

The first ten years of the European Systemic Risk Board (2011-2021)

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Abstract

The European Systemic Risk Board was established in the wake of the global financial crisis as the authority responsible for the macroprudential oversight of risks to the stability of the European Union financial system. In its first decade, the European Systemic Risk Board's activity has been marked by the challenges posed by the operationalisation of the macroprudential tools incorporated into European Union banking legislation, the euro area sovereign debt crisis, the United Kingdom's withdrawal from the European Union and the outbreak of the COVID-19 global pandemic. During this period, the European Systemic Risk Board – of which the Banco de España is a member institution – has worked tirelessly to achieve its mission and objectives, helping identify and analyse systemic risks and vulnerabilities and advise on and coordinate national macroprudential policy measures. It has also issued reports on various reforms to European Union financial legislation.

Keywords: macroprudential, systemic risk, financial stability, institutions.

1 Origin and context of the creation of the European Systemic Risk Board

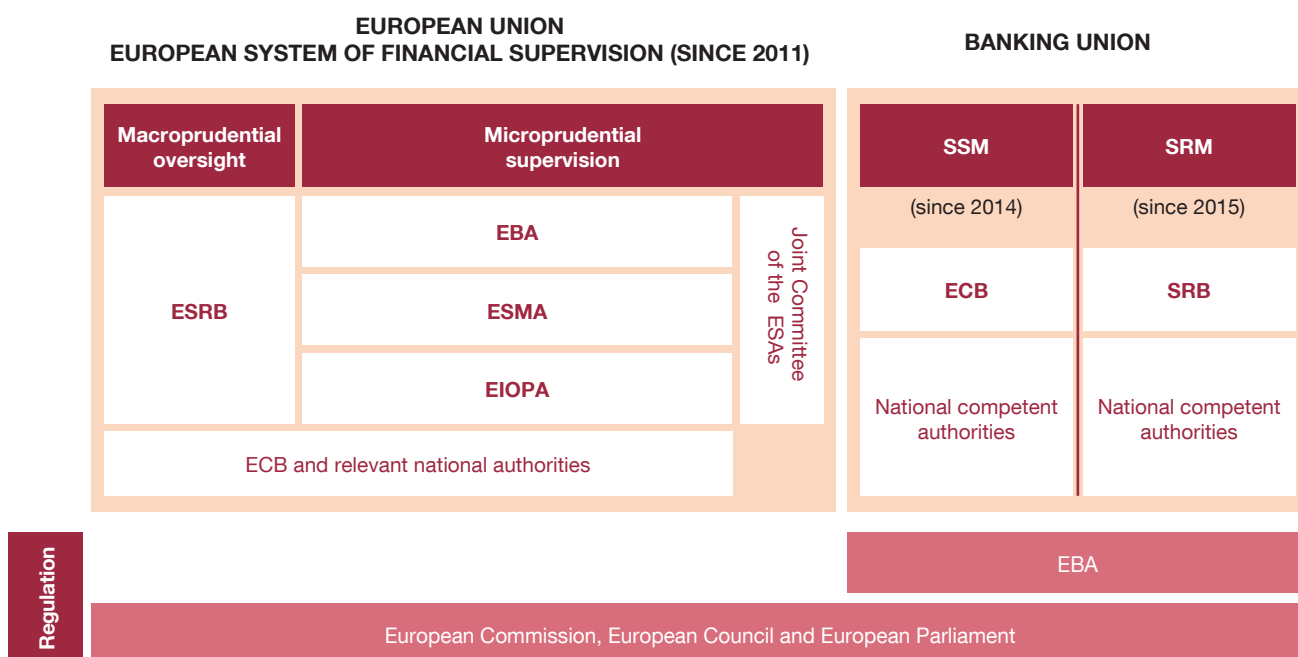
The 2008 global financial crisis prompted a review of financial regulation and institutional architecture worldwide. The global financial crisis led governments and authorities around the world to rethink financial stability policy frameworks, strengthen international, European and national financial regulation, review the consequences of financial integration and adjust the institutional arrangements for supervising and overseeing the sectors comprising the financial system. Against this background, the European Commission created the High-Level Group on Financial Supervision in the EU – chaired by Jacques de Larosière¹ and including another seven renowned experts in this field – to analyse the causes of the crisis and provide recommendations for improving the regulatory and supervisory frameworks in the European Union (EU). The High-Level Group published its findings in February 2009 (see De Larosière (2009) and a detailed description in Field and Pérez (2009)).

In 2009 the de Larosière report recommended setting up a “European Systemic Risk Council”. One of the report's 31 recommendations (Recommendation 16) stated that “a new body called the European Systemic Risk Council (ESRC), to be

¹ Jacques de Larosière had been Governor of the Banque de France and Managing Director of the International Monetary Fund (IMF). The Group's other members were Leszek Balcerowicz, Otmar Issing, Rainer Masera, Callum McCarthy, Lars Nyberg, José Pérez (former Director General Banking Supervision of the Banco de España) and Onno Ruding.

Figure 1

THE ESRB IN THE EU INSTITUTIONAL FRAMEWORK



SOURCES: ESRB and devised by author.

chaired by the ECB President, should be set up under the auspices and with the logistical support of the ECB”. This recommendation was part of a wider set of proposals geared towards reviewing the institutional framework underpinning the Lamfalussy process² for the adoption of EU financial services law. The de Larosière report proposed the creation of three EU microprudential sectoral supervisory authorities – the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA) and the European Insurance and Occupational Pensions Authority (EIOPA) – based on three pre-existing committees (the Committee of European Banking Supervisors, the Committee of European Securities Regulators and the Committee of European Insurance and Occupational Pensions Supervisors, respectively), which would bring together the national supervisory authorities responsible for these sectors (see Figure 1).

The European Systemic Risk Council (or Board, as it ultimately came to be known) would be a new authority with a mandate to ensure financial stability and mitigate adverse impacts on the internal market and the real economy. One of the lessons from the global financial crisis was that the traditional

2 Baron Alexandre Lamfalussy chaired the Committee of Wise Men on the Regulation of European Securities Markets between 2000 and 2001. Lamfalussy was the first President of the European Monetary Institute (the predecessor of the European Central Bank) and General Manager of the Bank for International Settlements. Luis Ángel Rojo (former Governor of the Banco de España) was a member of that committee.

microprudential supervisory approach (institution by institution) did not by itself suffice to ensure the stability of the financial system. It needed to be supplemented with a macroprudential approach focusing on aggregate and dynamic (cross-sectional and over time) developments to identify the risks and vulnerabilities that, while not evident at individual institution level, become apparent when considered collectively.³ Thus, it was acknowledged that, for example, global risk to the system can arise from: (i) many financial institutions all being exposed to the same risk factors (even though each of these institutions may be immaterial individually); (ii) possible spillovers between sub-sectors and from some institutions to others due to their interconnections; and (iii) widespread institution-level countercyclical dynamics in the event of adverse changes in the macro-financial environment. The new macroprudential approach justified the creation of a committee with a specific mandate comprising all authorities with financial stability mandates, not just the supervisory authorities.

Regulation (EU) No 1092/2010, which established the European Systemic Risk Board (ESRB), was adopted on 24 November 2010. Faithful to the de Larosière Group’s proposal, the new authority became responsible for the macroprudential oversight of the EU financial system and the prevention and mitigation of systemic risk for financial stability, thereby avoiding – insofar as possible – episodes of widespread financial shocks and contributing to the smooth functioning of the internal market. The ESRB was ultimately tasked with ensuring the financial sector made a sustainable contribution to economic growth in the EU.

From a competence standpoint, the ESRB is, strictly speaking, an authority with no regulatory or prudential powers. This is the result of the European co-legislators agreeing that Member States should retain macroprudential powers, given the typical asynchrony of national financial cycles. The ESRB can issue, on its own initiative, opinions, warnings and recommendations on manifold issues related to risk analysis and macroprudential policy measures (potentially) addressed to a wide range of institutional recipients (including the governments of Member States). Although they are not binding, ESRB recommendations are considerably effective as (i) their recipients are subject to the general principle of “comply or explain” and (ii) the ESRB regularly verifies and publicly grades the relevant authorities’ compliance with its recommendations.⁴ The ESRB also publishes a large number of documents detailing its work to deliver on its mandate.

From an organisational perspective, the ESRB has a dedicated secretariat which is hosted by the ECB in Frankfurt am Main. Regulation (EU) No 1096/2010 confers a series of tasks on the ECB so that it provides administrative, analytical,

³ For the rationale behind this paradigm shift associated with the “fallacy of composition”, see Brunnermeier et al. (2009).

⁴ The methodology for these exercises is included in the *Handbook on the assessment of compliance with ESRB recommendations*, April 2016.

statistical and logistical support to the ESRB in the performance of its functions. The scope of the support provided by the ECB to the ESRB spans internal arrangements⁵ (funding, human resources, information systems) and communication.⁶ The organisational model is comparable to that of the global committees housed under the roof of the Bank for International Settlements (BIS) in Basel.⁷ The ESRB, together with EBA, ESMA and EIOPA, is integrated into the European System of Financial Supervision (ESFS) and has members from all the relevant national and EU authorities. The Regulation establishing the ESRB stipulated that it should be chaired by the President of the ECB, initially for a five-year term. It was subsequently determined that the President of the ECB should chair the ESRB on a permanent basis (see Box 1).

The ESRB was established during a period (2009-2011) of regulatory and institutional upheaval in Europe and worldwide. At international level, the Financial Stability Board (FSB), the successor to the Financial Stability Forum (FSF), was established in 2009 to foster international financial reform. The Basel Committee on Banking Supervision (BCBS), which was engaged in the review of international banking standards (that would result in Basel III), analysed and agreed on the introduction of new specifically macroprudential solvency requirements: (i) the countercyclical capital buffer (to address temporary imbalances over the course of the multi-year credit cycle)⁸ and (ii) the capital buffers for systemically important institutions (to mitigate the “too big to fail” phenomenon).⁹ The Dodd-Frank Act was passed in the United States in 2010 and established the Financial Stability Oversight Council (FSOC) – a new inter-agency body whose design resembles that of the ESRB.

