.

53. **An ESRB Assessment Team will be created to assess macro-prudential policy measures notified to the ESRB and to prepare ESRB opinions.** The Assessment Team will be composed of 13 permanent members (two representatives of the ESRB Secretariat, one representative of the ECB and one representative of the SSM, nine representatives of different EU national central banks) and 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 on 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.

4. Looking ahead

4.1 Key strategic directions

a) For macro-prudential authorities

54. Looking ahead, there are a number of key strategic priorities that macro-prudential authorities should focus on in order to operationalise macro-prudential policy. These include:

- **developing a policy strategy**. Such a strategy should be based on a sound analytical framework that links intermediate macro-prudential objectives to key indicators and macro-prudential instruments. In this context, in line with the 2013 ESRB Recommendation, Member States have to assess whether they have a sufficient set of macro-prudential instruments to mitigate systemic risks;
- **developing a communication strategy**. Such a strategy should cover the mandate, powers and instruments available to macro-prudential authorities as well as the development of a simple narrative on the analytical links between systemic risks and policy actions, and their likely transmission channels;
- **ensuring adequate coordination mechanisms with the competent micro-prudential authorities**. Such coordination should foster a holistic approach to addressing systemic risks, including in the context of Pillar 2 measures used for macro-prudential purposes;
- **promoting adequate coordination mechanisms between EU macro-prudential authorities, including through the ESRB**. Most of the macro-prudential instruments may lead to cross-border spillovers and unintended effects;
- **supporting efforts to assess liquidity instruments**. The policy framework for addressing systemic liquidity risks is in its early stages, partly because it relies on the further development of international and European micro-prudential standards, including the design of sound stable funding requirements, such as the NSFR;
- **improving the availability, quality and comparability of data used for macro-prudential purposes**. This includes compiling adequate data on key leading indicators, such as the LTV and LTI; improving access to commercial real estate data; ensuring proper monitoring of real estate developments on a regional basis;

and fostering a better understanding of the structure of funding flows through the economy. In order to improve data comparability, which is a key feature of the single market, the ESRB could coordinate macro-prudential authorities' efforts to enhance data availability in close collaboration with the ECB.

b) For the ESRB

55. **The ESRB will need to strengthen its systemic risk and policy analysis capabilities.** This should include:

- promoting access to EU-wide data sets and developing analysis aimed at helping macro-prudential authorities identify key indicators and indicative thresholds;
- developing a sound analytical framework for assessing the effectiveness and efficiency of macro-prudential actions in the EU and, where needed, providing recommendations in line with its mandate;
- developing analytical capacity for assessing cross-border costs and benefits of macro-prudential actions and providing advice on how material negative spillovers could be mitigated;
- supporting the work of Assessment Teams, including by developing principles and criteria aimed at ensuring that macro-prudential measures are used appropriately;
- extending the macro-prudential policy framework beyond the banking sector to the entire financial system.

56. **The ESRB will serve as a central hub for collecting and disseminating information about macro-prudential policy measures in the EU**. This provides added value to all Member States and supports the coordination of macro-prudential policy in the EU. The use of the standardised notification templates will ensure the homogeneity of collected information.

57. **The ESRB should strengthen its monitoring role**. As the work on key indicators and indicative thresholds progresses, the ESRB should enhance its role in monitoring and guiding macro-prudential policy. Where the ESRB identifies systemic risks, it may issue warnings and recommendations in line with its mandate. These may include recommending to implement macro-prudential instruments and to address negative spillovers.

58. **The ESRB should examine its decision-making process in the area of macro-prudential policy**. In order to meet the tight deadlines foreseen by the legislation within which it must deliver its opinions, it will also need to ensure an adequate decision-making process and to review, if necessary, the modalities for delivering opinions.

4.2 Contributions to the next CRD/CRR review

59. **The ESRB will contribute to the review of the CRD/CRR**. By 30 June 2014 the European Commission shall – after consulting with the ESRB and EBA – review whether the macro-prudential rules contained in the CRD/CRR are sufficient to mitigate systemic risk. On the basis of that consultation, the European Commission shall report to the European Parliament and the European Council and, where appropriate, submit a legislative proposal to change the macro-prudential rules by 31 December 2014. The review shall contain, inter alia, an analysis of whether the current rules are effective, efficient and transparent. Furthermore, it shall include an assessment on whether the coverage and the possible degrees of overlap between different macro-prudential instruments for targeting similar risks in the CRD/CRR are adequate. It will also consider whether the agreed international standards for systemic institutions interact with the CRD/CRR and whether it is necessary to propose new rules taking into account those standards.

60. **The timeline of the review does not allow for much practical experience to be gained with regard to the implementation of the new macro-prudential policy framework**. Nonetheless, based on its current work, it should be possible for the ESRB to identify a number of issues where it can provide helpful input. In particular, the ESRB may want to form a view on:

- whether the one-month deadline for providing opinions on notified national measures is appropriate and what related measures may be needed to facilitate this process;
- whether the legal criteria for conducting a “substantive” examination are excessively burdensome and how they could be made more operational;
- whether the trade-off between restricting the use of “national flexibility measures” for internal market purposes and providing adequate tools to address systemic risk may need to be revisited;
- the implications of the O-SII buffer being capped at 2%.