The European institutional setting in which the ESRB initially pursued its mandate was later supplemented and strengthened by the two pillars of the banking union (2013-2014). These two pillars – the Single Supervisory Mechanism (SSM), coordinated by the ECB, and the Single Resolution Mechanism (SRM), led by the Single Resolution Board (SRB) from Brussels – are reflected in the organisational structure of the ESRB, via (i) the involvement of ECB Banking Supervision and SRB officials in its working bodies and (ii) their inclusion in the group of potential institutional addressees of formal ESRB communications.

5 The ESRB Secretariat is integrated into the organisational structure of the ECB as another business area, as proven by its inclusion in the documents *“List of ECB Managers”* and *“Distribution of responsibilities among the Members of the Executive Board of the ECB and the Chief Services Officer”*.

6 The ESRB’s press releases typically include the contact details of an ECB press officer.

7 For example, the Basel Committee on Banking Supervision or the Committee on the Global Financial System.

8 Inspired by the countercyclical provisions introduced by the Banco de España from 2000 (see Saurina and Trucharte (2017)).

9 Another of the lessons from the global financial crisis was the perception that institutions above a certain size would be bailed out by the taxpayer in their country of origin should their difficulties threaten their viability. This notion proved to be completely inappropriate as it led to moral hazard and risk management asymmetries in the financial system.

THE 2019 EUROPEAN SYSTEMIC RISK BOARD REVIEW

In 2010, the Regulation¹ establishing the European Systemic Risk Board (ESRB) stipulated that, no later than December 2013, the European Parliament and the Council should, on the basis of a report from the European Commission, examine the mission and organisation of the ESRB and determine whether they needed to be reviewed, paying particular attention to the modalities for the designation or election of the Chair of the ESRB.

The process of this review culminated at the end of 2019 with the publication of Regulation (EU) 2019/2176, which includes various adjustments and amendments to provisions on the functioning of the ESRB.² Specifically, the following amendments were made to the ESRB's governance arrangements:

- (i) The General Board shall be permanently chaired by the President of the ECB (it was initially to be chaired by the President of the ECB during the ESRB's first five years).
- (ii) The General Board shall be consulted in the assessment of short-listed candidates for the position of Head of the ESRB Secretariat.
- (iii) ECB Banking Supervision and the Single Resolution Board (SRB) may each send a representative (without voting rights) to the General Board.
- (iv) The Member States may choose to reassign their voting rights on the General Board to a representative from a national authority other than their respective central bank.³
- (v) To avoid political influence, no member of the General Board should hold office in a Member State's central government.
- (vi) The number of European Commission representatives on the Advisory Technical Committee was reduced

from two (as stipulated in the original Regulation) to one.

In terms of communication and transparency, the following changes, inter alia, were adopted:

- (i) The General Board may, should it so decide, publish an account of its quarterly meetings and hold press conferences.
- (ii) The ESRB, through the Advisory Technical Committee and the Advisory Scientific Committee, shall organise public consultations on its work, where appropriate.
- (iii) The ESRB must now inform, not only the European Council and the European Commission, as per the 2010 Regulation, but also the European Parliament of its warnings and recommendations in advance.

Another noteworthy change was that the scope of the group of potential addressee institutions for ESRB warnings and recommendations was extended to include the ECB (as competent authority for the prudential supervision of credit institutions), the SRB and the national resolution authorities.⁴

Several of the above-mentioned changes to Regulation (EU) 2019/2176 resulted in the ESRB's Rules of Procedure⁵ being updated in order for them to be effectively operationalised.

The package of amendments to the Capital Requirements Directive (CRD V)⁶ also incorporated significant changes for the ESRB relating to:

- Strengthening the ESRB's role as a hub for sharing information on macroprudential measures between national and EU authorities.
- Greater oversight over the sufficiency and consistency of national macroprudential policies.

1 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.

2 Regulation (EU) 2019/2176 of the European Parliament and of the Council of 18 December 2019 amending Regulation (EU) No 1092/2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board.

3 This power has been exercised by one Member State, Sweden, which reassigned the voting rights to Finansinspektionen, the national financial supervisory authority.

4 As a result, in the case of Spain, the Spanish executive resolution authority (FROB) and the Banco de España as the preventive resolution authority may now receive ESRB recommendations. This change actually meant that, for the first time, Recommendation ESRB/2020/12 of 24 September 2020 on identifying legal entities was also addressed to resolution authorities.

5 Decision ESRB/2020/3 of 20 March 2020 amending Decision ESRB/2011/1 adopting the Rules of Procedure of the European Systemic Risk Board.

6 Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 amending Directive 2013/36/EU as regards exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers and capital conservation measures.

2 ESRB governance and members

One of the ESRB's defining characteristics is its wide range of institutional members. Officials from national central banks and banking, securities, markets and insurance and pension funds supervisory authorities from all of the Member States¹⁰ (together with the EU authorities responsible for financial stability and supervision (the ECB, European Commission, EBA, ESMA, EIOPA, SRB and the EU's Economic and Financial Committee)) participate in the ESRB. At present, a total of 74 authorities are ESRB members, making it one of the European authorities with the largest number of members¹¹ (see Table A.1 in the Annex for the full list). The number of authorities that participate in the ESRB per country depends on its national supervisory framework. Three Spanish authorities – the Banco de España (central bank and banking authority), the National Securities Market Commission (CNMV) and the Directorate General of Insurance and Pension Funds (DGSFP) – are members of the ESRB.

The ESRB General Board is its main decision-making body. The General Board is chaired by the President of the ECB (Christine Lagarde, since November 2019). Its other members are the central bank governors and heads of different EU supervisory authorities (in total, 36 members with voting rights) and high-level officials from all the national authorities (without voting rights). The General Board's governance structure is completed by two Vice-Chairs: one held by the governor of a national central bank outside the Eurosystem (at present, Stefan Ingves, Sveriges Riksbank) and the other which switches yearly between the chairs of EBA, ESMA and EIOPA. The General Board's main decisions are adopted by a qualified majority of two-thirds of its members with voting rights. Below the General Board there is a Steering Committee, which brings together a sub-set of the Board members.

One of the ESRB's key standing bodies is the Advisory Technical Committee (ATC), which helps prepare General Board meetings. The ATC reviews and discusses the work submitted by the ESRB's technical working groups on manifold matters concerning the analysis of financial stability risks and vulnerabilities, the design of macro-financial scenarios for stress testing exercises and technical proposals for financial regulatory reform, among others. The same institutions that sit on the General Board make up the ATC, generally via representatives of a level equivalent to director of the financial stability area at their respective authorities.

¹⁰ Including three countries (Iceland, Liechtenstein and Norway) that are not part of the EU but do belong to the European Economic Area (EEA).

¹¹ Even exceeding international committees such as the FSB or the BCBS. This means that the ESRB, especially its General Board, virtually functions as an assembly (see the [keynote speech](#) by Jean-Claude Trichet, first Chair of the ESRB, at the fifth ESRB annual conference, 8 December 2021).

The ATC is currently chaired by the Governor of the Banco de España. Pablo Hernández de Cos was appointed Chair of the ATC by the ESRB General Board in mid-2019.¹² As Chair of the ATC, he is an ex officio member of the ESRB's Steering Committee. The ATC has previously been chaired by Stefan Ingves, Governor of Sveriges Riksbank, and Philip Lane, former Governor of the Central Bank of Ireland. The ATC also has a Vice-Chair, which Claudia Buch, current Vice-President of the Deutsche Bundesbank, has held since 2020. See Table A.3 in the Annex for further details on the chairs of the ESRB's standing bodies since 2011.

The ESRB has an Advisory Scientific Committee (ASC) consisting of fifteen independent academics and experts. The ASC contributes to the ESRB's work through research that complements work by the public authorities. The ASC has its own work programme and collaborates with the ATC through joint working groups. A sign of the ASC's independence is the fact that its publications are typically signed by its members and do not necessarily reflect the position of the ESRB General Board. The Chair of the ASC attends ATC and Steering Committee meetings and, together with the two Vice-Chairs of the ASC, the ESRB General Board meetings. One of the current members of the ASC is Javier Suárez, professor at Centro de Estudios Monetarios y Financieros (CEMFI), who has alternated between being Chair and Vice-Chair of this committee in recent years. Another Spaniard, José Luis Peydró, professor of Economics at Universitat Pompeu Fabra, was a member of the ASC between 2015 and 2019.

The ASC has made significant contributions to the ESRB's work. It has focused on areas such as the European banking sector's possible overcapacity¹³ (possibly the report that has had the biggest impact to date), climate change transition risks (which was one of the first reports to be published on this subject), the macroprudential policy stance, the systemic risks of exchange-traded funds and the global dimension of macroprudential policy (see Table A.5 in the Annex for the full list).

The ESRB holds regular quarterly meetings. The ESRB's technical and thematic working groups are coordinated by the ATC (through the Analysis Working Group (AWG) and the Instruments Working Group (IWG)) and by the ASC, catering to its annual work programmes and priorities and any other conjunctural needs that might arise. The ESRB General Board's regular meetings are typically held in March, June, September and December, on the same dates as the meetings of the ECB General Council (the ECB's decision-making body that comprises all the governors from the European System of Central Banks).¹⁴ Between meetings, numerous work matters are addressed continuously via written procedures.

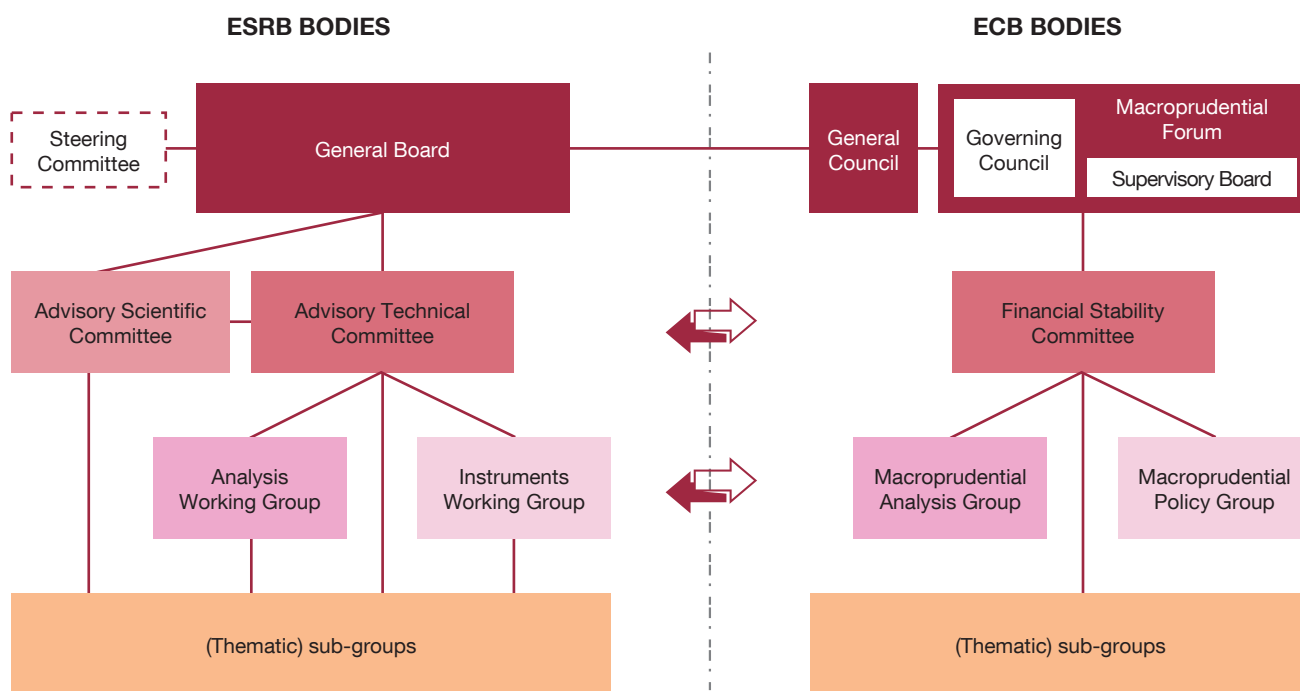
¹² See Banco de España (2019).

¹³ "Is Europe Overbanked?", *ASC Report* No 4, June 2014.

¹⁴ See *Schedules for the meetings of the Governing Council and General Council of the ECB and related press conferences*.

Figure 2

CORRESPONDENCE BETWEEN ESRB AND ECB BODIES



SOURCES: ESRB, ECB and devised by author.

The ESRB cooperates closely with the ECB. In accordance with its financial stability mandate as a central bank and the macroprudential tasks conferred on it since 2014 as a banking supervisor, the ECB has a Macroprudential Forum and a Financial Stability Committee (FSC) in which representatives of different levels from national central banks and banking supervisory authorities from banking union countries participate.¹⁵ The symmetry and coordination between the ESRB's and ECB's bodies (see Figure 2) are intended to avoid overlapping and boost synergies, particularly in matters affecting macroprudential policy for the banking sector.

The Regulation establishing the ESRB was amended in 2019 to incorporate several adjustments to its organisation, governance and transparency. As part of the periodic process to review and improve the ESRB, at the European Commission's proposal the European co-legislators approved various tweaks to the ESRB's configuration. These are summarised in Box 1 and highlight how smoothly the ESRB had functioned up to that point. Work on the next review of the ESRB's mission and organisation is scheduled to start in late 2024, and could lead to more extensive changes than those implemented in the latest review.

¹⁵ At present, the 19 euro area countries, plus Bulgaria and Croatia which have voluntarily joined the SSM.

3 Key ESRB macroprudential work

In its early years (2011-2013), the ESRB focused on operationalising its activity and setting the foundations for a common macroprudential culture. In its first year of operation, the ESRB approved its **Rules of Procedure** on matters relating to its organisation, functioning and governance. That same year, it issued recommendations on risks associated with lending in foreign currencies (**ESRB/2011/1**) and with US dollar denominated funding of European credit institutions (**ESRB/2011/2**), and on the macroprudential mandate of national authorities (**ESRB/2011/3**). These were followed, in 2012, by a recommendation on funding of credit institutions (**ESRB/2012/2**). In 2013 the ESRB issued a recommendation on intermediate objectives and instruments of macroprudential policy (**ESRB/2013/1**), which together with other ESRB initiatives (such as the **Flagship Report on Macro-prudential Policy in the Banking Sector**) helped establish an incipient macroprudential culture in the EU on the use of instruments and early alerts for the credit institution sector.¹⁶

From the start, the ESRB asked the EU Member States to establish authorities with macroprudential powers over the financial system overall, which led, in several countries, to the creation of national committees encompassing the various sectoral authorities responsible for financial stability. In the case of Spain, in response to Recommendation ESRB/2011/3, and in line with similar recommendations from the IMF,¹⁷ the Spanish macroprudential authority AMCESFI¹⁸ was created in 2019, replacing the Financial Stability Committee (CESFI)¹⁹ established in 2006. AMCESFI groups together the Banco de España, the CNMV, the DGSFP and the Ministry of Economic Affairs and Digital Transformation, to coordinate macroprudential analyses and actions. In accordance with Recommendation ESRB/2011/3, another 13 EU/EEA countries have established a similar authority or body²⁰ (see Table A.2 in the Annex). This ESRB recommendation also triggered the expansion of the set of macroprudential instruments available to Spain's three sectoral authorities.²¹

The entry into force from 2014 of the EU capital requirements legislation (CRR/CRD) was a catalyst for the ESRB's work for the banking sector. Regulation (EU) No 575/2013 (CRR) and Directive 2013/36/EU (CRD) contain a set of macroprudential instruments for the banking sector that cover those envisaged under the Basel III

16 In this respect, see Mencía and Saurina (2016) for a description of the Banco de España's initial analytical framework for its macroprudential policy implementation.

17 "Spain - Financial System Stability Assessment", IMF Country Report 17/321, October 2017.

18 For more information on AMCESFI, see the latest annual report, available on its website (www.amcesfi.es) and **Royal Decree 102/2019** of 1 March 2019 (Spanish version only) whereby AMCESFI was created, its legal framework was established and certain aspects relating to macroprudential tools were developed.

19 For more details on CESFI, see Vegara (2006).

20 In other countries it was not necessary to create a committee of this kind, owing to the specific characteristics of their institutional framework and the concentration of responsibilities at one single authority.

21 For more details, see **Royal Decree-Law 22/2018** of 14 December 2018 (Spanish version only) establishing macroprudential tools.

framework (the countercyclical capital buffer (CCyB) and capital buffers for systemically important institutions), along with others specifically developed in the EU (such as the systemic risk buffer and the “flexibility package” under Article 458 of the CRR for addressing systemic risks). The CRR and the CRD issue the ESRB with a range of advisory tasks (for issue of opinions on national proposals for the use of certain instruments) and coordination tasks (for receipt and dissemination of notifications on national measures). The ESRB’s opinions, together with those issued by EBA, play a fundamental role in the authorisation of national measures by the European Commission and the Council.

The CRD is the legal basis through which, via recommendations, the ESRB has operationalised the CCyB. Specifically, the ESRB has issued recommendations on countercyclical buffer rates for domestic exposures ([ESRB/2014/1](#)) and for exposures to third countries ([ESRB/2015/1](#)). These recommendations are in line with the BCBS 2010 Guidelines on countercyclical buffers. In the case of exposures to third countries, the ESRB conducts an annual exercise to identify the economies that it considers to be “material third countries” for the EU banking system as a whole (10 countries in 2021.²² Brazil, China, Hong Kong, Mexico, Russia, Singapore, Switzerland, Turkey, the United Kingdom and the United States). It has also developed a framework for monitoring their national macro-financial situation, to assess the appropriateness of the CCyB rates set by each national authority. Should the CCyB rate set in any of these countries be deemed insufficient, in view of cyclical systemic risk developments, the ESRB has the power to issue a recommendation inviting the EU national authorities to set a higher CCyB rate for their credit institutions’ exposures to the country in question. So far, the ESRB has not used this power.

The ESRB plays a key role for application of the voluntary reciprocity framework relating to Member States’ national macroprudential measures. Apart from automatically recognising CCyB rates, EU legislation envisages, for certain macroprudential measures – mainly the flexibility package (Article 458 of the CRR) or the systemic risk buffer (Article 133 of the CRD) – that a national authority may ask the ESRB to issue a recommendation to the other Member States for adoption of a reciprocal temporary macroprudential measure. The aim is to boost the effectiveness (and reduce the possible arbitrage) of the original measure by extending its application to banks which, by virtue of their type of establishment (branches of banks with a parent in other countries) or activity (cross-border lending), contribute to the risk which the measure addresses but fall under the jurisdiction of other national authorities.

The ESRB resolves voluntary reciprocity requests favourably through amendments to its Recommendation [ESRB/2015/2](#). Between 2014 and 2021 it

22 The list of material third countries identified by the ESRB since 2015 can be found here: [List of material third countries](#). For the Spanish banking system, Brazil, Chile, Colombia, Mexico, Peru, Turkey, the United Kingdom and the United States are all material third countries. The Banco de España disseminates this information on its website in the [Countercyclical capital buffer](#) section.

has recommended – at least once – reciprocity for macroprudential measures adopted by Belgium, Estonia, Finland, France, Luxembourg, Norway and Sweden. To provide guidance on the adoption of reciprocal measures, the ESRB establishes, on a case-by-case basis, materiality thresholds in terms of the volume of national banks' exposures to the banking system of the country adopting the measure in question. The Banco de España has adopted the ESRB Recommendation and examines each reciprocity request from other Member States individually. Based on ESRB criteria, so far requests for the introduction of reciprocal macroprudential measures in Spain have been rejected.²³ The question of voluntary reciprocity receives special attention in the *Review of Macroprudential Policy in the EU* which the ESRB has published regularly since 2015 and in which, more generally, it reviews the actions taken by the national authorities, drawing on information it compiles in its role as a **hub for macroprudential measures** in Europe.

The ESRB has issued recommendations on various matters identified as relevant to facilitate the role of macroprudential policy. In 2019 it supported the introduction of a framework to strengthen the mechanisms for exchange between authorities of information for macroprudential purposes on branches of credit institutions having their head office in another Member State or in a third country (ESRB/2019/18). And a year later it recommended the adoption and use of the legal entity identifier (LEI) for supervision and disclosure of information on financial institutions (ESRB/2020/12).

Most of the ESRB's recommendations are generally addressed to the relevant authorities of all the Member States. The **recommendations** usually deal with matters of importance for the EU as a whole. However, how they are implemented differs considerably across Member States, depending on: i) whether the addressee authority decides to comply with the recommendation; ii) the materiality of the matter in question, given the characteristics of the Member State's financial system; and iii) whether measures need to be adopted in addition to any already adopted by the addressee authority with the same aim as that pursued by the ESRB recommendation. Table 1 sets out the ESRB recommendations addressed to all Member States, indicating the Spanish authorities concerned. The predominance of the banking sector in the EU financial system explains why the bulk of the recommendations affect the (competent and designated) banking authorities, followed by the national macroprudential authorities (in Spain, the Banco de España and AMCESFI, respectively).

The ESRB has devoted an important part of its efforts to developing macroprudential instruments for non-bank financial sectors. In its advisory role to the European Commission, the ESRB has continuously defended the need to develop macroprudential policy beyond banking, in order to have available the

23 See "Reciprocity for macroprudential measures in the EU" on the Banco de España's website.

Table 1

ESRB RECOMMENDATIONS AND ADDRESSEE AUTHORITIES IN SPAIN

ESRB Recommendation	Addressee authorities in Spain					
	AMCESFI	Banco de España	CNMV	DGSFP	FROB	Government
Recommendation ESRB/2021/17 of 2 December 2021 on a pan-European systemic cyber incident coordination framework for relevant authorities						Government
Recommendation ESRB/2020/12 of 24 September 2020 on identifying legal entities	AMCESFI	Banco de España	CNMV	DGSFP	FROB	Government
Recommendation ESRB/2020/8 of 27 May 2020 on monitoring the financial stability implications of debt moratoria, and public guarantee schemes and other measures of a fiscal nature taken to protect the real economy in response to the COVID-19 pandemic	AMCESFI					
Recommendation ESRB/2020/7 of 27 May 2020 on restriction of distributions during the COVID-19 pandemic	AMCESFI	Banco de España	CNMV	DGSFP		
Recommendation ESRB/2020/6 of 25 May 2020 on liquidity risks arising from margin calls		Banco de España	CNMV	DGSFP		
Recommendation ESRB/2019/18 of 26 September 2019 on exchange and collection of information for macroprudential purposes on branches of credit institutions having their head office in another Member State or in a third country	AMCESFI	Banco de España				
Recommendation ESRB/2016/14 of 31 October 2016 on closing real estate data gaps	AMCESFI					
Recommendation ESRB/2015/2 of 15 December 2015 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures	AMCESFI	Banco de España				
Recommendation ESRB/2015/1 of 11 December 2015 on recognising and setting countercyclical buffer rates for exposures to third countries		Banco de España				
Recommendation ESRB/2014/1 of 18 June 2014 on guidance for setting countercyclical buffer rates		Banco de España				
Recommendation ESRB/2013/1 of 4 April 2013 on intermediate objectives and instruments of macro-prudential policy	AMCESFI					Government
Recommendation ESRB/2012/2 of 20 December 2012 on funding of credit institutions		Banco de España				
Recommendation ESRB/2011/3 of 22 December 2011 on the macro-prudential mandate of national authorities						Government
Recommendation ESRB/2011/2 of 22 December 2011 on US dollar denominated funding of credit institutions		Banco de España				
Recommendation ESRB/2011/1 of 21 September 2011 on lending in foreign currencies		Banco de España				

SOURCES: ESRB and devised by author.

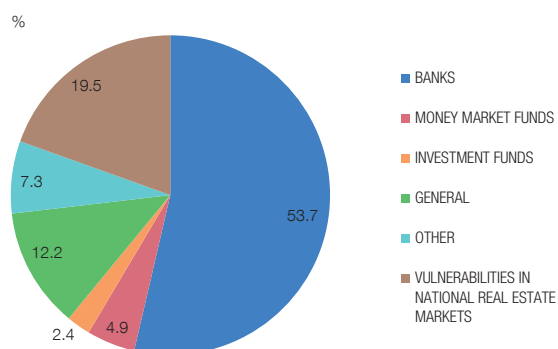
NOTE: The shaded colour denotes the Spanish authorities to which each recommendation is addressed. Those ESRB recommendations that are not addressed to national authorities and those that only affect authorities from specific Member States are excluded from the table. Nor does it include Recommendations amending prior Recommendations.

appropriate instruments to prevent or mitigate potential systemic crises in those sectors. The ESRB's contribution in this field has been mainly through reports (*Macroprudential policy beyond banking: an ESRB strategy paper*), recommendations and responses to public consultations and reports. Specifically, the ESRB has

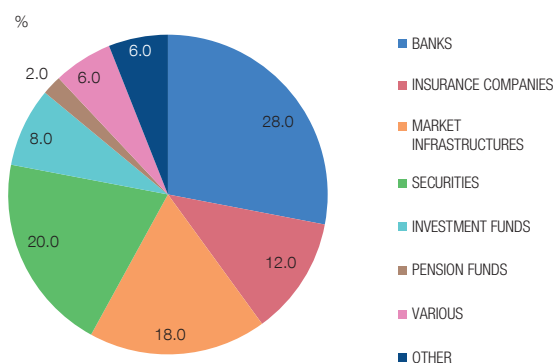
Chart 1

TOPICS OF ESRB RECOMMENDATIONS AND OTHER PUBLIC DOCUMENTS (2011-2021)

1 RECOMMENDATIONS (41)



2 LETTERS AND RESPONSES ON LEGISLATIVE PROPOSALS (50)



SOURCES: ESRB and devised by author.

NOTE: In Chart 1.1, "General" refers to recommendations affecting the financial system as a whole. In Chart 1.2, "Various" refers to letters and responses on more than one financial system sector.

issued several recommendations on investment funds (ESRB/2017/6) and money market funds (ESRB/2012/1 and ESRB/2021/9). It has also published a considerable number of responses and letters to consultations by the European Commission, ESMA and EIOPA on the review of the regulatory frameworks of the insurance sector (Solvency II Directive), investment vehicles, alternative investment funds and market infrastructures (EMIR), among other matters (see Chart 1).

4 ESRB risk analysis, communication and research

One of the ESRB's main tasks is to identify EU financial system stability risks and vulnerabilities. Discussion of risks is a central element of the work and deliberations of the ESRB's main bodies. Determining the principal risks and vulnerabilities helps guide and prioritise the macroprudential policy issues to be discussed and ultimately addressed, where appropriate, through warnings and recommendations. Moreover, risk analysis is an integral part of the ESRB's communication policy. Through various publications and initiatives, the ESRB addresses different groups in society, with the aim of raising awareness on the urgency – or at least the advisability – of increasing the financial system's and authorities' level of readiness to tackle major emerging challenges. In particular, the ESRB issues brief notes on the potential risks to the EU financial system in its quarterly press releases in which it sets out the matters discussed at its regular General Board meetings.

The ESRB's annual reports include a brief analysis of the main EU financial system risks and vulnerabilities. In line with the practice of other authorities in

Table 2

MAIN EU FINANCIAL SYSTEM RISKS AND VULNERABILITIES DETAILED IN THE ESRB'S ANNUAL REPORTS

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Description
1										Risk of contagion from those Member States subject to an EU/IMF programme
2								3	5	Sovereign financing risk and doubts over debt sustainability
3	1	3	2					2	2	Weakening macroeconomic conditions
	2	1	4	2						Weaknesses in financial institutions' balance sheets
	3				2		2	2		Squeeze on financial institutions' profitability due to the low interest rate environment
		2	1	1	1	1	1	1		Repricing of risk premia on global financial markets
		4	3							Worsening of the sovereign debt crisis
		5	5							Vulnerabilities of insurance companies to a sharp drop in asset prices combined with low risk free interest rates for a prolonged period
		6	6							Financial market structure
				3	3	3	3			Debt sustainability problems in the sovereign, corporate and household sectors
				4	4	4	4			Vulnerabilities of the shadow banking system and spillover to the financial system as a whole
								1	1	Widespread private sector defaults due to a deep global recession
								4	3	Instability in risk assessment and pockets of illiquidity in financial markets
								5		Systemic cyber incidents
								6		Finance-driven disruptions in critical financial infrastructures
								7		Materialisation of severe climate-related shocks
									4	Sharp corrections to prices in residential and commercial real estate markets

SOURCES: ESRB and devised by author.

NOTE: Yellow, orange and red denote low, medium and high risks, respectively. For other years (white), the ESRB does not grade the risks using the aforementioned scale.

their financial stability reports, the ESRB disseminates its systemic risk assessment by publishing in its annual reports qualitative scores of the main risk categories, in order of importance and indicating the risk intensity. How the risk assessment is presented has varied over the years (see Table 2), as the ESRB has gained more experience. To complement this analysis, the ESRB also publishes, in particular, the *Risk Dashboard* and the annual *EU Non-bank Financial Intermediation Risk Monitor (NBFIMonitor)*. In normal circumstances, the ESRB's risk diagnoses are relatively steady from one year to the next, but significant changes emerge over a multi-year horizon. Thus, the risk assessment has changed considerably between the ESRB's first years of activity, marked by the euro area sovereign debt crisis, and the last two years, under the effects of the COVID-19 pandemic. The unprecedented situation created by the economic and social impact of COVID-19 throughout the EU mobilised the ESRB (and other European and global bodies)²⁴ to agree on an ambitious package of measures, described in Box 2.

²⁴ See Anguren et al. (2020) for a summary of the international response to the pandemic in the regulatory and macroprudential arena.

THE ESRB RESPONSE TO THE COVID-19 PANDEMIC¹

Against the backdrop of the swift and broad institutional response at the global, EU and national level prompted by the urgent need to mitigate the economic and financial impact of the COVID-19 pandemic from March 2020, the ESRB adjusted² its annual work programme to prioritise five areas for action and coordination:

- (i) implications for the financial system of public guarantee schemes and other fiscal measures to protect the real economy;
- (ii) market illiquidity and implications for asset managers and insurers;
- (iii) impact of procyclical downgrades of bonds on markets and entities across the financial system;
- (iv) system-wide restraints on dividend payments, share buybacks and other pay-outs;
- (v) liquidity risks arising from margin calls.

These five areas of ESRB work “in crisis mode” were mainly developed in the period April-June 2020, with the involvement of the Advisory Technical Committee and Advisory Scientific Committee. Notably, the work produced:

- A Recommendation (ESRB/2020/8)³ addressed to all the macroprudential authorities in the EU to monitor the financial stability implications of debt moratoria and public guarantee schemes and other measures of a fiscal nature taken to protect the real economy in response to the COVID-19 pandemic. This recommendation was preceded by a letter⁴ sent by the ESRB to the Economic and Financial Affairs Council

(Ecofin) inviting fiscal authorities to cooperate and exchange information with their central banks and supervisory authorities. The ESRB continued its work in 2021, resulting in two monitoring reports.⁵

- A Recommendation (ESRB/2020/7) addressed to prudential authorities on restriction of dividend and other capital distributions and variable remuneration until 1 January 2021, applicable to banks, insurers, investment firms and central counterparties (CCPs). This was subsequently extended, with some technical adjustments, by another Recommendation (ESRB/2020/15)⁶ until 30 September 2021 in coordination with a similar Recommendation issued by ECB Banking Supervision for credit institutions in the banking union.
- A Recommendation (ESRB/2020/6)⁷ addressed to competent microprudential authorities, the European Securities and Markets Authority (ESMA) and the European Commission on liquidity risks arising from margin calls, with the aim of: i) limiting cliff effects in relation to the demand for collateral; ii) improving CCP stress scenarios; iii) limiting liquidity constraints related to margin collection; and iv) promoting international standards on mitigating procyclicality in the provision of client clearing services and in securities financing transactions.
- A Recommendation (ESRB/2020/4)⁸ addressed to ESMA to coordinate with the national competent authorities to undertake a supervisory exercise with investment funds that have significant exposures to corporate debt and real estate assets, to assess their preparedness for potential future adverse shocks.

1 This box is an updated version of Box 3.2 of the Banco de España's Autumn 2020 *Financial Stability Report*. For a more detailed summary of the ESRB's work in response to the pandemic, see Portes (2021).

2 See the ESRB's press releases: “The General Board of the ESRB held its 37th regular meeting on 2 April 2020”, of 9 April 2020; “The General Board of the ESRB takes first set of actions to address the coronavirus emergency at its extraordinary meeting on 6 May 2020”, of 14 May 2020; “The General Board of the ESRB takes second set of actions in response to the coronavirus emergency at its extraordinary meeting on 27 May 2020”, of 8 June 2020; and “The General Board of the ESRB held its 38th regular meeting on 25 June 2020”, of 2 July 2020.

3 Recommendation ESRB/2020/8 of 27 May 2020 on monitoring the financial stability implications of debt moratoria, and public guarantee schemes and other measures of a fiscal nature taken to protect the real economy in response to the COVID-19 pandemic.

4 See “ESRB letter to Governments on the financial stability impact of the national guarantee schemes and other fiscal measures”, 14 May 2020.

5 “Financial stability implications of support measures to protect the real economy from the COVID-19 pandemic”, of 16 February 2021, and “Note on monitoring the financial stability implications of COVID-19 support measures”, of 8 September 2021.

6 Recommendation ESRB/2020/7 of 27 May 2020 on restriction of distributions during the COVID-19 pandemic. Recommendation ESRB/2020/15 of 15 December 2020 amending Recommendation ESRB/2020/7 on restriction of distributions during the COVID-19 pandemic.

7 Recommendation ESRB/2020/6 of 25 May 2020 on liquidity risks arising from margin calls.

8 Recommendation ESRB/2020/4 of 6 May 2020 on liquidity risks in investment funds.

THE ESRB RESPONSE TO THE COVID-19 PANDEMIC (cont'd)

- A Technical Note,⁹ published in July, in which the ESRB presented the findings of a top-down analysis of the impact of a mass bond downgrade scenario on the financial system.
 - A report on preventing and managing corporate insolvencies¹¹ with, inter alia, guidance to facilitate successful corporate debt restructuring for viable firms and to promote the use or introduction of efficient insolvency procedures to avoid judicial bottlenecks.
 - A letter¹⁰ addressed to the European Insurance and Occupational Pensions Authority urging in the near term improved monitoring of liquidity risks in insurers, in order to reinforce the strength of the sector in case of a deterioration in financial conditions.
- Lastly, it should be noted that, since mid-2020 the ESRB's website includes a repository of up-to-date information on the national financial policy measures¹² adopted in the Member States in response to COVID-19.

9 "A system-wide scenario analysis of large-scale corporate bond downgrades", *ESRB Technical Note*, July 2020.

10 See "ESRB letter to EIOPA on Liquidity risks in the insurance sector", 8 June 2020.

11 See "Preventing and managing a large number of corporate insolvencies", press release of 28 April 2021.

12 Accessible at this link: [Policy measures in response to the COVID-19 pandemic](#).

The ESRB also expresses its views on the main risks and, more generally, on its working priorities through speeches. At present, the Chair of the ESRB appears regularly (generally twice a year)²⁵ before the European Parliament's Committee on Economic and Monetary Affairs (ECON) in a public hearing and her opening remarks are published on the ESRB website. The Chair also addresses events such as the ESRB annual conference. These speeches are an interesting gauge of the matters of most concern to the ESRB at each time. Chart 2 uses word clouds to illustrate the different concepts most frequently cited in four selected appearances: a) the first following the creation of the ESRB (2011); b) during the euro area sovereign debt crisis (2012); c) following the onset of the COVID-19 pandemic (2020); and d) at the Fifth ESRB annual conference (2021), the latest one at the time of drafting of this article. As the chart shows, in 2011 the communication focus was on institutional and organisational aspects relating to the launch of the ESRB. However, a year later, at the height of the sovereign debt crisis, the address paid most attention to the analysis of systemic risks, which had particularly adverse effects on bank funding. More recently, in 2020, the pandemic obliged the ESRB to shift the focus of its work, resulting in several recommendations (see Box 2) of which the European Parliament was informed. In her appearance before the ECON in late 2021, the Chair concentrated on the main hybrid risks that threaten the EU financial system, such as systemic cyber risk and climate change-related financial risks.

25 The Regulation establishing the ESRB envisages that these appearances be made at least once a year. The first and second Vice-Chairs also appear occasionally before the ECON.

Chart 2

WORD CLOUDS FROM PUBLIC ADDRESSES GIVEN BY CHAIRS OF THE ESRB

1 JEAN-CLAUDE TRICHET'S APPEARANCE AT THE ECON IN FEBRUARY 2011 (FIRST APPEARANCE AFTER THE ESTABLISHMENT OF THE ESRB)



2 MARIO DRAGHI'S APPEARANCE AT THE ECON IN MAY 2012 (DURING THE EURO AREA SOVEREIGN DEBT CRISIS)



3 CHRISTINE LAGARDE'S APPEARANCE AT THE ECON IN JUNE 2020 (FIRST ADDRESS AFTER THE OUTBREAK OF THE COVID-19 PANDEMIC)



4 CHRISTINE LAGARDE'S DECEMBER 2021 SPEECH (ESRB ANNUAL CONFERENCE)



SOURCE: Devised by author.

The ESRB has its own website (www.esrb.europa.eu), a communication platform for dissemination of its publications and which it manages with the support of the ECB. The website contains a multitude of documentary and informational resources, created since the launch of the ESRB in 2011. The ESRB also has its own Twitter channel (operational since late 2020).²⁶ The Banco de España actively contributes to the dissemination of content in Spanish, translating the ESRB's main press releases (on general and/or banking matters) and its annual reports.²⁷

In its work on risk identification, the real estate market has been a priority area of analysis for the ESRB. The real estate sector has the potential to trigger a systemic financial crisis, since it mobilises a very significant share of total bank credit and household debt. In 2016 the ESRB issued a recommendation

26 At April 2022, the ESRB Twitter channel had 1,900 followers. To put this figure into perspective, at the same date the Banco de España had 20,600 followers and the ECB 672,500 followers.

27 Available on the Banco de España's website in the [Press room](#). The Deutsche Bundesbank and the Banco de España are the only two national central banks that translate the ESRB Annual Report in full.

(ESRB/2016/14) on closing real estate data gaps (subsequently amended by Recommendation ESRB/2019/3) which seeks to make more statistical information available to the authorities on a range of variables for monitoring credit to the real estate sector, such as credit standards applied by banks. This information feeds into analysis for ongoing monitoring of real estate sector developments and potential early detection of imbalances that might warrant macroprudential action.

In 2016, 2019 and 2021 the ESRB carried out detailed analyses of national residential real estate markets in the EU/EEA. As a result of these exercises, it has published analytical reports²⁸ and issued warnings and recommendations to countries where medium-term systemic vulnerabilities were identified in their housing markets. These warnings and recommendations, addressed to the governments and relevant authorities of 18 Member States, have prompted the adoption of macroprudential policy corrective measures and of other economic policy measures, countering a possible bias towards inaction by national authorities. Specifically, in 2016 the ESRB issued a battery of warnings which, three years later, were reinforced by recommendations in the case of six countries (Belgium, Denmark, Finland, Luxembourg, the Netherlands, and Sweden). In 2021 the ESRB assessed the degree of compliance with its 2019 recommendations – considering for that purpose the steps taken by the national authorities and real estate risk developments in each country – and concluded that the level of monitoring was generally satisfactory (see Table 3). Tellingly, throughout this period Spain was not among the countries in which the ESRB identified evidence of imbalances.

One strategic area of work for the ESRB since 2014 has been the design of EU stress test scenarios. The ESRB is entrusted with the design of **adverse macro-financial scenarios** for the regular stress tests conducted by the three European supervisory authorities (EBA, ESMA and EIOPA). Between 2014 and 2021, the ESRB, based on its regular assessments of systemic risk in the EU, has provided scenarios for a total of 17 exercises: i) five on banks for EBA; ii) four on central counterparties and two on money market funds for ESMA; and iii) four on insurers and two on pension funds for EIOPA. The scenarios developed by the ESRB are a fundamental element of these exercises, which EBA, ESMA and EIOPA use to assess financial institutions' resilience.

The ESRB has made significant contributions to a wide range of issues with regulatory relevance. Notably, it has analysed issues relating to the cyclicity of the new international financial reporting standards applicable to banks (IFRS 9) and insurers (IFRS 17), the differences between the models used to estimate expected credit losses in the EU and the United States, the macroprudential implications of financial instruments in Levels 2 and 3 for accounting purposes, and the financial

28 The most recent being "*Vulnerabilities in the residential real estate sectors of the EEA countries*", published on 11 February 2022.

Table 3

ESRB RECOMMENDATIONS AND WARNINGS ABOUT VULNERABILITIES IN MEMBER STATES' RESIDENTIAL REAL ESTATE MARKETS

	Country	2016	2019	2021	
EU	AT Austria	Warning		Recommendation	
	BE Belgium	Warning	Recommendation LC		
	BG Bulgaria			Warning	
	CY Cyprus				
	CZ Czech Republic		Warning		
	DE Germany		Warning	Recommendation	
	DK Denmark	Warning	Recommendation FC		
	EE Estonia				
	ES Spain				
	FI Finland	Warning	Recommendation LC		
	FR France		Warning		
	GR Greece				
	HR Croatia			Warning	
	HU Hungary			Warning	
	IE Ireland				
	IT Italy				
	LT Lithuania				
	LU Luxembourg	Warning	Recommendation FC		
	LV Latvia				
	MT Malta				
	NL Netherlands	Warning	Recommendation PC		
	PL Poland				
	PT Portugal				
	RO Romania				
	SE Sweden	Warning	Recommendation FC		
	SI Slovenia				
	SK Slovakia			Warning	
	UK United Kingdom	Warning			
	EEA	IS Iceland		Warning	
		LI Liechtenstein			Warning
NO Norway			Warning		

SOURCES: ESRB and devised by author.

NOTE: FC: fully compliant; LC: largely compliant; and PC: partially compliant are the three classifications assigned ex post by the ESRB to the addressee authorities of the 2019 recommendations after assessing the measures implemented in each Member State and recent changes in real estate risks.

stability cost of misconduct risk in the banking sector. Also, at the request of the EU Council, the ESRB has examined problems associated with non-performing loans (NPLs) and possible macroprudential actions to contribute to NPL management.

The ESRB provides the research community with a platform for disseminating analytical work on financial stability issues. As part of its *Working Papers* and *Occasional Papers* series, to date it has published around 150 articles on a broad

Table 4

THE ESRB'S REGULAR PUBLICATIONS AND INITIATIVES**Regular ESRB publications**

<i>Annual Report (since 2012)</i>
<i>Review of Macroprudential Policy in the EU (since 2015, yearly)</i>
<i>EU Non-bank Financial Intermediation Risk Monitor (since 2016, yearly)</i>
<i>Risk Dashboard (since September 2012, quarterly)</i>
<i>Working Papers (ad hoc)</i>
<i>Occasional Papers (ad hoc)</i>
<i>Macroprudential Commentaries (2012-2016, ad hoc)</i>

Advisory Scientific Committee publications

<i>ASC Reports</i>
<i>ASC Insights</i>

ESRB initiatives

Annual conference (since 2016)
Meetings with the Committee of European Auditing Oversight Bodies and with auditors of global systemically important financial institutions (banks and insurance companies) with a parent in the EU (since 2017, yearly)
RiskLab/BoF/ESRB Conference on Systemic Risk Analytics (since 2015, yearly)
Ieke van den Burg prize for young researchers (since 2015, yearly)
Alberto Giovannini Programme for Data Science (since 2019)
ESRB-ECB Macroprudential Database (MPDB)
ESRB-ECB European financial crises database

SOURCE: Devised by author.

range of issues, connected in all cases with systemic risk and macroprudential policy. These are mainly authored by economists from ESRB member institutions, but also by external academics. In addition to these publications, there are the notes and reports drafted by ASC members (*ASC Reports* and *ASC Insights*). In this area, two ESRB initiatives stand out: i) the *Ieke van den Burg Prize* for researchers under 35,²⁹ awarded by the ASC; and ii) the *Alberto Giovannini Programme for Data Science*³⁰ for the development of tools for analysis of market information on derivatives. At a different level, the ESRB is also involved in noteworthy initiatives, in conjunction with the ECB, on the *European financial crises database* (cataloguing and dating recession periods over the last 50 years in each EU country) and the *Macroprudential Database (MPDB)*. Also, and similarly to other bodies, since 2016 the ESRB holds an annual conference. This event, together with other meetings and thematic seminars organised with other authorities, is an opportunity to bring

²⁹ This award, worth €5,000, was established in memory of Ieke van den Burg, a Dutch Euro MP (1999-2009) and member of the ASC during the first three years of the ESRB, who died in 2014.

³⁰ In memory of the Italian economist and former member of the ASC who died in 2019.

together leaders and financial system experts for panel and open session discussions on key macroprudential policy issues.

5 ESRB strategic areas of work: looking back and looking ahead

From the outset, the ESRB has taken an ambitious approach to various key issues for the future of the EU financial system. The euro area debt crisis, which reached its peak between 2011 and 2012, led the ESRB to study two issues related to the weaknesses of the “sovereign-bank nexus”. First, the prudential treatment (for the purposes of banking solvency regulations) of credit institutions’ exposures to Member States’ government debt, which was the subject of a report published in March 2015.³¹ Second, the development of a safe asset based on EU countries’ sovereign bond-backed securities (SBBS). The work of the high-level task force created to analyse this issue was published in 2018.³²

Much of the ESRB’s first decade has been marked by historically and persistently low interest rates, with implications for financial stability. Over time, the idea of an increasingly structural “low-for-long” interest rate scenario was perceived with concern on account of its implications for financial stability in four main risk areas: i) low profitability for financial institutions (which may have led to excessive risk-taking on their part); ii) indebtedness and viability of borrowers; iii) systemic liquidity risk; and iv) sustainability of insurers’ and pension funds’ business models. Together with the ECB’s Financial Stability Committee, in 2016 and 2021 the ESRB published a broad battery of work initiatives and analytical and macroprudential policy options³³ to address and mitigate the risks identified.

The United Kingdom’s exit from the EU has had, and will doubtless continue to have, an impact on the ESRB’s areas of work. Beyond the incalculable loss for the ESRB of the departure of two institutional members such as the Bank of England and the Financial Conduct Authority, Brexit has been a key focal point since 2016, and this will continue in the coming years. This is because the EU financial system is still extensively interconnected and exposed to the British financial system (and economy) and has variable levels of dependence on the City of London’s financial services and infrastructures, in a new setting in which coordination is more difficult and more important. Thus, potential future financial crises could reveal weaknesses in the regulatory and supervisory cooperation framework between the EU and the United Kingdom. Against this backdrop, the ESRB will play an important role in

31 ESRB report on the regulatory treatment of sovereign exposures.

32 High-Level Task Force on Safe Assets. The high-level task force was chaired by Philip Lane, the then Governor of the Central Bank of Ireland.

33 See “Lower for longer – macroprudential policy issues arising from the low interest rate environment”, ESRB press release, 1 June 2021.

initiatives such as that recently launched by the European Commission³⁴ to reduce the dependence of the EU's financial institutions on British central counterparties.

In recent years the ESRB has increasingly focused on issues related to hybrid risks, such as climate change-related and cyber risks. The ESRB and the ECB have joined forces to analyse matters such as climate risk transmission channels, quantification of financial institutions' exposure to climate-related risks, and the design of scenarios for climate-related stress tests, complementary to the work carried out in this area by other fora and committees (such as the Network for Greening the Financial System (NGFS) and the BCBS at the global level). This work has given rise to two reports (see ECB and ESRB (2020 and 2021)) and will foreseeably continue to be a priority area of analysis for the ESRB, in light of the key mandates entrusted to it by the European Commission in its Strategy for Financing the Transition to a Sustainable Economy³⁵ for the coming years. As regards cyber risks, the constant threat of systemic cyber incidents is a priority area for the ESRB; indeed, for this reason it maintains a joint working group with the Bank of England on this matter. In late 2021, Recommendation [ESRB/2021/17](#) was issued to promote the establishment of a pan-European systemic cyber incident coordination framework for relevant authorities. This initiative has gained even more importance in view of the increased geopolitical tensions following the Russian invasion of Ukraine in February 2022.

Other issues that will foreseeably attract more attention from the ESRB relate to digitalisation. At the European and global level, there is a growing interest in the implications for financial stability of crypto-assets and stablecoins (see FSB (2022)), decentralised finance (DeFi)³⁶ and fintechs and big techs as competitors for the traditional banks (see Gorjón (2021) and Martínez Resano (2021)). The new tendencies in this area have the potential to alter, inter alia, the structure of the conventional financial system and the competition between participants. They could also generate new sources of risk to financial stability and require far-reaching changes to existing financial regulations. These reasons more than warrant the view that digitalisation will become consolidated as a key area of work for the ESRB and other prudential committees worldwide. The ESRB, through the ASC, published its first report on this topic in early 2022.³⁷

Looking ahead, the ESRB will continue to work to prevent or cushion the next financial crises, and to contribute to any reviews of the macroprudential

34 [Targeted consultation on the review of the central clearing framework in the EU](#), European Commission (2022).

35 [European Commission](#) communication of 6 July 2021.

36 Arising from the application of blockchain protocols. For more information, see Aramonte, Huang and Schrimpf (2021).

37 *ASC Report* No. 12. "Will video kill the radio star? Digitalisation and the future of banking". In connection with this report, see "Digitalisation and banking: new risks and three scenarios for the European banking system of the future" in this issue of the *Financial Stability Review*.

frameworks in place in EU legislation. Naturally, the ESRB will have to adapt and alter the focus of its work, as it has done in the past (especially in its response to the COVID-19 pandemic), to address the specific challenges posed by future crises. The occurrence and intensity of such episodes will partly depend on the completion of the macroprudential policy regulatory framework applicable to the different sectors of the financial system and, clearly, on the use the relevant authorities make of the available instruments. In this respect, it will be key to ensure that European co-legislators take into account the proposals made by the ESRB in the ongoing legislative reviews, for example of the CRR and the CRD for the banking sector,³⁸ the Solvency II Directive for insurers, the Money Market Funds Regulation and the Market Infrastructure Regulation (EMIR). Also, as it acquires ever more experience in the introduction of macroprudential measures, the ESRB will be well placed to analyse the evidence available, draw conclusions on the measures' effectiveness, identify best practice and coordinate the decisions of Member States and different national authorities, to the benefit of both the EU financial system and the EU economy.

38 The ESRB's contribution to this reform was published in the *Review of the EU Macroprudential Framework for the Banking Sector. Response to the call for advice* and the *Review of the EU Macroprudential Framework for the Banking Sector. A Concept Note*, both dated March 2022.

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KEY LEGISLATION FOR THE ESRB

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.

Regulation (EU) No 2019/2176 of the European Parliament and of the Council of 18 December 2019 amending Regulation (EU) No 1092/2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board.

Council Regulation (EU) No 1096/2010 of 17 November 2010 conferring specific tasks upon the European Central Bank concerning the functioning of the European Systemic Risk Board.

Decision of the European Systemic Risk Board of 20 January 2011 adopting the Rules of Procedure of the European Systemic Risk Board (ESRB/2011/1).

Decision of the European Systemic Risk Board of 20 March 2020 amending Decision ESRB/2011/1 adopting the Rules of Procedure of the European Systemic Risk Board (ESRB/2020/3).

Table A.1

ESRB MEMBER INSTITUTIONS (a)

	Name of the authority
EU	<i>European Central Bank (ECB)</i>
	ECB Banking Supervision
	<i>European Commission</i>
	<i>European Banking Authority (EBA)</i>
	<i>European Insurance and Occupational Pensions Authority (EIOPA)</i>
	<i>European Securities and Markets Authority (ESMA)</i>
	Single Resolution Board (SRB)
	<i>Economic and Financial Committee (EFC)</i>
AT	<i>Oesterreichische Nationalbank</i>
	Österreichische Finanzmarktaufsicht (FMA)
BE	<i>Nationale Bank van België / Banque Nationale de Belgique</i>
	L'Autorité des services et marchés financiers (FSMA) / Autoriteit voor Financiële Diensten en Markten
BG	<i>Bulgarian National Bank</i>
	Financial Supervision Commission
CY	<i>Central Bank of Cyprus</i>
	Cyprus Securities and Exchange Commission
	Insurance Companies Control Services
	Supervisory Authority of Occupational Retirement Benefits Funds
CZ	<i>Česká národní banka</i>
DE	<i>Deutsche Bundesbank</i>
	Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)
DK	<i>Danmarks Nationalbank</i>
	Finanstilsynet
EE	<i>Eesti Pank</i>
	Finantsinspeksioon
ES	<i>Banco de España</i>
	Comisión Nacional del Mercado de Valores (CNMV)
	Dirección General de Seguros y Fondos de Pensiones (DGSFP)
FI	<i>Suomen Pankki / Finlands Bank</i>
	Finanssivalvonta / Finansinspektionen
FR	<i>Banque de France</i>
	Autorité de Contrôle Prudentiel et de Résolution (ACPR)
	Autorité des marchés financiers (AMF)
GR	<i>Bank of Greece</i>
	Hellenic Capital Market Commission
HR	<i>Croatian National Bank</i>
	Croatian Financial Services Supervisory Agency
HU	<i>Magyar Nemzeti Bank</i>
IE	<i>Central Bank of Ireland</i>
	The Pensions Authority

SOURCE: ESRB.

a The authorities with voting rights on the ESRB General Board are denoted by italics. Two UK authorities (the Bank of England and the Financial Conduct Authority (FCA)) were ESRB members up to January 2020 (date of the United Kingdom's withdrawal from the EU).

Table A.1

ESRB MEMBER INSTITUTIONS (a) (cont'd)

	Name of the authority
EU IT	<i>Banca d'Italia</i>
	Istituto per la Vigilanza sulle Assicurazioni (IVASS)
	Commissione Nazionale per le Società e la Borsa (CONSOB)
	Commissione di Vigilanza sui Fondi Pensione
LT	<i>Lietuvos bankas</i>
LU	<i>Banque centrale du Luxembourg</i>
	Commission de Surveillance du Secteur Financier (CSSF)
	Commissariat aux Assurances
LV	<i>Latvijas Banka</i>
	Finanšu un kapitāla tirgus komisija (FKTK)
MT	<i>Bank Ċentrali ta' Malta / Central Bank of Malta</i>
	Malta Financial Services Authority (MFSA)
NL	<i>De Nederlandsche Bank</i>
	Autoriteit Financiële Markten (AFM)
PL	<i>Narodowy Bank Polski</i>
	Komisja Nadzoru Finansowego (KNF)
PT	<i>Banco de Portugal</i>
	Autoridade de Supervisão de Seguros e Fundos de Pensões (ASF)
	Comissão do Mercado de Valores Mobiliários (CMVM)
RO	<i>Banca Națională a României</i>
	Romanian Financial Supervisory Authority
SE	Sveriges Riksbank
	<i>Finansinspektionen</i>
SI	<i>Banka Slovenije</i>
	Agencija za zavarovalni nadzor
	Agencija za trg vrednostnih papirjev
SK	<i>Národná banka Slovenska</i>
EEA IS	<i>Seðlabankka Íslands / Central Bank of Iceland</i>
	Ministry of General Government Affairs and Finance
LI	Liechtenstein Financial Market Authority (FMA)
NO	Norges Bank
	Finanstilsynet

SOURCE: ESRB.

a The authorities with voting rights on the ESRB General Board are denoted by italics. Two UK authorities (the Bank of England and the Financial Conduct Authority (FCA)) were ESRB members up to January 2020 (date of the United Kingdom's withdrawal from the EU).

Table A.2

**NATIONAL INTER-AGENCY COMMITTEES THAT PERFORM MACROPRUDENTIAL AUTHORITY TASKS
(RECOMMENDATION ESRB/2011/3)**

		Name of the authority
EU	AT	Finanzmarktstabilitätsgremium (Financial Market Stability Board)
	DE	Ausschuss für Finanzstabilität (Financial Stability Committee)
	DK	Det Systemiske Risikoråd (Systemic Risk Council)
	ES	Autoridad Macroprudencial Consejo de Estabilidad Financiera (AMCESFI)
	FR	Haut Conseil de Stabilité Financière (HCSF)
	HR	Vijeće za financijsku stabilnost (Financial Stability Council)
	HU	Pénzügyi Stabilitási Tanács (Financial Stability Council)
	LU	Comité du risque systémique (CRS)
	NL	Financieel Stabiiliteitscomité (Financial Stability Committee)
	PL	Komitet Stabilności Finansowej (Financial Stability Committee)
	RO	Comitetul Național pentru Supravegherea Macroprudențială (National Committee for Macroprudential Oversight)
	SI	Odbor za finančno stabilnost (Financial Stability Board)
EEA	LI	Ausschuss für Finanzmarktstabilität (Financial Stability Council)

SOURCE: ESRB.

Table A.3

LEADERSHIP POSITIONS IN THE ESRB ORGANISATIONAL STRUCTURE

Term		Position
Chairs of the General Board		
Since Nov-19	Christine Lagarde	President, ECB
Nov-11 to Oct-19	Mario Draghi	President, ECB
Jan-11 to Oct-11	Jean-Claude Trichet	President, ECB
First Vice-Chairs of the General Board		
Since Feb-20	Stefan Ingves	Governor, Sveriges Riksbank
Jul-13 to Jan-20	Mark Carney	Governor, Bank of England
Jan-11 to Jun-13	Mervyn King	Governor, Bank of England
Second Vice-Chairs of the ESRB		
2022	Petra Hielkema	Chair, EIOPA
2021 (Nov-Dec)	Verena Ross	Chair, ESMA
2021 (Apr-Oct)	Anneli Tuominen	Acting Chair, ESMA
2012, 2015, 2018, 2021 (Jan-Mar)	Steven Maijoor	Chair, ESMA
2020	José Manuel Campa	Chair, EBA
2013, 2016, 2019	Gabriel Bernardino	Chair, EIOPA
2011 (Mar-Dec), 2014, 2017	Andrea Enria	Chair, EBA
2011 (Jan-Feb)	Thomas Huertas	Acting Chair, EBA
Chairs of the Advisory Technical Committee		
Since Jun-19	Pablo Hernández de Cos	Governor, Banco de España
Apr-17 to May-19	Philip Lane	Governor, Central Bank of Ireland
Jan-11 to Mar-17	Stefan Ingves	Governor, Sveriges Riksbank
Vice-Chairs of the Advisory Technical Committee		
Since Apr-20	Claudia Buch	Vice-President, Deutsche Bundesbank
May-11 to May-19	Andreas Iltner	Vice-Governor, Oesterreichische Nationalbank
Term of chairmanship	Chairs/Vice-Chairs of the Advisory Scientific Committee (a)	Affiliation
Since Jan-22	Loriana Pelizzon	Leibniz Institute for Financial Research SAFE and Goethe University Frankfurt
Mar-18 to Apr-19 / Sep-20 to Dec-21	Javier Suárez	Centro de Estudios Monetarios y Financieros (CEMFI)
Jan-17 to Feb-18 / May-19 to Aug-20	Richard Portes	London Business School
May to Dec-15	Philip Lane	Trinity College Dublin
Jan-14 to Apr-15 / Jan to Dec-16	Marco Pagano	Università degli Studi di Napoli Federico II
Sep-12 to Dec-13	André Sapir	Université Libre de Bruxelles
May-11 to Aug-12	Martin Hellwig	Max Planck Institute
ESRB Secretariat		
Since 2010	Francesco Mazzaferro	Head of Secretariat
Since 2015	Tuomas Peltonen	Deputy Head of Secretariat
2012-2014	Andréa Maechler	Deputy Head of Secretariat

SOURCES: ESRB and devised by author.

a The Chair and two Vice-Chairs of the Advisory Scientific Committee rotate in their positions in four-year cycles, hence the terms typically last approximately 16 months.

Table A.4

BANCO DE ESPAÑA OFFICIALS ON THE ESRB GENERAL BOARD

	With voting rights	Position
Since Jun-18	Pablo Hernández de Cos	Governor
Jul-12 to May-18	Luis M. Linde	Governor
Jan-11 to Jun-12	Miguel Fernández Ordóñez	Governor
	Without voting rights	Position
Since Mar-20	Ángel Estrada	Director General Financial Stability, Regulation and Resolution
Mar-17 to Feb-20	Jesús Saurina	Director General Financial Stability, Regulation and Resolution
Oct-13 to Feb-17	Julio Durán	Director General Financial Stability and Resolution
Jan-11 to Sep-13	José María Roldán	Director General Banking Regulation and Financial Stability

SOURCE: Devised by author.

Table A.5

THEMATIC ESRB REPORTS (TO FEBRUARY 2022)

ESRB Reports	
2014	<i>Flagship Report on Macro-prudential Policy in the Banking Sector</i> <i>Handbook on operationalising macroprudential policy in the banking sector</i>
2015	<i>Report on the regulatory treatment of sovereign exposures</i> <i>Report on misconduct risk in the banking sector</i> <i>A review of macro-prudential policy in the EU one year after the introduction of the CRD/CRR</i> <i>Report on systemic risks in the EU insurance sector</i>
2016	<i>Macroprudential policy beyond banking: an ESRB strategy paper</i> <i>Report on residential real estate and financial stability in the EU</i> <i>Report on commercial real estate and financial stability in the EU</i> <i>Macroprudential policy beyond banking: an ESRB strategy paper</i> <i>Preliminary investigation into the potential impact of a leverage ratio requirement on market liquidity</i> <i>Market liquidity and market-making</i> <i>Vulnerabilities in the EU residential real estate sector</i>
2017	<i>The macroprudential use of margins and haircuts</i> <i>Revision of the European Market Infrastructure Regulation</i> <i>Resolving non-performing loans in Europe</i> <i>Financial stability implications of IFRS 9</i> <i>Recovery and resolution for the EU insurance sector: a macroprudential perspective</i> <i>Regulatory risk-free yield curve properties and macroprudential consequences</i>
2018	<i>Report on sovereign bond-backed securities by the High-Level Task Force on Safe Assets</i> <i>Handbook on operationalising macroprudential policy in the banking sector</i> <i>Final report on the use of structural macroprudential instruments in the EU</i> <i>Macroprudential provisions, measures and instruments for insurance</i> <i>Report on vulnerabilities in the EU commercial real estate sector</i>
2019	<i>Expected credit loss approaches in Europe and the United States: differences from a financial stability perspective</i> <i>Macroprudential approaches to non-performing loans</i> <i>CCP interoperability arrangements</i> <i>The cyclical behaviour of the ECL model in IFRS 9</i> <i>Features of a macroprudential stance: initial considerations</i> <i>Vulnerabilities in the residential real estate sectors of the EEA countries</i> <i>Methodologies for the assessment of real estate vulnerabilities and macroprudential policies: residential real estate</i> <i>Macroprudential policy implications of foreign branches relevant for financial stability</i> <i>Methodologies for the assessment of real estate vulnerabilities and macroprudential policies: commercial real estate</i>
2020	<i>Mitigating the procyclicality of margins and haircuts in derivatives markets and securities financing transactions</i> <i>Systemic cyber risk</i> <i>Macroprudential implications of financial instruments in Levels 2 and 3 for accounting purposes</i> <i>Enhancing the macroprudential dimension of Solvency II</i> <i>Issues note on liquidity in corporate bond and commercial paper markets</i> <i>System-wide restraints on dividend payments, share buybacks and other pay-outs</i> <i>Liquidity risks arising from margin calls</i>

SOURCE: ESRB.

Table A.5

THEMATIC ESRB REPORTS (TO FEBRUARY 2022) (cont'd)

ESRB Reports	
2021	<i>Financial stability implications of support measures to protect the real economy from the COVID-19 pandemic</i>
	<i>Prevention and management of a large number of corporate insolvencies</i>
	<i>Issues note on systemic vulnerabilities of and preliminary policy considerations to reform money market funds</i>
	<i>Note on monitoring the financial stability implications of COVID-19 support measures</i>
	<i>Report of the Expert Group on Macroprudential Stance – Phase II (implementation)</i>
	<i>Financial stability implications of IFRS 17 Insurance Contracts</i>
	<i>Report of the Analytical Task Force on the overlap between capital buffers and minimum requirements</i>
2022	<i>Report on the economic rationale supporting the ESRB Recommendation of 2 December 2021 on money market funds and assessment</i>
	<i>Mitigating systemic cyber risk</i>
	<i>Vulnerabilities in the residential real estate sectors of the EEA countries</i>
Joint ESRB/ECB Reports	
2016	<i>Macroprudential policy issues arising from low interest rates and structural changes in the EU financial system</i>
2020	<i>Positively green: measuring climate change risks to financial stability</i>
2021	<i>Lower for longer – macroprudential policy issues arising from the low interest rate environment</i>
	<i>Climate-related risk and financial stability</i>
2022	<i>A new database for financial crises in European countries</i>
ESRB Advisory Scientific Committee Publications	
2012	<i>ASC Report No 1. "Forbearance, resolution and deposit insurance"</i> M. Hellwig, A. Sapir, M. Pagano, V. Acharya, L. Balcerowicz, A. Boot, M. Brunnermeier, C. Buch, I. van den Burg, C. Calomiris, D. Gros, D. Focarelli, A. Giovannini, A. Ittner, D. Schoenmaker and C. Wyplosz
	<i>ASC Report No 2. "A contribution from the Chair and Vice-Chairs of the Advisory Scientific Committee to the discussion on the European Commission's banking union proposals"</i> A. Sapir, M. Hellwig and M. Pagano
2013	<i>ASC Report No 3. "The consequences of the single supervisory mechanism for Europe's macro-prudential policy framework"</i> A. Sapir, M. Hellwig, M. Pagano, V. Acharya, L. Balcerowicz, A. Boot, M. Brunnermeier, C. Buch, I. van den Burg, C. Calomiris, D. Gros, D. Focarelli, A. Giovannini, A. Ittner, D. Schoenmaker and C. Wyplosz
2014	<i>ASC Report No 4. "Is Europe Overbanked?"</i> M. Pagano, S. Langfield, V. Acharya, A. Boot, M. Brunnermeier, C. Buch, M. Hellwig, A. Sapir and I. van den Burg
	<i>ASC Report No 5. "Allocating macro-prudential powers"</i> D. Gros, S. Langfield, M. Pagano and D. Schoenmaker
2016	<i>ASC Report No 6. "Too late, too sudden: Transition to a low-carbon economy and systemic risk"</i> D. Gros, P. Lane, S. Langfield, S. Matikainen, M. Pagano, D. Schoenmaker and J. Suárez
2018	<i>ASC Report No 7. "Approaching non-performing loans from a macroprudential angle"</i> J. Suárez and A. Sánchez Serrano
2019	<i>ASC Report No 8. "Regulatory complexity and the quest for robust regulation"</i> P. Gai, M. Kemp, A. Sánchez Serrano and I. Schnabel
	<i>ASC Report No 9. "Can ETFs contribute to systemic risk?"</i> M. Pagano, A. Sánchez Serrano and J. Zechner
2020	<i>ASC Report No 10. "The global dimensions of macroprudential policy"</i> T. Beck, W. Buitter, K. Domínguez, D. Gros, C. Gross, S. Kalemli-Ozcan, T. Peltonen, A. Sánchez Serrano and R. Portes
	<i>ASC Insight No 1. "Reforming bank stress testing in the EU: reflections in light of the EBA's discussion paper on the issue"</i> J. Suárez and W. Buitter
2021	<i>ASC Report No 11. "On the stance of macroprudential policy"</i> S. Cecchetti and J. Suárez
	<i>ASC Insight No 2. "Preparing for the post-pandemic rise in corporate insolvencies"</i> B. Becker and M. Oehmke
2022	<i>ASC Report No 12. "Will video kill the radio star? Digitalisation and the future of banking"</i> T. Beck, S. Cecchetti, M. Grothe, M. Kemp, L. Pelizzon and A. Sánchez Serrano

SOURCE: ESRB.